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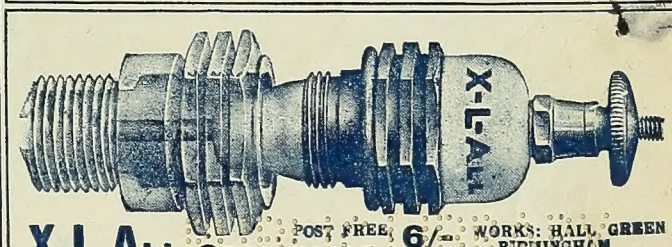

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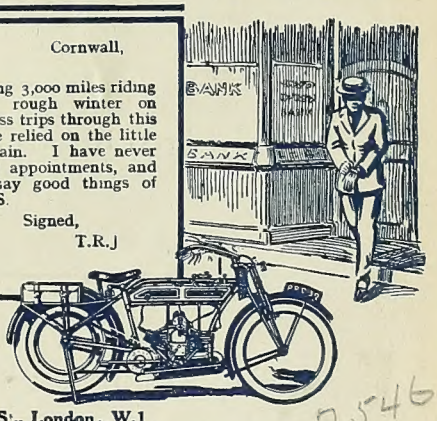

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It may be of interest to readers to know the following extract from a letter received this morning from our agent at Burt.n-on-Trent.

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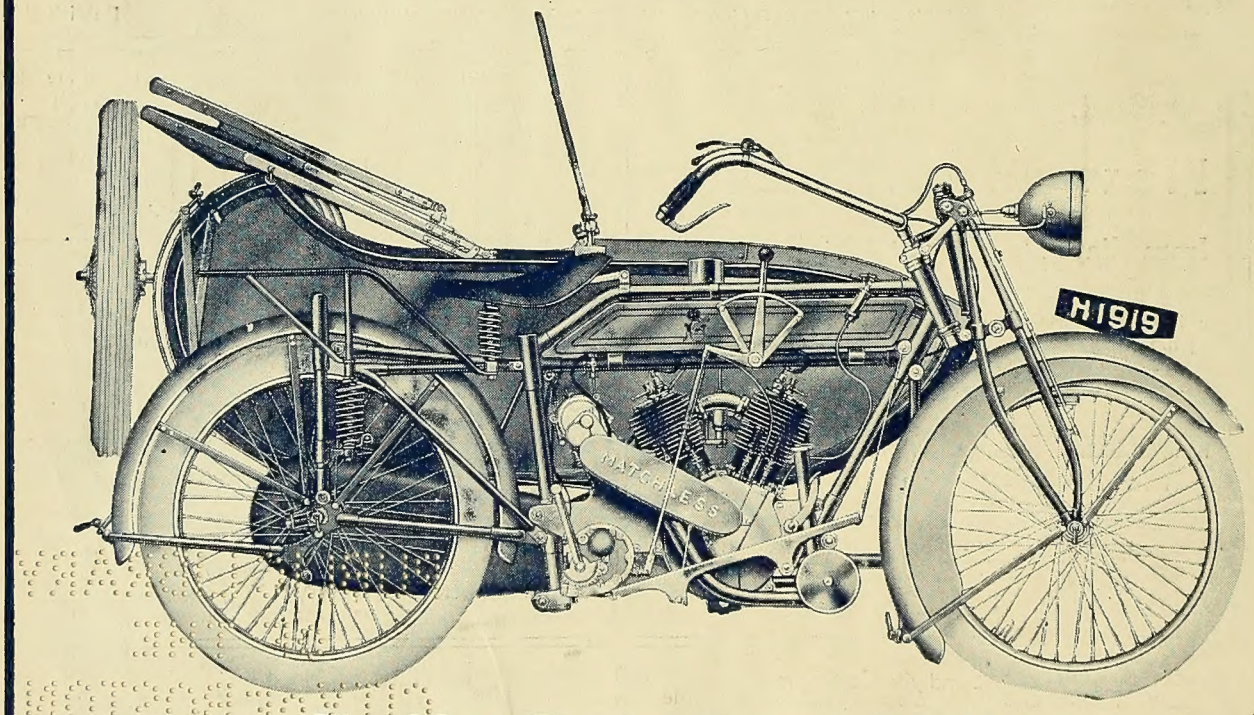

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JULY 1ST, 1920.

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ESTABLISHED IN 1903

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The Scottish Six Days Trial.

JUST as the T.T. is the most searching test for solo machines, the Six Days Trials organised by the Edinburgh M.C. and the A.C.U. serve a similar useful purpose in developing the passenger machine. The first of these starts next Monday, and traverses approximately a thousand miles of roads, rather stiffer than those which the average motor cyclist expects to cover in a Scottish tour.

The value of such trials is enhanced by the fact that in this country we have no event which tests reliability and durability of the sidecar machine as a parallel to the Tourist Trophy race for solo motor cycles. The experience gained by manufacturers who compete in such trials, therefore, provides data which enable them to eliminate weaknesses which otherwise might be left for the private owner to discover.

One reason for the success of the Scottish event and its value to the motor cycle movement is the fact that the trial is run as a strenuous tour under conditions such as the private owner experiences, and the final awards are not made on the results of more or less technical tests. For example, there is no need for a special brake test in the Scottish Six Days, for the very good reason that no machine could obtain an award which was not adequately equipped.

Larger Tyres.

THERE are very many riders who sigh for increased comfort on our post-war roads. Most of these are men who have passed their first youth, and are prepared to sacrifice a mile or two an hour for a little extra luxury. Yet in many cases they are inclined to be shy of spring frames.

A good spring frame is undoubtedly the best solution of the comfort question, and there is no reason to fear trouble from the more reputable makes, but there are still only a few spring frame solo machines on the market. Under the circumstances quite the best compromise is the fitting of larger tyres. Without personal experience few will believe what an enormous difference can be obtained by the use of tyres of larger section. The difference between tyres of 2⅜in. and 2½in. sections is very perceptible, and a change from 2½in. to 3in. sections makes all the difference between physical discomfort and comparative luxury on pot-holey roads. The larger tyre can, of course, be run somewhat less fully inflated than the smaller size, and, provided a suitable tyre is selected, there will be no noticeable roll. Heavier tyres also give comparative immunity from small punctures, and provide a sense of security which must be experienced to be understood.

Prices.

WHILE the present tendency is for manufacturers' prices to continue to rise, supply now appears to be catching up with demand in the second-hand market. One has only to watch the miscellaneous advertisements to appreciate this, for "slightly soiled" machines offered a few weeks ago at a premium, are now quoted lower than catalogue prices.

It is highly desirable that prices are governed entirely by cost of production, and not on the principle that the value of an article is what it will fetch. In the pedal cycle world the demand has fallen off very considerably since the last advances, and this state of affairs may find an echo in the demand for lightweight motor cycles, and so on, through the range of motor-propelled vehicles to the highest priced car. Manufacturers must bear in mind that, keen as motor cyclists have shown themselves to be, the maximum limit is not fixed by inclination but by the financial position of the buyer. With the increase in cost of living which has to be met by the middle class—the section of the public which purchases the bulk of machines—there are many pre-war motor cyclists who cannot afford to ride during this difficult transition period.

An Index to the advertisements in this issue will be found on the page facing the back cover.

Reversing the T.T. Course.

SOME wag in the Isle of Man started a rumour that the race was to be run over the same course next year, but in the opposite direction. This notion fairly put the wind up several intending competitors. The present "direction of rotation" is obviously determined by the mountain road. On the Ramsey side of Snaefell there are at least three corners which would be murderous if taken downhill instead of up. At any of them any serious brake trouble or miscalculation of speed would spell certain death. It may be taken for granted that the direction of the race over the existing course cannot be changed. Whether the course is suitable for a full entry of crack riders on racing machines of 1921 calibre is another question. It speaks well both for the skill of the riders and the design of their mounts that no fatalities occurred this year.

Scott Merchants in the Island.

I ENJOYED much pleasant *badinage* with the sundry Scott enthusiasts in Manxland. The factory people have christened me "the enemy" as the result of my frank criticism of the one or two details which alone are open to comment in this delightful mount. I came away in a very chastened mood, feeling that I have much to learn about timing two-strokes. Would you believe that Tim Wood's standard touring 'bus can actually beat 60 m.p.h.? And that Capt. Vintner's engine starts from stone-cold in the second kick? Wood gets his cold start in a way that is new to me. He engages a gear, and pushes the machine to and fro for a yard or so whilst flooding the carburetter, after which it responds to the first kick, or at any rate to the second. Capt. Vintner says that the engine does about five extra miles on a gallon if the plugs are put in the heads of the cylinder. All Scott users seem to agree that it takes 2,000 or 3,000 miles to work a Scott up to the absolute zenith of its running, in contradistinction to certain softer engines which age rapidly. When I get mine to do its mile a minute, I shall be ready to die in peace; but just at present I am stuck at the 45 m.p.h. mark or thereabouts. Incidentally, I hear that A. A. Scott is still busy with the Scott Sociable; it has no commercial connection with the Scott bicycles, but is by no means dead, and may ultimately make its *début* at quite an attractive figure.

Wolverhampton on Top!

IT used to be said that Coventry would always be the hub of the motor industry, because no other district could furnish the necessary supply of skilled labour. I always retorted that if this prophecy were true, Coventry would end by being bigger than London, for no one city could contain the automobile industry. Already the needed quality of labour is available in many other centres. Some of it has migrated, and some of it has been trained from the raw. Munition requirements accelerated the distribution and multiplied the supply. Coventry is quite losing caste, and in this year's T.T. Wolverhampton was completely on top, with Birmingham a good second. The Triumph and Rudge will have to go all out next year to win back lost prestige for the three spires. Just at present municipal rates on factory plant are so heavy that the tendency is towards building big engineering factories outside urban boundaries. One Scottish firm has isolated a big works miles from anywhere on the banks of a salmon river big enough to furnish cheap power. Two steamer tips for the 1921 T.T.—offered on the voyage home—were Saltaire and Surbiton. Some of this year's abstainers are talking very big about the money they mean to spend on winning next year; but, then, the air of the Island and the atmosphere of the race are both intoxicants. When these aspirants discuss the question in their boardrooms somewhere in a murky town, their tails may get comparatively flabby.

Post-war Material.

A GOOD many grumbles are audible about the quality of some of the stuff which is being put into some post-war machines, but I can only counsel users to be patient, and to make the best of things until conditions return to the normal. The T.T. has proved that manufacturers cannot help themselves, for every conceivable precaution is taken when a trade concern spends thousands of pounds on a critical occasion, and yet things broke. No firm can test every bit of stuff which it uses; if you find that one end of a sample bar is O.K., the other end may be dud. Moreover, it is such a job to get raw material in sufficient quantities, and riders are so clamorous for deliveries, that inspection cannot be maintained at the old standard. Under such conditions we must console ourselves by noting that cases of serious dissatisfaction are few and far between, and that manufacturers generally meet them with real promptness and honesty.

A Legging Suggestion.

I AM not tickled to death with Mr. Graham's stunt of using an old stocking to keep his trou-trous clean when taking off legging overalls. The cutest fitting at the last car Olympia was a lightning metallic seam for side curtains shown on the Auster stand and fitted to a demonstration Rolls-Royce. I have forgotten the inventor's name, but I struck the seam the other day on the toolbag of a friend's 10 h.p. Singer car, so the gadget is evidently being pushed. I suggest this patent seam is immensely applicable to motor cycling leggings. Its operation is simplicity itself. At one end of the seam is a metal tab; a tug on the tab rips the seam open from end to end, just

Occasional Comments.—

like the ripcord of a balloon. A reverse pull on the tab stitches the seam up again. If this gadget were applied to our leggings, we could shed them without threading our feet through the legs at all, and we could then wear golf or cricket shoes with nails in them. I hope this will catch the inventor's eye.

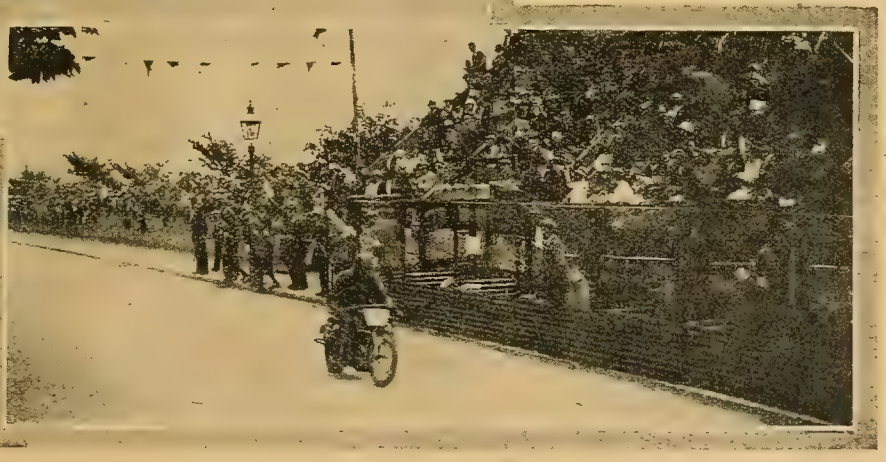
Mudshields.

A LOCAL rider who has been impressed by the mudguarding of my Scott and A.B.C. machines has been moved to fit a leather mudshield to his 1915 mount, in order that he, too, may ride in trousers, and visit his lady-love without pausing outside the paternal gate to rub down his boots with a wisp of grass or a bunch of dock-leaves. He now remarks that there is more in this complete mudguarding than meets the eye. True, his boots and trousers benefit exceedingly, but his engine, which, in its former nude condition, used to chug away merrily up single-figure gradients with a sidecar full of femininity, now smells like a traction engine when it is asked to tackle 1 in 10 solo. I am afraid it is a fact that some pre-war engines distort under heat, and that their cooling safety margin is too narrow for them to bear any interference with the draught. The draught windows in the mudshield of the new A.B.C. are fitted with little slides which can be closed at will. I suppose the idea is that they should be shut when one is fording rivers or charging water-splashes? Anyhow, the cooling is so good that one can tour with the slides shut, for I have tried it.

Saluting Ladies from the Saddle.

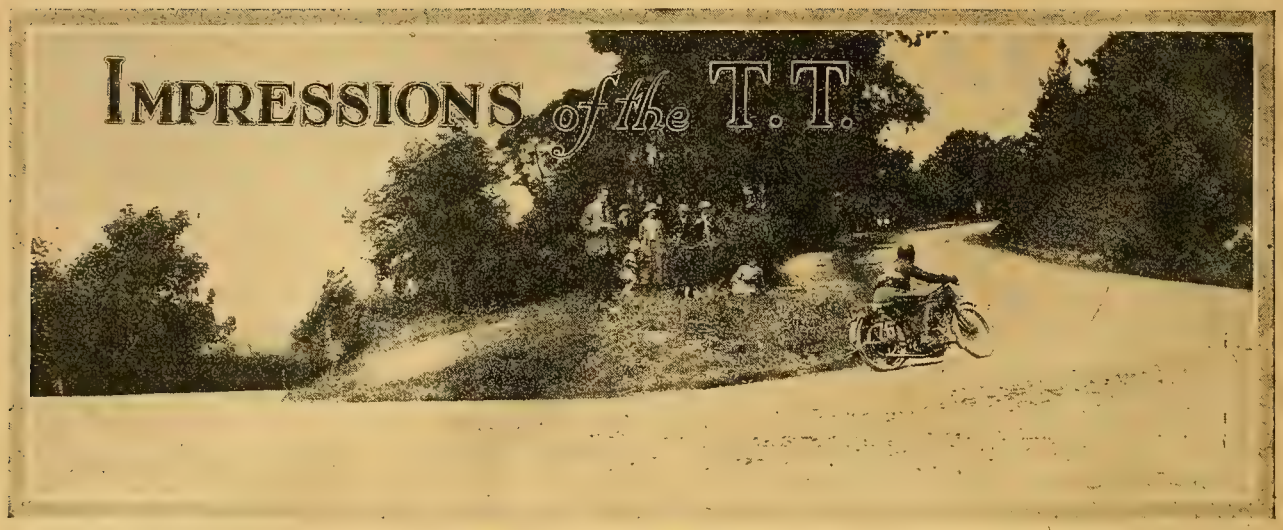
I FANCY a Mumbles correspondent must be trying to pull my elderly and innocent leg. He complains that etiquette compels him to doff his cap to lady acquaintances when he is motor cycling. He finds the custom expensive, because his hands are generally oily, and he is a bit of a dandy where his headgear is concerned. Moreover, it is dangerous, as a wobble may develop when the hand is removed from the bar. Finally, a sportive wind may whisk the cap out of his hand and waft it over the cliffs. He wishes to ascertain my personal practice.

I never experience any such difficulty. Not the least merit of the motor cycle is that it provides a plausible excuse for cutting undesirable people without their knowing that you are deliberately avoiding them. I fear my tailor, for instance, more than ever I feared a machine gun; but if I am in the saddle when I meet him, I fix a distant eye on an imaginary old lady who is blocking the fairway 100 yards ahead, and hoot vigorously. The good man can thus proceed on his walk with pleasant dreams of the cheque which I have no intention of writing. The girl who has jilted you—on sighting her, you assume a grin of glee, crouch down, and scrap deliriously, abandoning her to the torturing suspicion that you never really loved her. The girl you have jilted—you cast her a very respectful and reproachful glance which comforts her without giving her the chance of demanding an awkward explanation or attempting an unwanted reconciliation. Mother-in-law—well, ram her in the region of the bustle. Where more ordinary politeness is genuinely desired, my Mumbles correspondent should try a plain service salute, which may be of the guards, naval, or R.A.F. model where special punctiliousness is desirable. As a matter of fact, many ex-service men are substituting a pseudo-military salute for the old convention of lifting the hat; it has claims on pedestrians, especially if their tresses are of the unruly variety. Anyway it gives the impression that one once served with the forces.



THE 1920 T.T.

Immediately below the grandstand were the replenishing depôts, bearing the numbers of the competing machines. It was interesting to observe the difference in the speed of despatch of the various riders. Some were there for seconds only, and others replenished in quite a leisurely manner. R. O. Clark (Levis), winner of *The Motor Cycle* Trophy, is seen in the lower photograph



Some Reflections on the Isle of Man Races and the Men and Machines which competed in them.

By B. H. DAVIES.

HOWEVER vivid one's interest in the technical aspects of motor cycling may be, the dominating impression of the T.T. is admiration for the riders. The preliminary weeks of brainy toil; the emotional exhaustion of anticipation of the actual race, and of final disappointment (for most of them); their splendid pluck; their phenomenal riding skill; their cheery sportsmanship when defeat comes—all these are the raw material which provides us with a thrilling spectacle and many invaluable technical data.

I go so far as to think we are now taking too much advantage of the willing sportsmanship of the racing boys. Let those who saw the 1920 Senior Race picture a similar event in 1921, contested by an entry of over 100 machines, most of them hot-stuffed by the concentrated efforts of the best British and American factories. There may well be in next year's race a dozen trade teams as cleverly and carefully readied as this year's Sunbeams. There may even be three or four fliers of Dance's class at the head of the entry. Can such an event be run off without killing a few men? Would not victory depend too much on the man and too little on the machine? Should we either take means to limit the pace, or preferably seek a venue where the engine can be run all out for long periods, and where less hinges on a jockey's ability to sidestep death round a corner fifty times in each hour that the race lasts? These are serious questions which the A.C.U. will have to weigh.

Marked progress was evident in design. So far as engines are concerned, it was most notable that the Norton engine—practically standard in every detail, and wholly standard in its general outlines—could not only stand the racket better than any other in the race, but also came uncommonly near absolute victory. This is a gigantic feather in the Norton cap. Sunbeams—the only premier firm with a really special engine in the Senior race—showed that the best standard engine does not give quite so much power as the best specials, and that the latter can be made quite as reliable; for I put down Dance's broken inlet to pure hard luck.

SPORTING AGENTS IN THE "T.T."

T. Sumister, of Macclesfield.

V. E. Horsman, a Liverpool agent.

Jack Thomas, of Neath.

Harold Petty, another agent, of Leicester.

The agent who rides the machines he sells is always on a better footing with his *clientele* than those who merely buy and sell. In 1920 there were quite a large proportion of agent riders. Among these may be mentioned—V. Horsman and O. Wade, of Liverpool; Harold Petty, Leicester; T. Sumister, Macclesfield; Jack Thomas, Neath; J. W. Shaw, Belfast; Eric Williams, Worcester; Cyril Williams, Wolverhampton; A. H. and D. S. Alexander, of Glasgow and Edinburgh; P. Pike, Exeter; Bert Houlding, Preston; R. O. Clark, Norwich; and F. W. Dixon, Middlesbrough. The four riders depicted above all rode Nortons.

Impressions of the T.T.—

I doubt if special hot-stuff engines—or, indeed, 'buses—have ever shown such magnificent reliability and stamina as these 1920 Sunbeams exhibit; and I beg to plead for a lightweight sporting single-cylinder with an engine of this class.

The A.J.S. machines just failed to parallel the Sunbeam feat. In speed and power they probably represented a still more signal advance on past practice. Anyone who saw a 2¾ h.p. A.J.S. in either race would judge by its performance that it was a 500 c.c., a 1920 500 c.c., and an uncommonly good sample at that. But since the A.J.S. people no longer make singles for sale, they not unnaturally failed to get their racers dead right in time, and so they only won the Junior by the skin of their teeth. If they go for it next year, it may be a gift for them; for there is precious little the matter with their 1920 'bus, and they know its weaknesses.

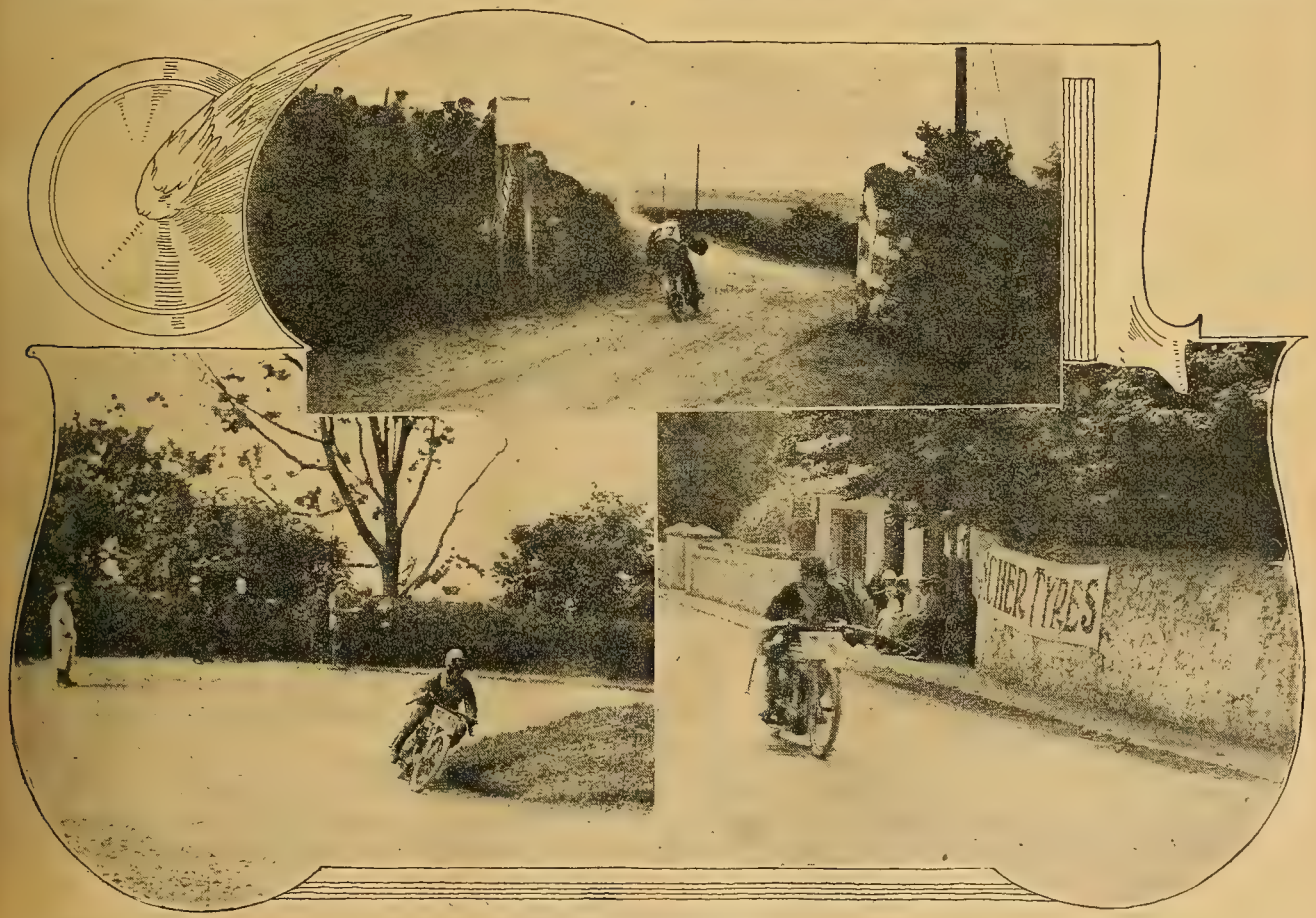
F. C. Townshend, a Sunbeam staff rider, whose fastest lap was 44m. 58s.

Noel Brown (Norton), one of four Liverpool enthusiasts who rode in this year's T.T.

The big fellows naturally overshadowed the little ones. But perhaps the most astounding performance of the whole week was that of the Levis. Remember that nothing but sheer hard luck prevented Clark from winning the Junior outright. Then reflect that 35 m.p.h. is about the limit of the average 250 c.c. two-stroke, and that it eats sparking plugs if you over-drive it. Give the public baby two-strokes akin to the racing Levis, and it will be safe to assume that the demand for big solo mounts will decline. We need efficient lightweight machines more than we need anything else.

The Blackburne performance is first cousin once removed to the Norton feat. It just could not win unless a lot of faster machines fell out; but it showed how exceedingly good the standard Blackburne engine is.

Transmission proved one of the most interesting details in both races. Faulty drives outed the Douglas in the Senior, and several A.J.S. machines in the



T.T. REMINISCENCES.

N. W. Loughton (Douglas) passing Keppel Gate on the mountain road in the Junior race. (Left) Norman Black (Norton), who finished eleventh, cutting it close at the Ramsey hairpin. (Right) Capt. A. Lindsay (Norton) at speed through Crosby.

Impressions of the T.T.—

Junior. Here is a point which deserves emphasis. The machines which used their standard transmission experienced no trouble with it. I am wholly against the admission of such freak drives as Alexander's six-speed Douglas (two engine chains with a three-speed countershaft box) and the A.J.S. (two engine chains with a two-speed countershaft box).

I do not believe these freak gadgets were of any real help to their users. Mr. Stevens probably wishes he had fitted a standard box, and the six-speed Douglas was not faster than several three-speed machines. My point is that these three-chain drives will never pass into ordinary use, and I would as soon see the race won with a steam engine.

If four speeds or six speeds are desirable for touring, let us have them in the race: but have them in the A.B.C. or Rudge stock patterns. The belt is clearly doomed, so far as heavy machines are concerned; nor do I fancy that gear changes of the "square gate" pattern will win against the "long gate" type. You cannot cross a broad gate with safety whilst you are cornering at speed.

Only two machines really "conked" on hills in either race. One was grossly overgeared, and the other had a standard pre-war engine. Compare these facts with the "overheating" of which the A.C.U. complained so vehemently in their last Six Days Trial. It is clear that, when the trade likes, it can turn out engines which neither "dry up" nor "conk." Let the few firms which are still careless about such matters on their standard engines feel the draught of a sturdy boycott by private purchasers; and "conking" will pass out of the motor cycling vocabulary.

Steering Design.

At least one firm learnt something about steering design in the race. If the T.T. is ever held on a flatter, straighter course, which compels would-be winners to hold 80 m.p.h. continuously for five miles, the steering of motor cycles would receive much attention.

Another set of incidents in the race suggests a research job for the A.C.U. It provided numerous brake tests of a genuine character, wholly distinct from the playful pretences which pass under the same name in reliability trials. Two special points of keen interest arose. One was the fact that certain brakes were very liable to jam in the "on" position. (I might add that the brakes of sundry touring machines are equally prone to become permanently "off," but before a race such dangerous designs are faked into safety by their riders.) Two or three men narrowly escaped violent deaths from this fault. Another was outed by a brake control, which is not positively located. The customers of the firms concerned will shortly benefit by these little incidents—a sufficient answer to the cynics who fancy that racing does no good.

Far more interesting was the demonstrated inefficiency of one system, which applies all the braking power on the rear wheel. The men who used brakes on both wheels could stop more quickly and more safely. We must admit that many existing front wheel brakes are tiresome, inefficient, and even dangerous. The racing unquestionably proved that a properly designed two-wheel braking system is better than a single wheel system. When some of the absentee firms begin to design for a win at 55 m.p.h. in 1921, they will have to re-design their brakes; and if they do not do it they will not win. George Dance could not do a lap in 40m. 13s. if his engine were installed in certain bicycles of my acquaintance. This matter is parallel to the new interest in braking all four wheels which some Continental designers of racing cars have developed. The principle admits of no argument, but the details of its application require much experiment.

Flexibility.

Readers who did not visit the Island may be interested to hear that most of the racers were perfectly docile in heavy traffic. They started easily, and ran in very ladylike fashion at quite low road speeds. I should select the Indian Scouts for special praise in this respect, though I did not notice one sample of the old type, which travels a furlong on each pop, takes one hundred yards to start, and cannot be driven at less than 30 m.p.h.

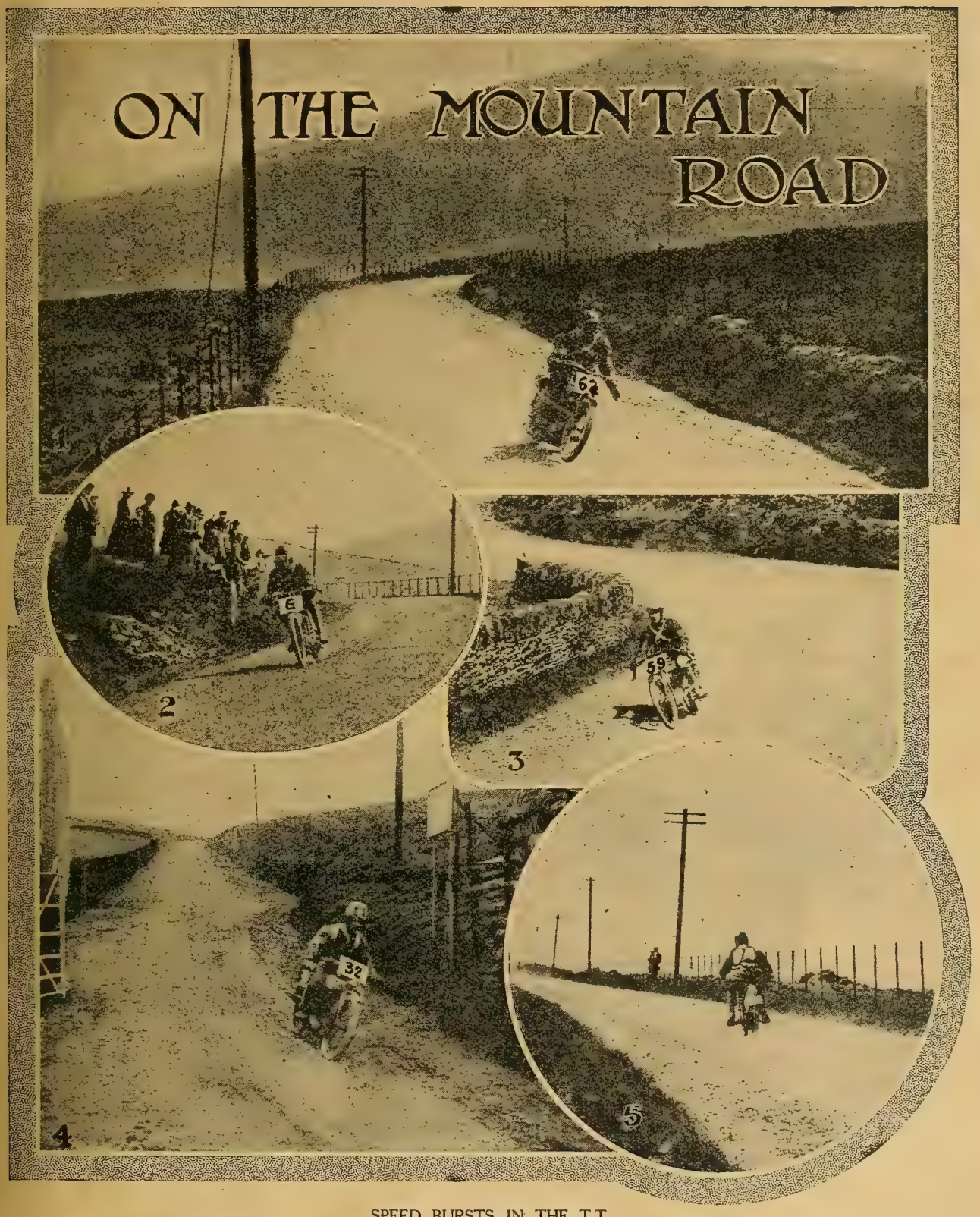
The A.B.C.'s did not last long enough to tell us anything about racing on spring frames. As J. L. Emerson usually binds his up for sprints, I take it that it is very hard to get absolute lateral rigidity, such as the speed cornerist must have.

In conclusion, little notice need be taken of fractured parts. I know such cases were numerous, despite all our talk of metallurgical progress during the war. The A.B.C. advertisements have acquainted motor cyclists with the tests to which steels are subjected in the laboratory of a modern factory. But the steel makers are just as much hampered by unskilled and half-trained labour as anybody else. Steels are difficult to get, and makers have to use what is obtainable. They cannot test every piece over all its length or surface or core. This phase will pass. That a side valve, or an overhead valve, or a gearshaft snapped in the 1920 T.T. means next to nothing. There will not be many such incidents in the 1921 race, for the steel makers will be getting ahead of their work by then. Still, one wee yarn is worth recounting; anti-racing cranks please note. We encountered one designer in the Island who had never heard of the use of stainless steel for valves!

SOME 1921 POSSIBILITIES.

A propos the proposals to limit the 1921 Senior T.T. to 350 c.c. engines, the imaginative motor cyclist has much food for thought. It is now well known that a large Scott entry is expected for this race. A small Scott machine, with cylinders of 175 c.c. each, would strike a new note in lightweights. A 350 c.c. Triumph, B.S.A., or Norton also would be interesting, while the A.J.S. would merely be transferred to the Senior class, as would most of the other competitors in this year's Junior event.

Is it too much to expect little twin two-strokes of 250 c.c. total capacity? Such a machine would go far to meet the demand that exists for a quiet, docile, and smooth running mount. VEDETTE.



SPEED BURSTS IN THE T.T.

Many riders exceed 70 m.p.h. on the descent through Keppel Gate, while the steady climb from the Gooseneck to the Bungalow is always taken "all out." (1) V. Horsman (3½ Norton) approaching the Bungalow. (2) H. R. Davies (2¾ A.J.S.), whose four-speed gear was useful on the mountain. (3) Several slight and therefore dangerous bends occur after the Gooseneck is left behind; the rider is G. W. Walker, on a 3½ h.p. Norton. (4) The treacherous Keppel Gate, where a wobble spells disaster. E. Longden (2¾ Dot-Jap) passing through at speed. (5) F. C. Townshend (3½ Sunbeam) on a fast straight stretch of road 1,300ft. above sea level.

A WEEK IN THE ISLAND.

Attractions for the Motor Cyclist that Abound in the Isle of Man.

The Junior and Senior Races through the Eyes of an Old Hand.

By "ROAD RIDER."

WONDERFUL place, the Island! I can't quite make out why we don't stay there for ever. It offers us every conceivable attraction to suit every imaginable taste. Income tax at 10d. in the £; no duty on imported Indians and Harleys; no speed limit (or if there is one, my 998 c.c. doesn't seem able to exceed it); air like champagne; cheap grub, all of the best and quantity unlimited. Petticoats? Well, if you are a sober Benedict like myself, and take your wife, it's jolly for her to meet all the other fellows' wives, or to indulge in feminine gossip about the other fellows' "Stepneys." If you are young, frisky, and unappropriated, there are flappers galore. The Manx type—grey eyes, with that Connemara smudge beneath them. The Lancashire type, hard hitters in repartee, witty, and shrewd. The yellow-haired sort in pink frocks—I don't quite know where *they* come from. Anyhow, the man who couldn't suit himself along the front at Douglas would be hard to please. Golf — for the scratch man—at Castletown, or for the "rabbits" on the sporting but too crowded links at Fort Anne. Dancing—the giant halls at the Palace and Villa Marina. Motoring—two lurid races in a week, flying kilometres on the sea front, a gymkhana at Belle Vue, and blinding all over the Island, which is really a small chunk chopped off Cornwall, quite as lovely and far more accessible. Picture palaces in every street. Two or three big variety halls with stars like Wilkie Bard and Florrie Forde heading the bill. Fishing. Bathing. Flirting. Pre-war whisky. Pre-war beer. All your best and oldest pals congregated within two square miles or thereabouts. It is a wonderful island, and when you've once been over, you are not likely to miss a single T.T. until you grow old and tiresome.

Nevertheless, I know why we don't all go. The trip includes a sea crossing. My boat was very crowded. After vainly seeking a seat in the saloon, I sacrificed my pride and my ticket, and perched on a bollard in the steerage. An elderly Lancashire dame, travelling alone, instantly capitulated to my personable self.

"Ah've never crossed t' watter afore!" she volunteered. I expressed surprise.

"Ah'm feart ah'll be sick!" she twittered. I expressed scepticism. An hour out from the Mersey she said, "Ah'm feeling summon bad!" I alleged the existence of stewardesses below (are there any stewardesses in the steerage?).

The Gooseneck, where fast cornering may be done. Reg. Brown (3½ Sunbeam) cutting it fine.

A Week in the Island.

"Ah think ah'll take a little walk." I encouraged her mightily. As Kipling puts it, "that fell which fell."

I know also why, having once mustered courage to make the voyage, we do not settle in the Island. Not even a munition profiteer could survive a month there. A hackman, driving a sorry old nag only fit for making straps of, charged me 5s. for a seven-minute drive from the boat. I disgorged money in a continuous stream at this rate during the whole of my stay, and finally came home two days early and paid my hotel bill with a cheque. I have a sneaking fancy that if I once settled in the Island the Manx might cease to batten upon me, and admit me to their fellowship for plundering the Saxon. I have a notion of chancing £100 out of my slender patrimony in making the experiment. Perhaps some day. . . . . ?

Hilberry Corner.

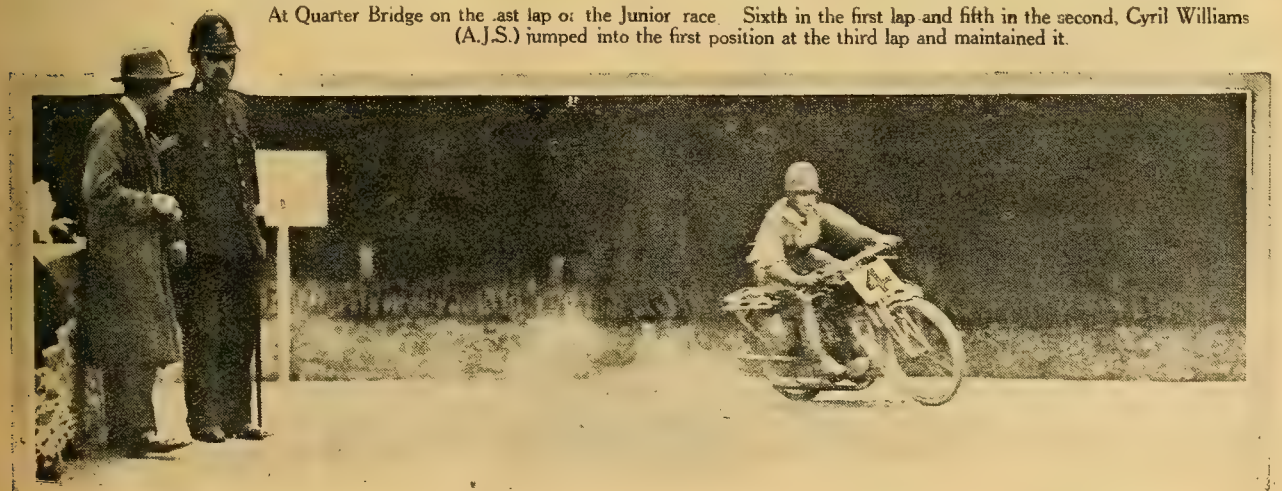
But this is a motoring journal, isn't it? *Revenons à nos moutons*. There are just two places to watch the racing from. One is Hillberry Corner. It is located at one of the thrill spots of the course. Cars *can* take the bend at "70." What with the men who know how to tackle it and the men who don't, you get both the spectacle of sheer speed and that lovely gulp-in-the-throat feeling which the T.T. charm consists of. Moreover, you sit on a comfortable seat on a natural grand stand, and lovely flappers bring you food and drink to suit whatever weather prevails (I should admit that the Manx climate is as capricious as a French *danseuse*). Of course, I went to Hillberry for the Junior. We were wholly fogged by the race, as the A.C.U. carefully withheld all information about the order of starting. So when three riders, say numbers 32, 1, and 17, passed all abreast, we didn't know where we were, but cheered for the best-looking man. There was a rumpus about this on Wednesday, and a starting list was issued for the Senior, which I watched from the official stand. There you have the aid of the huge timeboard and of a gadget like a cricket telegraph or footer league half-time board, which tells you how far the invisible racers have got on the current lap. Also, you see some real speed down Glencutchery Road, and the Castrol depots are right under your nose.

The Junior race was too full of might-have-beens this year. Given a no-trouble run, there was only one team in it, for the A.J.S. was miles faster than anything else. Still, it was exciting enough to watch whether any of them would survive, and if they didn't, would the careful tactics of the Blackburnes pay, or would Clark, who had driven his Levis bluer than any baby was ever rattled along before, stand the awful strain of such audacious cornering for five whole laps? You know the issue—a course strewn with derelicts, a lame winner, two cruisers hunting him home, and a fine sportsman robbed of a sensational victory by hard luck on his last lap. A somewhat disappointing race, crammed with incident.

The Senior Race.

The Senior race was the exact reverse. Everybody knew George Dance could win if he could last the cracking pace which he was sure to set. Alexander on the Douglas, given a non-stop, was almost as formidable. The Sunbeam team manager was afraid that de la Hay might chase Dance off the Island, and kill himself in the effort—it was lucky that the starting ballot put a wide gap between this redoubtable pair. The wizard O'Donovan had been putting the 'fluence over some of the Nortons, and Shaw was reputed a champion road man—more "expected," perhaps, than the old hand "Duggie" Brown. It was undeniable that the Indians were running beautifully, and clocking most regular laps. Everything pointed to a smashing race, and we certainly got it. Dance jazzed off incredibly fast. He lasted one very purple lap: then another still more purple. Finally, it was the engine and not the man that failed to stick as hot a pace as will ever be set. If Alexander's Douglas had been given all-chain drive, he would have taken the lead; but no belt could stand the rip of such a tearaway engine, so he, too, fell out. That left D. M. Brown in the lead, riding the sort of race in which the number of laps doesn't seem to matter; it was clear that Brown and his Norton, like Tennyson's brook, could go on for ever. So, too, could de la Hay's Sunbeam. Whether de la Hay was a bit more of a firework merchant round corners, or whether the Sunbeam engine had one ounce more ginger, deponent knoweth not. But they gave us a top-hole race and a breath-catching finish, and I am still hoarse.

At Quarter Bridge on the last lap of the Junior race. Sixth in the first lap and fifth in the second, Cyril Williams (A.J.S.) jumped into the first position at the third lap and maintained it.



A Week in the Island.—

Then the tension relaxed, and we devoted the rest of the week to more frivolous amusements. I did not go to the horse races. Experts told me that it is unprofitable—that if you put £5 on a horse, it never wins. We all went to the Palace—3,000 couples jazzing on a perfect floor in a crush like a Bakerloo Tube about 7 p.m. is some sight. Kilometre trials on the sea front: George Dance doing 75 m.p.h. down a narrow bottleneck of human beings, with loose dogs about and the certainty of a frightful holocaust if he came over!

Then there was the excitement of trying to keep half-a-dozen appointments at once—a difficult problem when one's friends are in different camps and every man is bound to be at some one else's hotel. Did you promise to take a certain fair lady to the palace? (Or was it a golf match with her husband?) then it was a sure sign that the Editor would send a message from the Sefton that you were required to attend some function to celebrate the victory of somebody's tyres, or belts, or carburetters. Two such celebrations in one evening help the confusion.

"What would my wife think of me?" is a question one only asks when the confetti gets mixed up in the early morning cup of tea while feeling across the counterpane for one's case of cigarettes.

And by the time evening comes round again one is fit to enter into impromptu contortionist competitions against double-jointed experts for the I.O.M. hospital.

Finally, a sea as calm as a pond, and a farewell of fireworks for the midnight boat.

Next Year's T.T.

Well, here's to the 1921 T.T. *What* a race we shall have, gentlemen! The Scott people talk of entering twenty-four machines. Triumphs will have to be there, or the Sunbeam will be challenging their long-established claim to be our premier single. Harley-Davidsons will be a new ally for the Indians. Granville Bradshaw will doubtless put in a team of A.B.C. engines, capable of 8,000 r.p.m. The Rudges will defend their 1914 title — and they have a *flair* for unearthing three new first-class jocks every year. Douglases now make a 3½ h.p. The Collier brothers will hardly be content to look on. The Duzmo, as a hot-stuff sports solo, must enter in force. Is the Island big enough to hold 100 machines of the probable calibre? Anyhow, it should be *some* race.

SENIOR PACEMAKERS AT VARIOUS POINTS OF THE COURSE.

(Top) D. M. Brown (Norton), who finished second in the Senior race, at the Gooseneck, Ramsey. (Left) Noel Brown settling down after "jumping" Ballig Bridge. (Right) G. Dance (Sunbeam) at Ballacraine

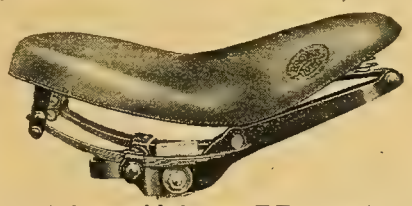
THE TECHNICAL ASPECTS OF THE T.T.

A Review of the More Salient Features of the Isle of Man Races from a Technical Standpoint.

FINISHING TOUCHES.
De la Hay, the Senior T.T. winner, finally looking over his machine.

FIRST impressions are apt to be deceptive, and this remark is especially true of the results of the 1920 Tourist Trophy races.

A glance at the finishers shows apparently that machines designed on standardised lines absolutely swept the board, whereas specialised high efficiency engines in the majority of cases failed to finish. This conclusion, though true, is misleading, for on closer inspection we find that the causes of failure were mainly due to the fact that the violent acceleration produced by the high efficiency cylinders caused fractures in the transmission or other engine parts.



It is essential that the T.T. competitor rides as comfortably as possible. The Brooks New B225 saddle has been designed for the speed man, and formed part of the equipment of the winning Sunbeam

This points to a common failing in all early developments: that one feature has been developed without corresponding attention being paid to the results. It is obvious, for instance, that a crankshaft and transmission which have proved to be sufficiently strong for the needs of a cylinder developing, say, 6 h.p. will not necessarily stand up if an extra 2 or 3 h.p. are coaxed out of a cylinder of the same capacity.

Oddly enough, a certain amount of valve trouble was experienced by engines of all types. This is curious, since, although the fearful gruelling imposed by about two hundred miles of road racing is extremely hard on valves, there should have been no failures in this respect if suitable steel had been used.

Possibly the unreliability of some present-day steels is responsible for some of the troubles, though, from certain remarks overheard in the Island, it would seem as if one or two manufacturers have not taken advantage of recent improvements which were brought to light during the war.

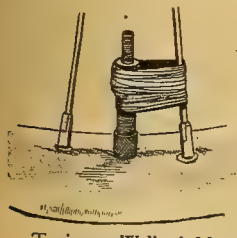
The 250 c.c. class proved something of a walk-over for the small two-stroke, and the performance of the Baby Levises was an eye-opener for those who consider that two-stroke engines are bound to overheat if driven hard.

In the Junior race we were able to see the little two-strokes at their best, and, not only that, but maintaining their best for 190 miles of all-out driving. Over 38 m.p.h. is no mean speed for a 250 c.c. engine, but to average such a rate over a tortuous and hilly course for hour after hour is indeed a startling performance.

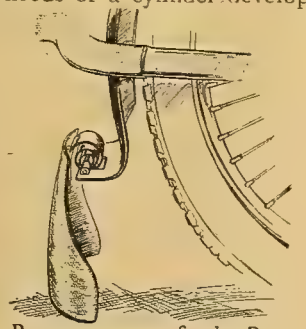
How was it that the little engines held their tune, and, when stripped by the examiners, showed free piston rings and a wonderful absence of carbon? Undoubtedly the answer lies in the aluminium cylinder construction, the first to appear in the Manx races.

Long experience of two-strokes and sound design are, of course, essentials, but I am sure that Messrs. Butterfield will agree that without the aluminium cylinders the performance would have been improbable, if not impossible. Whether the particular cylinder construction used in the race will prove to be the final form remains to be seen. It undoubtedly has its advantages, but the "poultice" head type is apt to require frequent refitting if the best results are to be maintained.

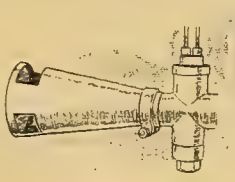
The consistent running of the Blackburnes was most meritorious, and the firm is to be congratulated on obtaining second and third places with practically standard machines. Watson Bourne is a heavy rider for the



Taping on Walker's Norton, which prevented the valve nuts working loose

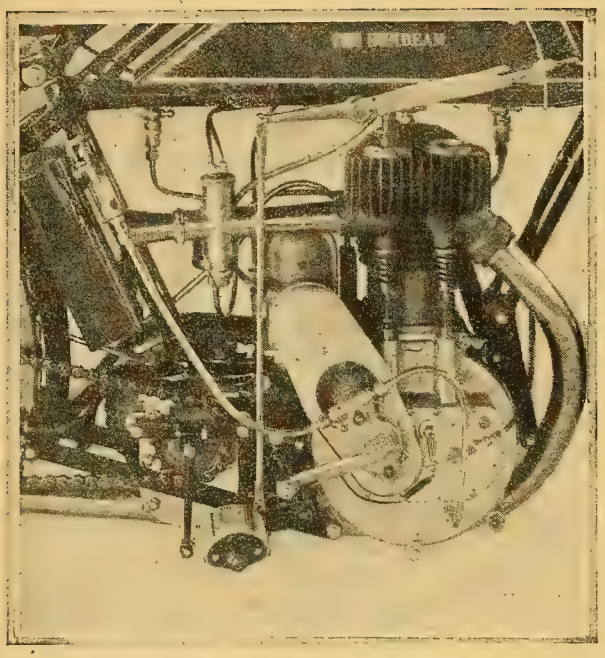


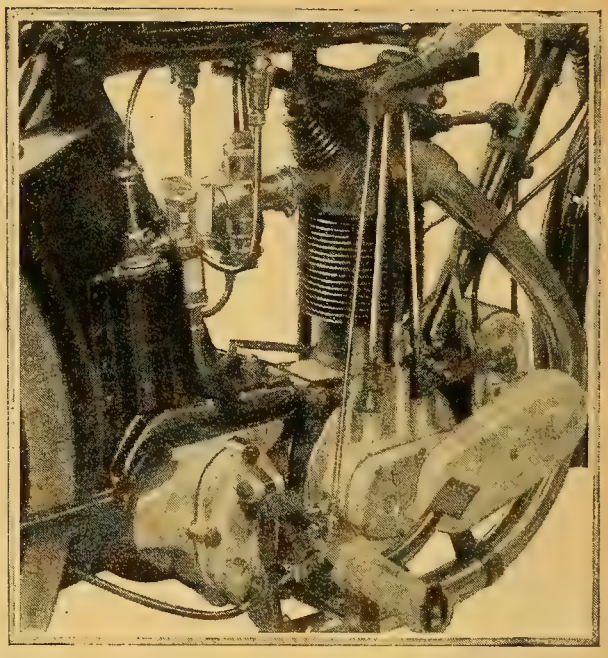
Puncture-preventer fitted to Petty's Norton in front of the rear wheel



Air extension to the carburetter of North's Norton.

The drilled piston used in the A.J.S. T.T. machines.





THE WINNING ENGINES OF THE SENIOR AND JUNIOR T.T. RACES.

A separate head with side-by-side valve gear distinguished the successful 3½ h.p. Sunbeams. Mechanical lubrication also contributed to their fine performance.

Overhead valves operated by long push rods were an outstanding feature of the 2¾ h.p. A.J.S. The separate head was held down by a steel strap tightened by turn buckles.

Junior class, and J. S. Holroyd was inclined to be cautious on corners, or their average speeds might have been slightly higher. After all, it is probable that the firm was out to demonstrate the reliability of its products rather than to win.

While on the subject of the T.T. Blackburnes, which are the prototypes of a new model, I am inclined to hope that the outside drive will be retained in future engines, as the short crankshaft should help to obviate torsional oscillations, especially if the crankshaft is hollow.

The exhaust heated induction pipe on A. H. Alexander's 3½ h.p. Douglas. The arrows indicate the path of exhaust gas through the heater.

Eric Longden's Dot-Jap showed a remarkable turn of speed, but the Diamond team were handicapped by too short an experience with the three-valve J.A.P. engine. This little single-cylinder engine, with its two inlets and one exhaust, quite obviously was intended for a different future when it started life in the drawing-office, but I am inclined to agree that, if more than two valves are necessary for a 250 c.c. cylinder (a very questionable point), two inlet valves and one exhaust are preferable to the opposite arrangement.

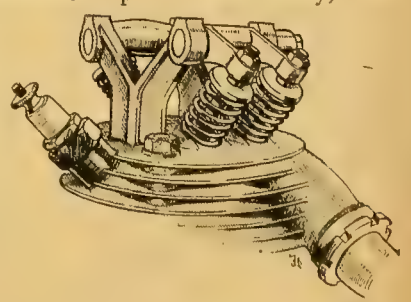
The Ivy two-stroke was fast and well ridden, but suffered hard luck in the breakage of an oil pipe, which naturally caused considerable delay.

As usual, the 2¾ h.p. Douglases performed steadily, and, if Alexander had not dropped out, there is no knowing what would have happened, since his old 1914 mount was going particularly well.

The A.J.S.'s were the fastest machines on the course by several miles per hour, and everyone who is looking forward to increased efficiency and advance in design will share with the makers their disappointment in the fact that, with one exception, the new machines failed to finish. The reasons are sufficiently explained at the beginning of these notes, and the one exception produced perhaps the most sensational win in the annals of the T.T.

The Senior Race.

Sunbeams, Nortons, and Indians provided the only finishers, but of the "also rans" there were one or two interesting performances. Of these the most notable was A. H. Alexander's overhead valve Douglas. The speed of this machine was wonderful, and it provided the fastest lap of the day, with the exception of Dance's second lap. Unfortunately, once again the transmission was not equal to the power of the engine, and constant belt trouble eliminated this very promising performer. Le Vack's overhead valve Duzmo had an extraordinarily healthy crackle, and ran well up for the first few laps. This is an interesting engine of which more will be heard later. The A.B.C.'s were not entered by the makers, and both failed to make any serious showing. Davies's little A.J.S. made a very fine lap, and his acceleration was terrific—in fact, it was superior to that of the majority of the Senior machines.

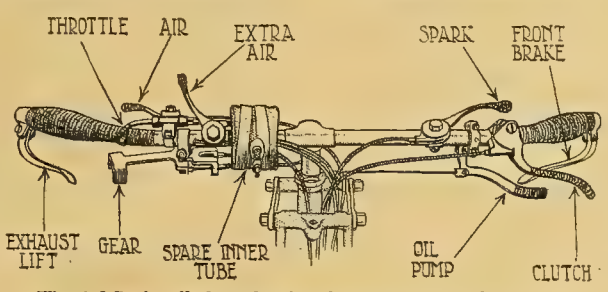


Cylinder head of J.A.P. engine used on the Diamond machine. Two inlet valves and one exhaust were employed.

AN ANALYSIS OF TYPES IN THE TOURIST TROPHY RACES.

	Started.			Finished.			Positions.
	Junior.	Senior.	Total.	Junior.	Senior.	Total.	
Single-cylinder two-strokes	6	—	6	5	—	5	Junior: 4th, 7th, 9th, 10th, 11th
Single-cylinder four-strokes	13	20	33	4	11	15	Junior: 1st, 2nd, 3rd, 8th. Senior: 1st, 2nd, 3rd, 4th, 7th, 8th, 9th, 11th, 12th.
Flat twins	4	3	7	1	—	1	Junior. 6th.
V-twins	1	3	4	1	3	4	Junior: 5th. Senior: 5th, 6th, 12th.
Overhead valves	10	5	15	2	—	2	Junior: 1st, 5th.
Overhead inlet only	1	—	1	—	—	—	
Side-by-side valves	7	21	28	4	14	18	Junior: 2nd, 3rd, 6th, 8th. Senior: 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, and 14th

All eyes were on the Indians until it became apparent that they would not win unless half a dozen leaders cracked up. Weight was against the Scouts, and they were also handicapped by the absence of front wheel brakes. In spite of this, they performed consistently, and both D. Alexander and Harveyson were always well up. As sole representatives of the V twin in the Senior race, especial interest attached to the Indian entry, but the single cylinder again proved invincible. Norton machines were so nearly standard that there is little of fresh technical interest to be said on the subject. The very fact that a practically standard machine proved capable of giving the winner a close run for his money, and of obtaining seven more places, including the fourth position, is sufficient evidence of the designer's ability and the high efficiency of the firm's standard productions. Without a doubt the Sunbeams were ideally suited to the course. They had been designed and built specially for the work with that thoroughness which is characteristic of the Wolverhampton firm, and they were superbly ridden. A separate head is a new feature for the Sunbeam 3½ h.p., but from the method of attachment I gather that it was a separate head, from a constructional point of view, rather than a detachable head from the rider's standpoint. Not only was the engine a fine job, but the gear box also had been carefully suited to the race, all unnecessary friction had been carefully eliminated, and the change was noticeably sweet.



The A.J.S. handle-bar, showing the arrangement of the nine separate control levers.

There are one or two hardy annuals which crop up regularly at Tourist Trophy time, but which should be mentioned once again in hopes of future improvement. As usual, almost every rider considered it necessary to tape all the "twiddly bits" to prevent loss, and the fact that the winner of the Junior race was delayed through lack of this precaution is surely a reflection on the present state of mechanical perfection.

Every time that the Manx races take place, special provision is made to render lubrication an easy operation, and, though it may be admitted that the average rider has more leisure for actuating a pump, he should surely be allowed the luxury of a handle-bar or foot control for the pump.

In conclusion, the absence of more trade entries was most regrettable, though it is not likely to occur again. There are many lessons which can only be learned by a close observance, or, better still, actual participation in the great event, and a well-known manufacturer volunteered the information that he had gained at least £10,000 worth of information from the 1920 races.

UBIQUE.

The Scottish Six Days Trial.

THE sporting, but strenuous, Six Days Trial organised by the Edinburgh M.C., starts next Monday. Over a hundred competitors are supporting the event, which this year embodies many new features. The Trial will start from Perth instead of from Edinburgh as in previous years. The second day includes a run to John-o'-Groat's, while the last day's route starts and ends at Edinburgh. As in previous Scottish Six Days, members of *The Motor Cycle* staff, with photographers, will accompany the competitors, and a full description of the trial will appear in subsequent issues. The six routes finally chosen by the organisers are as follow:

FIRST DAY: PERTH—INVERNESS.

Perth, Kenmore, Pitlochry, Kirkmichael, Braemar (lunch), Crathie, Tomintoul, Grantown, Inverness. TEST HILLS.—Amulree, Cockbridge, Bridge of Brown.

SECOND DAY: INVERNESS—THURSO.

Inverness, Abriachan, Beauly, Dingwall, Lairg (lunch), Tongue, Melvich, Thurso, John-o'-Groat's, Thurso. TEST HILL.—Abriachan.

THIRD DAY: THURSO—INVERNESS.

Thurso, Latheron, Dunbeath, Brora, Lairg (lunch), Evanton, and Inverness.

FOURTH DAY: INVERNESS—INVERNESS.

Inverness, Drumnadrochit, Invermoriston, Cluanie, Glenelg (lunch), Tomdoun, Invergarray, Glendoe, Inverness. TEST HILLS.—Glendoe and Man Rattachan.

FIFTH DAY: INVERNESS—EDINBURGH.

Inverness, Kingussie, Pitlochry (lunch), Ballinluig, Grantully, Weem, Kenmore, Edinburgh. TEST HILL.—Kenmore.

SIXTH DAY: EDINBURGH—EDINBURGH.

Edinburgh, Broughton, Tweedsmuir, St. Mary's Loch, Innerleithen (lunch), Gifford, Garvald, Spott, Elmscleugh, St. Agnes, Haddington. TEST HILLS.—Talla Linns, Redstone Rig, and Elmscleugh.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

ANGLO-DUTCH TRIAL.

Sir,—Your correspondent, F. A. Hardy, expresses my thoughts on the above trial, and as captain of the trade team for two years, I am naturally anxious to ride again for this country.

I hope the A.C.U. will give those riders who represented England before a chance of offering their services again.

W. PRATT.

A PINCH OF SALT.

Sir,—I read some time ago a letter from a correspondent asking if anyone had tried the *Scientific American's* tip for decarbonising, *i.e.*, with a teaspoonful of salt put in the cylinder. As I intended cleaning out my engine the other day, and thinking the Yankees may have made a discovery—apart from the fact that England was also in the late war—I tried it: result, *nil*! A. G. GILL.

HAND CLEANSER.

Sir,—Letters have recently appeared in your columns advocating various cleansing preparations. After repairing or otherwise handling greasy chains, etc., the hands should be well rubbed with a small quantity of engine oil drawn from the tank by the oil-gun or lubricating oil from the oil-can. If the oil has been well rubbed in, ordinary soap and water will do the rest. PALE HANDS.

Harrogate.

REUNION OF EX-D.R.'S

Sir,—Your correspondent, ex-Sergeant Schofield, writes to say he is trying to arrange a D.R.'s reunion. If this can be fixed up it will be excellent, but may I respectfully ask our ex-Sergeant why he restricts it all to "1914 D.R.'s"? Surely there were some good fellows who enlisted afterwards, and I can't think Mr. Schofield considers the old remark, "Before you come up, chum!" is fair to all late arrivals.

Derby. UNDER AGE AT FIRST.

BEHAVIOUR.

Sir,—Can you, or any medical expert, solve the following problem?

Eastbourne, I believe, is one of the healthiest spots on the south coast, and its air particularly bracing for invalids and those generally "out of sorts."

Yet this same air seems to have a very adverse effect on certain youthful motor cyclists of a class unfortunately becoming only too common nowadays.

They spend most of the day riding up and down the front with open exhausts and the lowest of Brooklands bars: the machines, needless to say, are standard in every other respect. When they do stop, at a point invariably opposite the bandstand, where there is always a crowd, they loudly proclaim their ability to exceed 60 m.p.h. And, recently, I witnessed the extraordinary phenomenon of four up on a lightweight two-stroke.

I am wondering if there is any cure for this form of mental derangement, or whether all these unfortunate sufferers will eventually be certified and vanish from a sorrowing world into an asylum for such cases. The world will sorrow, not for their loss, but for the very justifiable police activity which may be expected as a result of this alarming mania.

Eastbourne. NOT YET DIAGNOSED.

LEFT SIDE DRIVE.

Sir,—I hold no brief for foreign vehicles with left-hand drive, but it seems to me that, instead of making a lot of undignified fuss, as we now appear to be doing over these dangerous customers, a better plan would be to look out for some effective means of eliminating the danger in those among us. Would it not be simple to make it illegal for them to be on the road without means of signalling to the right, by means of a disc or flag on a stick or some other form of semaphore, to be actuated by the driver in substitution for the usual hand signal. J. HARRISON.

SANS MAGNETO.

Sir,—Have any of your readers had the following curious experience? Whilst riding a 2½ h.p. Levis without the usual magneto chain cover, I was obliged to stop at the corner of some cross roads when I noticed that the magneto chain was no longer in position. I naturally concluded that it had come off at the moment of stopping and proceeded to look about for it, but the most persistent search failed to locate its whereabouts. A cyclist coming along the road I had just passed over produced the chain, informing me that he saw it come off about half a mile prior to the place at which I stopped. *I had ridden half a mile without a magneto chain.* The engine was very hot at the time, and the only reason I can give is that a piece of hot carbon on the cylinder head was sufficient to fire the charge on compression, but not sufficiently hot to cause pre-ignition. A. R. JONES.

On his fastest lap. An impression of G. Dance taking a winding section on the mountain road.

POLICE PERSECUTION.

Sir,—The time has arrived when all motorists and their associations should use every endeavour to stop this waste of time in seeking technical offenders, whilst real criminals remain at large. The disappearance of "drunks" has caused the policeman to look for motorists as a sort of stock case to help justify his existence.

How can the burgled householder grumble over his loss, when he contemplates the splended organisation of a "police trap"—concealed, except for its feet, with ingenuity worthy of the legitimate stage.

Never have we had such an epidemic of robbery, and never such vigilance from the police for technical offenders, who often prefer a case to go in default, the cost in actual cash being the same, win or lose.

It is full time that motorists urged their various representatives to do something towards abating this waste of time—for which they have to pay. CRICKET.

S.W.17.

Sir,—May I reply to Mr. Pennington. My letter was quite plain enough for even the simple brain to take in, if it was properly read before replies of this kind were written to it. Mr. Pennington says, "I fail entirely to see where his grievance is." Does he? Well, I pity his understanding. Let him read my letter again, and he will see that I complain of being stopped *several times* in one day and delayed on my journeys whilst policemen measure up, and examine licences, etc. If Mr. Pennington was a long-distance rider he would perhaps get to understand how annoying it gets to be frequently held up. I take a delight in keeping my machine nice. I never yet had number plates, silencer, or licence out of order. I have never been a road hog, and hope I never shall be. I observe ten-mile limits as closely as I can, and I always take the line that one gets trouble without being foolish enough to go out and look for it.

It is all very well where machines are used for merely pottering about on and riders have time to be wasting, but when one uses a machine for business, as I do, and has to ride long journeys, then stopping and undoing coats to get out licences, getting off and putting the machine on the stand, and being held up whilst policemen play about with foot rules and poke pencils in silencers all cause delay, and it is this I object to. If Mr. Pennington had been held up for half an hour or more whilst a long line of cars and motor cycles were examined on the roadside, then he would take a different line I fancy. I have had some, and if it has become so necessary to have these roadside hold-up schemes, then let us all have to take our machines to our local police station, have them examined there, and a card or disc handed out to us to say that the machines comply with the regulations. It would then be merely a question of stopping, producing licence and card, and going on quickly.

Will he tell me why, as a motorist, I should be subjected to interrogation of this kind: "Where have you come from? Where are you going? When and where was your machine registered? Have you baffle plates in your silencer? Are your numbers the correct size? (Then wait whilst the rule is run over them.) Have you any endorsements on your licence?" All of which questions the Motor Car Act does not give any power to the police to ask.

No. The system is wrong, and it is the meek and mild lambs who tamely submit who are helping us to be subjected to this petty annoyance. Perhaps Mr. Pennington will now see where my grievance is, and having re-read my letter of June 3rd will see that he replied without thought or realisation of how some of us are really badgered for no useful purpose at all. R. C. MEASURES.

Sir,—I read with much interest the letter in your issue of June 17th, signed "The Victim." I spent all last summer in the Furness district, and covered several thousand miles on my motor cycle, and never met with anything but courtesy and assistance from the police. Perhaps this was because I am middle-aged and cautious, and did not blind through the narrow and winding streets of towns like Ulverston at even twenty miles an hour. The truth is that motor cyclists have not too good a name, either in the Lake District or anywhere else, owing to the selfish propensity of many of the younger members of the fraternity to "barge" along at speed, no matter who else is on the road or in the street. I saw a lot of it in the North, and only escaped several bad spills by pure luck, owing to solo riders blinding round corners at speed, and not always on their own side of the road. Now I am in the South, where the roads are better and it is easier for the quieter type of motorist to get along, though one sees plenty of bad driving here.

I was talking to a car owner at Keswick last autumn, and he said he considered there were three curses on the road at present, viz., chars-à-bancs, hired Ford cars, and motor cyclists.

Though a very ardent motor cyclist myself, I must endorse his opinion. I should say that "Victim" just about got what he deserved. E.Q.

Portsmouth.

Sir,—I have read the letter from the Rev. R. C. Measures calling for help from the A.A. and A.C.U. to fight the petty tyranny of the police. I hope very much that his call will be heard and answered by the associations.

The behaviour of the police is at times quite intolerable, and we find the men who are supposed to keep peace and order doing all they can to badger, bully, and create discord amongst the community.

Policemen in these days are given very wide powers, where discretion, judgment, and commonsense are needed. These qualities are possessed only by a few. Reform is needed badly, and I only hope the A.A. and A.C.U. will act immediately. C.L.W.

Malvern.

[Many similar letters on police persecution have been received which are unavoidably held over.—ED.]

THE 1920 T.T. The assembled competitors at the starting point of the Senior race.

SHOULD BELTS BE RUN IN ONE DIRECTION?

Sir,—About the question which you ask concerning belts. I may say that I have ridden several belt-driven machines, and at present possess a 3½ Rudge-Multi. I have "pulled out" many belt-fasteners in my time, and have never bothered which way I replaced the belt. If there is a difference caused thus, surely a variable belt device like the Multi gear should show it? RUDGE RIDER.

Uppingham.

SPEEDS.

Sir,—May I add a few words *re* the very interesting correspondence on "Speeds." I cannot help thinking that the Brooklands speed wizards must begin to feel mighty jealous. "C.B.W.'s" letter, in which he says he obtained a speed of 70 m.p.h. on an Indian, with a passenger on the back, is, I think, really marvellous. Personally, I have experimented with different sized sprockets and belts on my Triumph, but I should not care to boast more than 55 to 60 m.p.h., over a timed mile and *not* by speedometers.

Shoreham. TRANCHE DE VENT.

A USEFUL FITTING.

Sir,—I should like to bring to the notice of motor cyclists—two-strokists especially—the remarkable discovery that I have made in the small accessory market. The article is a small cast aluminium plug cap, known as "the O. and J. patent plug protector and radiator." While in London a short time ago I called at a suburban garage for a new plug, and was asked to purchase one of these little articles, which I did. The cost was quite cheap, I thought, at 1s. 4d. each.

I did not put the protector on my plug for the run back home of about eighteen miles.

The next time I decided to go for a run (my machine is a Levis) I placed the radiating cap upon my Apollo No. 1 plug. I was amazed with the results!

On the level I noticed very little difference, only that the engine seemed to keep up prolonged bursts of speed for a greater distance without making the usual two-stroke rattle perceptible; but on hills it was a boon. I can really recommend the little fitting, and it quite enhances the appearance of the plug.

I have since given mine to a friend, who is delighted with the results. His machine is a 4¼ h.p. Triumph.

PERCY M. JAMES.

TOLLS.

Sir,—As the increased taxation seems inevitable, could not some effort be made in your editorial columns and by the powerful motoring organisations to put a stop to the system of toll gates that still exist on many bridges on our main roads and in many places where there are no bridges at all?

Recently while touring in North Wales with a sidecar outfit I had to pay the sum of ninepence twice within a distance of two miles. At Sandwich, Kent, on the main Margate and Ramsgate-Dover road, a similar sum has to be paid by all who go over the bridge at the Barbican, except pedestrians and pedal cyclists.

My business necessitates me going to Sandwich a good many times during the year, and these sums mount up very considerably. There are only two roads out to the Isle of Thanet, which, in a way, is as much an island as the name indicates, and is a corner of the world, and one way is through Sandwich. The other road is so bad that on a "joy ride" all the pleasure is taken away and damage caused to the machine. *Pullen's Kent Argus*, one of the local papers, has already advocated the abolishing of paying tolls here, but up to the present no notice has been taken by the authorities. The money collected is supposed to go towards the upkeep of the bridge, but the balance-sheet at the end of the year must show a very substantial credit, even after the toll-keeper's wages and all repairs have been paid for. If you could manage to have this pernicious system abolished I am sure you would secure the gratitude of all motorists.

Ramsgate. A BUSINESS DRIVER.

WHERE ARE THE SCOOTERS?

Sir,—"Where are the scooters?" Yes, sir, and where is this wonderful country we were all going to live in happy ever after this terrible war, and the house problem, the mass production cars and motor cycles to be almost given away. This certainly doesn't answer your query, but how is any one on these shores to turn out a decent scooter at £25 at the present day value of money? Certainly I agree the principal makes of scooters are in the neighbourhood of £50, or over, which naturally is beyond a lot of people, besides being too much money for such an article; but one must take into consideration that a well-known make of "push bicycle" costs anything around £20 and over, and that without lamps and bell, etc. I understand the best known make of scooter cannot be turned out in sufficient quantities to cover demands, but like a lot of things in the "home country," very little encouragement is given to anything new, it is the foreigner who makes us see things. (The aeroplane industry in this country before the war is a typical example—the Germans held almost all "aero" records.) It must be borne in mind that those using these little mounts are usually ladies or gentlemen who know nothing about the motor mechanism, and therefore at the slightest sign of trouble they are unable to effect a remedy, and the agent or repairer has to be sought; and there are those who buy these machines who possess cars, and after a few spins naturally think the little scooter is not so comfortable as their Rolls-Royce car, forgetting altogether what the scooter was designed for. These little mounts have still some way to go before being up to the modern motor cycle reliability, but let us just think of the mounts we had fifteen years ago and the "fun" to keep 'em going! It is essential to help a young industry with good criticism lest someone takes it from us and shows us "what and how to do it." We must not forget the magneto problem at the commencement of the war: as usual, our only source was from abroad, which caused things to be very unpleasant for quite a time. HAROLD SOLOMON.

PLUG EFFICIENCY.

Sir,—I have had a great deal of trouble with plugs on my 1915 Levis popular model. I have tried nearly all makes of plugs, but they have all "konked out" after very little use. I was recently going through the local repairer's scrap when I came across an old rusty plug. Having cleaned it and fitted it to my machine, I have not had the slightest trouble since. It has most unusual sized points and the body is of porcelain. W. D. THOM.

A WARNING.

Sir,—Perhaps a little experience which befell me recently might be of interest to your readers. I was about to vault into the saddle of my countershaft machine, when my trench coat caught in the belt pulley and was dragged right round the clutch sprocket. I was pulled right down on to the tank, the engine pulling up dead, leaving me absolutely powerless to do anything. I tried to get out of the coat, but was too close to the tank to get my arms out of the sleeves. Then I tried tearing it out of the pulley, but with no effect, and I could not even move the bicycle backwards or forwards. I simply had to hang on until two passers-by came along and released me by removing the chain case and turning the engine backwards. TRANCHE DE VENT.

Shoreham.

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Loughborough and District M.C.C.

A reliability trial has been arranged by the above club to take place on the 4th inst. The course is a sporting one confined to a thirty-five miles radius of Loughborough.

Bridgwater and District M.C. and L.C.C.

The Carver cup reliability trial to Land's End will be held on the 17th inst. Full particulars and entry forms can be obtained from the hon. sec., Mr. J. W. Hooper, The Oaks, Wembden, Bridgwater.

Dewsbury and District M.C.C.

Entries for the 100-mile Fitton trophy reliability trial, fixed for the 10th inst., should reach the sports secretary not later than the 3rd. The starting point will be at the Town Hall, first competitor leaving at 2 p.m. The sports secretary is Mr. W. Robb, 31, Wheatreyd Terrace, Healey Road, Ossett.

Bargoed and District M.C.C.

Two classes, solo and sidecar, were run in the hill-climb held recently at Top Hill, near Bargoed, the results being as follow: Solo—1, R. Saunders (4 Douglas), gold medal; 2, W. Merchant (King Dick), silver medal. Sidecar.—1, A. Prichard (4¼ B.S.A. sc.), gold medal; 2, G. Gregory (7-9 Harley-Davidson sc.), silver medal.

Stevenage, Hitchin and District M.C.C.

It is proposed to form a club for Stevenage, Hitchin, and the surrounding district, which will hold the above title. Any motor cyclists who are interested are asked to communicate with the secretary *(pro tem.)* at the Sun Hotel, Stevenage, Herts. A meeting is to be called at a later date. The club is to be affiliated to the A.C.U., the A.A. and M.U.

Cardiff M.C.C.

Arrangements have been made to hold a hill-climb on Rhubina Hill, five miles from Cardiff, on Saturday, starting at 2.30 p.m. There will be six classes for solo machines and sidecars, and the event is open to members of any club in the Welsh Division of the A.C.U. The course is 940 yards long with an average gradient of 1 in 7-8. Entry forms and full particulars can be obtained from Mr. J. J. Boyd-Harvey, 37, Salisbury Road, Maesteg, Glamorganshire.

Derby and District M.C.

The results of the hill-climb held recently by this club at Hazelwood Hill were as follow: Class 1 (handicap), H. Dawson (4 Triumph sc.). Class 2 (formula), T. Hill (2¾ Douglas). Class 3 (formula), H. Palin (3½ Norton). Class 4 (formula), G. W. T. Hartwell (3½ Norton sc.). Classes 5 and 6 (formula), G. W. T. Hartwell (3½ Norton sc.). Fastest time up to 350 c.c., T. Hill (2¾ Douglas); over 350 c.c., H. W. Merrill, jun. (3 A.B.C.).

Week-end Club Events.

July 1.—Doncaster and District M.C.C. Gymkhana.
July 1.—Carmarthen M.C. and C.C.C. Speed Trials.
JULY 3.—EAST LANCASHIRE M.C.C. OPEN HILL-CLIMB AT WADDINGTON FELLS.
July 3.—N.M.C.F.U. (Coventry). Hill-climb.
July 3.—Dewsbury and District M.C.C. Run to Boston Spa.
July 3.—Bath and West of England M.C. Paperchase.
July 3.—North Lindsey A.C. Run to Baslow.
July 3.—Surbiton and District M.C.C. Hill-climb.
July 3.—Eastern Valley M.C.C. Surprise Run.
July 3.—Woolwich, Plumstead and District M.C. Picnic.
July 3.—Ilkley M.C. and L.C.C. Reliability Trial.
July 3.—Birmingham M.C.C. Lightweight Trial.
July 3.—Wolverhampton M.C.C. Stevens Cup Trial.
July 3.—Lancaster, Morecambe, and District M.C.C. Captain's Run.
July 3-4.—Public Schools M.C.C. Week-end Run.
July 4.—Lancaster, Morecambe, and District M.C.C. Run to Whitewell.
July 4.—Loughborough and District M.C.C. Reliability Trial.
July 4.—Dewsbury and District M.C.C. Run to Ashopton.
July 4.—Canterbury and District M.C.C. Speed-judging Competition.
July 4.—North London M.C.C. Paperchase.
July 4.—North Lindsey A.C. Monsal Dale.
July 4.—Newcastle and District M.C. Team Trial.
July 4.—Essex M.C. Standard Ride (qualifying).
July 4.—Manchester M.C. Speed Trials.
July 4.—Stalybridge and District M.C. Reliability Trial.
July 4.—Harrogate and District M.C.C. Reliability Trial.
July 4.—Bedford and District M.C. and L.C.C. Club Run.
July 4.—N.M.C.F.U. (Leeds). Run to Hambleton Hill.
July 4.—N.M.C.F.U. (Wolverhampton). Run to Leamington Spa.
July 4.—Reading and District M.C. and L.C.C. Run to Wisley Hut.
July 4.—Exeter M.C. and J.C.C. Run to Luppit Common.
July 4.—N.M.C.F.U. (Portsmouth). Run to Waggoner's Wells.
JULY 5-10.—SCOTTISH SIX DAYS TRIALS.
July 4.—N. Wilts M.C. and L.C.C. Cheltenham.
July 4.—Sheffield and Hallamshire M.C.C. Paperchase.
July 6.—Lancaster, Morecambe, and District M.C.C. Competition.
JULY 7.—GRAND PRIX RACE.
July 7.—Loughborough and District M.C.C. Run to Coleorton.
July 7.—N. Wilts. M.C. and L.C.C. Surprise Run.
July 7.—York and District M.C. Picnic.
July 7.—Scarborough M. and M.C.C. Reliability Trial.
JULY 7-8.—ARBUTHNOT TROPHY TRIAL.
July 8.—Canterbury and District M.C.C. Hill-climb.
July 8.—Cumberland County M.C.C. Hill-climb.
July 8.—Oxford M.C. Picnic White Horse Hill.
JULY 8.—EASTERN VALLEY M.C.C. OPEN TRIAL.
July 10.—Northern M.C. Reliability Run.
July 10.—M.C.C. Brooklands Meeting.

The Wasps M.C.C.

A new club with the above title has recently been formed in Cambridge, and any local motor cyclist interested should communicate with the hon. sec., Mr. W. N. G. Phillips, Winslade, Hill's Road, Cambridge.

Grimsby M.C.C.

Several social runs and sporting events have already been held by this recently formed club, and a good programme has been drawn up. It is desired to form a catalogue library, and any manufacturers' or accessory dealers' booklets will be welcomed by the secretary, Mr. H. W. Crampin, 169, Welholme Road, Grimsby.

Grantham and District M.C.C.

A motor cycle club has just been formed under the title of the Grantham and District M.C.C. Secretary, L. W. R. Morley, Motor Works and Garage, Great Ponton, Grantham.

N.M.C.F.U. (Wolverhampton).

Forty-two members participated in the gymkhana held recently by this club at Burnhill Green, near Wolverhampton. The weather was ideal, and a most enjoyable afternoon was spent, tea being provided at the Dartmouth Arms Hotel.

Warrington M.C.C.

On Saturday a reliability trial will be held for the "Melbourne" challenge bowl over a course approximately 180 miles in length. All classes of motor vehicles up to 1,500 c.c. are eligible to compete in this event, which is open to anyone becoming a member of the club.

Amersham, Chesham and District M.C.C.

We are asked to state that a motor cycling club has been formed to be known as the Amersham, Chesham and District M.C.C., and the secretary, Mr. V. Goodwin, Heath House, Hyde Heath, Amersham, will be glad to hear from motor cyclists who are interested.

Northern M.C.

A very successful flexibility hill-climb was held recently at Rothbury, the results being as follow: 500 c.c. solo class, S. Bell (3 A.B.C.). Sidecar class, A. Stothard (7-9 Harley-Davidson sc.). Unlimited solo class, S. Bell (3 A.B.C.). The fastest climb was made by J. Orde (3½ N.U.T.).

Luton and South Beds A.C.

The results of the reliability trial to York and back, held recently, were as follow: Green Cup and gold medal, H. A. Reyre (5-6 James sc.). Gold medals, C. Bourley (3½ Sunbeam), R. Burley (4 Triumph), D. R. Gedge (Eric Campbell), G. Davison (3½ P. and M.), W. Furr (4 Triumph), L. Kell (2½ New Hudson), J. Wheeler (8 Royal Ruby sc.), N. Albon (2½ Levis), W. J. Cooper (5-6 Rudge), J. Simpson (2½ Hobart). Silver medals, J. E. Hill (3½ Rudge) and A. Swan (2½ New Imperial).

Rugby and District M.C.C.

A 100-mile non-stop reliability trial was held on the 20th ult. on a sporting course of 33½ miles, covered three times.

Results: 1st (silver cup presented by Mr. L. C. G. M. le Champion), M. Foxley (7-9 Indian); 2nd (bronze medal), J. S. Turner (6 A.J.S.); 3rd (bronze medal), F. J. Askham (3¾ Scott); 4th (bronze medal), A. H. Hydes (4½ Quadrant). Special prizes: H. J. Bennet (3½ Peugeot), silver cup for most sporting performance on fixed gear; A. W. Webb, silver medal for fastest ascent of Newnham.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Larger Belt Raises Gear.

I shall be pleased if you will answer the following queries: (1.) Does a larger belt alter the gear ratio? (2.) If so, why?—J.D.K.

(1.) The fitting of a larger belt raises the gear. (2.) If you care to work out the figures yourself, the reason for this is obvious. Supposing you have two pulleys of 6in. and 18in. diameter respectively, for a ½in. belt, the gear ratio will be 3 to 1. If you now fit a larger belt on to these pulleys, so that it stands ¼in. higher in the groove, the effective diameter of each pulley will be increased by ½in., consequently the gear ratio will be in the proportion of 18½ to 6½, or 2.92 to 1.

Irregular Running.

I have a 1912 5 h.p. A.J.S. combination which has been recently overhauled and pronounced "perfect," but after a short journey the following troubles were noticed: (1.) The machine is very hard to start, often requiring fifteen minutes' kicking before anything happens. There is a good fat spark, and the petrol seems to reach the engine all right. When the garage is darkened I noticed sparking all over the frame, chiefly the magneto lever on the tank and the gear lever. (2.) I replaced the old Amac carburetter with a 1920 one of the same make; but, contrary to expectations, the machine does not go slowly at all. With the old one the engine did go fairly slowly, but now it will not. We cannot find any air leaks. What number jet do you recommend? On the old carburetter a No. 29 jet was used, and we have tried Nos. 27, 29, 30, and 32, but there is very little difference. The one supplied was No. 30, so I have kept that one in.—G.J.

(1.) There is, apparently, some defect in the magneto, but without inspection we are unable to tell you what is the exact cause of the trouble. It would be advisable to forward it for repair to a reliable firm of magneto specialists. (2.) If the original carburetter gave satisfactory results, it would have been better to retain it rather than experiment with a new one. The fact that the engine will not run slowly on the new carburetter may be due to air leaks at the induction pipe joints, or to an excess of air through the carburetter itself. You should study the carburetter makers' book of instructions. No. 30 is about the correct size of jet for the old carburetter.

Scott Gear Adjustment.

I shall be much obliged if you will kindly give me information on the following points relative to the Scott gear. (1.) After replacing the gear recently, I found that the hollow bolt, which holds the gear in position on the left-hand (low gear) side, worked loose when the machine was run. What is the reason of this, and how can it be prevented? (2.) What means are there of keeping the left-hand (low gear) hub cone in adjustment? It is easy to adjust the cone, but what is there to prevent the adjustment altering? It seems to me, for instance, that screwing up the hollow bolt must cause the distance washer to bear against the cone and tend to tighten the latter.—W.H.

(1.) There is no reason why the hollow bolt of the Scott gear should work loose if it is properly tightened up. (2.) This bolt, when screwed up, causes the distance washer to press against the left-hand cone (which should be screwed up to the end of its thread), and, in doing so, holds it in place. In thus bearing against the cone the latter cannot be tightened unless it is very loose on its thread.

A Question of Contract.

When at the Show last November, I placed an order through an agent for a 2¾ h.p. two-stroke. The price and delivery date were stated on the receipt for my deposit of £5, bearing the signature of the agent, and I insisted at the time that the price quoted should be shown. I notice these machines are now advertised at a higher figure. Can I now insist on receiving machine at the original price?—F.C.C.

You can insist upon delivery of the machine at the price arranged, or in the event of failure to deliver, can sue for the difference in the price arranged and the present market price, unless in any contract or any order signed by the agent or acceptance there was a provision inserted showing that the price might be altered.

THE T.T. VICTOR.

T. C. de la Hay appeared not to be distressed in the slightest after his 226½ mile ride at a speed of 51.79 m.p.h. He is shown walking in after the race.

Belt Alignment.

I have a 90 mm. bore twin J.A.P. engine, to which I want to fit a Philipson pulley. This engine has ball bearings one side, and the crank case, therefore, has a large boss on it. It is probable that the most recessed model of the pulley will not give the correct belt line. This does not seem an important point on a Zenith or with an ordinary adjustable pulley, where no lateral compensation is possible for change of gear, and I would like you to tell me the greatest reasonable distance that the engine pulley may be set to the side. I intend the machine for colonial work, and not for speed trials. I do not consider belt wear a serious drawback.—N.V.O.

We think you will find that the Philipson pulley is not made to suit engines with a large crank case boss. In order to bring the belt into line, however, you might set over the engine in the frame by removing a part of the crank case lugs, and replacing with distance pieces on the side nearest the pulley. You could set the engine from $\frac{3}{8}$in. to $\frac{5}{8}$in. off the centre. The belt itself should be in perfect alignment on top gear.

Retarded Ignition.

My Indian motor cycle is a 1914 7-9 h.p. two-speed model, with the makers' carburetter. Timing as follows: Inlet, opens dead centre top, closes about $\frac{3}{4}$in. after bottom of stroke. Spark occurs at the top of the stroke when fully advanced; and the machine is run thus: the exhaust valve opens about $\frac{3}{4}$in. before bottom of firing stroke, and closes at the top. Engine takes very little air; air slide open about $\frac{1}{8}$in. When throttle is opened more than one-third, there is a blow-back through the carburetter. By shorting each plug alternately: front cylinder runs strongly—back, very weakly. Same obtains on changing plugs and leads. When assembled: compression good, drags back wheel, and can only be turned over on stand with difficulty. But, on removing plug and compression tap from each cylinder, alternately, the other cylinder has no compression. Valves do not stick and the induction pipe is well bound with insulation tape. New washers have been fitted in the inlet domes. Small discharge pipe, just behind sprocket on left-hand side crank case, is missing. Oil blows out; but does this affect running in any way? I think I have mentioned everything which might cause the trouble—and, incidentally, what I have done to trace it.—C.H.G.

The valve timing of your engine appears to be correct, but the ignition timing is far too much retarded. The spark should occur when the piston is 8 mm. from the top of the compression stroke, with the control fully advanced. Blow-back through the carburetter suggests a weak mixture, and this is borne out by the fact that very little extra air can be taken. It would appear, therefore, that the main jet is too small. The difference in power, between the front and back cylinders, may be due to air leaks, either in the induction system, or at the valve stem guides. The running will not be affected by the crank case relief pipe being removed. We cannot account for the fact that you get no compression in one cylinder when the plug is removed from the other one, and *vice versa*.

Gear too High.

My machine is a 4 h.p. single-cylinder with coachbuilt sidecar, and although the engine is in good order it will not pull on high gear. I fitted the three-speed gear myself, and I have a 20 T engine sprocket driving a 30 T sprocket on the countershaft. The pulleys are $7\frac{1}{2}$in. and $17\frac{1}{2}$in. diameter respectively. My own opinion is that a 14 T sprocket on the engine-shaft would be better, as I think the gear is too high.—H.W.H.

The present top gear is much too high and it is unreasonable to expect satisfactory running on it. A 14 T sprocket will bring the top gear down to $5\frac{1}{4}$ to 1 approximately, which, as you suppose, should be about right for an engine of 4 h.p.

Erecting a Shed.

About a year ago I erected a wooden motor shed at the back of my house. I have now received an order from the City Building Surveyor to take down and remove it within fourteen days. I would like to ask (1) if I am forced to do this, (2) also what steps the authorities can take if I do not, and (3) what the Ministry of Health's new regulations are in respect to these buildings?—W.S.

You should consult a solicitor or an architect in your town in order to ascertain what the local byelaws are, but no doubt you had no right to erect the shed without having a plan passed or obtaining the consent of the City Building Surveyor. If you have done this, you will be liable to penalties and also to remove the shed, and will certainly be prosecuted if you ignore the Surveyor's letter. With regard to the last paragraph of your letter, we do not think it is a question so much of the Ministry of Health's regulations as the local byelaws. The Ministry of Health would be more concerned with houses than with motor sheds.

Two-stroke Lubrication.

I shall be very glad if you can help me out of the following difficulty. I have a $2\frac{3}{4}$ h.p. O.K. two-speed two-stroke, and am using the petroil system of lubrication, half pint Vacuum T.T. to one gallon of petrol, Senspray carburetter, No. 40 jet. The engine is four-stroking at all speeds, irrespective of the position of air and throttle levers. (1.) Is the fault in the jet being too large and causing too rich a mixture, as the lubrication seems correct? (2.) Does the petroil system make the engine more difficult to start from cold? (3.) As a separate oil tank with drip feed is fitted, should you advise me to use this in preference to the petroil system, or is the latter the most satisfactory method of oiling two-strokes?—R.P.M.

(1.) The jet is certainly too large; try a 28 or 30. (2.) The engine should not be difficult to start, even though lubricated by the petroil system. (3.) If a separate lubrication system is fitted, we should recommend you to use it.

IMPORTANT DATES.

Sat., July 3rd—
First B.M.C.R.C. Open Meeting at Brooklands.

Sat., July 3rd—
East Lancashire Open Hill climb.

Mon., July 5th, to Sat., July 10th—
Scottish Six Days Trial.

Wed., July 7th—
Union Motocyclist de France et Automobile Club de l'Ouest, Grand Prix Race for Motor Cycles and Cycle Cars.

Wed. and Thurs., July 7th and 8th—
Arbuthnot Trophy Trial.

Thurs., July 15th—
Essex M.C. Joint Open Speed Trials, Westcliff-on Sea.

Thurs., July 15th, and Fri., July 16th—
Irish End-to-end Trial

Sat., July 17th—
Cumberland County M.C.C. Open Reliability Trial.

Sat., July 24th—
Luton and South Beds. A.C. Open Trial at Luton Hoo.

Sun., July 25th, to Aug. 1st—
International Six Days Trial in France.

Sun., Aug. 1st, to Wed., Aug. 4th—
Anglo-Dutch Trial in Holland.

Sat., Aug. 7th—
S.A.C.U. Inter club Meet at Callander.

Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.

Sat., Sept. 4th—
Scottish Speed Championships at St. Andrews.
Scott Trial in Yorkshire.

Nov. 29th Dec. 4th—
Olympia Show.

RECOMMENDED ROUTES.

MALVERN TO YORK.—G.B.L.

Malvern, Worcester, Alcester, Stratford-on-Avon, Wellesbourne, Southam, Dunchurch, Rugby, Lutterworth, Leicester, Newark, Tuxford, Retford, Bawtry, Doncaster, Askern, Selby, York.

WIMBLEDON TO LLANBERIS.—B.S.

Wimbledon, Hammersmith, Knightsbridge, Marble Arch, Edgware Road, St. Albans, Dunstable, Fenny Stratford, Stony Stratford, Towcester, Weedon, Daventry, Ashby, Kilsby, Watling Street, Webtoft, Atherstone, Faseley, Weeford, Gailey, Crackley, Bank, Atcham, Shrewsbury, Oswestry, Llangollen, Corwen, Cerrig-y-Druidion, Pentre Voelas, Bettws-y-Coed, Capel Curig, Pen-y-Grwyd, Llanberis.

WORTHING TO KESWICK.—A.C.A.

Worthing, Washington, Ashing, Billingshurst, Five Oaks, Cranleigh, Guildford, Ottershaw, Chertsey, Staines, Colnbrook, Slough, Beaconsfield, Amersham, Chesham, Bovingdon, Boxmoor, Hemel Hempsted, Redbourn, Harpenden, Luton, Stopsley, Hitchin, Baldock, Biggleswade, Sandy, Tempsford, Eaton Socon, Buckden, Stilton, Stamford, Grantham, Great Gonerby, Newark, Tuxford, East Retford, Bawtry, Doncaster, Wentbridge, Ferrybridge, Brotherton, Micklefield, Aberford, Bramham Collingham, Harewood, Otley, Ilkley, Skipton, Cargrave, Settle, Clapham, Ingleton, Kirkby Lonsdale, Kendal, Crook, Bowness, Windermere, Ambleside, Rydal, Grasmere, Dunmail Raise, Thirlmere, Keswick.

CURRENT CHAT

Times to Light Lamps.

July 1st	...	...	9.48 p.m.
,, 3rd	...	...	9.48 ,,
,, 5th	...	...	9.47 ,,
,, 7th	...	...	9.46 ,,

The Show.

November 29th to December 4th are the dates decided upon for this year's Olympia Motor Cycle Show.

Death of Lady Doctor.

Dr. Ethel Mordaunt, M.D., of Bromley, met with a fatal accident while riding a scooter. The lady was an experienced motor cyclist and car driver.

I.O.M. Charities.

During the T.T. week Messrs. Alec S. Ross, F. Olai, F. de Veulle, and D. J. Lynott collected by various means £272 11s. for Nobles Hospital, Douglas.

The Scottish Six Days Trial.

The popular annual Six Days event, organised by the Edinburgh M.C., starts from Perth next Monday. Over a hundred competitors are entered.

British Plugs.

Apropos the correspondence which has appeared in our pages concerning sparking plugs, it is interesting to know that, although German plugs predominated in the 1914 races, the British article was used with success this year. Lodge plugs were used in the winning Sunbeam and A.J.S. machines, and we understand that they were in no way "special," but supplied in the ordinary way of business. As a matter of fact, de lay Hay assured us that the plug he used in the race was the one with which he originally commenced practising.

The A.C.U. Six Days Trials.

So successful were the Ilkley Motor Cycle and Light Car Club in planning a route for their open reliability trial a few weeks ago, that they have been consulted by Mr. T. W. Loughborough, the Secretary of the Auto-Cycle Union, with regard to routes for the Six Days Trial. Darlington is to be the centre this year, and a number of routes have been suggested by the North Eastern A.A. The Ilkley club officials have submitted a selection of routes to Mr. Loughborough, and these are of an even more remarkable nature than the one which the Ilkley club outlined for their own trial. If these routes are accepted, which we understand is not at all improbable, then the competitors in the Six Days Trial are promised such a test as they have not before experienced.

Police Activity.

A correspondent informs us that the police are working a trap in the Palatine Road, between Barlow Moor Road and Northenden Bridge. The surface on this stretch is in excellent condition, tempting motorists to exceed the speed limit.

Birmingham Service Motor Cyclists' Trophy.

Readers may remember the excellent "welcome home" organised by Birmingham motor cyclists for their *confrères* who "went to the war." The committee have a balance in hand of £104 7s., £100 of which is to be used to purchase a perpetual trophy for open competition by teams of motor cyclists from the whole of the United Kingdom. The Birmingham and district motor cycling clubs have been invited to co-operate in an annual trial for the trophy. The balance of £4 7s. has been sent to the Isle of Man Hospital.

Another A.A. Roadside Benzole Supply Station.

The second of a series of benzole roadside supply stations to be provided by the Automobile Association was formally opened on Tuesday last, at Coombe Hill, at the junction of the Cheltenham Road with the main road from Tewkesbury to Gloucester.

The other supply station referred to is at Aldermaston on the Bath Road, between Reading and Newbury.

Special Features.

THE M.C.C. TEAM TRIAL.
IMPRESSIONS OF THE T.T.
A WEEK IN THE ISLAND.

Scottish Competition Rider's Accident.

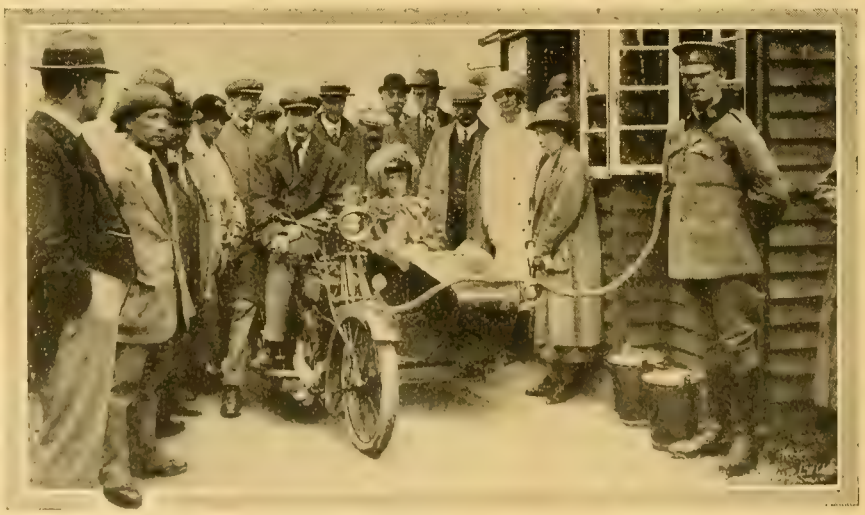
We regret to report that the well known Scottish competition rider and Norton exponent, Mr. Claude Duncan, recently met with an accident near North Berwick. Duncan will not, therefore, ride in the Scottish Six Days.

To Encourage Cheaper Fuel.

To encourage the use of cheaper fuel the R.A.C. (the parent body of the A.C.U.) has under consideration a trial of vaporisers and other apparatus by which internal combustion engines may be operated with alcohol and heavy oils, other than petroleum spirit or benzole.

Olympia Aero Exhibition.

All types of fighting and commercial aeroplanes will be seen at the forthcoming Olympia Aero Exhibition, which will be held from the 9th to the 20th inst. The exhibits will include flying limousines, amphibious aeroplanes, fireproof planes, and numerous types of engines and machines from the tiny 40 h.p. "baby" to the giant 1,400 h.p. 'bus capable of carrying a tremendous weight. The exhibition will be open on the 9th from 2 p.m. to 9 p.m., thereafter daily from 10 a.m. to 9 p.m. until the 20th.



Fuel supply stations are still few and far between in this country, although in America and on the Continent they are commonly met with. The photograph shows an Enfield outfit at the benzole supply station at Coombe Hill, on the Tewkesbury-Cheltenham road, the second to be installed by the A.A.

WOLVERHAMPTON HONOURS THE T.T. WINNERS.

A civic reception was accorded to Cyril Williams and T. C. de la Hay at Wolverhampton last week in honour of their success in the T.T. races on A.J.S. and Sunbeam machines respectively. Both winners are natives of Wolverhampton, the winning machines, too, were made in the town. Williams is seen in the centre facing the photographer, and de la Hay on the right.

Anglo-Dutch Trial.

From Dutch sources we learn that the date of the Anglo-Dutch Trial has been changed to Saturday, August 7th.

E. Lancs, Open Hill-climb.

The East Lancashire M.C.C. are holding their open hill-climb on the Newton side of Waddington Fells, near Clitheroe, on Saturday. The event starts at 1 p.m.

The Humber Trial.

The employees of the Humber works held their second annual trial last Saturday, over fifty competitors taking part. Our observations on this event will be in next week's issue.

Late Entries in Scottish Trials.

In addition to the eighty-six competitors given in last week's issue, the following are also riding in the Scottish Six Days starting from Perth next Monday :

Geo. W. Lush (3 A.B.C.)
S. Hubbard (2¾ H.B.)
A. Lowe (2¾ Calthorpe)
Barnet Gold (2¾ Wolf)
Rex G. Mundy (Reading Standard)
W. McLelland, jun. (4 Norton)
E. E. Palmer (3 A.B.C.)
E. Porter (3 A.B.C.)
Leslie Guy (3¾ Scott)
C. P. Wood (3¾ Scott)
Norman Black (3½ Norton)

Found.

Mr. G. Northover, a Zenith owner, of Little Court, Batheaston, Som., has a pair of pliers belonging to a Triumph rider, who helped him on the Wiltshire Downs on the 12th ult.

At Enfield recently Mr. C. N. Hay, of 43, St. Hilda's Road, Stoke Newington, picked up an aluminium dome or dust cover apparently off a Triumph.

The organising secretary of the M.C.C. Team Trial (Mr. B. Allan Hill, 1, The Homesteads, St. James Lane, Muswell Hill, N.10) has a tobacco pouch picked up on the course.

Race Meeting Postponed.

At the time of going to press, we hear that the B.M.C.R.C. race meet fixed for Saturday has been postponed until the 7th of August.

A Tip for Holiday Makers.

Many motor cyclists in going to the coast send their luggage by rail "to be called for"; we wish to warn readers against the danger of losing such luggage. A member of the staff sent his luggage on this way, and thieves, using his name, called for the luggage, and the railway company repudiated responsibility.

Obstruction by Char-a-banc.

In fining a char-à-banc driver for road obstruction at Macclesfield the other day, the Chairman observed that there seemed to be such a lot of chars-à-bancs on the road to-day that they appeared to be monopolising the highway, and the bench intended to put a stop to the practice of char-à-banc drivers preventing other cars from passing.

Ariel Works Staff Trial.

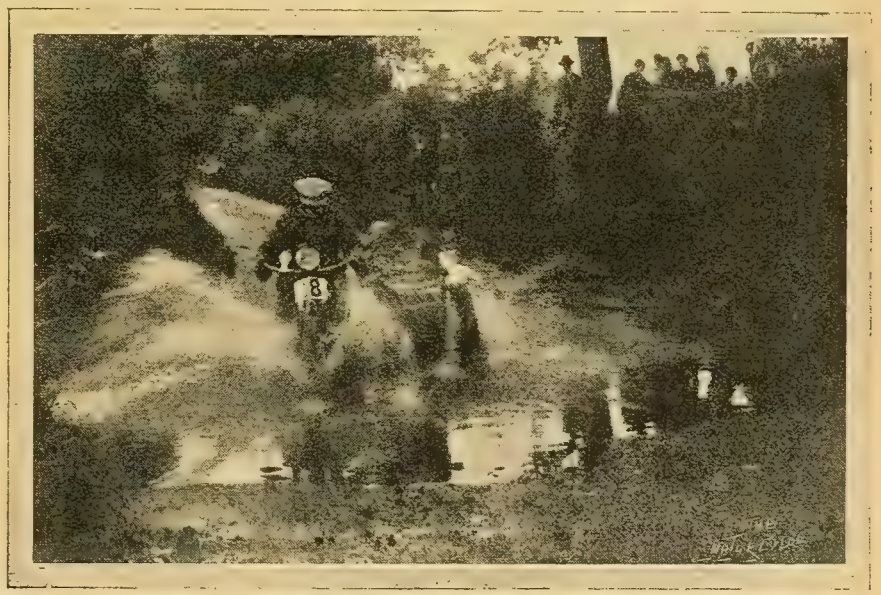
Eighteen employees of Ariel Works, Ltd., competed in the staff trial organised by works recreation club, which proved to be a very sporting affair. All competitors were novices, no one who had previously won a prize being allowed to compete. H. Hughes (3½ Ariel sc.) proved to be the winner, and F. Deeley (3½ Ariel) and H. Betteridge (6-7 J.A.P.) tied for second place. The course was almost eighty miles in length.

Innovations in the 1920 Six Days.

The first four days of the A.C.U. Six Days Trial (August 23rd to 28th) will be run from Darlington; on the fifth and sixth day the competitors will ride southward to Brooklands, where a half hour speed trial will be held. A brake test will be held on the test hill at Brooklands, and flexibility and acceleration tests introduced last year will not be included.

Arbuthnot Trophy Trial.

The Naval Trial for the Arbuthnot Memorial Trophy, which will be held in the Home Counties next Wednesday and Thursday, has attracted an entry of twenty-one. The start is from Purley at 10 a.m., and the course for the first day includes Brasted, Westerham, and other well known hills in this district, the luncheon stop being Reigate. On the second day a similar hilly course has been planned, finishing at Brooklands Track.



AN EMPLOYEES' TRIAL. Ariel Works, Ltd., is the latest motor cycle firm to organise a trial for its employees. The illustration shows one of the competitors negotiating a watersplash.

South Birmingham M.C.C. the Club Champions of 1920. Four Complete Teams Finish the Course.

NO fewer than twenty-eight teams, representing clubs from all over England and Wales, fought for the honour of club champions last Saturday. The contest was the thirteenth of the kind organised by the Motor Cycling Club for *The Motor Cycle* Challenge Cup.

From all parts of the kingdom motor cyclists converged on Tring, the starting point, the course used being the same as last year, and including several single figure gradients with loose surfaces, and measuring slightly less than thirty-three miles. This circuit was covered three times, the competitors thus filing past the timekeepers, Messrs. F. T. Bidlake and G. J. M. Walker at the completion of each round.

The contest was fought out with particular keenness indeed, the enthusiasm appears to grow apace as the years roll by. Starting first at 1 p.m. was the Coventry and Warwickshire Motor Club team, the holders of the trophy, followed by the Motor Cycling Club. These clubs each hold two shares in the present trophy, and a win by either of them would have resulted in the trophy being won outright. But trouble befell one member of each of these two teams very early in the trial.

At the end of the first round seventeen complete teams were in the running for the cup, which number was reduced to eleven on the second circuit, and further stops resulted in four teams completing the course of approximately 100 miles without a single stop. The clubs claiming this honour are undernoted in order of merit, the final classification being arrived at by adding the variation of each rider's times, the most consistent running naturally scoring. They were the—

	Total deviation. m. s.
South Birmingham M.C.C. ...	**14 54**
Leicester and District M.C.C. ...	**15 10**
Surbiton and District M.C.C. ...	**19 47**
Worcester and District M.C.C. ...	**22 32**

Midland clubs, as will be seen, scored heavily, and there will be great rejoicing this week in Birmingham motor cycling circles since the South Birmingham organisation is comparatively new.

Excellent Organisation.

The long line of riders at the starting point formed an impressive spectacle, but confusion was entirely absent, as is usually the case in M.C.C. events, which are notable for their excellent organisation. Mr. B. Alan Hill, the trials hon. sec., may here be congratulated on receiving such an excellent entry, and for the management of the trial generally.

Among the riders were the *élite* of the motor cycling fraternity. T. C. de la Hay, the Senior T.T. winner, was one of the successful Worcester non-stop team. G. Dance (Sunbeam), who made the fastest laps in the Isle of Man the previous week, formed one of the Wolverhampton team, and J. A. Watson Bourne, this time on an Ariel, rode in the Sutton Coldfield A.C. team. Other T.T. men were Eric Williams, Le Vack, F. A. Applebee, Harry Collier, and Noel Brown. Together with most of the leading riders in reliability trials, it will be appreciated that those contesting the honour of club champions were in every sense worthy of the claim. F. W. Applebee was this time a looker on.

No. 1 man was Sam Wright (3½ Humber with Cox Atmos carburetter), captain of the Coventry team. A team trial would be incomplete without this well known rider, who has figured in the winning team more often than any other individual motor cyclist.

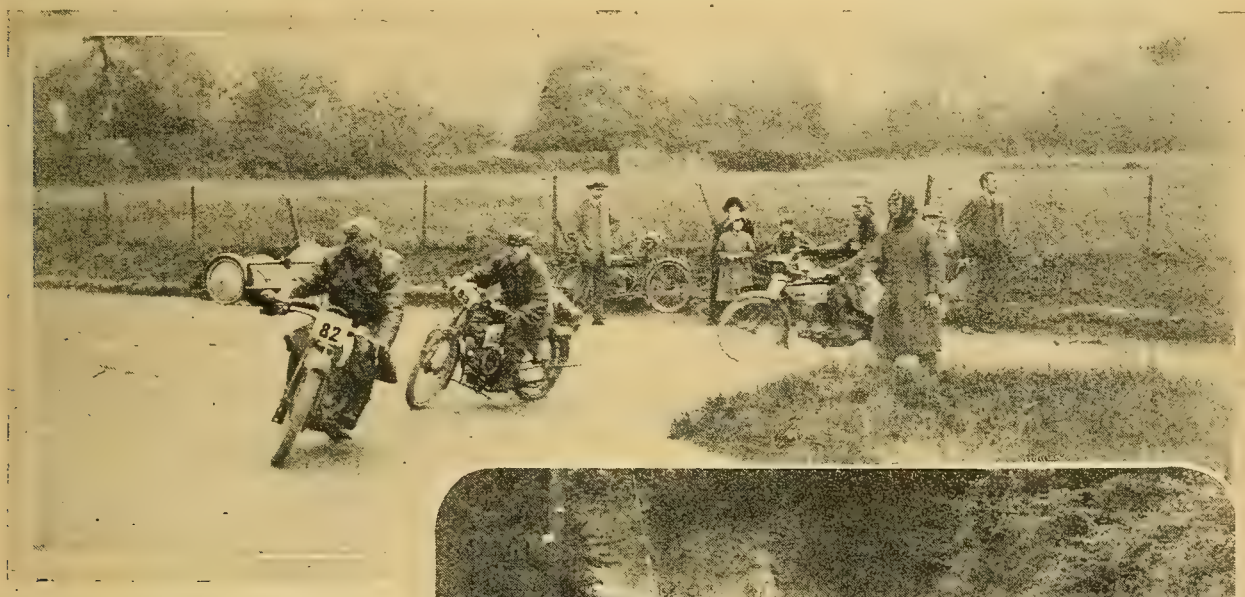
All the 286 competitors got away well except the Public Schools M.C.C. team, which did not mature, their places being taken by a late entry of the Gipsy M.C.C. with a very strong team composed of A. F. Selby and A. S. Guthrie on Sunbeams, H. le Vack (3½ Duzmo), J. A. Masters (Harley-Davidson sc.), S. R. Axford (7 Indian sc.) and E. M. Oliver (4 Norton sc.).

Of troubles *en route* there were many. That was expected, but stops in the first few miles were not bargained upon.

On Aston Hill—six miles—R. E. Pugh, Sutton (2¼ Levis sc.), broke a chain; at a bend soon after the summit, T. R. Gibbins, Coventry (8 Acme sc.),

The Team Trial.

ran into a non-competitor's machine; W. H. Egginton, Birmingham (8 Sunbeam sc.), broke one of the new chains with which he had equipped his machine just to make sure! A. B. Chapman, Sheffield (Brough), sooted a plug at fourteen miles; S. R. Axford, Gipsy's (Indian sc.), punctured—likewise Lloyd (model 4 Triumph). And so the weeding out process continued. One wondered how the ten competitors with only one brake were faring on the steep descents around Dunsmore. After Dunsmore, the riders filed past the eastern entrance to Chequer's Court, the residence of the Prime Minister, turned left at Butler's Cross on to Princes Risborough, and left up Whiteleaf Hill, down Kop and up Pink Hill. Whiteleaf is quite steep and very rough on the right hand bend where the steepest gradient is encountered. Here, A. Wyatt, Norfolk (4 Douglas), stopped, and Noel Brown, Liverpool (4 Norton sc.), suffered from clutch slip—his machine was brand new and had not really been run in. On Pink Hill, L. Kell, Luton (New Hudson sc.), stopped, ran back a yard or two and restarted. The route, splendidly arrowed at every doubtful turn—thanks to Messrs. W. H. Wells and F. T. Bidlake, now led through Hampden Park to Kemble, where there was a sharp left turn just short of Missenden, and a turn right, *via* Lee, St. Leonard's, Cholesbury and Wiggington, down another steep hill and left again to the starting point.



F. A. Applebee (Indian-Scout) and F. Thorpe (2¾ Douglas), of the Essex M.C. team, and S. Crawley (4 h.p. Triumph), Bedford and District M.C., on the hairpin turn into the Missenden-Wendover road.

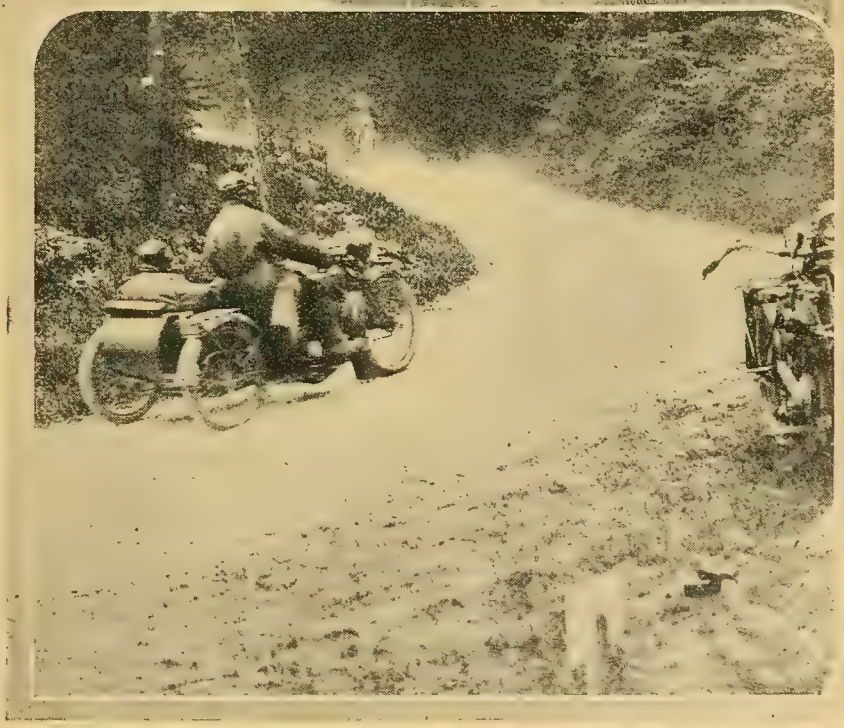
Non-stops on Punctured Tyres.

Keen to uphold their teams' record, the second lap saw one or two continuing on flat sidecar tyres, and quite a number gained non-stops by continuing when punctures occurred in the final lap. The hopes of the M.C.C. were dashed by T. S. Sharratt (Indian), unfortunately suffering a dry skid when going fast on the bend approaching Aston Hill. He, like Gibbins, of Coventry, and others remounted and continued, though the rules provide that any competitor stopping shall there and then withdraw. One rider who shall be nameless, clean baffled the numerous officials around the course, by passing on the first circuit with a flat tyre, and repassing next time with a hard tyre! The spectators imagined that the rider had accomplished a non-stop run, not so the wily observers! The Bedford team were unlucky in the second circuit. All the team, including Crawley, Hines, Collins, Cocker, Green and Rycroft, were riding 1920 model Triumphs, and made a great show on the hills, but Collins claims to have hit a cow which brought him down, but continuing he recorded a "traffic" stop on his card. The judges, however, decided that a traffic stop is something different from a traffic collision, and his mileage, therefore, counted to that point only. Ealing lost Tilt (Triumph) with a sooted plug, and the Blaenavon M.C.C. (Mon.) lost Evans (Matchless sc.) with a puncture on the second round.

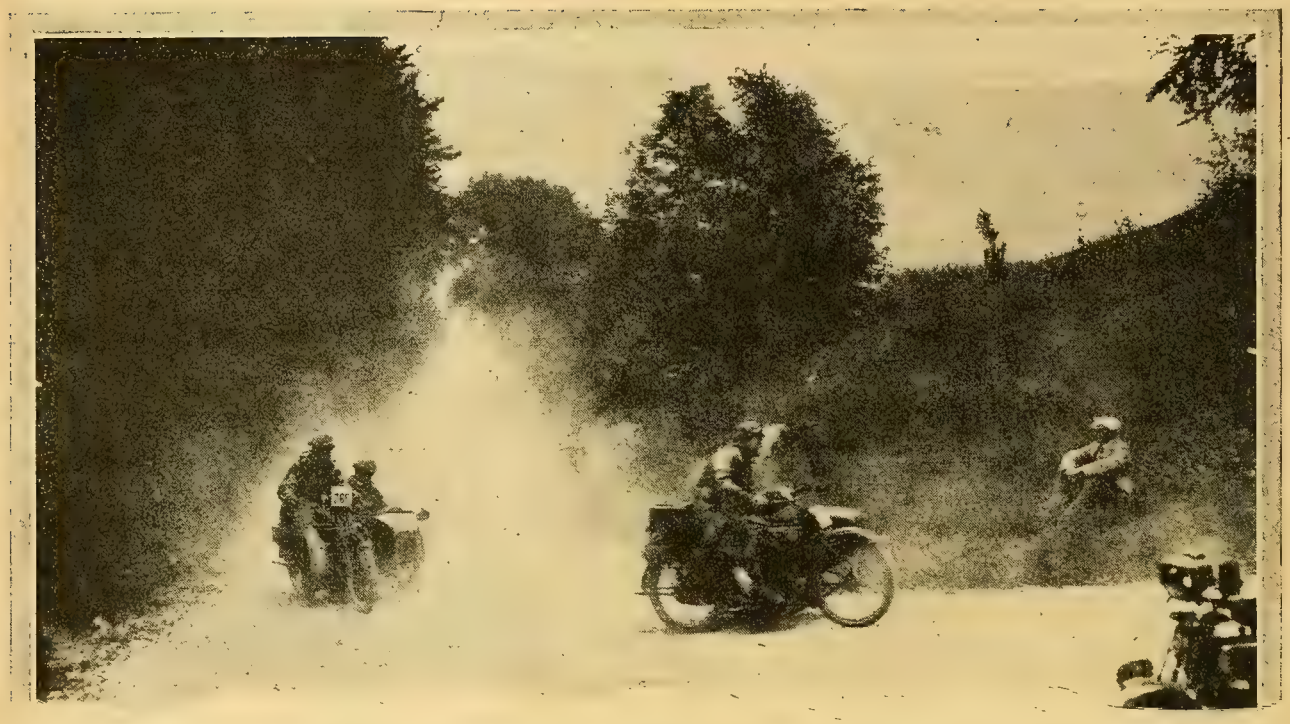
At intervals it rained slightly—quite an unusual experience on M.C.C. team trials, which have been invariably associated with sunshine and dust. Birmingham suffered a second stop, R. W. Duke, who has many team trials to his credit, stopping with a sooted plug following one of the many steep descents.

Four Seconds Variation.

The timekeepers reported remarkably regular running by many riders, who, no doubt, realised that more than one team would get home complete, necessitating



On Pink Hill. The steepest gradient immediately follows the bend depicted.



H. Poynton and E. Stobart, of the Sutton Coldfield and N. Birmingham A.C., both on James sidecars, on the bend of Pink Hill.

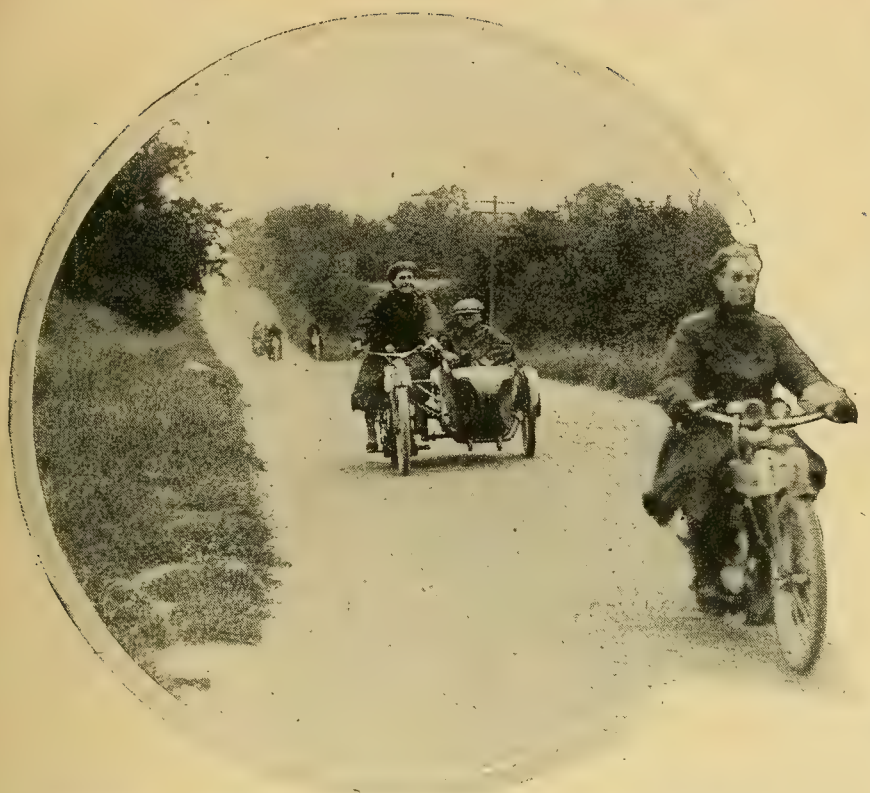
consideration of the regularity of lap times. E. A. Colliver, for instance, completed two laps in precisely the same time, and was but four seconds out on the other. As a team the Coventry club rode most regularly, all appearing to leave the timing to the leader of the van, the imperturbable Sam Wright. Harry Collier (Woolwich) stopped on Aston Hill due to a plug terminal moving and causing a short circuit with the induction pipe. Mundy (Surbiton) arrived with a flat sidecar tyre on his Martinsyde-Newman, and so enabled his team to finish intact bedecked in their picturesque blue tammies with tassels complete!

Symons, Rochester, and Giles (A.J.S.) also rode on with a flat back tyre.

As the finishing line was crossed and the team representatives were able to compare notes, it was amusing, yet sad! to observe the chagrin of teams of five to learn for the first time that the sixth man had retired. This happened in several instances, and the poor unfortunate had usually departed—home, crestfallen no doubt, but preferring not to await the "sympathies" of his colleagues!

The North London M.C.C. was another club which lost one man only, thanks to

(Left) A. B. Chapman (5-6 Brough sc.), Sheffield and Hallamshire M.C.C., leading F. W. Baker and P. W. White, of the Cambridge and District M.C.C., both on Sunbeam sidecars. (Right) Eric Williams (3½ Sunbeam sc.), of the Worcester team, passing F. A. Jelks (6 Zenith).



The Bedford and District M.C. team all rode Triumphs. Here they are seen near Aston with S. Crawley (solo) and J. Cocker (sidecar) in the foreground.

R. H. Baxter (2¼ Radco) completing the last fifteen miles on a flat back tyre after making clean ascents of all the test hills.

It was nearly eight o'clock when the last man arrived home, and an hour or so later the provisional results were issued showing that four teams had clean sheets, their positions being as follows:

Club Champions of 1920.

SOUTH BIRMINGHAM M.C.C.

Deviation on time, 14m. 54s.

B. Kershaw (2¾ Verus)
G. Denley (2¼ Velocette)
B. Bird (3½ B.S.A.)
H. Saddington (6 James sc.)
H. Uzzle (3½ B.S.A. sc.)
F. Walker (4 Triumph sc.)

The Runners Up.

Each team member accomplished a non-stop run.

LEICESTER AND DISTRICT M.C.C.

Deviation on time, 15m. 10s.

A. Wooding (4 Sunbeam)
J. Willcox (3½ Rudge)
W. C. Pym (4 Douglas)
Will Chapman (6 A.J.S. sc.)
R. Harris (4 Norton sc.)
H. Pole (8 Morgan c.c.)

SURBITON AND DISTRICT M.C.C.

Deviation on time, 19m. 47s.

R. G. Spikins (7-9 Harley-Davidson)
R. C. Staunton (4 Triumph)
L. T. Gilson (8 Zenith)
R. C. Charlsworth (8 Zenith sc.)
H. Jepson (8 Zenith sc.)
Rex Mundy (6 Martinsyde-Newman sc.)

WORCESTER AND DISTRICT M.C.C.

Deviation on time, 22m. 32s.

E. Williams (3½ Sunbeam sc.)
J. Westwood-Wills (2¾ Verus-Blackburne)
T. C. de la Hay (3½ Sunbeam)
J. A. Chadwick (2½ Diamond)
E. W. Choldcroft (6 A.J.S. sc.)
J. Dudley (3½ Sunbeam sc.)

The judges were Messrs. R. H. Head (appointed by the M.C.C.), W. Cooper (appointed by the A.C.U.), and Geoffrey Smith (appointed by the donors). The chief marshal was Major L. A. Baddeley, M.C.

NOTES ON THE TRIAL.

The same course as last year was employed. It was better observed than before, and each observer had an official number denoting the post at which he was on duty. It was an excellent idea and worked admirably. The arrowing was very well carried out.

Being mostly over by-roads the dust was trying at times, but later it was laid by occasional showers. This, by the way, is the first team trial of the fourteen previously held during which rain has fallen. The surface was pretty rough on most of the hills.

The start took place in Cow Lane, so we were told by a Tring policeman. Naturally there were no cows in this lane during the afternoon, but these animals were reported elsewhere on the course, and it was said that one prevented a club from finishing with a clean record.

Nine machines started without two independent brakes as required by law. These improperly equipped motor cycles, which are almost invariably ex-Government stock, may prove an expensive investment to those riders who have their defects noticed by promotion-seeking policemen.

Each rider carried a number card which also bore the abbreviated title of his club. Some were distinctly puzzling, and it required a few moments thought to recognise BLVN, and STN CLD. In fact a few Welsh entries might have caused serious trouble.

The weather, from the competitors' point of view, was ideal. There was just sufficient rain to keep down the dust—a big factor with 200 machines on a thirty-mile circuit.

The enormous popularity of the single was again demonstrated. Triumphs predominated: one club—Bedford and District—used them exclusively.

It was noticed that, despite their small tanks, none of the two-strokes carried extra fuel. On the other hand, the big single soloists almost to a man carried an extra quart or two—in receptacles ranging from a German water bottle to a half-gallon Vacuum tin. Auxiliary tanks were not much in favour.

Has the M.C.C. given up the idea of finding a more difficult course, and, as one unfortunate suggested, contented itself with "improving" last year's by the judicious use of some hundredweights of old nails?

One competitor caused some amusement by fixing his number to the sidecar *wheel*. From the distance it resembled a burst tyre sailing round—probably the true source of the rumour that a sidecar was carrying on in that state.

The Motor Cycle Challenge Cup—a Trophy coveted by all keen club men. The holders are regarded as the club champions for the year.

The Hour Record Broken.

67.93 Miles covered by J. L. Emerson on an A.B.C.

J. Emerson (A.B.C.), after establishing the new hour record at Brooklands. He covered 67.93 miles in the hour, beating G. E. Stanley's (Singer) 1912 record by 0.5 m.p.h

IT is well known that for some time past J. L. Emerson has been casting longing eyes upon the hour record. The previous distance of 67.44 miles per hour in the 500 c.c. class has stood to the credit of G. E. Stanley on a Singer since October 13th, 1912. On Saturday, the 12th ult., Emerson, mounted on a flat-twin A.B.C. motor cycle, attempted the record, and had actually completed nine laps at record speed when a severe thunderstorm occurred which put an end to any further riding that day. For three laps Emerson averaged a speed of 71.5 miles an hour.

A second attempt to capture the record was made immediately after the conclusion of the B.A.R.C. meeting on Saturday, the 19th ult. With Mr. A. V. Ebblewhite as timekeeper, Emerson at once began to reel off laps at a speed in excess of 70 miles an hour, but stopped on more than one occasion, so that eventually the distance traversed in the hour was reduced to 67.93 miles. Actually, his 400 c.c. machine is capable of a record in excess of the mileage with which he is credited, by reason of the unexpected stops which were experienced, and it is confidently expected that should any other racing motor cyclist beat the new figures, Emerson will make a further attempt to regain the coveted record.

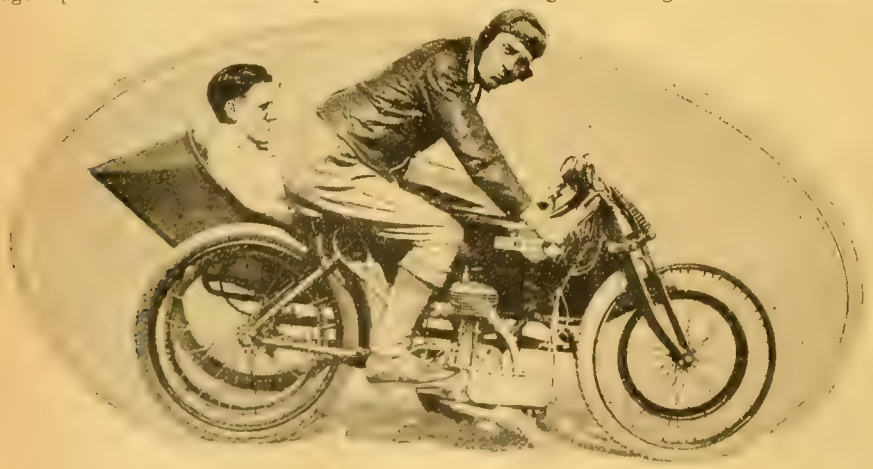
The A.B.C. machine was fitted with Palmer tyres, a C.A.V. magneto, Flexr carburetter (described in *The Motor Cycle* of April 15th, 1920, and made by Messrs. Jones and Marchant, 1, Baker Street, Weybridge), and Renold chains. He used Pratt's spirit and Wakefield's Castrol "R." This lubricant was also used by McNab (when he broke several long-distance records on a Wooler) and not the oil mentioned in the report.

Amateur Breaks Four Hour Sidecar Record.

42.62 Miles per Hour for Four Hours on a B.S.A.

AT 10 a.m. on Wednesday, June 23rd, Captain Maurice C. Breese, astride a 3½ h.p. B.S.A. and sidecar, made a successful attempt to break the four-hour record in class G for motor cycles and sidecars, the cylinder capacity of which does not exceed 500 c.c. The previous record was held by H. Riddell, on a Zenith-Green-Precision, whose average speed was 42.42 miles per hour. Captain Breese, who is an amateur rider, covered a distance of 170 miles 862 yards in four hours, at an average speed of 42.62 miles an hour. He had no less than twelve stops caused by an oily belt, whilst a twenty minutes halt was necessitated in the last hour by the same trouble. Special draught shields were fitted which, he states, aided considerably the cooling of his engine. These shields were made of thin sheet steel and placed in order to direct the air, on one side, over the exhaust pocket and, on the other, over the side of the cylinder. He completed one circuit at a speed of 50 m.p.h.

Amongst the equipment used was a special oil tank to provide increased capacity, whilst Wood-Milne tyres and belt, Cooke plugs, Wakefield Castrol oil, Shell spirit, and Middleton sidecar were employed.



42·62 M.P.H. WITH SIDECAR FOR FOUR HOURS.
On Wednesday, June 23rd, Capt. Maurice C. Breese broke the four-hour record in Class G, for sidecars under 500 c.c. capacity His average speed was 42·62 m.p.h.

T.T. PHOTOGRAPHS.

Copies of prints of the Tourist Trophy Races by

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,,	**mounted,**	**2/9**
Whole-plate,	**unmounted,**	**2/6**
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RACING AT BROOKLANDS.

High Speeds in the 100 Mile Races. Four Records Broken.

The start of the All-comers' Handicap. This race was won by H. R. Harveyson (Indian).

THE 2¾ Blackburne followed up its success in the Junior T.T. by winning the 350 c.c. 100 miles race at Brooklands last Saturday. This event and the "Senior" race for a similar distance attracted the greatest interest at the B.M.C.R.C. meeting.

Eighteen riders faced the starter, Mr. A. V. Ebblewhite, for the former event.

From the start, E. B. Ware (N.U.T.-J.A.P.) and E. Kickham on his o.h.v. Douglas were well to the fore, whilst T. Eve (Matchless), whose performance is usually interesting, was not up to his previous form, but W. A. Jacobs (Singer) settled down in his usual manner for a steady and consistent speed.

Two Woolers were entered, one piloted by F. A. McNab, the recent long-distance record breaker, and the other ridden by J. F. Hall, who experienced trouble in the first lap and was delayed for a considerable time.

Ware and Kickham kept well in front of the field, but the latter halted towards the end of the second lap to effect repairs, and lost two circuits. These positions were again altered when Ware was forced to stop through rear wheel trouble. J. S. Holroyd (Blackburne) now gradually crept to the fore, and soon became the favourite.

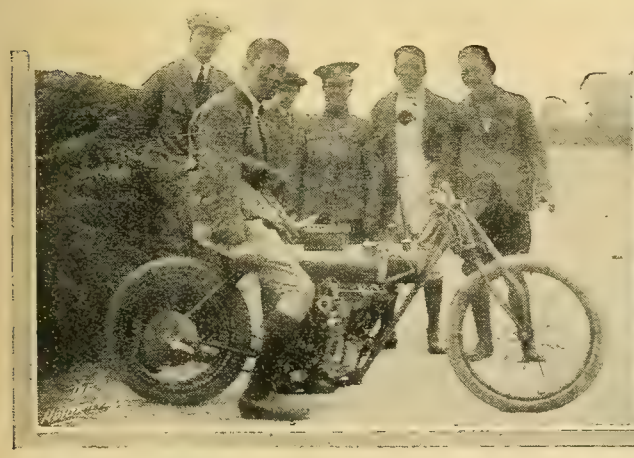
A Blackburne Success.

R. E. L. Saunders (Green-Precision) retired in the third lap. Tudor Thompson, whose Douglas had been missing badly, halted to fit a new plug in the nineteenth lap. These halts now left Holroyd, Eve, and Jacobs without serious competitors. Eve was, however, still slow, but Jacobs was lapping at high speed.

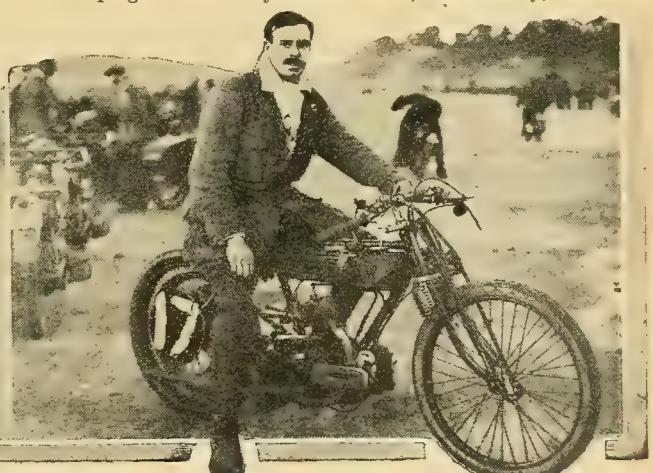
Holroyd, not having refilled his tank, had some distance in hand, and Eve's chance depended almost entirely upon the fact that the Blackburne would, sooner or later, require replenishments.

With only two laps to go the Blackburne halted. His machine was filled so quickly, however, that he still retained his leading position, and passed the finishing line amid cheers, the possessor of the five-guinea cup offered as first prize. His average speed was 52.88 m.p.h.

T. Eve secured second place, followed by Jacobs, who, incidentally, broke the



Major J. Woodhouse (Matchless-M.A.G.), after setting up a new 100 mile record in Class C.



J. S. Holroyd, who rode third in the Junior T.T., won the 350 c.c. 100 mile race at an average speed of 52.88 m.p.h.

Racing at Brooklands.—

following records: 100-mile in Class A, raising the previous record held by N. D. Sclatter on an Alcyon from 42.33 to 48.79 m.p.h.; his own one hour record, in which his speed was 49.47 m.p.h., as against 45.23 m.p.h.; and the two-hour, held by Sclatter, the speed being increased from 42.45 m.p.h. to 49.04 m.p.h.

J. Woodhouse (Matchless), E. Porter, and J. Emerson (A.B.C.) were well to the fore in the eighth lap. R. C. Chawner (Sunbeam), however, retired.

100 Miles "Senior T.T." Race.

The Senior event proved to be a most exciting race, in which there were fifteen competitors. V. Horsman (Norton) sustained a broken petrol pipe in the first lap, whilst S. L. Bailey's chain broke in the fourth.

H. R. Harveyson (Indian Scout) was making excellent speed, and as the laps were reeled off, it became clear that the race was in the hands of Woodhouse (Matchless), Emerson (A.B.C.), and Harveyson (Indian Scout).

In the twenty-fifth lap Woodhouse led Emerson, but a replenishment stop brought him level with the latter when starting away. Meanwhile Harveyson was still going well. The proximity of the riders and the strain of the distance covered prompted the question as to whether Emerson would be able to retain his speed and rob the Indian of the second place. The A.B.C. passed the grand stand with a flat tyre. Undaunted, Emerson pluckily carried on and passed the finishing line well ahead of Harveyson. Woodhouse (Matchless) finished first.

Class C Records Broken.

The fourth and fifth finishers, who with Emerson and Harveyson secured the club plaque, were G. S. Smith (B.S.A.) and Laurie Bailey (N.U.T.).

J. Woodhouse broke the 100 mile record in Class C, previously held by J. Emerson (Norton), whose speed was 64.27 m.p.h., and raised the speed to 69.58 m.p.h. He also secured the five guinea cup.

The All-comers' Handicap.

Other races on the programme included an All-comers' handicap for solo and sidecar machines which was run off in two heats. S. L. Bailey (Douglas) won the first, followed by J. Woodhouse (Matchless) and E. Porter (A.B.C.), while Harveyson (7-9 Indian), D. H. Davidson (Harley-Davidson), and E. Remington (Matchless-Jap) were first, second, and third in the second heat.

The final was obviously a match between Harveyson (Indian Scout) and Woodhouse (Matchless); the former winning, with Bailey third.

D. H. Davidson (Harley-Davidson sc.) won the Surbiton handicap at a speed of 52.84 m.p.h., R. Kaye Don (Norton) and Harry Martin (Matchless) being second and third respectively.

RACING ON THE FORESHORE.

The Southport A.C. Successful Speed Trials.

THE superiority of the small high efficiency engine over that of large cubic capacity for short speed events was again demonstrated last Saturday. At the speed trials organised by the Southport A.C., on the sands, two A.B.C. machines ran away from the field in all the solo events, beating in some cases those of 1,000 c.c.

Each time they got away smartly, and by rapid acceleration obtained such a lead that they crossed the line before the larger machines had got into their stride.

The course was a measured mile on the Foreshore, the sand being dry and firm, though rather uneven. Ropes on either side prevented the large crowd of spectators from pushing forward in their endeavour to get a better view.

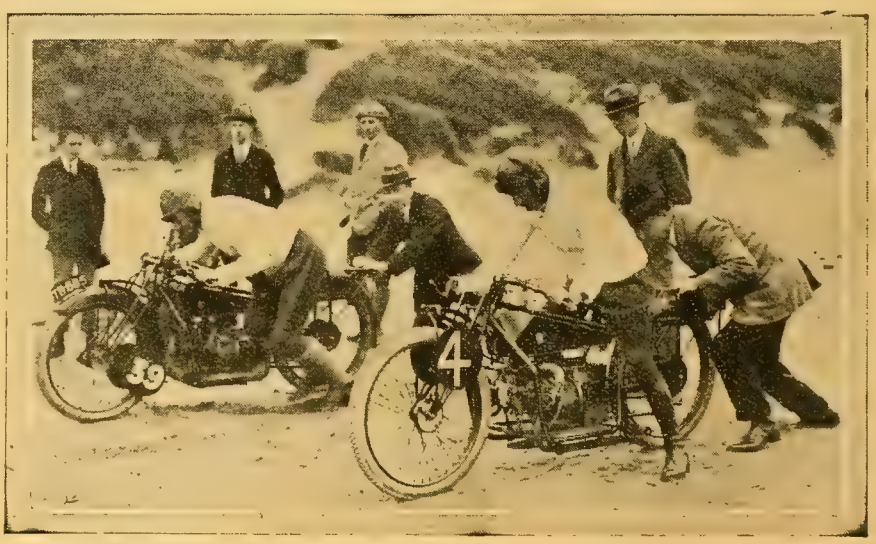
Good entries were received for the various classes, the majority of which were eliminated in the preliminary heats, leaving a mere handful of men to contest the finals.

Close Racing.

Quite the most spectacular performance was put up by the two A.B.C.'s ridden by Whalley and Russell King. During one of the heats they came roaring down the course side by side; the machines might have been joined together so close were they to each other. They kept dead level until the last few yards, when Whalley just managed to pull ahead.

H. Mason, who was second in class 3 and fourth in class 4, was astride the T.T. Norton, ridden in the Senior T.T. by V. Olsson. His best time for the mile was 1m. 8⅘s., while O. Carter, winner of the sidecar event, rode a machine built by himself and fitted with a 3½ h.p. o.h.v. J.A.P. engine.

An unfortunate accident, which marred an otherwise enjoyable afternoon's sport, occurred during the unlimited solo heats. J. Taylor, riding a big Harley-Davidson, got into soft sand soon after starting, and falling heavily sustained injuries to the face. P. C. Hoyle (Zenith), who was following, pulled up immediately and went to the injured rider's assistance, the latter being eventually conveyed by car to hospital. His injuries, however, were not nearly so severe as they first appeared.



The two A.B.C. riders, who between them won the three solo events, which was a neck and neck race to the finish

The Scooter Race.

Four entries were received for the scooter race, though only two faced the starter, these being J. Critchley (Mobile Pup) and H. Morris (Kingsbury). The event, which amused the crowd considerably, proved an easy victory for Critchley, who won by several hundred yards. The fastest time of the day was made by Whalley (3 A.B.C.), who covered the mile from a standing start in 1 min. 5⅖ secs., averaging 56.5 m.p.h. He rode very consistently throughout the meeting, his total variation in times being only 1⅕ secs.

The results were as follow:

CLASS 3.—Solo, 500 c.c.
1. H. Russell King (3 A.B.C.)
2. H. Mason (3½ Norton)
3. F. Collard (3½ Rudge Multi)
Time, 1m. 6⅘s. Speed, 54 m.p.h.

CLASS 4.—Solo, 750 c.c.
1. —. Whalley (3 A.B.C.)
2. H. Russell King (3 A.B.C.)
3. F. Collard (3½ Rudge Multi)
Time, 1m. 5⅗s. Speed, 56.5 m.p.h.

CLASS 5.—Solo, Unlimited.
1. —. Whalley (3 A.B.C.)
2. E. C. Ecroyd (4 Triumph)
3. F. Collard (3½ Rudge Multi)
Time, 1m. 6⅕s. Speed, 54.3 m.p.h.

CLASS 6.—Unlimited Sidecars on Formula.
1. O. Carter (3½ O.K.-J.A.P. sc.) .. 1m. 20⅗s.
2. W. S. Life (3 Zenith sc.) .. .. 1m. 19⅗s.
3. E. H. Clifton (7-9 Harley-Davidson sc.) .. .. 1m. 18⅘s.

CLASS 7.—Scooters.
1. J. Critchley (Mobile Pup)
2. H. Morris (Kingsbury)
Speed, 14 m.p.h.

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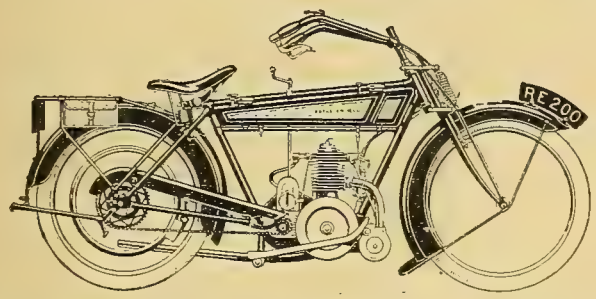

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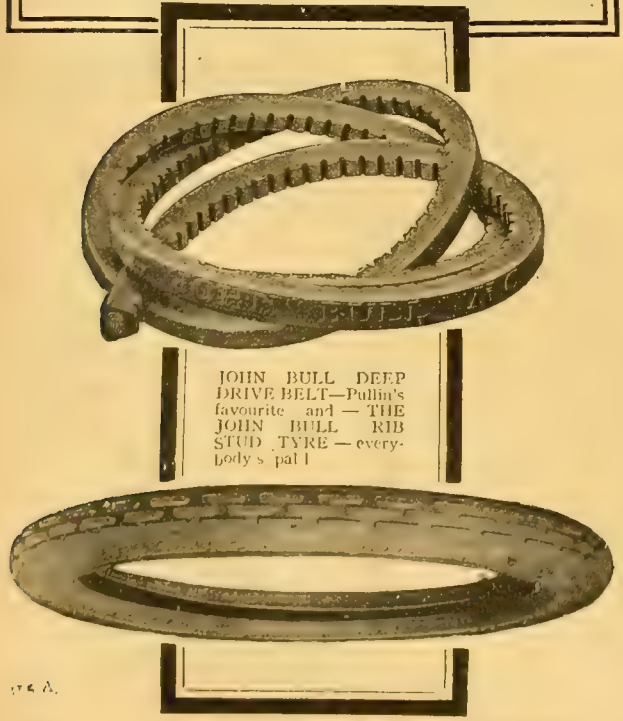

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"Ixion," in his Occasional Comments—"The Motor Cycle."

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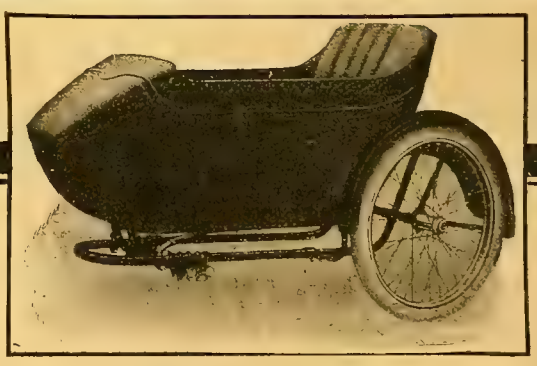

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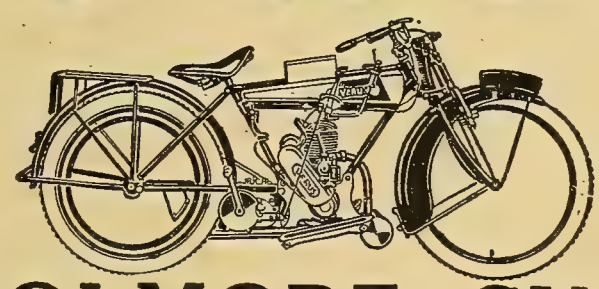

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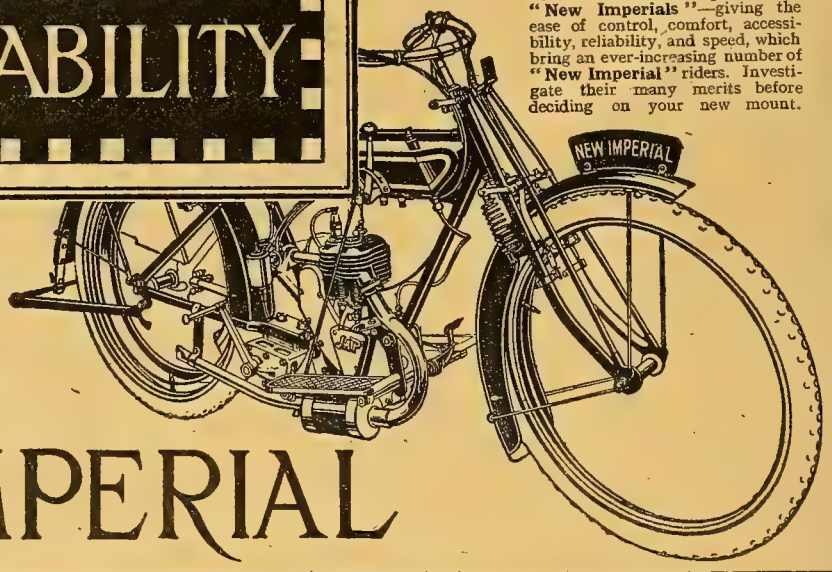

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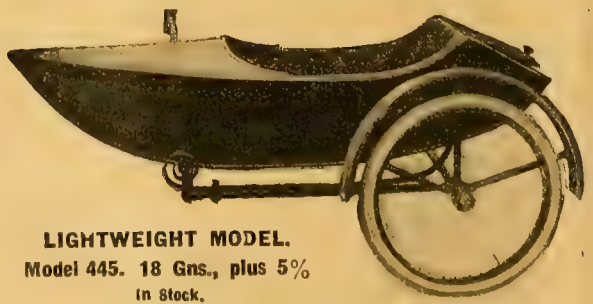

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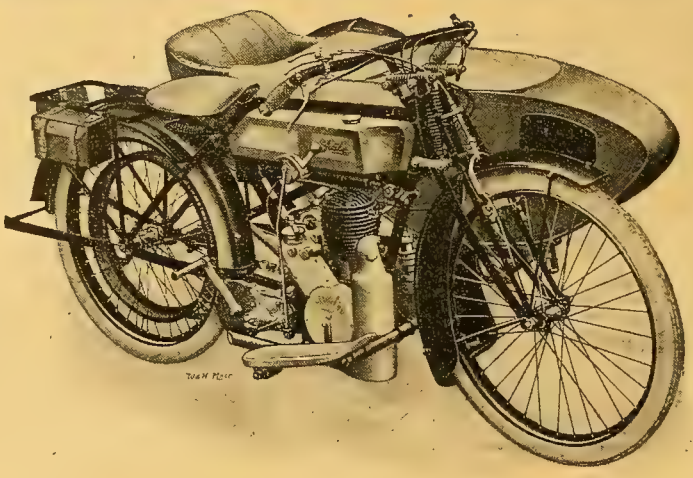

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1920 4h.p. Blackburne Combination, carefully run in, better than new, small mileage, lighting set, tools, etc.; bargain, £152.—Sheldon, Wheatley, Oxon. [1832

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1914 Bradbury, C.B. sidecar, 3-speed, complete with lamps, horn, etc.; £80.—Mason, Moor Lane, Gomersal, near Leeds. [9970

4¼h.p. Bradbury Combination, 2-speed, recently overhauled by makers at a cost of £22, splendid condition; £70.—H. Wardle, Alport Rd., Youlgrave, Bakewell. [1899

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BRADBURY 4h.p., T.T., Bosch mag., B. and B., aluminium disc wheels, very sporty, condition as new; £68; any evening after 6.30.—S.B., 18, Tunley Rd., Balham, S.W. [9885

1914 4¼h.p. Bradbury Combination, bulbous back sidecar, 2-speed countershaft, all-chain drive, all on, perfect order; £70, or near offer.—Tobias, 68, Church Rd., Acton, W.3. [1242

4h.p. Bradbury Combination, 2-speed countershaft gear, kick start, Bosch mag., B. and B. carburetter, Mills-Fulford C.B. sidecar, with dust sheet, lamps, mechanical horn; £78, or near offer.—53, Richmond Rd., Kingston, Surrey. [1013

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BROUGH Combination, 5h.p., countershaft 3-speed, fully equipped.—15, Boyn Valley Rd., Maidenhead, Berks. [X4420

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BROWN 3½h.p., Bosch, B. and B. carburetter, mechanically perfect; £32, or offer.—Hall, 18, Lushington Rd., Harlesden, N.W.10. [1918

BROWN 3½h.p., Mabon clutch, Bosch, B.B., dropped frame, in good condition; £22; photos.—2, Calderon Place, North Kensington, London. [1070

B.S.A.

1914 B.S.A. 4¼h.p., 2-speed, good condition.—Forster, Comberback, Northwich. [1080

B.S.A.—The Walsall Garage, Walsall, booking orders for all models: rotation deliveries. [5761

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1919 B.S.A. Combination, like new; £130.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [1596

B.S.A. 2-speed Combination, 1913, lamps, horn, etc., splendid order; £60.—591, Foleshill Rd., Coventry. [X4854

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B.S.A. 3½h.p. 2-speed, clutch, 1913, exceptional condition; 46 gns., lowest.—13, Lewisham Park, Lewisham. [201

1913 T.T. B.S.A., in perfect running order, tyres, belt, and plating good; £46.—R. End, Stunningdale, Berks. [1384

1920 B.S.A. Combination, delivered May, fully equipped; best offer over £175.—79, Colwyn Rd., Northampton. [X4669

B.S.A. Combination, C.B., 1915, 3-speed, K.S., lamps, 2 new tyres; any trial; 100 gns.—62, New St., Woodbridge, Suffolk. [1985

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1919 B.S.A., chain drive, 3-speed, coachbuilt sidecar, carefully used, perfect condition; best offer.—Willson, Croft House, Burton-on-Trent. [1870

£75.—1916 4¼h.p. B.S.A., chain-cum-belt, 3-speed, K.S., new tyres, lamps, horn, splendid condition; bargain.—King, Egrove Farm, Oxford. [X4761

1919 4¼h.p. B.S.A. Combination, countershaft, complete with 3 lamps, horn, Easting's screen, etc., all as new.—Lewis, Yelford, Witney, Oxon. [1999

1919 B.S.A. Combination, Model K, No. 2 sidecar, luggage grid, hood, screen, petrol carrier, tools, and spare parts; £135.—210, Heather Rd., Small Heath, Birmingham. [X4785

B.S.A. Combination, 1914-15, recently overhauled, fully equipped, been stored long time, good hill-climber; £115, best offer accepted; worth £130.—Salters, Sutton, Pulborough, Sussex. [1510

B.S.A. 4¼h.p., 1917, with Phœnix No. 1 sidecar, perfect running condition; £100, or near offer.—F. Stables, 5, Colyers Lane, Erith, Kent. [9914

1920 (May) B.S.A., 4¼h.p., 3 speeds, chain drive, luxurious coachbuilt sidecar, all accessories, unsoiled; £145.—294, Kennington Park Rd., S.E.11. [1764

4¼h.p. B.S.A. 3-speed Chain-cum-belt Combination, Montgomery coachbuilt sidecar, all in excellent condition; bargain, £85.—Thomas, Fern Villa, Clynderwen. [1521

B.S.A. 1917 Chain-drive Combination, £110; also 1916 Royal Enfield combination, 8h.p., £125, lowest.—11, Olive Mount, Rounds Green, Oldbury, Birmingham. [9872

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B.S.A. 1914 Combination, lamps, horn, speedometer, 3-speed countershaft, good condition throughout; £85.—Estreham Garage, 35, Estreham Rd., Streatham. 'Phone: 335. [1351

B.S.A. 1919 4¼h.p. All-chain Combination, electric lamps, horn, speedometer, hood, screen, grid, etc., perfect condition; £135.—4, Cambridge Green, New Eltham, S.E.9. [1442

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B.S.A. 3½h.p. 1912 Combination, belt drive, Millford sidecar, Capac carburetter, Bosch mag., 2 speeds, pedal start; £68.—Maudes', 100, Gt. Portland St., London. [1909

1914 B.S.A. and Coachbuilt Sidecar, 4¼h.p., all-chain, 3-speed, clutch, lamps, horn, good running order; £95; after 6 p.m.—39, Springfield Gardens, Upper Clapton, E.5. [1532

B.S.A. 4¼h.p. All-chain Combination, 3-speed, countershaft, clutch, kick-start, Watford speedometer, splendid condition, accessories; £137.—Davey, 14, Evelina Rd., Nunhead. [9819

4¼h.p. B.S.A. Model H Combination, in excellent condition, 3 Lucas lamps and generators, wind screen, good tyres, spares, and tools; £95.—Greenfield, Confectioner, Arundel, Sussex. [1560

B.S.A. 4¼h.p., 1916, 3-speed countershaft, kick starter, Millford undershung car, lamps, wind screen, legshields, any trial; 98 gns.—Bray, 51, Beckenham Rd., Beckenham, Kent. [1371

B.S.A. 4¼h.p., 2 speeds, free engine, K.S., all chain, lamps, speedometer, horn, watch, practically new Paragon coachbuilt sidecar, Cameo wind screen; £90. Garner, Glenholm, Hook Rd., Surbiton. [1536

B.S.A. Combination, late 1916, bulbous back coachbuilt sidecar, wind screen, etc., appearance and condition excellent, guaranteed as advertised; £105; after 6.—20, Canterbury Rd., Croydon. [8790

1919 B.S.A. Model K. 4¼h.p., only used summer week-ends, absolutely perfect condition, with spares; £100; can be seen by appointment.—14, Middlemarch Rd., Garden Suburb, Coventry. [X4670

B.S.A. Combination (1918) 4¼h.p., countershaft 3-speed, clutch, kick, coachbuilt sidecar, hood, screen, new tyre, tubes, lamps, and spare parts, excellent condition; £120.—W. Evans, St. Michael's Sq., Pembroke. [1805

1920 B.S.A. Combination, Model H, Lucas mag., dynamo lighting, Easting screen, luggage grid, delivered May, mileage about 400, perfect, any trial; best offer over £180.—Williams, Liverpool House, Colwyn Bay. [1791

1919 B.S.A. Combination, 4¼h.p., Model H, all-chain drive, 3-speed, K.S., lighting set, tyres good, enamel, plating, engine perfect, Canoelet, Easting screen, All-in policy; £125.—Cowlishaw, Basford, Stoke-on-Trent. [X4676

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Edmund.

1915 Edmund, 4h.p. twin M.A.G. (o.h.i.v.), Enfield gears, fast solo machine, complete and perfect: 58 gns.: exchange recent lightweight.—81, Little Ealing Lane, Ealing. [1638

EDMUND.—The lightweight with the laminated spring frame 2¾h.p. Jap model, £92/8; 2-stroke model, £86/10; both fitted with Enfield 2-speed gear. —P. J. Evans, 83-91, John Bright St., Birmingham. [X4730

Enfield.

1917 Enfield 8h.p. Combination, perfect order; £140. —16, York St., Dover. [1504

ENFIELD 6h.p. Combination, almost as new; £130.—St. John's Cottage, Scorton. [9953

ENFIELD 2-stroke, new; delivery stock; list price.—Cranmore, Telephone 40, Potters Bar. [9893

1920 Royal Enfield 6h.p. Combination, complete with accessories.—12, George St., Blackpool. [1807

ENFIELD 6h.p. Combination, 1920, equal new; best offer secures.—Phillips, Holyrood St., Chard, Somerset. [9992

THREE Enfield Combinations, one 8h.p., two 6h.p.: prices £150 and £165.—374, Grove Green Rd., Leytonstone. [2085

1916 6h.p. Enfield Combination, Lucas dynamo lighting: £130.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [1594

ENFIELD 1916 2-stroke, 2-speed, chain drive; £50. —Smith's, 86, Chalk Farm Rd. (oposite Chalk Farm Tube Station). [0231

ENFIELD 3h.p. Combination, late 1916, like new, kick start, all accessories; £85.—1, Lower Winchester Rd., Catford. [1022

ENFIELD, 2-stroke, latest model, just delivered; at maker's price; £73/10.—Eagles and Co., 275, High St., Acton, W.3. [X4770

ROYAL ENFIELD with coachbuilt sidecar, in good condition, ready to ride away; £115.—126, Elgin Crescent, Notting Hill. [9975

3h.p. Royal Enfield, 2-speed, Bosch, Binks, overhauled and in excellent running condition; £42.—76, Western Rd., Southall, W. [1390

1916 Enfield 6h.p. Combination, fully equipped and in excellent condition; £130.—436, Whitehorse Rd., Thornton Heath, S.E. [1883

ENFIELD 2¾h.p., 2-speed, kick-start; £40.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith, 80. [1168

ENFIELD Lightweight, 2-speed, Bosch, lamps, good tyres; ride away; £35.—117, Longford Rd., Chorlton-cum-Hardy, Manchester. [1583

ENFIELD Twin 2¾h.p., 2-speed, free engine, lamps, Dunlops, splendid condition; £45.—Brown, Foxhill's Rd., Radstock, Bath. [1389

ENFIELD 2¼h.p. 2-stroke, 2 speeds, late model, mileage 500; £67/10.—Halifax Motor Exchange, Union St. South, Halifax. [1279

ENFIELD 2¾h.p. twin, M.A.G. 2-speed, £28/10; also Henderson featherweight sidecar.—23, Fulham Park Gardens, Fulham. [1775

ROYAL ENFIELD 2¾h.p., nearly new tyres, running order; owner bought combination; £35.—Pembury Garage, Pembury, Kent. [1856

ENFIELD 6h.p. Combination, splendid condition, recently overhauled, any trial; best offer over £120.—W. Weighell, Launceston. [9922

8h.p. Enfield Combination, August, 1919, perfect condition, lamps, spare tyre, tube, chain, Easting; £170.—Dodd, Duke St., St. Helen's. [1864

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¼h.p. Royal Enfield, new 1920, £73/10; also 2¼h.p. Royal Enfield, 1919, £60. [9773

1916 8h.p. Enfield Combination, new tyres and lighting sets, perfect order; £130; after 6.—73, Brailsford Rd., Brixton, S.W.2. [1238

ENFIELD 2-stroke, 2-speed, like new, Klaxon horn, lamp set, watch, spare tyres and tubes; 65 gns.—103, Myddleton Rd., Bowes Park, N.22. [1227

ENFIELD 2-stroke, brand new, actually in stock for immediate delivery at list price.—Longman Bros., 17, Bond St., Ealing, W.5. Tel.: 689. [1796

ENFIELD 1916 3h.p. Twin, 2-speed, clutch, overhauled, new Dunlops, complete equipment; £65.—Price, Longcroft, Darlaston Rd., Wednesbury. [1306

ENFIELD, 2¾h.p., 2-speed, chain drive, lamps, horn, just overhauled; £40.—Cooper, Hampton Court Rd., Hampton Court. 'Phone: Kingston 680. [9817

CLIFFORD WILSON Mfg. Co.—1917 Enfield combination, many extras, overhauled; £150.—70, Royal Hospital Rd., S.W.3. Tel.: Kensington 7113. [9572

1918 Enfield Combination, splendid condition, lamps, etc., delivered 100 miles purchaser; £145, or near; exchange.—8, Noll Rd., Edgbaston, Birmingham. [X4814

1917 Enfield Combination, 6h.p., beautiful condition, enamel as new, carefully used, Lucas lamps; £140.—3, Cluny Mews, Warwick Rd., Earl's Court. [1624

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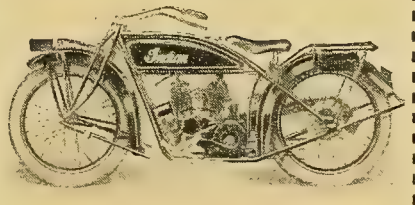

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ENFIELD Combination, 1916, faultless condition, lamps, horn, tools, speedometer, wind screen, etc.; £130.—Hewin's Garages, Ltd., the real service firm, Taunton. [1210

ENFIELD 3h.p Twin, 2-speed, clutch and kick-starter, like new; £68.—Turner, Westbourne House, Richmond Rd., Twickenham. 'Phone 217 Richmond. [1559

ENFIELD 1919 2-stroke, 2-speed, free engine, Lucas front, Miller back, tools, etc., little ridden, almost unscratched; £66.—Owers, 17, Willoughby Park Rd., Totenham, N.17. [1466

1917 5-6h.p. Enfield and Sidecar, fitted with dynamo lighting set, combination in very good order; price £140.—Apply, H. Dix, Arcady, Highworth Av., Cambridge. [1376

ENFIELD Combination, 1920, 8h.p., Lucas Magdyno lighting set and horn, just taken delivery, ready for road; accept £215.—Apply, Box 5,565, c/o *The Motor Cycle*. [2055

1920 Royal Enfield Motor Cycle, 2½h.p., 2-stroke, 2-speed countershaft and free engine, quite new; list price £73/10, will accept £67, no offers.—60, Lenu Terrace, Leamington. [X4695

1917 Enfield Combination, 6h.p., electric lighting, hood, screen, horn, speedometer, tyres as new, only wants seeing, trial; £155; genuine.—98, Grange Park Rd., Leyton, E.10. [8169

ENFIELD-J.A.P. 6h.p. Combination, 1916, complete with accessories, model in splendid running order, going cheap.—Write 444, c/o Pool's Advertising Service, 180, Fleet St., E.C.4. [1270

1915 Enfield 6h.p. Combination, dynamo lighting, hood, wind screen, luggage grid, good order, engine rebushed; £148, or near offer; by appointment.—Bowers, 41, Fawnbrake Av., Herne Hill, S.E.24. [1043

SPECIALLY-TUNED 1916 3h.p. T.T. Enfield, fitted Triumph tank, footrests, long exhaust, Binks, lamps and tools, can average 30 m.p.h. comfortably; £59 for quick sale.—Malins, 81, Herne Hill, S.E.24. [1116

ROYAL Enfield Combination, 6h.p., Lucas dynamo lighting, also horn, hood, and luggage grid, just completely overhauled and in excellent condition; price £135.—Farrell, 170, Saracen St., Possilpark, Glasgow. [1600

1916 Enfield 3h.p. Twin, 2-speed, Amac, speedometer, Bosch supplying rear light, Powell and Hanmer, Klaxon, new back and good front tyre, good condition; nearest £55.—V. Young, Manor Farm, near Romford. [1020

ROYAL ENFIELD 1915 6h.p. Combination, electric light, horn, speedometer, wind screen, hood, extra valves, plugs, controls, chain, tyre, tools, etc., carry 3 anywhere; £125, no offers.—Ringer, 822, High Rd., Leyton, London, E.10. [X4633

1920 8h.p. Enfield Combination, Lucas, magdyno lighting, Cowey speedometer, horn, wind screen luggage carrier, Tan-San pillion seat, nine months fu.. insurance policy, all accessories, as new; £225.—Box 5,557, c/o *The Motor Cycle*. [2044

ENFIELD 6h.p. Combination, 1915-16 J.A.P. engine, new Binks carburetter, new extra heavy 700×80 covers and tubes, 3 lamps, horn, Cameo wind screen, apron, and tools, everything in new condition, stored 3 years; expert examination; near offer to £155.—10a, Hester St., Northampton. [1585

Excelsior.

EXCELSIOR 2-speed 2-stroke in Stock, new; £67.—Clark, 7, Exhibition Rd., South Kensington. [2021

1915 Excelsior Combination, 3-speed, kick start, chain drive; £78.—79, Upton Lane, Forest Gate, E.7. [1102

1920 Excelsior 2-stroke, 2-speed, new, just delivered; list price.—Wright's Garage, Saffron Walden. Tel.: 16. [2036

BRITISH Excelsior, 4¼h.p. single, clutch, late model, sporting racer, beautiful condition; £46. —20, Canterbury Rd., Brighton. [1354

EXCELSIOR Brand New (American) Solo and Combinations actually in stock.—W. H. Grimes and Co., 18, Bruton Place, New Bond St., W.1. [1957

AMERICAN Excelsior, 1920, with G.L. sporting sidecar, T.T. bars, long exhaust, all extras, very fast, mileage 450, must sell, owner going abroad; what offers?—'Phone: Pad. 5855. [9883

AMERICAN Excelsior Combination, 1917, 7-9h.p., 3-speed gear, mechanical oiling, with head and tail lamps and mechanical horn, everything in perfect order, Montgomery coachbuilt sidecar, any trial; price £115.—Ormandy, Shottery Manor, Stratford-on-Avon. [1245

MAGNIFICENT American Excelsior, May, 1920, fastest 'bus on the road, guaranteed perfect, 3-speed, K.S., electric model, special racing and touring sprockets, specially tuned engine, will rev. up to 3,500. This machine has climbed Kirkstone and Honister Pass, also Sutton Bank, on top, has done 1,500 miles only, just been decarbonised and fitted with special valve springs; reason for selling, too fast for the liking of the Cheshire Police; price £190, or close offer; first cheque secures.—Matthews, Venables Foundry, Shaws Rd., Altrincham, Cheshire [2065

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4-CYL. F.N., in running order; £27.—Thompson, Clare, Suffolk. [9999

CROW Bros., Guildford, F.N. agents for the 7h.p. 4-cyl. and 2¾h.p. lightweight. Book your machine now. [3171

F.N., 4 cyls, Bosch, shaft drive, overhauled, stove-enamelled, as new; £38.—15, Ashvale Rd., Tooting. [1708

F.N. Motor Cycle, 2-speed, clutch, good condition; ride away; £35; after 5 p.m.—106, Theobald's Rd., London. [1050

4-CYL. F.N., clutch, sporting T.T. mount, sloping back, any trial; £34.—185, Shernhall St., Walthamstow. [1414

F.N. 4-cyl. 5-6h.p., 1913, coachbuilt sidecar, 2-speed, electric light, new tyres; seen after 6.30.—16, Archway Rd., Upper Holloway, London, N.19. [9982

F.N. Combination, 7-9h.p., 1914, 3 speeds, clutch, K.S., lamps, horn, wind screen, fast and powerful; £135.—Farrell, 170, Saracen St., Possilpark, Glasgow. [1601

F.N. 5-6h.p., 2-speed, dynamo lighting, speedometer, 2-seater sidecar, splendid condition, expert examination invited; £60.—Thompson, Beechcroft, Worcester Park. [1723

4-CYL. 7h.p. F.N. Combination, Mills-Fulford sidecar, complete electric light, Bonniksen speedometer, all spares, and absolutely in top-hole condition; £150.—32, Balfour Rd., Derby. [X4851

SPORTING F.N., 4-cyl., 2-speed, clutch, o.h. valve, dropped frame, special sloping tank, discs, oversize tyres, Wedgewood blue, lined black, fast and reliable; £86.—Adelaide Works, Adelaide Rd., Shepherd's Bush. Tel.: Hammersmith 805. [9854

Gaby.

1920 Gaby, 2¾h.p. Arden engine, Albion 2-speed, complete with all accessories, not done 50 miles; a real sacrifice, £58.—Apply, after 8 p.m., 137, Queen's Rd., Finsbury Park, N. [2123

Harley-Davidson.

1919 Harley and Millford Sidecar; £165.—365, King St., Hammersmith. [1941

HARLEY-DAVIDSON, all models.—Official agents, The Motor Cycle Mart, Stafford St., Walsall. [6460

HARLEY Combination, with new Middleton sidecar, full accessories; £120.—Grimes, 18, Bruton Place, W.1. [1960

1918 Harley Combination, mag. model, perfect; £128 for quick sale.—54, Paddenswick Rd., W.6. [1804

7-9h.p. Harley, 1917, 2-seater sidecar, in splendid condition; £140.—38, Berkshire Gardens, Wood Green. [1636

1919 Harley 7-9h.p., enamel like new, perfect; bargain, £125.—C., 12, Station Parade, Muswell Hill, N.10. [1739

BROOK Bros., Burnham-on-Sea, can offer all mode' Harley-Davidson from stock; write to-day for particulars. [1261

1915 Harley-Davidson 7-9h.p., 3-speed, clutch, tyres like new, topping; £95.—Wakelin, 5, Bramford Rd., Ipswich. [1677

ELECTRIC Model Harley, 1919, one of the finest solos on the road; after 6; £155.—85, Wiverton Rd., Sydenham. [X4816

1920 Harley Combination, magneto model, hood, screen, speedometer, lamps; £220.—Graham, Spring Rd., Wrexham. [1681

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—7-9h.p. Harley-Davidson and sidecar, 1919, splendid condition; £195. [9774

HARLEY-DAVIDSON 1915, Millford sidecar, Bosch, Cameo, lamps, good condition; £120.—5a, Sedgemere Av. East Finchley. [1516

HARLEY-DAVIDSON, 1918, 7-9h.p., £105; 1919, £110.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0232

1918-19 Harley-Davidson 7-9h.p. Combination, fully equipped, as new; £165.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X4716

1920 Harley-Davidson, Model F, and sidecar, all accessories, mileage 400; £220.—Durston, Briar Cottage, Stanley Rd., Woodford, E.18. [1109

1917 Harley-Davidson and Mills-Fulford sidecar, good tyres; £160; trial by arrangement.—Reliance Motor Works, St. Cross Rd., Winchester. [1215

HARLEY-DAVIDSON, 1919, bulbous sidecar, with aluminium disc wheel, 28in., as new, £30. Eaves, 5, Thornfield Rd., Shepherd's Bush, W. 2099

HARLEY-DAVIDSON Combination, 1919, completed with accessories, excellent condition; £155.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [1693

HARLEY-DAVIDSONS, 7-9h.p., 1919, mechanically perfect, Bosch, appearance as new; from £115.—Hutton, Red Lion Hill, East Finchley. [X4699

1918 Super Harley Davidson Combination, 1920 colour, disc wheels, electric lighting set, unscratched; £175. 61, New Kent Rd., London, S.E.1. [1415

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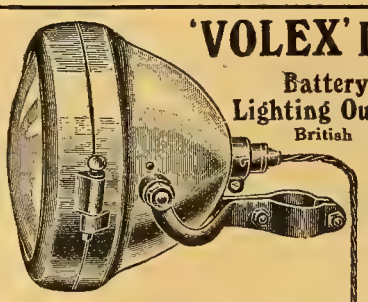

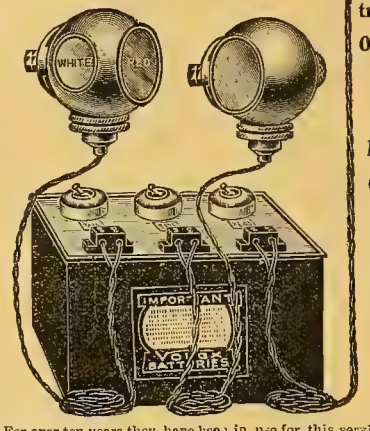

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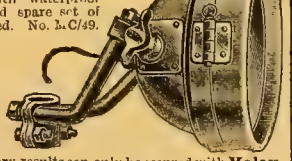

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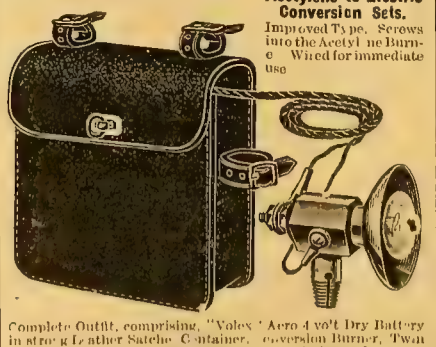

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1915 7-9h.p. Harley, complete with Montgomery coachbuilt sidecar, extra fast one, large brass exhaust pipes; sacrifice, £110.—Else, Dimple, Matlock. [X4799

HARLEY-DAVIDSON 1919-20 7-9h.p. Twin, electric and sidecar, outfit fully equipped and in new condition; £177/10.—Sproston, Ltd., 198, Gt. Portland St., W.1. [1143

1916 Harley-Davidson, 3-speed clutch, kick start, lamps, Tan-Sad, Easting, special sidecar, with dickey, fast and sporty; £145.—76, Western Rd., Southall, W. [1393

1918 Harley Solo, repainted and overhauled, wants seeing, £110; also 1916 combination, new C.B. sidecar, outfit £125.—Gen, 147, Beulah Hill, Upper Norwood. [2106

1916 Harley Combination, 5-6h.p., as new, lamps, speedometer, mechanical horn, spares; trial given; £140.—Marshall, Church and Co., Automobile Engineers, Maidstone. [9996

1920 Harley-Davidson 7-9h.p., electric model, Montgomery sidecar, wind screen and hood, practically new; £230.—Apply after 7 p.m., W.R., 38, Emmanuel Rd., Balham, S.W.12. [9932

1919 Harley-Davidson 7-9h.p., appearance and condition excellent, £105; brand new bulbous back, luxurious sidecar and chassis, optional, £35.—J.B., 34, Bloomsbury Sq., W.C.1. [1263

HARLEY-DAVIDSON 7-9h.p. Combination, 1918 W.D., right-hand metal sidecar, 3 lamps, all fine order; ride 100 miles to purchaser; £125, or offer; must sell.—45, Eltham Rd., Lee, S.E. [9988

HARLEY-DAVIDSON 7-9h.p., 1918, late, speed model, fitted with low model R34 airship body, in beautiful trim, unscratched; first reasonable offer accepted.—113, Links Rd., Tooting. [9804

HARLEY-DAVIDSON Combination, 1918, electric light, hood, wind screen, luggage carrier, etc., wants little time spent on; owner leaves England 12th July; £150, a gift.—86, Grosvenor Terrace, Camberwell. [9971

RACING Harley, 1916, special engine, Bosch, Brooks saddle, 1920 enamelling plating new, mechanically perfect, very fast, priceless note, lamps, horn, spares; £120.—63, Credenhith St., Mitcham Lane, Streatham. [1344

1919 Harley-Davidson, mag. model, new Henderson Elite sidecar, wind screen, Tan-Sad, speedometer, lamps, etc., mileage 4,020, engine and appearance perfect; good solo entertained; £215.—355, Norwich Rd., Ipswich. [1970

HARLEY-DAVIDSON 7-9h.p. 1916 Combination, electric light, etc., owner no time for use, beautiful turnout, standing idle; to sell quickly, £125 or nearest.—Hollybush, Maybank Rd., George Lane, Woodford, Essex. [1287

HARLEY-DAVIDSON (late 1918), very little used, new bulbous sidecar, electric lights, nothing on the road to touch it for speed, comfort, or appearance; £175.—Postmaster, 318, Trinity Rd., Wandsworth Common. Tel.: Battersea 1756. [X4645

HARLEY-DAVIDSON Combination, used 12 months, double-seater sidecar, electric lighting, excellent condition; too powerful for owner; will exchange for Triumph combination; must be perfect condition.—Major Baldwin, Zelah, Callestick, Cornwall. [9955

1919 (Oct.) 7-9h.p. Harley-Davidson Combination, mag. model, mileage 1,500, splendid turnout, luxurious sidecar, 3 lamps, generator, speedometer, watch, mechanical horn hood, screen, Tan-Sad; £220.—48, Devonshire Mews East, Portland Place, W.1. [1652

1919 7-9h.p. Harley-Davidson Combination, condition and appearance as new, new tyres, large bulbous back sidecar, complete with lamps and light car generator, horn, etc., aluminium number-plates, a bargain; £185.—Olphert, 66, Church Rd., Barnes, S.W. [9220

HARLEY-DAVIDSON, 1919, and sidecar, mag., 3-speed, lamps, Easting screen new back tyre, tube, and chain, full insurance, fine order and condition; £175.—Seen 11, Winterstoke Gardens, Mill Hill, N.W. (Mid. Rly.), or by appointment West End, Saturday. [1288

Hazlewood.

1920 Hazlewood-Jap 5-6h.p. Combination, 3-speed countershaft, just delivered; £186.—Raynham, Saffron Walden. [5681

1920 Hazlewood-Jap 6h.p. Combination, brand new, cost £204; reasonable offer accepted under list.—Box 5,560, c/o *The Motor Cycle* [2048

1920 Hazlewood 5-6h.p. Combination, a revelation in motor cycling, immediate delivery; list price, £186.—Imperial Motor Works, Bournemouth. [1308

1920 Hazlewood-Jap Combination, 5-6h.p., electric side and tail lamps, run 100 miles, insured; owner riding solo; £190.—N. Shires, Quarmby Lodge, Huddersfield. [X4850

5-6h.p. Hazlewood Combination, 3-speed, clutch and kick-starter, at manufacturers' current list price, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [9798

1920 Hazlewood Combination, 5-6h.p. J.A.P., 3-speed, countershaft, clutch, kick starter, mudshields, speedometer, mirror, Canoelet sidecar, with screen, lamps, and tools, complete, new in May; price £200, or near offer.—Apply, F. D. Loxton, Clolord, Frome, Somerset. [1938

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Minerva.

3½h.p. 1911 Minerva, Dixie, Amac, m.o.i.v., go anywhere, £23; also 1911 Douglas, aluminium footboards, perfect; £25.—50, Manor Park Rd., Harlesden, N.W.10. [1806

Moto-Reve.

MOTO REVE Twin, mag., new B.B., overhauled, tyres, enamel good; £20; offers.—Pine View, Highfield Lane, Southampton. [1730

Motosacoche.

2¼h.p. Motosacoche, 1914, variable gear, splendid condition; £27.—South Bank, Moreton Rd., Worcester Park, Surrey. [1757

MOTOSACOCHE Lightweight, overhauled, splendid running order, F.E., good tyres; £21.—H. Jukes, Chaffey Moor, Bourton, Dorset. [1576

MOTOSACOCHE 2½h.p., Bosch, Druids, Pedley, Dunlops, running order; trial.—Martin, Drill Hall, Holly Bush Vale, Heath St., Hampstead. [1841

New Hudson

NEW Hudson 2¼h.p., not done 1,000 miles, 1920, in Manchester.—Box 5,518, c/o *The Motor Cycle.* [1124

NEW HUDSON, 1914 J.A.P., 3-speed, clutch; ride away; £40.—110, Mill Lane, West Hampstead. [1765

1916 T.T. New Hudson, 4h.p., excellent condition, very fast; 49 gns.—25, Gertrude St., Chelsea. [1343

NEW HUDSON, 2-speed, 1917, splendid condition, lamps, horn, etc.; £55, offers.—97, Nightingale Rd., Wood Green. [1072

NEW HUDSON 2¼h.p. 1917, 2 speeds, lamps, splendid condition; £50; offers.—Lawn Villa, Holly Walk, Enfield. [1537

1920 New Hudson 2-speed Lightweight, in stock; £75.—Shepherd and Co., Enfield Highway. Waltham Cross 31. [8350

NEW HUDSON, 2¼h.p., brand new, delivered this week, not been out; list, £75.—Box 5,538, c/o *The Motor Cycle.* [1409

1920 New Hudson 2-stroke, 2-speed countershaft, unused; list price, £75.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. [1710

1919 New Hudson Combination, 4h.p., fully equipped; £120.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X4721

3½h.p. New Hudson-Jap, conchbuilt sidecar, 3-speed, clutch, good condition; cheap; after 7 p.m.—233, Park St., Luton, Beds. [1087

LATE 1917 4h.p. New Hudson Combination, as new, all fitted up, and in perfect running order; £120. 693, Holderness Rd., Hull. [1892

1920 New Hudson 2¼h.p., 2-speed, new and perfect, lamps, horn, tools, spares; £70.—Phipps, Weaverham, near Northwich, Cheshire. [9857

2¾h.p. New Hudson-Jap, 4-stroke, overhauled, perfect condition, new Dunlops and belt; £30.—240, Creswell Rd., Clowne, Chesterfield. [1061

1920 New Hudson de Luxe Sporting Model, 2 speeds, as new; £65; carefully packed, carriage paid.—Pratt, Royal Hotel, Ross. [X4789

NEW HUDSON-J.A.P., 4h.p., T.T., 3-speed, clutch (h.b.c.), lamps, horn, in excellent condition; ride away; £60.—Webb, 97, Queen's Rd., Watford. [1382

NEW Hudson 1920 4h.p. Combination, new, splendid outfit, any trial, countershaft gear box; best offer over £100; will deliver to buyer; Warwickshire.—Box 5,555, c/o *The Motor Cycle.* [2043

NEW Hudson 1914 Model, 3-speed, clutch, Bosch, Senspray, front and rear lamps, no tools, in perfect order; £65, or near offer; also, wanted, Harley-Davidson back carrier and chain case; call after 6.—151, Kimberley Rd., Nunhead. [982

NEWBURY Late 1919 4¼h.p. C.B. Combination New Hudson, fine sidecar, as new, 3-speed countershaft gear, K.S. and hand clutch, B. and B., Thomson-Bennett, all lamps, including a new 24/- rear lamp, handle-bar watch, Cowey horn, new butt-ended tube, mechanically perfect; £150.—1, Bartholomew St., Newbury. [10[illegible]

New Imperial.

CROW Bros., Guildford—New Imperial-Jap agents and expert repairers since 1914. [2066

1920 New Imperial Model No. 1, just received, at makers' price.—Rose's Garage, Uxbridge. [9990

NEW IMPERIAL, quite new, unused, 2½h.p. J.A.P. engine, 2 speeds; £76.—Surridge, Ongar, Essex. [9907

NEW IMPERIAL Lightweight, lamps, horn, 2-speed, fine condition; £45.—Preston, 6, Gordon St., Sutton, Keighley. [X4777

2¾h.p. New Imperial-Jap, 1916, 2-speed, good condition, horn, tools; £46, or nearest.—Butterworth's Garage, Brixton Hill. [1299

1920 Brand New Imperial, twin J.A.P., 6-8h.p., 3 speeds, combination; £170; never ridden.—61, Linaker St., Southport. [1581

2¾h.p. New Imperial-Jap, 2 speeds, just overhauled, looks and is equal new; £42.—Woodcliffe, Chislehurst, Kent (near station). [1662

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,,	Palmer Cord	47/6	58/9
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,,	Palmer Cord Heavy	62/-	75/-
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,,	Bates Special Heavy	59/6	74/-
,,	Avon Hy. Rub. Non-skid .	42/6	55/-
,,	Hutchinson T.T.	44/-	58/-
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26×2½	Bates Special Heavy	63/-	79/-
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,,	Dunlop Hy. R.S.	45/-	67/9
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26×3 ×2½	Avon Ex. Hy. R.S.	60/-	77/-
28×3	Bates Special Heavy	79/-	101/-
,,	Goodrich Safety Tread ..	63/-	93/6
,,	Republic R.N.S.	60/-	90/-
,,	Dunlop Heavy R.S.	55/-	78/9
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New Imperial.

NEW IMPERIALS.—1920, Model No. 1; immediate delivery.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [2066

NEW IMPERIAL-J.A.P., 2¾h.p., 2-speed, plating and enamelling perfect; a mount to be proud of; what offers?—5, Headstone Rd., Harrow. [1742

1918 W.D. Model 8h.p. Imperial-Jap and Sidecar, tools, wind screen, horn; offers wanted.—4a St. John's Wood Rd., N.W. Paddington 7066. [1550

NEW Imperial 1920 6h.p. J.A.P., run few miles, £135; list price £147. Newnham Motor Co., 225 Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1160

NEW IMPERIAL-J.A.P., 2¾h.p., 1916, 2-speed, lamps, new Tan-Sad, splendid condition; £50; appointment.—Vallis, 129, Cator St., Peckham, London. [9818

8h.p. New Imperial W.D. Combination, electric lamps, horn, screen, Cowey speedometer, Jan sidecar seat, new tyres, perfect order; offers.—21, Danehurst Rd., Wallasey. [1833

SPECIAL 3½h.p. o.h.v. twin New Imperial-Jap, 3-speed Sturmey countershaft, Bosch, T.T. bars, discs, excellent condition; £80.—Graham, 27, Wandle Rd., Wandsworth Common. [1782

NEW IMPERIAL 1916 2¾h.p. 2-speed, in perfect condition, lamps, 2 generators, speedometer, mechanical horns, pump, spare belt, chain, etc.; £55.—27, Myddleton Rd., Bowes Park. [1240

NEW IMPERIAL Combination, 8h.p., all-chain drive, complete with all lamps and horn, run only about 600 miles; £145.—Longman Bros., 17, Bond St., Ealing, W.5. Tel.: Ealing 689. [1795

NEW IMPERIAL 1919 2¾h.p., O.A.V., 2-speed, B. and B., Dunlops, drip feed, lamps, mechanical horn, tools, etc., small mileage, better than new; £55, near offer.—33, Gateley Rd., Brixton, S.W.9. [1474

1917 New Imperial 2¾h.p. J.A.P., 2-speed countershaft gear, fully equipped and guaranteed, carefully used, and in fine condition; for £48—Stored at Jayes, 9, Princess Mews, Belsize Crescent, Hampstead. [1978

NEW IMPERIAL-J.A.P. 2¾h.p., late 1919, 2-speed, hand clutch, kick starter, variable jet, tools, etc., low mileage, perfect condition throughout; £74; write or call after 7.—E.B., 15, Trinity Rise, Tulse Hill, S.W.2. [1432

8h.p. New Imperial-Jap, 3-speed, hand clutch, large sidecar, brand new tyres, guaranteed mechanically perfect, and practically new; £138.—8a, Blue Ball Yard, St. James' St., Piccadilly, S.W.1. Tel.: Gerrard 6536. [1770

1920 8h.p. New Imperial Combination, delivered week ago, not ridden 25 miles, owner taken delivery new car; will sacrifice, £140 cash; Klaxon, Miller lamps, generators, tools, pump, etc., £7/10 extra, cost £10.—Apply, after 6 p.m., F., 41, Park Lane, W.1. Mayfair 1874. [2110

Norton.

B.R.S. 1916 Norton, Philipson, lamps, Klaxon, condition as new, been stored; £89.—32, High St., Reigate. [1541

NORTON Big Four Sporting Combination, special turnout; trial or examination.—Parker's, Bradshawgate, Bolton. [X4665

1920 3½h.p. Sports Norton, 3-speed lamps, horn, speedometer, knee grips; £150; Surrey.—Box 5,554, c/o *The Motor Cycle.* [1539

NORTON, 1919 (late), 3½h.p. T.T., engine No. 19756, Philipson pulley, F.R.S. lamps, as new; £105; after 7.—Balliver Cottage, Lower Green Rd., Esher. [1236

1920 Norton Combination Big Four, ridden since April, being overhauled makers, ready week; reasonable offers, going abroad.—167, Maldon Rd., Colchester. [X4782

3½h.p. T.T. Norton, new engine, tyres almost new, electric lighting, mechanical Cowey, adjustable pulley, very flexible and fast; £85.—H., Ramsey Lodge, Edinburgh. [1413

1920 Norton, special T.T. model, tuned for fast work, adjustable pulley, new Palmer cord tyres, has done 75 m.p.h.; £135, or near.—103, Marine Parade, Brighton. [1359

BIG Four Norton, 1919 model, with Swan torpedo sidecar (aluminium painted), semi-T.T. bars, horn, Lucas King of the Road head lamp and Lucas rear lamp, tyres in excellent condition, the whole combination in perfect running order; £170, or nearest offer.—E. S. F. Chance, Sandford Park, Sandford St. Martin, Oxfordshire. [9942

N.S.U.

3½h.p. N.S.U., Dixie, B. and B., used every day; £23/10.—Simpson, Orchard Rd., Sunbury. [1207

N.S.U. 3½h.p., Bosch mag., new rear cover and belt; bargain, £25.—Seen at 87, Battersea Rise, Clapham Junction, S.W.11. [1046

N.S.U. 1914 5-6h.p. 2-speed Combination, Millford sidecar, speedometer, all lamps, etc., good order and condition; £65.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. 'Phone: Hamp. 7822. [1711

MOTOR CYCLES FOR SALE.

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N.U.T. Motor Cycles from Stock.—Sole agents for Cambridgeshire, A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [0222

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery.—Write or 'Phone for particulars. Tel.: Yeovil 114. [8395

N.U.T.—We are sole wholesale and retail agents for Staffordshire, and can supply these famous machines for early delivery.—Walsall Garage, Walsall. Tel.: 444. [5766

N.U.T. 5-6h.p. Jap, S.A., 3-speed clutch, lamps, speedometer, complete; £85.—Bickell and Sons, Garage and Motor Engineers, 247-251, Archway Rd., Highgate, N.6. [9884

SHROPSHIRE.—N.U.T. sole agents for the county demonstration model in stock. Orders booked in strict rotation for early deliveries.—James Garages, Church Stretton. [7693

N.U.T. 1920 Model 3½h.p., Lucas dynamo lighting electric horn; 140 gns., complete.—Authorised London agents, Vivian Hardie and Lane, Ltd., 24, Wood Stock St. (off Oxford St.), Bond St., W.1. 'Phone: Mayfair 6559. Book now for early delivery. [1008

O.K.

O.K., brand new, Villiers engine, 48 gns.—Birch's Garage, Wolverhampton. [2058

O.K., Villiers 2½h.p., brand new; 48 gns.—103a, High St., Wandsworth, S.W.18. [1983

O.K. Junior, Villiers engine, from stock.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X4715

O.K.-UNION 2¾h.p., latest model, just delivered at maker's price, £50/8.—Eagles and Co., 275 High St., Acton, W.3. [X4769

O.K. Union 2¾h.p., 1920, single speed, in stock, immediate delivery; list price £50/8.—John C. Beadle, Ltd., Dartford. [1158

O.K. 2½h.p., 2-speed, excellent condition, fast; ride 50 miles to purchaser; £42, offers.—Owner, Hewens, Hillingdon Heath, Uxbridge. [1385

1920 O.K.-Union, 2-stroke, immediate delivery; list price; £51.—A. J. Young and Co., Ltd., 75, Albany St., Regent's Park, London, N.W.1. [022

O.K., 2¾h.p. M.A.G. engine, overhead valve, 2 speeds, very little used; bought combination: £53.—Slater, 51, Finchfield Rd., Wolverhampton. [1718

O.K. Lightweight, 2½h.p., countershaft 2-speed gear box, free engine, etc., paddles off, fast and economical, condition and order guaranteed; 36 gns.—Barrington, 14, Arundel Rd., Croydon. [1972

Omega

OMEGA-J.A.P., 2-speed and model de luxe; at 71 and 79 gns. respectively; early deliveries.—Lloyd and Son, 29, Station St., Lewes. [7966

OMEGA, 1920, just received from makers, unused, 4-stroke, 2-speed, kick-starter; £90, or nearest offer.—Nunn, Clarence Parade, Cheltenham. [982

3h.p. Twin 1920 Omega-Jap, the only one on the road with twin engine, 2-speed, kick starter, hand control clutch, brand new; £85.—Langford, 1, Martaban Rd., Stoke Newington, London, N. [X4698

P. and M.

P. and M., 1919 model, in splendid condition; £75.—37, Treadgold St., W.11. [1678

P. and M. 1918 Combination, C.B., fully equipped £92.—2, Madrid Rd., Barnes. [1933

P. and M. 1916, 3½h.p., 2-speed, K.S., good condition; £65.—10, Baronsmead Rd., Barnes. [1721

P. and M., late model, in splendid condition; £70.—The County Garage, Gerrards Cross, Bucks. [0230

BRIGHTON, Hove and district P. and M. agents. Turpin's, 22 and 29, Preston Rd., Brighton. [0204

P. and M., 1918, new condition, £78; bargain.—2, Harewood Rd., Somers Wood, Merton, S.W. [2104

P. and M. Combination, accessories, speedometer, good order; £75, offers.—38, Wallbutton Rd., Brockley, S.E.4. [1019

P. and M. 3½h.p., 2-speed, lamps, etc., in perfect condition; £70.—49, Peabody Rd., Farnborough, Hants. [1701

1920 R.A.F. Model P. and M., ridden 200 miles, unscratched; £110. North, 79, Mill Rd., Cambridge. [9890

RE-CONDITIONED P. and M.'s, splendid order, less front brake, pump, tools; £75.—Grosvenor House, St. Albans. [1100

P. and M. with Box Carrier, also cane body for business or pleasure; £100.—41, Ashford Rd., Cricklewood. [1529

P. and M. Bargain, R.A.F. Model, enamelled, equal new; £60 to clear. 8a, Bluehall Yard, St. James' St., Piccadilly. [1687

2½h.p. P. and M., Bosch, good tyres, going order, photograph, stamp; £25, or near offer.—Burney, Newport, Wight. [9968

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LEA-FRANCIS, 3½ h.p. twin, 2-speed, clutch, and kick-starter	£130 0
METRO-TYLER, 2½ h.p., single-speed .	£62 0
METRO-TYLER, 3½ h.p., 2-speed	£74 0
METRO-TYLER, 2½ h.p., 2-speed, Type S.	£95 18
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1916 **ARIEL** 5-6 h.p. Combination, lamp, horn, speedometer, windscreen, etc. .	£130
1915 **HARLEY-DAVIDSON** and Sidecar ..	£140
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W.D. **P. & M.,** 3½ h.p., 2-speed, and kick-starter	£78
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P. and M. 1919, not W.D., Lucas accessories, good condition; £95.—Noakes, 316, Bell Barn Rd., Edgbaston, Birmingham. [1741

LATEST P. and M., just delivered, mechanical lubrication, improved kick start, hand brake; £130.—95, Peel St., Hull. [1937

1917-18 P. and M. Combination, luxurious sidecar, 2-speed, kick start, excellent condition; £88.—72, Longridge Rd. Earl's Court. [1625

1920 P. and M., absolutely unscratched, all accessories; sell list price or exchange lighter machine.—Write, B., 2, Kestrel Av., Herne Hill, S.E.24. [1488

P. and M. (believed 1919) Combination, sporty sidecar, all lamps, Cowey horn, mechanical condition very good; £95, or near offer. 'Phone: Hamp. 7822. [1713

P. and M. (1918) Combination or Solo Machine, whole in perfect condition, all new tyres; price £90, no offers; after 6 o'clock.—9, Leamington Park, Acton, W. [1032

1918 P. and M., with coachbuilt sidecar, black and green finish, first-class order, smart appearance; nearest £100.—Bodmer, Market Place, Wymondham, Norfolk. [9978

1920 P. and M. and Sidecar, perfect condition, fully equipped with lamps, etc.; £135.—Rolls and Co., 4, Little Cadogan Place, Belgrave Sq., S.W.1. Vict. 2914. [9905

1918-19 P. and M. Combination, C.B., new chains, tyres, etc., thoroughly overhauled, excellent condition; £76.—Harrison, 4, St. Mary's Terrace, Paignton, Devon. [1631

P. and M. Combination, late R.A.F. model, original colours, Millford chassis with new coach body, A1 condition and appearance; £110.—Osborne, 3, Syr David's Av., Cardiff. [1334

P. and M. Post-war 1919 Model and Coachbuilt Sidecar, rachet brake, pump, horn, spare tyre, and tool kit, on view in London, trial run if desired; price £130.—Box 5,526, c/o *The Motor Cycle.* [1132

1919 3½h.p. P. and M. Combination, complete with Watford speedometer, Easting wind screen, and horn, done 1,300 miles only, excellent condition; £118.—Write, V.S.W., 39, Festing Grove, Southsea. [1736

PHELON-MOORE, ex-military stores, overhauled and sent on approval, £78; complete with B.S.A. No. 2 sidecar, £115; trade supplied.—Maude's, 100, Gt. Portland St., London, also Paris St., Exeter. [1908

1920 P. and M. C.B. Combination, as new, unscratched, done 300 miles, guaranteed perfect, Lucas, lamps, etc.; £145, or nearest offer; private owner.—Hop. 2387, Inglewood, St. James Rd., Sutton, Surrey. [9801

1920 P. and M. Combination, as new, only run 800 miles, Lucas head, side, and tail lamps, luggage grid, Cowey speedometer, mud shield, mirror, kick starter, and many spares; £147/10.—Egbert Spearman, Bishop's Stortford. [1137

P. and M. Combination (late model), little used, smart turnout, 2 head lamps, spare chains, tubes, valves, reliability itself, £120; separately, new Lucas head lamp complete, also powerful horn.—Lieut., 4, Somerset Rd., New Barnet. [1548

FOR Renovation, P. and M. engine, No. 4068, complete frame, forks, mudguards, tank, carrier, front wheel, engine, and 2-speed gear; parts required, back wheel, magneto, carburetter, chains, etc.; bargain, £40.—Hubert Turner and Co (below) [1612

1918 P. and M. Combination, R.A.F. model, completely overhauled, mechanically perfect, fast and powerful, new tyres, chains, complete with all lamps, horn, ready for instant use; £92.—Hubert Turner and Co., 4-5, Crawford Passage, Farringdon Rd., E.C. [1612

P. and S.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—P and S. 2-stroke, 2-speed model. Villiers engine, £73; kick start and clutch models, £80; from stock. [9779

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PECO 2-stroke, T.T. bars, Albion countershaft gears, Amac, Druids, Lucas lamps and horn, tyres good, recently overhauled, good condition; £55, or nearest. Wanted, Triumph.—Ivy-Hindes, Sherborne Rd., Farnborough, Hants. [X4710

Peugeot

6h.p. Peugeot, Bosch mag., R. and B. carburetter, splendid condition; nearest offer £38.—Bowyer, 31, Bolton St., Oldham. [1641

3½h.p. 1918 T.T. Philipson, discs, lamps, oversize tyres, special low position; £90, or offer.—Want, The Cottage, Addlestone. [2159

Pope.

BEST Bargain this week: Pope 7-9h.p. combination, condition equal to new, believed 1916 or 1917, 2-speed, clutch, lamps, wind screen; photo, quick sale; accept £95.—Brown, 11, Higher Albert St., Chesterfield. [X4801

Precision.

T.T. Precision, 4h.p., Philipson pulley, perfect condition; £38; exchange.—63, Solon Rd., Brixton. [1789

MOTOR CYCLES FOR SALE.

Rudge.

RUDGE Combination 3½h.p.; £55; C.B. body, kick start, Multi pulley.—16, St. Mary Abbott's Terrace, Kensington. [1310

RUDGE 3½h.p., clutch, new tyres and belt, just overhauled, excellent going order; £45.—Llancant, Smithills, Bolton. [1897

RUDGE Multi 1917 3½h.p., new tyre, belt, lamps, excellent condition; £75.—Davis, Wellington Buildings, Bow, E.3. [1688

1919 Rudge Multi 3½h.p., in perfect condition, as new, only run 600 miles; £105.—John Bailey, Vauxhall St., Blackburn. [9825

1920 Brand New Rudge Multi; T.T., I.O.M., complete with accessories; £123.—Heath House, Cuddington, Malpas, Cheshire. [X4819

3½h.p. Rudge, clutch, pedal start and electric light in splendid condition, and very fast; £55.—Smith, 35, Conduit Rd., Stamford. [9799

1920 I.O.M. Rudge Multi, latest model, pedal starter, accessories, unused; £105.—294, Kennington Park Rd., S.E.11. [1762

1920 Rudge 5-6h.p. Multi Combination in stock; makers' price.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [8348

RUDGE Multi 5-6h.p., coachbuilt sidecar, hood, wind screen, discs, tools, spare parts; £110, offers; any trial.—Speck, Florist, Llanelly. [1068

3½h.p. Rudge, Philipson, tyres as new, horn, tools, etc., privately owned; £45.—19, Wilcox Rd., South Lambeth, London, S.W.8. [1592

1916 Rudge I.O.M., perfect condition, lamps, horn, etc., tank repainted new makers' colours; £85, or offers.—'Phone: Hamp. 7822. [1712

RUDGE 1920 7-9h.p. Twin, with Rudge sidecar, in first-class condition, lamps, etc.; £155.—Sproston, Ltd., 198, Gt. Portland St., W.1. [1145

RUDGE Multi 3½h.p., W.D. model, in absolutely new condition throughout, equipped new; £83.—181, Clapham Rd., Brixton. 2984. [2132

RUDGE Multi Combination, 3½h.p., splendid condition, speedometer, Klaxon, lamps; £65. After 6.—34, Cranley Mews, South Kensington. [1373

RUDGE 1920 I.O.M. T.T. Model, complete with all accessories, and in new order; accept £105.—Sproston, Ltd., 198, Gt. Portland St., W.1. [1147

1920 Rudge Multi, I.O.M., delivered May, semi-T.T., pedal starter, mileage 180, lamps, Klaxon, tools; £115, or nearest.—Hunt, Villa, Eye, Suffolk. [1863

RUDGE (2), 1 Multi, 1 Philipson pulley; £72/10 and £50.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1166

RUDGE 1920 T.T. Multi, 3½h.p., £110; with Canoelet sidecar £135, Watsonian £140.—Cleare and Lowe, Rudge Depot, 125, High St., Woolwich. [2136

1919 5-6h.p. Rudge Multi Combination, wind screen, P. and H. lighting set, all as new; bargain, £127.—Willets, Rookery, Lanesfield, Wolverhampton. [1854

RUDGE Multi Combination, 3½h.p., hand clutch, full equipment, excellent condition; 68 gns.—Kingston, 2, King Edward Parade, Norbury, S.W. [1727

1919 (Nov.) Rudge Multi Combination, guaranteed perfect order, complete, all accessories; £118.—C.S., Whellock, Cleeve, High St., Southgate, N.14. [8883

RUDGE Multi, believed 1916, engine No. 12620, enamelled 1920 colours, polished discs, excellent condition; any trial; £60.—95, Riversdale Rd., Highbury, N.5. [1380

MANCHESTER District.—1920 (May) T.T. Rudge Multi, brand new condition; £110; owner bought combination.—Brown, Eversley, Davenport Park, Stockport. [1811

RUDGE Multi 1916 5-6h.p. and Sidecar, very nice combination, good condition, awfully cheap; £75.—Longman Bros., 17, Bond St., Ealing, W.5. Tel.: Ealing 689. [1799

1920 Rudge Multi 7-9h.p., T.T., Swan sporting sidecar, horn, speedometer, tools, in perfect condition, bought May, must sell; first £165.—151, Moor Lane, Preston. [X4784

ROBERT BAMFORD.—I generally own, and always know of the best Rudge Multis in London; every machine specially selected and tested. See under Consulting Engineers. [2129

I.O.M. Rudge Multi Sporting Combination, 1916-17, engine and gear overhauled, 2 new tyres and belt, all accessories, splendid order; a snip, 78 gns.—81, Little Ealing Lane, Ealing. [1640

RUDGE Multi, complete with Cowey speedometer, lamps, horn, etc., only done 500 miles, as new; solo, £121; or with sidecar, £140.—364, Lillie Rd., Fulham, London, S.W. [9898

1913 T.T. Rudge, fitted with special 1914 Triumph engine, 90 miles per gallon, 1920 Mabon clutch, tyres and belt good, lamps; trial; £46.—Ford, Sotwell, nr. Wallingford, Berks. [X4766

RUDGE Multi, 1919, (late), 3½h.p., with Mills-Fulford covered basket sidecar, mileage under 1,000, special oversize tyres, in grand condition; £125.—Sparrow, 6, Victoria Terrace, Leamington Spa. [X4644

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INDIAN 1920 Powerplus Combination, complete with usual equipment. New March, 1920. Price **£205.**

ENFIELD 1920 Two-stroke, 2-speed Lightweight. **£67.**

TRIUMPH 4 h.p. 1919 (late) Countershaft with Grindlay Sidecar. Price **£130**

P. & M. 1919 (late) Combination, 3½ h.p. (P. & M. Sidecar), Head Lamp, Horn etc. Price **£125.**

A.B.C. SKOOTAMOTA, 1920. List price **£55,** plus carriage. Offered at **£51.**

ALLON 1920, 2-speed, cost **£87 10 0.** Price **£76.**

IVY 1920 Lightweight, Single speed model. Cost **£59. 48 Guineas.**

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MOTOR CYCLES FOR SALE.

Rudge.

3½h.p. Rudge, sloping tank, Brooklands Model, 1918, very fast and powerful, tyres new, all-red maker's enamel; bargain £65; seen at Victory Garages, Camberwell.—Write, Thomas, 66, Saltoun Rd., Brixton. [20

F.O.C.H. have a Rudge Multi, fully equipped, ready for the road.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1253

F.O.C.H. have a 1919 Rudge Multi and Coachbuilt Sidecar, fully equipped, equal to new.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1254

I.O.M. Rudge Multi, 1916, sloping frame, special engine, very fast, thoroughly overhauled, £12 of new parts fitted by Rudge-Whitworth, new belt, tyres excellent, all accessories, including speedometer, full kit of tools, insurance policy; £70, quick sale.—54, Connop Rd., Enfield Wash, Middlesex. [1700

RUDGE, special T.T., clutch, accessories, spares, including Tan-San, speedometer, enamelled red, disc wheels, very sporty and fast, general appearance and condition as new; real bargain, £75.—Peddell, 63, Grange Av., North Finchley, N.12. [1201

OCTOBER, 1919, 3½h.p. Rudge Multi sporting Rennoch sidecar outfit, fitted complete, with 3 lamps, large copper exhaust, T.T. bars, overlap valve timing, can be seen by appointment; nearest £150.—Hollies, Nursery Av., Hale, Cheshire. [2009

1914-1915 Rudge Multi, privately owned, stored during war and always been very carefully used, all-black model, speedometer, D.A. lighting, copper exhaust, knee grips, semi T.T. bars, engine perfect, exceptionally smart and sporty machine, fully insured; price £80 lowest, only wants seeing.—Box 71, c/o *The Motor Cycle.* [1496

Saltley.

IMMEDIATE delivery of Saltley-Villiers 2-stroke, single-speed £56, 2-speed £66.—London concessionnaires, Lancaster Motor Co., West Norwood. A few agencies available. [4242

Scale.

1920 New Scale, 3½h.p. Precision engine, 2-stroke, 2-speed, clutch, kick start; £85; immediate deliveries.—The Rochester Auto and Supply Co., Rochester. [0199

NEW Scale Motor Cycle, 1920, 3½h.p. 2-stroke Precision engine, 2-speed gear, hand clutch, kick starter, not yet run in; below list price.—51, Milton Rd., Ilkeston, Derbys. [X4419

Scott.

SCOTT 2-speed, water-cooled, splendid order, all on; £55.—17, Park Lane, Wembley. [9803

1920 Scott, 2 pairs of bars, Cowey horn, lamps, etc. £135.—36, Whetley Hill, Bradford. [1898

SCOTT, 1915, good order throughout; £80, or near. —Box 5,565, c/o *The Motor Cycle.* [2054

SCOTT Standard Solo, just arrived, list price, subject unsold, immediate delivery.—Central Garage, Swanage. [1115

SCOTT Combination, excellent condition; £80; after 7 p.m. on Saturdays.—14, Waltham Rd., Southall, Middlesex. [9820

SCOTT 1914 Genuine Coachbuilt Combination, recently overhauled by makers.—Box 5,534, c/o *The Motor Cycle.* [1405

SCOTTS, 1920, brand new, solos, combinations, or sidecars only; list prices; prompt delivery.—W. Pepper, Market Hill, Royston, Herts. [1697

1920 Scott and Watsonian B34 purple sidecar, Lucas lamps and horn, very smart outfit; £170, no offers.—Dayson, Bryn Rd., Swansea. [1773

SCOTT 1914 3¾h.p., with wicker sidecar; £80; Bosch, Amack, Stewart, horn, good running order, trial, Cheltenham.—Box 5,298, c/o *The Motor Cycle.* [8757

1920 Scott and Sporting Sidecar, delivered last month, not driven 100 miles, lamps, horn; £190.—Fletcher, Carlton Grange, Stockton-on-Forest, York. [8619

SCOTT, 1915, underslung C.B. sidecar, Bosch, B. and B., lamps, horn, all spares, bear expert examination; first £110 secures.—76, Cornwall Rd., Brixton Hill, London, S.W.2. [X4811

SCOTT 1920 3¾h.p., with Swan de luxe touring sidecar, painted mauve, speedometer, lamps, hood, and screen, very smart; £165.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1164

1914 Scott, 3¾h.p., with Scott-Myers C.B. sidecar, mileage, 7,325, Lucas lamps, horn, Cowey speedometer, Binks, Bosch, Palmers, tools, recently overhauled, fine condition, any trial; £95.—Stidwell, 30, Rosemont Parade, North Finchley, N.12. [1332

Singer.

2¼h.p. Singer, Bosch, lamps, horn; £22.—Pope, 32, Elisnore Rd., Forest Hill. [1699

3½h.p. 1914 Singer, clutch model, in splendid condition; £38/10.—9, Tennyson Rd., Stratford. [1335

SINGER 4½h.p., K.S., C.G., grand condition, mileage 1,000; £65.—35, Cumberland Rd., South Norwood, S.E.25. [1269

MOTOR CYCLES FOR SALE.

Singer.

SINGER 3½h.p., 1914, overhauled, re-enamelled, new Dunlops, tank, Bosch mag., B.B.; 50 gns.—14, Regent St., Coventry. [X4691

3½h.p. Singer, 2-speed, clutch, 1914, in first-class condition; £30.—Turner's Motor Works, Curzon Rd., Ealing. 'Phone: 745. [1522

2¼h.p. Singer, just been completely overhauled, in perfect order; £35 or near offer.—Humphries, 122, London Rd., Kingston-on-Thames. [1893

4h.p. Singer 1917 2-speed, kick-start, clutch, lamps, pump, tools, appearance as new, very little used £55; after 6 p.m.—Reade, 19, Red Lion St., Woolwich. [1914

SINGER 1914 Combination, 4h.p. countershaft, 2-speed, Canoelet S.C., clutch, B. and B., hood, screen, lamps, splendid condition; £65.—77, Brookfield Rd., Bedford Park, Chiswick. [1316

SINGER Combination, 1914, 4h.p., 2-speed gear box, clutch, new tyres, new Binks, engine re-bushed, splendid condition, lamps, and accessories; accept £75 lowest.—66, Barnwell St., Kettering. [X4815

3½h.p. Singer, 1915, 3 speeds, B. and B. carburetter, E.I.C. watertight magneto, Druid spring forks, all good tyres, powerful, fast, splendid condition, smart outfit, complete lamp set, all accessories, smart, low coachbuilt sidecar; bargain, £58.—45, Charles St., Exmouth St., Stepney. [1874

Sparkbrook.

1920 Sparkbrook, 2 speeds, brand new; £69/10, cost £75.—66, Walnut Tree Close, Guildford. [1117

SPARKBROOK Lightweight, 2½h.p., 2-stroke, 2-speed, flywheel mag.; £75.—Dominy and Co., Winchester. [1986

SPARKBROOK, lightweight, countershaft gears, fully equipped, equal new; £50.—Marks, 121, Acton Lane, Chiswick. [1428

SPARKBROOK 1919 2½h.p. Villiers 2-stroke, 2-speed, lamps, horn, and pillion seat; £50; apply after 7 p.m.—140, Winns' Av., Walthamstow, Essex. [2105

2½h.p. Sparkbrook 2-stroke, single and 2-speed models in stock, at makers' list price for cash, or on extended payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [9797

Stewart.

STEWART 2-stroke, 1919, 2¾h.p., hardly used; £52/10.—130, High St., Bromley, Kent. [1549

Sun.

SUN 2-speed 2-stroke, 1920, uncrated; list price £70; first telegram.—Allen, Hairdresser, Oundle. [1544

1918 Sun 2½h.p., powerful, paddles off, enamel, lamps, tyres, as new; 38 gns.—43, Bushey Grove Rd., Watford. [1621

SUN 2-stroke, 1919 model, perfect running order, lamps, horn, tyres good; £45.—Turnill, North, Peterborough. [1247

SUN-PRECISION 1914 4h.p. Coachbuilt Combination, Sturmey 3-speed; £65.—2, Appian Rd., Old Ford, London. [1706

SUN-VILLIERS 2¾h.p., good climber, new belt and magneto chain; £40, offers; London.—Box 5,515, c/o *The Motor Cycle*. [1121

1916 6h.p. Sun-Jap Combination, 3-speed, kick starter, perfect order, has been overhauled; what offer?—J. Davies, Cilwendeg Lodge, Boncath. [X4752

SUN-VILLIERS 2-stroke, just overhauled, complete with lamps, speedometer, knee grips, pump, and tools, Klaxon horn, and discs, new Dunlop tyres, machine painted red and black, very smart; 40 gns.; seen any time.—Newlands, Parkhill, Bexley, Kent. [1533

Sunbeam.

1918 Sunbeam Combination, 8h.p., few spares; £165.—86, Woodpecker Rd., New Cross. [2096

DAN GUY, Weymouth.—8h.p. 3-speed Sunbeam, C.B. sidecar, good condition throughout; £180. [1179

SUNBEAM 1915 Combination, 3½h.p., excellent condition, all on; £115.—101, Chandos Rd., Stratford, E.15. [1437

SUNBEAM Combination, 8h.p., new, spare wheel, lamps, hood, screen; offers.—Whittaker, Ashton Pavilion, St. Anne's-on-Sea. [9840

1920 3½h.p. Sunbeam Combination, immediate delivery; list price. J. Smith and Co., 16, Hampstead Rd., London, N.W.1. [2070

SUNBEAM, 3½h.p., November, 1918, black and gold, all-chain, fully equipped, solo; £129.—102, Westwood Rd., Earlsdon, Coventry. [X4856

1919 3½h.p. Sunbeam Combination, fully equipped, perfect condition; £165.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X4722

3½h.p. Sunbeam Combination, late April, 1920, lamps, screen, accessories; £200; perfect condition.—MacDermott, Hackenthorpe, near Sheffield. [1587

SUNBEAM, 1920, practically new, not run 200 miles, fully equipped with electric light; £200; owner bought car.—Apply, Geare, Ripple Vale, Walmer. [8881

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Sunbeam.

1919 Sunbeam Combination, 800 mileage, £30 worth accessories, selling doctor's orders, everything as new; £180, worth £210.—329, Hainton Av., Grimsby. [1084

3½h.p. Sunbeam, 1920, sport model, complete with lamps, horn, etc., Binks carburetter, perfect condition; £165.—Spooner, Haslemere, Yelverton, S. Devon. [1858

SUNBEAM, 1919, Sept., 3½h.p., mileage very small, lamps, perfect condition; £140.—Longman Bros., 387, Uxbridge Rd., Acton, W.3. Tel.: Chiswick 1578. [1793

8h.p. Sunbeam Combination, black-gold lettering, new Nov., 1919, electric lighting set, spare tyre and wheel; £275.—Ladden, 19, London Rd., Reigate. [1480

3½h.p. Sunbeam Combination, 1917, little used, Lucas equipment, speedometer, leg shields, perfect condition; £140.—109, Earlsfield Rd., Wandsworth. [1609

IDEAL Sunbeam 2¾h.p., 2 speeds, clutch, K.S., Bosch, Lucas King lighting set, horn and Klaxon, etc., all accessories; £72; going abroad.—331, Hertford Rd., Ponders End. [1466

SUNBEAM 1914 2¾h.p., complete with lamps, horn, tools, speedometer, etc.; a real bargain; speedy and reliable; £85.—Hewin's Garages, Ltd., the real service firm, Taunton. [1212

LATEST 1919 3½h.p. Sunbeam, picked, untouched, Sunbeam sidecar, screen, Lucas set, Klaxon, speedometer, spares, perfect; £180.—Walter Jones, Newport, Salop. [1904

SUNBEAM 1918 8h.p. J.A.P., bulbous back sidecar, all in black and gold, detachable wheels.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80 [1159a

1920 Sunbeam, 3½h.p., new May, speedometer, Lucas accessories, knee shields, spares, cost £174 including insurance; offers.—Holmes, 7, Ouse Av., King's Lynn. [X4788

SUNBEAM 1918 8h.p., J.A.P., bulbous back sidecar, all in black and gold, detachable wheels.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1159

SUNBEAM, Oct., 1919, 8h.p. Combination, hood, screen, luggage grid, speedometer, mirror, etc., the whole outfit as new; £240.—Fletcher, 5, Warser Gate, Nottingham. [1733

3½h.p. Sunbeam, August, 1919, 2-seater sidecar, complete lamps, horns, tools, Tan-Sad, excellent tyres, mechanically perfect; best offer over £160.—Box 5,529, c/o *The Motor Cycle*. [1394

1918 3½h.p. Sunbeam, complete with Lucas head light, tyres new, long plated exhaust pipe, unscratched condition, mechanically perfect; £135.—S.W., 26, Sun St., Hitchin. [9997

1919 3½h.p. Sunbeam Combination, complete with all accessories, perfect condition, thoroughly recommended; £175.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [1412

SUNBEAM 3½ Combination, late 1917, black and gold model, Cowey speedometer, Klaxon, lamps, all accessories, first-class condition; £140.—Eaves, 5, Thornfield Rd., Shepherd's Bush, W. [2100

1920 3½h.p. Sporting Sunbeam, delivered April, Cowey speedometer, best Lucas lamps, horn, knee grips, mirror, copper exhaust, and insurance policy value £3/5, etc.; £165, or best offer.—O. Clarke, Coventry St., Kidderminster. [9864

8h.p. Sunbeam, July, 1919, No. 3015, combination, lamps, Lucas, speedometer, hood, screen, spare wheel, tyres as new, mileage 2,950, overhauled for season, Binks, all spares; offers; trial.—Highton, Somerby, St., Bees, Cumberland. [9908

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay (late Sunbeam land).—The Molineux Garage Co., Ltd. Wolverhampton. Tel.: 1160. [3458

1920 3½h.p. Sunbeam, with primrose dinky pattern sidecar, largest F.R.S. lamp set, Cowey trip speedometer, Cowey horn, knee grips, mirror, F.R.S. sidecar lamp, Lucas rear lamp, disc on sidecar wheel, done 450 miles, as new; £230. R.L., c/o Martin, 36, Frogmore St., Bristol. [0238

SUNBEAM 2¾h.p., 2-speed, chain drive, kick starter, hand clutch, footboards, tyres practically unsoiled, remarkable hill-climber, mirror, Lucas horn, Lucas lamp and generator; 69 gns.; if required, light Watsonian coachbuilt sidecar, stormproof apron, 11 gns. Garage, 5, Eglon Mews, Berkley Rd., Primrose Hill (nr. Chalk Farm Tube). [2155

T.D.C.

2¾h.p. T.D.C. de Luxe, brand new, 2-stroke, guaranteed perfect; £49.—Gwennap, Rising Brook, Stafford. [1876

T.D.C. 3½h.p. Coachbuilt Combination, 3 speeds, clutch, child's seat, beautiful outfit; bargain, £75.—Fishor, 24, Tremadoc Rd., Clapham. [1083

1920 T.D.C. De Luxe 2¾h.p. 2-stroke, 2-speed, lamps, mileage under 150, perfect; £55; evenings.—46, Avondale Rd., Harringay, N.15. [1327

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1913 3½h.p. Thrasher-Jap, 3-speed Armstrong, free engine, Bosch mag., T.T. handles, Druid forks, sidecar lugs, Dunlop tyres, unscratched, head and tail lamps, horn, in perfect running order, mileage about 1,000; what offers?—C. T. Williams, Post Office House, Burry Port. [2015

Triumph.

4h.p. Triumph, T.T., low and fast.—Caunter, Eversholt Lodge, New Barnet. [1073

TRIUMPH 4h.p., countershaft, perfect condition; £80.—20, Boston Rd., Hanwell, London. [9957

1919 (Nov.) Junior Triumph, lamps, horn, under 500 miles; £70.—Plat, Bourne End, Bucks. [1015

TRIUMPH, T.T., late model, Philipson pulley, perfect order; £65.—7, Linda St., Battersea. [1769

TRIUMPH, clutch model, accessories; £42; evenings. —48, Broomhouse Rd., Hurlingham, S.W.6. [1416

TRIUMPH 3½h.p., clutch; trial; £38/10.—50, Church Rd., Acton. 'Phone: 845 Chiswick. [1705

TRIUMPH, renovated, bought May, used during car overhaul; £85.—Box 5,521, c/o *The Motor Cycle*. [1127

BABY Triumph, 1914, in good order, Bosch mag.; £50.—Langford, 83, George St., Hove, Sussex. [1357

TRIUMPH 3½h.p., 1913, clutch, Bosch, lamps, Dunlops; ride away; £45.—5, Deanery Rd., Stratford. [1850

4h.p. Triumph Sidecar Combination, condition as new; any trial; £150.—Collier's Garage, Wansford. [X4641

£22.—Decent 3½h.p. Triumph, good tyres, 2 lamps, good running order.—King, Egrove Farm, Oxford. [X4762

T.T. Triumph, beautiful condition, very fast, Philipson gear; £50, snip.—103a, High St., Wandsworth. [1980

TRIUMPH Engine, 1914, new tank, renovated, fixed engine, sporty; £50.—Hopkins, Langley, Bucks. [1506

TRIUMPH 3½h.p., clutch model, splendid condition, lamps and horn; £48.—E.Y., 2, Orb St., Walworth. [1453

TRIUMPH 4h.p., 3-speed countershaft; bargain, £100.—1, Broughton St., Battersea (Builders' Yard). [2092

TRIUMPH Baby, late 1919, excellent condition, little used, lamps, etc.; £67.—Davenport, Highlands, Woking. [1747

£45.—1914 T.T. Triumph, Grado gear, fast and reliable, ride away.—Garner, The Common, Saffron Walden. [1734

TRIUMPH 1914 4h.p., 3-speed, S.A. clutch, splendid condition; £58.—Willis, 19, H Av., Arsenal, Woolwich. [1830

TRIUMPH 4h.p., 1914-15, T.T., single speed, fast, and sporty; £45.—Hutton, Red Lion Hill, East Finchley. [X4701

1919 4h.p. Triumph Combination, good condition, accessories; £127.—278, Bolton Rd., Ashton-in-Makerfield. [1745

1913 Triumph Combination, S.A., 3-speed, good condition; £62.—Markada, New Park Rd., Ashford, Middlesex. [9874

TRIUMPH, renovated, 1911, clutch, good order, new tyre, belt, mag. overhauled; £30.—Rose, North St., Droitwich. [1088

TRIUMPH 1919 (Oct.) Combination, lamps, Klaxon; bargain, £134.—Rhosha Motor Co., Bank Mews, Comford. [2164

TRIUMPH 3½h.p., 1913, clutch, nearly new Dunlops, perfect condition; bargain, £45.—11, St. Stephen's Rd., Ealing. [1460

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Triumph Junior, 1914, £60; also 4h.p. Triumph, 1914, £75. [9781

4h.p. Triumph, clutch model, pink of condition, overhauled in April; £55.—Walker, 3, Foxley Rd., Kennington. [8810

TRIUMPH 3½h.p., Bosch, drop frame, plating and condition good; £30.—38, Berkshire Gardens, Wood Green, N.22. [1111

TRIUMPH 4h.p., late 1914, 3 speeds and clutch, new tyres fitted this week; £63.—38, Payne St., Deptford, S.E.8. [1702

£38.—Triumph, believed 1912, speedometer, lamps, sporting bars, new tyres, belt.—28, Goldsmith Av., Manor Park. [1855

COUNTERSHAFT Triumph, late model, No. 45373, splendid order; £90.—374, Grove Green Rd., Leytonstone. [2086

TRIUMPH 4h.p. Countershaft, like new, best Montgomery sidecar, lamps, etc.; £140.—365, King St., Hammersmith. [1944

MODEL H Triumph 4h.p., next on agent's list, cannot accept delivery; best offer.—Box 77, c/o *The Motor Cycle*. [X4774

TRIUMPH 4h.p., countershaft 3-speed, K.S., etc., new lamp set, horn, tools, etc.; any trial; £75.—Dowell, Byfleet, Surrey. [2166

TRIUMPH 4h.p., countershaft, new condition; £87, bargain.—Wilkins, 1, Pitcairn Rd., Mitcham. Tel.: City 628. [2103

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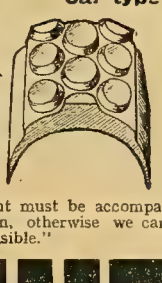

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MOTOR CYCLES FOR SALE.

Triumph.

1920 (May) Triumph 4h.p. Model H., perfect condition; sold for no fault; what offers?—Woolley, Nesscliffe, Salop. [9952

TRIUMPH 1914 4h.p., new M.L. mag., new Dunlop, decompresser, good running order; £48.—43, Durban Rd., Watford. [1620

RENOVATED W.D. Triumph, countershaft, with new C.B. sidecar; £115.—232, Stockwell Rd., Brixton, London. [1535

TRIUMPH, believed 1914, 3-speed, clutch, engine perfect; any trial, any time; £63.—190, Kentish Town Rd., N.W.5. [1672

1911 Triumph, clutch model, excellent condition, lamps, and horn; £45.—Solomon, 1a, High St., Camberley, Surrey. [9837

TRIUMPH and Sidecar, Brampton gears, free engine, tyres nearly new, ride away; £32.—F. Wilson, Swanlow, Winsford. [1878

TRIUMPH 3½h.p. 1913, clutch model, excellent condition, engine No. 23816YY.—S., McCartney, Seifton, Craven Arms. [1837

1913 3½h.p. Triumph (single), T.T. frame, very fast, good throughout; ride away; £35.—Appleton, 16, Ribble Rd., Blackpool. [X4427

1918 4h.p. Countershaft Triumph Combination, engine No. 55759, perfect condition; £130.—34, Heathfield Rd., Bromley, Kent. [1637

TRIUMPH 3½h.p., 3-speed, clutch, Dunlop heavy lamps, etc., splendid condition; £55.—17, Rylett Rd., Shepherd's Bush, W. [1468

3½h.p. Triumph, Bosch, Triumph carburetter, overhauled, in excellent running order; £40.—76, Western Rd., Southall, W. [1391

TRIUMPH 1911, clutch model, good running order; £32.—Longman Bros., 387, Uxbridge Rd., Acton, W.3. Tel.: Chiswick 1578. [1797

3½h.p. T.T. Triumph, good condition; £53, or near offer; after 6.30.—A. E. Durham, Thames Bank Cottage, Long Ditton, Surrey. [1018

TRIUMPH 1912, Bosch, Senspray, good condition, but requires assembling; bargain, £26.—Gardner, 1, Caxton Rd., Wood Green. [1434

TRIUMPH 3½h.p., 1911, Armstrong 3-speed 8h.p. hub, mechanically excellent; £48; evening or weekend.—28, Frogmore St., Tring. [X4424

1918 Triumph Combination, Millford, all lamps, horn, etc., perfect condition; £115.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. [1714

TRIUMPH Gloria Combination, practically new (not renovated), Klaxon, Cowey, full kit spares; £150.—10, Crowborough Rd., Tooting. [X4704

TRIUMPH 4h.p., 1915, 3-speed, clutch, T.T., disc wheels, new sidecar, excellent condition, all on.—149, Rosendale Rd., W. Dulwich. [1604

1920 Junior Triumph, excellent condition; view by appointment; £67, or nearest offer.—Elliott, Warden Court, Cuckfield, Sussex. [9867

TRIUMPH 4h.p. Coachbuilt Combination, Lucas accessories; £130; seen and tried evenings.—38, Airthrie Rd., Goodmayes, Ilford. [1243

TRIUMPH 1907 3½h.p., Bosch, new Dunlop back, lamps, horn, ready ride away; stamp, particulars.—Box 5,573, c/o The Motor Cycle. [2148

1920 Baby Triumph, mileage small, owner taking delivery of Combination; £70, no offers.—A., 125, Forest Lane, Forest Gate, E.7. [1774

W.D. Triumph, countershaft, engine No. 52735; £85, or offer.—Lowelen Motors, 4a, St. John's Wood Rd., N.W. Paddington 7066. [1529

1920 4h.p. Triumph, countershaft, brand new, unridden; best offer over list price secures; Shropshire.—Box 51, c/o *The Motor Cycle*. [X4418

TRIUMPH 3½h.p., 1913 T.T. Model, Lucas lamps, genuine machine, nice condition, well tyred; £42; photo.—24, South St., Newport, I.W. [1313

BABY Triumph, extra large head lamp and horn, gears as good as day they were put in; £60.—Watson, 17, Cross Cheaping, Coventry. [X4690

TRIUMPH 3½h.p., excellent order, new heavy Dunlop, tube, belt, pulley, lamp, generator; bargain, £39/10.—A. J. Wilkinson, Bordon, Hants. [9959

1914 Triumph 4h.p., new, coachbuilt sidecar, 3-speed, accessories, perfect condition; £85, or near offer.—34, Union St., Winchester, Hants. [9824

TRIUMPH 1919 Combination, excellent condition throughout, lamps, horn, speedometer; £140.—28, Minford Gardens, Shepherd's Bush, W.14. [3056

TRIUMPH 1917-18 Countershaft, coachbuilt sidecar; £110; trial; take solo part exchange; after 7.—Cole, 108, Priory Park Rd., Kilburn, N.W. [1444

REX G. MUNDY.—1920 T.T. Triumph, Cowey speedometer, lamps, horn, etc., mileage 200, as new; bargain £117/10.—1, Duke St., Richmond. [2018

TRIUMPH and Gloria Combination, nearly new, condition splendid; bargain at £160; write for appointment; any trial.—A., 11, Wontner Rd., S.W.17. [1021

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH, delivered late 1919, countershaft, lamps, horn, etc., any trial; offers over £100; apply week-ends.—96, Willows Rd., Cannon Hill, Birmingham. [1725

THREE Triumphs 4h.p., countershaft, 3 speeds, clutch, and kick start, all in good condition; £245 the lot.—Hole, 129, Park Lane, Carshalton. [1822

TRIUMPH, 1914, 3-speed, clutch, Middleton sidecar, C.B., splendid condition, complete equipment; £90, or near offer; evening, 7-9.—69, Muswell Rd., N.10. [1049

1914 Triumph Combination, 3 speeds, clutch, large coachbuilt sidecar, lamps, horn, good condition throughout; £84.—Smith, Gt. Gidding, Peterboro'. [1198

3½h.p. Triumph, Bosch mag., lamps, horn, Dunlop tyres, perfect running order; what offers?—F. Exby, Albert Rd., Clayton West, near Huddersfield. [1066

TRIUMPH Combination, new 1919, 3-speed, countershaft, beautiful sidecar, whole outfit perfect; £130.—Bradmore, 482, Harrow Rd., Paddington. [1511

TRIUMPH 3½h.p., 3-speed, clutch, etc., with coachbuilt sidecar, all accessories, tip-top condition; £70.—80, Queen Elizabeth's Walk, Stoke Newington, N.16. [1457

1920 Triumph, countershaft, coachbuilt sidecar, accessories, spares; 160 gns.; 2,000 miles.—Frisby, The Parade, West Norwood, S.E.27. Private owner. [8592

TRIUMPH 3½h.p., genuine T.T., disc wheels, long exhaust, low, fast, sporty, new pattern carburetter, tyres good, re-enamelled; £38.—23, Otterburn St., Tooting, S.W. [1301

TRIUMPH 1918 Combination, lamps, horn, spare tyre, Millford Corvette sidecar, lovely condition; £120.—Palmer, 22a, Cornwall Rd., Stamford St., Waterloo, S.E. [1461

TRIUMPH Combination, Godfrey C.B. sidecar, 3-speed hub, clutch, really good condition; inspection and trial by appointment; £70.—Jervis, 6, Cavendish Rd., Croydon. [1462

TRIUMPH Countershaft Combination, new August, 1919, luxurious bulbous sidecar, perfect outfit, well equipped; £130.—60, Wallingford Av., North Kensington. [1514

TRIUMPH, 1917, 8h.p., countershaft, splendid machine, as new in appearance and mechanical condition; £98.—8a, Blueball Yard, St. James St., Piccadilly. [1005

1919 Triumph (eng. 61655), Swan sporting sidecar, speedometer, lamps, horn, aluminium discs, very smart outfit; £145.—15, Woodstock St., W.1. Tel.: Mayfair 1931. [1675

TRIUMPH 4h.p., 1914, single-speed, recently overhauled, fine condition, very reliable and fast machine; £60; after 7 p.m.—137, Norwood Rd., Herne Hill, S.E. [1951

3½h.p. Triumph, in good order, tank, newly stoved, waterproof mag., good tyres, £38; Mabon gear and free to fit, £7; Salisbury area.—Box 5,558, c/o *The Motor Cycle*. [2045

TRIUMPH 3½h.p., clutch model, Bosch, Binks, new belt, lamps, horn, just overhauled, very fast, any trial; £45.—Hodgkinson, 50, High St., Addlestone, Weybridge, Surrey. [1737

TRIUMPH 1919 4h.p. Combination, late model, complete with accessories; £130.—Trial and inspection at Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0068

ROBERT BAMFORD.—I generally own, and always know of the best 4h.p. Triumphs in London. Every machine specially selected and tested. See under Consulting Engineers. [2128

TRIUMPH Combination, 1914, splendid condition, underslung coachbuilt sidecar, 2-speed, Bosch; £80; trial given.—22, Arcadian Gardens, N.22. 'Phone: 1189 Central. [1485

1915 Triumph, countershaft, wicker sidecar, new bearings throughout by makers, new ball races throughout, mechanically perfect, new tyres; £90.—'Phone: 7377 Hampstead. [9878

COUNTERSHAFT Triumph, 1918 model, entirely renovated, replated, and equal to new; any trial; complete with accessories, tools, etc.; £85.—288, Plumstead Common Rd., S.E.18. [1867

TRIUMPH 3½h.p. Wicker Combination, Grade gear, free engine, kick start, Lucas lighting, Brooks saddle, guaranteed mechanically perfect; £50.—4, Gaywood Rd., Walthamstow. [1935

1912 Triumph, just overhauled, splendid condition, Philipson automatic pulley, privately owned. Can be seen at County Motors, Whyteleafe, Surrey. Nearest offer to £50. [1369

1914 4h.p. Triumph, 3-speed, T.T. bars, lamps, mechanical horn, engine and gears just overhauled, tyres excellent; best offer over £65.—Apply, Ash Lodge, Junction Rd., Brentwood, Essex. [1519

1919 Triumph, countershaft, bulbous back sidecar, very smart and fast, any trial, fully equipped; £125. Richards, 47, King's Rd., Chelsea. 'Phone: Kensington 1557. Appointment. [1784

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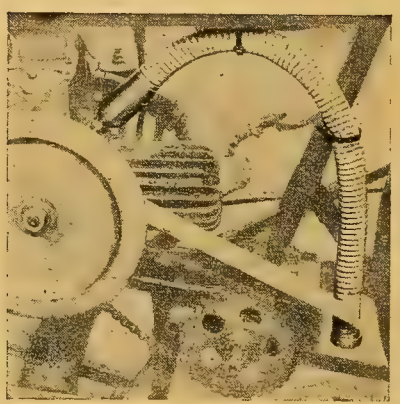

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It is a Breather, and its function is to relieve the air pressure in the Crank Case without allowing any Oil to escape, or Dust to enter. It contains no moving parts. Every part is a fixture, and there is nothing to go wrong. The Flexible Tube is for carrying away Fumes from the Crank Case, which are prevalent if the Piston Rings are worn.

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If you ring us up on the 'phone, and make an appointment beforehand, we shall be pleased to give your Douglas a complete overhaul and return it in 3 days. 'Phone: Park 5139.

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We are evolving other types to suit machines which have no adequate crank case air release, and will announce them as soon as they are ready.

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH Combination, new August, 1919, 3-speed countershaft, K.S., luxurious bulbous back sidecar, a perfect outfit, equipped; £125.—Dentist, 216, Portobello Rd., N. Kensington, W. [1849

TRIUMPH 1920 Combination, Gloria sidecar, electric lighting, wind screen, tools, accessories, and insurance policy; any morning before 12 o'clock.—Hobson, 29, Dulwich Rd., Herne Hill. [1233

TRIUMPH, fitted with 3½h.p. B.S.A. engine, completely overhauled, new tyres and tubes, also new lamps, first-class condition; trial; £40; bargain.—Holley, 2, Melcombe Rd., Durley Park, Bath. [9811

TRIUMPH 1920 4h.p. Motor Cycle with Gloria sidecar, complete with Lucas head, rear, and sidecar lamps, horn, Cowey speedometer, hood, cover, and wind screen; £200.—Parker's, Bradshawgate, Bolton. [X4668

1918 Triumph Countershaft Combination, luxurious bulbous underslung sidecar, the whole outfit in tip-top condition, including tyres, lamps, any trial; 120 gns.—10, Bonner Hill Rd., Kingston-on-Thames. [1825

1918 Triumph (late) 4h.p. Combination, 3-speed, countershaft, kick-start, hand clutch, new belt and tyre, in perfect condition throughout, brand new sidecar; £115.—1, Melrose Rd., Merton Park, S.W. [1558

TRIUMPH 1919-20, 4h.p., countershaft top gear change, disc wheels, rear driven speedometer, lamps, aluminium torpedo type sidecar, in new condition throughout; £165.—Sproston, Ltd., 198, Gt. Portland St., W.1. [1142

1920 Triumph, 4h.p., countershaft 3-speed, and coachbuilt sidecar, under 1,000 miles, Miller lamps, horn, and tools; nearest £145 secures.—Williamson, Oak Bank, Newtown New Mill, nr. Stockport. [X4677

1911 Triumph, wicker sidecar, 3½h.p., 3-speed hub, new B. and B., electric lighting, enamel and plating as new, stored during war, carefully driven private owner; £75 lowest.—8, Beech Grove, Princes Rd., Hull. [1901

3½h.p. Triumph Combination, Grado gear and K.S. lamps, horn, spare tube, and all accessories, engine particularly good, excellent tyres; seen any evening; trial; £50.—Wilkinson, Wyandotte Inn, Kenilworth. [X4772

TRIUMPH, late model, in new condition, guaranteed perfect, complete with special Milford sidecar and Cowey trip speedometer, £135; or consider exchange for 7-9h.p. road racing twin.—5, North Av., West Ealing, W.13. [9875

TRIUMPH Junior, July, 1919, 2¼h.p., 2-speed, P. and H. lamps, horn, Brandish aluminium footboards, tyres, engine, and condition perfect, only run 250 miles; reasonable trial; price £63.—Apply, Barnes, White House, Sunningdale. [1042

TRIUMPH, 1919, 3-speed countershaft, bulbous de luxe sidecar, painted violet, upholstered in red, lamps, horn, etc., guaranteed perfect throughout, looks like new; £130.—Mann, Laurie Arms Hotel, Crawford Place. 'Phone: Padd. 6618. [9900

TRIUMPH, 1920, countershaft, Canoelet sporting sidecar, F.R.S. head lamp, rear and sidecar lamps, Stewart trip speedometer, Cowey horn, insurance policy; £175, or near offer; seen after 6.—78, Ruskin Av., Manor Park, E. [1549

TRIUMPH, 1914, renovated and as new, minus magneto, front mudguard, saddle, and gear controls, hub gear and engine in perfect order; cheap, £42/10 for quick sale; after 6 p.m., or by appointment.—19, Audrey Rd., Ilford. 'Phone: East Ham 463. [1037

TRIUMPH Countershaft Combination, believed 1917, new tyres, saddle, mudguards, front wheels, etc., 3 lamps, and horn, £107, trial given; also Triumph, dropped frame, 3½h.p., single speed, new mag., £38.—591, Foleshill Rd., Coventry. [X4853

COUNTERSHAFT Triumph Combination, 1918 Dec. (believed), replated and enamelled, engine perfect, good tyres, Streamfort sidecar, nearly new, 2 electric, 1 acetylene, very smart turnout; £130, or offer.—Matthews, 4, Cornwall Mews, Gloucester Rd., S.W.7. [1484

1919 Triumph Combination, No. 59630, Royal Leicester coachbuilt sidecar, wind screen, hood, side curtains, storm apron, Watford speedometer, 3 lamps and generators, horn, tools, in first-class condition; £140, no offers.—J. Ridgway, St. George St., Leicester. [X4663

TRIUMPH Countershaft, piston, and rod, 36/-; tanks, 60/-; top back stays, 25/-; stands, back, 20/-; carburetter, 60/-; hubs, 35/- pair; bars, 25/-; tools kits, 26/-; Schebler carburetter, new, suit Harley, 60/-; 4¼h.p. James engine, incomplete, £5/10; 3½h.p. N.S.U., m.o.v., perfect, £5; Douglas parts and wheels, all genuine; first p.o. secures.—M. Reardon, Garage, Tavistock Terrace, Holloway Rd., N.19. [1491

TRIUMPH 1919 4h.p. Countershaft, large £33 Empire sidecar, fitted new 60 amp. accumulator and electric lighting, Klaxon, Stewart speedometer, aluminium boards, Cameo screen, grips, many tools and spares, including tyres, tubes, chain, valves, rings, etc. (new), tyres excellent, small mileage, the whole in excellent order, plating and appearance as new; £145, or offer; owner buying car.—87, Cobden Rd., South Norwood, S.E. [1517

MOTOR CYCLES FOR SALE.

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DUAL Gold Medal Triumph-Gloria Combination, London-Land's End and London-Edinburgh, tted up, regardless of cost, with accessories, including atford speedometer, Cowey horn, large P. and H. mp set, separate Lucas generator to rear lamp, knee-rips, special electric lamp to illuminate route card id instruments, spare belt with special attachment; is machine is late 1919, undisputable reliability, and distinguishable from new; £160.; Croydon district.—Vire or write, Box 5,524, c/o *The Motor Cycle*, Phone: Croydon 2532. [1130

Velocette.

CYRIL WILLIAMS, for early delivery of Velocette —Chapel Ash Depot, Wolverhampton. [2265

VELOCETTE 2¼h.p., 2-stroke, 2 speeds, chain drive, latest model, as new; any trial; £55.—103a, High t., Wandsworth. [1981

VELOCETTE, 1920 model, brand new, just delivered; £73/10; an aristocratic lightweight.—Rhosha Motor o., Bank Mews, Romford. [2163

VELOCETTE, 2¼h.p., gent's (Feb.), and lady's 1919, 2 speeds, accessories, condition and order good; £70 and £60 respectively.—Pritchett, 8, First Av., Heworth, York. [1397

Verus.

VERUS-BLACKBURNE.—All models from stock; list price.—Cleare and Lowe, 125, High St., Woolwich. [2135

REX G. MUNDY can give immediate delivery of Verus; enquiries invited.—1, Duke St., Richmond. [0208

2¾h.p. Verus-Blackburne, 1920, mileage under 200; bargain, £85.—Spooner, Haslemere, Yelverton, S. Devon. [1859

1920 Verus 2½h.p. 2-stroke, 2-speed, kick starter and clutch, as new, not done 100 miles; £85.—Hill and Co., White Hart Garage, Cranford Bridge, Hounslow. [1374

Vindec.

VINDEC 5h.p., 2-speed, and coach sidecar (new body); £65.—Halifax Motor Exchange, Union St. South, Halifax. [1278

Viper.

VIPER 2¾h.p., Jap, 2-speed, black and gold finish, footboards or T.T. bars with footrests; £73/10.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X4719

Williamson.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Williamson combination, 1914, w.c.; £145. [9782

WILLIAMSON 1914 Water-cooled Combination; £140.—Collier's Motories, Union St. South, Halifax. [1280

WILLIAMSON Combination, C.B. sidecar, 8h.p. Douglas, splendid condition; £100.—26, Fairmead Rd., Holloway, opposite G.N. Hospital. [1023

Wolf.

JUST Delivered, 1920 Wolf, 2¾h.p. J.A.P., 2-speed; £74, carriage paid.—Jeffery, Ridgeway St., Douglas, I.O.M. [1267

WOLF-J.A.P., 1914, 2¾h.p., 3-speed, clutch, perfect running order; £32.—Bunce, Farnham Royal, Bucks. [1398

1919 Wolf, 2¾h.p. J.A.P., 2-speed countershaft, condition perfect; £65.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. [1716

WOLF-VILLIERS and Wolf-Jap, 1920 models, in stock; sub-agents for London and home counties wanted.—A.S.C., 60, Mortimer St., W.1. Tel.: 5626 Museum. [9889

Wooler.

DAN GUY, Weymouth. Sole Wooler agent, immediate delivery from stock; £102. [1175

WOOLER, the world's wonder, can deliver from stock; come and inspect.—Bunting, Motor Exchange, Wealdstone. [200:

WOOLER, latest model flat twin, lamps, Cowey, Tan-sad, knee grips, spare belt, recent delivery, beautiful condition; £104, or offer.—113, Chevening Rd., Brondesbury Park, N.W.6. [9879

Zenith.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. Zenith and sidecar, 1913-14; £90. [2115

ZENITH, 3½h.p. J.A.P., Gradua, combination, £60; solo £48.—150, Regent's Park Rd., N.W. [9807

ZENITH New 6-8h.p. Model H; list price, £154, no premium.—Sloan, Amesbury, Wilts (Zenith agent). [1029

ZENITH Combination, 8h.p., brand new; list price.—Vidler, 43, Crawford St., W.1. 'Phone: 4915 Padd. [2016

ZENITH Sporting Combination, as new, seen and trial any time; £90.—Want, The Cottage, Addlestone. [2158

ZENITH-GRADUA 6h.p., splendid order and condition, lamp sets; £75.—22a, Outram Rd., Addiscombe, Croydon. [1589

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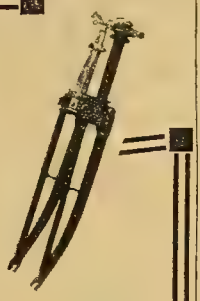
SPRING FORK.

No. 8679/20.



The Invention provides an improved Shock Absorber, and has in view placing the wheel and fork under resilient control. To this end the fork is pivoted to the structure of the machine at the place where it is usually fixed thereto, and re-acts against a cantilever spring, the thicker end of which is rigidly connected with the fork and the thinner end ofwh ich re-acts against the rigid framework of the machine.

In a simple embodiment of my Invention I pivot the front fork to the lower end of the steering rod at the place where there is usually a rigid connection, and I mount my cantilever spring on a lug extending forwardly or outwardly from the upper end of the pivoted fork from the bridge piece constituting the groin of the legs of the fork, this lug extending about at right angles to the steering head, and, therefore, to the upper portion of the fork.

On and above this lug I mount the cantilever spring, by providing an upward extension from the lug, this extension being at right angles to the lug, and therefore parallel with the steering head. On to this extension I bolt the thicker end of the cantilever spring, which therefore lies parallel to the head, and causes the upper or thinner end of the spring to re-act, I pivot the thin end of the spring to a suitable collar on the upper portion of the steering rod by means of a pair of shackle plates. The cantilever spring is thus able to move longitudinally because its upper or thin end is pivoted to the plates.

In action, the effect of the Motor Cycle, running on a bad road, is to cause the fork to oscillate about its pivoted connection to the steering rod whenever the wheel rises or falls erratically.

The lug has a corresponding oscillation, and the spring is simultaneously thus given longitudinal reciprocation Since its thin end must have a movement substantially only parallel to the steering head, the spring is, therefore, bent when such oscillations occur, and always tends to restore the wheel to its normal position.

Any person interested in the above, with a view to their taking it up and putting it on the market, should apply to—

SIDNEY ROBINSON,

10, Bamford Road, Didsbury, MANCHESTER.

MOTOR CYCLES FOR SALE.

Zenith.

ZENITH, good condition, accessories; no reasonable offer refused; after 6.30.—103, Brigstock Rd., Thornton Heath. [1875

ZENITH 6h.p. Countershaft Combination, lamps, perfect; £115, or offer; any trial.—207, Blackshaw Rd., Tooting. [9112

4h.p. Zenith-Gradua, good running order, any trial; £55; sidecar suit same; £6/10.—25, Rosslyn Cres, Wealdstone, Harrow. [1417

ZENITH-GRADUA 1914 4h.p. Twin, excellent condition, all accessories; £65.—28, Streatley Rd., Brondesbury, N.W.6. [1534

ZENITH 4h.p. Combination, splendid running order, Binks, Bosch, coach sidecar; any trial; £75.—103a, High St., Wandsworth. [1982

ONE 8-10h.p. Zenith Motor Bike Combination countershaft gear, 1915; £95.—Herbert, Nymps field, Stonehouse, Glos. [1967

6h.p. Zenith-Jap Combination, late model, fully equipped, and equal to new; £115; after 6.—82, Church Rd., Mitcham, S.W. [1420

ZENITH 2¾h.p. Flat Twin, with countershaft and Gradua gear, done few miles only; equal to new.—Parker's, Bradshawgate, Bolton. [X4667

4h.p. 1914 T.T. Zenith-Gradua, fully equipped, fast, new piston; any trial; after 5.30; £50.—Brown, 11a, Maiden Lane, Stamford. [1968

ZENITH-GRADUA Sporting Combination, 6h.p., like new, very fast, all accessories; £119.—C., 2, King Edward Gardens, Acton Hill. [1360

6h.p. Zenith, 1913-14, new coach sidecar, horn, mirror, speedometer, Binks, 3 new tyres; £75, trial.—34, Cecil Av., Barking, Essex. [1623

ZENITH 1915 5-6h.p. C.B. combination, countershaft, kick start, equipped, in particularly good condition; £115.—181, Clapham Rd., Brixton. [2134

6h.p. Zenith-Gradua Combination, wind screen, etc. perfect mechanical condition and appearance fast; £105.—Marchant, Cambridge Rd., Bexhill. [1646

ZENITH Twin, 90×77½, perfect tune, Klaxon, Stewart, F.R.S. lamps, D.A. cylinder, 2¼ top gear, sporting sidecar; £125.—Dobson Cafe, Street Cobham, Surrey. [9710

ZENITH-GRADUA 4-5h.p., late 1915, with Rover sidecar, lamps, complete, K.S., countershaft, etc., just overhauled; £100 for quick sale.—Smith, 18, High St., Slough. [1094

ZENITH 4h.p. J.A.P., Gradua, B.B., Bosch, tyres, lamps, coachbuilt sidecar, good running order; £57/10, or exchange higher power.—Stanford, Shripney Rd., Bognor. [1103

ZENITH 8h.p., clutch model, late type, with sidecar, accessories, lamps, speedometer; the outfit in magnificent order; £147.—Sproston, Ltd., 198, Gt. Portland St., W.1. [1141

ZENITH-GRADUA 3½h.p., 1913, lamps, horn, speedometer, tyres good, trial by appointment, just overhauled; £55.—Browning, Dormy House, Sarnbury, Southampton. [1113

ZENITH 1914 6h.p. Combination, sporting sidecar, fast, reliable, and in excellent condition; £75.—Seen any time at 7, Wedmore St., Upper Holloway, N.19. 'Phone: North 3366. [9986

1920 8h.p. Zenith, countershaft model, kick starter Swan sporting sidecar, complete with lamps, all new, immediate delivery; list price.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [9071

1914 T.T. Sporting Zenith-Jap, 3½h.p. single, excellent condition, overhauled makers, new belt, tyres tubes, handle-bars, copper exhaust, very fast; £68.—Pinching Cycle Works, Theale, Reading. [1203

ZENITH 8h.p. 1920 Countershaft, clutch, kick start, de luxe sporting coachbuilt sidecar, every accessory, run 200 miles, a perfect mount; nearest £190.—Winter, 17a, Hanover Sq., London, W. Mayfair 5906. [9365

1920 Zenith, 8h.p., mileage 700, lamps, Cowey horn, trip speedometer, coachbuilt sidecar, child's folding seat, hood, screen, luggage grid, fully insured; £195 or near.—Write, Ritchie, 127, Queen's Gate, S.W. [1917

ZENITH-GRADUA, 6-8h.p. J.A.P. engine, C.B. combination, clutch, lamps, generator, B.B. Cowey speedometer, Bosch, new tyres, horn, kick start 110 gns.; offers.—Ryan, 119, Lower Kennington Lane, S.E.11. [1487

ZENITH-GRADUA 4h.p., free engine, perfect condition, stove enamelled, plated, looks like new, makers' transfers, mechanical horn, speedometer, lamps, 2¼gn. Dunlop rear; £66; evenings, 1 Saturdays.—Roseville, Claremont Av., Woking. [1345

ZENITH, 1920, April, special 8h.p., side valves, competition model, streamline 3-gallon tank, and numerous special items, only wants seeing; list price, plus accessories, for quick sale.—2, Cranes Park, Surbiton. Kingston 3082. [2088

F.O.C.H. have a 1919 6h.p. Zenith and Coachbuilt Sporting Sidecar, excellent order, fully equipped.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1256

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Zenith.

1919 (Dec.) 6h.p. Model E. Zenith Montgomery Combination, stored since March, condition as new, Triplex wind screen, 6in. F.R.S. head lamp, fully equipped for touring; £170; viewed by appointment.—Capt. Watkins, Fort Grange, Gosport. [9933

ZENITH 8-10h.p., 1916, ball bearings, clutch, kick starter, Gradua gear, T.T. bars and racing sidecar, just been overhauled; £110; can be seen by appointment.—J. W. Dodds, Lancaster Gate Hotel, 74, Lancaster Gate, Hyde Park, London, W. [1053

ZENITH Countershaft Combination, completely overhauled, re-enamelled and plated, new tyres, belt, toolbag, etc., low underslung sidecar, fast and powerful, mechanical condition guaranteed; bargain, £120.—Hubert Turner and Co., 4-5, Crawford Passage, Farringdon Rd., E.C.1. [1613

Ladies' Motor Cycles.

LADY'S Popular 1915 Levis, 2½h.p., lamps, mechanical horn, £45; speedometer, £2/10.—Mercer, Polkyth, Main Rd., Dovercourt. [1879

THE Bargain of the Week.—Lady's 3¾h.p. Calthorpe Motor Cycle, 1916, 2-stroke, 2-speed, used very little, original tyres on, quick sale; £41; no offers, first cheque secures.—Miss Millard, Eiger House, Chesterfield. [X4672

Miscellaneous.

RUBY'S, all models.

1919 6h.p. Zenith, with coachbuilt sidecar; £160.

1914 3½h.p. Single-speed T.T. Rover; £65.

THE H.C. Motor Co., Ltd., 347, Finchley Rd., N.W. [1499

BOOTH'S Motories, Halifax.—Clyno combination, detachable wheels, £99/10; Clyno gun carriage, £15/10.

BOOTH'S Motories, Halifax.—Eight 1915 Douglas's, £55/5 each; Douglas 1918 combination, £110/10.

BOOTH'S Motories, Halifax.—4h.p. Triumph, with new sidecar, countershaft model; £105/5.

BOOTH'S Motories, Halifax.—3½h.p. Ariel, 3-speed countershaft, with new sidecar; £88/10.

BOOTH'S Motories, Halifax.—1918 Alldays Allon, 2 speeds. £59/10; Hobart, £48/10.

BOOTH'S Motories, Halifax.—O.K., 2 speeds, £46/10; Calthorpe, Enfield gear, £55/10.

BOOTH'S Motories, Halifax.—Large stock of motor cycles.—Address, Portland Place, Halifax. [X7418

1915 4h.p. 3-speed, nearly new coachbuilt sidecar P. and H. lamp, guaranteed perfect; 90 gns.—Duke, Marden Ash, Ongar. [9800

FOR Immediate Delivery, 3h.p. spring frame Royal Ruby, £120; also 4h.p. Coventry Eagle.—The One Tree Motor Cycle Co., Huddersfield. [9554

N.S.U. 3½h.p., 2-speed, splendid condition, £45; T.D.C. 2¾h.p. 2-stroke, running order, £35.—May, Cottage Grove, Walworth, S.E.1. [1486

1920 4¼h.p. James Motor Cycle, 1920 3¼h.p. P. and M., 1919 Royal Enfield 2¾h.p., 1916 lady's New Imperial 2¾h.p.—Hunt-Davies, Ltd., Rugby. [X4634

6h.p. Twin Motor Cycle and Sidecar, 2 speeds, etc., Bosch, seen running; bargain, £28.—Speechley, 1, Gunnersbury Lane, Acton Hill, W.3. Opposite Red Lion. [1260

REX G. MUNDY always has a number of first-class machines for sale, and will be pleased to supply particulars upon request.—1, Duke St., Richmond. [0209

WOLF 2-stroke, just arrived from makers, at old price, £53/10; also Douglas, 1915, in good running order, £55.—Hales, 103, St. Paul's Rd., Highbury, N.1. [2107

BARKER'S Motors, 194, Balham High Rd., S.W.17. In stock, New Henderson, Douglas, Harley, Zenith combinations, P. and M., etc.; let us know your wants. 'Phone: Latchmere 4441. [2062

1919 5-6h.p. C.B. Sidecar Outfit, sidecar painted mauve, fitted with electric horn, lights, Easting screen, all accessories; £200; would consider exchange for 1920 Indian combination.—Mottershead, 5, Didsbury Rd., Stockport. [2034

BARGAINS and Exchanges. Triumph combination, fully equipped, as new, 115 gns.; 7-9h.p. Indian Powerplus combination, fully equipped, splendid outfit, 116 gns.; 4h.p. Douglas combination, equipped like new, 108 gns.; 4h.p. Douglas solo, 1916, lamps, horn, reasonable offer; 2¾h.p. Douglas, equipped, like new, 62 gns.; 1913 4-cyl. F.N., C.B. sidecar, 2 speed, clutch, head, screen, accessories, good lot, 65 gns.; inspection invited. 143, Ravensbury Rd., Earlsfield, London, S.W. [2140

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THE Kwiksale Private Motor Registry have a large number of privately owned cars and motor cycles registered for sale by owners. Call or send sixpence for current list and free introductions to just what you want. Everything possible will be done by us free of charge to find you exactly what you want. If possible, please call.—Kwiksale Private Motor Registry, 35, Long Acre, W.C. (the link between purchaser and owner). [0138

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KINGSBURY Motor Scooter, with seat, slightly used. —Box 5,473, c/o *The Motor Cycle*. [9947

A.B.C. Skootamotas in Stock; list price £55.—2, Nightingale Rd., Lower Clapton. [2028

SKOOTAMOTA, A.B.C. demonstration model; £46. —Frank Eele, Thame, Oxon. [1685

SKOOTAMOTA, as new, only ridden few miles; £45; seen after 7 p.m.—58, Vineyard Hill, Wimbledon. [X4697

A.B.C. Skootamota, new, just delivered; will sell at list price, £55.—Livings, High St., Shrewsbury. [1617

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Autoped scooters from stock, dynamo lighting; £42. [9783

EGERTONS, Northgate, Ipswich. — Mobile Pup scooters in stock; immediate delivery.—'Phone: 862. [8158

TWO A.B.C. Skootamotas, just delivered, as new; £55 each.—Tancred Cummins, Church Walks, Llandudno. [9912

AUTO Scooter, 20in. wheels, with seat, Wall 1½h.p. engine; £27, or near offer.—Lewis, 158, Nottingham St., Sheffield. [9839

MOTOR Scooter, Autoglide, absolutely new, less 60 miles; private owner; £35, or offer.—Houghton, 198, Sheen Lane, East Sheen. [1627

AUTOPED Scooter, shop-soiled, £37/10; new models in stock, with clutch and dynamo lighting, £42.—Woodgers Garages, 307, Goldhawk Rd., W.12. [2139

AUTOPED Scooters, ex-stock, £42, dynamo lighting; another, slightly second-hand, not done 200 miles; £37.—Maudes', 100, Gt. Portland St., London W.1. [1907

1920 Two Harmoor Motor Scooters, 1½h.p. Auto-wheel, seat, 1 unused, 1 run 80 miles; owner ordered abroad; cost price.—Apply, South Parade Garage, Southsea. [2125

AUTOGLIDER 2¾h.p. 2-stroke, recently delivered, ridden about 200 miles, with electric lighting set, horn, etc., carries 2 standing anywhere; 40 gns.; no offers.—Box 5,575, c/o *The Motor Cycle*. [2150

AUTOPED.—The original Auto-scooter, 1½h.p., 4-stroke engine with clutch, dynamo lighting, horn, tools, etc., £42 model, slightly used, as new, £35. Trade supplied.—P. J. Evans, 83-91, John Bright St., Birmingham. [X4729

KINGSBURY Motor Scooter, with seat, for sale, practically new perfect condition; owner, elderly gentleman, who finds it unsuitable for his purpose, will sacrifice it at the low price of £37.—Box 5,463, c/o *The Motor Cycle*. [9896

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CAMBER Wind Screens, 27/6 to £4/10.—Bright and Hayles 78, Church St., Camberwell. [1659

REX G. MUNDY.—Easting wind screens supplied from stock; £4/10; the most efficient screen on the market.—1, Duke St., Richmond. [0210

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AUSTER Aero Triplex Aluminium Wind Screens, 12in., adjustable, fit sporty sidecar; 22/6 each.—McConnell and Bailey, 73, Gt. Portland St., W.1. [4499

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SANDUM Sports Sidecar Body, £6; child's pillion seat, 16/-. 9, Hide St., Islington, London. [1095

SIDECAR Body, Watsonian wicker, torpedo, good condition; £2.—44, Cranmer Av., West Ealing. [2060

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VENUS.—Bodies direct from factory to user; save money; lists ready, write.

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A.J.S. Sidecar Body, wind screen, luggage grid, new hood; best offer over £14.—69, North St., Plaistow, Broadway. [1492

1920 (May) Douglas Sidecar Body, done 50 miles, perfect, waterproof coverall; £15/10.—Bracewell, Castle St., Clitheroe. [X4646

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CALL and Inspect open sidecar bodies, any colour, from £5; bulbous backs, £7/10; Harley bodies, £10/10; fitted free; Thursday, 10 o'clock.—Edwardes, 277, Camberwell Rd., S.E. Hop. 4913. [1605

THE Morris Sidecar Body Co. are manufacturers of high-grade coach bodies; all up-to-date models in stock. Bodies painted, upholstered, and generally repaired.—569, Seven Sisters Rd., S. Tottenham, N.15. [4296

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SIDECAR, off Humber, complete, wicker body, good tyre; £7.—E. Heard, Torrington. [1673

CHATER-LEA Coachbuilt Sidecar, as new; £12/10.—72, Longridge Rd., Earl's Court. [1626

SIDECAR Chassis, perfect, £3; Triumph carburetter, complete, £1.—70, Micklegate, York. [X4818

BURBURY Sidecar, good condition, new last Oct.; £25.—35, Fore St., Wellington, Somerset. [1651

SANDUM Lightweight C.B. Sidecar, good condition; £13.—Box 5,551, c/o *The Motor Cycle.* [1494

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COACHBUILT Sidecar, Phœnix, complete, good condition; £12.—17, Chivalry Rd., Battersea Rise. [1785

MILLFORD Tradesman's Sidecar, all fittings complete, new condition.—20, Goldsmith's Row, E.2. [1783

COACHBUILT Sidecar, tyre, mudguard, apron, perfect; £10.—Plowman, 46, Iverson Rd., Kilburn. [1663

SCOTT Sidecar, aluminium body, fittings complete; £15.—Watts, Mill Lane, Kislingbury, Northampton. [1326

CANOELET Sporting Sidecar, suit B.S.A., Manchester, nearly new.—Box 5,519, c/o *The Motor Cycle.* [1125

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CORONET Sidecars.—Latest underslung chassis, fitted with luggage carrier; send for list.

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EMPIRE Light Coachbuilt Sidecar, good order, suit Triumph, etc.; 11 gns.—81, Little Ealing Lane, Ealing. [1639

BRAMBLE coachbuilt bulbous back Sidecar, Dunlop heavy; £20.—18, Matham Grove, East Dulwich. [1291

SCOTT Sidecars, not done 200 miles; bargain, £25. —W. H. Grimes and Co., 18, Bruton Place, Bond St., W.1. [1964

MILLFORD Skiff, apron, aluminium disc, run 1,000 miles; £21.—Francis Scott, Manningford Manor, Pewsey. [1546

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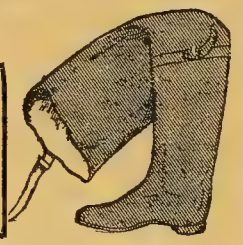

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SIDECAR ATTACHMENTS.

SIDECAR, B.S.A., Canoelet, good condition, good tyre.—51, Cambridge Rd., Hammersmith. 'Phone: 1195 Hammersmith. [1923

PHOENIX C.B. Sidecar (Indian red), tyre and tube new; £12/10.—E.P., 1, Roberts Villas, Princes Rd., Buckhurst Hill. [1339

CHASSIS, underslung, new, with or without body, fit any machine; £10, or near offer.—Maddox, Lexham Mews, W.8. [1367

NEW C.B. Sidecar, done 300 miles only, 28×3in wheel; £27/10.—Humphries, 122, London Rd., Kingston-on-Thames. [1894

ENFIELD Sidecar, all complete, luggage carrier, Dunlop tyre, excellent condition; £10.—Thursby, 21, Harrison St., Barnoldswick. [9991

SIDECAR, coachbuilt 2-seater, 5-point, luggage grid, good condition, enamelled red; £15.—Choppen, 15, St. Francis Rd., Folkestone. [9826

COACHBUILT Montgomery, blue, little used, good tyre and upholstery, suit Douglas; £15.—120, Oxford St., Totterdown, Bristol. [1680

MILLS-FULFORD Chassis, new cover and tube, coachbuilt metal body, all in good condition; £11.—Letters, 168, Hither Green Lane, S.E.13. [1322

HENDERSON Sidecars.—All models instock. Elite, £45; Model B1, £31; featherweight, £23.—P. J. Evans, 83-91, John Bright St., Birmingham. [X4731

MILLFORD.—All models instock. Model de Luxe, £40/14; Corvette, £31/10; Skiff, £27/15/6.—P. J. Evans, 83-91, John Bright St., Birmingham. [X4732

SWAN Sporting Sidecars for Norton, U.S.A. Excelsior, Triumph and spring frame Indian, from stock.—Halifax Motor Exchange, Union St. South, Halifax. [1274

ROYAL Leicester Sidecars.—Models for all purposes, first-class finish; quick delivery; satisfaction guaranteed. Write for catalogue.—The Willowbrook Co., Leicester. [0049

REMOVAL Sale; genuine bargains.—Perfection sidecars, bodies, and chassis at reduced prices; trade supplied.—Halifax Motor Exchange, Union St. South, Halifax. [1273

CANOELET.—All models in stock. MM.4, £39/5; touring model, £31/10; sporting model, £25; minor, £18/18.—P. J. Evans, 83-91, John Bright St., Birmingham. [X4733

SIDECARS.—We have a large and varied stock of sidecars in stock, sporting and bulbous-back models, all prices.—W. H. Grimes and Co., 18, Bruton Place, Bond St., W.1. [1963

SIDECARS.—Canoelet sidecars, touring, suitable for Triumph and Rudge, complete with apron, new; £30 each, to clear.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. [0237

NICE Underslung Sidecar, coachbuilt body, Clincher cover, enamelled, plated, and lined, brand new, £16/16; chassis only, £9/10.—Edwardes, 277, Camberwell Rd., S.E. 'Phone: Hop. 4913. [1607

MONTGOMERY Sidecars, No. 1 £30/10, No. 2 £27, No. 3 £20/10; special Triumph model, £28/10, plus crate and carriage; catalogue sent.—Batchelor and Co., Clarence St., Kingston-on-Thames. [1229

FOR a really good sidecar, moderately priced, ask for particulars of our Model 19a, topping value; also sidecar bodies, best value in the trade.—Melville Cars (Halifax), Ltd., Clarence Works, Halifax. [0218

P. and M. Sidecars.—We have several W.D. sidecar bodies for renovation in stock, and can also quote for chassis overhauled, re-enamelled, complete with wheel and mudguard.—Hubert Turner and Co., 4-5, Crawford Passage, Farringdon Rd., E.C. [1615

SIDECAR.—Have a Hopley folding sidecar. No need to pay garage. You can keep motor at home; will go through passage 28in. when folded on any motor. Any shape body fitted. They have been well tested for six years on motors up to 8h.p.—Hopley, Upper Highgate St., Birmingham. [0152

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WATSONIAN Sidecars, Models G., cash £19/5, or £5/14 deposit and £1/5 monthly; H., cash £20/16, or £1/9/2 monthly; sidecar bodies, nine varieties, from £7/15 to £10/15; chassis, £7/5, £8/18/6, and £10/17; hoods, aprons, and wind screens stocked in great variety. —M.Y. Dept., Metropolitan Machinists' Co., Ltd., 248, Bishopsgate, E.C.2. [9728

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—No. 2 B.S.A. sidecars, 1920 models, £35; Canoelet sporting sidecars in various colours, also Canoelet roadster sidecars, from £22; Wauchope No. 1 sidecars £25/10, Wauchope No. 2 sidecars £24/10, and Wauchope No. 3 sidecars £23/10; Williamson sidecars, £28; sidecars to fit Harley-Davidsons and of conforming colours, various prices.—'Phone: 5777 Holborn. [9784

RUNABOUTS AND CYCLE CARS.

1920 6h.p. A.V., mileage 150, Binks; £164.—Lawford, Ringmer, near Lewes. [1303

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8-10h.p. Morgan runabout, 1916; £195. [9785

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The English Six Days Trial.

MANY innovations are to be introduced into this year's A.C.U. Six Days Trial. The changes will undoubtedly be welcomed by the public, the trade, and the competitors themselves. In the first place, the decision to bring the competitors south from Darlington on the fifth day in order to finish at Brooklands will give motor cyclists of many counties a convenient opportunity of seeing the competing machines. After four days of hill-climbing in the north-eastern district, the riders will migrate to the south ready for Brooklands on the last day.

From the trade point of view, the inclusion of a speed test on Brooklands in place of the major part of the "final examination" should find favour with those entrants who recall the almost general dissatisfaction on this point in last year's event.

The schedule speeds for the various classes are not excessive, but the test will be of sufficient duration to serve a practical purpose, and will be one from which the human element is reduced to a minimum, whereas the defect of such tests as the consistent driving test of last year depended too much upon the personal factor.

The Question of Silence.

Apparently the silence tests—another unpopular feature of the 1919 trial—are not to be renewed. Although such tests are highly desirable, a better means than adopted last year could be devised. It was proved that noises recorded by the instrument used were affected by the position of the silencer pipe in relation to the recording instrument, whilst sounds, not offensive to the human ear, could not be distinguished from the ear-splitting note.

Cleanliness is another matter seriously requiring attention, but better means to bring this about can be devised than observation at the end of the Trial. If all riders were forbidden to clean their machines *en route*, a better comparison could be made; but even then it is hard to differentiate between mud thrown up by the wheels of the machine itself and that from passing vehicles.

While the rules and regulations are in the preliminary stage, it is to be hoped that the A.C.U. will not include anything in which anomalies can creep in to cause dissatisfaction, and on the question of cleanliness, probably the best means would be to demand mudguards of a certain minimum width.

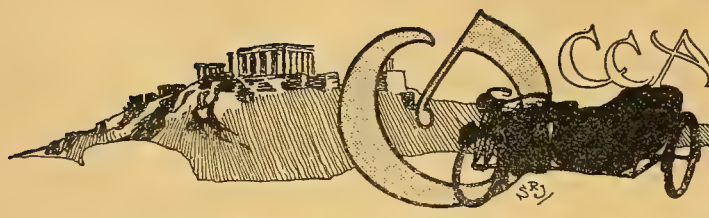
Trade should have Regulations now.

There is every promise that this year's Six Days Trial will attract a very large entry, which will include many 1921 models. An early distribution of the rules and regulations may influence makers to give closer attention to such items as mudguarding.

Finally, in the matter of awarding marks, facts should be relied upon rather than personal opinion. Deductions of marks on the final examination should not be open to controversy. So long as it is purely a matter of a judge's opinion, protestation is almost bound to follow in many cases. Perhaps it would be possible to make every point entirely clear in the rules submitted to competitors before they enter. There is a feeling among would-be competitors that the regulations could be made much more clear and concise. We thoroughly endorse this view, and think that the A.C.U. is much too "technical" in its regulations, and, in endeavouring to make complicated rules clear, produces results which are often confusing and difficult for the average competitor to understand.

After last year's criticism on the final report, the judges may not again be tempted to draw deductions from the idealist point of view without giving full consideration to the questions of cost and general ulitity of future machines. We refer chiefly to their recommendation of water-cooling and similar complications which tend to increase costs

An Index to the advertisements in this issue will be found on the page facing the back cover.



OCCASIONAL COMMENTS

BY 'IXION'

Rustproofing a New 'Bus.

LIKE one of our correspondents, Mr. Brooker, of Price's, is quite shocked at my levity in using hub lubricant for doping the platework of a new machine. This stuff is intended for internal use only, so to speak, and to smear it on the plating is akin to blasphemy. However, Mr. Brooker is not only critical, but helpful. He bids me dilute boiled linseed oil with three times its bulk of petrol, and brush it on lightly. The result is a smooth, hard coating, which penetrates everywhere, which cannot be removed, and to which neither dust nor flies will adhere. He uses it liberally under the bonnet of his small car. This is good hearing, except that I feel rather timid about the phrase "cannot be removed." Does Mr. Brooker mean accidentally, or nohow? Will he please put us under a further obligation by clearing this point up? I do not want to sickly the resplendent nickel of my new mount to a bilious yellow, which would not come off when I attempt to profiteer on the machine.

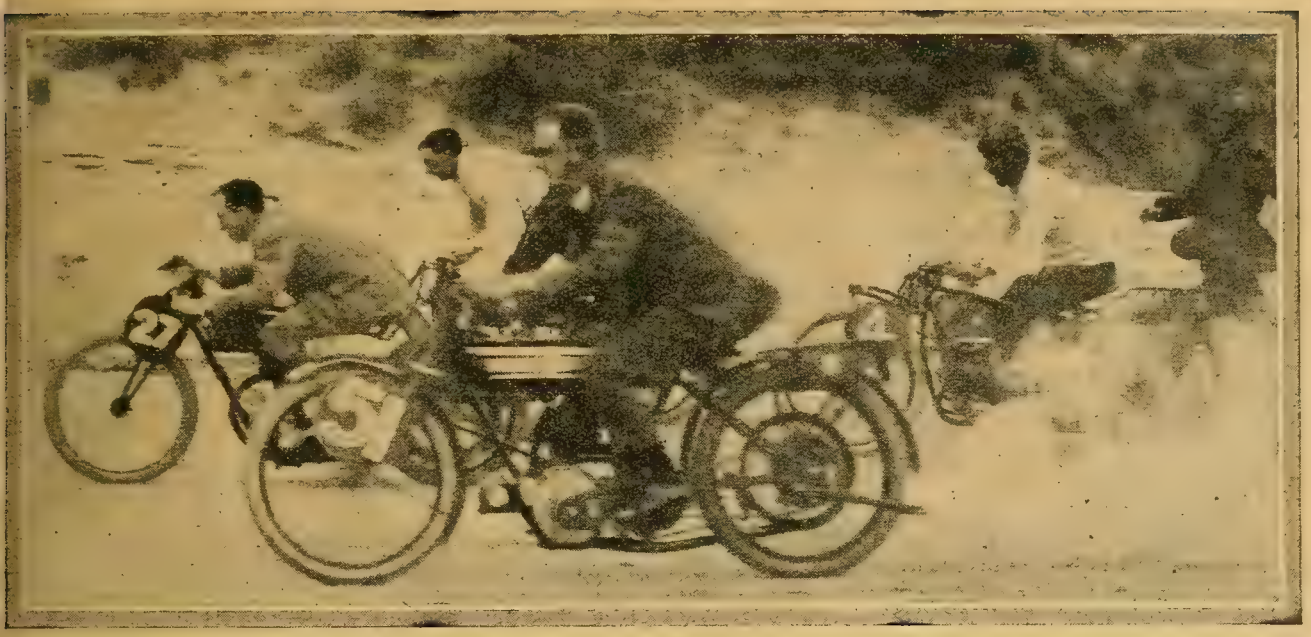
Low Speeds with a Rigid Drive.

AT low speeds, on a high gear with a rigid drive, two separate unpleasant sensations are possible if the transmission is not absolutely first-rate. One is merely audible, and may be described as a chatter or a clanking, the other is feelable, and consists of a series of tiny jerks. Neither need exist with an all-chain drive, properly equipped with well-designed absorbers. I can cite the 1915 A.B.C. and the 1920 Norton as simply ideal from this point of view, and, of course, there are others. The sole criticism which has been passed on the 1920 A.B.C. in my presence is that its shaft-cum-chain drive is not in all cases immune from either chatter or jerk when the engine is throttled down on third and fourth gears. Some riders assert that it is perfect in this respect, and others complain that the higher gears should be reserved for tolerable throttle openings. My own sample is assuredly imperfect on its high gears at small throttle openings, and this is the sole black mark I have yet scored against a very fascinating mount. I raise the point, because I am anxious to know whether this small defect is really universal, or whether my pinions have more backlash than they should, or whether liberal doses of a particular gear oil damp the trouble out of existence. I notice that one overseas technical journal roundly asserts that all good motor cyclists ease their clutches when running slowly on all-chain drives. I may be lazy, but I have never done such a thing in my life, and I am not going to commence so tiresome a practice at my age. The journal in question actually invites British makers to fit a variable hand-control of the clutch, so that it may be set to slip a little at low speed on top.

Front Band Brakes.

WHATEVER may be said in favour of external contracting band brakes on rear wheels, I strongly advise motor cyclists to give them a very wide berth on front wheels. No two of us regard our front brakes alike. A hard rider of my acquaintance invariably takes the shoes out of a front rim brake when he accepts delivery of a new mount. He says that they will soon drop out, anyhow. That if they should by some miracle stay in position, they have no real stopping power. That a decent rear brake will stop you anywhere. That, so far as the law is concerned, he has yet to meet the policeman who was not satisfied so long as the horseshoe remained on the machine. On the other hand, there are earnest men who speak of the front brake with bated breath. To enter for a Six Days without one would strike them as suicidal. Down a freak hill all the weight is on the front wheel, and a back brake has about as much arresting power as a trailing stand. For myself, I let the front brake stay where the designer put it, and I never use it. One of my machines has a front wheel band brake. Its metal band is so narrow and light that it has kinked itself, and taken a set: possibly some friend who borrowed the machine was fool enough to apply the brake: perhaps the metal is merely decrepit with age. Anyhow, the abominable thing is too decrepit to spring itself clear of its flanged drum, and a most distressful

Some of the finest natural speedways in the world are on tide-washed sands, and, as in America, the British coast town clubs are not slow to make use of them. The photograph depicts a scene at the recent Southport Speed Trials.



GETTING OFF THE MARK. The start of the 750 c.c. final at the recent Southport Speed Trials. The Norton in the foreground was one of the T.T. machines used in the Isle of Man last month.

squeaking and rubbing occurs at all times. I cannot obtain a spare from stock, and must choose between risking the penalty of the law or making a new band. Rear band brakes are made wide and thick, so that they may be trusted for a life of better duration.

A Dead Bogey.

FROM time to time in narratives of tours or forecasts of trials I encounter a phraseology which ought to be obsolete. The tourist describes how he paused to cool his engine before a particularly steep hill, or the journalist opines that on a certain knuckle a large proportion of the entry will be afflicted with overheating. Without pausing to discuss the exact purport of that ancient bugbear commonly called "overheating," I want to characterise such language as a hideous libel on the modern machine. Motor cycling must plead guilty to a lurid past, crammed with unsavoury incidents, but this bygone should now be allowed to be a bygone. For five or six years at least I have never been stopped on a hill with "overheating," if I except a few baby two-stroke engines with a penchant for frying their sparking plug points. Nor do I recall witnessing a stoppage of that kind on a competition hill for many a long day. I have seen plenty of competition riders baulked on hills through sheer bad driving, and in a very few cases they have failed to restart easily owing to clumsy clutch work or badly adjusted clutches. But it is surely true that any modern machine will climb any hill with ease and certainty on two conditions, viz., that the surface affords tyre grip, and that the driver is moderately adroit; and is it not also true that if the rider muffs his gears or steering, and makes a restart on a patch of decent surface after wheelslip has stalled him, the machine will get away well? This being so, we ought to drop nonsense about overheating on hills. To put the same thing in concrete form, Applecross-Tornapress is the most searching ascent in our islands: and even in pre-war days it did not trouble any standard solo machine which was not ridiculously overgeared. Trials secretaries have adopted the "freak hill" policy not because the average motor cyclist wants a machine which can climb catwalks, still less because the trade prefers a sporting course, but simply and solely because this country contains no gradients which can stall riders by dint of mere length or severity; and without hill stoppages the average trial would record an absurd percentage of gold medallists.

The Ideal Sports Mount.

THERE is hardly a gap left in the current range of motor cycles, which commence with the scooter and motorised push-bicycle, and ascend by easy stages up to the four-cylinder with car transmission, dragging a sidecar with a costly instrument board, camping outfit, and picnic equipment. Nevertheless I am still looking for the ideal sports model. I know all about the Brooklands Norton, the T.T. Triumph, and others of that ilk, but for a go-anywhere rider the single gear machine can be a shade *too* sporting at times. Some readers will remember a year in which the Scottish Trials went up Applecross, and a couple of trade teams were mounted on what might be described as I.O.M. belt-drivers; they had variable gears, and they were not excruciatingly heavy. But the unlucky wights who bestrode them had enough "sport" to last them a season, and said so. They roared up to blind hairpins at 30 m.p.h., and canted their 'buses over to make an angle of 30° or so with the ground-line, but even then they could not get round. Some of them took heavy crashes, some of them scraped round, and could not pick up again afterwards. I am still looking out for a lightweight, hotstuff, stripped machine, fitted with an emergency two-speed gear, on which I can get up Applecross without any pushing.

396 MILE RACE IN SOUTH AFRICA.

The Annual Johannesburg-Durban Races for Solo and Sidecar Machines. A Strenuous Affair over Execrable Surfaces and a Close Finish.

THE Johannesburg-Durban road race is regarded as the blue riband of South African motor cycle events. So important is it to those directly concerned that entrants spend in preparation amounts approximating to those of T.T. entrants. As an example, the expenditure of one Johannesburg firm was in the neighbourhood of £800, from which the importance of the event in Rand eyes may be appreciated.

The Solo Event.

It was raining when the men started from Johannesburg, and continued on and off all day. As a consequence the roads, which in the best conditions are far from good, developed into veritable quagmires, the surface so slimy, greasy and holding, particularly where the roads passed through the country of black loam, that it was marvellous how the riders managed to keep in the saddle. There were occasional short stretches a little better that served as a striking comparison. Soaked through to the skin as soon as they started, the men, nearly all of whom rode without mudguards, were instantly smothered with mud, and after the first thirty miles, the event resolved itself into an endurance run. Speed, as understood in this country, was out of the question, the machines careering from side to side of the road with the drivers at times out of the saddle and running alongside to enable the engines to pull through the grease. Even with the stripped machines the forks became clogged, acting as brakes which called for frequent stoppages.

Process of Elimination.

Of the forty-four starters, ten retired in the first 50 miles; at each succeeding mile falls were so frequent, with minor damage to the men and worse to the machines, that further numbers dropped out, and at Standerton, 96 miles, half the men had disappeared. So it went on from hour to hour until Volksrust, 150 miles, was reached, two miles from the border line between the Transvaal Province and Natal Province. Hereabouts is the fairly easy climb to the top of Laings Nek, a 40 m.p.h. climb in dry weather. Some idea of its condition can be realised when, very late in the evening, two only of the competitors pushed their machines up the last half mile, which occupied 30 mins. These two, Percy Flook (2¾ Douglas) and F. Owen (3½ Indian), thought themselves the only survivors. Flook was leading, but allowed the other man to overtake him at the top. Holding a council of war, they decided it was almost impossible to cover the 35 miles to Newcastle that night. So going down the 8 miles steep descent towards Ingogo, the historical farm house near Majuba Mountain was approached, and the owner at once made the men welcome. They decided to start together at daylight, but they did not know that when they had left Volksrust, still another plucky man, F. Zurcher, on a 494 c.c. spring frame Douglas, was doing his level best to keep going. He was exactly four hours behind them, without a lamp, and dead tired. A car driver found Flook and Owen at Majuba Farm with their wet clothes before a fire. He told them Zurcher had gone by. Flook was the first to get away, taking only 45 mins. to get into his wet clothes and to have the engine running. Zurcher reached Newcastle in 15 hrs. 49 mins, total riding time from Johannesburg, against the 4 hrs. 43 mins. the fastest time for 1919 over the same portion of the race route. Flook reached Newcastle 1 hr. 16 mins. later, and Owen 2 hr. 35 min. behind Zurcher.

Zurcher, with a bigger capacity engine than Flook, and the further advantage of a full sprung frame, now looked like winning easily, as the twenty-four hours' interval and strong sunshine had almost dried up the roads. Flook was handicapped still more by a cracked handlebar, caused by his many tumbles. Yet, despite the risk of the handle-bar snapping off at any moment, he went after Zurcher at a wonderful speed, and, just beyond Estcourt, 100 miles from Newcastle, had Zurcher in sight, when the handle-bar broke. This left Zurcher a clear run to the finish.

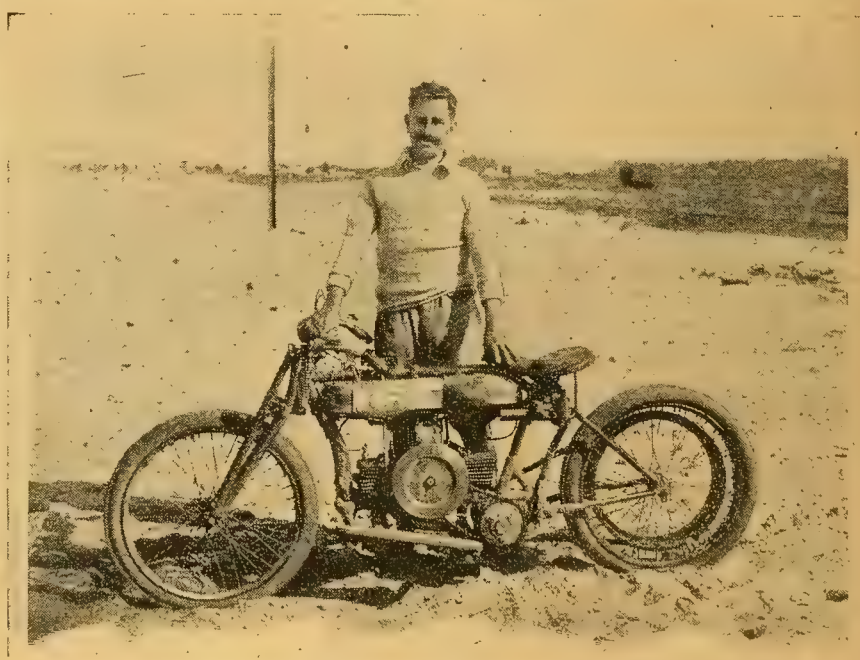
		h.	m.	s.
1.	F. A. R. Zurcher (494 c.c. Douglas)	23	18	20
2.	P. Flook (350 c.c. Douglas)	25	17	0
3.	F. Owen (498 c.c. Indian)	26	18	50
4.	E. G. Murray (989 c.c. Harley) ...	28	30	15
5.	G. T. Taylor (584 c.c. Harley) ...	33	23	6

The Sidecar Race.

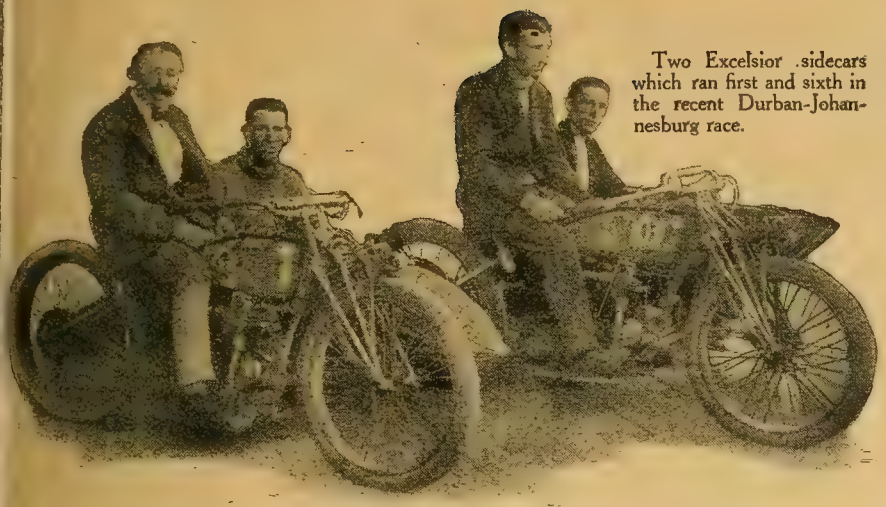
This event was decided concurrently, but in the reverse direction, viz., Durban to Johannesburg. There were fifteen entries and fourteen starters. The starters comprised four Harley-Davidson, three U.S. Excelsior, four Indian, one Enfield, one Rudge, and one Sunbeam. They were sent off at five minute intervals, the last man to leave being, therefore, 65 minutes to the rear.

An Exciting Race.

The roads for 150 miles from the coast as far as Ladysmith were dry, so that very fast times were accomplished for the fifty-four miles to Maritzburg, at which point there was hardly any change in positions. Fifty miles further on, T. H. Spargo (Harley-Davidson) was in front, when the outfit turned over. T. Van Diggelen (Harley-Davidson) broke his front forks at Estcourt. At thirty-five miles south of Newcastle, A. Long (U.S. Excelsior) had picked up the gaps between himself and those who had left earlier and finished first at Newcastle on actual time, with C. C. Smith (Harley-Davidson) 25m. behind. Long arrived with several spokes loose in the driving wheel, threads of nuts stripped at the front wheel hubs, and, immediately word was given to go on the second day, he spent 20m. repairing with the aid of half a dozen helpers. This left Smith with only 5m. to pick up over the distance of 184½ miles. In the next ninety miles, he pulled back 2m., and when they passed through Standerton, with 96½ miles to go, Long led by exactly 3 min. Yard by yard Smith reduced the difference, until, at a point some fifty miles from the finish, he was only 300 yards behind, and then came an unfortunate occurrence which undoubtedly lost him the race. Travelling at over 50 m.p.h., his passenger shouted to stop. The sidecar axle an American-



F. A. R. Zurcher (3½ Douglas), winner of the Durban-Johannesburg race for solo mounts, the blue riband event of South Africa.



Two Excelsior sidecars which ran first and sixth in the recent Durban-Johannesburg race.

The winning machine with the rider, A. Long, is shown on the left.

built type—was coming adrift, and, when they did pull up, it was discovered that it was only holding by two or three threads. Smith and his passenger were so confident of success that they did not hurry themselves.

Forty-six and a half miles from the finish, Long was leading, with Smith exactly 3m. behind. Again he overhauled Long until there was but 700 yards between them with 2¾ miles to the end. Hereabouts is a mile continuous climb, and at the summit Long held a lead of some 220 yards. From the top of this hill is an easy descent with corresponding ascent, and then less than a quarter of a mile over tarred surfacing to the winning line.

A Close Finish.

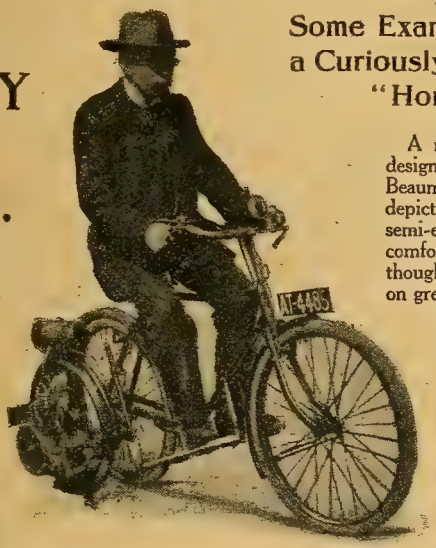
A dozen or more unthinking non-competitors on solo machines had chipped in behind Long at the top of the mile hill and so spread themselves across the road that, when nearing the finish, despite the yells of despair from Smith's passenger, they did not pull off the road. Without risking a terrible smash, it was impossible for Smith to get by, and thus Long flashed across the winning line less than 200 feet in advance. This wonderful finish, which unbiased spectators agreed that Smith might possibly have won on the post, was spoiled by the crowd and the motor cyclists mentioned. After such an extraordinary race, it was hard luck on Smith to have lost by so small a margin and under such circumstances. No doubt the officials will take measures to prevent a similar incident in a future event.

		h.	m.	s.
1.	A. Long (998 c.c. Excelsior)	13	34	8
2.	C. C. Smith, (989 c.c. Harley-Davidson	13	34	10
3.	T. H. Spargo (989 c.c. Harley) ...	14	40	8
4.	A. J. Pinfold (989 c.c. Harley) ...	16	28	6

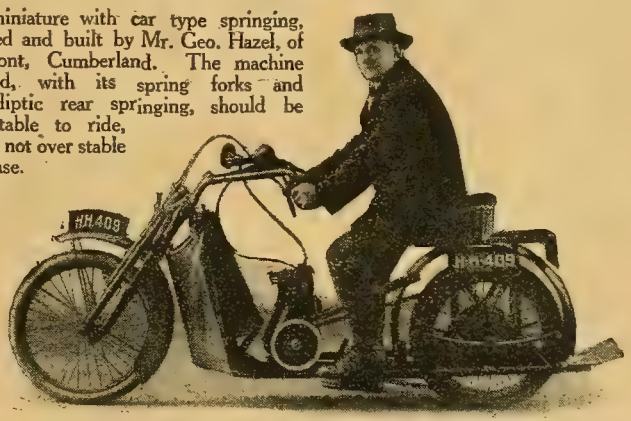
NOVELTY IN DESIGN.

Some Examples of the Utilisation of the Auto-wheel, a Curiously Constructed Passenger Machine, and a "Home-made" Rear Sprung Lightweight.

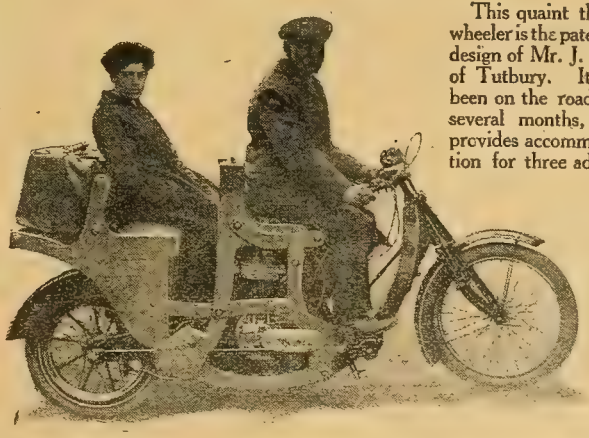
A useful little runabout machine has been made for Mr. R. Whitty, of Hull, by using a bicycle sans pedalling gear and an Auto-wheel.



A miniature with car type springing, designed and built by Mr. Geo. Hazel, of Beaumont, Cumberland. The machine depicted, with its spring forks and semi-elliptic rear springing, should be comfortable to ride, though not over stable on grease.

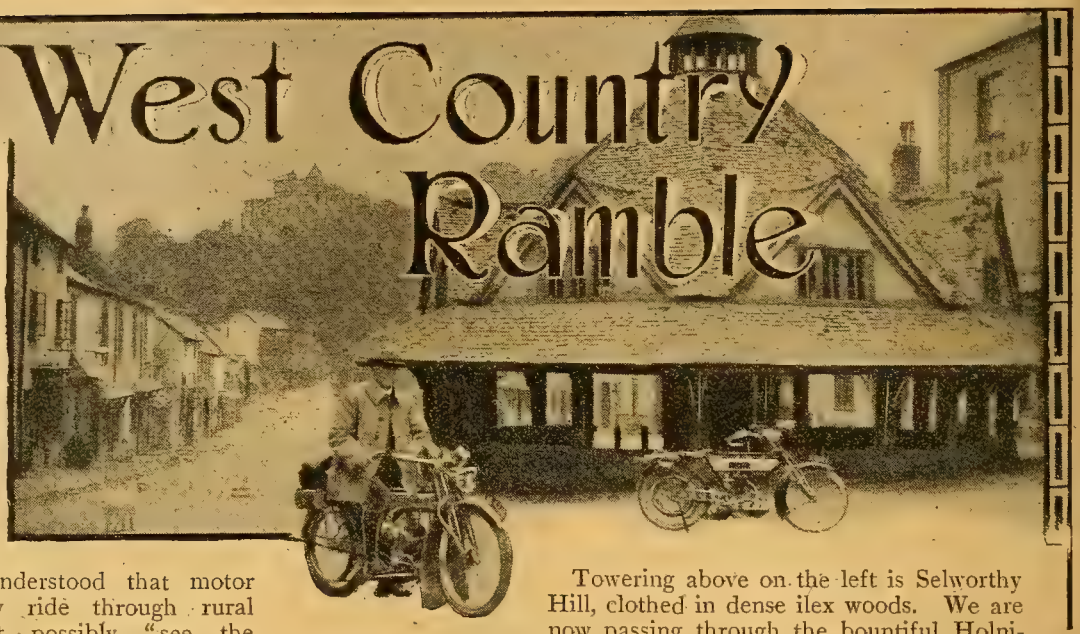


A miniature, which has been made by Mr. J. D. Timmins, of St. Albans, is another example of a light machine utilising an Auto-wheel



This quaint three-wheeler is the patented design of Mr. J. Cox, of Tutbury. It has been on the road for several months, and provides accommodation for three adults.

A West Country Ramble



Joys of the Road.

Gems of Scenery seen from a Motor Cycle

By A. VOWLES.

IT is generally understood that motor cyclists as they ride through rural England cannot possibly "see the country" or observe local details of an interesting nature. Provided they are interested in the locality through which they are riding and have "an eye" for the antiquated and picturesque, there is much—very much—to interest and instruct them as they speed through our beautiful English countryside. Whether it is possible for the motor cyclist to gain knowledge and interesting data while he journeys along the high roads depends very much on their condition, the state of the weather, the atmosphere and perhaps, most of all, on himself. Given fair conditions, there must be anywhere almost an endless programme of enjoyment, and it surely must be a relief to many tourists to have objects to look upon and think about more historical and truly different from speedometers, valves, belts, gear ratios, etc.

Since becoming a motor cyclist, the West of England has become much smaller, so to speak, as every point seems to be brought within easy reach. Interesting places can be visited so easily and cheaply, and so much information and knowledge gleaned by personal observation that life's arrangements and outlook have been truly altered.

Beautiful England.

A very beautiful ride, and one which the writer has enjoyed, is from Exmoor to the Mendip Hills, a distance of fifty miles. Both are situated in Somerset, one of our fairest counties, and the whole journey lies amidst beautiful and varied scenery. Most of the country through which this route lies was unknown to the writer previous to his ownership of a motor cycle, so that many of the interesting objects *en route* have been appreciated from the saddle of a solo machine.

Leaving Porlock village, nestling under the steep and dangerous hills of Exmoor, the highway strangely winds eastwards to Allerford, a peep of whose rustic footbridge and quaint cottages is obtained just before the road turns off from the village.

Towering above on the left is Selworthy Hill, clothed in dense ilex woods. We are now passing through the bountiful Holnicote Vale, and away to the south rise the open heathered hills of Exmoor, with Dunkery Beacon (1,707 feet) standing above the surrounding hills.

Venniford Steep soon looms up in front of us, and with a slight advance of the throttle lever the top is quickly gained. As we purr eastward, some delightful scenery is observed: woodlands, valleys, hills, and charming peeps of the Bristol Channel through the rifts of the hills. The fine seaside town of Minehead, under its North Hill, and fine church tower is reached in a few minutes; and, leaving it to the rear, we settle down on the high road to the Quantocks and Bridgwater.

Conegar Tower.

The first artificial object to arouse interest is Conegar Tower near the historic village of Dunster. It was erected on the conical hill in the eighteenth century by a lord of the Castle of Dunster as a landmark or finishing touch to the landscape. The motor cyclist will observe that it is a circular skeleton structure, and certainly lends itself to the beauty of the surrounding country. The turning to Dunster village is passed on the right, and, reaching the ground of the West Somerset Polo Club, we can plainly see the magnificent Castle of Dunster standing on a wooded hill in the middle of the vale. This beautiful mansion is one of the finest in the south of England, is of great historic interest, and possesses many objects and treasures of antiquity. Its important history is traceable for many hundreds of years. No motor cyclist should fail to add Dunster to his list of visits. It is without doubt one of the most beautiful spots in this country.

We must away! Carhampton, another quaint wayside village, with thatched cottages, is quickly reached, and on our left stands the church with fine tower surmounted by Decorated pinnacles. We still ride on historic ground, for at Washford, the next place of note, a glimpse on the right of some old ruins is obtained. These are the silent remains of a Cistercian abbey, which stand about three hundred yards from

A West Country Ramble.—

the road. The place was founded in the twelfth century, and flourished up to the time of the Dissolution. The ruins are fairly perfect, the gatehouse being the chief part visible as we pass along. Just here a quaint little railway runs under the road, it being the disused remains of a once busy track which runs to the iron ore mines in the Brendon Hills.

Picturesque Scenery.

The road here has an abominable surface, and is as crooked as it can be. East of Washford, the authorities have tarred the highway, and for one mile we can speed up through the fresh country air. We are now gaining the open heathered downs of the Quantock Hills, and some delightful views of them are obtained on approaching Williton.

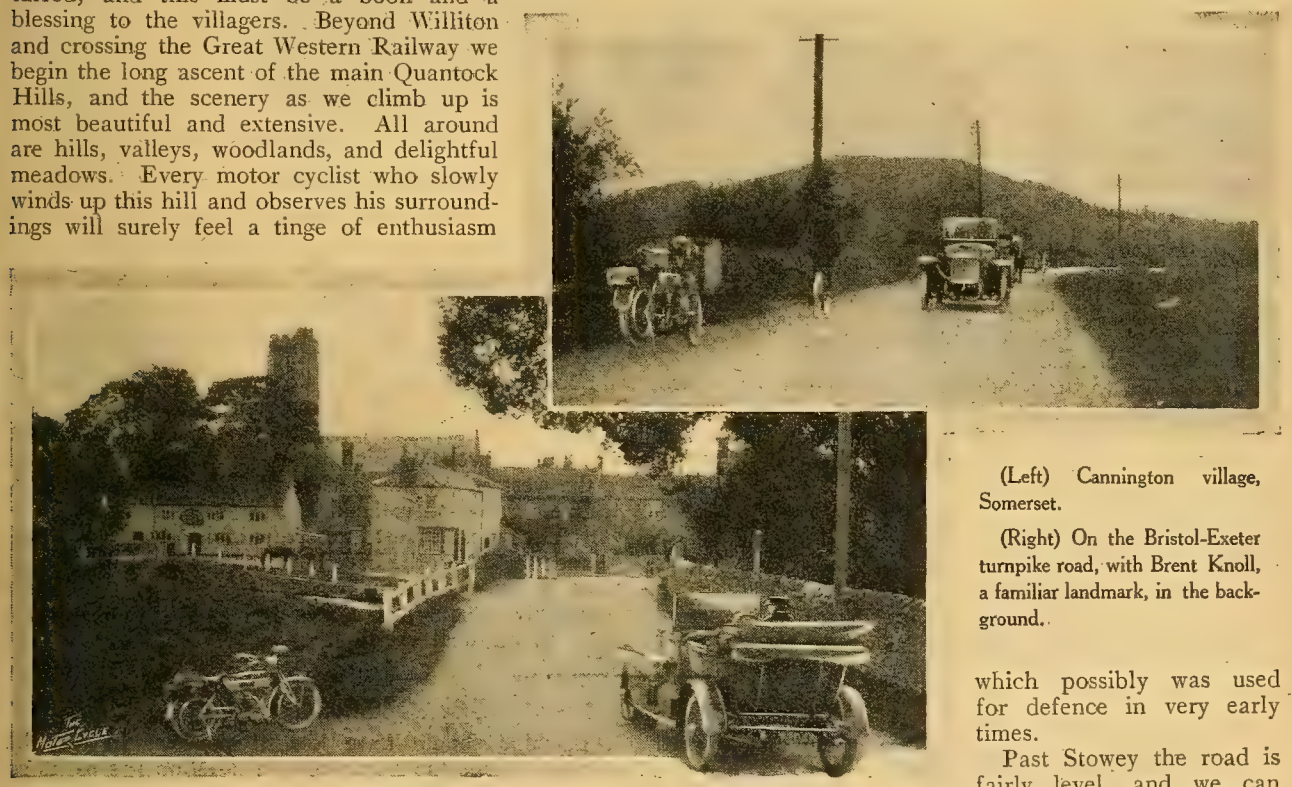
This is a picturesque Somerset village with many whitewashed cottages and thatched roofs. In its long street are two nasty turnings, but the roads are tarred, and this must be a boon and a blessing to the villagers. Beyond Williton and crossing the Great Western Railway we begin the long ascent of the main Quantock Hills, and the scenery as we climb up is most beautiful and extensive. All around are hills, valleys, woodlands, and delightful meadows. Every motor cyclist who slowly winds up this hill and observes his surroundings will surely feel a tinge of enthusiasm and admiration for this magnificent stretch of typically English country. At the top of the hill we pass S. Audries, a beautiful mansion surrounded by a deer park. A pretty church of Gothic design stands near the highway as the road bends to the left.

In a mile the eastern edge of the Quantocks is gained, and a great extent of country opens out to view. This is North Somerset bounded by the Bristol Channel.

The Welsh coast is plainly seen, with Penarth and Cardiff, the Islands of Flat and Steep Holm, Weston, Brean Down, Brent Knoll, Burnham, and, away in the far distance, the outline of the Mendip Hills; in fact, an enormous expanse of sea, hill, and level.

In a few minutes we are purring through little Kilve and away up the winding hill beyond, where we reach the highest parts of the Quantock Range. Across a valley on our right stands Alfoxden Park, where William Wordsworth and his sister lived at the end of the eighteenth century. He must have loved and been inspired by this glorious countryside, for history records that some of his best works were written during his sojourn here. This locality was also well known to Southey and Coleridge, for the latter lived at Nether Stowey, a typical Quantock village, through which we soon ride. Coleridge's cottage is about the first on the right, and the motor cyclist can see an inscription on the wall telling that "Samuel Taylor Coleridge made his home," etc. Opposite is an old wayside inn with a sign describing it as "The First and Last." Nether Stowey is a quaint old-world village, and long may it remain so.

It evidently has an ancient history, for one can see a camp-like formation on a hill near the village, which possibly was used for defence in very early times.



(Left) Cannington village, Somerset.

(Right) On the Bristol-Exeter turnpike road, with Brent Knoll, a familiar landmark, in the background.

Past Stowey the road is fairly level, and we can make the pace along these well-kept stretches. Cannington is soon reached. It is a picturesque place, with tarred roads. One of the beauty spots of the tour is seen on the east side of the village. The highway with various detached wayside cottages leads up to a bridge over a river, on the opposite side of which is an old inn with overhanging trees. Above the cottages rises the fine church tower, and, above that again, the open blue sky and shifting clouds. A charming spot!

An Old World Town.

In three miles we are in Bridgwater town: a place of considerable prosperity, it seems. It is impossible to note many details here, for the winding streets are

A West Country Ramble.—

generally congested with farmers and their flocks and herds, slow-moving vehicles, and children. Every motorist knows what this means! It is surprising so few accidents happen to the children of Bridgwater, for at many places it seems to be a playground for them. They are seen playing football, cricket, and building mud and dust castles, and the noise of a motor cycle and its violently blown horn seems to possess no terrors for them.

The Somerset Levels.

Beyond Bridgwater is probably one of the finest stretches of road in England. For a distance of from two to three miles it is perfectly straight, tarred smooth, and generally good: great temptations to go "all out." Enormous telegraph-poles rise high on both sides, so that one passes along an avenue of official poles. The country now is perfectly flat, and is part of the famous and bountiful Somerset Levels.

In the sporting centre of Minehead, a great hunting district. Consideration on the part of motor cyclists when meeting horses and hounds adds to the maintenance of goodwill between road users—a most desirable point.

Not far away on the right is Athelney, where King Alfred hid from the Danes; and to the south again lies Sedgmoor, where the last battle in England was fought. Glastonbury, too, with its historic and legendary lore, is not far off, for its famous Tor can be seen from some points rising out of the levels of green.

We can make rapid progress along these splendid stretches of level road. Dunball and little Pawlett, with its quaint church and stunted steeple, are soon in the rear. Huntspill is passed and Highbridge gained. The road through the main street is in a most abominable state, and a real disgrace to any road authority. Why it is allowed to continue so long like it must be beyond the understanding of motor cyclists.

Purring away from the jolts and bumps, we still are passing high telegraph-poles on each side, and the straight stretches of highway allow us to diminish the miles with astonishing celerity.

Brent Knoll, a big hill rising alone out of the level country, is soon "passing by us," and its peculiar formation proclaims it an ancient camp, probably Roman. On and on we tear along the smooth, broad highway, past East Brent, Rooksbridge, Tarnock, Badgworth, and Weare. The Mendip Hills are now near, and their smooth, rolling lines confront us. On our right we can plainly see the escarpment of Cheddar, one of the grandest gorges in the world, with its caves most wonderful. At Cross we leave the main road, and, turning to the left, Compton Bishop, our destination, is reached in a minute or so. It is a delightful Mendip village lying in a valley. Above the cottages rises the old church tower, and, above again, Crook Peak, a famous landmark, raises its head 600ft. above the level. As we gain the crest of the hill at "Dunyeat," a magnificent panorama opens out before us, and comprises most of the interesting country through which we have just passed. Against the western sky are seen the heights of the Quantocks, Exmoor, and Minehead Hill.

Thus ends a most interesting and instructive journey, and, thanks to the excellence and general convenience of a modern motor cycle, it has been undertaken quickly, cleanly, economically, and without worry or much physical exertion.

THE AGENT AND THE CUSTOMER.

FROM time to time I address a well-meant word to the motor cycle agents. I did so to one such agent in private last week. He has been supplying a motor cycle to the son of a farmer, who has presumably saved up his army gratuity, and after years of crowded comradeship in the service does not fancy being pegged down to a lonely farmstead in the country. I should suggest that a salesman of imagination would come to sundry conclusions about such a deal. In the first place, he would surely consider that in the spring a young man's fancy lightly turns to thoughts of love, and that therefore the selected machine should be powerful enough to pull a sidecar, or at least to transport a well-nourished damsel on the carrier. In the second place, since the local roads are distinctly hilly, and one can never say in advance what tuning skill a complete novice may develop, the selected machine should have lots of power. In the third place, since the homestead in question has as its sole exits *(a)* a very steep hill, and *(b)* a lane which is literally under water for part of every winter, whilst as *(a)* and *(b)* open into *(c)*, a steep trench filled with deep mud, a clutch seems essential.

Actually, the agent concerned has sold his customer a 2 h.p. two-stroke, of the clutchless, push-to-start two-speeded variety. It seems unquestionable that the customer will shortly desire a different type of machine for any or all of the reasons outlined above. Possibly the agent is counting on making a second profit; but there are other agents in the neighbourhood, and it does not follow that the original firm will have the triple job of (1) buying back the two-stroke, (2) reselling the two-stroke, and (3) selling a three-speeded sidecar.

IXION.

Innovations in the 1920 Six Days Trials.

Speed Test at Brooklands. Fast Hill-climb. Brake Test. Competitors to pass through the Midlands on the Fifth Day.

IT is by no means a new suggestion that the Six Days Trials should finish at Brooklands. It is one which has been put forward by *The Motor Cycle* on many occasions, but it is only this year that the Auto-Cycle Union has finally decided to include a track test in the Six Days. It is an interesting fact to record that as long ago as 1903 the first Auto-Cycle Club Thousand Miles Trial finished at the Crystal Palace track and included a speed trial; while the 1914 event included a short speed test alongside Doncaster racecourse.

A speed trial such as suggested for this year's event has a distinct advantage. It not only shows the public the actual speeds (within limits) of which the machines are capable, but it greatly simplifies the final examination. Defects which were not previously apparent may quite well show themselves when reasonably high speeds are indulged in for half an hour.

This speed trial forms part of the final examination for which twenty marks are allowed. Of these fifteen may be lost in the speed trial itself, one mark being deducted for each mile per hour, or part of a mile per hour, covered at less than the set speed, while a further five marks may be lost during the final examination if any obvious defects show themselves.

The Brooklands Test Speeds.

No excessive speeds will be asked, but a reasonable pace of which each class is capable will be demanded. The schedule speeds are as follow:

	Solo.	Sidecar.
Up to 250 c.c.	22 m.p.h. ...	—
Up to 350 c.c.	30 m.p.h. ...	20 m.p.h.
Up to 500 c.c.	35 m.p.h. ...	25 m.p.h.
Up to 750 c.c.	38 m.p.h. ...	30 m.p.h.
Up to 1,000 c.c.	40 m.p.h. ...	35 m.p.h.

It will be seen, therefore, that the speeds required for the half-hour will be quite reasonable.

Brake Test.

There will be a brake test on Brooklands Test Hill. One section of the hill will be marked out, which is to be covered at a speed of 10 m.p.h., and at the end of it each competing machine will have to stop on a defined line.

It needs no comment on our part to point out how important the holding power of the brake is on a motor cycle, and it is sincerely to be hoped that this test will lead to the fitting of even more efficient brakes than in the past.

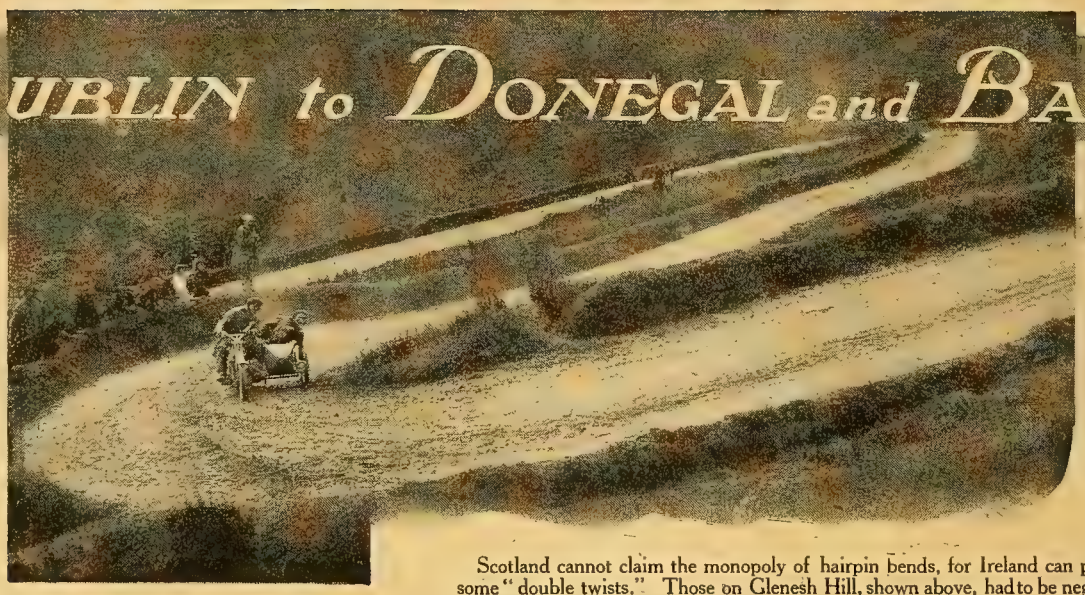
Fast Hill-climb.

Yet another innovation will be a timed hill-climb on a hill known as Holme Moss, between Holmfirth and Woodhead Reservoir. The hill is three miles long, and has a gradient according to the Contour Road Book of 1 in 10, with a rather steeper section. The results will be decided on the old A.C.U. formula, $\frac{C \times T}{W}$, in which C is the cubical capacity, T the time, and W the weight of motor cycle and rider.

There is little doubt that the timed hill-climb will be extremely popular, and will be of considerable spectacular interest. It will be taken during the fifth day's run, when the competitors will travel from Darlington to the neighbourhood of Warwick and Coventry, in which district the competitors will be billeted in various localities. This will conclude the fifth day of the trial, while the finish will be at Brooklands track, which will be reached in good time on the last day.

The run from Darlington to the south of London will be off the beaten track, totally avoiding the Great North Road. This will include several hills, one of which we have mentioned.

DUBLIN to DONEGAL and BACK



Scotland cannot claim the monopoly of hairpin bends, for Ireland can produce some "double twists." Those on Glenesh Hill, shown above, had to be negotiated by competitors in the recent Dublin and District M.C.C. Trial.

Dublin and District M.C.C. Twenty-four Hours Open Trial

THE twenty-four hours open trial of the Dublin and District M.C.C. this year did not attract any English entrants, but a representative native entry was received for the event, Cork sending up a good contingent. The route was the usual one to Donegal and back, but owing to the disturbed state of affairs in Londonderry it was deemed advisable to cut out that city, and consequently a deviation of the route was made at the eleventh hour. After leaving Dungiven the competitors followed an intricate route to Strabane, joining the original course at Letterkenny. Thirty-five competitors started from Dublin on the Friday evening, and most of them reached Belfast on time, despite heavy rain in the later stages of the journey. A lengthy stay was made in Belfast to reduce the amount of night riding, and dawn had broken by the time the Sperrin mountains in Co. Tyrone were crossed.

In Troubled Country.

Between Dungiven and Strabane the leaders found the road blocked by a tree, but the obstruction was easily removed. Shortly afterwards a smouldering police barracks explained the reason of the obstruction.

The ascent of Glenesh mountain in Co. Donegal proved the crucial part of the trial. The hill is regarded as the steepest to be found on any main road in Ireland, and its lengthy gradient and surface combine to make it a very severe test. By the time it was reached the field was reduced to thirty-two, and of these twenty-two made clean ascents. None of the two-strokes got up without help, but all of the nine singles made good climbs. The medium-powered sidecars made a very good show, only two failing out of eleven, but in the big sidecar five out of nine failed.

Accident Delays Competitors.

The proportion of finishers in the trial would have been very high were it not that in the concluding stages of the journey a bad accident occurred, and several of the competitors retired to render assistance. In trying to pass another competitor on a sidecar, W. R. Clarke, whose wife accompanied him as a passenger, miscalculated his speed at a curve. He struck the grass edge of the road with his front wheel, and the combination overturned, both driver and passenger being thrown on the road. Both were unconscious for a considerable period. The accident took place about sixty miles from the finish.

Twenty-three riders checked in at the final control at the Phœnix Park on Saturday evening. An examination was made of the machines, and marks deducted for breakages. The penalties under this heading will be very heavy, as broken frames and sidecar chassis were numerous, testifying to the severity of the 400 miles covered. The finishers were as under :

J. Browne (2¾ Douglas).
E. B. Russell (5 Brough).
T. Woods (6 Martinsyde-Newman sc.).
J. Healy (5-6 James sc.).
A. Carton (3½ Sunbeam).
R. H. Dodd (4 Norton sc.).
P. H. Hurse (4 B.S.A.).
M. J. Doyle (7-9 Excelsior sc.).
Major J. A. H. Waters (4 Norton sc.).
R. Humphries (2¼ Velocette).
D. Allen (4 Norton).
E. H. Bell (5-6 James sc.).
J. Carville (4 Triumph).
F. Wallen (2¼ Triumph).
H. McAllister (6 A.J.S. sc.).
S. G. Smith (4 Norton sc.).
P. A. Bell (5-6 James sc.).
W. J. Burney (8 Enfield sc.).
C. S. Kettle (4 B.S.A.).
A. Wilhelmj (8 Matchless sc.).
C. W. Johnstone (7-9 Harley-Davidson sc.).
T. E. Green (4 Blackburne).
T. Holland (2¾ Triumph).

The official results of the trial will be announced later.

FINDING A WINNER IN A HILL-CLIMB.

TO find a satisfactory basis for handicapping, the Newcastle and District M.C. is running its hill-climb on July 17th on somewhat original lines.

The competitors in the respective classes will start in pairs, and in the second round the winners of the first heat will ride with the winner of the second heat, and so on until only one rider remains. All riders will be timed, and in the final two riders from each class (the winner and rider making the next fastest time) will compete in a handicap based on the fastest times in each class. For example, should the fastest time in Class 1 be 60s. and in Class 7 50s., then the Class 1 riders will get 10s. start from the Class 7 riders.

It will be interesting to know how this scheme works in practice.

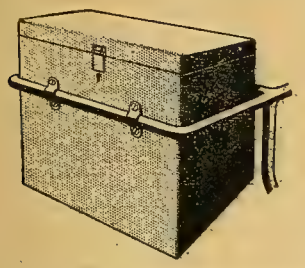
SPORT IN ITALY.

WE understand that the Italian sporting club, known as the "Audace" Club Sportivo, has formed a motor cycle section consisting of about seventy members, including some of the best known Roman motor cyclists. The section is well organised and is busily engaged in arranging races and reliability trials. The programme includes a reliability trial on July 18th, racing on the Fiuggi track on August 15th, and on October 3rd a large race meeting on the racecourse in Rome : the course is five miles in length, and will be covered thirty times. This, we are informed, will be one of the most important races in Italy during the year. Numerous valuable prizes are being offered, and the best-known Italian motor cyclists are to take part. The course will be tarred and many stands will be erected. The club in question extends a hearty welcome to British competitors.

IDEAS: Useful and Ingenious.

Motor Cycle Tool Box.

MANY motor cyclists prefer a strong metal tool box to the leather pannier bags usually fitted, but often the position of the filler caps and oil pump prevent the fitting of a box on the tank. A very neat tool box of ample size can

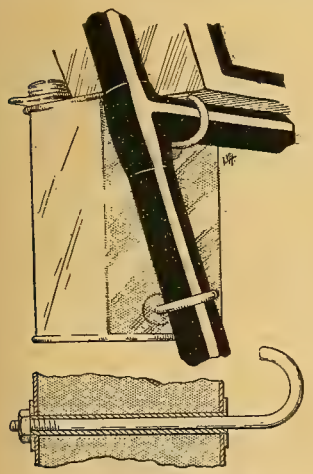


A substitute for the leather tool bag.

be made to fit inside the rear of the carrier; the one shown was made in order to fill this usually unoccupied space, and fitted to a 6 h.p. A.J.S. it has proved very satisfactory.—N.M.B.

A Home-made Tank.

A QUICKLY detachable auxiliary petrol or oil tank can be quite easily and cheaply made from an ordinary quart oil tin. The tin is suitably drilled to take copper tubes, which are cut so that their ends protrude sufficiently to

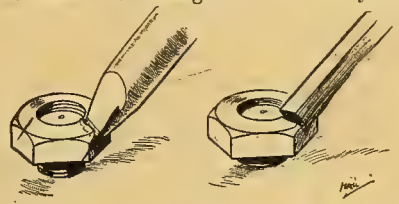


A useful spare petrol tank.

take large flat washers. They are then soldered in place as shown in the sectional illustration. A hooked bolt, made of about $\frac{1}{4}$in. steel rod, is passed through each tube and secured by a nut, the hooked end engaging the frame tubes at suitable points.—L.H.

Useful Method of Tightening Nuts.

WHEN screwing up a nut in a confined or awkward position, a cold chisel and hammer have sometimes to be used in place of a spanner. If the cold chisel is employed, however, for this job, a risk is run of cutting the nut away on one side, or of mauling it so badly that it becomes almost unserviceable. A good tip is to cut a notch in one side of the nut in the direction of rotation, and to punch the nut up home with a small piece of steel having a square head in place of the cold chisel. It will be found that this improvised tool does not tend to damage the nut beyond

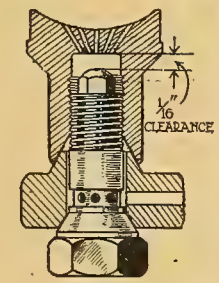


A method of tightening inaccessible nuts.

repair. This hint applies particularly to internal flywheels, where a nut loose or not firmly driven home may lead to disaster.—A.M.

A Tip for Amac Users.

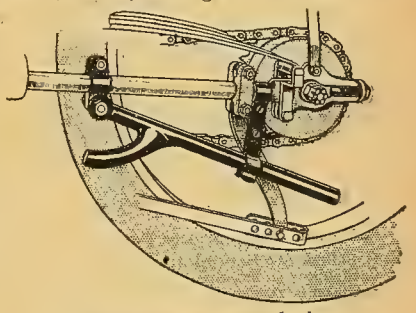
THE main jet of an Amac carburetter usually screws up into a chamber which has five or more smaller holes arranged in line immediately above the jet. It is very important that there should be a clearance of $\frac{1}{16}$in. between the top of the jet and the top of the inner chamber, as any variation in this clearance will affect petrol consumption and running efficiency considerably. When fitting a new jet, care should be taken that it does not screw up tightly against the top of the inner chamber, as, apart from the bad results obtained by having no clearance, it will also prevent the proper tightening of the float chamber projection. A pencil passed up to the top of the inner chamber and marked off at the jet plug shoulder will enable one to test if the jet to be fitted will permit of the necessary clearance.—A.V.H.



Jet clearance in Amac carburetters.

A Rear Stand for Morgans.

OWNERS of Morgan Runabouts who have experienced rear tyre trouble, and who have been at a loss as to how to jack up the rear wheel, will no doubt appreciate the following description of an inexpensive method of fitting two simple stands. An old motor cycle stand of the type illustrated was purchased at scrap price from a garage, and the cross-piece removed, leaving the two legs. Two

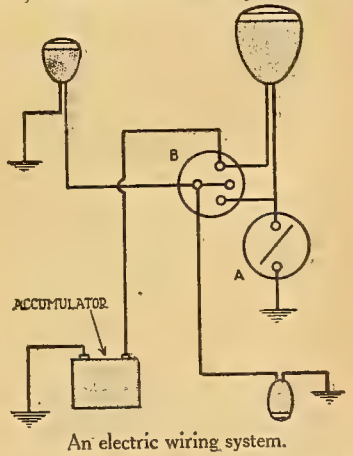


A simple stand for three-wheelers.

clips were made to fit the main tubes forming the rear frame, and to these clips the separate legs were attached as shown in the sketch, the holes in the top of the legs being bushed to take a $\frac{5}{16}$in. bolt. Two extra clips of spring steel were fitted in order to hold up the legs when not required. When in use the front wheels should be adequately scotched both fore and aft to prevent swinging.—T.T.L.

Economical Wiring.

THE simple method of wiring illustrated herewith is claimed to be most economical in current consumption. A represents a single-way switch, while B is a two-way and "off"



An electric wiring system.

switch. Now that electric lighting of sidecar outfits is becoming increasingly popular, this suggestion should prove of considerable use to readers.—J.L.B.

THE CLUB CHAMPIONSHIP.

The Leicester and District M.C.C. wins "The Motor Cycle" Cup in the M.C.C. Team Trial.

In consequence of one of its members exceeding the speed limit allowed in each circuit of the M.C C. Team Trial, the South Birmingham M.C.C. team, originally given as winners of "The Motor Cycle" Trophy; have lost their premier position.

FURTHER investigation of the provisional results has resulted in it being found that H. H. Saddington (James) covered a lap in excess of the speed allowed. This has accounted for a considerable alteration in the results, and, as will be seen by the figures published, the Leicester and District M.C.C. secures first place. The organising club showed a total error only 4 min. 40 sec., and had not Sharratt been riding with his hands in his pockets, when he struck a patch of wet tar and skidded, a different tale would have been told.

The official results are as follow:

FIRST (Cup Winners).—Leicester and District M.C.C.

	Lap variations.		Total.
	m. s.	m. s.	m. s.
A. Wooding (4 Sunbeam)	1 34	30	2 4
J. Willcox (3½ Rudge)	1 55	55	2 50
W. C. Pym (4 Douglas)	40	33	1 13
Will Chapman (6 A.J.S. sc.)	41	1 9	1 50
R. Harris (4 Triumph sc.)	1 9	2 8	3 17
H. Pole (8 Morgan)	1 46	2 10	3 56
Total consistency figure for team			15 10

SECOND.—Surbiton and District M.C.C.

R. G. Spikins (7-9 Harley-D.)	58	57	1 55
R. C. Staunton (4 Triumph)	25	1 5	1 30
L. T. Gilson (8 Zenith)	52	1 33	2 25
R. C. Charlesworth (8 Zenith)	1 32	2 2	3 34
H. Jepson (8 Zenith sc.)	2 2	2 40	4 42
Rex Mundy (6 Martinsyde-Newman)	2 30	3 11	5 41
Total for team			19 47

THIRD.—Worcester and District M.C.C.

E. Williams (3½ Sunbeam sc.)	4 1	1 44	5 45
J. Westwood-Ellis (2¾ Verus-Blackburne)	1 1	2 15	3 16
T. C. de la Hay (3½ Sunbeam)	1 25	34	1 59
J. A. Chadwick (2¼ Diamond)	3 24	3 37	7 1
E. W. Choldcroft (6 A.J.S.)	13	1	14
J. Dudley (3½ Sunbeam sc.)	2 15	2 2	4 17
Total for team			22 32

The positions of the other teams, by mileage, are as follow:

Ealing and District M.C.C., 581½
Kidderminster M.C.C., 552½
South Birmingham M.C.C., 552¾ (one man too fast)
High Wycombe and District M.C.C., 552½ (one man too slow)
Bedford and District M.C. and L.C.C., 543
Luton and S. Beds. A.C., 538
Rochester, Chatham and District M.C., 525
Motor Cycling Club, 523½
Sheffield and Hallamshire M.C.C., 501½
Gipsy M.C.C., 498½
Coventry and Warwickshire M.C., 493½
Ilkley M.C. and L.C.C., 460½
Middlesex M.C.C., 455
Essex M.C., 438
Sutton Coldfield and North Birmingham A.C., 421
North London M.C.C., 420½
Blaenavon M.C.C., 416
Liverpool M.C., 412
Camberley and District M.C.C., 407½
Norfolk M.C. and L.C.C., 393½
Birmingham M.C.C., 387½
Waspes M.C.C. (Cambridge), 364½
Oxford M.C., 304½
Wolverhampton M.C.C., 247½
Woolwich, Plumstead and District M..C, no claim

Best Individual Scores.

Kidderminster M.C.C.—R. Fellows (4 Triumph)	1 + 0 = 1
Gipsy M.C.C.—A. F. Selby (3½ Sunbeam)	1 + 3 = 4
Motor Cycling Club.—E. A. Colliver (7 Indian sc.)	4 + 4 = 8
Motor Cycling Club.—J. A. Newman (3½ Sunbeam)	1 + 10 = 11
Sutton Coldfield and North Birmingham A.C.—J. Watson-Bourne (3½ Ariel)	13 + 0 = 13
Worcester and District M.C.C.—E. W. Choldcroft (6 A.J.S.)	13 + 1 = 14
Luton and S. Beds. A.C.—G. S. Davidson (2¾ Diamond)	8 + 6 = 14
Essex M.C.—F. A. Applebee (4 Indian Scout)	3 + 14 = 17
Essex M.C.—F. Thorpe (2¾ Douglas)	4 + 18 = 22
Essex M.C.—F. Roberts (3 A.B.C.)	16 + 12 = 28

Each machine's first lap was taken as his standard, the errors are shown as the difference from that standard in the second and third laps. These two errors were added together.

ANGLO-DUTCH TRIAL.

Comprehensive Programme arranged to entertain British Competitors in this International Trial.

AN interesting programme is being arranged for the entertainment of the British motor cyclists competing in the Anglo-Dutch trial in Holland, August 5th to 9th.

Briefly, the programme is as follows:

THURSDAY, AUGUST 5TH.

The British and Dutch competitors arrive at Maastricht (South Holland), where they will be received by the Council of that town. There will be a dinner at the Hotel "Savante" in the evening.

FRIDAY, AUGUST 6TH.

A social run will be made through the south of Limburg, with dinner at Valkeburg, where a visit will be made to the rockery and gardens for which the place is famous.

SATURDAY, AUGUST 7TH

The Anglo-Dutch trial. The start is from the garage Grabal, Maastricht, and the route will include Heerlen, Sittard, Roermond, Venlo, Nymegan, Arnhem, Ede, Woudenberg, Zeist, Utrecht, Nieuwersluis, Ouderkkerk, Kalfjestaan, Amsterdam.

SUNDAY, AUGUST 8TH.

A social run through "t Gooi," lunch at Hilversum, a visit to the Stadion. Official dinner in Amsterdam.

MONDAY, AUGUST 9TH.

The British competitors will leave Holland.

In the meantime, the Dutch organisers are busy selecting the team to represent Holland in this popular international contest, and if the lists already put up for selection are any criterion, the machines will be chiefly American, showing how the U.S.A. has spread its trade arms over the country.

Of twenty-four private riders put forward sixteen ride American Excelsiors, Harley-Davidsons, Indian and Henderson machines; four have British mounts (Douglas, Cedos, James, and Royal Enfield); two German (Wanderer and N.S.U.); one Belgian (Sarolea); and one Dutch (Simplex).

Among the trade riders suggested, British machines are better represented, while several French mounts are included, and a good sprinkling of American types

British machines mentioned include Douglas, Cedos, N.U.T., Metro-Tyler, Blackburne, A.B.C., Martinsyde-Newman, Clyno, and James.

R. O. CLARK IN THE JUNIOR T.T.

WHEN R. O. Clark finished his plucky ride in the Junior T.T., on a flat tyre and a wobbling front wheel, it was generally assumed that he had punctured, while in many quarters it was stated that he had sustained a tyre burst, which had been responsible for his fall

As Clark collapsed at the finish and was taken to hospital, what had happened exactly was not known until the rider returned to Norwich We have now had a long letter from him, in which he states that he has had a lot of trouble with his back as a result of his fall, but is now making recovery.

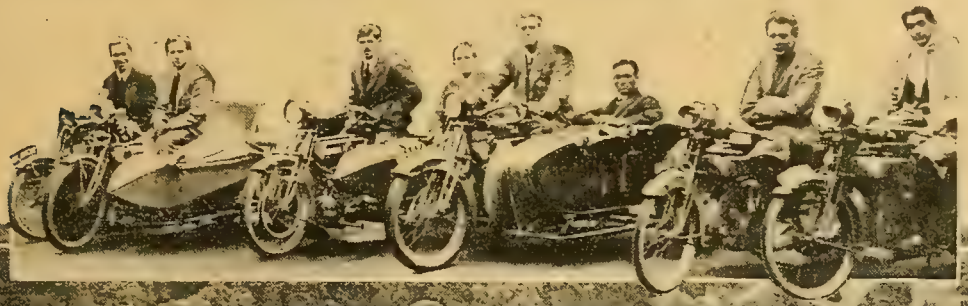
He tells us that he has little to relate regarding the race; in his own words "it was head down and throttle wide nearly the whole time." On the first lap, he cannot remember having seen a single machine, and his only mechanical trouble was that the driving chain came off twice through the connecting link giving way.

On picking himself up after his spill, he tells us that the outlook seemed black indeed. On examining the machine, he found that the front wheel was so badly buckled that it could not be forced round its axle. His weight, which had been a handicap to his little machine on the up grades, now stood him in good stead, for he managed to straighten the wheel sufficiently to allow it to pass the forks, by jumping on it. The tyre, however—a Hutchinson, by the way—had to be deflated, and in this condition he finished.

The machine is now on view at Godfreys, Ltd., 208, Great Portland Street, W.1.

The Club Championship for 1920.

LEICESTER AND DISTRICT M.C.C. THE WINNERS AFTER ALL!



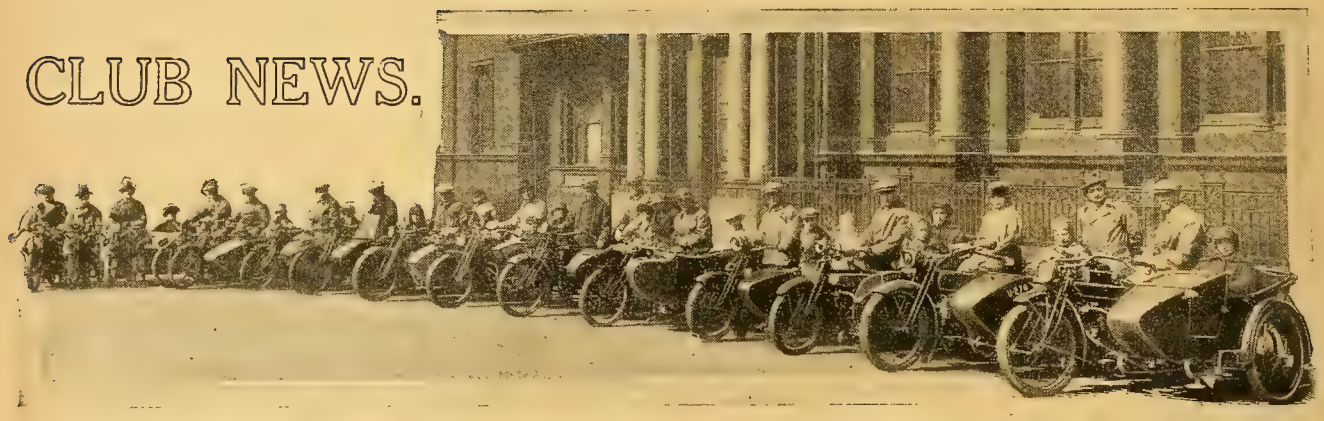
AN AIRMAN'S VIEW OF TRING.

Tring, the centre of the M.C.C. Team Trial for "The Motor Cycle" Cup. Competitors in this club championship event were much interested in the evolutions of the aeroplane, from which the accompanying general view of Tring was secured on the 26th ult. Mr Joseph Edge, an old and valued contributor to "The Moto Cycle," was the photographer.

Provisional winners and actual winners of *The Motor Cycle* Challenge Cup in the M.C.C. Team Trial are shown on this page. The upper photograph shows the South Birmingham M.C.C. team, who, until the second checking of observers' sheets, were regarded as the winners. Subsequent examination by the M.C.C. timekeepers revealed that one of the riders had exceeded the speed limit allowed. Reading from the left, the riders are: G. Denley (Velocette), J. H. Walker (Triumph sc.), H. Uzzle (B.S.A. sc.), H. H. Saddington (James sc.), B. Bird (2¾ Verus), B. Kershaw (2¾ Verus).

THE VICTORS. In the lower group is shown the victorious Leicester team, which has been adjudged the winner. The riders are: J. Willcox (Rudge), A. Wooding (Sunbeam), H. Pole (Morgan), R. Harris (Norton sc.), W. C. Pim (Douglas), and W. Chapman (A.J.S.).

CLUB NEWS.



The Leeds branch of the N.M.C.F.U. is a live club, judging from the turn-out for one of its recent social runs, shown above.

Marlow and District M.C.C.

This club held a successful run to Worthing on the 27th ult., starting from Marlow at 7.45 a.m., it being the first all-day run so far undertaken this year.

Pyle and District M.C.

The above club has been organised with headquarters at "Church Hall," Pyle, and is affiliated to the A.C.U. Applications for membership should be sent to the hon. secretary, Mr. A. E. Cooper, Chandos House, Pyle, near Bridgend.

Doncaster and District M.C.C.

The second general meeting was held recently at the Red Lion Hotel, about forty members attending. The club has made rapid progress since its reorganisation a short time ago, and a good social and sporting programme has been arranged. The next event will be a speed trial to be held in Stapleton Park, near Wentbridge, on the 15th inst.

East London (South Africa) M.C.C.

In the hill-climb for the Manning Trophy, held by the above club last May, W. E. Courtney (4 Triumph) made the best performance, winning the cup for the third time, and also making fastest time of the day. The results were as follow: 1, W. E. Courtney (4 Triumph); 46 secs.; 2, C. S. Morris (4 Triumph); 3, Becker (4 Triumph); 4, A. Bannock (5 Harley-Davidson); and 5, W. T. Snell (2¾ Indian).

Edinburgh M.C.

Eight teams participated in the recent trial for the Dobson Trophy organised by the above club, the holders of the cup. The event consisted of a half-day reliability trial including one timed hill (Hartree, near Biggar).

The Edinburgh Club, represented by two teams, again won the cup; the winning team consisting of A. F. Downie (2¾ A.J.S.), H. Fairley (3 A.B.C.), and G. Grinton (7-9 Harley sc.). This club also gained second place, while Peebles and Tweed Valley was third and the West of Fife Club fourth.

The route was marked by colour dropped from the preceding official car, this method proving very successful.

Wrexham and District M.C.C.

A club has been formed under the above title, and local motor cyclists desirous of joining should get in touch with the temporary hon. secretary, C. Gaffney, 52, Norman Road.

The J.B.M.C.C. (Liverpool).

One pint of petrol for solo machines and a quart for sidecars was allowed in the consumption trial held on the 23rd ult. The course was 13 9-10th miles in length with varying gradients. Results: Solo: Christian (Chater Lea) 136 m.p.g., D. O. Sullivan (Douglas) 128 m.p.g., F. V. L. Roberts (Metro Tyler) 120 m.p.g. Sidecars: Capt. Harper (Triumph sc.) 116 m.p.g., J. Bromhead (Matchless sc.) 98 m.p.g., W. Reynolds (Enfield sc.) 98 m.p.g.

Aberdare and District M.C.C.

The above club recently held its first event, when over twenty starters competed for the Illtyd Williams Trial Cup. The start took place from the Dare Valley Garage, Aberdare, and the competitors were sent away on a non-stop run to Brecon. A long easy run followed, *via* Three Cocks to Builth (lunch stop); returning to Aberdare *via* Brecon and Merthyr.

Results: first, H. Oxenham (3½ Rudge) and A. Church (3½ Sunbeam), tied; third, A. Cranch (6 Rover sc.); fourth, I. Parker (4 Triumph). The challenge cup goes to H. Oxenham, as this was confined to Aberdare competitors only.

Bath and West of England M.C.

The results of the recent twelve-hour trial to Lynmouth and back were as follow: Amateur Class.—1, E. C. Collins (4 Norton), gold medal and F.R.S. lighting set; 2, L. E. Gunning (4 Norton sc.), silver medal and prize; 3, F. Butcher (7-9 Harley-Davidson), bronze medal. Trade Class.—1, A. F. White (3 A.B.C.), gold medal; 2, E. G. Fery (4 Douglas sc.), silver medal; 3, L. C. Bird (2¾ Douglas), bronze medal.

A special gold medal was awarded to C. B. Newman, riding a 3½ Douglas, who, having cracked his piston and cylinder early in the trial, finished the course on time and successfully climbed Porlock Hill on the one cylinder.

Coventry and Warwickshire M.C.

A hill-climb is being arranged to take place at the end of August. The venue will probably be Stile Kop.

Mid-Cheshire M.C.C.

At a recent meeting of motor cyclists held at Northwich it was decided to form a club with the above title. The hon. sec. is Mr. H. Bailey, 77, London Road, Northwich, to whom all communications regarding membership should be sent.

Crewe and District M.C.

Motor cyclists in the neighbourhood of Crewe will be interested to know that a club has recently been formed for district motor cyclists. The hon. sec. is Mr. D. E. Haighton, "Stanroyd," Crewe Road, Nantwich.

Helensburgh M.C.

Recently this club held a reliability trial over a stiff course of eighty-four miles. Only half the competitors succeeded in finishing. The winner of the Prosser Cup and first prize was D. R. Tullis (3 A.B.C.), six other riders finishing in the following order: W. Carlow (7-9 Harley), A. McCulloch (3½ James), R. O. Thorburn (4 Triumph), R. Prosser (4 Triumph), J. W. Morton (4 Blackburn), and W. M. Carlaw (3½ Lea-Francis), who finished pluckily after being dogged with tyre trouble.

Horsham and District M.C.C.

A good number of members took part in the recent hill-climb held at Hurst Hill on the Ruspar Road, and a large crowd was present to watch the performances. Results: Class 1, 350 c.c.: 1st Miss A. Kent (2¾ Douglas). Class 2, 500 c.c.: 1st H. K. Knight (3 A.B.C.), 2nd L. Coppard (3 A.B.C.), 3rd A. Young (3½ Triumph). Class 3, 750 c.c.: 1st H. K. Knight (3 A.B.C.), 2nd L. Coppard (3 A.B.C.), 3rd T. J. Kent (4¼ Sunbeam). Class 4, 1,000 c.c.: 1st H. K. Knight (3 A.B.C.), 2nd W. Goodridge (6 New Imperial), 3rd L. Coppard (3 A.B.C.). Class 5, unlimited solo: 1st H. K. Knight (3 A.B.C.) and W. Goodridge (6 New Imperial), tie 36 2-5 secs.; 3rd L. Coppard (3 A.B.C.). Class 6, sidecars: 1st O. Coppard (4 Norton sc.), 2nd A. C. Coben (8 Sunbeam sc.), 3rd A. Burgess (6 Abingdon sc.).

THE HUMBER STAFF TRIAL.

Over Fifty Competitors, composed of Men who make Motor Cycles.

ORIGINATED last year as a day's sport for the works and staff, the Humber trial has become an annual event to which the contestants look forward with more than usual keenness mixed with no small rivalry. That this is so fulfils the spirit of the trial, for when works can beat the offices, or department prove its valour against department, that spirit of emulation is produced which will form the foundation of a more friendly regard.

The conditions of this year's trial, held on June 26th, were that the contestants must ride accurately to a time schedule and without stopping on any account save at controls, must climb Sun Rising and Warmington hills, and bring their mounts as slowly up Priors Marston Hill as they could.

A Big Entry.

From these rules, it follows that one stop eliminates a rider. For each of the two classes, solo and sidecar, there were cups for the best performance, but the blue riband of the event was the challenge cup for the machine which, actually owned by its rider, makes the best performance of the day, irrespective of class. There were twenty-nine solo entries, of which all but four actually started, and thirty-eight sidecars, of which sixteen did not arrive at the post.

The route to the tea stop at Banbury took the machines to Stoneleigh, Warmington, down Edge Hill, and up Sunrising, whereby disaster overtook eighteen of the competitors, while four others were eliminated by the time Sunrising had been reached.

Doubtful Watches.

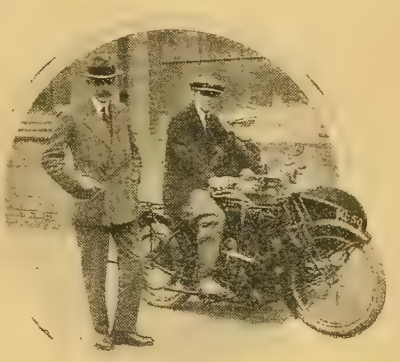
At the tea stop, the Humber band, spirited thither in the works' lorry, discoursed sweet music to a huge crowd of Banbury folk while an excellent tea was being consumed by all the competitors at the Red Lion. Some trouble was experienced owing to the antiquity of the watches used by riders, as even the minute markings were worn away by time, making the actual position of the hand a matter which only the owner could state. F. G. Suter had the misfortune to drop his watch out of its sealed case, another competitor's watch had stopped, and four of these instruments lacked seconds hands.

The Slow Hill-climb.

After Banbury came the slow test at Priors Marston. Here fate overtook a fresh batch of hitherto successful riders, and again persecuted those bold spirits, who, having already failed, and having therefore nothing to win, still were determined to finish.

On the whole the failures were numerous, but the riding of the remainder was extraordinarily fine, machine after machine literally crawling up the gradient, their barely moving rear wheels being anxiously watched by marshals who were as keen for the success of the competition as the riders themselves.

From this hill remained a long dusty, very dusty, ride to the finish at the works.



Col. Cole, managing director of Messrs. Humber, Ltd., who was keenly interested in the start of the works' motor cycle run.

The results are as follow :

50 gn. Challenge Cup and gold medal: F. J. Crundall (10 Humber car).

Solo machines: 1, H. Whitten (4½ Humber); 2, C. Merrett (4½ Humber); 3, E. L. Kemp (3½ Humber).

Sidecars: 1, H. M. Crisp (4½ Humber); 2, S. G. King (4½ Humber); 3, H. Trickett (4½ Humber).

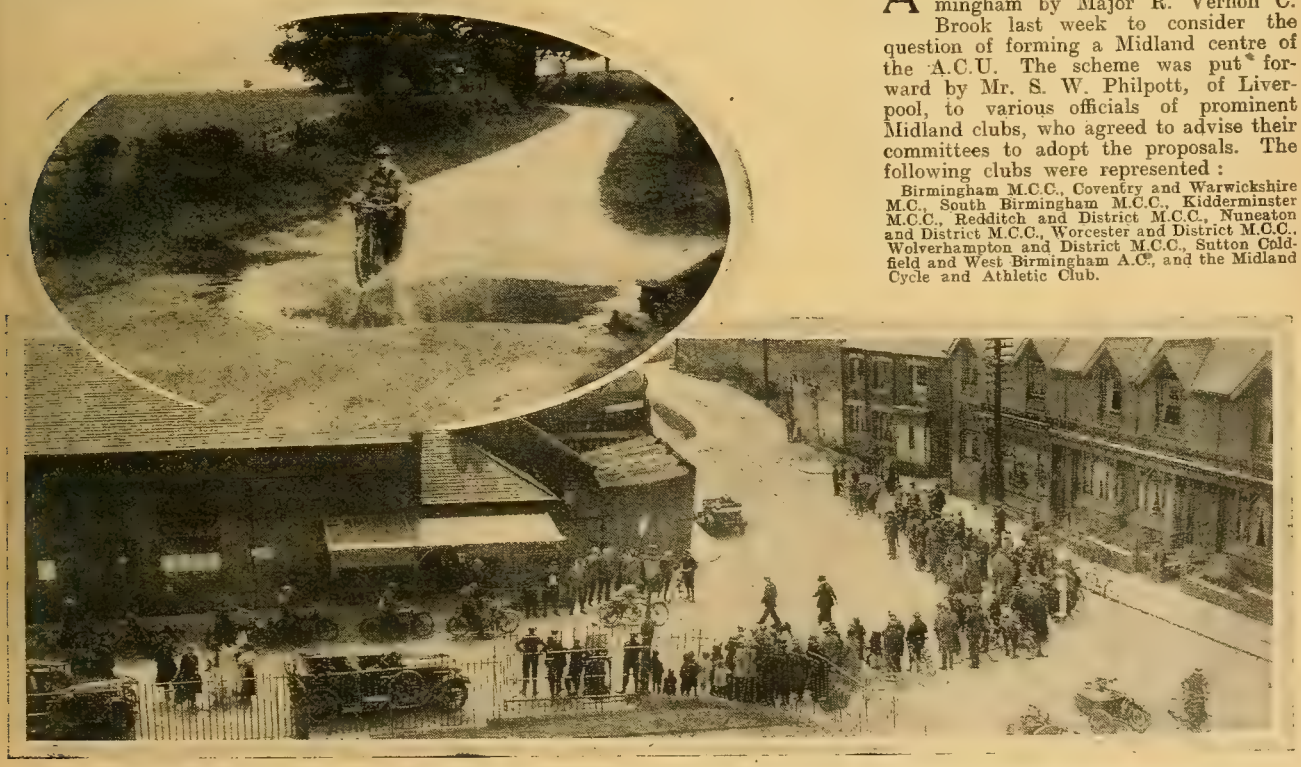
Cars: 1, H. M. Anderson (Humber); 2, W. F. Miles (10 Humber).

In the slow hill-climb H. Whitten, winner of the premier award in the solo class, was 16s. slower than a car and 20s. slower than any sidecar.

PROPOSED A.C.U. MIDLAND CENTRE.

A MEETING was convened at Birmingham by Major R. Vernon C. Brook last week to consider the question of forming a Midland centre of the A.C.U. The scheme was put forward by Mr. S. W. Philpott, of Liverpool, to various officials of prominent Midland clubs, who agreed to advise their committees to adopt the proposals. The following clubs were represented :

Birmingham M.C.C., Coventry and Warwickshire M.C., South Birmingham M.C.C., Kidderminster M.C.C., Redditch and District M.C.C., Nuneaton and District M.C.C., Worcester and District M.C.C., Wolverhampton and District M.C.C., Sutton Coldfield and West Birmingham A.C., and the Midland Cycle and Athletic Club.



Where Humber motor cycles are made—competitors being checked off at the start of the trial. (Inset) A watersplash was included in the run but did not cause any serious inconvenience.

LETTERS to the EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

WANTED!

Sir,—In my opinion, some first-class British concern, or concerns, ought to design and produce:

(1.) A four-cylinder machine with shaft drive, three-speed gear, and triangulated spring frame.

(2.) A scooter with two-speed gear and clutch (? epicyclic).

(3.) A high-powered overhead valve, single speed, or variable speed, twin-cylinder machine of strictly moderate weight.

J. STONEHOUSE, B.A.

THE 1920 MODELS.

Sir,—Here is another victim of a new machine—turned out "anyhow." I paid £—— for an "aristocratic" motor cycle, which I believed would prove a sure thing, for I was chary after reading in your columns the laments of other riders. So I determined to spot a winner. Within a few days of delivery it was returned to the makers with an inch crack in the front cylinder (V twin), a leak in the petrol tank, which wetted my trousers outrageously, several teeth shed from the kick-starter, in which could be seen clearly a long vein of flaw, and a groove in the rear chain case, owing to faulty assembling of the stand. Not a word of regret or apology, but, of course, nearly £3 for me to pay in carriage. Within a week of the patched thing's return, the leak in the tank is worse than ever. Now I understand why I see so few machines of this make on the road.

Devon. DISAPPOINTED.

WELDING MOTOR CYCLE FRAMES.

Sir,—Your correspondent "EO 795" would give a prejudiced impression to the riding public against the welded type of joint in motor cycle and sidecar frames.

We believe that most manufacturers using this method fully appreciate the simple metallurgical facts which he states. Before adopting autogenous welding in the Ayres-Hayman we made careful tests in the laboratory, and found that the tubes (of heavier gauge than most frames) could be crushed and distorted in any direction without disturbing the weld. By the employment of intelligent, skilled welders only the damage to the tube is reduced to a minimum, and, by our special system of jointing, the stress is distributed to a portion of the tube distant from the actual joint.

It might be pointed out that in brazing practically the whole of the frame tubing is brought to a cherry heat, and the action of the spelter on the steel tubing tends to brittleness. Brazed frames are never "normalised," and malleable lugs are of much more doubtful physical structure than the pure metal deposited when welding.

Brazing was long ago abandoned in aircraft structure.

THE VIADUCT MOTOR CO.

BENZOLE AND TWO-STROKES.

Sir,—Until recently, I have been running my machine—a Chater Lea two-stroke almost exclusively on benzole, and I think my experience with this fuel may possibly interest some of your readers; more particularly those whose machines are fitted with the very excellent Villiers power-unit.

For *slow speed* town riding, I find benzole considerably facilitates driving, in that, once the engine is warm, the air lever may be left fully open, and the speed of the machine entirely controlled on the throttle, without an excess of "popping-back" at small openings.

But the great drawback, in my opinion, and the point to which I would draw particular attention, is the tendency which benzole has to exaggerate that metallic "clang" peculiar to two stroke engines at high speed.

After completing several hundreds of miles on this fuel, this high speed "knock" became so persistently annoying—even at 15 m.p.h.—that I had decided to have the engine overhauled, when, from want of a cheaper spirit, I filled up with "Aviation."

The result was amazing! The rattle entirely disappeared up to 38-40 m.p.h., and the general behaviour of the machine greatly improved.

Of course, my experience may be an isolated one, but I shall await, with interest, the views of other readers on the matter.

STANLEY J. BOND.

ASSISTING THE BUYER.

Sir,—Like many others, I have seen advertised a second-hand machine which seemed suitable, but the advertiser, unfortunately, lived too far off for me to examine the machine before purchasing.

I think those wishing to sell their machines would greatly help both themselves and prospective purchasers if they would obtain a detailed mechanical report from the A.C.U. or A.A., if they happen to be members, and state in their advertisement that they hold such a report. Prospective purchasers could then ask to see it, and safely decide without seeing the machine, if they so desired.

Machines would certainly stand a better chance of sale to distant enquirers, to the satisfaction of both parties.

Another suggestion is that the distant machine might be sent up to the nearest motor club, for the prospective purchaser to view, at his expense.

E.H.

Southport.

Among the thousands of spectators at the Tourist Trophy races were many lady motor cyclists, who had journeyed over to the Island specially to witness the "Blue Riband" event of the motor cycle world. Among them was Mrs. Louis Camm, of Blackburn, who is seen above, mounted on her two-stroke Royal Ruby.

ROAD REPAIRS.

Sir,—I was surprised to read the letter by G.H.W. in your issue of the 24th ult. Has this correspondent tried to imagine the condition our roads would be in if they were not tar-sprayed and patched? I might inform him that these are two of the principal items in the maintenance of a road. C.B.B.
Cheddar.

SPEEDS.

Sir,—The correspondence in your columns regarding high speeds on the road impressed me very much until I came up here for my holidays. In the garage where I keep my machine, I met a man who told me he could ride his Multi Rudge from here to a town eighty-four miles away in 59 *minutes!* Also that he had frequently done the same journey on the same machine, with a passenger on the carrier, in 75 minutes! A still better feat of this rider is to do a trip of twenty-four miles in *16 minutes!*

Surely Emerson, O'Donovan, NcNab, and a few others had better look out if he ever takes a run down to Brooklands—only a three hours' run for him. ELDON.
Scarborough.

TWO AND FOUR-STROKES IN COMPETITION.

Sir,—I would like to draw the attention of the framers of the conditions of competitions (more especially hill-climbs) to the obvious unfairness of cubic capacity alone, being the class unit when four-stroke engines are competing against two-stroke. Now that 350 c.c. two-stroke engines are being produced in numbers, the question, in my opinion, really requires attention. Why should the four-stroke 350 c.c. owner have to compete against a machine which (a) uses the petrol and oil of a 3½ h.p. machine (or perhaps a little more), (b) is actually advertised as a 3½ h.p. machine.

It would appear that the c.c. unit has grown up with the development of the four-stroke engine, on the principle that machines using the same amount of gas should develop about the same h.p., any differences in power obtained being attributable to good or bad design. If the two-stroke engine, by burning *an equal volume* of gas, produced more power, it would be quite entitled to compete on an equal c.c. basis, but otherwise it is unfair.

I would suggest that in any class the two-stroke engine should be allowed capacity less one-third—*e.g.*, in the 350 c.c. class no two-stroke over 233 c.c. should be allowed to compete. A.L.
Glasgow.

SPEED WOBBLE.

Sir,—It seems to me that most of your correspondents writing on speed wobble have failed to grasp the scientific points involved. They speak vaguely of gyroscopic action without actually showing how it comes into play.

Most speed wobbles are started by the machine striking some irregularity in the road. This causes the bicycle to lean over, the axle of the front wheel being forced out of its horizontal plane as in the figure, which represents side and front views of a machine leaning over to the right, from the rider's point of view.

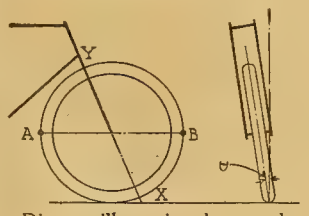


Diagram illustrating the remarks of "E4003" on speed wobble.

Consider the mass A. The wheel leans over, out of the plane of the paper. A cannot continue in its former path, but is forced outwards from paper, giving a corresponding reaction into paper. This tends to turn the wheel and forks in the steering head to the right. To correct this, one turns the wheel to the left and instinctively leans over to the left; this again causes gyroscopic action, turning the wheel further to the left. The wheel is now turned to the right, one leans over to the right, and so the gyrations proceed.

Note that the gyrations would not be started unless one leant over without turning the wheel; they continue because one leans over too far for the corresponding turn of the wheel.

It is a well-known fact that no gyroscopic action can take place without a certain amount of freedom of movement for the various axes. In consequence, machines with play in the steering head and fork spindles, whip in springs and frames, would be more liable to wobble than those without. This explains why one gets two machines of identical design—one which wobbles and one which is steady. Apparently design has little influence on wobble. E 4003.
Cambridge.

PILLION RIDING.

Sir,—I feel it my duty to inform you and all readers of your valuable paper who may find it necessary to travel through Bolton by motor cycle or sidecar that the local authorities have threatened a campaign against pillion riding, and are inflicting heavy fines against number plates being obscured or partly obscured, and in some instances I am inclined to believe that they have not been so obscured.

I therefore suggest that every motor cyclist of this town (Bolton) take particular note of all motor cycles with pillion riders as to whether the number plates are so obscured, and also note the time and identification marks, and volunteer to give evidence if their drivers are unjustly prosecuted.
Bolton. PRO BONO PUBLICO.

ROADSIDE COURTESY.

Sir,—Referring to "Chinook's" remarks in a recent issue of *The Motor Cycle*, I urge the A.A. and the A.C.U. (I am a member of both) to take the initiative and mutually agree upon and publish some simple distress signal. Such signal would then soon become universal in Great Britain.

Henceforth, until such signal is adopted, except in exceptional circumstances, I refuse even to slow down when I see others in trouble, for the following reasons:

Three or four weeks back I had about three hours for a Sunday evening run. I pulled up for the owner of an Enfield outfit, and spent an hour getting the driving wheel revolving on badly chewed up bearings and adjusting rubbing brake block from rusted up fittings. On attempting to start the outfit, I found the ignition and valves "anyhow." The gas lever refused to stay open, and the machine should never have been taken out till overhauled. I pushed the owner off, certain he could make his home. *Not even "thank you"!*

The following Sunday I stopped to help the rider of a 4 h.p. Douglas combination with lamp troubles (machine fitted with toy lamps) and broken exhaust lifter control, who accepted all help, including a new spare burner and box of matches. No offer to pay for these (though payment would have been refused), and *not even thanks"!*

I carry all reasonable spares and tools, and when I do break down, if I cannot get going alone, probably nothing short of a well-equipped workshop could help me. Therefore, in view of the behaviour of the riders who carry nothing, or only lumber and call it "spares," who do not take the trouble to understand the 'bus, and the possibility of tricks by highwaymen in these retrograde days, I will drive on, unless I am sure help is essential at that moment, until some signal is arranged. W 8406.
Sheffield.

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with *The Motor Cycle*

	Price net.	By post
"MOTOR CYCLES AND HOW TO MANAGE THEM." The standard handbook of the motor cycle. Covers every subject relating to all types of motor cycles, their management and care. Twenty-first Edition. Just published	2/6	2/10
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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

A Technical Question.

Q. What effect does late or early timing of the valves have on the power and speed? I want maximum power at from 10 to 15 m.p.h., 26in. wheels, 19in. belt rim, and 4in. pulley.—E.W.B.

Your question covers too large a field to be dealt with here, and many other considerations are involved. Evidently, you do not follow petrol engine practice when you expect to get maximum power at from 10 to 15 m.p.h. Motor cycle engines usually develop their rated power at about 2,000 to 2,500 r.p.m., and with a gear of $4\frac{3}{4}$ to 1 this gives a road speed of 35 to 40 m.p.h.

Adjusting Countershaft Gear.

Q. Will you be so kind as to advise me in two matters concerning my 1913 Scott motor cycle? (1.) Although both my high and low gears operate, I have to maintain such a firm and continuous pressure upon the gear pedals to prevent them slipping back into free engine that I feel something must be amiss somewhere. It would be extremely fatiguing on a long run. Ought not the gears once pressed into position to remain there without the necessity for all this pressure? (2.) In the second case, I have been unable to adjust the two gear chains to equal tension with the countershaft in alignment with the engine-shaft. One chain is a Renold and the other a Brampton. Both appear in an equal state of preservation, being in very good order. Can one of the chains have stretched a half link above the other, or what is the reason?—W.M.

(1.) The trouble is probably due to the friction grip band on the outer quick thread drum not being sufficiently tight. If you screw up the nut on this arrangement until the gear operating pedal is only just free in the neutral position the gears should remain engaged without continual pressure. You would probably effect an improvement also by adding one or two thin washers on the sliding spindle through the gear axle, placing these behind the ¼in. sleeve nut which is screwed through the centre of the pedal. (2.) Evidently one chain is worn more than the other, and we would suggest that you bring the high gear chain to the correct length by removing a complete link and inserting a cranked (or half) link. Exact tension of the chains is not nearly so essential to satisfactory results as correct alignment of the sprockets.

A Traveller's Mount.

Q. I use a push bicycle to carry my samples (total weight about 50 lb.), but sometimes lose time in waiting for trains to take me on to the next town, where the "fag" would be too great to pedal. Would a motor attachment be a reasonable proposition to do the work? I could not possibly put my load on an ordinary motor cycle, and do not want to run a sidecar. I am not after great speed, but want something that can be relied on for steady, regular, plodding work, day after day, and sometimes including a fifty-mile run. Is there anything with sufficient power and durability? I should not mind helping with pedals on hills.—WHEELS.

A lightweight motor cycle with a four-stroke engine of about $2\frac{3}{4}$ h.p. would be the most satisfactory proposition for your work. Although there is no reason why the various cycle attachments should not be perfectly satisfactory, we do not think it advisable to overload these small power units.

Speed and Gears.

Q. My engine runs at the rate of 3,600 r.p.m. The two-speed gear ratio is $5\frac{1}{2}$ to 1 top gear, and 9 to 1 low. The belt rim is 20in. and the cover 26×2¼in. The belt pulley on the gear box measures 6in. across. Will this give me a speed of 70 to 75 m.p.h., or, if not, what size belt rim shall I require on the rear wheel, and will the above ratios of gear suit?—L.R.

We should have been able to work out the figures you require had you supplied us with the number of teeth on the engine and countershaft sprockets. A table of speeds and gear ratios is included in "Motor Cycles and How to Manage Them," published by Iliffe and Sons Ltd., 20, Tudor Street, London, E.C.4, by post 2s. 10d. With the engine running at 3,600 r.p.m. you cannot get a speed of 70 m.p.h. on a $5\frac{1}{2}$ to 1 gear. 3,580 r.p.m. on a $5\frac{1}{2}$ to 1 gear give 50 m.p.h., and 3,504 r.p.m. on a $4\frac{1}{2}$ to 1 gear give 60 m.p.h. To get 70 m.p.h. with an engine revving at 3,600 r.p.m. you would need a 4 to 1 ratio.

Among the hundreds of photographs taken of motor cyclists at speed, only a small percentage give a real impression of rapid movement. This illustration of R. O. Clark (Levis), near Sulby Bridge, is one of the most successful taken during T.T. week in the Isle of Man. Incidentally, Clark's corner work was wonderful.

Unaccountable Loss of Power.

(1.) Recently I had new timing gears made, which, naturally, were not marked, so I set the inlet valve to open at the top dead centre. It is fully open at 18° past top dead centre and closes 17° past bottom dead centre. The exhaust closes 20° past top dead centre and opens about 45° (not exact) before bottom dead centre. Are these correct or sufficiently incorrect to make a great loss of power noticeable? (2.) Recently I took out the machine for a test after the overhaul. There was a mysterious loss of power compared with previous experience. There is no stiffness in the engine. The spark is good at all speeds. It starts easily. No air leaks. Compression fairly good. Magneto correctly set. On the level and up slight gradients it is capable of a fair speed, but on steeper hills such as it used to climb with ease it konks in such a manner as though it were not getting sufficient petrol. The carburetter is an old type B. and B., with jet .030in. (I enlarged it from .025in. to get more power.) I cannot give any air on the level now, whilst before I could give nearly full air. There is no back pressure at the exhaust. It does not answer to retarding of the magneto. I put washers of different weights on the float to alter the level until it was almost flooded when running.—E.W.B.

(1.) The closing of the exhaust valve is somewhat delayed, but the timing is sufficiently accurate for all ordinary purposes. (2.) The jet is about the correct size, but if you cannot give any extra air it would appear that a larger one might be fitted. It is almost impossible to diagnose the trouble you describe. Apparently, some small adjustment has been neglected, which could only be traced by inspection.

IMPORTANT DATES.

Mon., July 5th, to Sat., July 10th—
Scottish Six Days Trial.

Wed. and Thurs., July 7th and 8th—
Arbuthnot Trophy Trial.

Thurs., July 15th—
Essex M.C. Joint Open Speed Trials, Westcliff-on Sea.

Sat., July 17th—
Cumberland County M.C.C. Open Reliability Trial.

Sat., July 24th—
Luton and South Beds. A.C. Open Trial at Luton Hoo.

Sun., July 25th, to Aug. 1st—
International Six Days Trial in France.

Sun., Aug. 1st, to Wed., Aug. 4th—
Anglo-Dutch Trial in Holland.

Sat., Aug. 7th—
S.A.C.U. Inter club Meet at Callander.

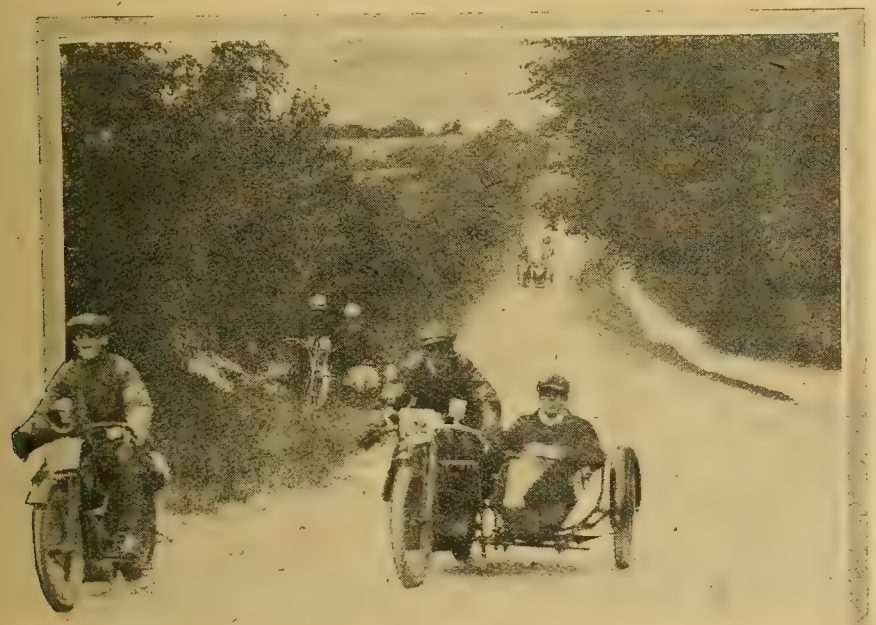
Mon., Aug 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.

Sat., Sept. 4th—
Scottish Speed Championships at St. Andrews
Scott Trial in Yorkshire.

Tuning a Douglas.

I wish to take advantage of your wide experience. I own a 1916 2¾ h.p. Douglas, and wish to give it a general adjusting all over. Will you tell me: (1.) Correct-sized opening for platinum points on contact breaker of Thomson-Bennett magneto. (2.) Correct-sized gap for plug points. (3.) Correct clearance between valve and tappet (when warm engine); also valve timing. (4.) I see that the jets of the Amac carburetter are numbered 24, 26, 27, and so on. What does this mean?—A.P.

(1.) About ½ mm. (2.) $\frac{1}{32}$in. (3.) Tappet clearance when warm about $\frac{4}{1000}$ths. As the timing wheels of the Douglas engine are marked, there is no difficulty in re-erecting after the engine has been dismantled; merely insert the timing wheels so that the markings coincide. You will find complete timing diagrams of this engine in the makers' handbook of instruction. (4.) The number stamped on the jet refers to the size in thousandths of an inch.



COMPETITORS IN THE M.C.C. TEAM TRIAL FOR *THE MOTOR CYCLE* CUP.
Members of the North London M.C.C. team on Whiteleaf Hill. H. J. Williams (Rudge-Multi) and R. W. Greaves (7-9 Indian sc.)

READER'S REPLY.

Misfiring Two-stroke.

I notice, by your issue of 10th ult., that "G.P." has trouble with his two-stroke missing periodically. I had exactly the same trouble with a 1919 two-stroke of a well-known make. I eventually traced the trouble to be due to too early ignition. The correct timing for a two-stroke is piston top dead centre; mag. fully retarded, points just separating—not fully open. The cause of "G.P.'s" machine missing periodically (if a shade too early timed) is probably due to the fact that no chain or set of gear wheels are absolutely true throughout the whole range of action, especially when run for some time—therefore ignition (or spark at plug) would occur earlier on some strokes, and my experience of two-strokes proves that this sometimes results in a misfire. Why, I don't know, but imagine it due to some ill effect on the plug. Retarding mag. slightly by control does not cure the trouble; retiming must be done. I strongly advise "G.P." to try timing his ignition just very slightly later than it is at present. And also to try a Lodge C9 plug. "G.P.'s" ignition timing was probably upset when decarbonising, and his trouble only manifested itself after some wear had taken place in magneto drive.—JOHN MACALLISTER (Taynuilt, Argyll).

RECOMMENDED ROUTES.

ALNWICK TO WIGAN.—A.L.
Alnwick, Rothbury, Rothley, Scots Gap Station, Kirkharle, Colwell, Challerton, Hexham, Langley, Whitfield, Alston, Penrith, Clifton, Shap, Kendal, Crooklands, Burton-in-Kendal, Carnforth, Lancaster, Garstang, Preston, Chorley, Wigan.

CHISWICK TO BARNSTAPLE.—S.A.W.
Chiswick, Hounslow, Staines, Bagshot, Basingstoke, Whitchurch, Andover, Salisbury, Wilton, Hindon, Mere, Wincanton, Sparkford, Long Sutton, Langport, Taunton, Milverton, Wivelscombe, Bampton, South Molton, Barnstaple.

OLDHAM TO SUNDERLAND.—P.P.
Oldham, Delph, Marsden, Huddersfield, Cooper Bridge, Birstall, Morley, Leeds, Roundhay, Wetherby, Boroughbridge, Dishforth, Topcliffe, Thirsk, Tontine, Trenholme, Bar, Yarm, Stockton, Norton, Wolviston, Easington, Ryhope, Sunderland.

BIRMINGHAM TO PAIGNTON.—S.E.D.
Birmingham, Henley-in-Arden, Stratford-on-Avon, Mickleton, Weston-sub-Edge, Broadway, Winchcombe, Cheltenham, Leckhampton, Painswick, Stroud, Nailsworth, Bath, Radstock, Wells, Glastonbury, Street, Somerton, Ilchester, Ilminster, Chard, Yarcombe, Honiton, Exeter, Exminster, Dawlish, Teignmouth, Torquay, Paignton.

Current Chat

Special Features.

THE SCOTTISH SIX DAYS TRIALS.

IN THE WEST COUNTRY.

INNOVATIONS IN THE 1920 SIX DAYS TRIALS.

Times to Light Lamps.

July 8th	... ...	9.46 p.m.
,, 10th	... ...	9.44 ,,
,, 12th	... ...	9.42 ,,
,, 14th	... ...	9.41 ,,

The Irish End-to-end Trial.

Owing to the unsettled state of parts of the country through which the End-to-end riders would have to pass, this trial has been postponed until August or September.

A.J.S. Competitions Manager.

Howard R. Davies, who rode a 2¾ h.p. A.J.S. in both Junior and Senior T.T., and who is well-known as an expert competitor in trials generally, has joined the staff of A. J. Stevens, Ltd., as competitions manager.

Presentation to Mr. Chas. Sangster.

To celebrate the completion of twenty-five years with Components Ltd., Mr. Chas. Sangster was entertained at a dinner at the Imperial Hotel, Birmingham, on Wednesday last, when he was presented with a handsome piece of silver and an album containing the list of subscribers. The latter was confined to directors, managers, and employees who had been with the company twenty years and over.

The Limit in Sidecar Outfits.

When the Simplex motor attachment was in its experimental stage we jocularly remarked to the designer that eventually it would be used to propel sidecars. A London owner of one of these attachments uses a light sidecar built to carry two children, and does quite long runs on a consumption of 130 m.p.g. with l.p.a. only on the steepest hills encountered.

Touring in France.

A statement has recently appeared in the press that grey and pink cards, to be obtained from the authorities at the sea ports, will in future be necessary to motorists landing in France.

The A.A. points out that this statement is misleading. English motorists will continue as in the past to obtain the International Travelling Pass (obtainable from the A.A.), which entitles them to drive in France and most other European countries under their British numbers, with the addition of an oval plate bearing the letters "G.B." The pink and grey card will not be required by them. These latter cards are intended chiefly for American motorists who cannot get the International Pass in their own country.

Research.

The Research Association of British rubber tyre manufacturers have secured laboratory accommodation at the Chemistry Department of University College, Gower Street, W.C.1.

Remarkable Figures.

At a dinner given in his honour last week, Mr. Chas. Sangster, of Components, Ltd., Ariel Works, Ltd., and subsidiary companies, mentioned that with a capital of only £155,000, the company paid last year over £100,000 in taxation and that the turnover this year would exceed £300,000.

A Juvenile Pastime.

In various parts of the country children have resumed their activity in collecting numbers and names of passing motor cycles under the misapprehension that prizes are offered for such lists. At times these enthusiast juveniles run grave risks in their pastime and school teachers would be doing good work to point out to their pupils that no prizes are offered for the lists and that they serve no useful purpose.

Second-hand Prices.

In order to enable readers to follow the trend of the second-hand market, a brief summary of prices is given below. The figures which are taken from the advertisement columns, represent the highest and lowest prices asked by advertisers.

	Highest and Lowest.
A.J.S., 6 h.p., sidecar, 1915-16	£120–£165
,, 6 h.p., sidecar, 1919-20	£180–£250
Blackburne, 4 h.p., sidecar, 1920	£147–£160
B.S.A., 4¼ h.p., 3-speed, sidecar, 1914	£85–£95
,, 4¼ h.p., 3-speed, sidecar, 1919-20	£135–£145
Calthorpe-Jap, 2¾ h.p., 2-speed, 1915-16	£40–£55
Clyno, 6 h.p., 3-speed, sidecar, 1914-16	£100–£135
Douglas, 2¾ h.p., 2-speed, 1914-16	£48–£65
,, 4 h.p., sidecar, 1916-18	£95–£115
Harley-Davidson, 7-9 h.p., sidecar, 1917-19	£125–£175
Indian, 7-9 h.p., 3-speed, sidecar, 1919-20	£160–£220
Levis, Popular, 2-stroke, 1915-16	£38–£46
Matchless, Victory Model, Sidecar, 1919	£150–£170
,, Model H, Sidecar, 1920	£215–£260
Metro-Tyler, 2¾ h.p., 2-speed, 1919	£50–£65
New Imperial-Jap, 2¾ h.p., 2-speed, 1916	£42–£55
P. & M., 3¼ h.p., 2-speed, 1916-18	£65–£78
Rover, 3½ h.p., 3-speed, 1914-15	£55–£60
Royal Ruby, 2¾ h.p., 2-stroke, 1915	£38–£45
Rudge-Multi, 3½ h.p., 1914-16	£60–£68
Scott, 3¾ h.p., sidecar, 1914-15	£80–£96
Triumph, 4 h.p., 3-speed, sidecar, 1918-19	£120–£140

TOURING IN THE MALAY PENINSULA.

This party of enthusiasts made a recent tour from Singapore to Kuala Lumpur and back, a distance of over 500 miles, in four and a half days. In spite of the rough nature of the roads a good average speed was maintained and no serious trouble experienced. The machines used were Reading Standard, Rover, B.S.A., Pope, and Henderson sidecar.

Chars-a-bancs.

Twenty-seven drivers of motor chars-à-bancs were last week fined at Wrexham for driving at a speed dangerous to the public.

Ex-competition Rider Married.

Sydney A. Rowlandson, who before the war was a well-known competition rider on a Rudge machine, was recently married in Toronto to Miss Marion Gibson.

Lady Doctor's Death.

We understand that the recent fatality to a lady doctor was not due to a motor scooter, as has been reported. She was at the time of the accident riding an ordinary pedal cycle equipped with a motor attachment.

All Eyes.

It was stated recently in the Doncaster West Riding Police Court that police constables are instructed to memorise the number of every motor cycle as it approached in order that the owner can be traced if it be found that the rear plate is obscured.

Found.

Mr. N. C. Chapling, of 141, Croften Park Road, Brockley, S.E.14, is anxious to find the owner of a parcel of clothing, apparently dropped by a motor cyclist, found on the road between Southend Pond and Beckenham. A tool kit has also been found in the vicinity of Pool Bridge by Mr. A. E. Flint, 7, Rockery Road, Horsfield, near Leeds.

Racing at Brooklands.

Over one hundred entries have been received for the various races, organised by the M.C.C. to be held at Brooklands next Saturday. These include several well known successful T.T. riders and Brooklands cracks, and given favourable weather the meeting should be very successful.

Speed Trials at Westcliff-on-Sea.

The Essex M.C. and Southend and District A.C. joint open speed trials, on Thursday, the 15th, include seventeen events for motor cycles for the standing kilometre, and sixteen events for the same distance with a flying start. There is also a class for three-wheel cycle cars, and ten for cars, while two events are reserved for lady drivers. The venue is the Western Esplanade, Westcliff-on-Sea.

Racing at Chatsworth Park.

Twenty-two classes comprise the programme for the forthcoming open speed trials to be held in Chatsworth Park on August 7th. Permission has been kindly granted by His Grace, the Duke of Devonshire to use the Park, and the course will be half a mile with flying and standing starts. The event is organised by the East Midland Centre A.C.U., and competitors joining one of the affiliated clubs in this area are entitled to enter at reduced fees. Motor cycles, sidecars and three-wheelers are eligible to compete, and valuable prizes will be awarded in the various classes. Full particulars can be obtained from Mr. J. Simmonds, 10, Cranmer Street, Nottingham, who will also furnish names and addresses of local secretaries of any of the affiliated clubs in the East Midland Centre A.C.U.

Cumberland County M.C.C. Open Trial.

The open reliability trial for the Alan trophy, organised by the Cumberland County M.C.C., will be held over a course in the Lake District on the 17th inst. All classes of motor cycles and light cars up to 1,500 c.c. are eligible to compete, and the start will be at 9 a.m. from the Crown and Mitre Hotel, Carlisle. In addition to the above trophy, several other cups, trophies, medals, and prizes will be awarded in the various classes. Entries closed yesterday.

Next week's issue of "THE MOTOR CYCLE" will contain a lengthy description of the SCOTTISH SIX DAYS TRIALS. Members of the editorial and photographic staffs of this journal are accompanying the competitors throughout the trial.

Powder and Patches.

The officials of the Edinburgh Club have discovered a new means to mark the routes for reliability trials. They now sprinkle coloured powder along the corners. When they returned from a recent route marking expedition the occupants of the official car presented a sorry sight. Mr. Aikman Smith, who is this year running the Scottish Six Days, was a bright yellow and quite unrecognisable except for his cheery smile.

The War Motors Association.

We are informed by the secretary of the above club that, owing to the purchase of all surplus Government motor cycles, they have but a few machines left for disposal under the special privileges and regulations of the Association. Several officers, however, of the War Motors Association are remaining in the trade, and are established at their registered offices, the Auto Traders, Ltd., 84, Jermyn Street, London, W.

We are happy to announce that the profits of this Association will be handed to the British Red Cross Society for the provision of a hospital bed.

North London M.C.C. Speed Trials.

Owing to a suitable course being unobtainable, the speed trials, arranged to take place on Saturday, have been cancelled.

B.M.C.R.C. New Press Secretary.

We are informed that Mr. F. A. Hardy has resigned the post of hon. press secretary of the above club, which he has filled since its foundation in 1909. Mr. O. E. Seyd, of the Publicity Department of the Auto Cycle Union, will in future occupy this position.

A Handsome Contribution.

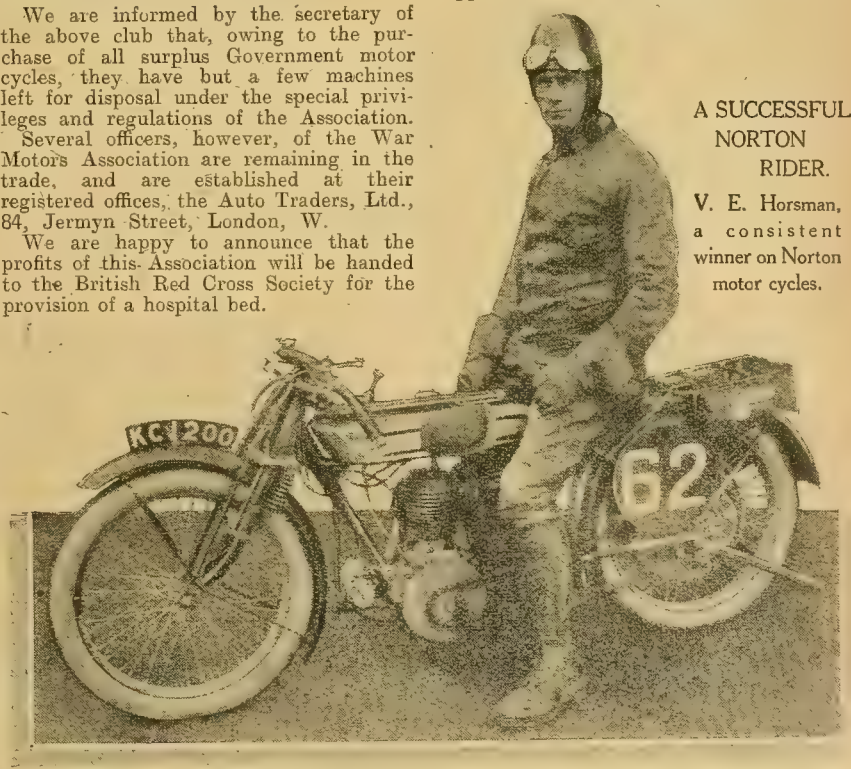
£66,810 has been handed to Field Marshal The Right Hon. The Earl Haig, representing subscriptions to the Earl's Officers' Association Fund, by the petroleum and oil companies operating in Great Britain.

International Six Days Motor Cycle Trials.

Intending British competitors in the motor cycle International Six Days Trial, to be held on a course radiating from Grenoble from 25th July to 1st August inclusive, should at once communicate with the Auto-Cycle Union, 83, Pall Mall, London, S.W.1.

The Rider Responsible?

Last week a Coventry motor cyclist was fined for riding a machine the registration number of which had not been transferred. The fact that he was not the owner of the machine, and was only trying it with a view to purchase, did not affect the matter, the magistrate maintaining that the rider was responsible. The fine was only 10s., therefore an appeal could not be made.



A SUCCESSFUL NORTON RIDER.

V. E. Horsman, a consistent winner on Norton motor cycles.

Among his recent victories in speed contests are five firsts and three seconds in the open speed trials at Storeton on 15th May, while on Saturday, 26th ult., he was placed first in the "All Comers" Handicap at Brooklands. He is seen on his I.O.M. racer.

The 1920 Scottish 6 Days Trial

94 Competitors in this Week's North-country Reliability Trial.

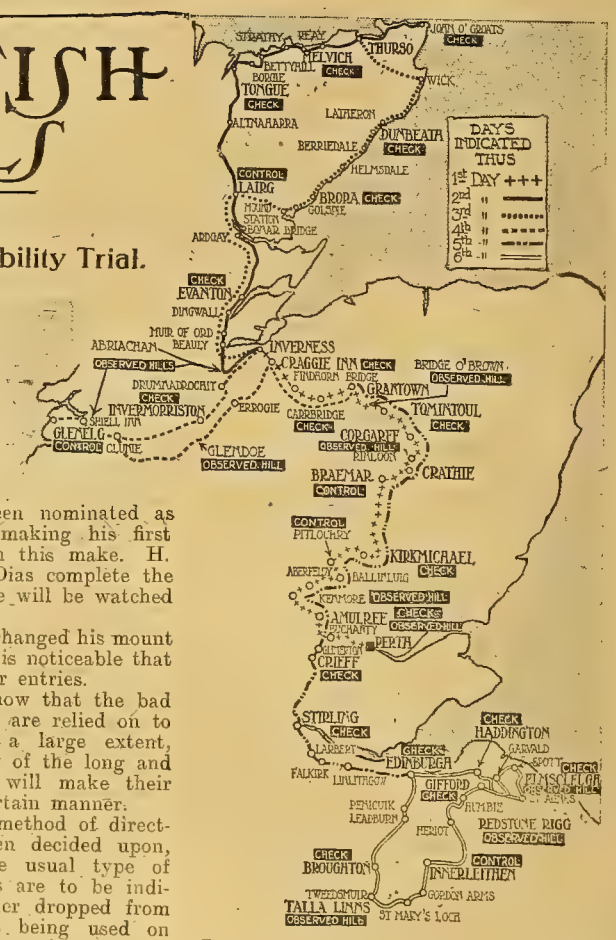
SATURDAY.

A FAIR number of competitors arrived in Perth to-day, and many of those who had taken the precaution of arriving thus early mostly spent their time in examining the famous Amulree. One of the first to arrive was J. A. Newman with his 3½ Sunbeam, on which he has travelled across France and through parts of North Africa. Mr. and Mrs. Knowles, who have elected to ride 3½ Nortons, were also early arrivals, and spent their time at minor adjustments. The Clyno and Indian teams, the Merral-Brown, two Harley-Davidsons and sidecars, a B.S.A., a Rudge, and an A.J.S. put in an appearance at the official garage, while, beside the officials, quite a few well-known faces in the motor cycle world were visible about the town. Perth, by the way, is enjoying an official holiday, all the shops being closed, and were it not for the number of motor cyclists to be seen in all parts a Sabbath calm would prevail.

A Single-geared Entry.

Campbell McGregor's 3½ Brough is one of the very few of these machines which have been turned out, the rider whom everyone will remember as one of the leading lights in the organisation of previous Scottish Trials is this year riding a single-geared machine. The flat twin engine has overhead valves, protected by aluminium covers, and a chain drive conveys the power to a clutch mounted under the bottom bracket. The final drive is also by chain, and the whole machine has a very neat appearance. Three of the new P. and M.'s have turned up, and

To-day's Test Hills: Glendoe and Mam Rattachan. Friday's Test Hill: Kenmore. Saturday's Test Hills: Talla Linns, Redstone Rig, and Emscleugh.



Alan Hill, who has been nominated as one of the riders, is making his first appearance in public on this make. H. M. Batten and J. A. Dias complete the team, whose performance will be watched with some interest.

T. J. Hutchinson has changed his mount for a 7-9 Indian, and it is noticeable that there are but few sidecar entries.

All reports tend to show that the bad roads and long mileages are relied on to eliminate machines to a large extent, though, of course, many of the long and steep Scotch gradients will make their presence felt in no uncertain manner.

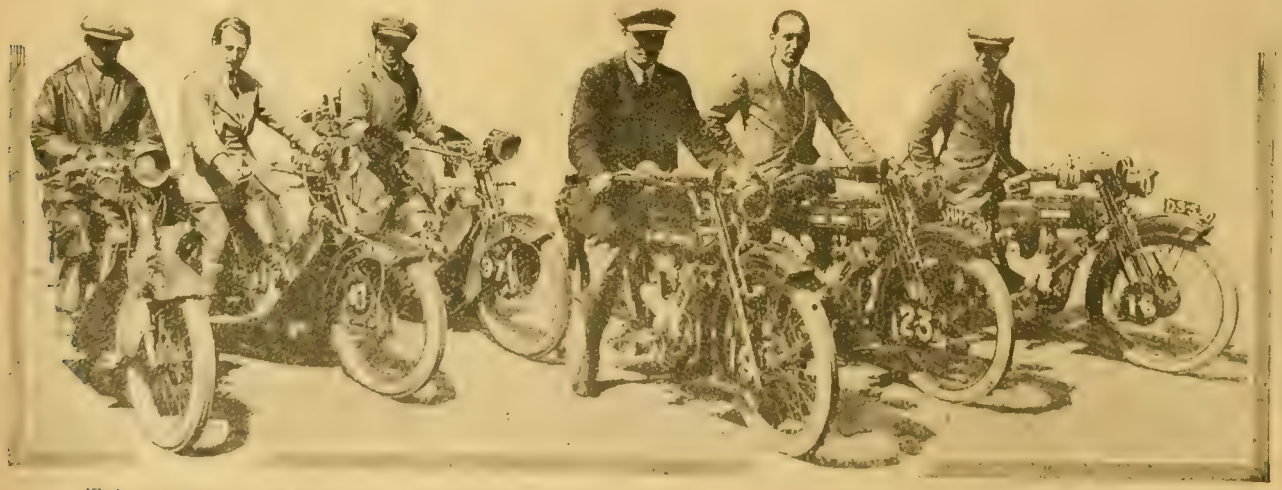
A somewhat unusual method of directing competitors has been decided upon, for, in addition to the usual type of arrows, doubtful corners are to be indicated by coloured powder dropped from a car, different colours being used on successive days so as to avoid confusion where the routes cross.

Sporting Entrants.

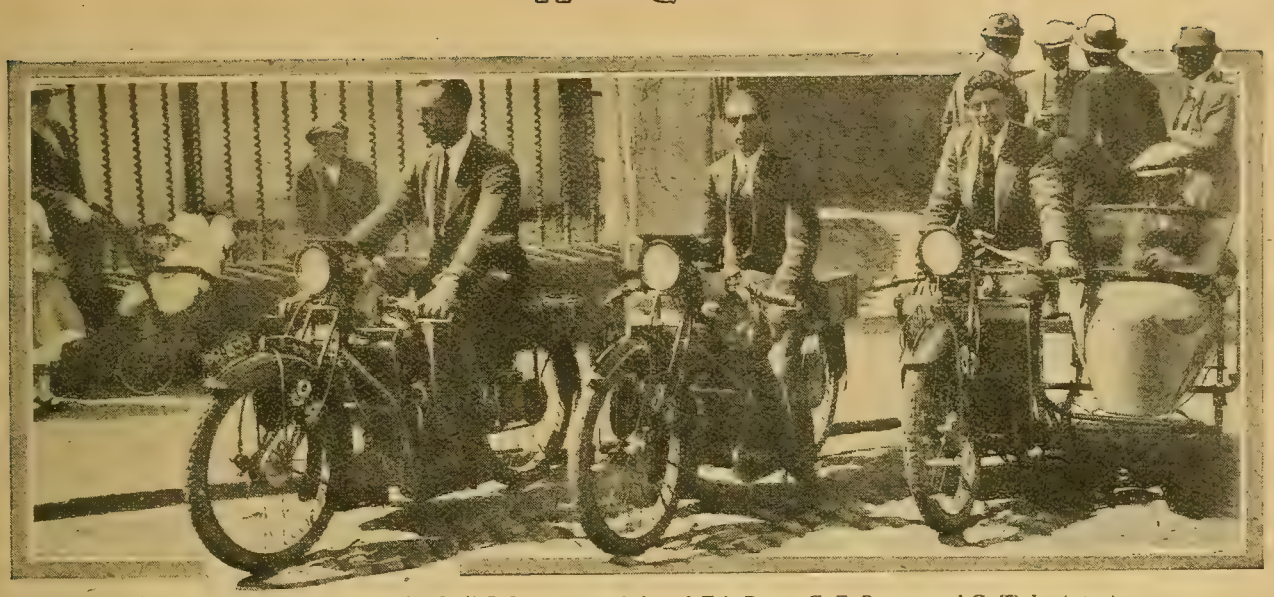
There are one or two late entries, including H. G. Sturgess-Wells, on a Rudge-Multi (who will probably be classed amongst the single-geared machines with Campbell McGregor), R. Carfrae (4 Triumph), A. G. Cocks (who is riding a Beardmore-Precision), and J. Joynson on a Coventry Victor engined machine christened the "Can'opit."

Twelve manufacturers' teams are entered and five club teams, each of the latter being distinguished by coloured number plates, whilst the single-geared entries well deserve the distinction of their bright red discs.

The evening was passed in making



Twin two-strokes and single four-strokes; the Scott and P. and M. teams. The riders are: C. P. Wood, Leslie Guy, and Jesse Baker on Scotts, and B. Alan Hill, J. A. Dias, and H. Mortimer Batten on P. and M.'s



Two solos and a sidecar comprise the A.B.C. team, consisting of Eric Porter, E. E. Palmer, and G. W. Lush (sc.)

plans for the morrow, and T. Rutherford was prominent with ideas for a trip to the hill of Kinoul. Unfortunately, there was a brush with the police, who took exception to machines standing outside the official hotel, and acted in a rather high-handed manner with regard to the scrutiny of all parts of drivers' licences. The officials have, of course, arrived with the exception of A. H. D. Aikman-Smith, who had been called away to London, and whose place as secretary will be taken by W. Frazer.

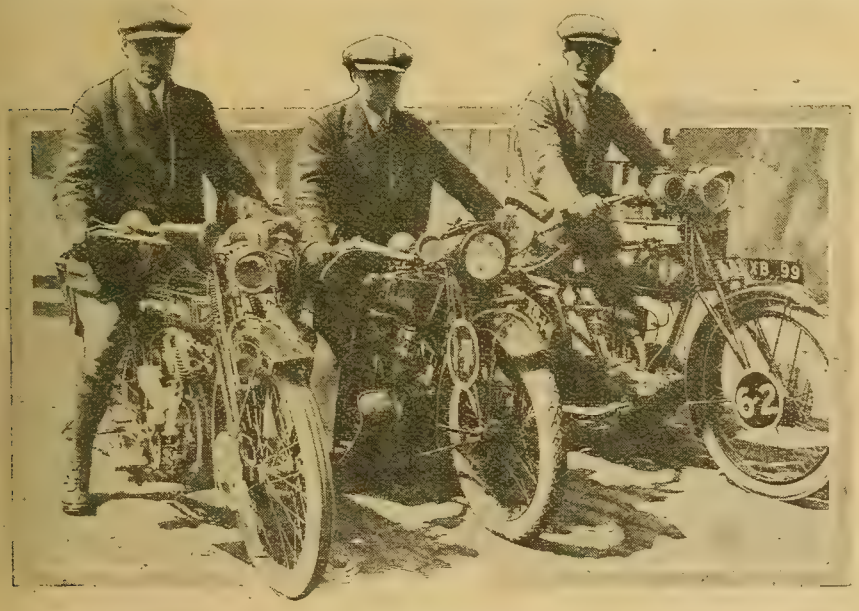
SUNDAY.

A glorious morning after a week's heavy rain raised the hopes of all concerned, and a steadily rising glass tended to confirm these optimistic feelings. Shiell's garage filled rapidly, many competitors having arrived by night trains. The Rev. J. M. Philpott, who starts No. 1, was one of yesterday's arrivals, having ridden up from the Midlands on his 2¾ Blackburne engined Wilkin.

Official Examination.

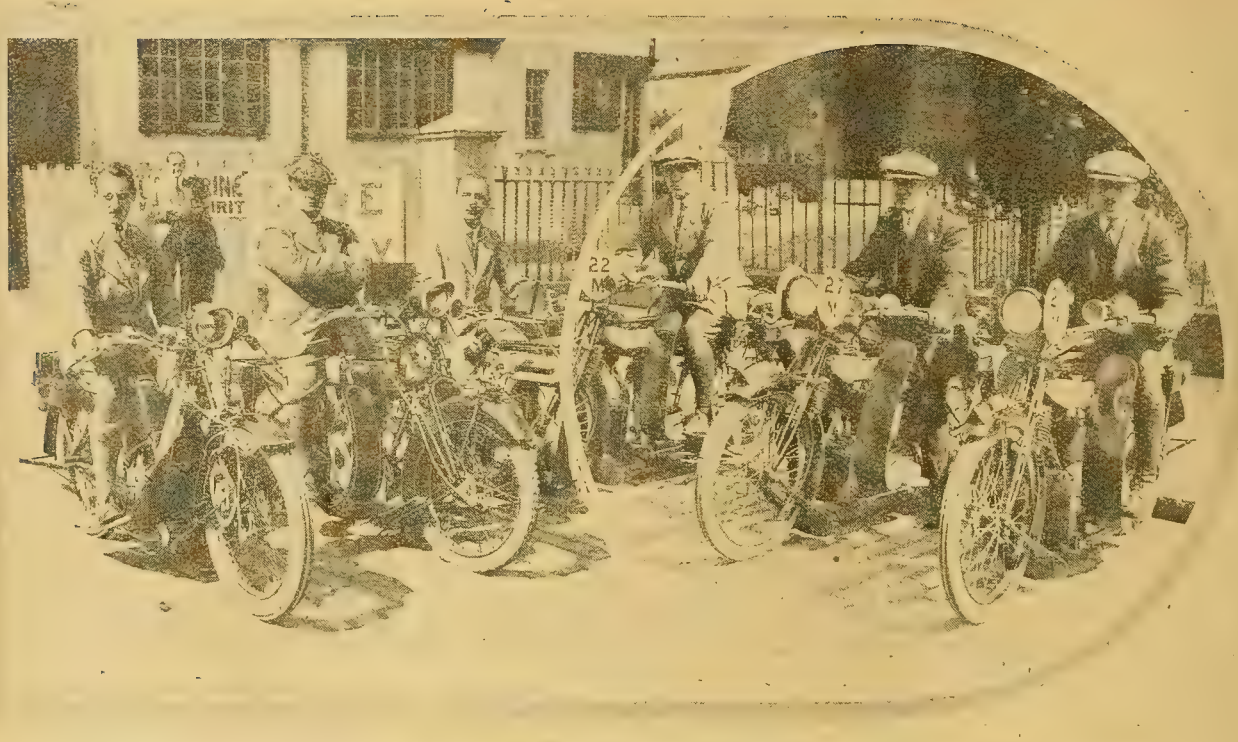
Examination and sealing started this morning amidst the usual scenes of animation and final adjustments. Reports as to the road surfaces are such as to induce riders to carry at least one spare cover, and tyre trouble seems to be the most dreaded of all minor ills. Having talked to many owners of large American sidecar outfits and watched the removal of a rear wheel in one instance, it is certainly to be hoped, for the riders' sake, that they will not have tyre troubles.

A.B.C.'s are plentiful. H. E. Fairley has fitted tin lids over the sparking plug terminals of his mount, apparently with the idea of keeping off rain and providing extra cooling surface for the central electrodes. G. W. Lush, another A.B.C. rider, has a sidecar attached, a plucky entry for a 400 c.c. mount. This is the lowest powered sidecar outfit that has ever attempted to win an award in the Scottish Trials. In 1914 there were several 3½ h.p. sidecars.



The M.C.C. team consists of B. Alan Hill (3½ P. and M.), E. A. Colliver (4 Indian Scout), and R. B. Clark (2¾ Coulson B.)

The Rev. J. M. Philpott (2¾ Wilkin-Blackburne), who drew first place in the starting-order ballot



(Left) The Westmorland M.C.C. team: Jesse Baker (Scott), T. Rutherford (Sunbeam), and W. Westwood (Triumph). (Right) The Ariel team is composed of solo riders on the new 4½ single-cylinder machines. The riders are: T. Peck, L. Newey, and J. L. Stocks.

Amongst the heavy sidecar outfits is one of the experimental 8 Clynos. This machine is very attractive with its spring frame and black and grey finish. Production models are not yet quite ready, though it is understood that it will not be long ere deliveries start in earnest. The A.J.S. are well represented. H. R. Davies is making his *début* as competition manager for this firm, and E. W. Choldcroft's 4 twin looks as smart and well cared for as ever.

Rex Mundy is riding a Reading Standard fitted with an American type flexible sidecar, which he has converted to a rigid type by a multitude of extra attachments. In addition to this, he has fitted wooden beams under each chassis member lest the conversion shall throw extra strains on the chassis and cause breakages; the work has been well and neatly carried out. Norman Black is riding his T.T. Norton, this time with a three-speed Sturmey gear instead of the Philipson pulley.

Fear of Petrol Shortage.

There is a general talk of the long stages leading to failure through lack of petrol, though comparatively few people have extra tanks. Campbell McGregor is an exception, and has a long tubular tank fitted in wooden chocks on his carrier.

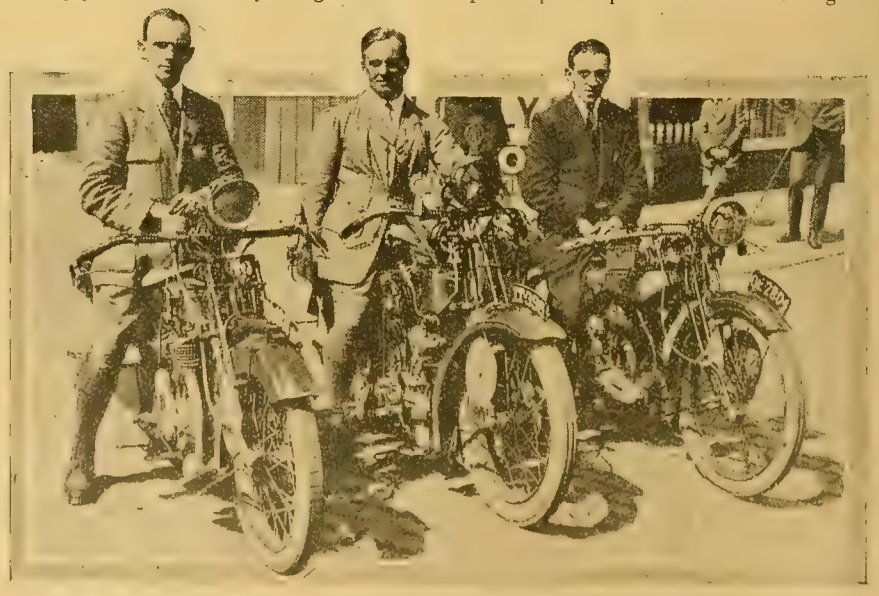
C. H. Moir has fitted a two-way tap to the oil pump on his Harley Davidson so, so that a charge of oil can be pumped into the gear box while on the run.

The Ariel team, consisting of T. Peck, L. Newey, and J. L. Stocks, look very smart and workmanlike, the machines being spotlessly clean and well protected from the mud. Jesse Baker's Scott is also particularly smart. Leslie Guy and C. P. Wood, who complete the Scott team, turned up rather late.

R. G. McEwan's 10 Richardson looks lonely amongst so many motor cycles, but the Merral-Brown and one or two Morgans will keep him company. Of the last mentioned three-wheelers, the machine driven by H. F. Barge is fitted with a water-cooled Blumfield engine, and H. B. Denley's M.A.G. engined machine has a neat exhaust heated induction pipe and a four-speed gear. The B.S.A. Co. has entered two teams, and their regular running should give them a good chance for the team's prize.

Blackburne engines are common and range from J. S. Holroyd's big 8 to a number of 2¾ engines in Verus, Wilkin, H.B. and Coulson machines. Their slow running propensities are much admired.

The Can'opit ridden by J. Joynson has a Coventry Victor engine, Sturmey Archer three-speed gear, and is made up of special parts to suit the engine.



2¾, 3½, and 4 h.p. machines are ridden by the Worcester M.C.C. Team. J. A. Newman (3½ Sunbeam), E. W. Choldcroft (4 A.J.S.), and J. W. Wills (2¾ Verus).

The 1920 Scottish Six Days Trials.—

It is a long, low, grey painted machine, and attracted some attention on its arrival.

All things being considered, there are remarkably few "gadgets" fitted to competing machines, though the special cigarette case fitted to the top tube of the Rev. J. M. Philpott's Wilkin must not be overlooked.

The Edinburgh and District Motor Club are to be congratulated on securing such a very representative entry, which included all types of vehicles which are likely to interest the motor cyclist, though with exception of two Beardmore-Precisions there is a noticeable lack of small two-stroke engines.

Everything is now prepared for to-morrow's start, and the competing machines are out of the hands of their riders until starting time. If the weather only holds like this a most sporting and enjoyable trial is a certainty, for on paper, at any rate, the organisation leaves nothing to be desired.

PERTH, MONDAY.

Considering the large entry there were comparatively few non-starters, eight only failing to face the time keeper. These riders were as follow:

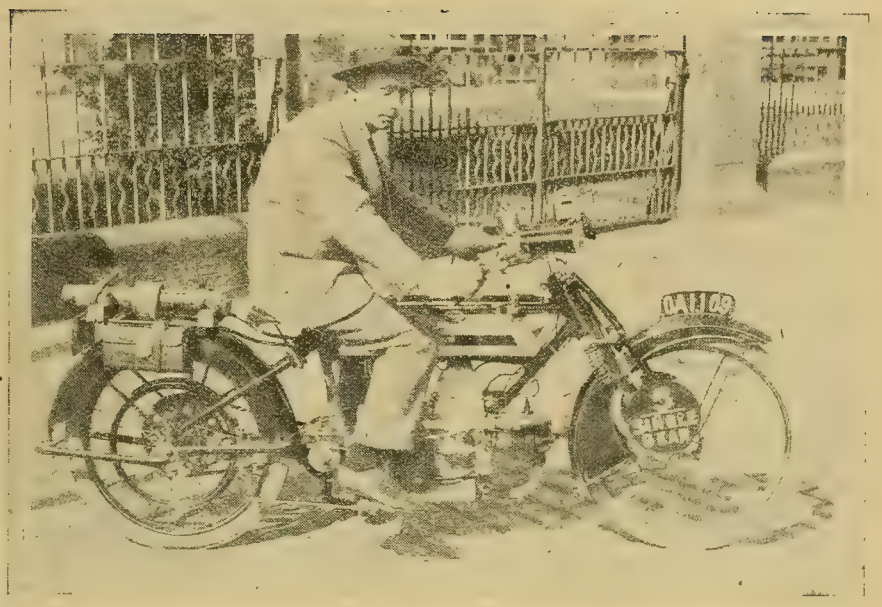
J. Robertson Brown (8 Henderson).
C. Duncan (3½ Norton).
P. W. Carter (6 A.J.S.).
S. Parker (Royal Enfield sc.).
R. Ball (3¾ Scott).
H. R. King (3 A.B.C.).
P. J. Enticknapp (4 Blackburne).
Alan Douglas (3¾ Scott).

We observed a few changes in mounts from the programme. A. G. Cocks (Beardmore-Precision) rode in place of the entry booked by the Symon Motor Co.; No. 98, H. C. S. Wells (Rudge Multi) took the place of the New Imperial entry 101; and an additional entry, No. 102, was J. Joynson (5-6 Can'opit, solo).

Other alterations from the official programme included A. B. Fairley, who was down to ride an A.B.C., started on a 2¾ Douglas, while Mr. and Mrs. Knowles who were entered on Twin Bats, rode 3½ Nortons.

Rain fell heavily during the night, but by the time the competitors lined up for the start, it had ceased, but the weather was far from bright.

The start was particularly well organised and all competitors got away well, except H. F. Barge (Morgan), who stopped and had trouble restarting outside control, and Lieut. Lochead (2¾ New Imperial) who changed a belt.

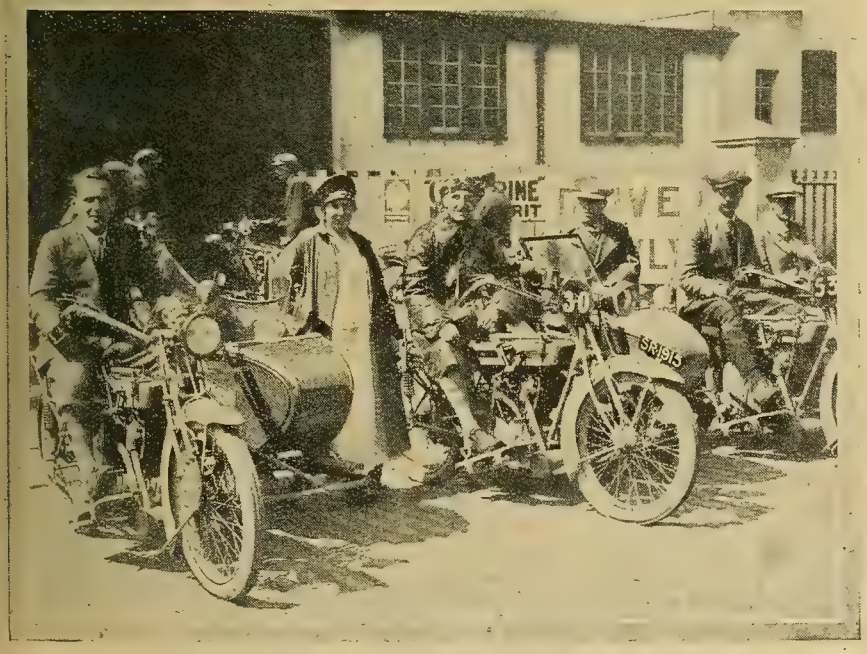


Campbell McGregor, the organiser of past Scottish Six Days, this time a competitor on a single-geared 3½ Brough.

ON AMULREE, THE FIRST TEST HILL.

Thanks to dry winds and spells of sunshine during the previous two days, the roads had improved considerably. Amulree, the first test hill, was in good condition, free from loose stones or grease and, consequently, was not a severe test for modern solo machines. Sidecars, however, found the second hairpin, which is left handed, somewhat difficult to negotiate. Near the top of the ascent grease was in evidence a few days previously, and had the bad weather continued over the week-end much more trouble would have been experienced. The descent of Kenmore was rather slimy and treacherous under the trees on the lower parts, as rain fell during the previous night.

Few solo riders had difficulty, but considerable variation in driving skill was seen. Most of the expert riders took the second bend wide. P. and M., B.S.A., Scott, and Sunbeam machines were exceptionally good. The star fast ascent was probably C. P. Wood (Scott). While the best steady climb must be credited to Cumming (Sunbeam), Bischoff (2½ Clyno) made the best lightweight ascent. The sidecars were mostly good; Matchless and A.J.S. were excellent, Moir (Harley) was very steady, but Dawson, on a sister machine, failed, as did Mundy (Reading Standard). The Richardson cycle car caused much baulking, and Holroyd (8 Blackburne sc.), who was climbing well, stopped on this account. Most competitors arrived at the foot of the hill very early and allowed their engines to cool down. The two single gear entrants both stopped, Carfrae (4 Triumph) falling on lower corner, while McGregor (3½ Brough) konked out. To summarise, the single-cylinder and flat twin machines easily outshone the other types so far as solo machines were concerned.



The Matchless team: H. Alexander, D. S. Milne, and C. Packman.

BIRMINGHAM-LLANGOLLEN-BIRMINGHAM.

A Week-end Touring Trial and an Impromptu Hill-climb on Alt-y-Bady.

LLANGOLLEN was the objective of the forty-six competitors in the Birmingham M.C.C. trial on Saturday last. Rain fell in torrents on the outward run, but nearly all arrived at Llangollen that evening. J. Allday (James) was passed near Shrewsbury with gear box trouble. A hill-climb on Alt-y-Bady was arranged for Saturday evening to determine the winners of the special awards. To render this severe climb still more difficult, competitors were required to run their engines in the free position for two minutes before receiving the signal to "Go." Not only so, but the seven-tenths of a mile of foothill preceding the gradient proper had to be covered at not more than 6 m.p.h. Couple these conditions with an almost impossible surface with large stones strewn about, and one may appreciate the severity of the climb. Small wonder then that none of the sidecars succeeded in getting more than half way up the hill, due to back wheel slip, but the best performance was credited to W. Woodcock (3½ Ariel sc.). F. W. Giles (A.J.S. sc.), who had made the best performance in the slow test, at the second attempt did much better.

Of the solo riders, four succeeded in reaching the summit, and each ascent was regarded as exceptionally praiseworthy. The quartet who shone were R. Cooke, G. Baragwanath and J. Walker, all riding three-speed Triumphs, and W. A. Egginton (4 Sunbeam). Walker's ascent was adjudged best of all.

Not satisfied with their previous day's hill-climbing, a party journeyed to the hill again on Sunday morning, when Woodcock (Ariel sc.) and F. W. Giles (A.J.S. sc.) made excellent climbs and shared an impromptu award offered by T. Stevens, whilst Kershaw (Verus-Blackburne) made a fine ascent, also Walker (Triumph) and H. Davies (B.S.A.).

The Return Journey.

The homeward trip commenced at 3 p.m., two observed hills being included. Harley Bank caused no trouble, but Lincoln Hill, near Ironbridge, is a gradient of approximately 1 in 4½, seriously to be reckoned with. Most made excellent ascents, including E. H. S. Tye (3½ single-geared Rover) at the second time of asking. This rider's hill-climbing was the surprise of the trial.

The survivors commenced to arrive at the check near the "Parson and Clerk," on the Chester Road a few miles outside Birmingham, at 8 p.m., and were mostly on time.

The following had checked in at the finish by 8.45 p.m.: H. J. Egginton (3 Enfield), W. A. Egginton (4 Sunbeam), A. H. Edwards (4¼ James sc.), E. W. Winkee (A.J.S. sc.), R. T. Cooke (4 Triumph), H. C. Jennens (3½ James), W. E. Emery (4 Rex sc.), T. F. Watson (4 Norton sc.), H. C. Hayes (3½ Sunbeam), H. H. Timson (4 Triumph sc.), T. C. Bowen (4 Triumph), J. C. Orford (2½ New Imperial), G. T. Baragwanath (4 Triumph), H. H. Saddington (5-6 James sc.), A. R. Haven, jun. (2½ New Comet), H. Boynton (5-6 James sc.), F. W. Giles (6 A.J.S. sc.), B. Kershaw (2⅜ Verus), H. P. Cutler (5-6 James sc.), W. A. Bown (2½ Bown-Villiers), R. H. Pugh (2½ Levis sc.), E. H. S. Tye (3½ Rover), A. E. Rollason (3½ Ariel sc.), H. H. Peters (4 Triumph), H. A. Pattison (4 Norton sc.), H. Riley (5-6 A.J.S. sc.), W. T. Woodcock (3½ Ariel sc.), H. Davis (4¼ B.S.A.), and H. Walker (4 Triumph). The official results will be announced later.

CLUB NEWS.

(Continued from page 42.)

Week-end Club Events.

July 10.—Northern M.C. Reliability Run.
July 10.—M.C.C. Brooklands Meeting.
July 10.—Exeter M.C. and J.C.C. Reliability Trial.
July 10.—York and District M.C. Run to Lake District.
July 10.—Dublin and District M.C.C. Hill-climb.
July 10.—Westmorland M.C.C. Speed Trials.
July 10.—North Lindsey A.C. Consumption Trial.
July 10.—Dewsbury and District M.C.C. Fitton Trophy.
July 10.—Lancaster, Morecambe and District M.C.C. Run to Settle.
July 10 11.—N. Wilts M.C. and L.C.C. Run to Clevedon.
July 10 11.—Warrington M.C. Run to Dolgelly and Hill-climb.
July 10-11.—Sheffield and Hallamshire M.C.C. Holyhead Run.
July 11.—Loughborough and District M.C.C. Picnic.
July 11.—Dewsbury and District M.C.C. Run to Buxton.
July 11.—Fleet and District M.C.C. Reliability Trial.
July 11. Streatham and District M.C.C. Run to Hailsham.
July 11. Goldthorpe and Thurnscoe M.C.C. Run to Cleethorpes.
July 11.—Bury and District M.C.C. Social Run.
July 11. Hilda M.C. and L.C.C. Social Run and Gymkhana.
July 11.—N.M.C.F.U. (Leeds). Run to Castle Howard.
July 11 Scarborough M. and M.C.C. Run to Strathes.
July 11.—Liverpool M.C. Run to Little Budworth.
July 11.—Reading and District M.C. and L.C.C. Run to Inkpen Beacon.
July 11. N.M.C.F.U. (Portsmouth). Run to New Forest and Pride Park.
July 11 Bramshaw M.C.C. Run to Isle of Wight.
July 11. North Cheshire M.C.C. Picnic.
July 11. Hull M.C.C. Competition.
July 11. York and District M.C. Inter-club Team Trial.
July 11. Lancaster, Morecambe and District M.C.C. Run to Silecroft.
JULY 15. ESSEX M.C. AND SOUTHEND-ON-SEA JOINT OPEN SPEED TRIALS AT WESTCLIFF-ON-SEA.
July 15 Bedford and District M.C. and L.C.C. Club Run.
July 15 Doncaster and District M.C.C. Speed Trials.

Southend-on-Sea A.C.

Four motor cycles and ten cars entered for the recent fuel economy trial held over a forty-six mile course between Chelmsford and Billericay. Some very good performances were put up, those in the motor cycle class being as follow: 1st H. L. Dowsett (Diamond), 163 m.p.g.; 2nd E. H. Alliott (Douglas), 122 m.p.g.; and 3rd R. Barnes (Douglas), 133 m.p.g. Their ton-mileages were 22.5, 21, and 19.2 respectively.

Lincolnshire A.C.

A members' hill-climb will be held at Station Hill, Waddington, on Saturday, starting at 2.30 p.m. Each of the five classes will be decided on the knock-out system, and a start of one yard will be conceded for the difference of every 5 c.c. less than the maximum capacity in the respective events. Prizes will be awarded to the winners in each class, also a special handlebar shield for the fastest time of the day.

Sutton Coldfield and North Birmingham A.C.

The annual hill-climb organised by the above club will be held at Stile Cop on the 17th inst., starting at 2 p.m. All classes of motor vehicles are eligible to compete in the eleven classes, which are arranged as follows: Classes 1 to 6 for solo motor cycles; 7 and 8, sidecars; 9, for three-wheelers; 10, for light car, 1,500 c.c.; and 11, for unlimited cars. All competitors must be members of the club, the annual subscription for car members being £1 1s. and motor cyclists 15s. The hon. sec. is Mr. P. Mosedale, The Nook, Sutton Coldfield.

Liverpool M.C.

O. Wade (6 A.J.S. sc.) won the Rudge-Whitworth cup in this club's twenty-four hours trial to Edinburgh last Saturday. S. Parker (10 Singer car) secured the president's prize.

Westmorland M.C.C.

Permission has been kindly granted by Lord Lonsdale for speed trials to be held in Lowther Park on Saturday, starting at 3 p.m. The following classes will be run. 275 c.c., 350 c.c., 550 c.c., 750 c.c. and unlimited solo, also 550 c.c. and unlimited sidecars.

N.M.C.F.U. (Sheffield).

A successful reliability trial was held on June 27th over a Derbyshire course, including Castleton, Buxton, Longnor, Dovedale, Youlgreave and Bakewell, and in order to make the event of a social nature each competitor had to carry a lady passenger. The best performances were made by H. Oscroft, F. A. Ward, and E. H. Danson.

Bradford M.C. and L.C.C.

The competition for the "Eric Myers Cup" took place on the 27th ult., the route followed being Boroughbridge, Scotch Corner, to Brough, and then over a further eighteen miles non-stop—fourteen miles of which was a freak course, the total distance covered being 103 miles, the competitors finishing at Reeth.

Out of forty entries, thirty-three started and twenty-seven finished. The results were as follow: 1, G. Hill (3¾ Scott); 2, H. Langman (3¾ Scott); 3, C. B. Haig (5½ P. and M.).

Hill-climb on Winding Moorland Road.

East Lancashire M.C.C.'s Successful Event on Waddington Fells.

ALMOST every big hill-climb brings to notice a rider unknown outside his own locality. George Dance startled everyone by his speeds at the first of the Stile Kop events last year—and succeeded in maintaining the reputation established on that day wherever he went. At the Isle of Man speed trials, however, he had a close rival in L. Mitchell, of Oldham, who rode a 3½ Norton. On Saturday last this rider made fastest time of the day, and won every event in which he competed in the East Lancashire M.C.C.'s hill-climb on Waddington Fells, near Clitheroe.

It was an open event of no small importance, since it was one of the twenty open competitions sanctioned by the A.C.U., and attracted 136 entries.

The course was just under two-thirds of a mile in length, and included stretches of 1 in 8 and 1 in 6, with several easier sections and sweeping bends which called for skill and an almost general use of the exhaust lifter.

Fastest Time of the Day.

Mitchell made the fastest time of the day by covering the distance in 50s., equalling 43 m.p.h. approximately.

Considering the bad weather during the preceding days, the club was extremely fortunate in having a dry, if cold and windy, day for the event.

On the Fells, the temperature was more like that generally prevailing in October than in July, and the officials at the top did not have such a pleasant afternoon as the several thousands of spectators who had come from all parts and on every make of machine to witness the event.

The course was in excellent condition, especially as the road has not been repaired since 1915. Nature and the road builder together had provided splendid "grandstands" on the high banks on each side of the winding road.

Passenger Machine Classes.

Only one light car turned up for the first class on the programme. This was a 1,370 c.c. G.W.K., which covered the course in 1m. 40⅕s., as compared with 1m. 15⅕s. taken by Carter's 3½ O.C. J.A.P. sidecar in the next event, who won this event and the 600 c.c. sidecar class that followed.

A. Horrocks, of Bolton (10 Morgan), secured first place in the unlimited passenger machine class, when his time was 1m. 9⅘s.

Lightweight Honours Well Distributed.

Following the above events were five classes for lightweights and scooters. J. Coar (2½ J.H.-Villiers) and S. A. Marks (2½ Diamond) won the two 275 c.c. classes (members and open), their times being 1m. 19⅘s. and 1m 12⅘s. respectively, while in the members' 350 c.c. class, Duxbury (2⅝ Douglas) earned first place with 1m. 12⅕s., a time greatly improved by G. S. Boston (A.J.S.) in the open event for machines of the same capacity. His time was 57⅘s.

J. F. Lidstone's 2¼ James was not in its usual form, and was apparently overgeared for the hill.

The three Autoglider scooters entered were now sent up together. The one ridden by J. A. Hebden (a seat type machine) made the best time, which, compared with orthodox motor cycles with the same power unit, was rather slow. His time was 1m. 54⅕s.

The Fastest Climbs.

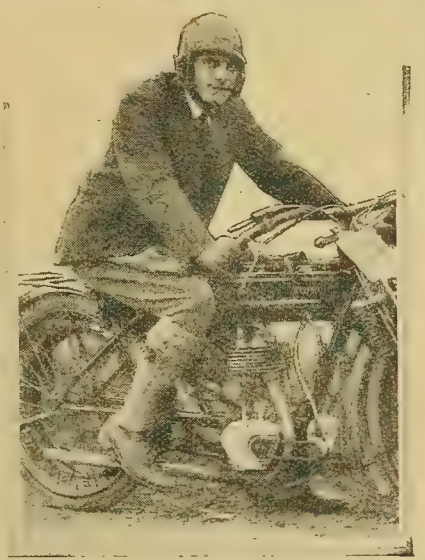
Undoubtedly, the finest riding was witnessed in the 500 c.c. and larger classes. Mitchell's success in six classes was due chiefly to his fine riding, for there were other Nortons and A.B.C. machines which were remarkably fast. Every rider had to cut out on the top bend, and the fastest times were made by those who took the greatest risks at this point.

In Class 9, for machines up to 600 c.c., Mitchell attempted to improve his 50s. in a previous class by taking the bend all out, but came near to falling. Despite this, however, his time again was 50s. exactly.

J. Whalley, of Lancaster, was a persistent aspirant for first place honours, but he was handicapped by riding standard machines. He rode well, taking the corners in good style. This rider did very well at the Southport event the week before, when he won two events and made fastest time of the day on an A.B.C.

For the Waddington event he had brought with him a 2¾ h.p. Nut, with which he secured second in Class 5, also a 3½ Norton and an A.B.C., the latter sufficiently fast to win second place in the members' 600 c.c. class.

It was a very good afternoon's sport, and a splendidly organised event, upon which we congratulate Mr. W. Geo. Guest, the trials secretary.



L. Mitchell, of Oldham, the star rider at Waddington Fells, who made fastest time of the day and won six events on his Norton.

Considering that the course was on a main road, there were very few delays through traffic. Once or twice the climbs were held up to allow cars to traverse the hill, and when a pony cart and a herd of cattle caused a break in the proceedings.

As usual, there were unthinking members of the public with loose dogs, which required the vigilant attention of the officials, for it seems difficult to make dog owners appreciate the importance of keeping their pets on the leash.

Good Riding.

Among the many other competitors whose riding stood out conspicuously we may mention the following: G. A. Strange (3½ James), R. King (A.B.C.), J. H. Hebden (3½ Norton), J. Entwistle (3½ Norton), G. E. Cowley (3½ Norton), R. Taylor (3 A.B.C.), and C. Ramsden (7-9 Rudge).

The results were as follow:

1.—SCOOTERS.

		m.	s.
1.	J. A. Hebden (2½ Autoglider)	1	54⅘
2.	C. Beach (2½ Autoglider)	2	13⅘

2.—275 C.C. (MEMBERS).

1.	J. Coar (2½ J.H.-Villiers)	1	19⅕
2.	L. H. Cronshaw (2½ Campion-Villiers)	2	4⅕
3.	J. Scott (2¾ Hobart-J.A.P.)	2	24⅗

3.—275 C.C. (OPEN).

1.	S. A. Marks (2½ Diamond)	1	12⅕
2.	S. F. Carter (2½ Levis)	1	22⅕
3.	J. F. Lidstone (2¼ James)	1	25⅗

4.—350 C.C. (MEMBERS).

1.	H. S. Duxbury (2⅝ Douglas)	1	12⅕
2.	J. Whalley (2½ N.U.T.)	1	36

5.—350 C.C. (OPEN).

1.	G. S. Boston (2⅝ A.J.S.)		57⅕
2.	E. A. Pollard (2½ Verus)	1	11
3.	J. F. Lidstone (2¼ James)	1	20⅗

6.—500 C.C. (MEMBERS).

1.	L. Mitchell (3½ Norton)		50
2.	J. Duxbury (3½ Norton)		57⅗
3.	R. King (3 A.B.C.)	1	1⅗

7.—500 C.C. (OPEN).

1.	L. Mitchell (3½ Norton)		52⅗
2.	G. E. Cowley (3½ Norton)		53⅕
3.	G. A. Strange (3½ James)		55⅘

8.—600 C.C. (MEMBERS).

1.	L. Mitchell (3½ Norton)		50⅕
2.	J. Whalley (3 A.B.C.)		56⅕
3.	J. H. Whittaker (3½ Norton)	1	0⅘

9.—600 C.C. (OPEN).

1.	L. Mitchell (3½ Norton)		50
2.	G. E. Cowley (3½ Norton)		53⅗
3.	G. E. Strange (3½ James)		55⅘

10.—UNLIMITED (MEMBERS).

1.	L. Mitchell (3½ Norton)		50⅗
2.	J. H. Fox (5 Matchless)		55
3.	R. H. Fletcher (7-9 Rudge)		57

11.—UNLIMITED (OPEN).

1.	L. Mitchell (3½ Norton)		50⅗
2.	J. H. Fox (5 Matchless)		52⅘
3.	G. E. Cowley (3½ Norton)		53⅘

12. 500 C.C. SIDECARS (OPEN).

1.	O. E. Carter (3½ O.C.-Jap)	1	15⅕
2.	M. Parkinson (3½ Norton)	1	23
3.	J. H. Hebden (3½ Norton)	1	37⅗

13.—600 C.C. SIDECARS (OPEN).

1.	O. E. Carter (O.C.-Jap)	1	15⅗
2.	J. H. Hebden (3½ Norton)	1	33⅕

14.—UNLIMITED PASSENGER.

1.	A. Horrocks (10 Morgan)	1	9⅘
2.	S. A. Marks (7-9 Indian)	1	13⅕
3.	R. H. Fletcher (7-9 Rudge)	1	17⅗

15.—LIGHT CARS.

1.	J. Allsup (G.W.K.)	1	40⅕

The A.C.U. Committee Meeting at Newcastle.

Lieut.-Col. A. E. Davidson, D.S.O., elected Chairman. Taxation Discussed—a Flat Rate of 4½d. per Gallon on Petrol Probable. The Question of Lighting.

CONSIDERING Newcastle is separated from the Auto-Cycle Union headquarters by some 300 miles, the second meeting of the 1920-21 Session, which was held at the County Hotel, Newcastle-on-Tyne, on Friday last, was quite well attended. Considerable credit is due to Mr. Quintin Nicol for his work in entertaining the members and arranging everything possible for their comfort.

The early part of the meeting was conducted under the able chairmanship of Mr. W. H. Wells, who read messages of regret from those unable to attend. These included the President (the Hon. Sir Arthur Stanley), Mr. S. Shrapnell-Smith, the Treasurer, Messrs. J. St. John, D. H. Noble, R. I. M. Samuel, F. H. Bevan, Otto Thomas, J. Simmonds, Duncan Watson, V. Horsman, F. A. Hardy, F. S. Whitworth, and Capt. Geoffrey Smith. He then proceeded with the first item on the agenda, the election of a chairman. It is with great pleasure that we have to announce that Lieut.-Col. A. E. Davidson, D.S.O., has been elected to fill this important post. He has been closely connected with the Union for a considerable time, having served on the General Committee for many years. His work in connection with the introduction of motor cycles into the Army and on the committee resulted in his being elected a vice-president of the A.C.U. during the war. The announcement of Colonel Davidson's election was received with applause on his occupying the chair then vacated by Mr. Wells.

An Important Amendment.

Mr. T. W. Loughborough then made an interesting statement on the questions relating to the taxation and lighting of motor vehicles. He pointed out that the Government had based their conclusions on erroneous information, and an amendment by the Motor Legislation Committee was now likely to meet with support in the House, and to stand a good chance of being passed. This amendment suggested a flat rate of 4½d. per gallon on imported motor spirit, and that the local taxation licences should be increased by 50 per cent. To this the Auto-Cycle Union agreed, but intended to lay stress on the fact that the licence duty on lightweights should remain at £1. The Secretary also pointed out that this amendment, if adopted, would bring sufficient funds to the Ministry of Transport.

So far as lights were concerned, it was proposed that motor cars should carry only two head lights of a certain power, but that motor cycles should be provided with only one head light half the power of one motor car head light. This was most unfair, and the Auto-Cycle Union had suggested that the motor cycle head light should be equal in power to one car head light. Mr. Loughborough then announced that the Ministry of Transport had stated that the matter would receive due consideration. He also referred to a model Road Traffic Bill which showed promise of being favourably received, and made, among other useful suggestions, one that the existing speed limit should be abolished and prosecutions issued only against those drivers who were alleged to have driven to the common danger. (Cheers.)

No "Champion" Scheme.

Several matters arose out of the reports of various Competition Committees placed before the meeting, and among the most important of these was the referring back of the Championship Sub-committee's report. This means that the scheme for selecting a champion for 1920 will be rendered inoperative, as it was felt that the idea would favour the trade rider and would leave the private owner quite incapable of bringing off the championship.

The question of the date of the Midland C.A. and A.C. trial was then discussed, and it was pointed out by the secretary that no change of date was possible. The explanation appeared to satisfy entirely the representatives of the club concerned who were present.

A vote of thanks was passed to the chairman and secretary of the Competitions Committee for the valuable work they had done regarding the T.T. course.

The affiliation of twenty-eight local clubs was then passed, and the new local centre byelaws approved after a few minor alterations had been made.

The question of the danger of motor vehicles equipped with the steering wheel on the left-hand side was then considered, and the following resolution passed: "That in the opinion of this meeting the use on British roads of motor vehicles with their steering wheels placed on the left-hand or near side is dangerous to other road users and should be discouraged." The resolution was strongly supported by Mr. Harry Reed, who is now motor expert to the Manchester Corporation. He subsequently told us that he had recently investigated a case in which it had been proved that the driver of a sidecar outfit after passing a tramcar had actually struck a left-hand-driven motor car before the motorist had seen him.

The last item on the agenda was the appointment of delegates to serve on the Council of the Roads Improvement Association. Messrs. T. W. Loughborough, E. M. P. Birkam Moore, and Dr. A. M. Low were selected. After hearty votes of thanks to the North-Eastern Automobile Association, coupled with the name of Mr. Quintin Nicol, and to the chairman, Col. Davidson, the meeting came to an end and the members adjourned to luncheon, to which they were entertained by the N.E.A.A. The chair was occupied by Major H. S. Streetfield, chairman of the N.E.A.A. Committee, and there were present the Rt. Hon. the Lord Mayor of Newcastle, the High Sheriff, the Chief Constable, the Town Clerk, the City Engineer, the County Surveyor of Durham and Newcastle, the Chairman and Secretary of the N.E.A.A. Motor Cycle Board, and representatives of the firms of Messrs. C. T. Malling and Sons, and Messrs. Swan, Hunter, and Wigham Richardson, Ltd.

There were no toasts and the chairman on rising said the welcome was quite an informal one, and remarked in the course of his speech that anything he might say regarding the state of the roads or the petrol tax would not influence the minds of those present in the least, and therefore he would say nothing. (Laughter.)

Civic Welcome.

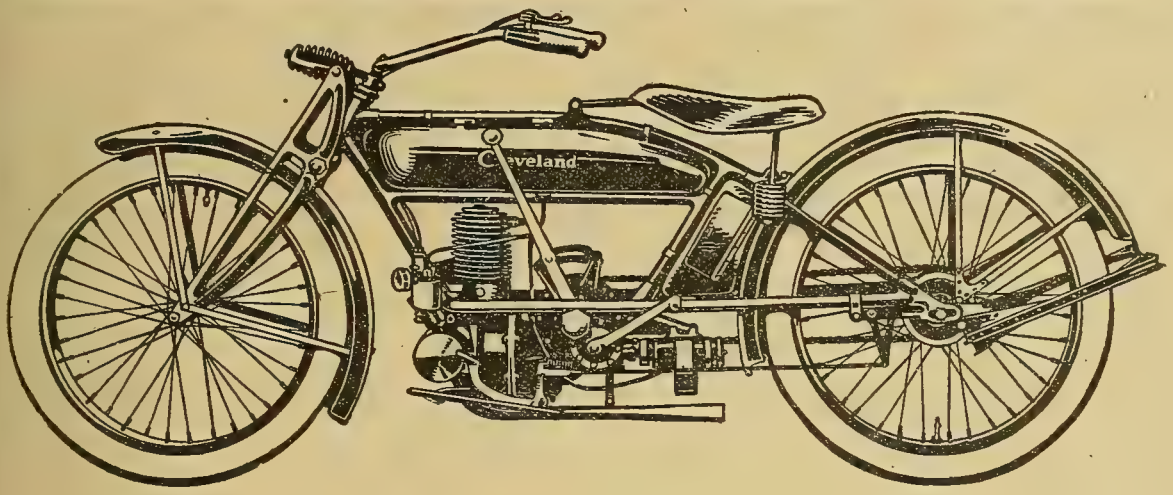
As an old cyclist, and as an enthusiastic motorist, the Lord Mayor extended a hearty welcome to the members of the Auto-Cycle Union and wished it every success.

Col. Davidson, in a brief reply—his first public speech after his election to the A.C.U. chairmanship—said he was happy to visit Newcastle in better company than on his previous stay which he had in 1911, during the Inter-club Tour between the R.A.C. and the German Imperial A.C., being surrounded with our late enemies. He thanked the chairman and Lord Mayor for their kind remarks, and Messrs. C. T. Malling and Messrs. Swan, Hunter, and Wigham Richardson for welcoming them to their works that afternoon. He also thanked Mr. Quintin Nicol for the able way in which he had organised the Auto-Cycle Union's visit.

In a deluge accompanied by thunder and lightning, the party left the County Hotel in a char-à-banc, and were shown over Messrs. Swan and Hunter's shipyards by Mr. A. Shotton, who was a most efficient guide. Later the party were taken over Messrs. Malling's pottery works, and the afternoon proved to be a most interesting one.

B.M.C.R.C. BROOKLANDS MEETING.

A very interesting programme has been arranged for the fourth members' meeting of the British Motor Cycle Racing Club to be held at Brooklands track on Saturday, July 17th. The events include ten mile scratch races for solo and sidecar machines of various capacities, and an all-comers' handicap over three laps for motor cycles of all classes and three-wheeled cycle cars. The committee of the club has given careful consideration to the length of the programme, and the start of the next meeting at 2.30 p.m., with the last race at 5 p.m. Entries for all the events close on Saturday next, and should be directed without delay to Mr. T. W. Loughborough, the Mill House, Warlingham, Surrey.



FINE PARTS—FINE WHOLE.

The Cleveland 20 is a beautiful machine to look at, but even so, the eye alone cannot find all its merits.

To know the Cleveland thoroughly, it is necessary to know the factory that makes it—the ideals of the designer, the processes of production, the tolerance on dimensions, the inspection of materials and the standards of the organisation.

Such an incidental as the thorough seasoning of cylinder and piston castings before they are machined is typical of the soundness and the care that go into the development of every part; and by insisting on this care on all the parts, the Cleveland 20 comes out of the assembly department as the sum total of its detail excellencies.

Manufactured by:—
THE CLEVELAND MOTOR CYCLE MANUFACTURING CO.,
CLEVELAND, U.S.A.

Concessionnaires for British Isles:—
NORTH WESTERN MOTORS, LTD., Norton Street, LIVERPOOL.

MOTOR CYCLE Cleveland

In answering this advertisement it is desirable to mention "The Motor Cycle." C25

ALLEN-BENN

5,000 TYRES

(EX-GOVERNMENT STORES)

ALL BRAND NEW AND FRESH STOCK

ALL EXTRA HEAVY

		Our Price :	List Price :
26 x 2½	BELDAM	46/-	67/6
,,	MACINTOSH	45/-	65/-
,,	BATES	48/-	72/-
,,	SPENCER-MOULTON	46/-	70/6
26 x 3 x 2½	CLINCHER-DE-LUXE	50/-	67/6
28 x 3	DUNLOPS	50/-	83/-
,,	WOOD-MILNE	48/-	87/6
,,	KEMPSHALL	47/-	81/10
,,	MACINTOSH	47/-	82/-
,,	BATES	55/-	91/6
,,	MOSELEY	47/-	83/-
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COMPARE OUR PRICES !

CARRIAGE PAID ON 7 DAYS' APPROVAL AGAINST REMITTANCE

TRADE SUPPLIED

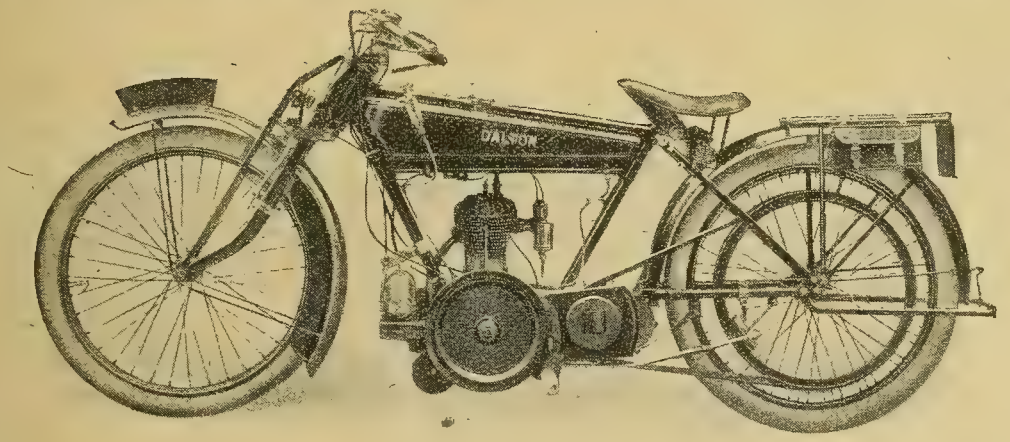
9-10-11, ROYAL PARADE

DALTONS

LIGHTNESS WITH STRENGTH
POWER WITH LOW PETROL CONSUMPTION.
HIGH SPEEDS WITHOUT EFFORT.
CONTINUOUS RUNNING WITHOUT REPAIR BILLS.
A SUPER ELEGANT MACHINE GIVING A VERY LOW, COMFORTABLE RIDING POSITION.

THESE ARE THE POINTS TO WATCH!

RIDE A "DALTON," AND YOU POSSESS THEM ALL.



Model "A" 2¾ h.p. Sporting.

MODEL "A" SPORTING.
2¾ h.p., 2-speed, hand clutch, kick start, specially tuned "Blackburne" engine, footrests, etc.
Price 95 Gns.

MODEL "A" TOURING.
2¾ h.p., 2-speed, hand clutch, kick start, extra strong frame, "Blackburne" engine, footboards.
AN IDEAL MACHINE FOR LIGHT SIDECAR WORK.
Price 95 Gns.

MODEL "B."
4 h.p., 3-speed, hand clutch, kick start, extra heavy frame, footboards or footrests, "Blackburne" engine.
PRICE
110 Gns.

MODEL "C."
5-7 H.P. "COVENTRY VICTOR" engine, specially built for heavy sidecar work.
THE MACHINE YOU CANNOT OVERLOAD.
Price and full specification on completion of final test.

Full particulars, with specification, from the MANUFACTURERS:

THE DALTON MOTOR CO., Ltd.,
7, 17 & 19, JOHN DALTON STREET,
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'Phone: 4733 Central. 1023 "

'Grams: "Inlet, Manchester."

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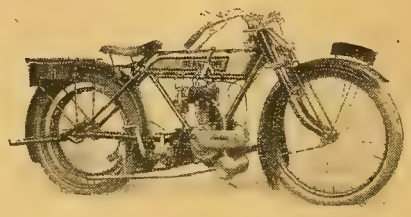
AGENTS' APPLICATIONS INVITED.



Beaumont Lightweight Models

BEAUMONT B., Blackburne 2¾ h.p.,
Burman 2-speed, clutch and kick start **95 gns.**

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BEAUMONT W.R., Wall 2¾ h.p.,
Roc 2-speed .. .. **65 gns.**

BEAUMONT W., Wall 2¾ h.p.,
single gear .. .. **52 gns.**

BEAUMONT MOTORS (Leeds) Ltd.,
CLEOPATRA WORKS, HAREHILLS, LEEDS.

MIDLAND

MOTOR CYCLE TYRES
TUBES AND BELTS.

ALL SIZES.

PRICES.

26×2¼ - - - 55/-
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NOTE: USE "AERO" GOLF BALLS.

MIDLANDS GUARANTEE
MEAN MORE MILEAGE TO SATISFY EVERY CUSTOMER

THE MIDLAND RUBBER CO., LTD.,
Head Office and Works: RYLAND STREET, BIRMINGHAM.
London - - 36, Causton Street, Westminster, S.W.1.
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CYLINDER CASTINGS.

GREINER'S BELGIAN CASTINGS ARE THE BEST.

TO MANUFACTURERS—
Production Increased and Scrap Reduced to a Minimum.

Ask the man who machines and compare the output.

R. H. SYMONDS,
Army and Navy Mansions, 109, Victoria St., S.W.,
Sole British Agent for the above, can deliver without delay, and respectfully solicits enquiries which shall receive prompt and careful attention.

Here's a List of Reliable Machines that's well worth considering

In some cases we can offer immediate delivery—in others we are now booking orders for delivery in strict rotation at makers' current list prices.

Makers' List for any of these machines post free on application to:

A.V. Monocar
American Excelsior
Beardmore-Precision
Brough
Coulson
Cedos
Henderson Four-cylinder
J.E.S. Motor Cyclette
L.M.C.
Martinsyde-Newman
Metro-Tyler
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SIDECARS:
Bowser
Canoelet
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ACCESSORIES and TYRES in great variety.

J. BLAKE & CO.
LIVERPOOL: 110-112, Bold Street.
MANCHESTER: 33, Blackfriars Street.

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PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable & Co. to ILIFFE & SONS Ltd., and crossed Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

☞ DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, 1 %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C. 3h.p., brand new; £155.—1, Hill Rd., Lye. [X5180

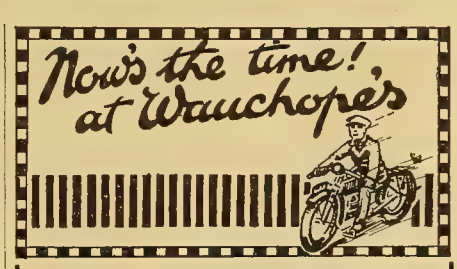
CROW Bros., Guildford, can offer early deliveries of A.B.C. No premiums accepted. [1634

BRAND new A.B.C., speedometer, equipped, list.—Box 5,786, c/o *The Motor Cycle*. [3557

A.B.C., very small mileage, with Smith speedometer, —Pickering, Mardol, Shrewsbury. [3239

A.B.C., unridden, delivered this week; first cheque £148.—Box 115, c/o *The Motor Cycle*. [X5329

1920 A.B.C., new May, mileage 100; £150.—Gosling and Son, Mareham-le-Fen, Boston. [X5370



SPECIAL REDUCED PRICES

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Genuine 4, 5, 6, & 8 h.p. J.A.P. Parts. No waiting—parts forwarded by return on receipt of cheque or cash.

—— THE —— FOLLOWING NEW J.A.P. PARTS IN STOCK:

FOR 4, 5, 6 & 8 H.P. ENGINES:

Piston Rings	each	2/–
Gudgeon Pins	„	2/6
Gudgeon Bushes	„	2/–
Crank Pins	„	3/6
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Gear Bushes	„	3/–
Big-end Bushes	„	3/6
Gear Side Bushes	„	3/–
Pulley Side Bushes	„	3/6
Valve Springs	„	3/6

NEW SIDECARS FOR IMMEDATE DELIVERY:

B.S.A. Sidecars, No. 2	£42 0
WAUCHOPE'S, No. 1	£25 10
WAUCHOPE'S, No. 2	£24 10
WAUCHOPE'S, No. 3	£23 10
WILLIAMSON Sidecars	£28 0
Sidecar to fit Harley-Davidson	£37 10
FLYING MIDDLETON (second-hand)	£16 10
Wicker Sidecar (second-hand)	£10 0
WAUCHOPE'S (second-hand)	£23 10
Sidecar to fit Harley (second-hand)	£20 0

CANOELET—Touring, Racing, and Minor Models, new and second-hand.

Also large variety of Lamps, Horns, Speedometers, Windscreens, Hoods, Pillion Seats, and Sundries of every description.

List on Application.

Wauchope's.

9, Shoe Lane, Fleet Street, London, E.C.4.

'Phone: Holborn 5111.
Grams: Opilicor, Fleet, London

MOTOR CYCLES FOR SALE.

A.B.C.

1920 A.B.C., new, just delivered, Lucas horn; £150. —140, Horseley Fields, Wolverhampton. [X5311

NEW A.B.C. Motor Cycle, just delivered; list price.—G. W. Green, Millgate, Thirsk, Yorkshire. [X5144

1920 A.B.C., fully equipped, beautiful condition; best offer.—Alderton, 23, Hardwicke Rd., Reigate. [3504

1920 3h.p. A.B.C., brand new, in stock at list price, £150.—Walbro Motor Cycle Works, Saffron Walden. 'Phone: 45. [X5351

A.B.C. Motor Cycle, immediate delivery, unused; list price, £150. — Arthur Lyon and Wrench, Ltd. Victoria Rd., Willesden Junction. [3345

A.B.C., delivery guaranteed this month; will transfer option for cost of advert, plus £5 deposit paid to agent.—Box 5,799, c/o *The Motor Cycle*. [3697

DELIVERY of the A.B.C. Motor Cycle from stock. Distributers for the county of Lincoln.—The Spalding Motor Co., Ltd., Pinchbeck St., Spalding 'Phone: 144. T.A.: Service. [0015

A.B.C. 3h.p., brand new, mileage negligible, lamps, tools; what offer above £150; would consider exchange late G.P. Morgan, cash adjustment.—Box 121, c/o *The Motor Cycle*. [X5425

A.B.C.—The Layton Garages, London Rd., Bicester, distributing agents for Oxfordshire, North Bucks., and North Berks., can give immediate delivery of one new T.T. model, and have several July deliveries still open. 'Phone: 35 Bicester. T.A.: Integrity, Bicester. Please ask for our July bargain list, which gives particulars of 50 machines, all priced at lowest possible figures. [3534

A.B.C. Combination, 1920 standard model, with semi-T.T. bars, special A.B.C. Swan sporting model sidecar, electric lighting outfit, not dynamo, Stewart horn, Smiths trip type speedometer, mileage less than 300, condition as new; cost about £210; best offer accepted.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3533

Abingdon.

ABINGDON Combination, 6-7h.p., in stock; £189.—Frank Whitworth, New St., Birmingham. [X5251

ABINGDON King Dick 3½h.p., 2-speed, hand controlled clutch, perfect running order; £45.—Paddon, Golspie, Sutherlandshire. [X5170

4 h.p. Abingdon, 1914, sports model; bargain, £45; machines bought or sold.—Call or write, Black Horse, Reigate Heath, Reigate, Surrey. [3334

3½h.p. Abingdon (King Dick), 2-speed, Bosch mag., B. and B., good condition; £35.—Apply after 7, or write E.A., 12, Elphinstone Rd., Walthamstow. [2549

Acme.

1920 Acme Combination, delivered last week, cost £215, must sell this week; £195; appointment only.—17, Gordondale Rd., Wimbledon Park. [3089

ONE 6-8h.p. 1920 Acme-Jap Combination, C.B. sidecar, Sturmey-Archer 3-speed, spare wheel; list price.—Jackson, 635-7, Ecclesall Rd., Sheffield. [X4973

NEW 1920 Acme 8h.p. Combination, J.A.P. engine, 3-speed, kick starter, detachable and interchangeable wheels, spare wheel and tyre; £213; immediate delivery.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [2446

A.J.S.

1920 A.J.S. Combination, equal to new.—Pickering, Marcol, Shrewsbury. [3300

CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premiums. [9995

1913 A.J.S., 2-speed, all on, perfect, solo £88; sidecar £4 extra.—50, Adderley Rd., Leicester. [3259

1916 A.J.S. Combination, in perfect order; seen after 6; £115.—69, Charlotte St., W.1. [2837

1915 6h.p. A.J.S., complete, lamps, spare wheel, etc.; £148.—Cross, Agent, Rotherham. [X5337

A.J.S. 1916 6h.p. Combination, spare wheel, all accessories.—1, Birches Barn Rd., Wolverhampton [3405

BRIGHTON, Hove and district A.J.S. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0302

A.J.S. Combination, 1920, brand new; £220.—Ben Erin, 61, Walsall Rd., Bridgtown, Staffs. [X4972

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [9624

6h.p. A.J.S. Combination, complete with lamps; bargain, £95 or offers.—Crown Garage, Cannock. [2849

A.J.S. Combination, 3 speeds, 1915, sound condition; £100.—51, Maplethorpe Rd., Thornton Heath. [3236

A.J.S. Combination, immediate delivery.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214 [0225

MOTOR CYCLES FOR SALE.

A.J.S.

1920 A.J.S. 6h.p. Combination, delivered March 10th, done 500 miles; £228.—32, Wycliffe Rd., Battersea, S.W.11. [2760

BRAND New 6h.p. A.J.S. Combination, delivered this week, never been used; £235.—Box 5,820, c/o *The Motor Cycle*. [3319

1920 A.J.S. Combination, delivered June, lamps and speedometer; £236.—Pritchard, Hillside, Johnstown, Wrexham. [3097

2¾h.p.—A.J.S., 1913, 2-speed, clutch, rebushed, new chains, carburetter; £37.—11, Lalor St., Fulham Palace Rd., Fulham. [3507

A.J.S. 1913 2¾h.p., 3-speed, K.S., clutch, and Canoelet sidecar; would separate; £85.—21, Barmouth Rd., Wandsworth, S.W. [2676

A.J.S. 1915 6h.p. C.B. Combination, lamps, horn, and wind screen, pull anywhere top gear; £127.—261, Mitcham Lane, Streatham. [3489

A.J.S. Specialists, The Walsall Garage, Wolverhampton St., Walsall (Tel.: 444), can give favourable deliveries of these grand combinations. [5760

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. A.J.S. combination, 1918, detachable wheels free engine, kick start, accessories; £185. [9769

1916 6h.p. A.J.S. Combination, interchangeable wheels, splendid running order; £140; first cheque secures.—Taylor's Garage, Falmouth. [0239

1915-16 A.J.S. 6h.p. Combination, splendid condition, little used, climbed Porlock, Lynton hills; £140.—Ajello, 35, Chepstow Crescent, Bayswater. [2595

1920 A.J.S. Combination, delivery due from makers this week, fitted with all electric lights and horn; offers.—Box 5,763, c/o *The Motor Cycle*. (D) [3517

A.J.S. 1916 4h.p. Combination, new Easting wind screen, 3 lamps, 2 generators, detachable wheels; £110, or offer.—W., 45, West Sq., St. George's Rd., S.E.11. [2436

A.J.S., late 1919 combination, 6h.p., spare wheel, wind screen, Lucas head lamp, tail lamp, horn, and tools, as new.—Careless, Cartwright St., Wolverhampton. [X5363

1914 A.J.S. 6h.p. and Sidecar, E2068, exceptional outfit, just overhauled thoroughly, condition excellent, one owner-driver throughout; £120. Or will sell

1920 A.J.S. 6h.p. Combination, delivered May, unscratched, Lucas lamp set just delivered, spring seat-pillar yet to come from makers, outfit fully insured 12 months; offers.—Shepherd, Abbotsmead, Weeping Cross, Stafford. [3316

£180.—A.J.S. combination, all complete, practically new, Lucas lamps, horn, pillion seat, etc., green model.—Miller, 62, Hampstead Rd., N.W.1 'Phone: North 1519. [2321

A.J.S. 1919 November Combination, 3 lamps, horn, speedometer, Tan-sad, hood, and cover, spare wheel and insurance policy; £215.—A.J.S., Pinehurst, Headley, Hants. [3656

A.J.S. 6h.p., 1913, Mills-Fulford sidecar, speedometer, Lucas lamps, Klaxon, Cameo wind screen, 2 new tyres, all in excellent condition; £120.—Rutt, Contractor, Alton. [2910

LATE 1919 6h.p. A.J.S. Combination, black and gold, detachable wheel, spare wheel, lamps, almost new condition; £195.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [3605

ALLEN-BENNETT Motor Co.—A.J.S. 1917 6h.p. combination, Lucas dynamo lighting; £170, or ½ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3566

1920 A.J.S. Combination, with Lucas lamps and horn, wind screen, spare wheel, delivered May 19th, only ridden 700 miles, as new; £245.—Apply by letter to Morrison, 117, Greenvale Rd., S.E.9. [2554

A.J.S. 1919½ Combination, black and gold, perfect condition, small mileage, spare wheel with unused tyre, lamps, speedometer, mechanical horn; £195, or nearest offer.—The Gables, Constable Rd., Ipswich. [3312

A.J.S. 1915 6h.p. Combination, 3-speed, spare wheel, wind screen, hood, lamps, horn, tools, pump, interchangeable wheels very good engine; best offer over £130.—Davies, Bryncoch Smithy, Llanbrynmair, Montgomeryshire. [1186

1920 A.J.S. Combination, June, done 300 miles, hood, hood cover, screen, spare wheel, Lucas lamps, Cowey speedometer, horn, etc.; offers.—A.B., 39, Westbourne Terrace North, Paddington. 'Phone: Padd. 3418. [3175

OH! A.J.S. with Gloria Cane Sidecar and spring suspension chassis, Easting screen, speedometer, horn, lamps, Palmer cord tyres, splendid touring mount, in excellent condition; £130; any trial.—Griffin, High St., West Malling, Kent. [2575

A.J.S. 1917 4h.p. with Coachbuilt Sidecar, in good condition, Lucas lighting set and horn, complete; £130. Sunbeam 1916 2½h.p., with Lucas lighting set and horn; £120; trial given.—Smith Bros., Haulage Contractor, Pencombe, Worcester. [X5176

1919 A.J.S. Combination, makers' specification, spare wheel, wind screen, lighting set complete, all tools and accessories, watch, speedometer, over £15 extra spares, very carefully treated, any trial by appointment; Richmond, Surrey; £220.—Box 5,791, c/o *The Motor Cycle*. [3561

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A.J.S. Combination, late 1919, engine No. 11519, run 1,680 miles, standard equipment, also Lucas big head light, electric side and rear, with 3-cell dry battery, Lucas horn, Bonniksen speedometer, Tan-Sad (unused), tyres unpunctured, perfect order; bought car; best offer over £210.—Jameson, Kenton, Northumberland. [3116

1916 A.J.S. 6h.p. Combination, black and gold, complete with electric lighting, Stewart speedometer, mirror, spare wheel, coach sidecar with hood, screen, luggage carrier; this outfit is one of the makers' very best, and is in absolutely perfect condition, any stiff trial, will drive up to 100 miles to purchaser upon receipt of cash; £150; privately and carefully owned.—Keen, Broad St., Leominster. [2733

Aldis.

ALDIS-PRECISION 3½h.p., 1914, Philipson, Bosch, B. and B., new tyres, low position, fast; £50.—Porch, No. 3 Coy., Sandhurst, Camberley. [2516

Alecto.

ALECTO 3½h.p., 2-stroke, 2-speed, kick starter, brand new; £87/10.—Lambert's, Ltd., Thetford. [2542

Alldays.

ALLON 2¾h.p., late 1919, only run 200 miles; £50.—Tilleys, The Esplanade, Weymouth. [3478

ALLDAYS 1920, 2-speed, uncrated; list price, £85; first telegram secures.—Allen, Hairdresser, Oundle. [2684

1916 Alldays-Allon, 2-speed, 2-stroke, perfect condition; £40.—Box 5,669, c/o *The Motor Cycle*. [2284

2¾h.p. Alldays Allon, 2-stroke, as new, any trial, all accessories; £48.—Stone, Broomhill, Cannock. [X5145

ALLDAYS Allon, deliveries from stock.—Hewin's Garages, Ltd., the real service firm, Totnes. [2654

ALLDAYS Matchless and Sidecar, just overhauled; must sell; offers.—H., 113, Burnt Ash Rd., S.E. [2583

ALLON 2¾h.p., speedometer, all accessories, perfect condition; £60.—7, Cleveland Rd., Acton Green, W.4. [2409

1920 Alldays Allon, 2¾h.p., 2-speed, kick starter, lamps, accessories, as new; £75.—Dosser, Slingsby, Yorks. [3196

NEW 1920 Allon 2-speed, hand clutch, kick-starter, horn, etc.; £79/10.—365, King St., Hammersmith. [3224

ONE 1920 Alldays Allon, 2-speed, 2-stroke; list price; immediate delivery.—Morriss, 139, Finchley Rd., N.W.3. [2579

1916 Countershaft Allon, new condition, mechanically perfect; £50, or near.—Lurcock, Boston St., Hanwell, W.7. [2961

ALLON, 1920, 2-speed, hand clutch, kick-start, not ridden 100 miles, 3 weeks' old; £75.—158, Norwood Rd., West Norwood. [2993

ALLDAYS Allon, 1916, 2¾h.p., 2-speed, 2-stroke, perfect running order; £50.—Write, 37, Manor Rd., Stoke Newington, N. [3115

1920 Alldays Allon, 2-stroke, 2-speed, K.S., clutch, in running order; £75, or near offer.—Brooker, 300, Southampton St., S.E.5. [2403

ALLON 2¾h.p., 2-speed, countershaft, splendid condition, accessories, long exhaust, evenings; £45.—74, Dollis Park, Finchley, N.3. [2987

ALLDAYS Allon 2¾h.p., 1918, 2-speed, C.S., drip feed, just overhauled and re-enamelled; £58.—Goode, Prince of Wales, East Molesey. [3110

ALLON 2-stroke, luxurious mount, aluminium discs, Tan-Sad pillion, lamps, etc., all as new; 80 gns., or offers over.—89, Lozells Rd., Birmingham. [X5243

ALLON 1920, brand new, 2-stroke, 2-speed and clutch, kick starter, just arrived, at maker's price.—Wilkins, Simpson, opposite Olympia, London. [2473

ALLON (Sept., 1919) 2¾h.p., 2-speed, clutch, kick starter, lamps, horn, tools, pump, mileage under 500, as new; £65.—10, Forest Rise, near Whipps Cross, E.17. [2501

ALLON 2¾h.p. 2-stroke, 1920 model, electric light and all accessories, mileage 200, owner buying combination; price 75 gns.—Apply to Bull Garage, Cambridge. [2510

LATEST 1920 2¾h.p. Alldays-Allon, 2-speeds, kick starter and clutch, 3 weeks old, used few times only; £75.—Glyndhurst, Audley Rd., Saffron Walden, Essex. [X5295

1920 (May) Alldays Allon, 2-speed, clutch, kick starter, leg-shields, mechanical horn, tools, condition as new; £85, no offers.—V. Bill, 4, Austin Friars, Stafford. [X5271

ALLDAYS-ALLON 1917 2¾h.p., 2-speeds, enamel, nickel, new, perfect condition, fully equipped, lamps, etc.; £57.—38, Grosvenor Rd., Chiswick. 'Phone: Chiswick 1516. [3725

ALLDAYS 2¾h.p., 2-stroke, equipped, 1914, but mileage under 700, perfect throughout; £40, or exchange with cash for 4¼h.p.; evenings.—53, Hungerford Rd., Camden Rd., London. [3392

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Coulson

1920 4h.p. Coulson B, mileage 300, as new; £112.—4, Taunton Rd., Bridgwater. [3759

COULSON B., 2¾h.p., 1920, just delivered; 95 gns., plus carriage.—Renown Motor Co., South Bridge St., Bathgate, Scotland. [X5179

COULSON B., 1919, 2¾h.p. Blackburne engine, 2-speed, spring frame, perfect order, fast; 85 gns.—L., Bristol University. [3273

COULSON B, 2¾h.p., spring frame, Blackburne engine, delivery from stock; 95 gns.—Clark, 7, Exhibition Rd., South Kensington. [3432

1920 Coulson B, 2-speed, immediate delivery; list price; £97/10.—A. J. Young and Co., Ltd., 75, Albany St., Regent's Park, London, N.W.1. [0225

COULSON B. 2¾ and 4h.p. models in stock, 2-speed gear, spring frame, Blackburne engine; at manufacturers' list prices; easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [2172

1920 Coulson, with 2¾h.p. Blackburne engine, spring frame, 2 speeds, lamps, horn, Bonniksen speedometer, any trial; after 6 p.m.; 90 gns. or near offer.—Horne, Corner House, Dollis Park, Church End, Finchley. [3015

Coventry Eagle.

1920 3½h.p. Coventry Eagle, 3-speed model, just delivered.—12, Bridge St., Cambridge. [2662

COVENTRY EAGLE, 2-stroke Villiers engine; £65.—Albert Eng. Co., 70, Albert St., Rugby. [X5302

COVENTRY EAGLE-J.A.P., 1920, 2¾h.p. 4-stroke, clutch, K.S., Sturmey 2-speed, accessories; £80.—Crowder, 258, Victoria Rd., Aston, Birmingham. [2443

COVENTRY EAGLE, 1919, J.A.P. 2¾h.p., 2-speed, condition as new, complete with spare new belt, lamps, horn, pannier bags; £65.—Horton, Main St., Carlton, Notts. [2898

COVENTRY EAGLE 2¾h.p., 2-speed, Sturmey-Archer gear, kick start and clutch, T.T. or touring bars; £90; new.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X5248

COVENTRY EAGLE, Villiers (April, 1920), not done 400 miles, unscratched; cost new with spares and accessories £73/10; expert examination invited; no reasonable offer refused.—Gist, 9, Brynmorgan Terrace, Penygbont, Abertillery. [2707

Coventry Victor.

COVENTRY VICTOR 5-7h.p. Combination, 3-speed, clutch, kick starter, 1920 model; £160.—Webb, 7, Sylvan Rd., Forest Gate, E.7. [2603

Cygnus.

CYGNUS-J.A.P. 3½h.p., 2-speed, all-chain drive, spring frame, excellent condition; £55.—Rising Sun, Hotel, Buryfield, Berks. [2213

Dalm.

3h.p. Dalm, Amac, E.I.C., perfect condition; £32.—1, Othello St. Liverpool. [2246

De Dion.

3½h.p. De Dion Cycle, two wicker body sidecars; £18.—Box 5,697, c/o *The Motor Cycle.* [2460

De Luxe.

DE LUXE 2¾h.p., 2-stroke, Druids, Amac, E.I.C., Palmers, splendid condition; £35.—Thomas and Gilbert, 13, Union St., Smethwick. [2336

2¾h.p. De Luxe, enamelled red, E.I.C., Senspray, drip feed, lamp set, horn, long exhaust, as new; £45, bargain.—Greet, Council School, Warwick Rd., Birmingham. [2968

DE LUXE Indian Combination, 7-9h.p., 2-speed and clutch, spring frame, electrically equipped, good tyres, 1 brand new John Bull, machine thoroughly overhauled; £120, or reasonable offer.—Bann, Edleston Rd., Crewe. [3341

DE LUXE 2¾h.p. 2-stroke, Albion 2-speed countershaft, new last month, splendid hill-climber, trial anywhere, £65; also pair latest double Druid spring forks, new, suit 3½h.p., £6.—Simmons, 26, Leckwith Place, Canton, Cardiff. [3370

DE LUXE 1920 new 2¾h.p., 2-stroke, E.I.C. mag., Amac carburetter, variable gear pulley, semi-T.T. bars, Pedley grips, polished aluminium discs, knee grips, long plated exhaust pipe, Brampton forks, Dunlop tyres, mechanical horn, tools, plated head lamp, generator, tail lamp, very fast sporty machine; £60.—Bate, Croftside, Knutsford Rd., Grappenhall, Warrington. [2182

Diamond.

DIAMOND, new 2-stroke in stock; £63.—Clark, 7, Exhibition Rd., South Kensington. [3433

DIAMOND 2-stroke, single gear, good machine, reliable and fast; £45.—Moss, Wem. [X5410

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266

DIAMOND-J.A.P. 1919 2¾h.p., 2-speed, perfect condition, lamp and horn; £75; after 6 p.m.—Stacy, 29, Kempshott Rd., Streatham. [2176

1920 2¾h.p. Diamond-Jap, latest Sturmey-Archer 2-speed gear, clutch, kick starter, cost £95, never ridden; £82.—Box 5,768, c/o *The Motor Cycle.* [3610

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4h.p. Douglas Combination; £120. — Pickering, Mardol, Shrewsbury. [3302

1920 4h.p. Douglas Combination; £155.—Box 119, c/o *The Motor Cycle.* [X5359

2¾h.p. Douglas, 1914; £50; in good condition; after 6.—38, Newstead Rd., Lee, S.E. [2861

DOUGLAS 4h.p. Combination, 1917-18; any trial; £85.—272, Green St., Forest Gate. [2486

CLEARANCE: Wind up.—Brand new Douglas, W.D.; £69.—Reynolds, Waterbeach, Cambs. [3442

1920 Douglas Combination, brand new; list price.—2, Nightingale Rd., Lower Clapton. [3547

1919 2¾h.p. Douglas, as new, lamps, tools, etc.; £80.—80, Streatham High Rd., S.W. [3358

4h.p. Douglas, 3-speed, clutch; £80; after 5 p.m.—Parsons, 44a, The Mall, Ealing, W.5. [3192

DOUGLAS 4h.p. Combination; £100.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [2743

BRIGHTON, Hove and district Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS 2¾h.p., army rebuild, practically unridden; £75, lowest.—Bishop, Tuffley Av., Gloucester. [X5175

£50.—1915 2¾h.p. Douglas, 2-speed, good tyres, horn, splendid condition.—King, Egrove Farm, Oxford. [X5342

DOUGLAS 2¾h.p., 2 speeds, T.T., 1915, not Army; £52.—51, Maplethorpe Rd., Thornton Heath. [3235

DOUGLAS Combination, late 1918, just overhauled, not W.D.; £120.—2, Hillfield Rd., Cricklewood. [3709

4h.p. Douglas Combination, late model, condition as new; £130.—Box 5,787, c/o *The Motor Cycle.* [3558

DOUGLAS 2¾h.p., 2-speed, Bosch, Amac, good running order; £33.—63, Arlingford Rd., Brixton. [2980

DOUGLAS 1916 W.D. Model, perfect condition throughout; £56.—202, Munster Rd., Fulham. [2774

DOUGLAS 2¾h.p., 2-speed, 1914-15, new Dunlops; evenings; £58.—66, Bovill Rd., Forest Hill, S.E. [2248

DOUGLAS 2¾h.p., wants putting together; £12/10.—Johnston, 216, Rodney Hut, Crayford, Kent. [2618

DOUGLAS 2¾h.p., uncrated last May, everything perfect; £60.—271, Camberwell New Rd., S.E.5. [3013

1918 Douglas 2¾h.p. 2-speed, fast, enamel and plating unscratched; 62 gns.—144, Ladbroke Grove, W. [3098

DOUGLAS 2¾h.p., perfect condition, overhauled; £46; after 6 p.m.—Knight, 107, Whitfield St., W.1. [2263

1916 2¾h.p. Douglas, buffer head, sound mechanical condition; £58.—76, Herongate Rd., Wanstead Park. [2698

1920 Brand New Unused Douglas Combination, 4 h.p.; best offer over £160.—West, Bladon Woodstock. [1190

DOUGLAS 2¾h.p., 2-speed, 1915; £55.—Cambridge Automobile Engineering Co., Hobson St., Cambridge. [3642

1916 Douglas 2¾h.p., in first-class running order, as new; 45 gns.—53, Pelham St., South Kensington. [2191

DOUGLAS 2¾h.p. 2-speed, exceptionally fast, smart machine, all accessories; £56.—179, Brixton Rd., S.W.9. [2604

DOUGLAS 1914 2¾h.p. 2-speed Model, excellent condition throughout.—Parker's, Bradshawgate, Bolton. [X5303

1912 Douglas, 2 speeds, recently spent £15 on new parts, runs beautifully; £42/10.—Crawley, Saffron Walden. [2348

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Douglas.

DOUGLAS 1916 2¾h.p., makers' colours, splendid condition; 50 gns.—103, Thurlow Park Rd., West Dulwich. [3064

1916 Douglas, 2¾h.p., 2-speed, lamps, unscratched, perfect order; 55 gns.—Lynton, Park Crescent, Finchley. [3366

DOUGLAS 1913, Bosch, requires new carburetter, recently overhauled; £40.—Haslewood, R.M.A., Woolwich. [X5217

DOUGLAS 1916 2¾h.p., makers' colours, splendid condition; £53.—30, Crystal Palace Park Rd., Sydenham. [3065

DOUGLAS 4h.p., 3-speed, etc., good condition, ride away; £76; after 6.—Bovett, 147, Southampton St., S.E.5. [2884

1920 2¾h.p. Douglas, 3-speed, as new, lamps, horn, knee-grips; £102.—Crook, 136, Harrowby Rd., Grantham. [3386

DOUGLAS 2¾h.p., 2-speed, 1916 model, as new; 60 gns.; after 5.—17, Lancester Rd., Stroud Green, N.4. [1010

1917 4h.p. Douglas Solo, makers' colours, fine condition; £80.—Write W.M.B., 65, King's Hall Rd., Beckenham. [3730

1916 2¾h.p. Douglas, guaranteed, perfect condition; £60.—18, Quen's Gate Mews, Gloucester Rd. Station, S.W. [9835

1916 2¾h.p. Douglas, just been overhauled, condition like new; £55. — 257, Cavendish Rd., Balham, S.W. [3333

1916 2¾h.p. 2-speed T.T. Douglas and accessories, in good condition; £60.—Seen Bounds, 223, High Rd., Kilburn. [2496

1919, Nov., Douglas Combination, latest clutch, fully equipped, trial; £160.—Dalby, 5, Craig St., Peterborough. [3122

DOUGLAS 2¾h.p., W.D., uncrated, little used, condition like new, engine No. 38655; £75.—'Phone: Hamp. 7822. [3682

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DOUGLAS 4h.p. 1917 Combination, 3-speed, clutch, kick start, excellent condition, all on; £110.—60a, Kirkdale, Sydenham. [3737

DOUGLAS 2¾h.p., perfect running order, 1916, fast, B. and H. lamp set; £55, bargain.—Fairland, 180, Old Kent Rd., S.E.1. [2838

2¾h.p. Douglas, good condition, ride away; first cheque for £18; must sell.—Gratton, Oxford St., Burnham-on-Sea. [2222

£49.—2¾h.p. Douglas, 2-speed, lamps, speedometer, horn, excellent condition, makers' colours.—119, Sutherland Av., W.9. [3719

DOUGLAS, 2¾h.p., 1915, with light sidecar; £70; exchange or half down.—Bunting's Motors, Wealdstone, Harrow. [3416

1911 Douglas 2¾h.p., excellent running order, horn, footboards, new lamps, tyre, belt; £33.—19, Exning Rd., Plaistow. [3162

2¾h.p. Douglas, late 1915, perfect condition, lamp, horn, etc., long exhaust, footboards; £55.—12a, New Dock Rd., Llanelly. [X5338

DOUGLAS 4h.p., 3 speeds, requires few parts to complete, very good condition; £50.—Hole, 129, Park Lane, Carshalton. [3017

1920 New 4h.p. Douglas Combinations in stock; list price; seen any time.—Bounds' Garage, 223, High Rd., Kilburn, N.W. [2497

DOUGLAS 1915 2¾h.p. Motor Cycle, 2-speed, tyres as new, complete; £52/10.—6, Ingestre Place, Broad St., Golden Sq., W. [3744

DOUGLAS 1920 4h.p. Combination, brand new, just arrived, at maker's price.—Wilkins, Simpson, opposite Olympia, London. [2475

1916 2¾h.p. Douglas, condition and appearance perfect; £52.—Richardson, Vrede, Station Rd., Byfleet, Surrey. Evenings. [3207

2¾h.p. Douglas, W.D., 1916, excellent condition, new P.B. lamps; £56. Entwisle, 1, Countess etc., Kentish Town, N.W. [3208

DOUGLAS 2¾h.p., 2-speed, 1916, £57/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6 Phone: Hammersmith 80 [1419

1920 2¾h.p. Douglas, 3-speed, clutch, K.S., mileage 500, Miller lamps grips, Klaxon; £110.—J., 3, Blenheim Mount, Bradford. [3508

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DOUGLAS 2¾h.p., 2-speed, good condition, foot boards, including lamps, horn, etc.; £40.—2 Melbourne Av., West Ealing. [221

2¾h.p. Douglas, late 1914, 2 speeds, excellent condition, just overhauled, lamps, etc.; £56/10.—10 Brockley Rise, Forest Hill. [290

DOUGLAS 2¾h.p., 1916, W.D., uncrated 1919, complete, footboards, speedometer; after 6.30.—9 Barbage Rd., Herne Hill, S.E. [243

1919 4h.p. Douglas, fully equipped with P. and H. lamps, horn, etc., excellent condition, tyres good; £98.—15, Holywell St., Oxford. X520

1919½ Douglas 4h.p. Combination, many improvements, excellent condition; £140.—Huber Nicholls, Bromstone, Broadstairs. [218

DOUGLAS 2¾h.p., uncrated June, 1919, perfect and unscratched; any trial; £58, bargain.—37, Streatham Place, Brixton Hill, S.W.2. [310

DOUGLAS 2¾h.p., clutch, and K.S., small mileage, exceptional condition; £67/10.—Winkworth, Riverside House, Staines. 'Phone: 98. [310

1914 Douglas, 2¾h.p., K.S., clutch, and 4in. Drummond lathe, exchange for C.B. combination.—14, Farm Rd., Crombie, Fifeshire. [285

4h.p. Douglas, good condition, powerful, kick starter, lamps, good tyres, disc wheels, etc.; £96.—A.W., 7, Mintern St., New North Rd., N.1. [245

DOUGLAS 1920 (April) 2¾h.p., 3-speed, perfect condition, lamps, not run 1,000 miles; £96.—Tabb, Baths Cottage, Tenbury Wells. [2523

1919 Douglas 2¾h.p., 2-speed, mileage about 300, beautiful and perfect machine; £72.—60 Wallingford Av., North Kensington. [290

LATE 1919 2¾h.p. Douglas, lamps, horn and all accessories, perfect; £85.—36, Pelham St., South Kensington. 'Phone: Kensington 7213. [288

2¾h.p. Douglas, 1919, 2-speed, in splendid condition, with first-class accessories and spares; £85.—The Gratwick Garage, Worthing. [2279

GIBB, Douglas Specialist, Gloucester, gives personal attention to all orders. All spares at makers' prices stocked. No profiteering.—'Phone: 852. [6340

1919, Late, Douglas Combination, latest clutch, in excellent condition, lamps, horn, tools, etc.; £140.—Tucker, 94, Redcliff Hill, Bristol. [3275

1916 2¾h.p. Douglas, in good condition, complete with lamps, etc., tyres nearly new; price £65 nett. 'Phone: 2431.—63, South End, Croydon. [2675

DOUGLAS 2¾h.p. 1914, Bosch, footboards, long copper exhaust, splendid condition, stored 3 years, new crankshaft; £58.—'Phone: Esher 249. [3237

DOUGLAS, 1911, engine requires correctly timing, otherwise perfect and complete; £20.—Particulars, Bury, The Green, Easton, Wells, Somerset. [2746

1920 New 2¾h.p. 3-speed clutch and kick starter Model W.20 Douglases in stock; list price.—Bounds, Garage, 223, High Rd., Kilburn. [3421

1920 Douglas 4h.p. Combination, complete, P.H. lamps, Easting wind screen, Klaxon, perfect condition; £165.—Armytage, Waterside, Liphook. [2612

1917-18 Douglas 4h.p., 3-speed, clutch and kick-start, fine condition, and smart appearance; £87.—A. Brown, 2, Austin St., Shoreditch, E.2. [3233

DOUGLAS 1915-16 2¾h.p., as new, lamps, horn, pump, etc., £65; also Thomson-Bennett mag. for twin, £5.—Faulks, Homestead, Radlett. [2477

DOUGLAS 2¾h.p., 2-speed, thoroughly overhauled, perfect condition, like new; £65; seen any time.—Evans, London House, Madeley, Shropshire. [2616

DOUGLAS Combination, 1914, wicker sidecar, pillion seat, new tyres, just overhauled, many spares; £75.—Hurley, 265, High Rd., Kilburn, N.W. [X5386

TWO Douglases, both 2-speed, lamps, horn, footrests, long exhausts, discs; bargains, £48 and £52.—Rogers, 5, Spencer Park, Wandsworth, S.W.18. [2420

SPORTING 1918 4h.p. Douglas, like new, £6; speedometer, T.T. bars, discs, long exhaust, Binks, etc.; £89.—9, Red Hill, Bassett, Southampton. [3040

DOUGLAS 2¾h.p., 1916, fully equipped, excellent running order; no reasonable offer refused; after 5.—T.H.S., 126, Finborough Rd., S.W.10. [2416

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—4h.p Douglas combination, 1917 model, £120; also 4h.p. Douglas combination, 1920, £170. [3747

BRAND New 1916 Douglas 2¾h.p., £75; also another, reconstructed, and equal to new, £65.—Walter Scott, 109, Goldhurst Terrace, Hampstead, N.W.6. [2457

1919 4h.p. Douglas Combination, in spotless condition, as new, only done 500 miles; £146.—Rhosha Motor Co., Bank Mews, Romford. Tel.: 95. [9724

DOUGLAS 1915 2¾h.p., 2-speed, just overhauled, new heavy Dunlop tyres, new saddle, and horn; £65; seen after 6 p.m.—18, Caillard Rd., Byfleet, Surrey. [2373

4h.p. 1918 Douglas Combination, perfect condition throughout, hood, screen, tools; £115; really smart lot; after 7 p.m.—68, Barrington Rd., East Brixton. [2915

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OUGLAS, 1915, 2¾h.p., 2-speed, lamps, footboards, horn, splendid running order; £53.—Cononer, 13, Kilmarsh Rd., Hammersmith, W.6. [3202

OUGLAS, 1917, 58 gns.; 1915 ditto, 52 gns.; lady's ditto, 42 gns.—Garage, 5, Eglon Mews, ley Rd., Primrose Hill (near Chalk Farm Tube). [3495

VO 4h.p. Douglas Combinations, 1918 and 1914; £115 and £75; two 2¾h.p. Douglases, 1916 and , £63 and £53.—374, Grove Green Rd., Leyton-e. [2084

OUGLAS Combination, December, 1919, mileage about 700, unscratched, lamps, horn, wind screen, rance; £149.—Workman, 54, Baxter Av., Southend-ea. [2561

16-17 4h.p. Douglas Combination, 3 speeds, clutch, kick start, Douglas sidecar, smart turnout, in ex-nt condition throughout; £105.—18, Wherstead Rd., ich. [2786

-p. Douglas Combination, 1915, new C.B. sidecar, Watford speedometer, horn, 3 lamps, electric gas, all spares; £165.—44, Atwood Rd., Didsbury, nchester. [3499

OUGLAS 4h.p. Combination, 1918, equal new, extra finish, trial, examination; 100 gns; ap-ntment. — Particulars, 2, Napier Rd., Bromley mon, Kent. [2

OUGLAS 1920 2¾h.p., brand new, Model W20, 3-speed, clutch, and kick starter, immediate de-ry at maker's price.—Wilkins, Simpson, opposite mpia, London. [2474

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OUGLAS 1916 2¾h.p., 3-speed, foot and hand clutch, footboards, leg-shields, lamps, speedometer, many spares; £70.—Hewin's Garages, Ltd., the real ice firm, Taunton. [2653

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OUGLAS 2¾h.p., 1915-16, 2-speed, lamps, speedometer, mechanical horn, footboards, heavy Dun-, knee-grips, mechanically perfect; £64.—76, Cricket-l Rd., Clapton, E.5. [3061

OUGLAS 2¾h.p., W.D., uncrated 1919, lamps, horn, heated Amac carburetter, Thomson-Bennett mag., tchinsons, perfect condition; 66 gns.—32, Durants , Ponder's End, N. [3189

OUGLAS, new 4h.p. combination, £170; 2¾h.p. with clutch, £105; second-hand W.D. models, ellent condition, £58, £63.—Clark, 7, Exhibition , South Kensington. [3434

OUGLAS 4h.p. 1918 Combination, 3-speed, perfect condition, new gear box, clutch, and tyres, lamps, n; any trial given; what offers?—75, Camberwell ve, Camberwell, S.E.5. [2251

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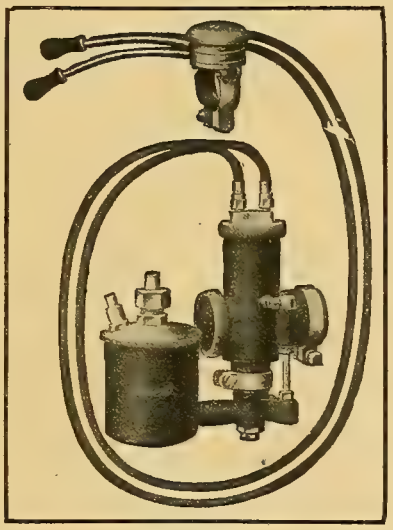

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DOUGLAS 1914 2¾h.p., 2-speed, makers' colours, P. and H. lighting set, horn, etc., long exhaust, Bosch watertight, Amac, very fast; £48/10.—1, Albert Cottages, Marlborough Rd., Old Kent Rd., S.E.1. [2893

DOUGLAS 2¾h.p., 2-speed, 1919, T.T., tyres equal new, splendid condition throughout, P.H. lamps, horn, and accessories, ready ride away; bargain, £80.—Bawn, 1, Spring Gardens, Longcroft Rd., Devizes, Wilts. [2421

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DOUGLAS 4h.p. Combination, 1917, vital parts 1920, twin, countershaft 3-speed, lamps complete, Montgomery underslung, all fine condition; 125 gns.—T. Burgess, Hill Cottage, Sussex, or trial, London, July 3-4. [2178

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DOUGLAS 2¾h.p., August, 1919, long exhaust, speedometer, horn, lamps, full accessories; first cash over £72 secures; seen Saturday afternoon and Sunday.—Write or call, L. West, 71, Norbury Crescent, Norbury, S.W.16. [2340

4h.p. 1917 Douglas Combination, just overhauled, engine splendid condition, tyres good, complete, 2 generators, speedometer, Watford trip, tools complete, sidecar in good order; price £100.—Ivens, Bacombe Cottage, Wendover, Bucks. [2210

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DOUGLAS 4h.p. Late 1917 Coachbuilt Combination, 3-speed, clutch, kick start, fully equipped, 3 lamps, horn, tools, etc., tyres nearly new, mechanically and paintwork as new; a remarkable bargain, only wants seeing, £110.—59, Aytoun Rd., Brixton. [3072

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ENFIELD Brand New 1920 2-stroke in Stock, makers' price.—Moss, Wem. [X5407

2¾h.p. Twin Enfield, 2-speed; £40.—Pickering, Mardol, Shrewsbury. [3303

3½h.p. Enfield Combination, 2-speed, F.E., new S.C.— 320, High St., Poplar, E. [2593

6h.p. Enfield, excellent condition; £150.—W.P.H., 13, Waldeyrane Rd., Hornsey, N.8. [2617

ENFIELD 2-stroke, brand new; £70.—Lunt, Dene Cottage, Boreham Wood, Herts. [X5417

ENFIELD 2¾h.p. 1914 Twin, recently overhauled; £40.—Balshaw, Langcliffe, Settle. [3050

1920 6h.p. Enfield Combination, brand new; £220. —Evetson, The Dingle, Stourbridge. [3454

1918 6h.p. Enfield Combination; £115; after 7.15. —119, Hither Green Lane, Lewisham. [2720

1916 3h.p. Enfield, in good condition; £63.—Seen Bounds, 223, High Rd., Kilburn, N.W. [2495

1920 Enfield Combination, brand new, 8h.p.; £195. —89, Oak Lane, Bradford. Tel.: 2190 [3291

ENFIELD Combination, 6h.p.; a bargain; £84.— Wilkins, Simpson, opposite Olympia, London. [2469

ENFIELD 3h.p., 2-speed, Bosch, perfect order, ride away; £36.—4, Briar Rd., Cricklewood, N.W. [2293

ENFIELD 2-stroke, 2-speed, late 1919, mileage under 800; £50.—Pudney, Walton-on-the-Naze. [3043

ENFIELD Combination, lamps, speedometer, Binks; any trial, £125. 38, Agincourt Rd., Hampstead. [3076

ENFIELD 1920 2-stroke, just delivered, not unpacked, £72/10.—169a, Lower Clapton Rd., E.5. [X5321

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ENFIELD 3h.p., green model, 2-speed, lamps, horn, new tyres; £58.—167, Fallsbrook R Streatham. [3

THREE Enfield Combinations, one 8h.p., two 6h. prices £150 and £165.—374, Grove Green R Leytonstone. [2

ROYAL ENFIELD 2-stroke, 2-speed, 1919, condit as new; £60; no dealers; after 5p.m.—1, Cotet St., Tooting. [2

ENFIELD 1920 2-stroke, brand new, just arriv at maker's price.—Wilkins, Simpson, oppo Olympia, London. [2

ENFIELD 1916 2-stroke, 2-speed, chain drive; £ —Smith's, 86, Chalk Farm Rd. (oposite Ch Farm Tube Station). [0

ENFIELD 3h.p., 1918, 2-speed, K.S., lamps, ho toolbags, condition as new; £70.—Goode, Pri of Wales, East Molesey. [3

ENFIELD 8h.p., as new, with lamps, speedomet etc., small mileage; £200.—74, Arthur R Wimbledon Park, S.W. [3

ENFIELD 3h.p. Twin, 1916, 2-speed, kick-start, excellent condition, lamps, etc.; £60.—158, N wood Rd. West Norwood. [2

ENFIELD 2¼h.p., 2-stroke, 2 speeds, late mod mileage 500; £67/10.—Halifax Motor Exchan Union St. South, Halifax. [2

ENFIELD, just delivered, 2¼h.p., 2-speed; price.—Cambridge Automobile Engineering Hobson St., Cambridge. [3

ENFIELD 2¼h.p., 1920, 2-stroke, 2-speed, as n mileage under 500, with lamps and horn; £7 60a, Kirkdale, Sydenham. [3

ENFIELD 2¾h.p., 2-speed, kick-start; £40.—Ne ham Motor Co., 223, Hammersmith Rd., W 'Phone: Hammersmith, 80. [3

ENFIELD 3h.p. Twin, 1915, 2-speed, recently o hauled, new tyres, electric lighting; £45.—66, P well Park, Mortlake, Surrey. [2

2¾h.p. Enfield Twin, 1912, new tyres, belt, sadd lamps, etc.; £25.—Wright, St. Ives, Doug Rd., Hazel Grove, Stockport. [2

ENFIELD, 3h.p., kick start, 2 speeds, tools, lam late model, condition perfect; £52.—4, No Side, Wandsworth Common. [3

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ENFIELD Combination, 1916, with hood and wi screen, 6h.p., any trial; £145.—Fordham, Cham Gates, Fenstanton, St. Ives, Hunts. [3

ENFIELD 3h.p. Twin, 2-speed, kick-start, fu equipped, splendid condition, any trial; £63 Prince of Wales, Shrub Hill, Worcester. [X5

ENFIELD 3h.p., new November, 1919, M.A.G. gine, Lucas lamp, horn, etc., little used; £90 10, Woodside Rd., South Norwood, S.E.25. [2

MAUDES'. — 1919 lightweight 2-speed Enfie Palmer tyres, Klaxon horn, Cowey (2) lam £69.—Maudes', 100, Gt. Portland St., London. [3

NEW 1920 Royal Enfield, 2¼h.p., 2-stroke; pr £37/10; delivery from stock.—D. J. Shephe and Co., Enfield Highway, Waltham Cross 31. [0

1917 6h.p. Royal Enfield Combination, Lucas lar mechanical horn, Easting wind screen; ap after 5.30.—Lees, 2, Vicarage St., Hollinwood, Oldh [2

6h.p. Enfield Combination, May, 1920. Magdyno lig ing. Brand new; any trial; evenings or week-en £215.—H.B., 230, Hamlet Court Rd., Westcliff-on-S [3

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5-6h.p. Hazlewood Combination, 3-speed, clutch and kick-starter, at manufacturers' current list price, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [2171

1916 Hazlewood-Jap C.B. Combination, 3 speeds, clutch, kick starter, hood, screen, luggage carrier, lighting set, Stewart horn, spare chain, cover, tube, splendid condition; bought car; bargain, £115.—11, Betchworth Rd., Seven Kings. [2331

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HOBART 3½h.p. Twin, 2-speed, free engine, kick start; £45.—Harper, 34, Belgrave Gate, Leicester. [2508

1914 Hobart Twin Combination, 3-speed, ride away; £45.—79, Upton Lane, Forest Gate. [3206

HOBART, 2½h.p. Villiers, 2-stroke, single-speed; £63/15; 1920 model.—Crown Garage, Cannock. [2851

HOBART-J.A.P. 2¾h.p., Sturmey-Archer 2-speed, kick start, 1920 model.—Crown Garage, Cannock. [2852

HOBART 2¾h.p., 1920, uncrated, single; list price, £63/15; first telegram.—Allen, Hairdresser, Oundle. [2683

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1920 Hobart, 2¾h.p. Villiers engine, perfect condition, only run 600 miles, fully equipped with tools, lamps, and horn; bargain, £58; no offers.—Apply, Owner, c/o Wood and Lambert, 69, High Rd., South Tottenham. 'Phone: Tottenham 2074. [3172

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HUMBER 3½h.p., Bosch mag., B. and B., recently overhauled; £35.—29, Church St., Helston, Cornwall. [2193

HUMBER, 2-speed, 3½h.p., handle start, ready for holiday trip; £40.—P.W., The Haven, Whyteleafe. [3716

3½h.p. Humber, Bosch, B.B., 2 speeds, excellent condition; £33, bargain.—Welch, 5, Market Place, Hertford. [2345

1920 Humber Flat Twin Combination; nearest list price.—All particulars, Lines, Union House, Foleshill, Coventry. [X5278

HUMBER Lightweight, appearance and condition excellent, good running order; £27/10.—9, Oswald Rd., Rushden, Northants. [3313

2¾h.p. Humber Twin, 3-speed, clutch, 1914, lamps, horn, tools, fine condition, very fast; £40; a bargain.—20, Skellbank, Ripon. [2999

NEW 1920 4½h.p. Twin Humber Motor Cycles; delivery 14 days at list price.—Lankester Engineering Co., Sudbiton, Kingston, and Esher. [3638

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1919 Indian 7-9h.p., scarcely used; £125.—Wallace Mattingley, The Rowans, Maidenhead. [2418

1919 7-9h.p. Indian Combination, as new; £145.—Frank Whitworth, New St., Birmingham. [X5256

1914 7-9h.p. Indian Combination, good condition; £90.—1a, Cromwell Mews, South Kensington. [2839

INDIAN 5-6h.p., F.E. clutch model, ready to ride away; £40; after 7 o'clock.—73, Eton Rd., Ilford. [3107

TWO Indians, 7-9h.p. (1914), both in good order; £50 and £65.—Victoria Garage, Surbiton, Surrey. [3324

INDIAN Combination, 5-6h.p., C.B. lamps and accessories, after 6 p.m.; £90.—19, Valnay St., Tooting. [2916

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INDIAN Combination, 7-9h.p. Powerplus, spring frame, 3-speed, clutch; best offer.—74, St. James' Rd., Bermondsey. [2622

1915 7h.p. Indian and Sidecar, clutch model, going order; first cheque £59 secures.—Box 5,775, c/o *The Motor Cycle.* [3616

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INDIAN 7-9h.p., 1915, 2-speed, clutch, kick starter, spring frame, new Dunlop, lamps, horn, perfect; any examination; £82.—R. Martin, Lindholme, Lewes. [3669

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1915 7-9h.p. Indian Combination, 3-speed, clutch; Schedler, spare new Binks, speedometer, in exceptional condition; £130, lowest.—73, Edgecombe St., Hull. [2710

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T.T. Indian 5-6h.p., 1915, 3-speeds, clutch, new Binks, English controls, Dunlop, and £10 engine parts; £77, or offers. 54, Euston Rd., Northampton [X5414

1915 5-6h.p. Indian Combination, 3-speed clutch, kick starter, Cameo wind screen, luggage grid, tyres good, good running order; £140. Falkner, Station Rd., Dunmow. [2429

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1920 7-9h.p. Indian Powerplus Combination, dynamo lighting, speedometer, Easting wind screen, mileage 1,000; £220.—Gosling and Son, Mareham-le-Fen Boston. [X3571

1915 7h.p. Indian and Sidecar, 3-speed, kick starter, running order, engine and gears overhauled, appearance fair; first cheque £73 secures.—Box 5,774, c/o *The Motor Cycle.* [3615

1920 Indian-Millford Powerplus Combination, full electrical equipment, disc wheels, speedometer, mileage 1,700; £190, no offer; Rutland.—Box 5,729, c/o *The Motor Cycle.* [2585

INDIAN Combination, 1920 latest, mileage 700, screen, hood, £12 accessories, insurance, etc.; £220, near offer.—Morse, 69, Sotheby Rd., Highbury. 'Phone: Dalston 807. [2840

1915 7-9h.p. Indian Combination, spring frame, 3 speeds, clutch, kick starter, re-enamelled and thoroughly overhauled, many new spares; £115.—25, Morley Rd., East Twickenham. [2428

INDIAN.—For early delivery of the famous powerplus motor cycles and sidecar combinations with electrical equipment write to P. J. Evans, 83-91, John Bright St., Birmingham. [X4727

INDIAN 7-9h.p. 2-speed, spring frame, splendid condition, heavy Dunlops, too powerful for owner; £70; would exchange lower power.—78, Springbank Rd., Hither Green, S.E. [3181

INDIAN 1915 Combination, spring frame, clutch, K.S., electric light, speedometer, hood, in excellent condition, bought car; £120, or nearest.—W., 352, High St., East Ham. [3031

INDIAN Powerplus Combination; latest model, spring frame, indistinguishable from new, lamps, etc.; £165, no offers.—Advertiser, 20, Cornwall Gardens, Willesden Green, N.W. [3210

INDIANS.—Several 1918-19 Powerplus models, many new tyres, re-enamelled and as new, mechanically perfect; £125; or with sidecar and fully equipped.—3, Courtlands Av., Lee, S.E.12. [2949

1916 (Nov.) 7-9h.p. Indian Powerplus Spring Frame Combination, electrically equipped, luxurious Indian sidecar, perfect mechanically; £160 cash.—House, 4, Argyle St., Reading. [3054

1913 Indian, coachbuilt sidecar, 7-9h.p., spring frame, excellent order, pulls like new machine, new cylinder, new Dunlop, good enamel, lamp, horn.—Ramsden, Branicar, near Wakefield. [3412

1916 7-9h.p. Powerplus Indian, spring frame combination, 3-speeds, hand and foot clutch, speedometer, lamps, and accessories, all in first-class condition; £150.—S. Cox, 150, High St., Somerset. [2229

INDIAN 7-9h.p., with Swan sporting sidecar, dynamo lighting, electric starter and horn, mileage 3,000, the whole outfit in magnificent condition; bargain, £120.—St. Mary's Lodge, Grove Rd., Woodford, E.18. [3182

NOV. (1919) Indian Powerplus, 7-9h.p., electrically equipped, dynamo, etc., Easting, leg-shields, 3-speed, K.S., in fine condition, small mileage; best offer over £175, or exchange.—90, Claremont Rd., Alexandra Park, Manchester. [2551

1916 5-6h.p. Indian, 3-speed, clutch, kick start, recently overhauled, new valves, etc., complete with Henderson sporting C.B. sidecar, lamps, horn, all in first-class condition; £115.—Masters, Radnor House, Downton, Wilts. [2532

1920 7-9h.p. Powerplus Indian Combination, electric lighting, discs, T.T. bars, mudshields, speedometer, spare covers, tubes, etc., in perfect order; trial, can be seen by appointment; £210.—Box 5,728, c/o *The Motor Cycle.* [2584

1920 Indian Powerplus Combination, dynamo lighting set, new discs and sidecar lamp, new spare chains, valve, bulbs, etc., mileage only 700, as new; best offer over 190 gns. secures.—Reavy, 59, Talbot St., Moss Side, Manchester. [2297

7-9h.p. Indian, spring frame, 2-speed, clutch, new sidecar, tyres, tubes, chains, Binks, mechanically perfect, just overhauled, stored during war, large number spare parts, any trial, after 6; £100.—Chandler, 19, Chelmsford Rd., Leytonstone. [2619

1914-15 7-9h.p. Clutch Indian, speedometer, lamps and tools, condition as good as new, open to expert examination; £80, or near offer; exchange A.V. monocar, cash adjustment.—Apply, Capt. Davis, 100, Snargate St., Dover. [2568

INDIAN Powerplus 1919 Type, issued new Jan. 2nd, 1920, complete with usual electrical equipment and speedometer, very good condition, sidecar new last month; 170 gns.—The Layton Garages, London Rd., Bicester. Tel.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3546

MOTOR CYCLES FOR SALE.

Lincoln-Elk.

9 14 4h.p. Lincoln-Elk Combiation, 2-speed, clutch, kick start, Bosch waterproof, Dunlops, sporting ecar; £60, near offer.—151, Kingston Rd., Teddington. [3359

1h.p. Lincoln-Elk, Bosch mag., B. and B., Miller 2 lamps, horn, long copper exhaust, new Clincher re, stored during war; bargain; £36/10.—Simons, etlinge, Harlington, Middlesex. [2854

L.M.C.

M.C. 4½h.p., 3-speed Sturmey and K.S., and sidecar, practically new 1920; £125.—Longuey, Oswestry. [X5172

9 20 L.M.C. Combination, complete with lamps, tools, horn, wind screen, luggage grid, spare lt and tube, in new condition, and perfect in every spect; £150, or near offer; only reason for sale owner aying Indian Powerplus combination.—Seen and tried the Layton Garages, 90, High St., Oxford. 'Phone: 34. [X5269

.M.C. 1920 6h.p. C.B. Combination, used twice only, owner changing for Colonial Model for Overseas e: cost £183, nearest offer to £165 accepted; condion as new, and full guarantee as with a new machine ven.—The Layton Garages, London Rd., Bicester. .A.: Integrity, Bicester. 'Phone: 35 Bicester. Please k for our July bargain list, which gives particulars nearly 50 machines, all priced at lowest possible gures. [3526

M.A.G.

M.A.G. 4-5h.p. Twin, Dunlops, Senspray, perfect condition; £38.—Write, 3, Osmond Gdns., Walington. [3005

Martin.

MARTIN-J.A.P. 8-10h.p., Brooklands sporty model: £48.—Curtis, 15, Temple Rd., Acton. [2957

MARTIN-J.A.P. 6h.p. Twin, Bosch, fully equipped, fast; 57 gns.—Horgan, 42, Cowley Rd., Brixton. [2944

Martinsyde.

REX G. MUNDY for early delivery of Martinsyde combination.—1, Duke St., Richmond. [0207

MARTINSYDE-NEWMAN Combination, just delivered, fully equipped; £200.—Coates, Glan, Conway. [X3602

FOR Sale, 6h.p. Martynside-Newman combination, brand new; £200, or near offer.—J. Poate, Midhurst, Sussex. [2635

MARTINSYDE Combination, hood and screen, just received offers.—68, High Lane, Chorlton-cum-Hardy, Manchester. [3010

19 20 Martinsyde-Newman Combination, unridden; list price or best offer over; seen Rutland.—Box 5,730, c/o *The Motor Cycle*. [2586

Matchless.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Matchless combination, 1918; £160. [9778

MATCHLESS Combination, 3 speeds; 55 gns., bargain.—Hessey, 14, Rockingham Parade, Uxbridge. [3418

MATCHLESS Victory Model Combination; price £120, bargain.—Victoria Garage, Surbiton, Surrey. [3325

MATCHLESS, Model H, 2 almost new, Lucas lighting; offers.—7, Exhibition Rd., South Kensington. [3436

19 20 Model H Matchless, Lucas electric lights, as new; £230.—2, Nightingale Rd., Lower Clapton. [3550

CROW Bros., Guildford, West Surrey agents for this first-class outfit. Matchless in name and quality. [3173

MATCHLESS Combination, 130 gns.; Bedford district, particulars, stamp.—Box 5,778, c/o *The Motor Cycle*. [3521

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—7-9h.p. Matchless Combination, M.A.G. engine, 1914; £137/10. [3750

19 20 Matchless, M.A.G. engine, fitted all lamps (Lucas), cost £220, brand new; £225.—Box 5,773, c/o *The Motor Cycle*. [3614

MATCHLESS Victory Model 1918-1919 Combination, fully equipped, splendid turnout.—Write Greenop, 27, Castlegarth, Kendal. [3402

4h.p. Matchless T.T. Twin, 3-speed, splendid running order; bargain, £55; nearly new.—17, St. John's Rd., Plumstead Common. [2393

19 20 Matchless Brand New Model H. Combination, speedometer, Lucas acetylene lamp sets; £240.—Smith, Garage, Main St., Mexborough. [2640

MATCHLESS Combination, 6h.p. J.A.P., done 8,000 miles, all accessories and speedometer; £112, real bargain.—169a, Lower Clapton Rd., E.5. [X5319

19 20 Model H Matchless, in splendid order, Lucas dynamo lighting, hood, leg guards, horn, etc.; £230.—2, Nightingale Rd., Lower Clapton. [3548

MATCHLESS, Model H.—Place your orders with S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. 'Phone: Greenwich 751. [2067

MATCHLESS Combination, 8h.p., complete, 1920 Model H, dynamo lighting, mileage run 250; £235.—Jackson, 29, Vauxhall Bridge Rd., S.W. [2335

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1920 **B.S.A.,** 4½ h.p., Model H.
1920 **B.S.A.,** 4½ h.p., Model K.
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4h.p. Matchless, new B. and B. carburetter and belt, engine perfect; too fast for owner; £40, or near offer.—189, Grove Lane, Camberwell. After 6 p.m. [2435

19 19 Matchless Combination, complete, all accessories, spare wheel, all first-class order; £160.—Ramm, c/o Dollis Auto, Church End Station, Finchley. [2563

19 20 Model H Matchless Combination, dynamo lighting, speedometer, and full equipment, splendid condition, as new; £235.—Box 5,734, c/o *The Motor Cycle*. [2590

MODEL H Matchless Combination, Lucas lamps, hood and screen, beautiful condition, nearly new; £225.—Cromack, 15, Trafford Terrace, Harehills, Leeds. [3001

MATCHLESS 7-9h.p. Combination, 1919, fully equipped, whole outfit as new, lamps unused, mileage 1,500, ride away; £185.—75, Howarth Rd., Plumstead, S.E. [3371

19 20 Model H Spring Frame Matchless Combination, Lucas lamps, watch, speedometer, screen, tools, mat, spare wheel; £225.—Platt, 2, Sheffield Rd., Warmsworth, Doncaster. [2718

19 19 Matchless Combination, 8h.p., spare wheel, Lucas lamps, hood, screen, Cowey speedometer, tools.—W. Inversnaid, St. James Av., Sutton. Owner taking 1920 model; £165. [2863

MATCHLESS 1919 Combination, practically new, full equipment, speedometer, mirror, Volex electric lighting, gas lamps unused; any trial; 185 gns.—Brand, 24, Sandbourne Rd., Brockley, S.E. [2864

MATCHLESS-J.A.P. 4h.p., Grado gear, kick-start, engine overhauled, new parts fitted, ready for road; £45 or near offer; exchange for lightweight considered.—Hudson, 14, Conway Rd., Plumstead. [3165

LATEST 1920 Model H Matchless, Lucas lamp sets, all round, spare wheel, wind screen, in stock at list price; £215; exchanges.—Walbro Motor Cycle Works, Saffron Walden, Essex. 'Phone: 45. [X5294

MATCHLESS 1914 6h.p J.A.P., stored for over 2 years, complete with lamps, T.T. bars, and new tyres, very fast; any trial given; price 90 gns., no offers.—Can be seen at Crown Hotel Garage, Leamington Spa [2772

MATCHLESS Latest Model H Spring Frame Combination, complete with M.A.G. engine, Lucas magdyno, spare wheel and tyre, luggage grid; only done few hundred miles.—Parker's, Bradshawgate, Bolton. [X5305

19 20 Matchless Model H. Combination, Lucas, magdynamo lighting, Lucas horn, rear drive speedometer, magneto h.b.c., mileage 850, condition as new; £225.—Wolverson, Horseley Fields, Wolverhampton. [X5312

ALLEN-BENNETT Motor Co.—Matchless 1920 Model H., electric lighting, run under 200 miles, unscratched; £240, or ⅓ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3578

MATCHLESS-M.A.G. 8h.p. Combination, 1915, 3-speed countershaft, screen, apron, and accessories; best over £120, or exchange Triumph combination and cash.—10, R.F.C. Quarters, Lynchford Rd., South Farnborough. [2806

MATCHLESS New Spring Frame Model.—Orders booked for rotational delivery. Demonstration model on view. Replacements for Matchless models of all dates in stock.—Tassell, 1a, Bloomfield Rd., Plumstead S.E. [9411

F.O.C.H. have a 1920 Matchless combination, Model H, mag.; list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3600

MATCHLESS Combination, 6h.p. J.A.P., £60; 8h.p. Matchless combination, £88; also 1914 Matchless combination, chain drive, kick start, clutch, beautiful turnout; £120.—57, Kenbury St., Coldharbour Lane, Camberwell. [2238

ALLEN-BENNETT Motor Co.—Matchless 1920, M.A.G. engine model, 4h.p., and acetylene lighting, hood and screen, unscratched; £230, or ⅓ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3579

19 19 Matchless Combination, 7-9h.p. J.A.P., spare wheel, hood, screen, speedometer, Lucas, acetylene lamps, excellent condition, unscratched; expert examination; any trial; district East Kent; price £170.—Box 5,752, c/o *The Motor Cycle*. [2816

19 19 8h.p. Matchless Combination, hood, wind screen, detachable and interchangeable wheel, spare wheel, Lucas lamps and generators, and many spares, including tyres, etc.; £220, or offer.—Railway Hotel Garage, Heatley, Cheshire. 'Phone: 70 Lymm. [X5246

MATCHLESS Spring-frame Combination, M.A.G. engine, interchangebale wheels, spare wheel, wind screen, speedometer, horn, extra leg shields, complete accessories, mileage under 20; first offer over £235 secures.—Townend, Southend Parade, Eltham. [3184

MATCHLESS. 1916, 8B Model, 7-9h.p. M.A.G. engine, Matchless sidecar, hood, screen, speedometer, lamps, seat in sidecar for child, handsome turnout, and any trial given; £160; real bargain.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [3604

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£32.—This is all we are asking for a 1912-13 T.T. 3½h.p. Matchless-Jap, good tyres and mechanical condition, but enamel rough; worth a call or card for such a snip.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town, N.W. See Miscellaneous and Zenith. [3650

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MAXIM-J.A.P., 3½h.p. J.A.P., Bowden 2-speed, countershaft, kick-starter, new tyres, trip speedometer, lamps, etc., thorough running order; £48.—Hudson, 14, Conway Rd., Plumstead. [3164

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EGERTONS, Northgate, Ipswich.—Ipswich agents Metro-Tyler, immediate delivery from stock.—'Phone: 962. [816]

METRO-TYLER, 2-speed, drip feed, P. and H. lamp set and all accessories, seen any time; £47.—529, Lordship Lane, East Dulwich. [3037

1920 Metro-Tyler, delivered February, new lamps and horn; £65 for prompt sale.—Apply, 3, Monkham's Av., Woodford Green, Essex. [2728

SPECIAL 1920 T.T. Metro-Tyler, fast and well tuned, long plated exhaust, absolutely perfect; must sell; £58.—9, Bedford Rd., Bedford Park, W.4. [2189

1916 Metro-Tyler, 4-stroke. Precision engine, lamps and spares, excellent condition; £42, or near offer.—W. Ashwell, 78, Mayfield Rd., Dalston. [3444

METRO-TYLER 2¾h.p., 1919, just overhauled by makers, disc wheels, lamps; £65, or nearest offer.—A. E. Martin, 90, Portland Rd., Rushden, Northants. [2390

METRO-TYLER, April, 1920, 2¾h.p., 2-speed, disc wheels, new lamps, horn, accessories, perfect; must sell; 72 gns.—R. Tugby, Oakthorpe, Ashby-de-la-Zouch. [2702

Minerva.

3½h.p Minerva, E.I.C. mag., spring forks, splendid condition; £23.—31, Camrose St., Plumstead, S.E. [3404

MINERVA 3½h.p., new, E.I.C., B.B., Druids, new belt; £30; ride away.—Graham, 6, Wilkins Ct., Caldewgate, Carlisle. [2411

MINERVA 2½h.p., B. and B., new mag., spare belt; ride away; £20; seen after 6 except Saturdays.—10, Barocca Rd., Camberley. [2739

MINERVA 3½h.p., mechanical valves, new tyres and tubes, good running order; absolute bargain, £18/10.—Sargent, New Lodge, Hove, Battle. [2525

Motosacoche.

MOTOSACOCHE 2½h.p., perfect order, speedometer, spares; £25, or nearest.—104, Sheen Rd., Richmond. [2802

MOTOSACOCHE 3½h.p. M.A.G., Enfield 2-speed, fast, clean; £50; after 6.—50, Harold Rd., Upper Norwood. [2357

Moto-Reve.

MOTO REVE 2¾h.p., less front cyl. and induction pipe; nearest to £10.—Coulson, Carr Lane, Cottingham, Hull. [2299

MOTO-REVE 1910 2¾h.p. Twin, Druid forks, single lever carburetter, complete, good tyres, belt, etc., good order, magneto needs adjusting; first cheque £12 secures.—Blunt, Addison Lodge, Avenue Rd., Leamington. [X5377

MOTO-REVE 2¾h.p. Twin spring forks, overhead mechanical valves, Bosch, B. and B., good tyres and belt, adjustable pulley, thoroughly overhauled, complete with horn, etc.; bargain, £23.—Collins, 82, Queen's Rd., Nuneaton. [3327

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1920 New Hudson 2-stroke, unused; list price £75.—'Phone: Hamp. 7822. [3677

NEW HUDSON 2-speed Lightweights in stock, new; £75.—Lambert's, Ltd., Thetford. [2544

NEW HUDSON 2¼h.p., 2-speed, latest model; £75.—Tilleys, The Esplanade, Weymouth. [3479

NEW HUDSON Combination, 1914, 3-speed, clutch; £58.—97, Calbourne Rd., Balham, S.W.12. [2979

1919 New Hudson Combination, 4h.p., fully equipped; £120.—Frank Whitworth, New St., Birmingham. [X5254

NEW HUDSON 6h.p. 1914 Combination, 3 speeds, K. clutch; £65.—21, Barmouth Rd., Wandsworth, S.W. [2677

NEW Hudson Lightweight, tourist model de luxe, 2 speed; £75; in stock.—Rogers, 42, Church Rd., Hendon. [2865

NEW HUDSON, 2-speed, 1917, splendid condition, lamps, horn, etc.; £55, offers.—97, Nightingale Rd., Wood Green. [1072

4h.p. New Hudson-Jap C.B. Combination, 3-speed clutch, speedometer, Bosch, all on; £68.—62, The Grove, Ealing. [2434

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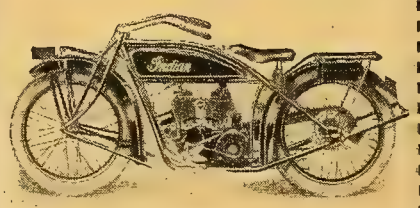

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NEW HUDSON 1914 Combination, 6h.p., 3-speed, splendid condition; nearest £95.—Wall, Homewood, Loose, Maidstone. [308

1919 2¼h.p. New Hudson, 2-speed, perfect, been very little used; £60. — Burlingham, The Orchard, Grey's Park, Slough. [286

NEW HUDSON 4h.p., 3 speeds (reverse), clutch, kick start, coachbuilt sidecar, hood and screen; £70.—Cleary, Kingham Hill, Kingham, Oxford. [342

NEW HUDSON 3½h.p. 3-speed and clutch, in excellent condition, suitable solo or sidecar machine; £47.—85, Dalberg Rd., Brixton, S.W.2. [219

1919 New Hudson, 2-stroke, 2-speed, fully equipped, mileage about 450, perfect condition; £63.—Ivydene, Connaught Rd., Brookwood, Surrey. [316

NEW HUDSON 1914 2¾h.p., 3-speed clutch, T.T. bars, lamp, generator, horn, Bosch, B.B., sporty; £38.—18, Finsbury Rd., Wood Green, N.22. [278

NEW HUDSON Lightweight, 2-speed, all accessories, new tyres, belt, overhauled, splendid condition; £60; no offers.—Write, 41, Broseley Grove, Sydenham. [322

1920 New Hudson 2¼h.p., 2-stroke, 2-speed, unsoiled, £70; 1920 Calthorpe 2¾h.p., 2-stroke, 2-speed and clutch, new, £70.—P. Deery, Strabane. (D) [X5178

NEW HUDSON, 3½h.p., fitted 3-speed, clutch, kick starter, engine requires overhauling; £35; opportunity for dealers.—71, Approach Rd., Victoria Park, E.2. [370

1920 New Hudson 2¼h.p., latest sporting model, 2-speed, mileage about 200, lamps, horn, tools, knee grips; £70; seen appointment.—Box 5,759, c/o *The Motor Cycle*. [3513

LATE 1919 New Hudson 4h.p., 3-speed countershaft, latest utility sidecar, screen, apron, lighting set, guaranteed perfect, splendid condition; £130, lowest.—153, Knollys Rd., Streatham. [2535

REX G. MUNDY.—1920 New Hudson, 2-speed, 2-stroke, Cowey horn, speedometer, lamps, discs, tools, etc., mileage 500, as new; £65 complete, or near offer.—1, Duke St., Richmond. [3438

NEW HUDSON, 2¾h.p. J.A.P., 3-speed, clutch, Bosch, B. and B., lamps, horn, tools, as new, splendid running condition; best offer over £40.—Button, 44, Oakdale Rd., Streatham, S.W. [2842

NEW HUDSON Combination De Luxe, 1915, 4h.p., chain-cum-belt, Bosch, B. and B., Armstrong 3-speed, kick-starter, lamps, hood, screen, spares, perfect condition, sidecar reupholstered and enamelled; what offers?—2, Warwick Terrace, Plumstead Common, S.E.18. [3179

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CROW Bros., Guildford—New Imperial-Jap agents and expert repairers since 1914. [2066

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1920 New Imperial, Model No. 1, just received, at makers' price.—Rose's Garage, Uxbridge. [2975

NEW IMPERIAL, 2½h.p. J.A.P., 2-speed, like new; trial; £48.—Rogerson, Newtown, Wigan. [X5339

1920 New Imperial-Jap Lightweights, immediate delivery from stock.—Kemp's Garage, Louth, Lincs. [X5389

NEW IMPERIAL-J.A.P., 2-speeds, fast and reliable; £40.—8, Priory Place, Well St., Hackney, E.9. [X5418

2¾h.p. New Imperial-Jap, 2-speed, lamps, horn, in nice condition; £38; photo.—24, South St., Newport, I.W. [3062

1920 8h.p. New Imperial Combination, just delivered; list price.—Leonard Cook, Montford Bridge, Shrewsbury. [X5267

NEW IMPERIAL (1916) 2¾h.p., 2-speed, perfect condition; £50.—Pearley, Finchley Av., Church End, Finchley. [2272

NEW IMPERIAL 1920 2¾h.p., 2-speed, with all accessories, only done 200 miles; £72.—31, Woodside, Wimbledon. [2504

2½h.p. New Imperial, 2-speeds, perfect condition, lamps, horn, tools, spares; £58.—40, Wellington Rd., N.W.8. [2273

1920 New Imperial 2¾h.p., kick start and clutch, new stock; list prices.—Exeter Motor Cycle Co., 7, Bath Rd., Exeter. [X5382

MOTOR CYCLES FOR SALE.

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1920 Rudge Multi I.O.M. T.T. Model, just delivered; list price.—Rhosha Motor Co., Bank Mews, Romford. Tel.: 95. [3675

RUDGE Multi 1920 Clutch Model, disc wheels, not done 200 miles; £110.—Hicks, 32, Lena Gardens, Hammersmith, W. [2982

MAY, 1920, 3½h.p. Rudge Multi, latest pattern T.T. bars, fast; best offer over list; 105 gns., secures; ride 50 miles to purchaser.—21, Friars Rd., Coventry. Tel.: 237. [X5459

RUDGE 3½h.p. C.B. Combination, kick start, F.E., good appearance; £55.—16, St. Mary Abbott's Terrace, Kensington. [2904

RUDGE, 2-speed, free engine, overhauled, perfect condition, tank re-enamelled; £40.—Box 5,667, c/o *The Motor Cycle*. [2282

1920 Brand New Rudge Multi, I.O.M. T.T., complete with accessories; £120.—Heath House, Cuddington, Malpas, Cheshire. [X5423

NEW 1920 I.O.M. T.T. Rudge Multi, complete with all lamps, unridden; price £120. 'Phone: 2431.—63, South End, Croydon. [2672

3½h.p. Rudge Multi, coachbuilt sidecar, 650×65 tyres, splendid condition, lamps, spares; £87.—5, Craven Terrace, Coventry. [X5308

1914 Rudge, clutch model, C.A.V., B.B., lamps, generators, Dunlops, perfect running order; £50.—35, Fore St., Edmonton, London. [2187

1919 I.O.M., Rudge Multi, lamps, Klaxon, knee grips, spare belt, etc., excellent condition; £96.—Monk, Gunmaker, Chester. [2794

1914 Rudge, 2-speed N.S.U., in top-hole condition; any trial; £45, or offers.—19, Colvin, Pick Hill Nurseries, Waltham Abbey. [3672

1916 Rudge, I.O.M., perfect condition, lamps, horn, tank repainted makers' colours; £85, or near offer.—'Phone: Hamp. 7822. [3679

RUDGE Multi, 1915, new tyres, belt, Miller lamps, splendid condition, guaranteed; £60.—299, Shirland Rd., Paddington, W.9. [3239

RUDGE Multi 5-6h.p., 1914, excellent appearance, just overhauled, new tyres, accessories; £89.—28, Laburnum Rd., Birkenhead. [X5369

RUDGE Multi 3½h.p., W.D. model, in absolutely new condition throughout, equipped new; £83.—181, Clapham Rd., Brixton. 2984. [2132

1919 (Dec.) Rudge Multi I.O.M. Sporting Combination, fully equipped, very fast, condition as new; £120.—9, Belmont Rd., West Green. [2914

1920 I.O.M. Rudge Multi, lamps, horn, tools, etc., as new, has done 62 m.p.h. on Brooklands; £110.—80, Streatham High Rd., S.W. [3356

MAUDES'—Rudge Multi, 1914 (late), 3½h.p., C.A.V. mag., Senspray carburetter, new tyres; £56:—Maudes', 100, Gt. Portland St., W.1. [3139

RUDGE 3½h.p. Combination, 1919, electric light throughout, speedometer, horn, tools, new condition; £150, offers.—61, Argyle Rd., Ilford. [3742

RUDGE Multi 3½h.p., clutch, roadster model, engine No. 12755, perfect condition, fully equipped; £60.—14, Halliford Rd., Sunbury-on-Thames. [2924

1914 Rudge 3½h.p., single gear, complete with usual accessories, overhauled and renovated as new; price £48.—A.M., 23, Arlington Rd., N.W.1. [2330

RUDGE (2), 1 Multi, 1 Philipson pulley; £72/10 and £50.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1166

1920 Rudge Multi 3½h.p., T.T., pedal starter, clutch, A.K. knee-grips, splendid condition; 95 gns.—C. R. Waddington, Thornton Steward, Bedale, Yorks. [7528

5-6h.p. Rudge Multi Combination, lamps, horn, wind screen, all good tyres, lovely order; £85, or near offer.—Stratford, 203, Junction Rd., Upper Holloway. [2485

RUDGE 1920 3½h.p., Isle of Man T.T., multi-speed gear, hand clutch, only used for a few miles; £105.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0066

1920 (May) 3½h.p. Rudge Multi, I.O.M., pedal start, all accessories; offers over £110, or exchange good chain driven twin; Wandsworth.—Box 5,793, c/o *The Motor Cycle*. [3265

ROBERT BAMFORD.—I generally own, and always know of the best Rudge Multis in London; every machine specially selected and tested. See under Consulting Engineers. [2129

1920 7-9h.p. Rudge Multwin, Henderson sidecar, Cameo screen, Klaxon, Watford speedometer, 3 lamps, as new, low mileage; £160.—G. Tucker, Durley Park, Keynsham, Somerset. [3363

RUDGE, 1920 (June) I.O.M., long exhaust, Klaxon, knee grips, electric light, condition perfect, done £500; £115, or offer.—Maxwellton, Chase Side, Southgate, N. 'Phone: Palmers Green 828. [3589

1915 Rudge, 5-6h.p., and sidecar, new engine and new tyres, paint rough, otherwise in very good condition, all lamps, etc.; bargain; any trial; price £70 nett. 'Phone: 2431.—63, South End, Croydon. [2674

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Rudge.

ALLEN-BENNETT Motor Co.—Rudge, 1920, and sidecar, all lamps, run 20 miles only; £135, or ½ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3582

1920 I.O.M. Rudge Multi, engine No. 17205, splendid condition, tyres unpunctured, horn, Watford speedometer, trip, spare belt, £108; less speedometer, £103.—1, Norfolk Rd., Seven Kings, Essex. [2799

3½h.p. Rudge Multi, 1914, drip lubricator, h.b.c. mag., new tyres, Millford sidecar, Lucas lamps, stored during war, only 20 months' careful use; £65.—Ashford, 35, St. Mark's Rd., Henley-on-Thames. [X5349

F.O.C.H. have a Rudge Multi, fully equipped, ready for the road.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Staurdays. [2644

F.O.C.H. have a 1919 Rudge Multi and Coachbuilt Sidecar, fully equipped, equal to new.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2645

ALLEN-BENNETT Motor Co.—Rudge 1920 I.O.M., and sporting Canoelet sidecar, run under 100, as new, all lamps, horn, speedometer; £140, or ½ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3581

I.O.M. T.T. Rudge Multi, ex-competition machine in racing condition, polished aluminium crank case, plated exhaust, lamps never been used, really fast, private property of a motor engineer, and sold for no fault watever; cheap, £85.—Seen at the Rotherhithe Motor Co., Silwood St., Rotherhithe New Rd., Rotherhithe, S.E. [2591

Saltley.

IMMEDIATE delivery of Saltley-Villiers 2-stroke, single-speed £56, 2-speed £66.—London concessionnaires, Lancaster Motor Co., West Norwood. A few agencies available. [4242

Scale.

1920 New Scale 3½h.p. Precision, clutch model, in stock; £90.—Cross, Agent, Rotherham. [X5335

1920 3½h.p. Scale, 2-speed, clutch, kick starter, coachbuilt combination, run 500 miles; £95.—Doctor Brunton, Clifton Asylum, York. [3127

SCALE 3½h.p., Precision 2-stroke, 2-speed gear, kick-start, only run 100 miles, complete registration, horn, etc.; accept £85, lowest; £6 under list price; no offers.—Powell, Loxwood, Sussex. [2713

Scott.

1920 Scott, just delivered; list price.—12, Bridge St., Cambridge. [2664

SCOTT Brand New 1920 Sports Model in Stock; makers' price.—Moss, Wem. [X5404

1920 Scott, T.T. bars; best offer over £135.—Seen by appointment 9, Tess Rd., St. Albans. [3424

1915 Scott 3¾h.p. Combination, good as new; £100.—14, Church Lane, Aston, Birmingham. [3129

JUST Delivered, brand new Scott, T.T. bars, list price plus delivery charges.—Millard's, Chesterfield. [X5415

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3¾h.p. Scott, new, 1920 model, from stock; £140. [3745

1919 Scott-Millford Combination, well equipped, faultless; 135 gns.—12, St. Michael's Terrace, Wood Green. [2526

SCOTT, renovated, 3¾h.p.; £60; almost new;—Padd. 2423.—89, Abbey Rd., St. John's Wood, N.W.8. [3151

SCOTT, 1915, overhauled and re-enamelled, accessories, in very good condition; £80.—145, Sutherland Av., Maida Vale. [3722

1914 Scott, engine thoroughly overhauled, Binks, new chains throughout, new Dunlops; £80.—132, High Rd., East Finchley, N.2. [2419

SCOTT 1917-18 Combination, equipped, excellent mechanical condition; £110, or exchange.—12, Cornwall Mews, Gloucester Rd., S.W.7. [3726

SCOTTS, 1920, brand new, solos, combinations, or sidecars only; list prices; prompt delivery.—W. Pepper, Market Hill, Royston, Herts. [1697

SCOTT 1915, with new C.B. sidecar, new heavy Dunlops, electric light, splendid condition; £100.—Aley, 6, Studley Rd., Stockwell, S.W.4. [2917

1914 Scott Combination, lamps and speedometer, new tyres and accessories; £65.—Watson, Foresters' Arms, 94, Brady St., Whitehall. [2566

1920 Scott and Sporting Sidecar, delivered last month, not driven 100 miles, lamps, horn; £175.—Fletcher, Carlton Grange, Stockton-on-Forest, York. [8619

SCOTT Combination, coachbuilt, Cameo screen, 3 lamps, new chains, very good tyres, tools, etc., ready for touring; £68/10.—184, Boundary Rd., Wood Green. [3234

1920 Scott, Swan sporting sidecar, Lucas lamps, Cameo wind screen, luggage grid, run about 800 miles; £165.—Warne's, 46, Churchfield Rd., Acton, W.3. [3448

MOTOR CYCLES FOR SALE.

Scott.

SCOTT Combination, Oct., 1919, electric lighting, Cowey speedometer, Lucas horn, Easting, new 3in. tyres, new chains, mechanically perfect; £160.—Aish, Yelverton Rd., Bournemouth. [2706

SCOTT 1915 C.B. Combination, lamps, horn, good tyres, semi-T.T. bars; sell £95, or exchange for 1919, well-known solo machine, Blackburne preferred, cash either way.—17, Dyer's Lane, Putney, London. [2870

SCOTT 1920 3¾h.p., with Swan de luxe touring sidecar, painted mauve, speedometer, lamps, hood, and screen, very smart; £165.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [1164

1914 Scott, all green, C.B. Combination, Cameo screen, Binks 3-jet, Bosch, just overhauled, worn parts renewed, tyres good, perfect running order; £95; trial after 6 o'clock.—31, Onslow Rd., Richmond, Surrey. [3231

1920 Scott, engine 4362, makers' guarantee, 2-seater sidecar, hood, side curtains, screen, luggage carrier, electric light, not done 500 miles, taken delivery of car.—Offers to Tailor, 39, Canterbury St., Gillingham, Kent. [2918

SCOTT Combination, 1915, 2-cyl., 2-stroke, 2 speeds, K.S., lamps and horn, just been overhauled, new rings, chains, radiator, new Palmer tyres, excellent condition, and spare parts; £86.—J. Clark, 389, York Rd., Wandsworth, S.W.18. [3173

SCOTT Combination, Bosch, Lucas lamp and generators, trip speedometer, light sporting sidecar, folding chassis, perfect condition, stored 4 years, spare inner tubes, chain, etc.; 100 gns., or best offer.—Box 5,732, c/o *The Motor Cycle*. [2588

SCOTT Late 1919 Purple Combination, engine No. 3673, small mileage, condition like new throughout, Lucas lamps, new Cowey speedometer just fitted, Binks carburetter, hot air attachment; £170; seen after 7.—35, Bournevale Rd., Streatham. [2221

Singer.

SINGER 4h.p., 2-speed countershaft; £55.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [2742

SINGER 2¾h.p., Bosch, spring seat and forks, good running order; £31.—Read, 29, Newington Green Rd., Islington, N.1. [2231

3½h.p. Singer, clutch model, good condition; £45; or part exchange lightweight, Devon.—Box 5,776, c/o *The Motor Cycle*. [3519

2¾h.p. Singer, 2-speed countershaft, new tyres, lamps, horn, speedometer, just overhauled; £40.—Perfect, 4, Orchard Rd., Beaconsfield. [3204

Sparkbrook.

1917 Sparkbrook, 2-speed, free, perfect; first £53/10.—83, Braemar Rd., Fallordfield, Manchester. [3385

1920 Sparkbrook, perfect as new, not done 500 miles; £60, no offers.—Napier, Bow Theatre, Wallsend-on-Tyne. [2734

2½h.p. Sparkbrook 2-stroke, single and 2-speed models in stock, at makers' list price for cash, or on extended payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [2170

SPARKBROOK, 6h.p. J.A.P., 2-speed, kick-starter, chain-cum-belt, lamps, and speedometer, new Millford sidecar, good combination; nearest offer to £120.—201, Cheltenham Rd., Bristol. [X5385

SPARKBROOK-VILLIERS 1920 Lightweight Model, with latest flywheel mag., single speed; cost £69; used few miles, and indistinguishable from new; bargain, price £56.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35, Bicester. Please say for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3530

Sun.

SUN, 2-speed, 1920, uncrated; list price, £70; first telegram secures.—Allen, Hairdresser, Oundle. [2685

SUN-VILLIERS T.T. 1914 2½h.p., very good running order, sporty; seen any time; 33 gns.—Fisher, Tadley, Basingstoke. [3498

SUN-VITESSE, delivered March, 1920, excellent condition, lamps, horn, tools.—Offers to Cecil Rutt, Langford, Biggleswade. [2748

SUN Vitesse 1920 2-speed Lightweight, purchased new June, used once and exchanged for combination, new condition guaranteed, cost £64/10; best offer over £52/10 accepted.—The Layton Garages, London Rd., Bicester. Tel.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3544

Sunbeam

DAN GUY, Weymouth.—8h.p. 3-speed Sunbeam, C.B. sidecar, good condition throughout; £180. [1179

1919 Sunbeam 8h.p. Combination, fully equipped; any trial; £215.—Fenwick, Gas Works, Yeovil. [2396

1920 Sporting Sunbeam, just delivered, Lucas accessories, £185. Box 5,620, c/o *The Motor Cycle*. [2341

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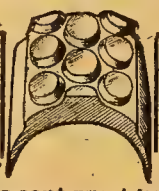

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MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM Combination, 8h.p., 1917, spare wheel; £145.—Mons, Churchill Rd., Bordesley Green, Birmingham. [X5322

SUNBEAM Combination, 8h.p., 1917, just been thoroughly overhauled at works; £170.—89, Lozells Rd., Birmingham. [X5244

SUNBEAM 3½h.p. and Sidecar, lamps, wind screen, hood, just overhauled; a bargain, 100 gns.—132, Victoria Drive, Eastbourne. [3197

1919 Sunbeam Combination, 4h.p., French military model; bought 1920 model; offers over £140.—Price, Horsefair St., Leicester. [X4971

1920 Sunbeam Combination, 3½h.p., under 500 miles, guaranteed perfect; offers.—17, Ryfold Rd., Wimbledon Park, London. [3051

1919 Sunbeam, French military, black and gold, Canoelet sidecar, excellent condition; £150.—Box 5,757, c/o *The Motor Cycle*. [3511

2¾h.p. Sunbeam, 2 speeds, K.S., chain drive, Bosch, Amac, Lucas equipment, in good condition; £68.—Box 5,699, c/o *The Motor Cycle*. [2462

SUNBEAM 1914 2¾h.p., complete with lamp, horn, tools, speedometer, etc., speedy and reliable; £85.—Hewin's Garages, Ltd., the real service firm, Taunton. [2659

SUNBEAM 3½h.p., brand new, just delivered, Lucas lamp set; best offer; would take 1920 high-class lightweight part exchange.—69, St. James's Park, Tunbridge Wells. [2666

1919 (Dec.) 3½h.p. Sunbeam, fitted with Sunbeam leg shields, Lucas lamps, Lucas horn, mileage 200; price £145.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [3621

SUNBEAM 1918 8h.p. J.A.P., bulbous back sidecar, all in black and gold, detachable wheels.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80 [1159a

1919 4h.p. Sunbeam Combination, mileage 4,000, Lucas head lamp, electric sidecar lamp, mechanical horn, tool kit, spare tyre; £160.—Dumas, Ferns, Severnbank, Shrewsbury. [3427

LATE 1918 8h.p. Sunbeam Combination, perfect condition, discs, and spare wheel, enamelled olive green, all accessories; bargain, £175, no dealers.—Rice, 12, Mill Lane, Cambridge. [2960

ALLEN-BENNETT Motor Co.—Sunbeam 1916 combination, 7-9h.p. M.A.G. engine; £140, or ½ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3583

SUNBEAM, 8h.p. M.A.G. engine, combination, condition as new, double-seater sidecar, 700×80 tyres, hood, screen, and numerous spares; offers, or exchanges.—21, Dorking Rd., Tunbridge Wells. [2667

SUNBEAM Combination, 3½h.p., black and gold, 3-speed, clutch, kick-start, Lucas lamps, horn, pump, tube, apron, fully insured, perfect; £120; after 7.—55, Moncrieff St., Peckham, S.E. [2624

LATE 1918 3½h.p. Sunbeam, black and gold, fully equipped, nice condition, and thoroughly sound, owner bought combination; £127.—Stored at Jayes, 9 Princess Mews, Belsize Crescent, Hampstead. [3475

1919 (August) 8h.p. Sunbeam Combination, spare wheel and tyre, F.R.S. electric lighting, Stewart speedometer, Lucas horn, practically as new; £230.—Jones, Earlswood, Ellesmere Rd., Shrewsbury. [X5375

3½h.p. Sunbeam, 1919 (Oct.), all-chain, P. and H. lamp, tools, mechanical horn, rear lamp, spare inner tube, mileage under 3,500, very good condition; £140.—D. Green, Hailgate House, Howden, East Yorks. [2204

ALLEN-BENNETT Motor Co.—Sunbeam 1916 3½ h.p., re-enamelled and plated; £40 overhaul; £135, or ½ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3584

1914 Sunbeam 3½h.p. Combination, 3-speed, K.S., new engine, gears, crown, head, shackles, rods, back and front spindles, front hub, spares, delivery end July; £100; buying larger; Hampshire.—Box 5,795, c/o *The Motor Cycle*. [3692

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay (late Sunbeamland).—The Molineux Garage Co., Ltd. Wolverhampton. Tel.: 1160. [3458

1920 3½h.p. Sunbeam, with primrose dinky pattern sidecar, largest F.R.S. lamp set, Cowey trip speedometer, Cowey horn, knee grips, mirror, F.R.S. sidecar lamp, Lucas rear lamp, disc on sidecar wheel, done 450 miles, as new; £230.—R.L., c/o Martin, 36, Frogmore St., Bristol. [0238

3½h.p. Sunbeam, 1919 (June), and Sunbeam sidecar, Easting wind screen, Lucas lamps, tools, new spare outer cover, etc., low mileage, has been taken great care of, and only sold as owner has purchased a car; can be seen by appointment; price £175.—Apply, Lt.-Col. Heseltine, Etchilhampton House, Devizes, Wilts. [2388

T.D.C.

4h.p. T.D.C., as new, very sporty, disc wheels, lamps, horn, etc.; £75.—100, St. John's Rd., Redhill. [3690

MOTOR CYCLES FOR SALE.

T.D.C.

2¾h.p. T.D.C. 2-stroke Motor Cycle, in running order; £16.—29, Capstone Rd., Bournemouth. [2499

2¾h.p. T.D.C., Dixie, Amac, lamps, horn, etc., ride away; £35.—Fowler, 7, Malden Crescent, Kentish Town, N.W.1. [2491

NEW 2¾h.p. T.D.C. de Luxe, variable pulley, E.I.C. mag., Senspray, and footboards; £44.—H. Judd, Fringford, Bicester. [2758

Torpedo.

TORPEDO-PRECISION 2¾h.p., 2-speed, good condition; £36.—Apply Sundays, 22, Willoughby Park Rd., Tottenham, N. [2704

2¾h.p. Torpedo Precision, good running condition; £33 near.—11, Becklow Place, Askew Rd., Shepherd's Bush, W.12. [3183

Triumph.

3½h.p. Triumph, 1911, 2-speed, clutch, Bosch; £37. —34, Park Rd., Ilford. [3394

TRIUMPH 4h.p. in stock, Model H.; list price.—Meeten, Motors, Dorking. [2955

1919 Triumph 4h.p., little used, perfect; £115.—116, Richmond Rd., Kingston. [3026

TRIUMPH T.T., disc wheels, fast; £40.—Howe, 6, St. Peter's St., Hackney Rd., E.2. [2432

TRIUMPH, late 1919 T.T., splendid condition; £95.—23, St. Peter's Rd., Handsworth, Birmingham. [X5260

TRIUMPH, fine condition; 38 gns.; must sell.—57, Kenbury St., Coldharbour Lane, Camberwell. [2405

1920 Triumph, Canoelet S.C., lamps, tools, etc., as new; £140.—80, Streatham High Rd., S.W. [3357

1920 Triumph Combination, lamps, horn, 800 miles; £160.—Scott, Sarala, Wilmslow, Cheshire. [X5332

TRIUMPH 3½h.p., 3-speed, free engine, good condition; trial; £48.—Rogerson, Newtown, Wigan. [X5339a

TRIUMPH 4h.p., 1914, 3-speed, overhauled; £65.—Eagles and Co., 275, High St., Acton, W.3. [X5362

1918 Triumph Combination, all on, good goer, mechanically sound; £115.—'Phone: Hamp. 7822. [3681

TRIUMPH 3½h.p., variable, free, excellent condition, lamps; £56.—C. Stapleton, Belmont, Bagshot. [2303

TRIUMPH 3½h.p., 1913, single speed, Bosch, sporty model, all on; bargain.—34, Milton Rd., Walthamstow. [2257

1920 4h.p. Triumph Countershaft, nearly new, lamps, horn, etc.; £132.—Shaw, Morton St., Royston, Herts. [3011

1918-19 Countershaft Triumph, new rear tyre, all on; bargain, £102.—Morgan, 4, Christchurch Rd., Ilford. [3108

1920 Triumph 4h.p. Countershaft, just delivered, not ridden; best offer.—Box 128, c/o *The Motor Cycle*. [3443

1920 T.T. Triumph, largest F.R.S. lamp set, only done 200 miles; £110.—Reynolds, Waterbeach, Cambs. [3441

1919 Baby Triumph, lamps, horn, only done 700 miles; £65.—Baxter, Hazlemere, Cotham Park, Bristol. [2423

37 GNS.—Triumph, sporting sidecar, Grado gear, new tyres and belt; rare bargain.—Craig, London Rd., Kingston. [2565

3½h.p. Triumph, 1911, N.S.U. gears, in good running order; seen after 7.—11, Thurlow Park Rd., Dulwich. [2442

1920 Brand New Countershaft Triumph and sidecar, owner taken another delivery.—Bird, Metton, Norwich. [2897

4h.p. Triumph Motor Cycle, kick starter, equipped, splendid condition; 50 gns.—8, Algernon Rd., Kilburn. [2983

TRIUMPH Combination, 3½h.p., excellent condition; £75; view evenings.—Rosebank, Lowndes Av., Bromley, Kent. [2735

TRIUMPH Combination, 1919, lamps, speedometer, horn, tools, new condition; £145, offers.—61, Argyle Rd., Ilford. [3743

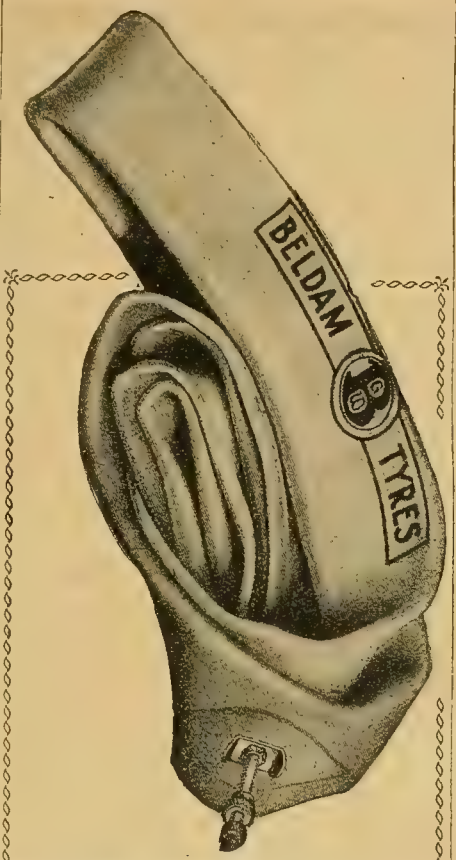
WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Triumph Junior, 1914, £60; also 4h.p. Triumph, 1914, £75. [9781

4h.p. Triumph, clutch model, pink of condition, overhauled in April; £55.—Walker, 3, Foxley Rd., Kennington. [8810

COUNTERSHAFT Triumph, late model, No. 45373, splendid order; £90.—374, Grove Green Rd., Leytonstone. [2086

3½h.p. Triumph, been overhauled and re-enamelled, perfect condition; £28.—Box 5,668, c/o *The Motor Cycle*. [2283

1918 4h.p. Triumph Millford Combination, 3-speed, S.A., perfect order, spares; £130.—102, Kenyon St., Fulham. [2626



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MOTOR CYCLES FOR SALE.

Triumph.

1920 4h.p. Triumph, 3-speed, clutch; delivery middle July; offers.—299, Shirland Rd., Paddington, W.9. [3240

TRIUMPH 3½h.p., Bosch mag., new tyres, excellent condition; £38/10.—Harper, 34, Belgrave Gate, Leicester. [2507

TRIUMPH, as new, gears, new tyres, accessories, must sell; £55, sacrifice.—Atkins, Stanstead Abbotts, Herts. [2729

£38.—Triumph, believed 1912, speedometer, lamps, B. and B. automatic, new tyres, belt.—28, Goldsmith Av., Manor Park. [3258

1919 Triumph C.B. Combination, as new, little used, all accessories; offers?—Burge, 156, Cambridge St., S.W.1. [3004

1916-17 Triumph, 3-speed countershaft, new condition; any trial; 85 gns.—Frank, 76, Trafalgar Rd., Horsham, Sussex. [2256

1919 19 Baby Triumph, 2 lamps, horn, insurance; owner buying larger machine; £65.—C/o Smyth, Tailor, High St., Coventry. [X5299

1919 19 Triumph Combination, Grindlay sidecar, fitted new Dunlops; £140.—Harold Holland, 50, Marlborough Rd., Coventry. [X5458

3½h.p. Triumph (1912) clutch model, new carburetter, lamps, horn, excellent condition; £40.—Everitt, Farnham Royal, Bucks. [2998

4h.p. Triumph, 3 speeds, free engine, clutch, lamps, horn, etc., pink of condition; £75.—Walker, 3, Foxley Rd., Kennington. [2778

1914 Special Racing Triumph, top-hole order, speedometer, 2 lamps, spare belt and valve; photo.—W., Rosenhurst, Sunningdale. [2807

1916 4h.p. Countershaft Triumph, Millford coachbuilt, lamps; £92; carriage extra; trial.—Lambert, 1, Pitlake, Croydon. [3217

TRIUMPH Combination, kick start, Grado gear, new, underslung sidecar; £68.—57, Kenbury St., Coldharbour Lane, Camberwell. [2240

£70, or offer.—3½h.p. Triumph, coachbuilt sidecar, lamps, horn, accessories, good tyres; any trial.—349, Gloucester Rd., Bristol. [2767

1918 Triumph 4h.p. Combination, grey, Speedwell sidecar, fast, splendid condition; £115: private owner.—'Phone: Brixton 484. [3249

TRIUMPH, W.D. model, renovated by Triumph Co.; £95; exchange or half down.—Bunting's Motors, Wealdstone, Harrow. [3415

1920 4h.p. Triumph, fitted special Triumph Montgomery sidecar, brand new outfit; £162.—Box 5,767, c/o *The Motor Cycle*. [3609

TRIUMPH and Coachbuilt Sidecar, 2-speed, free engine, laps, horn, apron, good tyres; £55.—5, The Boulevard, Balham, S.W.17. [3186

1914 4h.p. Triumph Combination, complete with tools and lamps, etc., perfect condition; £95.—Turner, Wellesbourne, Warwick. [X5203

TRIUMPH 4h.p., 1915, 3-speed, clutch, T.T., disc wheels, new sidecar, excellent condition, all on.—149, Rosendale Rd., W. Dulwich. [1604

4h.p. Countershaft Triumph, late 1917, good tyres, discs, Bosch, all accessories, absolutely perfect; £80.—Ibbott, Sutton, Ely, Cambs. [2214

TRIUMPH, 1912, rebored 1919, horn, speedometer, lamps, new belt; £35; inspect 5-7 p.m.—Williams 9, Somerfield Rd., Finsbury Park. [2920

TRIUMPH, 1914, 3-speed, clutch, coachbuilt sidecar, Easting wind screen; £80, nearest.—Garage, 6, Boston Place, Dorset Square, W. [2793

1914 Triumph 4h.p., 3-speed, clutch, new tyres, belt, overhauled, fast, thoroughly reliable; £63.—15, Wickham Rd., Brockley, S.E.4. [2468

TRIUMPH, single gear, 1919 engine, 7in. mudguards, perfect; £35.—Alexander, 17, Frances Rd., Stockland Green, Birmingham. [X5366

TRIUMPH, 3½h.p., clutch, 3-speed, guaranteed sound, running perfectly, accessories; trial; £53.—Brooklyn, Chadwell Heath, Essex. [2866

TRIUMPH 1911 3½h.p., clutch, Bosch, new rings, excellent condition, ride away; £48; before 7.—Fowler, 12, Gleneagle Rd., Streatham. [3153

TRIUMPH 1920 4h.p., countershaft, lamps, generators, Klaxon, tools, etc., as new; £135, or nearest offer.—Box 5,698, c/o *The Motor Cycle*. [2461

BABY Triumph, late 1919, appearance and condition as new, lamps, horn, tools; best offer over £65.—A.E.C., 35, Board School Rd., Woking. [2705

4h.p. Triumph, countershaft (Nov., 1919), in excellent condition, as new, lamps, horn, etc.; £120.—Fairgrieve, 26, Church Crescent, St. Albans. [2747

1920 T.T. Triumph, lamps, Klaxon, knee grips, in perfect condition; £100 or offers.—Gillingham, Ringwood Rd., Ferndown, Dorset. [3134

4h.p. Countershaft Triumph Combination, unscratched, enamel and plating perfect, latest type sidecar; £125.—72, Longridge Rd., Earl's Court. [3731

1912-13 Clutch Model Triumph, P. and H. lamps, new tyres, excellent condition, very fast; £50.—6, Grenville Rd., Hornsey Rise, N.19. [X5314

MOTOR CYCLES FOR SALE.

Triumph.

T.T. Triumph, 1913 clutch model, in perfect running order, stored during war, low mileage: £50.—Greenwood, 324, Padiham Rd., Burnley. [2354

TRIUMPH 1919 Countershaft Combination, well equipped, mechanically perfect, good tyres; £119, bargain.—Bristow's Farm, Cholsey, Berks. [3156

3½h.p. Triumph, Grado gear, overhauled, lamps, good tyres, will pull sidecar; £45; exchange for 2-stroke.—5, Addison Av., Holland Park, W.11. [3470

TRIUMPH, late 1919 (61950), mileage under 2,000, Henderson sidecar, P. and H. lamps, horn, speedometer; £135.—34, King Charles Rd., Surbiton. [3198

1914 Triumph Combination, C.B. sidecar, Mabon gear, set 3 lamps, hood, and screen, and all accessories; offers.—9, Avenue Rd., Brentford, W. [2712

4h.p. Triumph and Sidecar, fitted with all lamps, tyres nearly new, machine in very fine condition; price £125. 'Phone: 2431.—63, South End, Croydon. [2673

TRIUMPH 3½h.p., running but requires overhauling; £30, or near offer.—Apply, Sunningdale Motors, Ltd., London Rd., Sunningdale, Berks. [2408

£35.—Triumph, Gradua gear, guaranteed in perfect working order, condition good.—Tamplin's Garage, 20, Heath Rd., Twickenham. 'Phone: Richmond 96. [2431

TRIUMPH 1918 Countershaft, engine No. 54597, new Watsonian sidecar, lamps, horn, condition perfect; £122.—30, Belgrave Av., Watford, Herts. [3395

4h.p. Triumph Combination, coachbuilt sidecar, Binks, Bosch, 3-speed, clutch; £75; splendid condition.—120, Cromwell Rd., Hounslow, Middlesex. [3397

TRIUMPH, 4h.p., brand new, countershaft, all accessories and spares, registered and insured; £135.—159, Trinity Rd., Wandsworth Common, S.W. [2873

TRIUMPH 1914 4h.p., 3-speed, Gloria sidecar, stored 4 years, overhauled makers March, excellent condition; £90.—Laurel Bank House, Chase Side, Enfield. [2632

TRIUMPH Clutch Underslung Coach Combination, scarcely used, original plating, enamel as new; £60.—Taylor, 637, Seven Sisters Rd., Tottenham, N.15. [2942

TRIUMPH 1920 Lightweight, 2-stroke, 2-speed, delivery from stock, brand new; £75.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0071

SEVERAL Countershaft Triumphs, in good condition, 1916-17-18 models; from £80 to £90 each; combination, £110.—Hole, 129, Park Lane, Carshalton. [3021

1920 Countershaft Triumph, April, practically new, electric light, wind shields, Stewart horn, perfect; offers.—Garrington, Neva Rd., Weston-super-Mare. [3254

1919 Triumph Combination, complete, lamps, tools, horn, perfect tyres, spare outer cover; £130, near offer.—Capt. Backhouse, Barracks, Bury St. Edmunds. [2557

TRIUMPH, 1918 engine, new wheels, new tyres, new mag., renovated throughout, in splendid condition; £90.—County Garage Co., Gerrard's Cross, Bucks. [0240

1918 Triumph Coachbuilt Combination, Canoelet sidecar, in fine condition, perfect running order; £115.—County Garage Co., Gerrards' Cross, Bucks. [0241

TRIUMPH 3½h.p., clutch model, perfect condition, new back tyre and belt, engine rebushed, lamps, horn; £55; after 6.—2, Poplar Grove, Hammersmith. [3035

TRIUMPH 3½h.p., clutch model, about 1913, overhauled and renovated 6 months ago, not used since; offers over £40.—L. Burchell, 4, Goulton Rd., Clapton, E.5. [2440

SPORTY 3½h.p. Triumph, Bosch, new lamps, rear tyre, all accessories, guaranteed perfect; any trial; nearest £30.—Denby, 4, Copley Av., King Cross, Halifax. [3255

TRIUMPH Coach Combination, 3-speed, clutch (foot), speedometer, all accessories, ride away; £60.—134, Crystal Palace Rd., Goose Green, London, S.E. [2215

TRIUMPH 3½h.p., clutch, Bosch mag., adjustable pulley, tyres nearly new, lamps, horn, perfect condition, ride away; £50.—41, Evelyn Rd., Wimbledon, S.W. [3459

1919 Triumph Combination, 3-speed, countershaft, with lamps, horn, luggage grid, speedometer, as new; £147.—Stevenson, 21, Grosvenor Rd., Ilford, Essex. [2879

TRIUMPH 4h.p., 1914, cane sidecar, 3-speed hub, new tyres and belt, very fast, in excellent condition; £80; would sell separate.—Rutt, Contractor, Alton. [2911

1912 Triumph, clutch model, perfect condition, long copper exhaust, tyres and belt as new, lamps, etc.; £43; or nearest offer.—18, Hallswelle Rd., Golders Green. [2988

TRIUMPH Combination, 1913, 3½h.p., hub gear, 3 speeds, reliable, in good going order, lamps; £60.—Larking, Ingledell, Totteridge, near High Wycombe. [2809

4h.p. Triumph, late model, countershaft, button decompresser, engine No. 45346, and new C.B. sidecar; bargain, 110 gns.—232, Stockwell Rd., Brixton, London. [2484

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Triumph.

TRIUMPH 1918, 3-speed C.S., engine 50192, discs, 2 lamp sets, Lucas horn, new Dunlop, smart machine; 85 gns.—190, High St., Colliers Wood, Merton, S.W.19. [2977

4h.p. Countershaft Triumph Combination, Gloria C.B. sidecar, late model, excellent order throughout, unscratched; any trial; £115.—6, Quay St., Woodbridge, Suffolk. [3468

1920 Triumph, H model, complete with Lucas lamps, Klaxon horn, disc wheels; immediate delivery at list price.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [3620

1913 Triumph Combination, 3-speed, clutch, lamps, tools, good running order; £85, or exchange with higher power combination.—B. Mills, Ashby Rd., Hegworth, Derby. [2930

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1918 4h.p. Triumph, engine No. 54220, 3-speed, countershaft, new tyres, belt, lamps, horn, re-enamelled, as new; bargain, £85. — H. Rose, 205, Western Rd., Southall. [3714

1915 Triumph, countershaft, wicker sidecar, new bearings throughout by makers, new ball races throughout, mechanically perfect, new tyres; £90.—'Phone: 7377 Hampstead. [9878

1913 Triumph, 3-speed, clutch, lighting set, horn, complete engine overhaul just finished, insurance, excellent running order; £60.—Husbands, 26, Becmead Av., Streatham. [8682

TRIUMPH T.T., 1918-19, 4h.p., Sturmey-Archer 3-speed countershaft, good tyres, mechanical horn, new lamps, thoroughly reliable, ready go anywhere; £105.—64, Balloch Rd., Catford. [2550

1920 T.T. Triumph, 650, beautiful condition, tyres perfect, new belt and spare, big Lucas unused; no reasonable offer refused for quick sale; Essex.—Box 5,750, c/o *The Motor Cycle.* [2814

ALLEN-BENNETT Motor Co.—Triumph 1917-18. Several reconstructed models; £95, or ½ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3585

TRIUMPH 1911, 3 speeds, clutch, new tyre and belt, copper exhaust, trip speedometer, lamps, horn, footboards, spare belt, etc., just overhauled; £60.—Harrison, Burnham, Bucks. [2826

1919 Triumph and Swan Sporting Sidecar, electric lighting, £34 accessories and spares, outfit guaranteed perfect, insured, outlay £166; offers?—Box 5,666, c/o *The Motor Cycle.* [2281

1920 T.T. 4h.p. Triumph, absolutely as new, disc wheels, Philipson pulley, hand controlled, lamp, horn, long exhaust, beautiful machine; lowest, £115.—Box 5,785, c/o *The Motor Cycle.* [3617

TRIUMPH Combination, new August, 1919, 3-speed countershaft, K.S., luxurious bulbous back sidecar, a perfect outfit, equipped; £125.—Dentist, 216, Portobello Rd., N. Kensington, W. [1849

1919 4h.p. Triumph, 3-speed countershaft, hand clutch, kick starter, Lucas lighting set and horn, Sandum sidecar, beautiful outfit; offers.—Kempton, Preston St., Faversham. [2291

TRIUMPH, fine condition, runs perfectly, many improvements, lamps, horn, etc.; £30, or good offer.—Silver Star Motors, Frederic Mews, Kinnerton St., Knightsbridge, S.W.1. Gerrard 7791. [3665

1913 Triumph, fitted Sturmey gear box, clutch, etc., all accessories, £65; also canoelet sidecar, £16; near offers; accumulators, speedometer, carburetter, etc., private.—35, Salisbury Av., Barking. [2885

TRIUMPH 4h.p. T.T., Philipson pulley, excellent condition, very fast, tyres as new, tubes unpunctured, tools, lamps, horn, spare valve; nearest £95.—Philcox, Heathside Park Rd., Woking. [2600

ALLEN-BENNETT Motor Co. — Triumph 1914. Several reconstructed models with new gears; £68, or ½ down and 12 monthly payments.—9-10-11, Royal Parade, W. Croydon. 'Phone: Croydon 2450. [3586

1918 new unused Triumphs, 10 only, 3-speed gear, kick starter; price 98 gns.; no offers.—Sales Dept., Norris and Hall, Ridge Mews, Childs Hill, Cricklewood, N.W.2. 'Phone: Hampstead 7667. [3724

TRIUMPH 3½h.p., 2-speed, Bosch, new B. and B. and tyres, just overhauled and rebushed, very powerful, Tan-Sad, toolbag, and all other accessories; lot £50, or offer.—63, Newlands Park, Sydenham. [3736

TRIUMPH 1920 4h.p. Motor Cycle with Gloria sidecar, complete with Lucas head, rear, and sidecar lamps, horn, Cowey speedometer, hood, cover, and wind screen; £200.—Parker's, Bradshawgate, Bolton. [X5307

4h.p. Triumph (Countershaft) Sporting Combination, new tyres and tubes and C.A.V. mag., perfect condition; trial; first £95 secures; would take 2¾h.p. and cash.—G. Bickley, 20, Stafford St., Wolverhampton. [2947

TRIUMPH 1918 Countershaft Combination, Cameo wind screen, accessories, toolkit, sound machine; £135, or exchange for W.C. Humberette and cash adjustment.—67, Blenheim Gardens, Cricklewood, N.W. [3161

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH Junior, August, 1919, tyres as new, new belt, tools, accessories, etc., F.R.S. lightweight electric lighting set, very little ridden; £70.—Haseler, 88, Church Lane, Handsworth Wood, Birmingham. [3396

TRIUMPH, late 1919, 3-speed, with best Triumph 55 gn. sidecar, Easting wind screen, complete with lamps, legshields, splendid condition; £155.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [3602

1919 (August) 4h.p. Triumph Combination, Montgomery sidecar, equipped with electric lighting set, Lucas horn, mileage under 1,000, tyres unpunctured, condition as new; £150.—Verden House, Lodge Rd., Rugby. [X5422

TRIUMPH, late model, in new condition, guaranteed perfect, complete with special Milford sidecar and Cowey trip speedometer, £135; or consider exchange for 7-9h.p. road racing twin.—5, North Av., West Ealing, W.13. [9875

1920 Triumph Model H Combination, delivered April, perfect, lamps, Cowey horn, Easting, new spare belt, tube, etc., 9 months' insurance; £170; evenings after 7.—Blaikie, Newlands, Ashley Rd., Thames Ditton. [2220

DELIVERED March, 1920, mileage 500, 1919 4h.p. Triumph, countershaft, engine 58182, large F.R.S. lamps, front and rear, A.K. knee grips, Lucas horn, as new in every respect; not in Thursdays; £130.—89, Maxey Rd., Plumstead. [3016

1920 Renovated Triumph, still carrying makers' guarantee, and new C.B. sidecar, with hood, screen, and luggage carrier, best accessories, including genuine hand Klaxon; £135.—Weston, 26, Inglewood Rd., West Hampstead, N.W.6. [2832

TRIUMPH 4h.p., 3-speed countershaft, polished aluminium discs, 3 lamps, largest P. and H. head, mechanical horn, knee-grips, grey sporting Canoelet sidecar, first-class condition throughout; £130.—H. White, 110, Castle St., Reading. [2564

TRIUMPH Genuine 1918 Countershaft Combination, brand new underslung chassis, bulbous de luxe body, new tyres, appearance like new, exceedingly smart, lamps; sacrifice, 110 gns.—2, Kelton Villas, Hawk's Rd., Kingston-on-Thames. [3393

TRIUMPH, 1919, Canoelet sporting sidecar, recently overhauled, log exhaust, semi-T.T. bars, knee grips, new inner tube and cover, spares, lighting set, clothing, insurance policy; £120.—Price, 45, St. George's Rd., Golder's Green, N.W.4. [2478

1919 (August) Triumph, 3-speed, perfect condition. Lucas horn, P. and H. large lamps, spare belt, links, valve, pump, tools, mileage about 1,000, T.T. bars, plating and enamel perfect, brand new tyre; £115. —R. Coulman, Chesterholme, Newport, Mon. [3636

1920 Triumph Combination, engine 64747, top bracket change speed, mechanically perfect, magnificent roomy body (rotund), luxuriously upholstered, fully equipped, including Lucas lighting; after 4 o'clock; 145 gns.—Lynton, 56, Gibbon Rd., Kingston-on-Thames. [3193

TRIUMPH 4h.p. Motor 1919-1920 Combination, Gloria sidecar, fitted with Lucas lamp, head, rear, aluminium, sidecar lamp, horn, full kit of tools, spare new Dunlop cover, inner tube and valve, genuine bargain; £165.—The Minotaur Works, 48, High St., Windsor. [2668

BEAUTIFUL 1920 Model Triumph and Gloria sidecar, enamel and plating perfect, P. and H. head lamp, electric tail and side, horn, Easting wind screen, all tools, etc., little ridden, guaranteed perfect; £170; appointment only.—45, Clarence St., Abbey Hey, Gorton, Manchester. [3700

TRIUMPH, 1917, countershaft, just renovated, all worn parts replaced, replated and enamelled all over, makers' colours, new tyres, tubes, belt, new toolbags, 3 months' written guarantee; £95.—Herbert Turner and Co., 4-5, Crawford Passage, Farringdon St., E.C.4. [3708

1919 Triumph, 3-speed, countershaft, coachbuilt bulbous sidecar, good tyres, small mileage, P. and H. lamps, pillion seat, speedometer, spares, new valves, Dunlop belt, head spring, outer cover and tube, smart lot, privately owned; £140.—122, Taybridge Rd., Clapham Common, S.W.11. [2716

TRIUMPH, 1919 (October), countershaft, 4h.p., with Grindlay sidecar, sound outfit; £130.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35, Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3531

MAGNIFICENT 1920 Model Triumph, 3-speed countershaft, and £45 Henderson Elite sidecar, mileage 500, enamel and plating perfect, electric and acetylene lighting, pillion seat, knee-grips, horn, spring seat-pillar, all tools, etc., a beautiful outfit; £165; appointment, or Sunday till 2 o'clock.—9, Plato St., Harpurhey, Manchester. [3699

1919 H. Triumph and Sidecar, latest change, light Canoelet, F.R.S., largest gas set, electric and gas tail lamps, Klaxon, 3in. Dunlop rear, 2½ front, 2 spare covers, spare belt, knee-grips, lately overhauled makers, full set tools, engine 64170, winner gold medal London-Edinburgh, 2 other gold medals reliability trials; reasonable trial; £140; Glamorgan.—Box 5,789, c/o *The Motor Cycle*. (D) [3410

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1920 3½ h.p. **ROVER** Combination	"
1920 Model H **MATCHLESS** Combination	"
1920 **DOUGLAS** Combination	"
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1919 4h.p. Triumph Combination, 3-speed countershaft gear and comfortable touring sidecar, completely equipped and in fine condition; £145.—Stored at Jayes, 9, Princess Mews, Belsize Crescent, Hampstead. [3474

Velocette.

CYRIL WILLIAMS, for early delivery of Velocette. —Chapel Ash Depot, Wolverhampton. [2265

1916 2¼h.p. Velocette, tyres, belt good, ride away anywhere; 33 gns., near offer.—181, Newton Rd., Burton-on-Trent. [3289

VELOCETTE, 1920 model, brand new, just delivered; £73/10; an aristocratic lightweight.—Rhosha Motor Co., Bank Mews, Romford. [2163

Verus.

VERUS 2¼h.p., K.S., brand new, list price £85; first £75.—Box 5,665, c/o *The Motor Cycle*. [2280

REX G. MUNDY can give immediate delivery of Verus; enquiries invited.—1, Duke St., Richmond. [0208

VERUS, 2¾h.p. Blackburne engine, 2 speeds, kick starter, hand clutch; list price £110/5; my price £100; delivery at once.—Ames' Garage, Wisbech, Cambs. [2304

Victoria.

1920 Victoria-Villiers 2¾h.p., 2-speed, 2-stroke, lamps, Klaxon; £63, or offer.—130, Drayton Park, Highbury, London, N.5. [2292

Villiers.

VILLIERS 2¾h.p., T.T. bars, discs, lamps, horn, new condition; £45, or close offer.—76, London St., Chertsey. [2962

1918 Juno 2¾h.p., Villiers engine, clutch, 2-speed Albion gear box, head lamp, horn; £50.—Thompson, Eliot, Belsize Rd., Worthing. [3157

Vindec.

VINDEC Combination, 4h.p., free engine, 2-speed, £35; less sidecar, £28.—1a, Rothschild Rd., Chiswick. [2638

VINDEC 5h.p., 2-speed, and coach sidecar (new body); £65.—Halifax Motor Exchange, Union St. South, Halifax. [2691

V.S.

V.S., 5-6h.p. twin Peugeot, fast solo machine, B. and B., Bosch, adjustable pulley, footboards, engine rebushed; £25.—Wallis, Lower St., Stansted, Essex. [3332

Werner.

WERNER 2h.p., good condition, and running order; £23.—Smith, 15, Prestwich St., Burnley. [X5291

Williamson.

WILLIAMSON 1914 w.c. Combination; £140.—Collier's Motories, Union St. South, Halifax. [2693

WILLIAMSON 8h.p. Combination, 1914, mechanically perfect; £125.—71, New Rd., Netherton, Dudley. [X5378

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Williamson combination, 1914, w.c.; £117/10. [9782

WILLIAMSON 8h.p. Coachbuilt Combination, water-cooled, screen, hood, splendid condition; £130.—69, Beckenham Rd., Beckenham, Kent. [2398

Wolf.

1919 Wolf, 2¾h.p. J.A.P., 2-speed countershaft, perfect condition; £60.—'Phone: Hamp. 7822. [3683

WOLF-J.A.P. 2¾h.p., 2-speed, lamps, horn, spares, engine just overhauled by makers; 42 gns.—19, London Rd., Reigate. [2319

1913 4½h.p. Wolf-Jap, just been done up, splendid condition; £60, or near offer.—Brown, Rossmore, Chislehurst Common, Kent. [2342

WOLF, T.D.C. 2¾h.p. 2-stroke, discs, P. and H. lamps, splendid order; £45.—Read, 29, Newington Green Rd., Islington, N.1. [2232

1916 Wolf-Jap 4h.p., single, 3-speed countershaft, clutch, kick starter, all-chain, new coachbuilt sidecar; £78; or solo £55.—D. Willard, Rugby. [X5352

Wooler.

1920 Wooler in Stock, immediate delivery.—Orme Cycle Depot, Llandudno. [X4975

1920 Wooler Flat Twin, lamps, horn, all as new; £95. —12, Bridge St., Cambridge. [2664

DAN GUY, Weymouth. Sole Wooler agent, immediate delivery from stock; £102. [1175

WOOLER Record-breaking Twin, immediate delivery from stock.—Kemp's Garage, Louth, Lincs. [X5388

2¾h.p. Wooler Flat Twin, just uncrated, can be ridden away; list price.—Williams' Garage, Pilton, Shepton Mallet. [2383

Zenith.

1914 6h.p. Zenith Twin, excellent condition; £75. —Victoria Garage, Surbiton, Surrey. [3323

MOTOR CYCLES FOR SALE.

Zenith.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4—6h.p. Zenith and sidecar, 1913-14; £90. [2115

1920 Zenith 5h.p. Sporting Model, just delivered, unridden; £125.—Norris, Lechlade, Glos. [2615

ZENITH Countershaft Combination, 8-10h.p.—Padd. 2423.—89, Abbey Rd., St. John's Wood, N.W.8. [3150

NEW 8h.p. Sporting Zenith; list price £139.—Stives, Burwood Park Rd., Walton-on-Thames. [3078

ZENITH 6h.p. Combination, 1914, little used, in splendid condition; £95.—169a, Lower Clapton Rd., E.5. [X5320

ZENITH 3½h.p. Combination, Gradua gear, thorough running order; £48—Hudson, 14, Conway Rd., Plumstead. [3168

ZENITH 8h.p., clutch, new, but shop-soiled; list price: Zenith sidecar in stock.—91, St. Margaret's Rd., Twickenham. [2939

ZENITH, 6h.p. 1914-15, T.T. bars, speedometer, lamps, bargain; best over £70.—31, St. Mark's Rd., Henley. [2614

1920 5h.p. Zenith, fully equipped with all accessories, mileage 350; £132/10.—Victoria Garage, Surbiton, Surrey. [3321

ZENITH 6h.p. Countershaft Combination, lamps; perfect; £115, or offer; any trial.—207, Blackshaw Rd., Tooting. [9112

£56 or Offers, Zenith-Jap 3½h.p., 1914-15, Bosch, B.B., variable jet, horn, good tyres.—Sargent, New Lodge, Hove, Battle, Sussex. [2524

1914-15 Zenith-Gradua, 4h.p. J.A.P., perfect condition; any trial; bargain, £58; Somerset.—Box 5,700, c/o *The Motor Cycle*. [2463

ZENITH 6h.p., good condition, underslung torpedo sidecar, lamps; £85, or near offer.—18, Avery Row, Bond St. (After 6.30 p.m.) [3264

ZENITH 2¾h.p. Flat Twin, with countershaft and Gradua gear, done few miles only; equal to new.—Parker's, Bradshawgate, Bolton. [X5306

ZENITH 6h.p., 1920 (April), mileage under 200, countershaft, clutch, kick starter, unscratched; £148.—10, Gibbons Rd., Bedford. [2931

1920 8h.p. Zenith, fitted with Swan sporting sidecar, lamps, speedometer, new; at makers' list price.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [3619

ZENITH-GRADUA 4h.p., T.T., long exhaust, 2 new belts, new lamps, new Dunlops, very fast, black and gold model; £72.—57, Kitto Rd., New Cross. [2796

ZENITH 5h.p. twin, 1915, with sporting canoelet sidecar, new last February, F.R.S., tyres good; £92; after 7 p.m.—80, Woodgrange Rd., Forest Gate. [2919

1915 8h.p. Zenith-Gradua Combination, Jap engine, clutch, Bosch, in splendid condition; £105, or best offer; any trial given.—Prescott, Bath Rd., Bridgwater. [X5420

ZENITH 1915 5-6h.p. C.B. combination, countershaft, kick start, equipped, in particularly good condition; £115.—181, Clapham Rd. 'Phone: Brixton 2984. [2134

ZENITH 1920 5h.p. Sports Model, as new, not done 100 miles, electric head and tail lamp, Cowey horn; £120.—Heenan, Sphere Works, St. Albans. Tel.: 258. [2923

1920 8h.p. Countershaft Zenith, with Henderson Elite sidecar, electric battery lamps, special wind screen, discs, Tan-Sad; £185.—Seen 151, Burnt Ash Hill Lee, S.E. [2613

1920 Special Model Countershaft Zenith, special large tank, Zenith carburetter, lamps, etc., delivered March; £148.—Montague, Gloucester Villas, Ashford, Middlesex. [2946

1916 Zenith Combination, 3½ or 4h.p., clutch, K.S., just overhauled and stove enamelled, disc wheels, fully equipped; price £85.—Purves, 1, Cherry Orchard Rd., Croydon. [2515

1915 8-10h.p. Overhead Valve Racing Zenith, Gradua gear, certificated 78 m.p.h. Brooklands, splendid running order; £95, quick sale.—D. McGregor and Sons, Drymen Station, by Glasgow. [2237

1916 5-6h.p. Twin Zenith, Montgomery C.B. sidecar, lamps, horn, thoroughly overhauled, splendid condition throughout; £125; owner bought car.—60, Cecil Rd., Northampton. [3159

1920 6h.p. Zenith, T.T. bars, Cowey horn and speedometer, Lucas lamps, special cams, 3in. plated exhaust, specially tuned, condition perfect; £150.—Box 5,792, c/o *The Motor Cycle*. [3562

F.O.C.H. have a 1919 6h.p. Zenith and Coachbuilt Sporting Sidecar, excellent order, fully equipped.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752.

ZENITH-GRADUA 6h.p. Combination, drip feed, B.B., Bosch, watertight, luggage grid, tools, spares, new Dunlop back, lamps; £75, offer.—31, Tupman Place, Friar St., Blackfriars, S.E.1. After 7 o'clock. [2845

ZENITH-GRADUA 1912 8h.p. J.A.P. Combination, excellent order, Brambo coachbuilt sidecar, good tyres, lamps, etc.; any trial; £90, or offer. 'Phone: Palmers Green 622.—J. H. Wiles, Norbury House, Southgate, N.14. [2427

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Without clutch	£100	0
1920 4 h.p. **DOUGLAS** Combination	£170	0
1920 6 h.p. **NEW IMPERIAL**	£147	0

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1916 2¾ h.p. **DOUGLAS**, all accessories	£70	0
1920 2-stroke 2-speed **JAMES**	£72	0
1915 4 h.p. **TRIUMPH**, 3-speed	£90	0
1920 8 h.p. **MATCHLESS** and Sidecar, dynamo lighting	£230	0
1919 8 h.p. **ZENITH**, sports model	£105	0
1920 4 h.p. **DOUGLAS** Combination	£165	0
1920 6 h.p. **NEW IMPERIAL** and Sidecar	£175	0
1915 4 h.p. **B.S.A.** and Sidecar	£115	0
1920 I.O.M. **RUDGE-MULTI**	£107	10

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Zenith.

ZENITH 6h.p., 1920, clutch, kick starter, Swan sporting sidecar to match, every accessory, spare tyre, complete insurance; cost over £200 last March, and is in absolutely new condition; £175, or near offer.—The Bungalow, Beckton, East Ham. [3318

ZENITH-GRADUA Late 1919 6h.p., T.T., Millford coachbuilt sidecar, lamps, horn, etc., engine and paintwork in perfect condition, owner selling as going abroad; £165, or nearest offer.—Write, White, 17, Chester Terrace, Regent's Park, London, N.W. [2928

VERY Special 90 m.p.h. bore o.h.v. Zenith Twin, actual record maker and competition winner, treats 60 m.p.h. as a joke, Canoelet racing sidecar, Cowey and Lucas horn; offers; will consider exchange with A.B.C.—W. S. Life, 23a, Scarisbrick Av., Southport. [3146

1916 T.T. Zenith, 6h.p., £69. Specially-built frame and tank, discs, latest type brake, oversize tyres, appearance good, specially tuned by our Mr. Baragwanath, the well-known Zenith rider.—B.P. Garage, J.A.P. Specialists, 40, Murray Mews, Murray St., Camden Town, N.W. - See Miscellaneous and Matchless. [3649

1920 (May) Zenith Combination, 8h.p., clutch model, Millford sidecar, P. and H. head lamp, and generator, side and rear lamps with generator, horn, etc., the whole in perfect order and practically unscratched, owner buying car; best offer received by Monday, July 19th, secures; trial before purchase.—Box 5,790, c/o *The Motor Cycle*. [3560

ZENITH, 1919, delivered 1920, 5h.p., special competition machine, gold and silver medals in London-Land's End and London-Edinburgh runs, picked engine, very fast, appearance and condition as new, little used, all lamps, tools, etc.; £130, or offer.—Silver Star Motors, Frederic Mews, Kinnerton St., Knightsbridge, S.W.1. Gerrard 7791. [3663

1920 Zenith-Gradua, kick starter, clutch, luxurious, fast combination, Cowey horn and speedometer, Lucas mirror and lamp sets, best aluminium wheel discs, Tan-Sad, Millford sidecar, Easting wind screen, overalls, tubular steel luggage grid and petrol can carrier, new spare belt, tube, J.A.P. valves, done 750 miles, as new; seen any time; reasonable offer.—36, Alexandra Rd., Croydon. [2829

Ladies' Motor Cycles.

2¼h.p. Velocette, lady's, late 1919, nearly new, chain drive; £55.—Farrell, Cycle Agent, Cirencester. [2378

LADIES' Lightweight Motosacoche, 2h.p., Bosch mag., B. and B.; £18.—106, East Barnet Rd., New Barnet. [2827

1914 2¾h.p. Singer Lady's Model, free engine, Bosch mag., engine, etc., guaranteed perfect; £35, bargain.—Tucker, 94, Redcliff Hill, Bristol. [3276

LADY'S 2½h.p. J.A.P. Motor Cycle, 1914, 3-speed, clutch, excellent condition, will ride 60 miles to genuine purchaser; £36 lowest.—Smith, 28, James St., Northampton. [2714

1917 Lady's Douglas, 3-speed, kick start, tyres new, enamelling excellent, mechanically perfect; seen any time; £80, no offers.—Lynwood Cottage, Central Av., Worksop. [2399

MAUDES'.—Ladies' open frame Douglas, 1914 model, 2 speeds, kick starter and clutch, head and tail lamps, Dunlop tyres; £55.—Maudes', 100, Gt. Portland St., W.1. [3140

Miscellaneous.

RUBY'S, all models.

1919 6h.p. Zenith, with coachbuilt sidecar; £160.

1914 3½h.p. Single-speed T.T. Rover; £65.

THE H.C. Motor Co., Ltd., 347, Finchley Rd., N.W. [1499

DOUGLAS, 2¾h.p., 1916, scarcely used, 2 speeds; £65.

ZENITH 3h.p. and Sidecar, good condition; £95, or very near offer.

METRO-TYLER, 1919, single speed, new condition; price £52/10.—All seen at 2, South Park Rd., Wimbledon. [2810

BOOTH'S Motories, Halifax.—Clyno combination, detachable wheels, £99/19; Clyno gun carriage, £15/10.

BOOTH'S Motories, Halifax.—Eight 1915 Douglas's, £55/5 each; Douglas 1918 combination, £110/10.

BOOTH'S Motories, Halifax.—4h.p. Triumph, with new sidecar, countershaft model; £105/5.

BOOTH'S Motories, Halifax.—3½h.p. Ariel, 3-speed countershaft, with new sidecar; £88/10.

BOOTH'S Motories, Halifax.—1918 Alldays Allon, 2 speeds, £59/10; Hobart, £48/10.

BOOTH'S Motories, Halifax.—O.K., 2 speeds, £46/10; Calthorpe, Enfield gear, £55/10.

BOOTH'S Motories, Halifax.—Large stock of motor cycles.—Address, Portland Place, Halifax. [X7418

THE MOTOR CYCLE
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Taxation.

LAST week Sir W. Joynson-Hicks, M.P., Commander Viscount Curzon, M.P., and Mr. Pemberton Billing, M.P., made a strong effort in the House to bring about an alteration in the taxation proposals. It was pointed out by the Member first mentioned that he was not proposing any reduction of taxation, but merely a different mode of taxation by means of a flat rate tax on petrol. The amendment, however, was defeated 228 to 43.

Considering that motor cyclists outnumber all other users of mechanically-propelled vehicles, it was surprising that Sir W. Joynson-Hicks did not mention the hardship the proposed taxation would impose upon motor cyclists. The Hon. Baronet obviously represented private car owners, and as their representative he was defeated on his amendment. Sir Eric Geddes made it quite clear that he considered "pleasure motoring" of secondary importance.

Mr. Pemberton Billing made a strong plea for the motor cyclist, who, as a rule, only used his machine at the week-end, but without result. Motor cyclists will have to pay their full share of taxation, and to this no one can object, but they are not to be allowed to pay it in a manner which they consider fair.

We have repeatedly pointed out that motor cyclists have not been adequately represented on the Committee who prepared the report. We are told that motor cyclists were indirectly represented by the A.A. and by the R.A.C., the parent body of the A.C.U. We know that the Secretary of the A.A. has been opposed to this taxation scheme, and that he did not sign the report, but the representative of the R.A.C. did so.

Again it has been presumed that the A.C.U. through the R.A.C. was doing its best to obtain better terms for the motor cyclist, yet we find that the National Motor Cyclists' Fuel Union, which is affiliated to the A.C.U., actually supported the Government's proposals as a separate body. However, the main objection on the part of the Government to a flat rate tax on petrol is that such a tax would not bring in all users of mechanically-propelled vehicles.

The Scottish Six Days Trials.

AT the close of any important event, the remarks of the competitors may be taken as a very fair indication of the feeling towards the organisation and general success of the trial. On Saturday evening last the popularity of the Scottish Six Days Trials as a sporting event was beyond any possible question.

Long daily routes over difficult country impose a considerable strain on riders, machines, and officials, and a certain amount of give-and-take is essential if friction is to be avoided. There were grumbles—there always are—but they were few and far between, and the readiness of the officials to meet all complaints in a sporting but sufficiently firm manner went far to disarm the grumblers. The courtesy of the officials who give their time freely to further the success of the fixture is a feature which no competition rider could fail to appreciate, and this perhaps is one of the main reasons for the pleasure with which the Scottish Six Days is anticipated. Two points worthy of mention stand out prominently: each check was complete in itself, and formed a short distance trial, an entirely new section being started at the moment when the checker's sheet is signed, and thus time lost in one check cannot be regained in the next. Secondly, the high average speeds voluntarily maintained by some competitors were probably responsible for the loss of more gold medals than either hills, road surfaces, or mechanical deficiencies.

In short, the Trial discovered the good rider and machine, and eliminated the indifferent by sheer hard service, and not, as in some trials, by complicated tests decided on formula, time, and the ability of the rider as a mathematician.

An Index to the advertisements in this issue will be found on the page facing the back cover.

Motor Cycling Police?

I SEE there is a suggestion that we should adopt the American practice and mount some of our "cops" on motor bicycles. In theory the system is logical. Road follies and road crimes are generally committed far from the madding crowd, and the constable on point duty—practically the only official in definite charge of our road morals—seldom sees any worse offence than a mistake about the proper side of a refuge. On my way to and from the I.O.M., I probably saw about one hundred rather dangerous infringements of road sense, if not of road law. But 75% of them were committed by horse drivers and push-cyclists; as it happens, I did not see a single glaring offence by any motorist. If the "motor cop" comes into being, and tackles his job as his American prototype does, with the leading idea of benefiting local funds by persecuting motorists who exceed the speed limit on empty roads, he would do more harm than good. On the other hand, one can conceive that, if experienced and sensible men were employed to apply tact—and tact backed by legal authority—to all

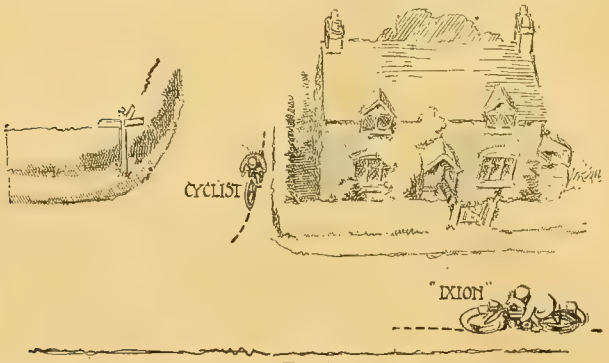


Fig. 1.

reckless or foolish road users, irrespective of whether they pushed prams, pedalled bicycles, or drove mile-a-minute motors, a great deal of good would result.

For Example.

HERE is a sample of what I mean, illustrated by a sketch of which I am seldom guilty. Fig. 1 shows the nature of the corner and the positions of a cyclist and myself two seconds before a crisis arose. The cyclist was pedalling as hard as he could go. I smelt danger and slowed right down. I do not know who possessed the right of way—perhaps some legal correspondent can inform me? There was no red triangle or other warning, though both arms of the Y were main roads. The cyclist could not stop, so it was lucky for him that I was driving sensibly. Fig. 2 shows our respective positions a second after we sighted each other—incidentally I had screeched violently on a meehorn—and he did not ring his bell. Fig. 3 shows the inexplicable course which he subsequently pursued; why he crossed over to his wrong side goodness only knows, and if I had not been driving with unusual caution, I must have run him down. Of course, I ticked him off as politely as my

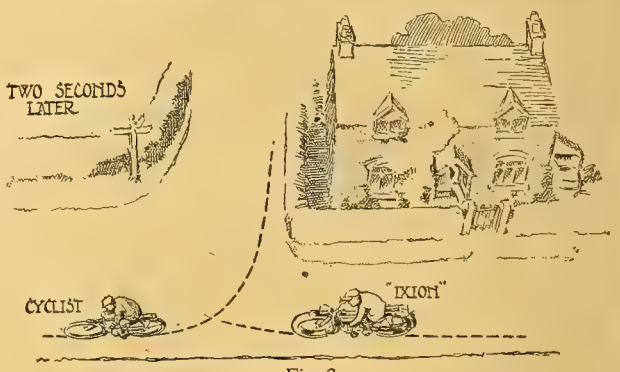


Fig. 2

famous self-control permitted, but he no doubt considers that he was nearly slaughtered by a road-hog. On the other hand, a sharp reprimand from an official road scout, armed with legal powers in the event of any back-chat, would probably have impressed this fool of a cyclist sufficiently to prevent any similar misdemeanour in future. I fancy he was simply ignorant of the rule of the road; incredible as it may sound, my own brother rode a push-bicycle for a whole year in the Manchester district without knowing there was any rule of the road.

Or Again.

NOT many weeks ago I cautiously rounded an easy bend near Exeter, on the main London road, and found a highway wide enough to take three big cars abreast completely blocked by a traction engine with two trailers drawn up alongside, and choking the fairway from hedge to hedge. There were seven men with the outfit, but it had not occurred to any of them that they had no right to blockade a public highway, and that if necessity compelled their weird manœuvre, one of them ought at least to go round the bend and warn approaching traffic. A few miles nearer town

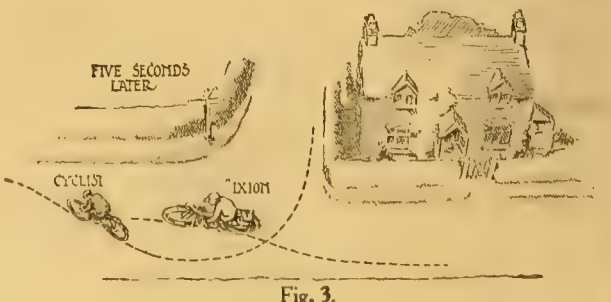


Fig. 3.

Occasional Comments.—

I passed a succession of market gardeners' vans, all on their wrong side, all with drivers asleep. On the same day I came across some dozen urchins having a mimic T.T. down a main road hill with Tate sugar boxes mounted on perambulator wheels. These are sample offences of the kind which the police rarely see. The rebukes of a passing motorist annoy rather than instruct. It is common knowledge, too, that many of our own number require repressive treatment, and it is equally common knowledge that the ordinary police trap is as useless as the number plate and licence parades to effect what is required. The days are coming when the motorist will have first claim to the roads, and the old notion that he is merely a homicidal maniac will die a natural death. As soon as this new outlook is established, the times will be ripe for the motor cyclist police. At present I fear he would merely increase the ranks of our persecutors, and would do little to reform other road offenders.

First Past the Post?

THE sensational finish of the Junior T.T. was bound to cause keen discussion, and a more precise phrasing of the rules should result. If I had ridden second to Cyril Williams, I cannot think that I should have felt any grievance. In foot racing and in boat racing it is part of the game to time one's effort so that one wins in a state of absolute exhaustion, incapable of travelling an extra 100 yards; and I do not see why a motor cycle which is built to win a five-lap race in the Island should be capable of lasting an extra lap. It is true that in this year's race the winning man and machine could not have covered an extra mile, let alone an extra lap. This is certainly cutting matters pretty fine. On the other hand, the winner had nearly twenty minutes in hand of the second machine when his 'bus gave out; and to win by a safe margin after coasting and pushing over three miles is surely sufficient proof of superiority. "First past the post" is a simple, sporting rule in such cases, which does nobody any injustice. In future years it is hardly probable that any machine will be able to win after covering three miles under man-power only; the contest will be much keener when the abstainers return to the fold. But if it should ever happen that a machine goes dud at Ramsey when in possession of a sufficient lead to push home and win, I should not grudge it the victory.

Cylinder Washers.

I CANNOT understand why the candid critics are so down on the use of paper washers for cylinder joints, whether at the base of the barrel or between the top of the barrel and a detachable head. A washer of some kind is desirable to prevent oil leaks. Given the need of a washer, a paper washer has several obvious merits. It is cheap. It seldom adheres to the parts during dismantling. It is easy to make, since an amateur can produce one by laying a sheet of paper in position, and lightly tapping round the joint edges with a small hammer; nor does paper crumble like some washer materials when one is piercing holes for the holding-down studs.

I have just dismantled an engine which employs washers of another material. They had stuck to the parts, and it took a lot of very skilled scraping to get clean faces. When I set to work to make new washers, the material was very difficult to cut to the bore, and it was impossible to get an even surface round the stud holes without a special punch, which I did not happen to possess. Consequently, I had to wait several days for a manufacturer's spare, which cost far more than paper.

IN THE SCOTTISH SIX DAYS.

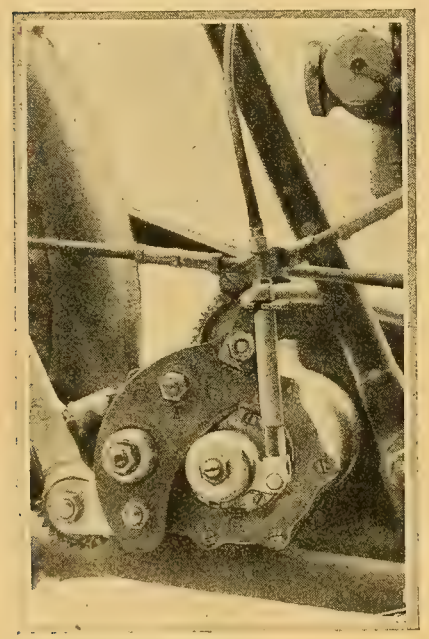
A failure on the part of a cycle car to negotiate the severe gradient of Amulree resulted in several sidecars being baulked. Observe the spare wheels and tyre on the sidecars.

A Hand Control for the B.S.A. Clutch.

A Method of Converting the Foot-controlled Clutch.

RECENTLY, a correspondent, Mr. H. Willoughby, of Nottingham, mentioned a hand control clutch operation which he had fitted to his B.S.A. machine.

So many readers subsequently wrote asking for details of this device that we invited Mr. Willoughby to furnish us with the necessary information, from which the accompanying instructions have been prepared. As the arrangement can be fitted up both simply and cheaply, no doubt numbers of riders who would prefer hand control of the clutch to foot operation will make similar conversions.



Showing the telescopic spring joint and Bowden cable fitted to the B.S.A. gear box in place of foot-operated clutch mechanism.

A Bowden clutch lever (with a ratchet) which will give at least ⅝in. movement to the cable, the necessary length of cable and casing to reach from the left handle grip to the gear box without going round any sharp corners, and a telescopic spring joint as shown in the sketch are the parts required. In fitting, proceed as follows:

Remove the foot pedal and clutch rod from the machine, and adjust the clutch screw A until the lug on the clutch dome is just below horizontal when the clutch is "in." Attach the yoke end to the lug L, and see that the pin through S and Y is a good fit, otherwise the clutch will snatch and stall the engine.

The Necessary Parts.

Make an angle piece E of mild steel ⅛in. thick and ½in. broad. Drill it to fit on the bolt, which holds the toothed sector operated by the gear lever rod. Drill it also sufficiently large for the cable to pass through, but not the casing or head of adjusting screw, if one be fitted. The exact length of the angle piece will depend on the size of telescopic joint, etc.

The control can now be assembled, and when this is done adjust the clutch by means of A until there is just the slightest amount of backlash, and so that further rotation of L in the direction of the arrow will pull the clutch "out."

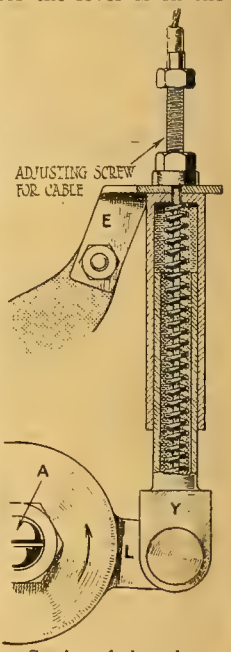
Pull the clutch "out" by means of the handle. It should now be fairly free, and will probably be as free as any clutch running in oil can ever be.

N.B.—This is only likely to be the case if B.S.A. gear oil or other thin oil is used.

Now release the handle and notice if the dome returns to its former position. If it refuses to do so, clean and lubricate the quick thread on which the dome moves. Should it still refuse to return to its former position, a stronger spring in the telescopic joint will have to be fitted.

The best position for the lever is on the left bar, so as to leave the right hand free for accelerating the engine as the clutch is let "in."

Let the clutch half "in" until the engine begins to take up the load (on low gear), and hold in that position until the machine is well under way, meanwhile accelerating the engine, and then let in completely, but slowly.



Section of the telescopic spring joint.

It is not claimed that this fitting will enable the clutch to be engaged as sweetly as a properly designed control, but Mr. Willoughby considers it much superior to the pedal.

Several garage men tried to discourage our correspondent from attempting the conversion, their answer being that the clutch springs were too strong, and would break the cable. Such an incident has not occurred, however, despite the fact that the device has been in use for several months.

Irish Motor Cycle Championship.

THE Ulster centre of the Motor Cycle Union of Ireland held a series of open speed trials at Magilligan Strand, Co. Londonderry, on Saturday, the 3rd.

Despite the fact that the venue was over sixty miles from Belfast, and that most of the competitors were drawn from that centre, there were very large entries for the five events that figured on the programme.

An international aspect was given to the meeting by the presence of George Dance, the Sunbeam super-speedman, and W. J. W. Shaw, the local crack, who won the T.T. speed trials at Douglas, and S. J. Redmond, of Dublin. Amongst the entrants there was material for sensational contests.

Sunbeam the Victor in Five Mile Event.

Dance rode in the five-mile scratch race for 600 c.c. machines, and won with ridiculous ease from Redmond and Shaw, and in the five miles for machines of unlimited capacity he was also successful, the positions of the native cracks being reversed. On this running the championship looked a gift for him, and he did the first "lap" of the five miles out and home course quite as fast as in the other race. But at the end of ten miles he had allowed Redmond to overtake him, and by the time the leaders appeared at the turning point, with fifteen miles covered, Dance had retired with a seized piston.

Indian Wins Championship.

Redmond led throughout, and ultimately won in 54 min. 11 sec., exactly the same time he accomplished in winning the race a year ago.

A handicap run in connection with the event was won by H. Chambers (3½ B.S.A.), whose father, the better known W. J. Chambers, had previously won the 350 c.c. five-mile scratch race on one of the T.T. A.J.S. machines. The results of the various events were as follow:

FIVE MILES SCRATCH (350 C.C. MACHINES).

		Time. m.	s.
1.	W. J. Chambers (A.J.S.)	5	42
2.	F. A. Newell (Verus)	6	38
3.	W. Andrews (Douglas)	6	46

FIVE MILES SCRATCH (600 C.C. MACHINES).

1.	George Dance (Sunbeam)	4	5
2.	S. J. Redmond (Indian Scout)	5	7
3.	W. J. Shand (Norton)	5	9

FIVE MILES SCRATCH (UNLIMITED).

1.	George Dance (Sunbeam)	5	4
2.	J. W. Shaw (Norton)	5	9
3.	S. J. Redmond (Indian Scout)	5	12

FIFTY MILES CHAMPIONSHIP OF IRELAND.

1.	S. J. Redmond (Indian Scout)	54	11
2.	J. W. Shaw (Norton)	55	44
3.	J. B. Johnston (Norton)	55	46

The handicap resulted as under:

1.	H. Chambers, 3½ B.S.A. (9½m.)	50	55
2.	F. A. Newell, 2⅞ Verus (18m.)	51	27
3.	S. J. Redmond, 3½ Indian (2m.)	52	11
4.	J. W. Shaw, 3½ Norton (3m.)	52	44
5.	J. B. Johnston, 3½ Norton (3m.)	52	46
6.	S. Adams, 2⅞ Verus (18m.)	55	17

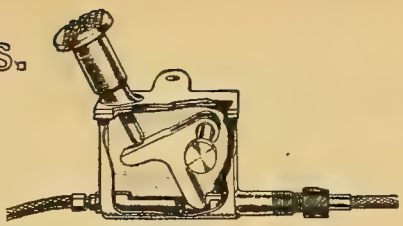
TEN MILES HANDICAP (SIDECAR MACHINES).

1.	T. Smith, 4 Norton (scratch)	16	17
2.	W. J. White, 3½ Norton (scratch)	16	41
3.	W. J. Chambers, 3½ B.S.A. (scratch)	16	55

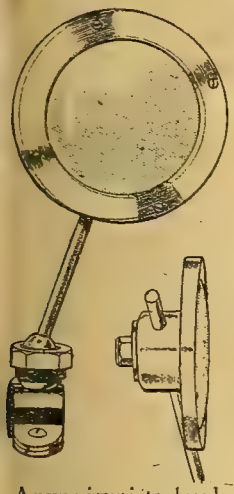
Among the Accessories.

MODERN EQUIPMENT OF INTEREST TO THE MOTOR CYCLIST.

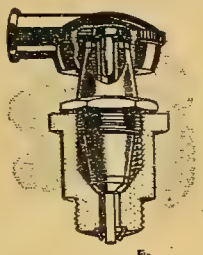
An electric horn marketed by H. Taylor and Co., Ltd., 21a, Store Street, W.C.1.



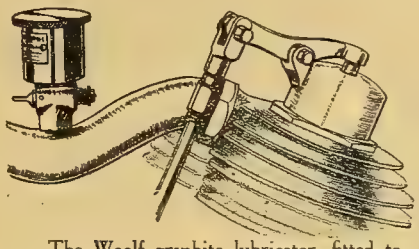
An accelerator pedal for motor cycles introduced by A. F. Edwards, 25, The Burroughs, Station Road, Hendon, N.W. It is, of course, most suitable for use with a single-lever carburetter, but can be applied to the two-lever type.



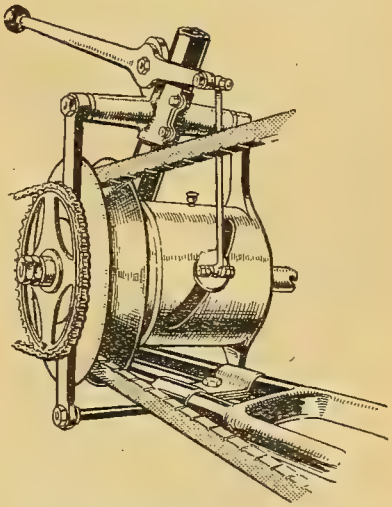
A new mirror introduced by the Westwood Rim and Patents, Ltd., Lawden Road Foundry, Bordesley, Birmingham. It has a ball joint, which permits it to be placed in any desired position and angle.



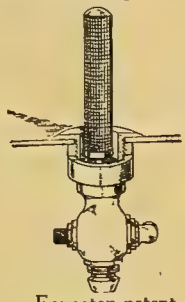
The new W.M. type Forward plug, made by the Forward Sparking Plug Co., Summer Row, Birmingham. It can be taken apart completely for cleaning.



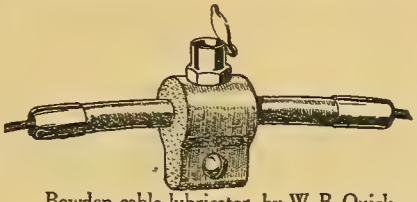
The Woolf graphite lubricator, fitted to the induction pipe of a motor cycle engine. It is marketed by Graphite Products, Ltd., 218-220, Queen's Road, Battersea, and is intended for use with a composition known as Foliac. It is claimed that it gives a glass-like surface to all frictional surfaces.



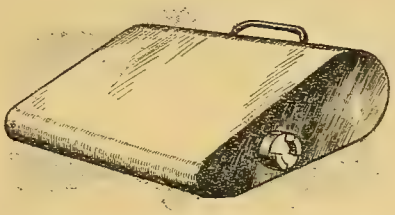
The latest Grado pulley intended for a countershaft position on single-geared two-strokes. Its price is £12.



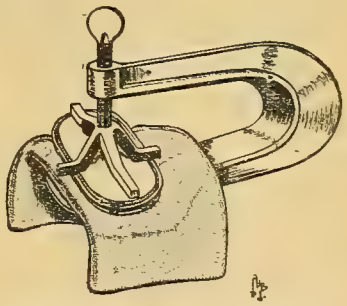
Errington patent filter, brought out by the Accessories Supply Co., 15, Brownlow St.W.C.



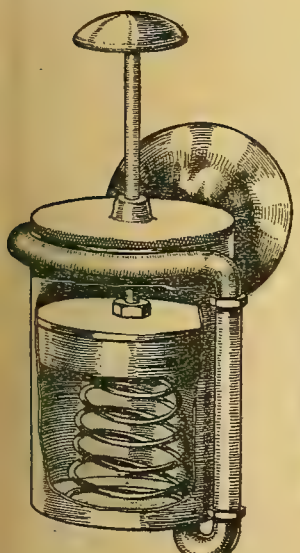
Bowden cable lubricator, by W. B. Quick, 31, Fitzhamon Embankment, Cardiff. The price of the fitment is one shilling.



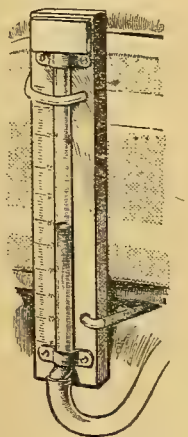
Easting's spare petrol carrier, which can be used as a footrest in the sidecar. Made by the windscreen house at 132, Steelhouse Lane, Birmingham.



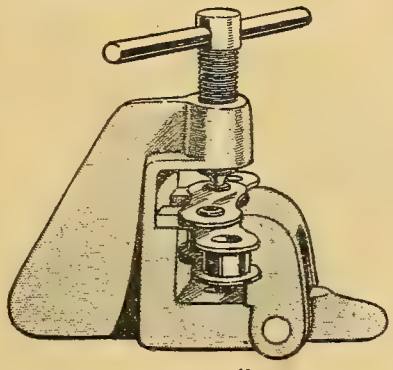
The Lightning Vulcaniser, marketed by F. W. Woolworth and Co., Ltd. It is small enough to be carried in the toolbag, and is sold at the low price of one shilling.



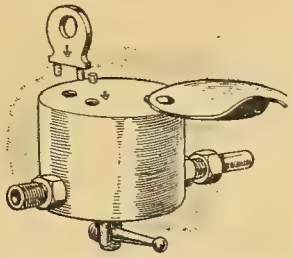
To operate reed horns by pressure pump. This device is the patent of Mr. R. W. L. Mottram, of Llanberis, Allesley Old Road, Coventry. He is open to negotiate with manufacturers for its production.



The "Highlow" petrol consumption gauge, marketed by Messrs. Herrtage, Holyoake & Co., 127, Fleet St., E.C.4.



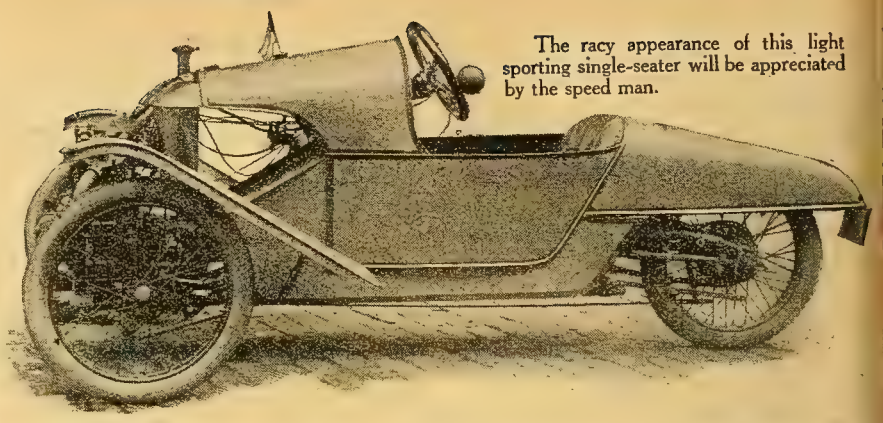
The new Hans Renold rivet extractor has a swing arm, which centres and holds the chain link, and so greatly facilitates operation.



The Ace petrol tap lock, devised by Mr. L. Deacon, 50, Gipsy Hill, Upper Norwood, S.E.19. Mr. Deacon hopes to meet with a manufacturer who will take up its production commercially.

A SPORTING MONOCAR.

A Single-seated Morgan, built to the Owner's Special Design.



The racy appearance of this light sporting single-seater will be appreciated by the speed man.

IT is the ambition of many motor cyclists to have a fleet of machines in order to have one for every purpose. One of our readers owns two Morgans and a solo motor cycle, but all are on sporting lines.

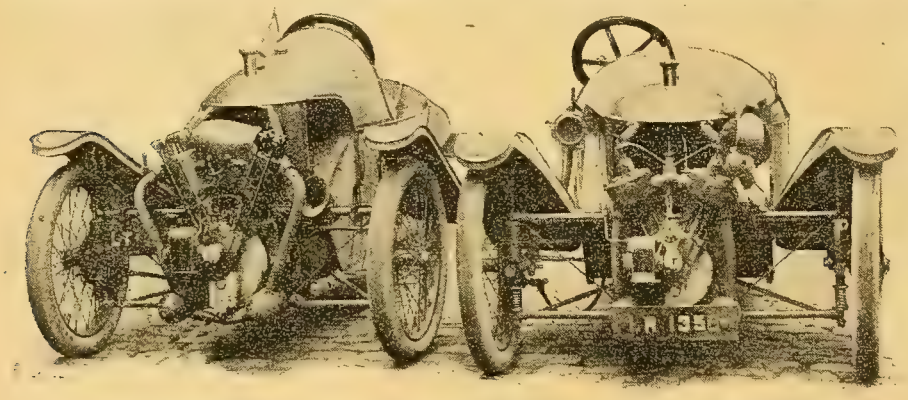
On this page his two G. P. Morgans are shown, of which the single-seater is perhaps of greatest interest. The body is 21in. wide, and the scuttle is of exceptional depth and height, a specially narrow and high radiator being fitted to follow out the streamline effect.

The owner wishing to eliminate the windscreen had the dash made several inches higher than standard, and so successful was the innovation that the owner found it quite possible to smoke comfortably at 50 m.p.h. The seating position is such that the driver is given a clear view of the road ahead through the "slit" between the rim of the steering wheel and the top of the dash.

With regard to the engine, this also is special, and consists of an overhead-valved 90 × 85 mm. J.A.P. (1,082 c.c.). This engine is not very well known, as we believe only a few were manufactured. It is excellently balanced and splendidly made, and gives nearly 20 b.h.p. at 2,500 revs. Although the valve springs have very high tension, the valve gear is unusually quiet for this type of engine. Originally the compression was 100 lb. p.s.in., but this proved extremely destructive to plugs and rendered starting difficult. Washers, $\frac{1}{8}$in. in thickness, were accordingly fitted, with excellent results, and, even with this reduced compression, the speed and acceleration are considered ample. The oil consumption is phenomenally low, and the petrol consumption varies from 40 to 60 m.p.g., according to the make of carburetter fitted. A pilot jet, B. and B., suits the engine extremely well; it gives high speed and exceptionally slow "tick-over" in neutral.

The standard two-speed gear box gives ratios of $3\frac{1}{2}$ and 6 to 1. On the dash board are two eight-day clocks, speedometer, and revolution counter, the latter being a very useful and interesting fitment.

In designing the outfit, it was feared that the machine would be unstable owing to the absence of weight in the rear portion, but experience has shown that it is extremely steady on grease, tramlines, etc. The steering, in fact, is excellent, and this we attribute to the exceptionally heavy engine fitted. Although the frame has not been reinforced, no distortion has occurred during 6,000 miles running over the war-worn roads of this country.

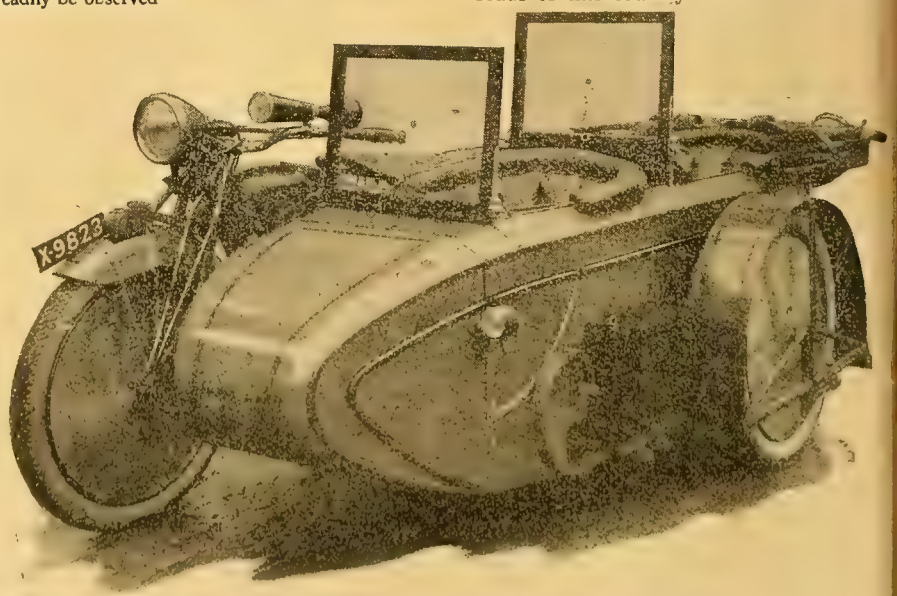


The single-seater Morgan alongside the Grand Prix Model. The various differences of design will readily be observed

A SIDECAR HIRE SERVICE.

FOLLOWING the excellent example of enterprising motor cyclists who, some time ago, placed a sidecar taxi service on the streets of Paris, the X Motor Cycle Co., Torquay, have recently taken over a novel sidecar designed by Messrs. Robertson Motors Ltd., 157 B, Great Portland Street, London, W.1, and propose to establish a private hire service equipped with twenty of these vehicles. This two-seater sidecar, which is attached to a 7-9 h.p. Excelsior motor cycle, amply accommodates two persons, and provides for each sufficient leg-room and space in the seats to ensure the maximum comfort on a long tour.

The X Motor Cycle Co., are prepared to supply these machines, which will be equipped with a luncheon basket and a camera at a fixed rate of 8d. per mile, or for one day of nine hours for the inclusive price of £2 17s. 6d.



A two-seater sidecar used for private hire service by a Torquay garage

THE ARBUTHNOT TROPHY TRIAL

The winner, on his Sunbeam, and a Wooler rider on the bad surface of Salt Box Hill.

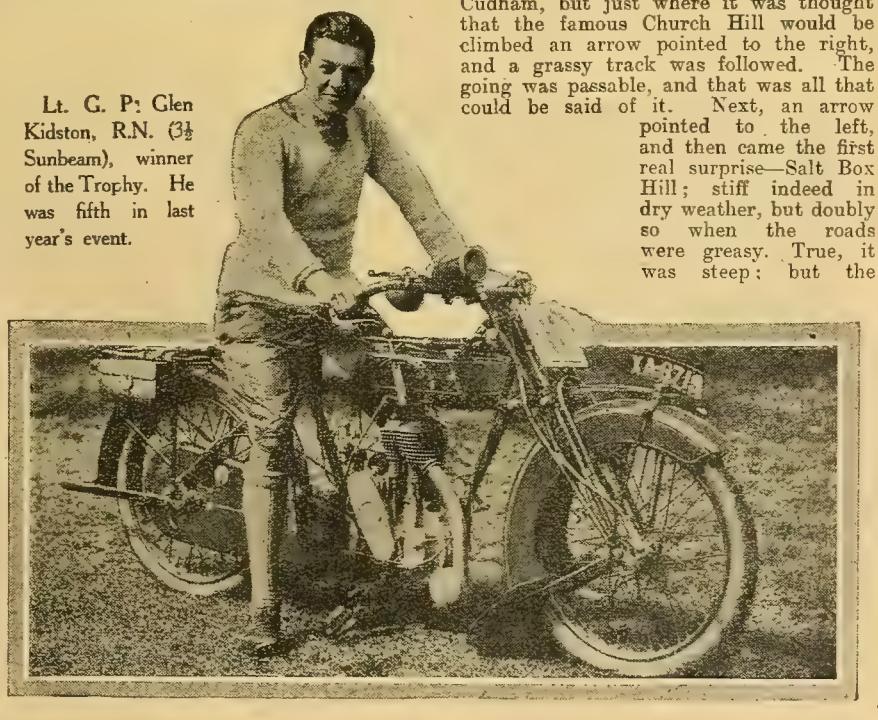
FOUNDED to commemorate the glorious death of Rear-Admiral Sir R. K. Arbuthnot, that gallant motor cyclist who did so much for the movement in its early days, the trial for the trophy of his statuette, executed by Lady Scott, is unique.

First, it is the only trial of which we are aware which is for solo machines only, and secondly, it is the only one confined exclusively to officers of the Royal Navy. This year the entries were better than last, but unfortunately the Fleet mobilisation and the trouble in Ireland and the East seriously affected the entry. Although the competition received the official sanction of the Admiralty, nine entries were lost from Keyham, and probably more from officers taking a course at Cambridge, and these naturally helped to spoil what would otherwise have been a good entry.

First Day's Run, 126 Miles.—Winding Course over the North Downs to Reigate, then to Guildford, Godalming, and Hindhead by a Circuitous Route.

Of the twenty-one riders appearing in the programme, fifteen started from Purley Corner at 10 a.m. on Wednesday. The weather was most unpropitious, as rain fell at the start, continued most of the morning and fell again heavily during the afternoon.

Mr. T. W. Loughborough, secretary of the Auto-Cycle Union, as usual, displayed wonderful ingenuity in devising a really stiff course, the difficulties of which were enhanced by the bad weather. To explain this course in detail would involve much space, and would leave the reader in comparative ignorance and complete confusion, while its appearance on the map, to quote Mr. Ebblewhite, the timekeeper, whose wit is proverbial, resembled "a worm in agony." It twisted and turned with diabolical ingenuity and included every hill of note on the North Downs, from a point east near Cudham to a point in the west near Guildford. Besides these there were the ascent of Bright Street in Guildford itself, and the hairpin near Godalming.



Lt. G. P. Glen Kidston, R.N. (3½ Sunbeam), winner of the Trophy. He was fifth in last year's event.

Unfortunately, the arrowing was not too good, owing to the sidecar outfit told off for this duty failing to carry it out owing to magneto trouble, and several men left the route for this reason. The course was exceedingly pretty, the first part passing through leafy lanes, with trees overhanging the road almost brushing the competitors.

Narrow roads were followed leading to Cudham, but just where it was thought that the famous Church Hill would be climbed an arrow pointed to the right, and a grassy track was followed. The going was passable, and that was all that could be said of it. Next, an arrow pointed to the left, and then came the first real surprise—Salt Box Hill; stiff indeed in dry weather, but doubly so when the roads were greasy. True, it was steep; but the

Arbuthnot Trophy Trial.—

trouble was not the gradient, but the difficulty of adhesion, and many a good mount failed because the rear wheel would not grip. Glen Kidston, our star naval competitor, well in the running for the trophy, failed for this reason. He was riding a 3½ h.p. Sunbeam.

E. H. Mann (2¾ Wooler) also failed, but Lawder (3 A.B.C.) and W. E. V. Bashall (A.B.C.) made surprisingly good ascents. K. B. Wilson (2¾ Douglas), although he wobbled all over the road, owing to the atrocious surface, came up very well. G. Plumer (6 Zenith) passed us going well, but P. H. Back (4 Triumph) touched the ground with his feet, R. C. Hovenden (8 Zenith) ran into the bank, H. L. S. Baker (4 Triumph, single-geared), F. G. Emley (8 Zenith), and C. J. M. Hamilton (2½ Levis) were also among those who failed.

The course was of so complicated a nature that it was possible to cover it all and see everything of the trial, but it was most productive of incidents and provided plenty of "fun," especially for that brave man H. L. S. Baker—No. 13—who rode a 4 h.p. *single-geared* Triumph, and at the end of the day wrote on his non-stop card "failed on all decent hills." He is one of those people who will not admit that motor cycling provides no exercise.

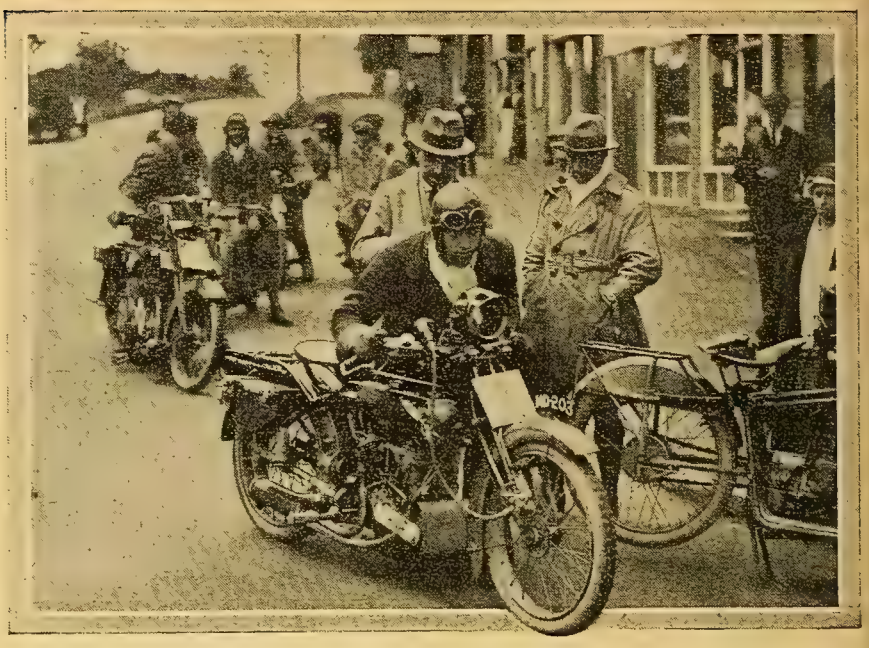
Bad Hills and Weather.

Leaving Salt Box, such hills as Polsteepie, Cudham, Brasted, and Westerham were climbed. The exceptional weather caused certain hills to be eliminated, but their loss was hardly noticed. In the neighbourhood of Woldingham what was probably the worst hill of all was encountered. This was Camp Hill, with a hairpin bend at the bottom, a good gradient and a bad surface.

There is quite a good rise through the woods from the Caterham valley to the Warlingham plateau known as High Lane, and just as we arrived at its crest, P. F. F. Browne (Norton), Kidston (Sunbeam) and Lawder (A.B.C.) arrived and came up well. Poor No. 13 skidded and fell, breaking his front mudguard. T. H. Back (Triumph) and W. E. V. Bashall (A.B.C.) came up magnificently—especially the latter, whose performance on every hill was splendid. The machine steered perfectly, except on muddy and stony surfaces, and it was beautifully handled. C. J. M. Hamilton's Levis just got up.

Even at this early stage signs of wear and tear appeared on the machines; but not what might be described as "fair wear and tear," but petty damage due to sideslips and spills. Hovenden (8 Zenith) climbed the gradient well, flooding his carburetter. The next place where we saw him was on Succombe Hill, which he made about six attempts to climb. It proved a severe trial to many, especially to one who took the wrong turn at the top, came down Bug Hill again, and again up Succombe, and on three times.

At the top of Wray Lane, near the summit of Reigate Hill, we came upon Mr. Greenhill's car carrying Col. Davidson, D.S.O., R.E., one of the judges, and *The Daily Mirror* photographer, whose ambition in life is not, apparently, to show the public how good a means of locomotion a motor cycle provides, but to take pictures of tumbles. He was disappointed, as he arrived too late to take Back, who had just skidded, broken his front number plate and bent the mudguard. F. G. Emley (4 Zenith) failed. He had broken a belt for the first time and retired.



Leaving Hindhead after refilling: Sub-Lt. R. Whitcraft (Zenith) followed by Lt. Glen Kidston.

Temporary Repairs.

Lunch was served at the White Hart Hotel, Reigate. At lunch time it was announced that P. F. F. Bourne (4 Norton) had retired owing to a damaged rear brake. Hamilton's lamp was adrift and made fast by string, while his footrests were badly bent. Hovenden's Zenith had his crank case drain plug carried away through striking the ground, and he successfully stopped the hole with a cork.

More hills, and still more hills followed after lunch. There were some old favourites among them, notably Pebblecombe, which, of course, accounted for poor No. 13, as well as R. V. Mack (2¾ Wooler), and E. Mann, who was similarly mounted. Bashall, on the A.B.C., soared up without effort, and shortly after came the A.B.C. rider, James, who had retired owing to various troubles. Wilson's Douglas made an excellent climb, while Plumer (6 Zenith) and Back (Triumph) came up well, as did Kidston (3½ Sunbeam), Wilson (2¾ Douglas), and Hovenden (8 Zenith).

A scene at the replenishment depot at Hindhead

rbuthnot Trophy Trial.—

Coombe Bottom Hill was the other old riend, and was utilised instead of White-owns, as the weather proved to be too ret for its chalky surface. The few ours respite from the rain soon came to n end, and the afternoon was wet right p to the finish.

The surface low down on the hill was oose and soft, but at the corner, which s loose in dry weather, it was smooth and rm. The first man to arrive was Whit-roft (Zenith), who wobbled badly, but nade a clean ascent. Lawder (A.B.C.), Kidston (Sunbeam), and Bashall (A.B.C.) learly made the star climbs, while Wil-on (Douglas), Plumer (Zenith), and Back (Triumph) performed well. After arious detours the survivors reached Guildford, and were sent up Bright Street n the town, last used as a test hill in the urbiton Club's team trial. It proved the ndoing of many, and only Lawder A.B.C.) and Kidstone (Sunbeam) made lean climbs. The next incident was the airpin corner at Godalming, which was ot very serious, and after a short spell n the rain the first day's run (126 miles) ame to an end.

"A Lodging for the Night."

The headquarters offices were at Wood-erry Hotel, where the machines were tored, but competitors were billeted in arious places. Baker, the man with the nlucky number, had his front mudguard arried away, and arrived with his face s black as a nigger. He had, therefore, o put up with much merciless chaff, hich he took most good humouredly.

Twelve competitors in all completed ne course at the end of the first day, nd none with clean sheets. The follow-ng is a record of their performances :

Lt. R. V. Mack, R.N. (2¾ Wooler). Stopped on ll test hills.

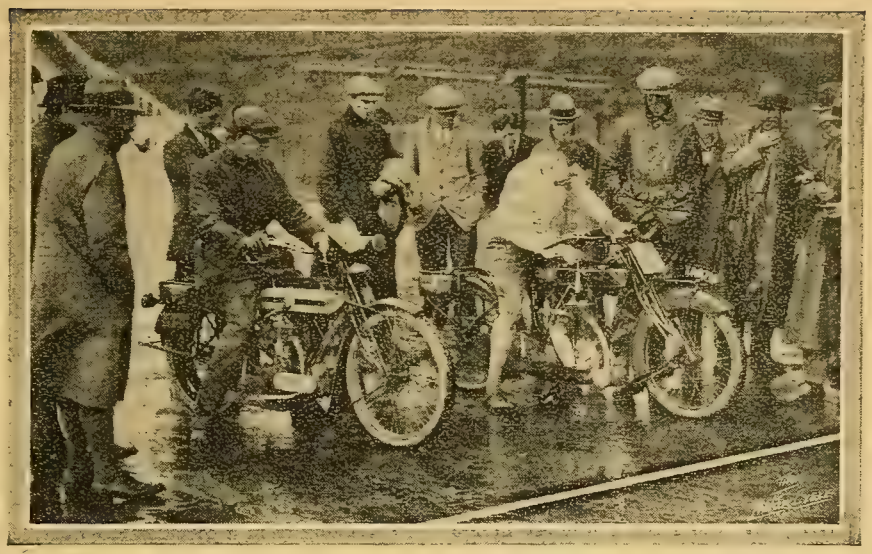
Paymaster Lt.-Cr. P. F. F. Bourne, R.N. (4 orton). Back brake broken; retired.

Lt. E. H. Mann, R.N. (2¾ Wooler). Failed on ost hills.

Lt. P. B. Lawder, R.N. (3 A.B.C.). Stop be-ween Titsey and Warlingham—jet or plug. Fell wing to being nearly run down by a car after nch.

Sub-Lt. C. R. Whitcroft, R.N. (6 Zenith). Punc-ure near Warlingham; failed Duke Hill; ran out f petrol near Warlingham; six attempts on Suc-ombe; lost way from Caterham to Redhill.

Sub-Lt. P. V. James, R.N. (3 A.B.C.). Lost ay; various troubles; retired.



The trophy winner and second man, on Sunbeam and Triumph machines respectively, starting their final lap at Brooklands.

Lt. G. P. Glen Kidston, R.N. (3½ Sunbeam). Failed through wheel slip on Salt Box Hill.

Lt. F. G. Emley, R.N. (4 Zenith). Broke belt; lost way; retired.

Lt. H. L. S. Baker, R.N. (4 Triumph). Stopped on all test hills; shed number plate.

Lt. W. E. V. Bashall, R.N. (3 A.B.C.). One stop; wheel slip on one hill.

Sub-Lt. K. B. Wilson, R.N. (2¾ Douglas). Side slip and twice ran out of petrol.

Sub-Lt. G. Plumer, R.N. (6 Zenith). Skidded Duke's Hill, made two attempts, and cut out hill; scarf caught in belt on main Guildford road.

Lt. T. H. Back, R.N. (4 Triumph). Legging caught in belt; two side slips.

Lt. C. J. M. Hamilton, R.N. (2½ Levis). Chain came off on Cudham Hill; stopped on several hills; choked jet on Cudham.

Lt. R. C. Hovenden, R.N. (8 Zenith). Owing to loss of crank case plug, dried up after Salt Box; sooted plug; retired Albury.

Second Day, 79½ Miles.—Hindhead to Brooklands via a Circuitous Course round Hindhead and by Byfleet to Weybridge.

The first item of interest on the second day was the hill near Bramshott which is steep, but with a good surface. It is quite a short distance from the start at Hindhead, but was an hour's run for the competitors. Near the start, R. V. Mack (Wooler) sheared his flywheel key and was delayed half an hour, so came straight on to Brooklands. The actual start took place in fine weather, but rain began as soon as the men left and continued to become worse and worse throughout the morning. The performances on this hill were much the same as on the others, and the only amusing incident was when Baker, who had to run as usual over the crest, stopped just as Mr. W. H. Wells, one of the stewards, was helping him along. "Where's the merchant with the blue car?" exclaimed Baker. "He's got my macintosh!" Considerable amusement was caused to the onlookers, as Mr. Wells was the owner of the blue Chandler, on which he had followed the trial.

Unfortunately, the arrowing again broke down—in fact, one arrow was reported to have blown down in the high wind, and after that every survivor lost his way.

The second man, Lt. T. H. Back, R.N. (4 Triumph). He was runner up in the 1919 trial.

Sub-Lt. K. B. Wilson, R.N (2¾ Douglas), on Pebblecombe He finished third

Sub-Lt. G. Plumer, R.N. (6 Zenith), near Hindhead, on the second day

An A.B.C. rider, Lt. P. B. Lawder, R.N., taking the corner at the top of Wray Lane.

Arbuthnot Trophy Trial.—

Two incidents occurred to men well in the running for the trophy. Kidston (Sunbeam) had a stop through water in the float chamber, and Bashall (A.B.C.) collided with two lorries near Guildford—exceedingly hard luck, as he was Kidston's only serious rival. Three competitors were involved, and one—Mack—escaped. Bashall was thrown off and escaped personal injury, but the back wheel of his motor bicycle was buckled.

On going through the competitors' cards, it was found that only Back and Kidston had a chance of winning the trophy. It was then decided that both should drive round the track at speed, and start at the paddock, turn sharp left at the straight, make two circuits of the track, stop at the finishing line, and ascend the test hill. The two survivors tossed as to who should start first. Kidston won, and got away well, timed by Mr. Ebblewhite. He made two fast circuits and a splendid ascent of the test hill. Back had all the luck against him. The track was swimming in water, and his belt slipped badly during the two laps, and on the test hill it refused to grip altogether.

The judges, Col. Davidson and Dr. Low, recommended that Back (4 Triumph) should be awarded a silver medal, and K. B. Wilson (2¾ Douglas) and E. H. Mann (2¾ Wooler) bronze medals. These awards were made notwithstanding that the competitors had had stops, and were given for meritorious performances.

The Second Day's Results in Brief.

Lt. G. P. Glen Kidston, R.N. (3½ Sunbeam), *winner of Trophy.* Water in float chamber; two stops altogether.

Lt. T. H. Back, R.N. (4 Triumph), *second, silver medal.* Engine stopped for unknown reason; three stops altogether.

Sub-Lt. K. B. Wilson, R.N. (2¾ Douglas), *bronze medal.* Stopped for petrol.

Lt. E. H. Mann, R.N. (2¾ Wooler), *bronze medal.* Failed on three hills, and various troubles.

Lt. R. V. Mack (2¾ Wooler). Retired; sheared flywheel key.

Paymaster Lt.-Cr. P. F. F. Bourne (4 Norton). Retired; brake came adrift.

Lt. P. B. Lawder, R.N. (3 A.B.C.). Lost exhaust valve rocker; retired Blackdown.

Sub-Lt. C. R. Whitcroft, R.N. (6 Zenith). Retired.

Sub-Lt. P. V. James (3 A.B.C.). Retired.

Sub-Lt. H. L. S. Baker, R.N. (3½ Triumph). Stopped on three hills; puncture.

Lt. W. E. V. Bashall, R.M.L.I. (3 A.B.C.). Retired owing to collision.

Sub-Lt. G. Plumer (6 Zenith). Retired.

Lt. C. J. M. Hamilton, R.N. (2½ Levis). Chain came off; choked jet; and footrests adrift.

Lt. R. C. Hovenden, R.N. (8 Zenith). Retired.

MYSTERIOUS NOISES.

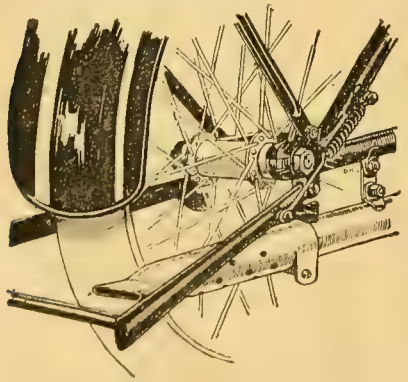
Little Details which Disturb the Meticulous Rider.

THE rider who has an interest in his mount notices every variation in its running and every strange noise which arises. To the sensitive soul any unfamiliar sound arising from the engine or transmission at once conjures up visions of some adjustment neglected, or some part complaining through lack of lubrication. Although these strange squeaks, groans, and janglings may occur from time to time even with the best and most sturdy 'buses it is seldom that the type of rider who heeds them is long puzzled by their origin.

Irritating Effects.

Sometimes, however, the punctilious motor cyclist senses an abnormal note in the chord of sound to which his ear is attuned.

Time goes on, and no obvious cause of the unfamiliar noise is apparent, examination reveals no derangement, and the rider is mystified. During a long day's run that which at the commencement was merely an inexplicable minor jangle, in the later stages becomes a pandemonium of cacaphonic din, and if the driver is unduly sensitive on these points and the cause remains undiscovered, his nerves (to use a good Americanism) get pulled to a frazzle. This is particularly the case with a normally silent machine, and such a happening recently occurred to a member of *The Motor Cycle* staff.



Spring operated rear stand, which is free to swing across the open end of exhaust pipe.

Returning from a considerable distance, over which the excellent pulling of the engine demonstrated its perfect order, he became aware of a minute jingling, the origin of which was no wise apparent. Nothing was loose, the transmission details were clear of the chain cases at every point, timing gear in order, mudguards, number plates, and accessories quite rigid. The jingle persisted. Baffled and exasperated, he eventually sought the assistance of a colleague.

The engine was started up, and every imaginable source of rattle investigated. For some time the second man listened in vain, not being able to distinguish the sound complained of, until, striding the saddle, and preparing to let in the clutch, a faint and rather musical note, alien to the usual mechanical sounds and not synchronous with the engine speed, assailed his ear. Looking down, he saw the glass disc in the tank filler cap slowly rotating under the influence of minute vibrations. A finger placed upon it damped its motion, and the mystery was solved.

On another machine, one of the few which may be termed really silent and which possesses no timing or transmission gears to create noise and confuse the issue, a rider was worried throughout a long journey by the fairly frequent recurrence of a high-pitched drone or squeak. For many miles the matter remained a provoking mystery, and mentally running over the possible causes brought no inspiration. The noise was independent of engine or road speed, and it was finally ascertained beyond doubt that its occurrence coincided with the moments of breasting a hill or running from amongst trees into open country. A slight head wind was blowing, and the dependence of the sound on variations of atmospheric pressure was becoming evident.

A Freak of the Wind.

It was noticed shortly afterwards that by slightly altering the position of the horn on the handle-bar the trouble disappeared.

The noise, apparently, had been merely the result of meeting the breeze, thus setting up vibrations which found resonance in the horn.

In the early part of the year the writer possessed a rather hot single-cylinder, the exhaust note of which was a joy to hear. It was his custom, of a still evening when the road was clear, to indulge in utterly illegal accelerations, what time cocking his ear aslant to catch the lovely "ponk-ponk" which burbled away at the rear.

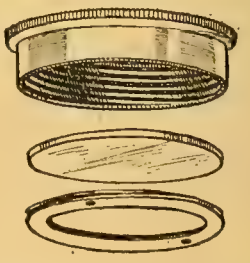
Ever and anon the even beat would be shattered by one or two ear-splitting notes in a higher key, and no cause could reasonably be ascribed to the occurrence. A road bump would *almost* always precede the noise, but not with sufficient invariability to form a definite clue.

A Helpful Skid.

Now this particular machine possessed a "spring-up" rear stand, which was operated by a rather too lively spring, and, in consequence, had a somewhat "up and down" time of it. One day, during a lurid mountaineering expedition, in company with some of the brighter sparks of our pet club, a fall was experienced which resulted in a few of the minor fittings being bent, including the stand, which now appeared to bind in its lugs, and, consequently, had its mad wagging somewhat checked.

This was all to the good, the *tout ensemble* of our appearance (*vide* passing reflections in the shop windows) was not marred by flappings at the rear. Incidentally, the mysterious exhaust note had disappeared. It had evidently been caused by the crossbar of the stand intermittently wagging across the end of the open exhaust pipe!

WHARFEDALE.



Component parts of filler cap; if the lock ring is not tight the glass will rattle.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

DUST RAISING.

Sir,—I hope "Hugh" is a very new rider. He does not appear to have much idea of road manners; but the fact of his asking for advice would seem to indicate that he may act on it when given. For his information and necessary action, therefore, I would say that, among decent people, any rider or driver who unnecessarily "smothers with dust" other riders, especially ladies, is considered a hog.

Two courses were open to him—*(a)* to stay behind out of the other rider's dust, or *(b)*, having passed them, to get ahead out of the way. As he states that he was out for "an easy comfortable ride" the former course would seem to be indicated. OLD 'UN.

Leeds.

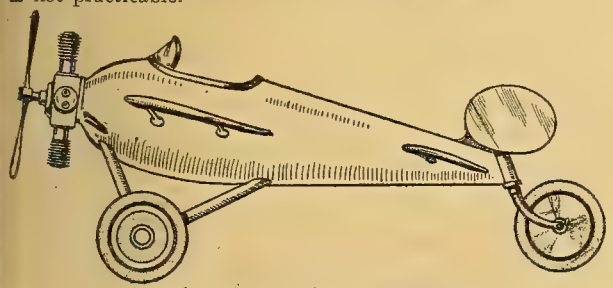
LACK OF POWER.

Sir,—I am the owner of a 4¼ h.p. machine, but since I have had it (four months) it has never developed its full power. Both tappets are apparently adjusted correctly, and there is nothing else that could possibly be the cause of the trouble. Still puzzled by the loss of power, I determined not to ride the machine until I had found the cause. I first dismantled the exhaust valve lifter arm, which is an outside arrangement, merely for the sake of more easily attacking the tappet. To my great astonishment, the tappet in question dropped nearly ⅛in., leaving an abnormal gap between the tappet head and valve toe. I saw immediately what the trouble was. The exhaust valve lifter arm, being too thick, held the tappet up, away from its cam and up to a correct clearance of the foot of the valve stem. From this it was obvious that the valve was not opening to its full extent, hence the loss of power. The remedy was to make the proper adjustment with lifter arm not in place, and file down the arm until it fitted perfectly. Since effecting this, the machine has developed its full power and greater revs. J.G.

PROPULSION BY AIR SCREW.

Sir,—I was greatly interested in the article recently published in your pages on propulsion of vehicles by air screws—either propellers or tractors—and it seems more than possible that useful developments should take place in this direction.

May I put forward the suggestion that the air-screw system be combined with "road wheel" drive, enabling the latter method to be brought into action in places where the former is not practicable.



A quaint idea from a reader.

To facilitate this, a petrol-electric system could be employed, and it would be possible to retain the fish-like streamline form of bodywork *à la* aeroplane, which would give such a vehicle a very smart aspect.

A further development, as shown in sketch, would be the fitting of clipped planes or wings, by using which it might be possible to take "long hops" over obstacles under favourable conditions. Some experimental work in this direction would certainly not be unfruitful. W. A. WOODWARD.

TYRE CREEPING.

Sir,—Leslie Eveleigh would, I think, cure most of his tyre trouble by pumping his tyres harder. Security bolts are "a thing of the past," and were always a source of trouble. Of course, he may be asking for trouble by starting with a jerk and by sudden and excessive braking, but an unduly stretched bead is something rare in these days, so far as my rather wide experience goes.

I never use levers to replace either my car or cycle covers after the first once or twice. OLD 'UN.

Leeds.

COMFORT.

Sir,—The letter of "Satisfied" is of interest and importance, as many of us are of opinion that too little attention is being paid by designers of machines to the matter of comfortable riding position, apart from the question of sprung or unsprung frames. Personally, I have used wide T.T. handle-bars and footrests on the many solo machines I have had during the past few years, and although I am approaching fifty, I can do a couple of hundred miles in the day without the slightest fatigue, and have no longing whatever for a spring frame for solo work. Now, with regard to sidecar work. I submit that the question of riding position is of still greater importance, because the spinal column receives heavier bumps and jars, which are transmitted from two directions instead of one, and it is, moreover, subjected to a twisting strain caused by the inevitable drag of the sidecar. This can be relieved to a great extent by the use of wide and fairly low handle-bars, footrests well under the rider, and the saddle adjusted to a level position, while the use of a hand-controlled clutch saves many an awkward strain on the back. By reason of the discomfort I have experienced, I have always disliked sidecar work, for I have found that it causes me more fatigue after 25 miles than I experience after 100 miles solo. In consequence, I have been looking forward for years to the ideal sidecar combination, properly sprung, and at the same time really comfortable to ride. My 1920 spring frame combination is ideal so far as the springing is concerned, and that is indeed a great deal to be thankful for in these bumpy days, but, on the other hand, the riding position is atrocious, causing a considerable set-off against the advantage of the springing. Footboards, which I detest, are fitted. It is impossible to get my feet well underneath me as a support; the saddle is a fixture, and must for ever remain with the peak tilted upwards at a ridiculous angle (throwing a fearful strain on the back), unless the peak is strapped down to the top tube; the handle-bar is narrow, and of the "beg and pray" position; and as to the foot clutch, I am not enough of an acrobat to be able ever to engage it with any degree of efficiency, although it only requires a touch to release it. Had I not known for a certainty that the machine had been designed by practical men, I should never have believed it. I therefore still await the ideal combination, and, in conclusion, I would like to lay stress on the fact that the weight of the majority of sidecar combinations continues to increase. ENTENTE.

London.

A SCENE IN THE SCOTTISH SIX DAYS TRIAL.
Two Matchless sidecars ridden by H. Alexander and D S. Milne after negotiating the hairpin bends on Amulree. Observe the winding course rising from the valley below.

TWENTY YEARS OF LIGHTWEIGHTS.

Sir,—I read with much pleasure "Veteran's" article on "Twenty Years of Lightweights," and was very glad to see a word of praise for the good little Clement-Garrard.

I owned one myself many years ago, and though now the proud possessor of a "big twin" often wish I had the old machine. With a few improvements in the way of carburetter, etc., I believe it would be quite capable of stretching out some of the modern baby two-strokes.

"Veteran" is a trifle pessimistic about the speeds. However, mine could do thirty-five easily on the level, and provided a good rush could be obtained, maintain thirty up a moderate hill. Of course, if baulked, or on a severe gradient, "slight pedal assistance" had to be applied.

The belt, however, was, as he states, a terrible affair. I have done fifty miles with only one breakage, but as a rule it either broke, or had to be tightened every ten miles or so.

I question whether for the single man, there was not better sport to be had then than now with the motor cycle. Certainly one could get better roads.

Birmingham. EMLAN.

CARBURATION.

Sir,—Much is being written just now about single lever carburetters, and it seems to me that the drift of modern practice is to provide an instrument for the novice, with which you can give him the information, "If you turn this lever that way the machine goes faster, and if the lever is turned the other way the machine goes slower." There are, however, some reasons to think that the single lever, while simple and foolproof, is a great and wasteful error.

This summer I have been riding a 1914 Triumph whose B. and B. throttle shutter controls most of the air, the separate air lever being more in the nature of a very small extra air intake. At speeds from 30 to 45 m.p.h. this carburetter was thoroughly efficient in power and consumption; but under considerable load it was difficult to accelerate from 15 to 25 m.p.h. Last January I found a 7-9 Indian carburetter to act in the same manner.

Theoretically, it seems that the above is just the behaviour that should be expected from any form of single-lever carburetter.

Even supposing the suction valve of the engine remains the same (which, of course, it may not do for long), there is still the enormous variation in suction due to variation of engine speed to which the carburetter has to adjust itself.

Taking a 4 h.p. engine, to develop its 4 h.p. a certain number of r.p.m. must be attained, and a certain throttle opening made. The makers will see that with these two conditions the air passages of a single-lever carburetter are such as to give the best mixture.

But suppose the full 4 h.p. (or as near as possible thereto) is wanted at a much less engine speed, the throttle is open wide, but the suction being so much less and the air open too wide, a weak mixture results, and one has to try the contradiction of closing the throttle in order to accelerate, which my Triumph actually did in these circumstances. At low engine speed, closing the throttle so as to get correct mixture, may preclude the possibility of attaining more road speed unless the load is reduced.

It would seem that with the single-lever carburetter it is necessary, if full horse-power is to be developed, to run the engine at the revolutions per minute to which the carburetter is tuned, for at no other engine speed will the mixture be right both as to quantity and quality.

In regard to the Triumph mentioned, I have fitted new shutters, made in an amateur fashion; but the point is that as they now work the throttle, opening or closing does not alter the amount of air intake. Similarly, by opening or closing the extra air intake shutter (which is now of considerable size) the throttle opening is not altered. Consequently, the throttle can be open wide, while the extra air is quite closed. The result is that at all engine speeds the balance between air and throttle can be found in a moment, and a weak or rich mixture obtained in the quantity required for the load at that time. The Triumph will now run fast or slowly.

I wonder how many of your other readers favour the single lever type, and whether there is some point in it which has escaped my notice, and which might account for the evident movement in favour of the single lever.

S. T. WILLIAMS.

TOLLS.

Sir,—I read with interest the letter of "A Business Driver" in your issue of July 1st *re* tolls. I recognise the two ninepenny tolls within two miles as being on the Portmadoc-Harlech road. One of these is on an embankment, on which runs the Festiniog railway, and the other on a bridge used by the Cambrian Railway. Both tolls are an imposition on the public in the interest of railway transport.

Another scandalous imposition on the public in North Wales are the gates on mountain roads and crown land erected by sheep farmers.

The local councils and police refuse to do anything about these gates, which have been in existence for many years. I have been in communication with the A.A. about them, who state that the matter is being enquired into, and that the Ministry of Transport can probably deal with them. I have also been in communication with the Ministry of Transport about the gates from the business standpoint of motor transport. The Ministry states that it has no control over these gates. The public have no obligation to shut these gates, and the owners have no redress for any damage to them.

Motorists touring through Wales will help the local people in their fight against the sheep barons by leaving open all these relics of feudal oppression.

ANOTHER BUSINESS DRIVER.

Festiniog, North Wales.

LIGHTWEIGHTS.

Sir,—As a regular reader of *The Motor Cycle*, I have been very interested from time to time in the discussions as to the merits, performances, etc., of two-stroke engines, and I think my own experiences may be of interest to your readers.

On being demobilised in January last I bought a second-hand Sparkbrook-Villiers engined 1915 model two-stroke of 2½ h.p., this being the only machine in the district available at the time.

Since then I have averaged 175 miles per week on businesss, wet and fine, and my carefully tested mileage is 57 m.p.g. on No. 1 Shell. I am rather a heavy hand at oiling, hence I try and decarbonise the engine once every eight weeks, but this small machine has never failed to take me wherever I wanted to go, and I have yet the hill to find which it will not mount on second gear. It is beautiful to handle in mud and grease, and starts at the first push without any exertion. The only fault I have to find is the way I am covered in mud, and I have tried wider mudguards, etc., to no effect.

The above mileage may seem very low, but I have carefully measured the petrol and read the distance by cyclometer, so I am sure of the figures.

My next machine will be a two-stroke of the same make, but with stronger spring forks, as I have smashed mine four times by running into pot-holes. A. C. M. LILLIE.

THE MACHINE FOR SPORT.

Sir,—I have been a most interested reader of your paper for the last ten years. My 'bus is a 3½ h.p. 1914 Singer, geared 4½ to 1, belt transmission, disc wheels, etc. I have no clutch, can touch fifty miles per hour, and throttle down to five miles per hour in traffic. The acceleration from this speed is all that can be desired. I live in Newport, Mon., where stiff hills are the order of the day; all these hills I can negotiate with ease, without any sign of overheating. Last summer I took an eight and a half stone passenger from Newport to London without dismounting on any hill. The only point which calls for constant attention is belt slip on an all-belt transmission; still with a minimum of care this can be practically overcome. Most people who condemn the sporting single do so because they pay too little heed to the tune of their engines. An out of tune T.T. single is a nightmare, but the super-tuned 'bus brings out all the hidden joys of driving, which, in my belief, are barred to users of geared machines.

Although it is nearly six years old, I would not part with my Singer; the engine is an example of first-class workmanship and material, all internal working parts are the originals bought with the machine, and to-day, after four seasons' use, show no trace of wear.

Lamentable is the day when Singers discontinued the manufacture of their famous motor cycles. I have no interests in the Singer Motor Co., only as an engineer I admire an engineering job.

Every success to your paper—instructive to the highest degree, and indispensable to every practical motor cyclist.

Newport, Mon. T.T. ENTHUSIAST.

SIDECAR LUGS.

Sir,—I trust you will allow me to use a little of your space to draw the attention of motor cycle manufacturers to the variation there appears to be in the *lugs* incorporated in the many machines for the attachment of sidecars. In many cases we find that the lugs so incorporated are badly designed, inasmuch as they are of small area and are totally inadequate to withstand the strains placed upon them by present-day road conditions. In some cases we have overcome the difficulty by using special high quality alloy steel for these weak attachment lugs, but there are still a number of machines with sidecar lugs incorporated for which we ourselves refuse to supply lugs owing to the danger of fracture.

On some machines which have come under our notice we find that the front attachment lug is simply a plain hole for a ½in. diameter spindle to pass through, with no radii on the front of the hole. It is quite obvious to all concerned how utterly impossible it is for a sidecar manufacturer to attempt to fit a sidecar with such attachments with any degree of safety.

I should like to suggest some form of standardisation of lugs which would facilitate more security and certainly less strain upon the motor cycle frame.

Production would be considerably cheapened, and any spares or replacements would be more readily obtained. I am prepared to spend considerable time and trouble in forming such standardisation for 1921 if I am given the necessary support. This is a matter which should have the attention and support of the trade in general.

It is obvious that hundreds of motor cyclists change machines every year, and in many instances prefer to keep to their old sidecar, but in every case they experience considerable trouble and expense in the change over. I am confident that with standard motor cycle lugs sidecars could be produced approximately £1 cheaper.

LEONARD B. HENDERSON, A.M.I.A.E.,
Managing Director, Henderson Sidecars.

REUNION OF EX-D.R.'S.

Sir,—With reference to recurring correspondence in your columns on the subject of reunions of ex-D.R.'s and the many attempts which have been made to arrange dinners and annual gatherings by different sections in different districts, I would like to point out that there has been in existence for yaars an "Old Comrades Association Royal Engineers" known as the R.E.O.C.A., with a "Signals" branch. Ex-service men will remember the placards advertising the association which were sent to divisional signal companies after the Armistice.

The annual subscription for rankers is 2s., whilst life membership only costs 30s. The secretary of the Signals branch is Mr. Edwin C. Honeywill, R.E.O.C.A. Signals Branch, 96, Shoe Lane, London, E.C.4.

The first annual dinner after the war was held in the Connaught Rooms in London last November, and will doubtless be held systematically in future. I myself undertook a 600 mile journey last year, hoping to meet lots of the old boys at the dinner, but was greatly disappointed. Amongst several hundred R.E.'s, from Major-Generals to Chelsea Pensioners, I was apparently the only ex-D.R. present.

I hold no brief for this association, but I draw attention to the ready-made meeting place for an ex-D.R.'s pukka feed and night out.

Now that "Signals" is to be a distinct and separate branch of the service, the attractions of the association are enhanced, for an annual dinner will in future be "Signals" only, for a separate association will be formed.

Under the above association length of service holds no sway, and the youngsters who joined as soon as they matured have the same standing as "old sweats" who were in it when it *was* a decent war, and the D.R. was a little tin god.

I would like to add that I shall be glad to hear from any who remember me with whom I am not in touch.

WILL B. DAVISON
(Ex-D.R. Sergeant of several outfits).

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with *The Motor Cycle*.

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Current Chat

Times to Light Lamps.

July	16th	... ...	9.39 p.m.
,,	18th	... ...	9.37 ,,
,,	20th	... ...	9.35 ,,
,,	22nd	... ...	9.32 ,,

The Price of Petrol.

In America the price of petrol is less than one-third that charged in this country, yet there are grumblers.

'Ware Thieves!

Several readers complain that accessories have been stolen from their machines while in hotel yards.

A Misleading Slogan.

A firm has been advertising their product as the "machine for the engineer." May we suggest that their slogan, though quite neat, is very much open to misconstruction!

Point Duty.

Cannot some of our provincial police arrange lessons from their Metropolitan brethren in traffic control? The main streets of many of the smaller, but busy, cities and towns are at some hours of the day in a positive state of chaos; and control, if attempted at all, is often so inefficient as to constitute a further danger.

The Irish "Twenty-four" Awards.

The awards in connection with the twenty-four hours reliability trial of the Dublin Club to Donegal and back, on the 25th and 26th ult., are as under:

SPECIAL GOLD MEDALS.
(Full marks and clean ascents of Glengesh.)
J. Browne (2¾ Douglas).
E. B. Russell (5 Brough).
T. Woods (5-6 Martin-yde-Newman sc).
A Carton (3½ Sunbeam).
P. H. Hurse (4¾ B.S.A.).
H. McAllister (6 A.J.S. sc.).
S. G. Smith (4 Norton sc.).
P. A. Bell (5-6 James sc.).
C. S. Kettle (4¾ B.S.A.).
W. Wilhelm 8 Matchless sc.).
C. W. Johnstone (8 Harley-Davidson sc.).
T. E. Green (4 Blackburne).

GOLD MEDAL.
(Clean ascent of Glengesh; full marks at open controls and not more than ten marks lost otherwise.)
D Allen (4 Norton sc.).

SILVER MEDALS.
(Not losing more than twenty marks.)
J. Healy (5-6 James sc.).
R. H. Dodd (4 Norton sc.).
Major J. A. H. Waters (4 Norton sc.).
E. H. Bell (5-6 James sc.).

SIDECAR PRIZE.
S. G Smith (4 Norton sc.).

LIGHTWEIGHT PRIZE.
T Holland (Triumph Junior).

TEAM PRIZE.
Major J. A. H. Waters (4 Norton sc.).
S. G. Smith (4 Norton sc.).
D. Allen (4 Norton sc.).

The Utility Machine.

Recently, at a well-known car factory employing about 1,000 hands, more than thirty were observed motor cycling to work; and when it is considered that probably 20% of the remainder are also motor cyclists, the popularity of the sport in industrial centres is strikingly illustrated.

Risk of Multitudinous Summonses.

A motor cyclist last week, summoned at Woodstock, Oxon, for failure to produce his licence, said that he had been fined by another court on a similar summons relating to the same day. The Chairman of the Bench said, "If a man drives from Land's End to John-o'-Groat's he might be summoned 500 times. 100 policemen might stand in a row and each one could summon him." The Bench, however, dismissed the case.

Left-hand Drive.

The Ministry of Transport state that the Departmental Committee on the Regulation of Road Vehicles has been considering the question of the use in this country of mechanically propelled road vehicles with a left-hand drive.

Whilst no decision has yet been arrived at, the Committee are impressed by the rapid increase in the number of these vehicles, and the danger to the safety of all road users which is caused by them, and it is most probable that their use will be at least restricted at an early date.

Special Features.

THE SCOTTISH SIX DAYS TRIALS.
ARBUTHNOT TROPHY TRIAL.
NEW SIDECARS.

Aeroplane as Light as a Sidecar Outfit.

At the Aero Exhibition there is a 50 h.p. aeroplane which weighs but 4½ cwt.

Triumph sends Manager to U.S.A.

Mr. A. G. Franklin, the Triumph works manager left Liverpool last Monday on a business trip to the U.S.A.

Team Work.

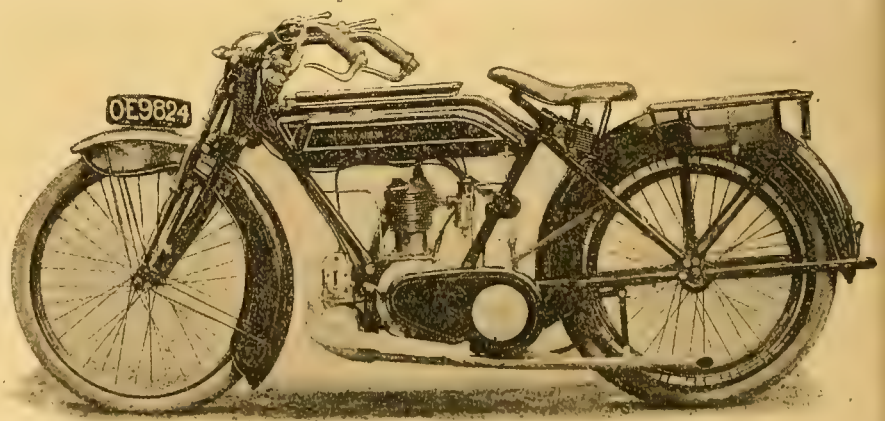
The Worcester M.C.C. are keen on team competitions. They had a strong team in the Scottish Trial, and have nominated another to represent them in the Irish End to End, when Eric Williams, J. Dudley and T. C. de la Hay will ride.

M.C. and A.C. Open Trial.

The open trial organised by the Midland Cycle and Athletic Club will be held on October 9th. There appears to have been a little friction between the A.C.U. and the Midland club over the date which was originally fixed for July 10th.

Taxation.

The Government appear to be firm on making motorists pay for the roads in their own particular day. The Motor Legislation Committee have pointed out that the same revenue can be obtained by a flat rate on petrol, but the Government seem to think "there is a catch in it somewhere."



A NEW HIGH GRADE LIGHTWEIGHT The Massey-Arran Jap-engined motor cycle—a well-designed and finished machine, embodying first-class equipment. It is made by Massey-Arran Motors, Ltd., Bellbarn Road, Birmingham

CLUB NEWS.

Hull M.C.C.

The first annual speed trials and races, organised by the above club, will be held at Holmpton Beach, near Withernsea, on Saturday.

N.M.C.F.U. (Leeds).

The results of the recent hill-climb, held on Leathley Bank, were as follow: 1st, A. C. Thornton; 2nd, R. Hortley; 3rd, W. Beaumont; and 4th, H. Patterson.

Loughborough and District M.C.C.

Recently this club held a reliability trial in the Peak District for the handsome £25 Trophy, given by Messrs. W. A. Bates, of Leicester. The route was a secret one, and proved very strenuous, including such climbs as Green Hill, Wirksworth, Gorsey Bank, and Riber Hill. There were thirty-five starters, and in spite of unfavourable weather, the event was thoroughly enjoyed, though many varied and candid opinions were expressed on the nature of the hills in Derbyshire, the gradients of many being severe.

Stalybridge and District M.C.

A reliability trial, over a strenuous 120 mile course, was recently held by the above club. Owing to the adverse weather conditions only fourteen competitors started, and of these the majority retired on the outward journey to Buxton. Two more dropped out on the return trip, leaving only three competitors to finish. The best performances on the hills were made by A. Wath (7-9 Excelsior), V. E. Lees (4 Triumph), and R. Hartley (3¾ Scott). The official results were as follow: President's Cup and gold medal: C. R. Norman (3½ James). Silver medals: V. E. Lees (4 Triumph), and R. Hartley (3¾ Scott).

West Fife M.C.

This club has recently been formed with headquarters in Dunfermline and an attractive programme is being arranged for the current year. The club is affiliated to the S.A.C.U. Particulars can be obtained from the joint honorary secretaries, T. D. Gordon Watt, Douglas Street, Dunfermline, and W. Joanes, Hospital Hill, Dunfermline.

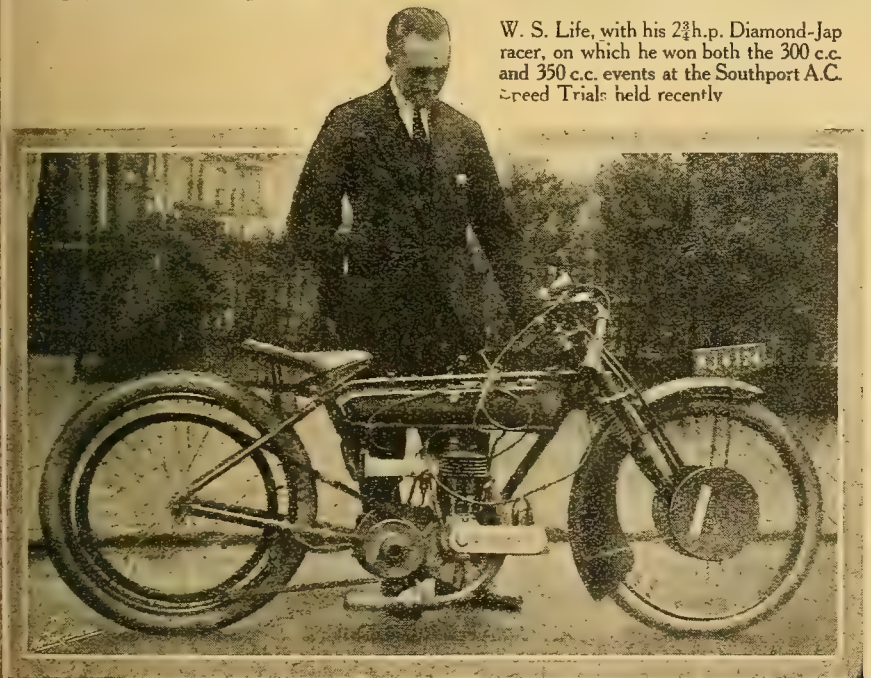
Helensburgh M.C.C.

The results of the speed-judging contest to Loch Lomond and back, recently held by this club, were as follow: 1st, A. McCulloch (3½ James), 1 min. 59 sec. error; 2nd, H. W. Ballardie (6 A.J.S. sc.), 2 min. 39 sec. error; 3rd, R. R. Campbell (10 Morgan), 7 min. 30 sec. error.

Harrogate and District M.C.C.

Owing to the most atrocious weather on the 4th inst. barely half the entrants faced the starter in the above club's reliability trial, which was run over a stiff course of about 160 miles, including four non-stop sections and four observed hills. The pick of the whole course was considered to be a short three-mile run from Summerbridge to the top of Wilsill Raikes, and only G. A. Reed (3¾ Scott) managed to check in to time—in fact this rider easily made the best performance, and if he had not stopped to help three other competitors who had fallen together he would no doubt have had a clean sheet. The only sidecar to finish was a 4¼ B.S.A., driven by H. E. Ellis.

Only five riders checked in to time at the finish, the provisional results being as follow: Winner, G. A. Reed (3¾ Scott). Runners up, H. E. Ellis (4¼ B.S.A. sc.), C. Michell (4 Triumph), E. Wasling (3¾ Scott), and W. Atkinson (4 Triumph).



W. S. Life, with his 2¾h.p. Diamond-Jap racer, on which he won both the 300 c.c. and 350 c.c. events at the Southport A.C. Speed Trials held recently

N.M.C.F.U. (London).

A meet has been arranged with the Midland and North-country branches for a run to Oxford on Saturday. Meeting place, Bald Faced Stag, Edgware, at 12.30 p.m., and the party will leave at 1 p.m. sharp.

Manchester M.C.

It was the intention of the above club to have held a speed trial at Bill o'Jacks, Greenfield, on Sunday, July 4th. However, owing to the bad road surface and weather conditions, this had to be postponed. It has now been decided by the committee to hold a hill-climb at Boothdene Hill on Sunday, July 18th, for which the entries of the postponed speed trial will stand.

The climb will be held on the Ripponden side of the hill. The best way from Manchester is *via* Oldham, proceeding along Ripponden Road to the bridge at the foot of the hill five miles out of Oldham. The road surface on the part of the hill that the climb will actually take place is in first-class condition.

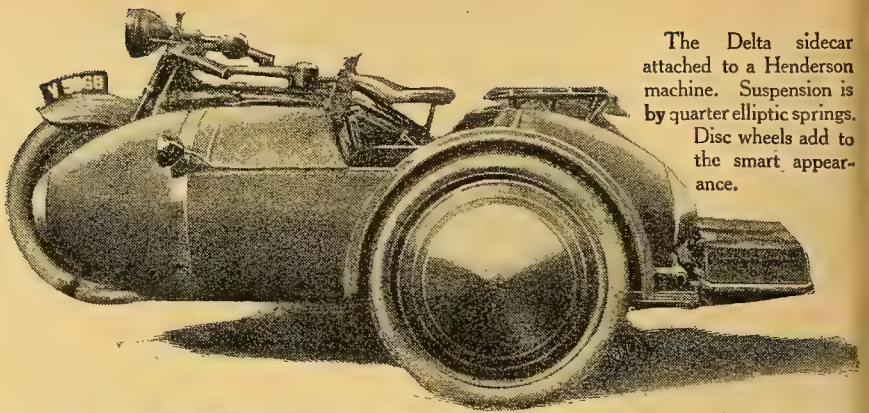
Week-end Club Events.

July 17.—Sutton Coldfield and N. Birmingham A.C. Hill-climb.
July 17.—Newcastle and District M.C. Hill-climb
July 17.—York and District M.C. Consumption Trial.
July 17.—N.M.C.F.U. (Wolverhampton). Captain's Day.
July 17.—Ilkley M.C. and L.C.C. Cumberland County M.C.C. Trial.
July 17.—Eastern Valley M.C.C. Run to Wye Valley.
July 17.—Woolwich, Plumstead and District M.C. Team Trial.
July 17.—Edinburgh and District M.C. Lanark Meeting.
JULY 17.—CUMBERLAND COUNTY M.C.C. OPEN TRIAL.
July 17.—Coventry and Warwickshire M.C. Picnic.
July 17.—N. Wilts M.C. and L.C.C. Run to Oxford.
July 17.—Sheffield and Hallamshire M.C.C. Gymkhana.
July 17.—Wolverhampton M.C.C. Rudge Cup Trial.
July 17.—North Lindsey A.C. Reliability Trial.
July 17.—Bury and District M.C. Gymkhana.
July 17.—Dewsbury and District M.C.C. Paperchase.
July 17.—Lancaster, Morecambe and District M.C.C. Secret Check Run.
July 17.—Bridgwater and District M.C. and L.C. Reliability Trial.
July 17.—Liverpool M.C. Amateur Club Trial.
July 17.—Hull M.C.C. Annual Speed Trials.
July 18.—Rochester, Chatham and District M.C. Run to N. Forcland.
July 18.—Hull M.C.C. Run to Bridlington.
July 18.—Basingstoke M.C.C. Run to Savernake Forest.
July 18.—Dewsbury and District M.C.C. Run to Knaresborough.
July 18.—North London M.C.C. Surprise Run.
July 18.—Canterbury and District M.C.C. Consumption Trial.
July 18.—Essex M.C. Speed-judging Competition
July 18.—Harrogate and District M.C.C. Competition.
July 18.—Stalybridge and District M.C. Wakes Week.
July 18.—N.M.C.F.U. (Leeds). Reliability Trial.
July 18.—Reading and District M.C. and L.C.C Run to Brighton.
July 18.—Exeter M.C. and J.C.C. Run to Lydford and Gorge.
July 18.—Northern M.C. Run to Leg Cross
July 18.—N.M.C.F.U. (Portsmouth). Run to Goodwood.
July 18.—Westmorland M.C.C. Social Run.
July 18.—N. Wilts M.C. and L.C.C. Picnic.
July 19.—Lancaster, Morecambe and District M.C.C. Parade.
July 20.—Lancaster, Morecambe and District M.C.C. Captain's Run.
July 21.—Rochester, Chatham and District M.C. Run to Tunbridge Wells.
July 21.—Loughborough and District M.C.C. Run to Breedon-on-Hill.
July 22.—Hull M.C.C. Run to Howden.
JULY 24.—LUTON AND S. BEDS A.C. OPEN SPEED TRIALS.

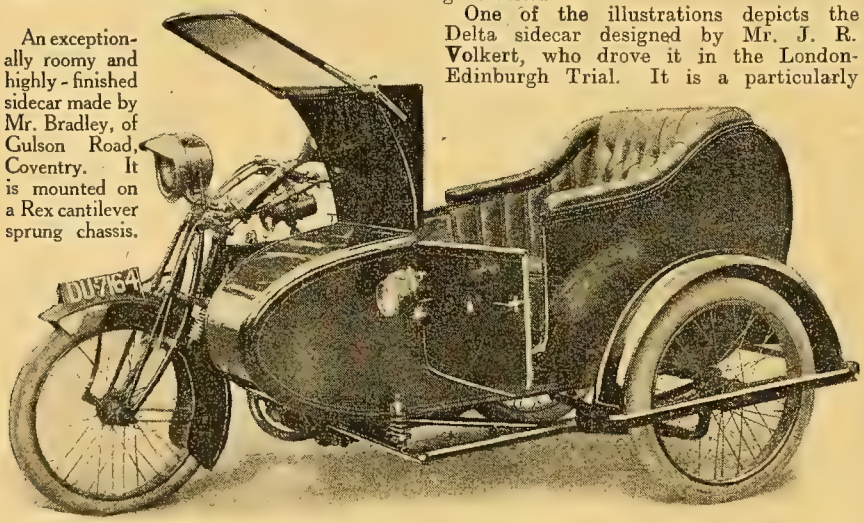
MODERN SIDECAR DESIGN.

Some of the Latest Specimens of Coach-built Bodies.

A PROMINENT American manufacturer recently told us that he thought the British motor cyclist had too many sidecar types from which to choose. By this he meant that so long as every one of the dozens of manufacturers produced different types it cannot be expected that prices will be so low as they are in America. In the U.S.A. only a few firms specialise in sidecar construction, and then no attempt is made to produce the de luxe type of vehicle now turned out by the British industry.



The Delta sidecar attached to a Henderson machine. Suspension is by quarter elliptic springs. Disc wheels add to the smart appearance.



An exceptionally roomy and highly-finished sidecar made by Mr. Bradley, of Gulson Road, Coventry. It is mounted on a Rex cantilever sprung chassis.

Apparently the viewpoints of British and American buyers are totally different, for we cannot imagine British owners of de luxe motor cycles fitting the "tin-shell" types of sidecars which are in favour in the U.S.A.

On this and the following page we are able to give illustrations of some of the latest British designs and an American, which will shortly be offered to the British public. The eight designs shown well illustrate modern tendencies, and if there is a suggestion of over-elaboration in some cases, one must remember that they represent more or less what the motor cyclist requires. There is a great deal in pride of possession, and the owner of a really first-class outfit de luxe is at the top of his class, whereas with a small "cheap" car he is at the bottom of another.

From our own experience of sidecarring, we agree that anything which can be provided for the comfort of the passenger should be added. The sidecar machine is the most economical means of transportation for two or three persons; but there is no reason why a little luxury should not be added in the way of high and deep upholstering.

At the present time, however, most sidecars are comfortable — even the apparently uncomfortable sporting machines now so popular with the younger generation.

One of the illustrations depicts the Delta sidecar designed by Mr. J. R. Volkert, who drove it in the London-Edinburgh Trial. It is a particularly striking machine of the "torpedo" type, and is sprung in rather a novel manner, flat quarter-elliptic springs being fixed at the rear end of the chassis.

Another sidecar illustrated is the "B.J.," marketed by W. H. Jenks, of 63, Snow Hill, Birmingham. Its chief novelty lies in the means by which the front of the body is hinged to serve as a door. Two types are made, a sporting and a touring model. The prices of the bodies alone are £10 and £13 10s. respectively, and they are constructed of sheet metal, finished in an attractive shade of purple.

Another unusual design is shown on the following page. It is known as the Lacelles, and is the product of Mr. P. V. W. Fenn, 19, Westfield Road, Surbiton, Surrey.

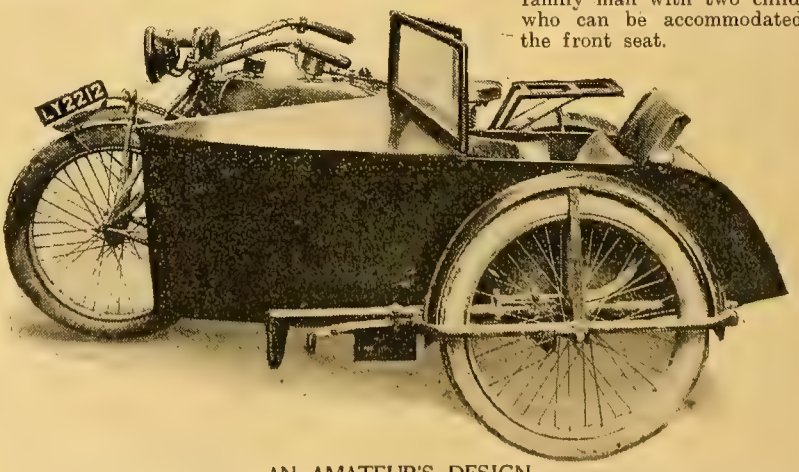
The seats much resemble the cock-pit of an aeroplane, access being obtained by lifting the aluminium covers, which are hinged at the front in the forward seat and at the rear in the back seat. When the passengers are seated, the covers are drawn up and held in position by two spring clips located on the inside.

Hoods will be fitted to each seat, and, in order to retain the streamline appearance, they will be constructed as small as possible.

Arm rests are provided which, with the seats and backrests, are well-upholstered in leather. Located in the bulbous back is a locker of generous size which accommodates spare fuel and luggage.

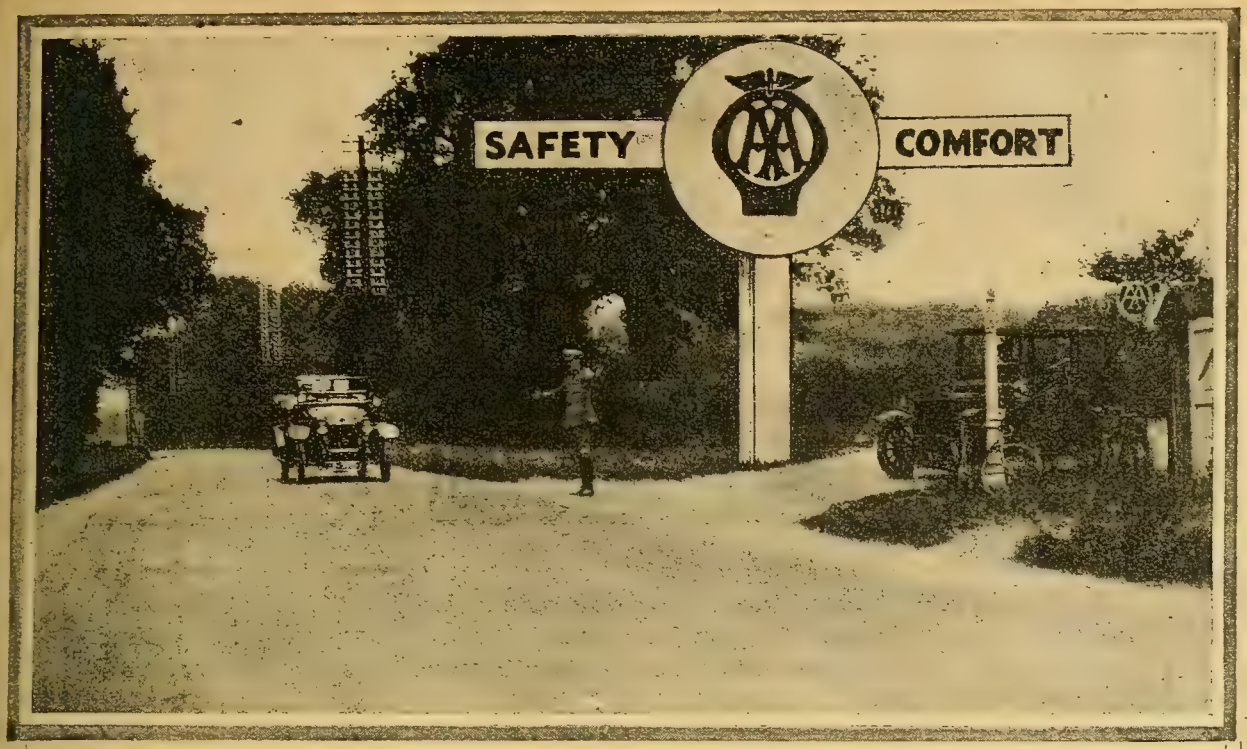
Mr. Fenn is anxious to dispose of his patent rights.

A tandem-seated body is also shown—a Venus model. It is intended for the family man with two children, who can be accommodated in the front seat.



AN AMATEUR'S DESIGN.

A sidecar of distinctive appearance, designed by Dr. Morris, of Hereford, rather suggesting a racing boat in appearance. It is very light, and is fitted with a comfortable hammock seat. The top of the body is hinged at the front, and can be raised to allow easy access



"Next Monday Fortnight."

Motoring Comfort at Holiday Time.

When the rest of the world takes a holiday, the public services are subjected to a spell of overwork. Just as the railways experience a rush of passenger traffic at Bank Holiday times, so the Automobile Association copes with a similar rush of road traffic and a large addition to its membership, which now stands at over 135,000.

The number of members joining the Association during a week previous to a general holiday is gradually increasing as is shown by the following figures:—August Bank Holiday, 1919 - 2,151
Easter Monday, 1920 - - 2,194
Whit Monday, 1920 - - - 2,666
an average of over 2,370 new members a week

On the road the A.A. patrols and the qualified mechanics in charge of the "Mechanical First-Aid" Machines will be busy from morning to night directing members on their way, and rendering practical mechanical assistance when necessary.

On an average during holiday week-ends, 500 cases of temporary derangement and 60 cases of mechanical breakdown are attended to, and members are enabled to continue their journeys, congratulating themselves on their foresight in joining the Association.

After a holiday the Legal Department of the A.A. receives increased applications from members for Free Legal Defence in respect of summonses under the Motor Car Act and Regulations. The value of this benefit to a motorist who may unwittingly commit a technical offence two hundred miles from home is apparent. There is no need for him to appear in court at the other end of the Kingdom, or allow the case to go undefended. He places the conduct of the summons in the hands of the Association, and the case is defended entirely free of cost to him. In forty-nine cases heard during one week, the Association secured the dismissal of twenty.

Other practical A.A. benefits which are provided to members include Home and Foreign Touring facilities, roadside telephones with a day and night service, roadside motor fuel supply stations, officially appointed hotels, also agents and repairers, a special insurance policy, engineering advice, etc., etc.

Full particulars of all these benefits are given in the new illustrated booklet: "The Key to the Open Road" which can be obtained post free from the Secretary, The Automobile Association, 21, Fanum House, Whitcomb Street, London, W.C.2. Send a postcard to-day, the booklet will be sent by return of post, and in a few days you can motor with comfort under the protection of the A.A. badge.

A SUPER TRIUMPH FOR BRITISH MANUFACTURE

The hardest road race in the world; 400 miles; this year's race in SOUTH AFRICA was run under appalling conditions; 42 started; 5 finished; first and second places were occupied by British machines, the 3½ h.p. and 2¾ h.p. "DOUGLAS."

AS a feat of endurance for both riders and machines there is probably nothing to equal this year's race in SOUTH AFRICA. The T.T. race in the I.O.M. is as a "run in a park" compared with it.

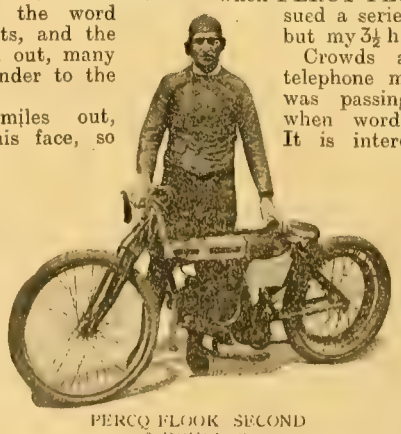
In good weather the route is but an ordinary earth road for most of the way; sprinkle over it a half inch of rain, and such roads can run like rivers. To run a race—a race, mind you, not a reliability trial—over this course in the winter, is always an adventurous proceeding, but when the winter is in its worst mood, motor cycle racing on this route can be little else but a frightful nightmare.

An idea of the conditions may be guessed from a comparison of the winner's time this year with that of last year's winner. In 1919, Mr. PERCY FLOOK, on a 2¾ h.p. "DOUGLAS," covered the first part of the course, approximately half way, NEWCASTLE, in 5 hours 5 mins., but this year, Mr. F. A. R. ZURCHER, on a 3½ h.p. "DOUGLAS," took 13 hours, 1 min. to cover the same distance.

Probably no motor cycle race ever started under such conditions; snow, rain, wind, rivers of mud, that are called roads when dry, and a temperature which froze up lubricators and carburetters—such were some of the difficulties besetting the competitors who started from the CITY DEEP on SATURDAY, MAY 29th, last. From the word "to go" it was a battle with the elements, and the ranks of the competitors were soon thinned out, many old hands and well tried machines going under to the forces of nature.

Fast going was impossible. Six miles out, ZURCHER got gravel thrown up into his face, so badly that he had to stop to bathe his eyes in a stream, and it was some time before he could see well enough to ride. "The mud was indescribable," he says, "one would ride and simply slither down and get up and try again." At STANDERTON the positions of the riders were the same as at the start, ZURCHER being No. 15, but at VOLKSRUST he had gained a few places, being eleventh to pass this point. From here to LAING'S NEK the roads were well nigh impassable. On SATURDAY EVENING, after ploughing their way through perfect seas of mud, till every nerve in their half-frozen, rain-soaked bodies ached, three utterly bedraggled riders found they had reached MOUNT PROSPECT, and concluding that they were the only ones left in the running, they decided to rest for the night. Meantime, ZURCHER, on his "DOUGLAS," tore his way through and passed on to NEWCASTLE. The other three followed as quickly as conditions would permit, and at NEWCASTLE, ZURCHER arrived first, fifty-five minutes after midnight. P. FLOOK, on the smaller "DOUGLAS," followed at 2.11 on SUNDAY MORNING, and F. OWEN, on an INDIAN SCOUT, at 3.30 a.m. FIVE others on JARLEYS, INDIANS, and A.B.C.'s rolled in at varying times up till 11 a.m.

At this first stage of the journey, there were only EIGHT survivors. ZURCHER left again at 7 a.m., and the others followed at intervals. Local riders, who had gone out to give assistance had been left behind in the mud, and it was many hours before they returned, each one having had to dispense with his mudguards in order to get back. From NEWCASTLE to the finish, the roads were considerably improved, the winner says "for the first I got away on hard road, and had a reasonable ride until a puncture stopped me. I had completed repairs, and was about to start, when PERCY FLOOK came up within forty yards. Then ensued a series of long stiff climbs with a bitter head wind, but my 3½ h.p. enabled me to keep ahead of FLOOK."



PERCY FLOOK SECOND
2¾ DOUGLAS

Crowds assembled at MARITZBURG, when a telephone message came through that the first man was passing HOWICK, and excitement increased when word came that FLOOK was close behind. It is interesting to quote from the local paper description at this point: "As one o'clock struck, a wisp of dust was seen at the corner beyond the bridge, and a motor cyclist came into view tearing down the foot of the hill, hatless, clad in the leather garb of the racing man, bending low over his machine. The waiting throng opened and then closed around him, as in an anxious voice he shouted for petrol; the tank gulped its fill, the mouth shut with a click, the crowd opened again, and the first man, F. A. R. ZURCHER, on his new model "DOUGLAS," of 3½ h.p., took the road with an easy gait on the final lap to the Port."

In answering this advertisement it is desirable to mention "The Motor Cycle."

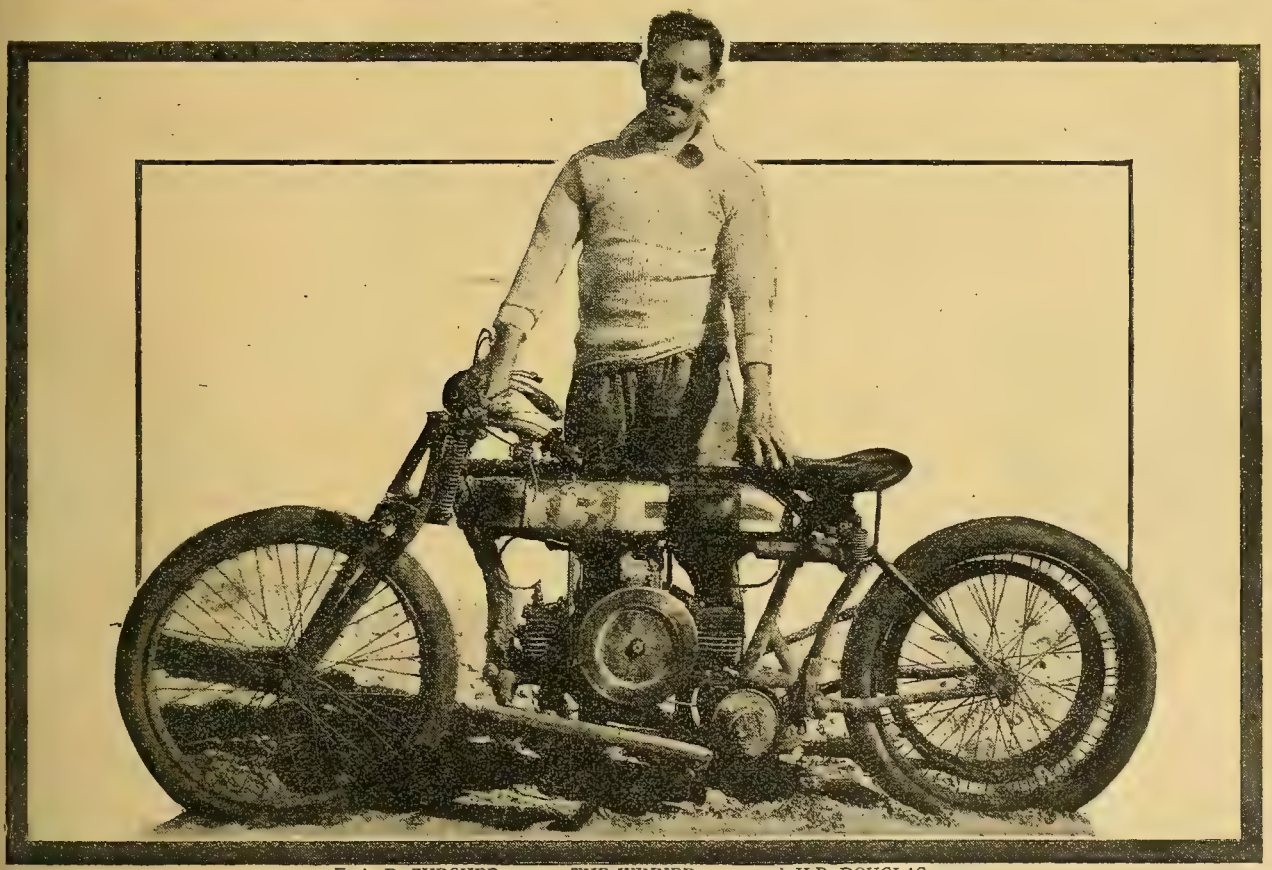
Mr. ZURCHER was the first competitor to dash into the crowd which constituted the finishing post at the Toll Gate in DURBAN. He arrived at 29 mins. past 2, and was loudly cheered. Beyond a broken footboard and a thick coating of dust and mud, his machine was in excellent order, and he himself did not seem unduly distressed.

PERCY FLOOK, who won last year's race on the same machine as he was now riding, was the second man to arrive, being timed in at eight minutes past three. He bore signs of a gruelling ride, and was almost exhausted. He had the misfortune to break his handlebars, but undeterred, he had rigged up a wooden device, and it is safe to say that no ordinary man would have ridden his machine for many yards in its then condition.

As an instance of the difficulties which they had to face, may be mentioned that Mr. ZURCHER started wearing a heavy pair of brogues, but before he reached NEWCASTLE, the left one was completely gone, whilst the other was worn through to the sock. A friend supplied a pair of sand shoes, and he wore these for the rest of the way.

The other riders who finished were F. OWEN (Indian Scout), MURRAY (Harley), and T. NICHOL (A.B.C.), all of whom arrived many hours after the first two, the last-named being right out of time (some eleven hours later) for medals. Mr. ZURCHER wins the SCHLESINGER VASE and £100 cash prize, also the ADLER CUP and cash prize £10 for fastest time in handicap, with Club Gold Medal added. Mr. FLOOK wins a Club Gold Medal and cash prize £40.

The machine which had fought its way through such a remarkable adventure is the 3½ h.p. SPRING FRAME "DOUGLAS," which is intended for the 1921 market. It was a standard machine, stripped for the race, and it is interesting to note that it is the first one to reach the Colonies, it having arrived only two weeks before the race. It speaks volumes for Mr. ZURCHER that he was able to take on a strange machine and ride to victory with so little preparation. It has scored the greatest success ever attained by any machine in competition in SOUTH AFRICA, and one cannot help feeling a sense of pride in the fact that a British machine was able to win where the field is usually scooped by foreign machines of much greater power, and it is interesting to note that a number of these machines did not start, their riders deeming it impossible to get through under such conditions. It is expected that the result will have the effect of turning public favour in the Colony to the medium power mount, which has demonstrated emphatically that it can do all and more than the "unlimited class."



F. A. R. ZURCHER. THE WINNER. 3½ H.P. DOUGLAS.

To quote the winner:—

"The 3½ h.p. 'DOUGLAS' behaved magnificently; it ploughed through mud, it swam through water, and when dry roads were eventually reached, 200 miles from the starting point, it showed a turn of speed and capacity for hill-climbing almost beyond belief, and the advantages of the SPRING FRAME cannot be over estimated."

DOUGLAS MOTORS, LTD.,
Kingswood - - Bristol.

In answering this advertisement it is desirable to mention "The Motor Cycle." B15

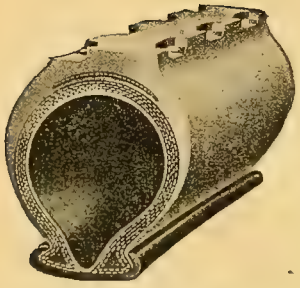
BRITAIN'S REPLY to American Tyre Invasion

As a proof of our confidence in the quality of our new 1920 type Skew Motor Cycle and Light Car Tyres, we make the following offer (open for a few weeks only):

TWO-THIRDS

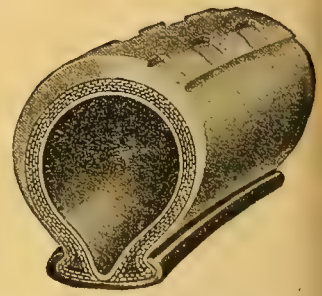
of price to be paid with order, balance on completion of

4,000 MILES.



Skew Heavy Square.

SIZE.	SKEW ALL-RUBBER NON SKIDS.					
	Heavy Square.		Heavy Round.		Inner Tube.	
	Cash with order.	Balance due on 4,000 miles.	Cash with order.	Balance due on 4,000 miles.	Cash with order.	Balance due on 4,000 miles.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
26×2¼ } to fit 26×2½ } 2¾ rims.	1 19 0 2 6 0	0 19 6 1 2 6	1 14 0 —	0 16 6 —	0 8 0 0 9 0	0 3 6 0 4 6
26×2½ } to fit 26×3 } 2½ rims.	2 6 0 2 12 6	1 2 6 1 6 0	2 2 0 —	1 0 6 —	0 9 0 0 13 0	0 4 6 0 6 6
650×65 } to fit 700×80 } 65mm. rims.	2 12 6 3 3 6	1 6 0 1 11 6	2 7 0 —	1 3 6 —	0 10 0 0 14 0	0 5 0 0 7 0
700×85 } to fit 710×90 } 85mm. rims.	4 3 0 4 12 6	2 1 0 2 6 0	— —	— —	0 14 6 0 16 3	0 7 0 0 8 0



Skew Round.

FIRST PASSENGER TRAIN. CARRIAGE PAID.

Buy British Tyres and keep Ex-Soldiers at Work.

Order through our Local Agent, or from

OYLERS' LTD TYRE MANUFACTURERS,

35, New Cavendish Street, Great Portland Street, W.1.

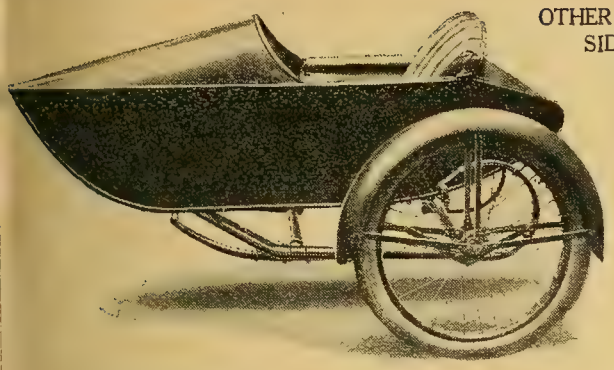
Telephone—Mayfair 36 & 37

22, Parsonage, Blackfriars Street, Manchester. Telephone—City 956

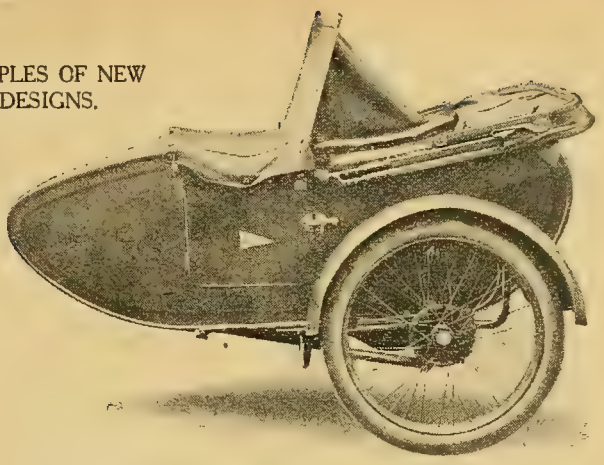
In answering this advertisement it is desirable to mention "The Motor Cycle."

Modern Sidecar Design.—

OTHER EXAMPLES OF NEW SIDECAR DESIGNS.



Another example of a boat sidecar, the National, an American product, which is to be offered in this country.

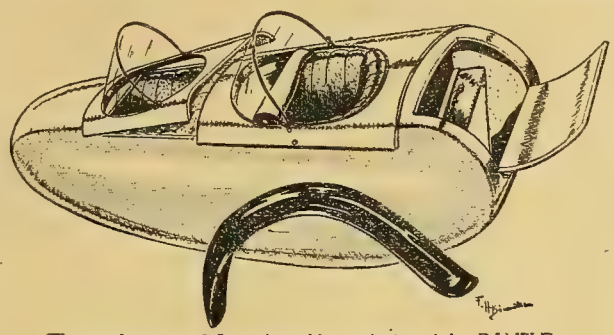


A smart and roomy Venus sidecar, made especially for attachment to Harley-Davidson machine.

Dr. Morris, of Hereford, is responsible for the boat like sidecar shown at the foot of the preceding page, and it has many novel features which are the outcome of experience on the road. For example a tool rack is embodied in the inner side panel and is covered with a leather flap.

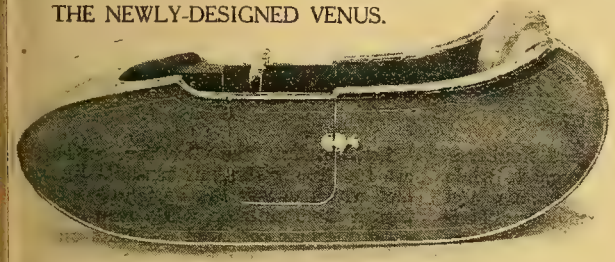
The Venus "Harley" model is another fine sidecar, embodying a spring wheel, while the American example illustrated — the National, which is to be marketed by Messrs. Shillan, Beck and Co., 30, Cannon Street, E.C., strikes a new note in sidecars in this country. It is comparatively light and simple in construction, and no doubt will appeal to many owners of medium powered machines.

So far few firms have considered the possibilities of the dickey seat for the accommodation of a juvenile of ten to twelve years of age. The Rex Co., however, has been very successful in this direction, and has produced for a member of *The Motor Cycle* staff, a sidecar with a folding rear seat, which has proved in every way a satisfactory solution of the problem confronting the family man who owns a motor cycle.

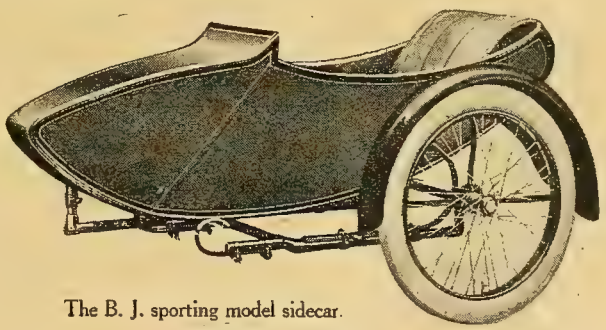


The tandem-seated Lascelles sidecar, designed by P.V.W.Fenn referred to on the preceding page. Observe the neat screens.

THE NEWLY-DESIGNED VENUS.



This Venus No. 12 Model is a three-seater, designed to fulfil the requirements of the family man. The bulbous back incorporates a large locker, capable of carrying a petrol can.



The B. J. sporting model sidecar.

A 2,880 MILES NON-STOP ENGINE TEST PROPOSED.

SOMETHING new in trials is suggested by Mr. E. C. Paskell, of the Colmore Depot, Birmingham, who considers that the ordinary rider is more interested in the reliability of standard machines than in the performance of those unusual or freakish designs produced to compete in special events. In order to provide an opportunity of demonstrating the reliability of standard machines a special form of trial does appear to be necessary.

"It is very surprising," he writes, 'that such a difference of opinion exists as to how long any machine would run under ordinary riding conditions. I, therefore, intend to promote a competition, to be called the 'Colmore Reliability Trial.'

"ENTRIES.—Any machine as supplied to the public.

"COURSE.—Twenty miles, including ascent and descent of good hill.

"TIMEKEEPING.—Every machine must pass the starting point every hour, not more than ten minutes early or ten minutes late.

"RIDERS.—Machines can be ridden by any rider. Change of rider to be made at the starting point

"RUNNING.—Engine must be kept running continuously.

"ADJUSTMENTS AND REPAIRS.—May be made if engine is kept running.

"LIMIT OF TRIAL.—A time to be fixed for the event to finish (if the event ran for six days, 2,880 miles would be covered).

"Sunday riding to be avoided if event carried on over six days.

"The passenger to be chosen, or approved, by the committee.

"PRIZE.—Colmore Depot will give a prize of £100 to the winner (to be divided if more than one). Doubtless this prize will be augmented by others.

"RULES.—To be made by small committee.

"A trial on the above rules will provide a good test, especially for lamps, plugs, magneto and general construction of machine, and I hope that it may be possible to get the support of the Manufacturers' Union and the leading motor cycle clubs.

"I shall be pleased to receive advice or criticism from any one interested."

H. R. Davies (6 A.J.S. sc.) on the Spittal of Glenshee, a gradient which would be considered formidable in an English trial, but regarded as unworthy of being an observed hill in the Scottish Six Days.

Detail Report of Each Day's Run by Members of "The Motor Cycle" Staff accompanying the Competitors.

THE FIRST DAY.

Observed Hills—Amulree, Cockbridge Ladder, and Bridge of Brown.

INVERNESS, MONDAY.

GOOD organisation was responsible for a wonderful lack of incident at the start of the trial from Perth. A few drops of rain fell, but the clouds were high, and throughout the day fine but dull weather was experienced, with a few really bright intervals.

An easy road led to Amulree, and though undoubtedly long and tricky, the chief trouble experienced on this hill was due to the terrors that its reputation inspires, and the fact that it occurs before competitors have settled down to the regular hard work of the Scottish Six Days.

The hill was in good order, though the loose flints near the top were trying and caused a certain amount of anxiety.

As recorded in last week's issue, considerable variation in driving skill was seen on Amulree, most of the expert riders taking the second bend widely. C. P. Wood (Scott) made the best ascent, the steadiest climb was credited to Cumming (Sunbeam), and Bischoff (2½ Clyno) made the best performance on a lightweight.

P. and M., B.S.A., Scott, and Sunbeam machines were exceptionally good, while among the sidecars the Matchless and A.J.S. stood out conspicuously. Moir (Harley-Davidson) was good, but Dawson, on a similar machine, failed, as did R. G. Mundy (Reading Standard sc.).

The Richardson cycle car also failed, and both the two single-geared riders, McGregor (Brough) and Carfrae (4 Triumph), found the hill too much for them. The latter rider fell on the lower part of the hill.

At the top of the hill was the first check.

10 m.p.h. Limits.

The descent of Kenmore gave newcomers to the trial an idea of what was to come on the fifth day, and, incidentally, an opportunity of studying the better side of the road.

From Pitlochry a moorland road was traversed, and here A. B. Fairley (2¾ Douglas) broke a throttle wire. After a hurried repair he pushed on, only to hit a bridge and damage his forks a mile or two further on.

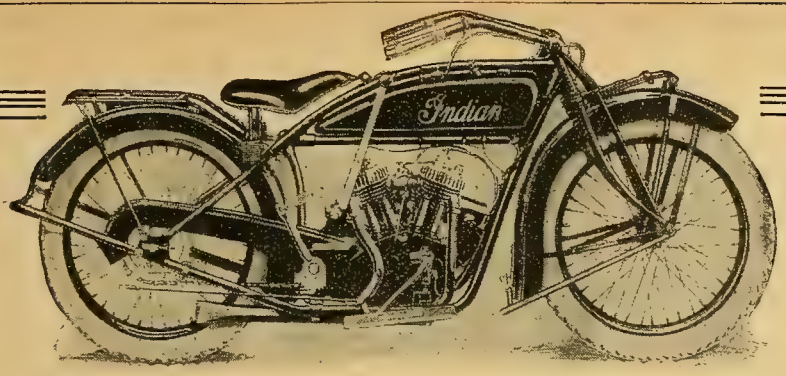
The second check was just beyond Kirkmichael, and thence a narrow road with a long 10 m.p.h. limit led over open moors.

Incidentally, the Scottish authorities are too free with their ten-mile limits—a fact which causes the unrighteous to disregard them entirely, while even the more careful riders get tired of limits on wide roads with no turnings.

Glenshee was the next point of interest, and the long pull up after the Spittal Hotel was rough and twisty. Here H. Gibson (2½ Clyno) got into a rut and fell while fiddling with an air tap. Fortunately, he was unhurt, and made a fine climb of the Devil's Elbow. Both the corners of this "double twist" have been laid with concrete on the inside, and, in spite of the steep gradient, many preferred to take the smooth surface to the rough but easier outside curve. The Devil's Elbow is too easy a test to cause much trouble to multi-geared mounts, and R. Carfrae made a fine climb on his single-geared Triumph.

The descent to Braemar was rutty at the top and required careful driving, but later the road improved, and it was possible to enjoy the wonderful scenery and to note with interest that snow still lay on the mountain heights.

After an excellent lunch at Braemar the main road was followed to a point just opposite Balmoral Castle, where a sharp left turn led up a narrow lane. Then



PROVING THE RELIABILITY

of the

Indian SCOUTS

BEFORE SUPPLYING THE PUBLIC.

Up to the present INDIAN SCOUTS have entered in three long distance Reliability Trials, and in every instance (as shown below) they made a 100 % performance.

December 26th, 1919: **London-Exeter-London Trial.**
One INDIAN SCOUT entered and secured Gold Medal.

April 3rd, 1920: **London-Land's End Trial.**
Three INDIAN SCOUTS entered and secured Gold Medals.

May 21st-22nd: **London - Edinburgh Trial.**
Four INDIAN SCOUTS entered and secured Gold Medals.

June 17th: **TOURIST TROPHY RACE.**
The three INDIAN SCOUTS nominated for the INDIAN team all finished in the first twelve with no mechanical troubles whatever.

After these conclusive tests of reliability, we have no hesitation in offering the INDIAN SCOUT to the public as an ideal solo touring machine

DELIVERIES will commence in July.

Present price of INDIAN SCOUT Model as described in current catalogue **£140** EX LONDON WORKS.

HENDEE MANUFACTURING CO.,
"Indian House." 366-368, Euston Road, London, N.W.
Telephone: Museum 1648. Telegrams: "Hendian, Eusroad, London."
AUSTRALIA—109-113, Russell St., Melbourne. AFRICA—Indian House, 127-9, Commissioner St. Johannesburg; Indian House, 579, West St., Durban; Indian House, Strand St., Port Elizabeth.

23½% was the amount of bonus earned by Policy Holders during 1919. To state that Pooling Insurance renders Cost Price Insurance is therefore no idle boast.

Whenever delivery date is advised obtain a Cover Note from

The Licenses and General Insurance Co., Ltd.,

25, MOORGATE STREET, LONDON, E.C.2.

TEL.: CENTRAL 7360-1.

The Seal of Perfection

On a modern motor bicycle is the gear which carried the despatch-riders through the war, and will carry everyone who values a good and properly equipped machine through the joy-rides of peace. The Sturmey-Archer is no experiment. It has been proved through the greatest of ordeals, when life was the penalty for failure. Specify a Sturmey-Archer if you would have perfect motor cycling.

Sold by all good agents, and fitted to all good motor bicycles.

STURMEY ARCHER

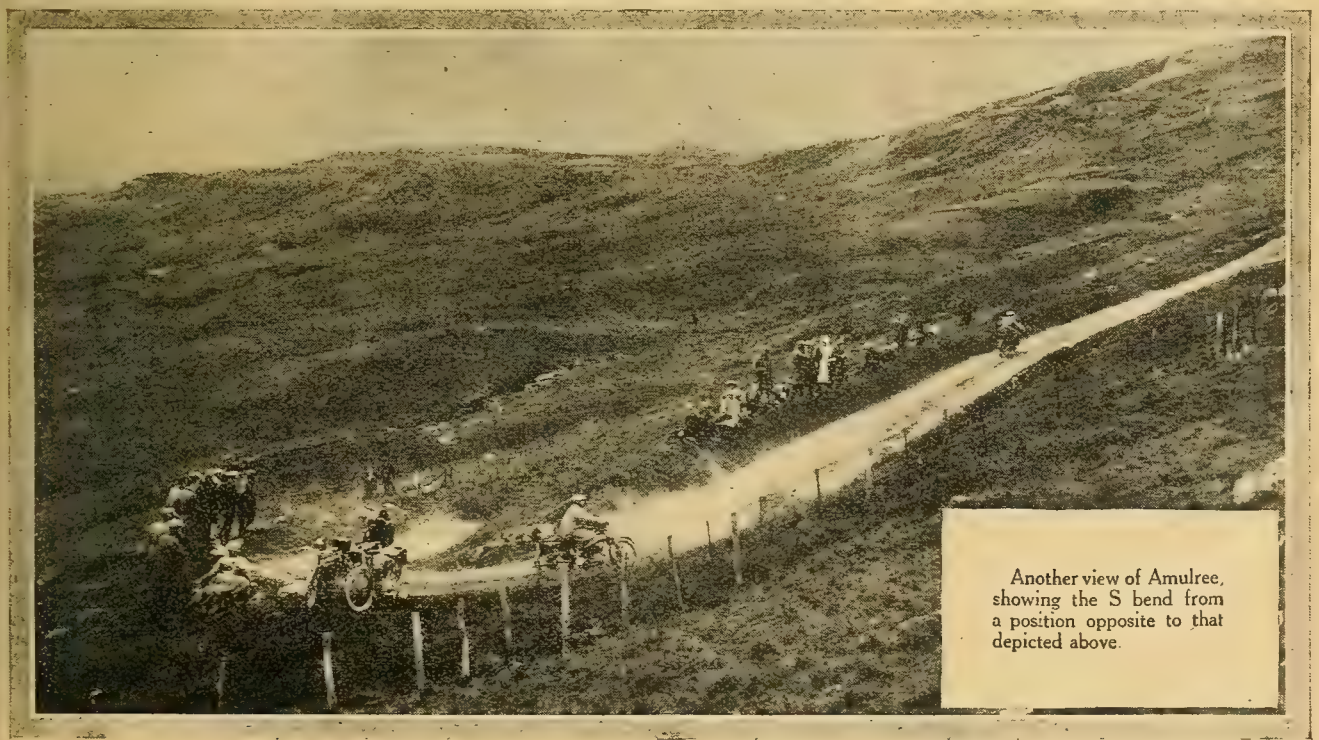
COUNTERSHAFT GEAR

Sturmey-Archer Gears, Ltd.,
Nottingham

Amulree is one of the best known hills in Scotland, and has two sharp hairpins, with gradients of 1 in 4½. No. 45, O. P. C. Collier (Beardmore-Precision), is seen on the bend.

followed a succession of rough gradients, both up and down, culminating in a fearsome hairpin, and after a mile or two of excellent road came the famous Cockbridge Ladder.

Somehow these, at one time appalling, hills have lost their terrors, and even the miles of rough hill with its many hairpins can be negotiated on middle gear by a well tuned "3½." For single-geared machines, however, the proposition is a stiff one. The enthusiasts riding these mounts take the trial in a most sporting manner, and one of the riders at least stops at the foot of each observed hill and removes the greatest possible amount of clothing in case violent assistance is necessary. Poor Carfrae, after a splendid ascent of the lower slopes, suffered belt slip on the upper section and had to foot slog.



Another view of Amulree, showing the S bend from a position opposite to that depicted above.

Scottish Trials.—

The rain which threatened at Cockbridge cleared off, and the scenery was gorgeous—in fact, only man and the road surface were vile, and the latter was truly so !

Mrs. Duncan Bell (6 A.J.S. sc.) on the "unobserved" hill out of Kirkmichael. This intrepid lady was also a competitor last year, when she secured a second-class award.

A series of cross gulleys continued for miles. Apparently, these gulleys followed the practice of waves on the seashore, since every seventh was the biggest; anyhow, sidecar frames had a bad time, and solo riders were none too comfortable.

Tomintoul was the next check, after which came a short steep hill over the Bridge of Avon. Then came the worst hill of the afternoon, covered with loose stones and having a very nasty corner. This, however, was not observed.

A mile or two further on came the Bridge of Brown, with the subsequent long ascent. This is an easy hill, yet it was interesting to watch the riders' methods.

"Bridge of Brown."

Campbell McGregor (3½ Brough single geared) and R. Carfrae (4 Triumph single geared) came up well; the Sunbeams, Blackburnes, P. and M.'s, and Rovers were noticeably silent. All the Nortons seemed to be well in hand, and both R. M. and Olive M. Knowles came up fast. B.S.A.'s and Matchless climbed steadily, as also did the 8 Clyno sc., handled by A. F. Knight. The Scotts purred up in faultless style, and the A.B.C.'s were fast but rather noisy.

E. A. Colliver and T. S. Sharratt (Indian scouts) made very pretty ascents, and Darnton, on a 7-9 model, soared over the top at great speed.

Just over the crest of the hill, J. Beck (8 New Imperial) stopped with rear wheel trouble, which subsequently led to his retirement. After a long descent, good surfaces followed to Carrbridge (check), and thence a fine road led to Inverness and the finish. This road was deceptive in places, and some of the pot-holes encountered in the last eight miles were very deep and yet not too easily distinguishable through the dust.

NOTES.

C. F. Plowman (4 Triumph) reported four falls before Braemar and talked of retiring, but finally decided to carry on

O. P. C. Collier (Beardmore-Precision) fell and damaged his machine so badly that he was unable to continue.

Archie Cocks (Beardmore-Precision) lost time through contact breaker trouble and dirty petrol filter.

The Ariel team have had tyre troubles, which led to loss of marks on time.

The following retired on the first day of the trial :

O. P. C. Collier (Beardmore-Precision).
R. G. McEwan (10 Richardson cycle car).
A. Alexander (7-9 Indian).
A. B. Fairley (2¾ Douglas).

SECOND DAY.

Observed Hill—Abriachan.
Total Distance 182 Miles.

THURSO, TUESDAY.

Last night there were rumours afloat that owing to the impossible state of the surface, Abriachan hill would not be observed. The scare was soon killed, for Major Watling, the manager of the Manufacturers' Union, who is acting as a steward, gave out that the hill was in a perfectly safe condition, and would be observed as previously arranged. Nevertheless, a notice was posted that extreme caution must be used at a certain point

A surface like a river bed, bends as sharp as a compressed letter Z, and gradients of 1 in 5, place Amulree among the worst hills in Great Britain. H. F. Barge (G.P. Morgan) was at a disadvantage by having to keep in the centre of the road, but he surmounted the hill without trouble.

The Can'opit lost the top of the float chamber.

A certain competitor has been awarded a clean ascent of Amulree but indignantly denies the honour and claims a failure. Next year we shall probably hear of a competitor in the M.C.C. team trial claiming an unobserved stop !

Choldcroft's 4 A.J.S. has a mysterious misfire which develops as a rule on observed hills. However, he has a clean sheet so far.

where the road is narrow and a steep bank slopes away for, perhaps, 300 feet. Such rumours are common at all big gatherings of motor cyclists, and the usual protests against lost marks were duly heard and considered. A wet start for the longest trip of the week was not encouraging, for Inverness does not look its best in a drizzle. However, the competitors seemed to be in good spirits, especially as the only observed hill came in the first ten miles.

Abriachan is a long steep hill, but looks much more formidable than it really is,

Scottish Trials.—

though there are a few rough bits and pot holes which require careful negotiation. No. 50 (R. Ball, 3½ Scott) started first to-day, so that the early comers were all in the fifties, which provided a change, both for spectators and competitors.

Observed hills in a strenuous six days trial are dull affairs unless there are a few hair-raising corners, for everyone but the single gear exponents drops into a low gear and takes no risks. At the same time it is interesting to watch the little machines and to study riders' methods.

Lightweights Doing Well.

The lightweight Clynos are performing very well. P. W. Bischoff rides like the old hand he is. C. V. Freeman is a good man, and was unlucky in shedding his oil filler and smothering the machine in oil, while Hugh Gibson, who is well known to all our readers, performed a wonderful feat after the lunch stop. His petrol union came adrift, with the result that he lost most of the contents of his fuel tank. He decided to return to Lairg and refill. Thus he lost very much valuable time, but in spite of this he made up lost time over the most appalling roads and checked in to time at Altnaharra.

But to continue our story in sequence. The view from Abriachan over Lochness is wonderful, and, in spite of the rain we were tempted to loiter, enjoying the view, which necessitated a "blind" over greasy tracks to regain time. During this section care was necessary to avoid skids, and it was wonderful to notice Jesse Baker and C. P. Wood (Scotts) making time steadily over the rough greasy tracks; the way the Scotts hold the road is astonishing.

Evanton was the spot selected for the first check after passing through Beauly and Dingwall. The tops of Ben Wyvis were shrouded in mist, and rain fell steadily as we swung left over a never-ending upward grade. The roads, however, were fairly good, and after eight or nine miles steady rise we made the close acquaintance of the heights above Bonar Bridge.

The corresponding descent is comparatively short and steep, and timber-hauling had not improved the surface. At Bonar Bridge a complaint about the rain drew unexpected comments from the natives, who have had no rain for six weeks, and whose water supply had been endangered. At this place also, those who had time were enabled to see a salmon net hauled, with satisfactory results, for several good fish were taken.

Another long climb through perfect scenery, the roads being bordered by silver birch, led to Lairg and lunch.

To competitors in the "Six Days," Scotland is all hills, and only a few of the most severe are "observed." In the top picture Capt. R. H. Hay-Hill (6 A.J.S. sc.) is seen on the "Bridge of Brown," and the bottom one depicts Mrs. Knowles (3½ Norton) and J. A. Hilger (5-6 Rover) on Cockbridge Ladder. These hills were two of the three "observed" tests on the first day of the trial. The centre picture shows T. S. Sharratt (Indian Scout) at Tomintoul.

Rain was now falling really heavily, and we could not help admiring the plucky performance of Mrs. Duncan Bell as we passed her piloting her A.J.S. sidecar over the flooded roads. After lunch came the test of the day, for the road to Altnaharra was a mass of loose stones and parallel ruts, which made steering a tricky job, especially for solo riders.

Many falls were experienced in this and the following section, some riders falling several times within forty miles of the lunch stop. Mrs. Knowles was seriously delayed with water in the magneto, and pluckily "blinded" to make up time over the villainous roads. In spite of an average which made many old hands shudder, it was impossible to save the situation, and she lost over an hour. Real hard luck!

From Altnaharra came an easy three track road round Loch Naver, but the road deteriorated near the Naver river, and became patched with loose gravel, which caused many spills. D. Wright, jun. (4 Blackburne), burst a tyre and had a nasty fall, causing his retirement, and several others fell, fortunately without serious damage. The last few miles to the check at Betty Hill were in good condition, and finished with a long easy climb to the village.

Nearing John-o'-Groat's.

Here competitors had their first glimpse of the North coast and the open sea. We were informed at the check that the subsequent roads to Thurso were good and hard. Hard, certainly! but good (?) not until the last ten miles. Nevertheless, after the fearful gruelling of the first forty miles from Lairg they were perfection, and none but those who have tried to average 20 m.p.h. over this awful stretch, with blinding rain against them, can imagine the severity of the trip.

From Thurso to John-o-Groat's is a twenty-mile run of fairly plain sailing, and at the latter spot the competitors were split up into two parties. From No. 1 to No. 50 returned to Thurso, while the remainder carried on to Wick.

NOTES.

An echo of the first day is worth quoting. A. Alexander (not A. H.) (7-9 Indian) had two punctures in the first twelve miles, and retired when his rear

Scottish Trials.—

tyre collapsed for the third time. This was very disheartening for a newcomer to competition riding, and we hope it will not influence a sporting competitor against future trials.

The streets of Thurso were strewn with nails, a foul trick which the police assisted in remedying to the best of their ability, and were sportingly helped by the Provost of the town.

A. J. Sproston (3½ Lea-Francis) broke his driving chain twice before lunch and twice more afterwards. He has also had trouble with his carrier, but finished well.

H. F. Barge (Morgan) retired with wheel trouble at Betty Hill.

Capt. Hay Wilf (A.J.S. sc.) had his sidecar off and was tinkering his machine just before Dingwall.

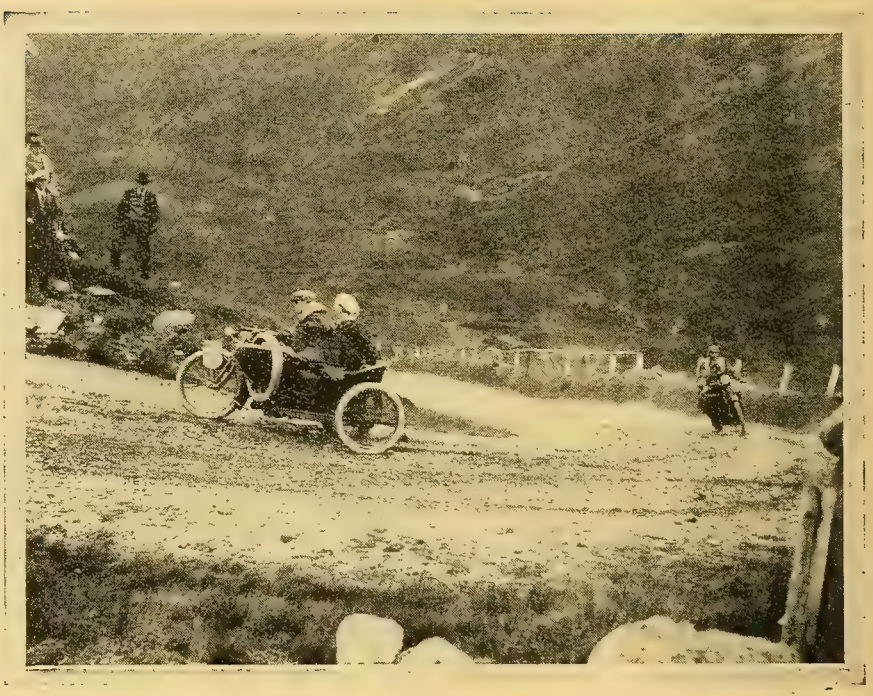
THIRD DAY.

No Observed Hills.
Total Distance 139 Miles.

INVERNESS, WEDNESDAY.

Bright sunshine, a short journey, and grand scenery combined to make the third day a comparatively easy one. The start took place at nine o'clock instead of eight, as on the two previous days, and on leaving Thurso an excellent road across the moors led to Latherton (the first check) and the coast. From this point a good road followed the coast line to Golspie, a distance of thirty-five miles.

One result of the good roads was that almost everyone arrived very early at the first check, though H. E. Fairley (3 A.B.C.) was delayed by tyre trouble, and the Rev. Philpott (2¾ Wilkin-Blackburne) was very late in starting owing to the fact that he ran out of petrol yesterday, and was forced to use paraffin, with the consequence that his carburetter was foul.



Rex Mundy piloting a Reading-Standard sidecar round the bend on the Spitall of Glenshee. An A.B.C. rider, E. E. Palmer, will be observed taking the bend on the outside.

The sporting spirit with which the trial is run was admirably exemplified at the Latherton check by one of the officials calling out the official time every minute, so that the waiting competitors might run in dead on time. The winding coast road afforded a wonderful view of the sea, with Tarbat Ness and the distant coast of Elgin in Banff on one side and of moor and mountain on the other.

Halfway between Latherton and Helmsdale lies Berriedale and the only steep hill of the day; the surface, however, was excellent, and many accomplished the climb on top gear. The second check was at Brora, and H. E. Fairley barely got in to time after mending his tyre. Tom Peck (3½ Ariel) retired in this section owing to a fractured piston when making up time after a puncture. The roads had been so good that a section of villainous timber-hauled road near Mound Station came as a shock, and for a hundred yards or so, many solo riders preferred to push their mounts rather than risk tyre trouble

A three-wheeler new to the big trials—the Merrall-Brown—near Dingwall.

Scottish Trials.—

A very long but gentle rise followed to Lairg, where lunch was again taken at the excellent Lairg Hotel. Thereafter yesterday morning's route was followed in the reverse direction, except that the Abriachan sector was cut out and the main Inverness road followed.

The scenery between Lairg and Evanton is indescribably beautiful, the moors after Bonar Bridge are in their summer coat of brown, since it is too early for the ling to be in bloom. Nevertheless, the sombre colours are relieved by the fresh greens of young bracken and hillside springs and patches of purple bell heather.

A few drops of rain fell near Evanton, but not enough to lay the dust, which was already beginning to rise in spite of yesterday's downpour. Dingwall, Muir of Ord, Beauly, and so home to Inverness, and everyone was glad of the easy run after yesterday's gruelling.

At the control, competitors were allowed time to change tyres, and some twenty took advantage of the opportunity. Tyre trouble has been the bugbear of the trial, Campbell McGregor has lost time through this cause to-day, and G. W. Lush (3 A.B.C. sc.) came in with his rear tyre in ribands.

Yesterday's run weeded out many competitors through falls and tyre troubles, and only half the trade teams are left with clean records.

Damaged footrests are common everywhere, and Hugh Gibson has been forced to spend much time fixing up his footrests with an elaborate rigging of copper wire. When he lays himself out to make up time for this purpose it is wonderful how the little Clyno covers the ground. Speed, it must be confessed, is rather a feature of the trial, and it is remarkably hard to pick up even one or two places if one's position is once lost.

A word must be said here for the wonderful organisation and the pleasant manner in which all the officials perform their many duties. Everything has run like clockwork, and there has been a wonderful absence of grumbles.

A Well-marked Route.

The method of marking the roads with powder is a distinct success, and though one or two went astray near Thurso this morning, the corner was easy to miss.

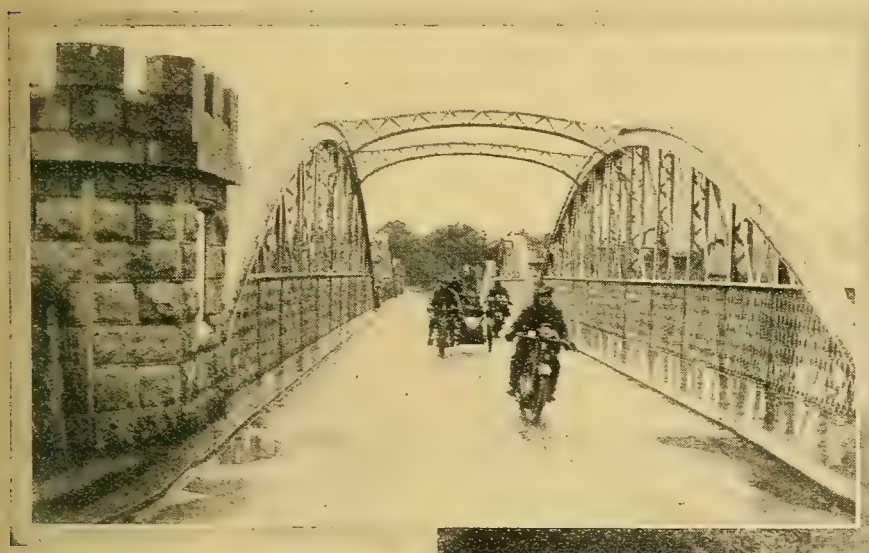
A complete list of marks lost yesterday was not available till this evening, since there was no telephone between Wick and Thurso. Each half list was, however, posted in the respective official hotels, though many of the tired riders went to bed early without bothering to find out their official gate.

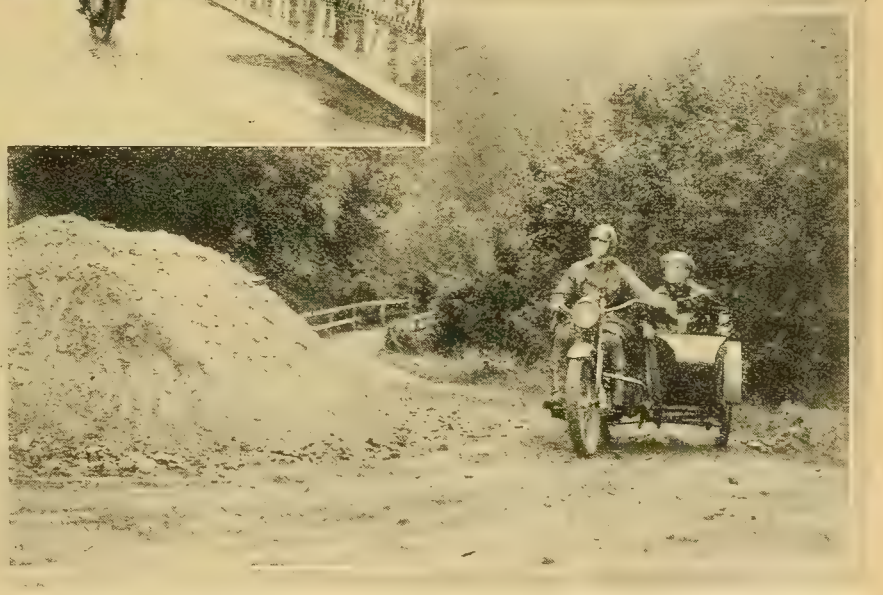
Who was the sportsman who several times stopped to borrow hairpins from the native damsels in order to keep a valve rocker in place?

Campbell McGregor's luck as regards tyre trouble threatened to rival that of Claude Duncan last year. Five punctures per day is about his average, but he is still in for a possible silver. Keen rivalry exists between the ex-secretary and Carfrae, the former on a Brough and the latter on a Triumph, for the single-gear award.

Caithness truly gives the impression of a foreign land. The man from the South cannot help but be struck by the peculiarity of the huge stone slabs, placed on edge, to function as walls. This is a land of great distances, and to the south lie the Highlands in blue and rugged ridges.

The natives of this land seem to have an understanding with their animals. One sees horses confined to their paddocks by the stone slab fences no higher than their knees, apparently making no attempt to escape into the next door neighbour's mustard patch; such equine conscientiousness really must be peculiar to Caithness.





AT BONAR BRIDGE.

(Top) Competitors crossing the Kyle o Sutherland at Bonar Bridge, between Evanton and Lairg.

(Bottom) D. M. Hamilton (Harley-Davidson) taking the S bend on Abriachan Hill, nine miles from Inverness.

NOTES.

The Rev. Philpott had a run of real bad luck yesterday. After a series of minor mishaps he fell into a ditch while making up time. So deeply was his machine embedded that it required the help of two men to get it out. Subsequently, he ran out of petrol, and the only available supply of paraffin carried him within two miles of the check.

Leaving Thurso, Hutchinson (Indian sc.) and Fairley (A.B.C.) took the wrong road and went sixteen miles out of their way. They made up the time on the twenty-six-mile check.

A busy scene in the check at Latherton on Wednesday. Most of the competitors seized the opportunity of effecting minor adjustments.

One sign of the ever-increasing interest of the public in motor cycles is the attention now given to big trials by the newspapers. Many of the London dailies send representatives to report such events as the Scottish trials day by day, but these telegraphed reports are not always to be depended upon. For example one of the national daily papers gave a summary of the trial up to Wednesday night—half way through the trial—which gave the impression that fully half the competitors had retired and that only one manufacturer's team had any chance of winning the coveted team prize.

Instead of fifty per cent. retirements, the figure was only twenty per cent., while at least four teams had so far got through without loss of marks. These were the A.J.S., B.S.A. No. 1, P. and M., and Matchless teams, while the Indian trio had only one mark to its debit account.

The first three days accounted for nineteen retirements out of the ninety-four competitors who started. A further eighteen had lost marks.

FOURTH DAY.

Observed Hills—Mam Ratachan and Glendoe.

Total Distance 159¾.

THURSDAY.

A dull morning with intermittent rain. The optimists promised that the clouds would lift, and their prognostications were justified in that a moderately fine morning resulted.

The route led down the north side of Loch Ness, past the foot of Abriachan to Drumnadrochit and the Invermoriston Hotel (first check). The road was easy and the scenery superb, but the surface of the road for the last few miles was such that one was apt to pay more attention to keeping a straight course than to the view, especially as only a thin hedge separated the road from a 100 feet drop into Loch Ness.

R. Carfrae (Triumph) had the misfortune to break his fork spring in this section, but carried on after strapping up the fork.

From Invermoriston the road led through silver birches with a mountain torrent on the left, but these pretty scenes soon changed to the grander and impressive mountain scenery of Glen Cluanie.

A loose surfaced mountain road led up the glen, and the mountains at the head were shrouded in mist. Travelling through the heart of a deer forest with great hills on both sides, one's eye naturally strayed from the road in search of stags, but we were vouchsafed only a glimpse of a herd in a sheltered corrie and an attempt at a better view nearly cost us a spill.

C. P. Wood and W. L. Guy near Port Gower. These two riders have again demonstrated the wonderful steering qualities of their Scott machines on hills and rough surfaces.

Difficult Road Conditions.

C. P. Wood (3¾ Scott) fell out in this section and thus spoiled the record of the Scott teams. The descent from the top of the pass was tricky in places, as the loose shingle surface was difficult for the solo rider, while the three ruts were an awkward fit for the sidecar machines.

Next came the ascent of Mam Ratachan, a four-mile grass surfaced hill, two miles of which were observed. The climb was easy enough as far as the gradient was concerned, but half-way up the surface had been "repaired" with earth and stones.

This portion caused a lot of trouble, since the wheels sank in to a depth of six inches in places. One would have been inclined to say that the surface was unfair had not H. M. Batten (3½ P. and M.), L. Guy (3¾ Scott), and J. A. Newman (3½ Sunbeam) made absolutely clean ascents, without even moving their feet

Scottish Trials.—

from the rests. A. Downie (2¾ Wilkin) made an extremely fine climb, as also did Mrs. Bell (A.J.S. sc.), N. Black (3½ Norton), and J. S. Holroyd (8 Blackburne sc.). The Harley-Davidsons made good steady climbs, and R. E. Darnton got over the worst bit in fine form, though he had the misfortune to break a chain within a few yards of the end of the observed section.

W. Westwood (4 Triumph chain drive), who has been riding most consistently throughout, climbed excellently, but spoiled his record by bouncing into a ditch and stopping, as a result of an early change to top gear. There were many failures on this hill. A long grassy descent followed to Glenelg and lunch. Glenelg, by the way, is within a mile or two of the Isle of Skye, and many people were deceived in thinking that the adjacent mountains were part of that island.

More Rain.

After lunch the morning's route was reversed as far as Cluanie, and it was interesting to find that almost everyone considered the descent of Mam Ratachan steeper than the ascent.

At Cluanie the right hand fork was taken, and a long climb over loose metal with a corresponding descent led to a check at Tomdoun.

Rain fell steadily over this sector, and quite a lot of trouble was noticeable on the rises. Incidentally it was worth while watching H. B. Denley (8 Morgan) making up time over mountain roads; stones flew in every direction and the rear wheel seemed to cover the whole road. Alan Hill (3½ P. and M.), a most careful and steady rider, fell near Tomdoun, and J. Baker (3¾ Scott) took a nasty toss while ascending the reverse side of Mam Ratachan. Falls throughout the day were numerous, and T. S. Sharratt (Indian Scout), who is a good and steady rider, fell no fewer than three times.

From Tomdoun to Fort Augustus the road was easy, though twisty and wet, the last few miles being accomplished against a strong head wind and stinging rain.

Directly after the town came the ascent of the first part of Glendoe—a second gear climb—thence a short descent, and the final part of the hill—a short section of 1 in 3 with two nasty corners.

There were a few failures at this spot, but quite one of the best climbs was made by Mrs. Olive M. Knowles (3½ Norton). Rain now began to fall in earnest, and it was hard to see more than a few yards ahead. The roads were quickly flooded, and the next few miles over the moor were anything but pleasant.

Now came a détour to Craggie Inn, including nearly ten miles of logging road which was quite unrideable at 20 m.p.h. This is the first section which has given cause for a grumble, for it distinctly penalised the steady rider and favoured the man who "blinds." It is true that in dry weather the roads might be rideable.

NOTES.

Jesse Baker, who has not long recovered from a nervous breakdown, has suffered severely from his fall. Under the circumstances the judges allowed C. P. Wood to ride his machine for the concluding stages of the trial.

Westwood Wills (2¾ Verus) retired with water in the magneto.

Hamilton (Harley-Davidson sc.) smashed up badly after leaving Thurso. He took a right hand bend too quickly, and buckled his front wheel.

The Clyno lightweights put up some remarkable performances on the hills, hence P. W. Bischoff's happy smile!

FIFTH DAY.

Observed Hill—Kenmore.
Total Distance 190¾ Miles.

EDINBURGH, FRIDAY.

A long day, but a day of good roads. The starting time was changed from 8 to 9 o'clock, owing to arrangements for lunch, and Monday's route was followed in a reverse direction as far as Carrbridge. Thence to the second check at Newtonmore all over main roads.

There was but little incident thus far, except that the Merrall Brown shed a fan and damaged the radiator, and the majority had time in hand at the check. Near Struan, however, on the moorland road, E. Palmer (3 A.B.C.) retired with a broken camshaft.

A fearful rainstorm broke in the Grampians, and in five minutes the road became a torrent. One or two competitors took shelter under a bridge, but the majority preferred to have plenty of time in hand, especially as the Dalnacardoch check was only a comparatively short journey ahead.

Close to the bridge just mentioned, T. Morton (4 Blackburne) ran into a Ford, and was forced to retire; an unfortunate accident for which the blinding rain was partly responsible. Between Dalnacardoch and Pitlochry, R. E. Darnton (7-9 Indian), who had been riding very regularly, lost his chance of a gold medal by suffering tyre trouble; even after a repair the tyre went down in four miles, and he checked in three minutes late.

The Rev. J. M. Phipott, who had been struggling gamely against a host of minor troubles, was forced to retire at the lunch stop, since his carrier and mudguard carried away and fell backwards on to the road. He finished the last five miles holding the carrier in position with one hand, but gave up at Pitlochry. A most excellent lunch was served at the magnificent hydro, the liquid refreshments being arranged by the officials of the Edinburgh club.

After lunch Darnton was again unlucky, for, being short of petrol, he was directed to Aberfeldy as the nearest place where replenishments could be obtained. This led him seven miles off the course, and, in spite of a wonderful effort to regain time, he checked in late at the top of Kenmore.

Two miles of wet and deeply rutted roads led to Kenmore village, immediately after which comes the famous hill. Rising from Loch Tay, the narrow road climbs sharply for over four miles, and includes four hairpin bends. The bottom section was badly cut up, and very soft, but the upper corners were fairly hard, though rough and stony.

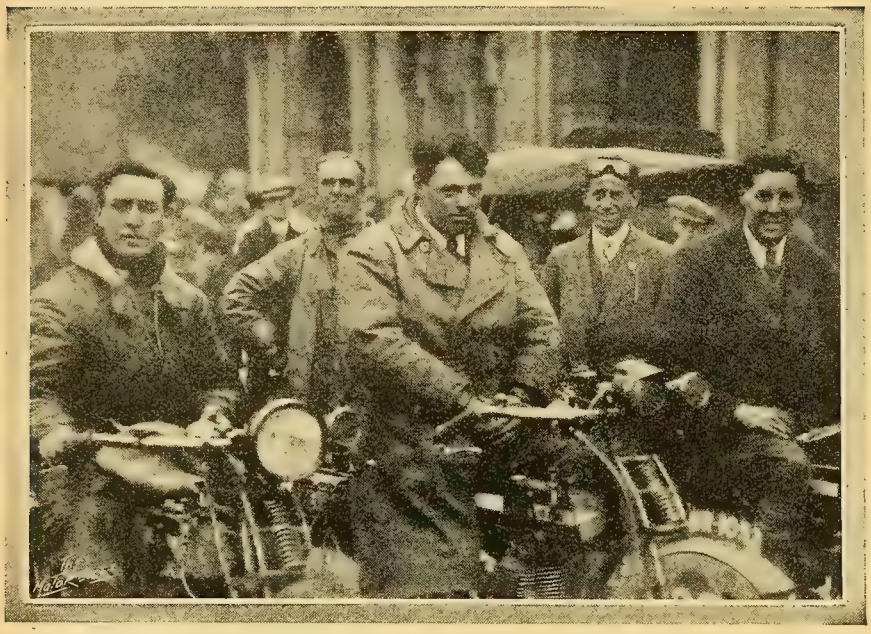
The Difficult Ascent of Kenmore.

Amongst the nine failures were Robert Carfrae (4 Triumph single-gear), who made a plucky attempt, and Alan Hill (3½ P. and M.), who was severely handicapped by the fact that yesterday's fall had damaged his leg to such an extent that he was unable to use it to steady himself. T. S. Sharratt (Indian Scout), H. F. Mase (3 A.B.C.), J. R. Fellows (3½ James), J. S. Holroyd (8 Blackburne sc.), J. Shepherd (8 Campion sc.), G. W. Lush (3 A.B.C. sc.), and S. Hubbard (2¾ H.B.), also failed to make clean ascents. Exceptionally good climbs were made by H. R. Davies (6 A.J.S sc.), Mrs. Bell (6 A.J.S. sc.), Olive M. Knowles (3½ Norton), and J. A. Newman (3½ Sunbeam). D. H. Noble and J. A. Hilgar were riding their 5 Rovers very well and steadily, and their performances were again good. Except for Alan Hill's unlucky failure, the new P. and M.'s are showing up well on hills and and rough surfaces, and all the Sunbeams climbed well.

C. P. Wood, riding Jesse Baker's Scott, was baulked, and had to cut the second corner very closely, but he got up, with one dig to steady himself. H. B. Denley's Morgan climbed well. This machine runs very nicely, and will tick over very quietly, besides developing plenty of power. The Merrall Brown was the only other three-wheeler left, and made a clean ascent, though nearly turned over in descending Amulree.

The drop down Amulree was followed by good roads until nearing Gilmerton, where the surface was greasy and full of pot-holes. At Crieff, one and a quarter mile further on, another cloud burst overtook the competitors. So heavy was the rain that it was impossible to see more than a few yards ahead, but the storm was purely local, and within a few miles the roads were quite dry again.

After lunch, and provided, of course, that competitors were up to time, the checkers were lenient as regards the times



The winning team: L. L. Sealey, F. Turvey, jun., and H. F. Edwards, on their B.S.A. machines. They thus repeat their performance in the 1919 English Six Days.

of departure, and at the Stirling check many spent their spare time in plastering their magnetos with grease in preparation for the watersplashes on to-morrow's course.

After Stirling one leaves Highland scenery and the remainder of the run to Edinburgh is rather dull, and the miles seem unduly long. Neither Falkirk nor Linlithgow is impressive, and the excellent roads between were the saving grace.

Owing to the late start and the great distance covered, the first man was not due in Edinburgh till about 7.30, and consequently the day's results were late in posting.

SIXTH DAY.

Observed Hills—Talla Linn, Redstone Rig, Elmscleuch.

Total Distance 155½ Miles.

EDINBURGH, SATURDAY.

There has been much discussion about the severity of this day's run, but in actual practice there can be no complaints, since it proved to be less arduous than some previous days. True, there were two sections which required skilful driving and which were apt to penalise a mistake rather severely, but the remainder of the route was on the easy side.

Unfortunately, the club has been unlucky this day, and the route marking Ford broke a stub axle, with the result that parts of the road were badly marked and the Haddington check was altogether missing owing to the fact that the second official car, which went to the aid of the first, developed a series of minor faults which delayed it considerably.

Before twenty miles of the run had been covered rain began to fall steadily, but a strong wind arose which dispersed the clouds, and only intermittent showers were experienced after the thirtieth mile.

The first hill—Talla Linn—is a fine straightforward climb of considerable length and gradient, but was responsible for one failure only, S. Hubbard (2¾ H.B.) being the unlucky rider; though G. Shaw (4 Norton) had rear wheel trouble near the hill. The Ariels and P. and M.'s climbed steadily, but there were no very outstanding performances.

Next came a run of moorland tracks with a few watersplashes which, curiously enough, were responsible for considerable tyre trouble. J. A. Dias (3½ P. and M.) punctured, but checked in to time; T. Rutherford had similar trouble but was less fortunate; and R. Fellowes (4 Triumph) came into the lunch control at Innerleithen with a flat tyre. M. Brown (Merrall Brown) had trouble in a splash and nearly collided with a sidecar, but continued all right.

The next section provided good going, and, with the exception of the effects of a strong head wind, but little incident.

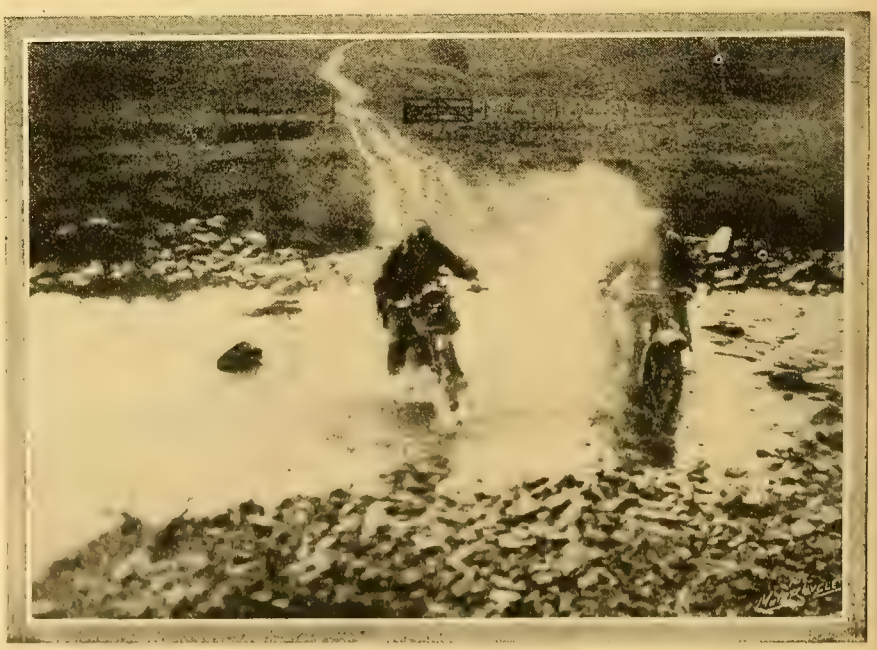
At Gifford, some competitors arrived before the checker, who turned up, however, in time to send them off to tackle Redstone Rig a few miles further on. This is an easy hill, and the only failure was that of R. E. Darnton (7-9 Indian), who was making a fast ascent when his engine gave out owing to carburetter trouble.

Tricky roads followed, and after a time all signs of route marking gave out. A few of the early numbers went astray, but soon regained the road, and the remainder were able to follow their tracks. Narrow, greasy roads, with occasional watersplashes and many corners, made time-keeping none too easy.

Grass and Watersplashes.

Directly after the check at Elmscleuch came the ascent of Elmscleuch Hill, a long, but simple climb, insufficiently steep to cause trouble. Then followed a grassy track and a few watersplashes, and an unobserved hill of some severity, starting with a splash at the bottom. This hill is known as Crickness, and though short has a steep, loose surface with a left-hand hairpin. Then followed a descent past Agnes Farm to the deepest splash of the day; but, in spite of wild rumours beforehand, it proved quite rideable, being about 20ft. wide and perhaps a little over a foot deep.

H. M. Batten (3½ P. and M.), after a wonderfully regular performance and steady climbing, nearly lost his gold medal at Elmsleuch owing to chain trouble. W. Chambers (3½ B.S.A.) had ignition trouble near the same spot. Both, however,



This is what competitors had to contend with on the last day. R. Fellowes (Triumph) and A. Downie (Wilkin) negotiating the rock-bottomed stream at St. Agnes Farm.

Scottish Trials.—

succeeded in evading penalty. N. Black (3½ Norton) retired with a damaged gear box on Elmscleuch Hill—a piece of bad luck after his consistent performance on all the preceding days.

Near St. Agnes Farm G. W. Lush (3 A.B.C. sc) broke a fork, and retired.

After the big watersplash the roads improved, and Snout Hill proved an easy climb.

Following the descent of Redstone Rig a very twisty and greasy course was followed. This sector included two hills at least as bad as the observed hills and two really severe hairpins. Had there been a check at Haddington, as intended, it is quite possible that a few more gold medals would have been lost on this part of the course.

Competitors entered Haddington by more than one route owing to the failure of the arrowing, and, in the absence of the checkers, carried on to Edinburgh over moderately decent roads.

Mrs. Bell, who has driven her A.J.S. and sc. most pluckily throughout, had engine trouble within a mile of the finish, a piece of almost inconceivably bad luck. She was towed in by H. R. Davies on a similar outfit and finished to time. H. M. Batten finished with a flat tyre, and in spite of a broken fork spring Robert Carfrae brought his single-geared Triumph safely home. He was the only one of his class to finish and put up an extraordinarily fine performance

NOTES.

Hugh Gibson finished with a clean sheet, a wonderful performance for so small a machine as the 2½ Clyno, especially after a nasty fall on the Spittal of Glenshee. On the last day his gear lever broke, but he continued the journey holding the gear control in position with one hand.

The Edinburgh and District Motor Club, Ltd., are to be heartily congratulated on the success of a very sporting trial. The failure of the route marking car and its relief on the last day was the only hitch, and nobody was more grieved over this failure than the club officials themselves.

The officials have decided to disqualify Mrs. Bell—presumably on the ground that her machine did not finish in running condition. Strictly speaking this is probably a correct decision, though our sympathies go out to Mrs. Bell, who put up a most plucky performance and completed the course to within a mile of the finish.

A lady's gold watch was found at the Royal George Hotel, Perth. The owner may recover her property by applying to the Edinburgh and District Motor Club, Ltd., 6, Castle Street, Edinburgh.

Not the least fascinating part of the Scottish Six Days is that it embraces some of the most magnificent scenery in the British Isles. Norman Black (Norton) near King.

Provisional Results of the Scottish Trials.

94 Starters. 26 Gold (including six sidecars), 18 Silver, and 9 Bronze Medals. 4 Retired Monday, 14 on Tuesday, 2 on Wednesday, 7 on Thursday, 9 on Friday, and 3 on Saturday—Total 39.

A.B.C.
H. E. Fairley. *Gold.*
H. F. Mase (2 on time, 2 on hills). *Silver.*
E. E. Palmer. *Retired.*
Eric Porter. *Retired.*
G. W. Lush (sc.). *Retired.*

A.J.S.
H. R. Davies. *Gold.*
E. W. Choldcroft (18 on time, 1 on hills). *Silver.*
R. H. Hay-Will. *Retired.*
A. F. Downie. *Retired.*
Mrs. Duncan Bell. *Disqualified.*

ARIEL.
J. L. Stocks. *Gold.*
L. Newey. *Gold.*
T. Peck. *Retired.*

B.S.A.
L. L. Sealey. *Gold.*
H. F. Edwards. *Gold.*
F. Turvey, jun. *Gold.*
J. Steel. *Gold.*
W. J. Chambers (1 on hill). *Silver.*
W. Buchanan (1 on hill). *Silver.*
W. Edwards (1 on hill). *Silver.*

BEARDMORE-PRECISION.
A. G. Cocks (75 on time, 1 on hill). *Bronze.*
O. P. C. Collier. *Retired.*

BROUGH.
Campbell McGregor. *Retired.*

BLACKBURNE.
J. S. Holroyd (1 on hill). *Silver.*
J. W. Morton. *Retired.*
D. Wright, jun. *Retired.*

COULSON-B.
R. B. Clark. *Gold.*

CLYNO.
*Hugh Gibson. *Gold.*
A. F. Knight. *Gold.*
C. V. Freeman (185 on time). *Bronze.*
P. W. Bischoff (185 on time, 1 on hill). *Bronze.*
* Special lightweight prize.

CAMPION.
J. Shepherd. *Retired.*

CALTHORPE.
A. Mc. L. Lowe. *Retired.*

CAN'OPIT.
J. Joynson. *Retired.*

DOUGLAS.
E. Hawkes (132 on time, 1 on hill). *Bronze.*
A. B. Fairley. *Retired.*

HARLEY-DAVIDSON.
R. S. Macrae. *Gold.*
G. Grinton. *Gold.*
D. M. Hamilton. *Retired.*
C. H. Moir. *Retired.*
H. S. Dawson. *Retired.*

H.B.
S. Hubbard (4 on hill). *Bronze.*

INDIAN.
E. A. Colliver. *Gold.*
R. E. Darnton (42 on time, 1 on hill). *Silver.*
T. S. Sharratt (2 on hill). *Silver.*
F. J. Hutchison. *Retired.*
A. Alexander. *Retired.*

JAMES.
J. R. Fellows (22 on time, 1 on hill). *Silver.*

LEA-FRANCIS.
A. J. Sproston (55 on time). *Silver.*

MORGAN.
H. B. Denley. *Gold.*
H. F. Barge. *Retired.*

MATCHLESS.
D. S. Milne. *Gold.*
H. Alexander (7 on time, 1 on hill). *Silver.*
G. Packman. *Retired.*

MERRALL-BROWN.
M. Brown (119 on time). *Bronze.*

NEW IMPERIAL.
J. Beck. *Retired.*
Lt. Lochead. *Retired.*

NORTON.
R. M. Knowles. *Gold.*
C. Gruthrie. *Gold.*
G. V. Shaw (64 on time). *Bronze.*
Olive M. Knowles. *Retired.*
W. McLelland, jun. *Retired.*
N. Black. *Retired.*

P. AND M.
H. Mortimer Batten. *Gold.*
J. A. Dias. *Gold.*
B. Alan Hill (12 on time, 1 on hill). *Silver.*
J. G. Goodenough. *Retired.*

RICHARDSON LIGHT CAR.
R. G. McEwan. *Retired.*

READING STANDARD.
R. G. Mundy. *Retired.*

RUDGE.
H. S. Wells. *Retired.*

ROVER.
D. H. Noble. *Gold.*
T. Morton. *Gold.*
J. A. Hilgar (1 on hill). *Silver.*
A. J. C. Lindsay (91 on hill). *Bronze.*

SCOTT.
Leslie Guy. *Gold.*
C. P. Wood. *Retired.*
*Jesse Baker. *Retired.*
* Machine finished piloted by C. P. Wood.

SUNBEAM.
J. A. Newman. *Gold.*
G. Cumming. *Gold.*
T. Rutherford (7 on time). *Silver.*
J. A. C. Sangster (1 on hill). *Silver.*
P. W. White (9 on time, 1 on hill). *Silver.*
C. G. Dickinson. *Retired.*
G. G. Barnard. *Retired.*

TRIUMPH.
W. Westwood (1 on hill). *Silver.*
R. Fellows (2 on time, 2 on hills). *Silver.*
*R. Carfrae (5 on hills). *Bronze.*
C. F. Plowman. *Retired.*
* Single gear award.

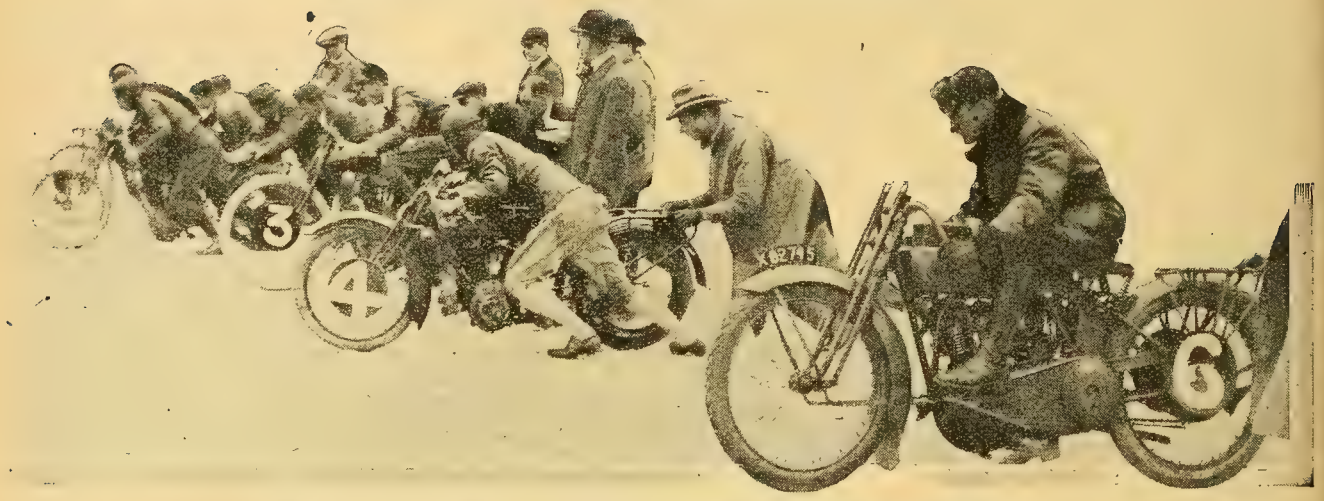
VERUS.
J. Westwood Wills. *Retired.*

WILKIN.
A. L. Downie. *Gold.*
Rev. J. M. Philpott. *Retired.*

WOLF.
B. Gold. *Retired.*

ZENITH.
W. Ramsey. *Retired.*

Club-men on Brooklands.



THE SEVENTH ANNUAL M.C.C. RACE MEETING.

A FAIR attendance, good racing, and indifferent weather were the chief features at the first race meeting held by the Motor Cycling Club at Brooklands since the war on Saturday last. Naturally, the weather affected the gate, but the rain, though trying at times, was not bad enough to spoil the racing.

The first event was the handicap race for motor cycles with engines not exceeding 350 c.c. Distance three laps. The start was at the paddock, the competitors passed the fork twice, and finished at the straight on the long finishing line.

Among the entrants was a scooter, but it did not materialise. Jacob's Singer was eight years old, but, apparently, not in its usual form, as it failed during the race, having lost all its compression.

The 350 c.c. Handicap.

E. B. Ware got away particularly well, making a fine start with his clutch. F. W. Applebee (Levis), despite his years, was very active in leaping on to the saddle, and, as usual, made a fine performance.

The first lap order was Applebee (Levis), F. Thorpe (Douglas), J. F. Hull (Wooler), S. E. Longman (Wooler), L. A. Baddeley (Douglas), J. S. Bennett (Metro-Tyler), A. H. Ilsley (Matchless), E. B. Ware (N.U.T.-J.A.P.), and A. C. Robbins (Wooler).

In the second lap Applebee and Thorpe were running a close race, while Hull came after, followed by Longman, Baddeley, and Robbins some distance after. Result :

	Bore and Stroke.	Start. m. s.
1. A. H. Ilsley (Matchless M.A.G., 2-cyl.)	54 × 75	—
2. F. W. Applebee (Levis, 1-cyl.)	67 × 70	1 39
3. F. Thorpe (Douglas, 2-cyl.)	60.5 × 60	1 12

The first three finished close together, and, after an interval came :

J. F. Hull (Wooler, 2-cyl.)	60.5 × 61	1 27
L. B. Ware (N.U.T.-J.A.P., 2-cyl.)	60 × 61	

Time, 2m. 12⅘s. Winner's speed, 65¼ m.p.h.

Many complimentary remarks were heard on all sides concerning Mr. Ebblewhite's handicapping in this race.

The second race was the 2.50 p.m. handicap motor cycle race for motor cycles with engines exceeding 350 c.c., and not exceeding 560 c.c. Distance three laps.

In the first lap the limit man, Longman (Ariel), maintained his lead by a considerable distance. Then followed Harveyson (Indian), Kaye Don (Norton), and Emerson (A.B.C.) in the act of passing C. R. Collier (Matchless). In the second lap Don was leading, followed by Emerson, Harveyson, and Collier. Result :

	Bore and Stroke.	Start. m. s.
1. R. Kaye Don (Norton, 1-cyl.)	79 × 100	9
2. J. L. E. Emerson (A.B.C., 2-cyl.)	68.5 × 54	—
3. C. R. Collier (Matchless M.A.G., 2-cyl.)	64 × 77	9
H. R. Harveyson (Indian, 2-cyl.)	68.2 × 67.8	21

Time, 7m. 22s. Winner's speed, 67¼ m.p.h.

R. Kaye Don, who won the handicap race for machines over 350 c.c. and under 560 c.c. on a 3½ h.p. Norton. His speed was 67¼ m.p.h.

The third race was the 2.50 p.m. handicap motor cycle race for motor cycles with engines exceeding 560 c.c., and not exceeding 1,000 c.c. Distance three laps. The most surprising feature of this race was the speed of Gayford's Zenith. He was leading easily in the first lap, followed by Temple (Harley-Davidson), S. Garrett (Indian), V. Olsson (Indian), and McBirnie (Indian). In the second lap Gayford was still leading and increasing his lead, which Garrett and Olsson followed. At the finish Gayford won literally by miles. Result :

	Bore and Stroke.	Start. m. s.
1. V. Gayford (Zenith, 2-cyl.)	76 × 82	1 27
2. S. Garrett (Indian, 2-cyl.)	79 × 100	21
3. V. Olsson (Indian, 2-cyl.)	79 × 100	21

Time, 7m. 59s.

The fourth race was the 3.20 p.m. scratch race for motor cycles with engines not exceeding 350 c.c. Distance two laps. First prize "Arbuthnot" Cup, to be won outright. The chief item of interest in this race was Axford's A.J.S., which was one of the I.O.M. machines which he brought easily to victory by about a mile. C. R. Collier made a bad start, but Ware, as before, got away well. Result :

	Bore and Stroke.
1. S. R. Axford (A.J.S., 1-cyl.)	74 × 81
2. E. B. Ware (N.U.T.-J.A.P., 2-cyl.)	60 × 61
3. F. Thorpe (Douglas, 2-cyl.)	60 × 60

Time, 5m. 55⅘s. Winner's speed, 58½ m.p.h.

A Fine Scratch Race.

The fifth race was the 3.40 p.m. scratch race for any type of motor cycle with engine not exceeding 560 c.c. Distance three laps. The feature in this race was Emerson's performance. His A.B.C. machine was practically standard save for a few details. He made a wonderfully good start, and finished first by three-quarters of a mile in neutral with the engine stopped. The order at the end of the first lap was Emerson leading easily, Colver (Matchless), Axford (A.J.S.), Thompson (A.B.C.), and Don (Norton); at the end of the second lap, Emerson had increased his lead, and was followed by Don and Axford. Result :

J. A. Masters (Harley-Davidson), second in the three lap sidecar race.

	Bore and Stroke.
1. J. Emerson (A.B.C., 2-cyl.)	68.5 × 54
2. Kaye Don (Norton, 1-cyl.)	79 × 100
3. S. R. Axford (A.J.S., 1-cyl.)	74 × 81

Time, 7m. 20⅘s. Winner's speed, 67¾ m.h.p.

The sixth race was the 4 p.m. scratch race for any type of motor cycle with engine exceeding 560 c.c. but not over 1,000 c.c. Distance three laps. First prize "O. C. Godfrey Cup."

Harveyson (Indian) shot ahead at the outset and rapidly increased his lead, he looked like winning by miles, but in the last lap his front tyre came off, Result:

	Bore and Stroke.
1. S. Garrett (Indian, 2-cyl.)	82.5 × 93
2. C. F. Temple (Harley-Davidson, 2-cyl.)	84.1 × 88.9
3. V. Gayford (Zenith, 2-cyl.)	76 × 82

Time, 7m. 25s. Winner's time, 67½ m.p.h.

The seventh race was the 4.30 p.m. handicap sidecar race for any single cylinder motor cycle with sidecar, stripped or otherwise. Distance two laps.

The first, second and third men came in at short intervals, with the fourth man arriving late. Result:

	Bore and Stroke.	Start. m. s.
1. P. G. Kennedy (Rudge 1-cyl.)	85 × 88	1 36
2. F. A. Longman (Ariel, 1-cyl.)	86.4 × 85	1 48
3. Capt. M. C. Breese (Triumph, 1-cyl.)	85 × 88	1 2
F. Savage (Triumph, 1-cyl.)	85 × 97	1 28

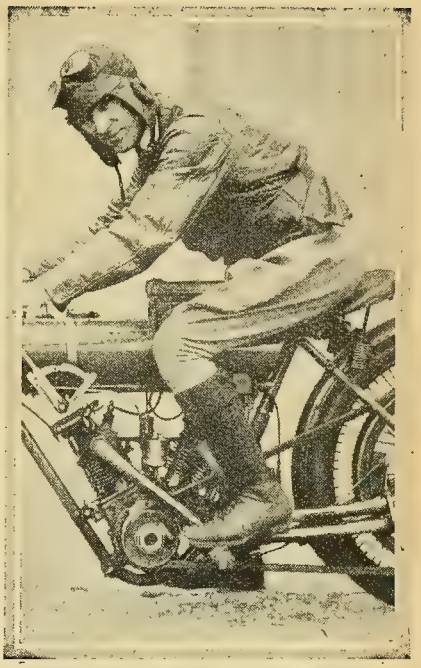
Time, 7m. 51⅕s. Winner's speed, 43 m.p.h.

The 4.50 p.m. handicap sidecar race for motor cycles with sidecars, stripped or otherwise, brought out the big twins. Distance, three laps. First prize, "The Captain's Cup," presented by Mr. W. H. Wells. Fork start, pass fork twice, and finish in straight at the short line. Crossthwaite (James), the limit man, astonished the spectators by his speed at the outset, as he was rounding the bend near the fork when the scratch man (Harveyson) started, but he was not a survivor. Result:

	Bore and Stroke.	Start. m. s.
1. J. Chater-Lea (Chater-Lea, 2-cyl.)	86.5 × 85	1 9
2. J. A. Masters (Harley-Davidson, 2-cyl.)	84.1 × 88.9	1 9
3. S. E. Longman (Harley-Davidson, 2-cyl.)	84.1 × 88.9	1 24
R. Deguin (Zenith, 2-cyl.)	76 × 82	1 36
F. J. Watson (Ariel, 2-cyl.)	67 × 95	2 12
V. Olsson (Indian, 2-cyl.)	79 × 100	1 9
M. H. Selby (Harley-Davidson, 2-cyl.)	84.1 × 88.9	1 24
H. R. Harveyson (Indian, 2-cyl.)	82.5 × 93	—

Time, 10m. 50⅕s. Winner's speed, 46 m.p.h.

The ninth event was the handicap light car race won by R. C. Empson (two-cylinder A.V., 85.5 × 85 mm.). 33s. start. Time, 10m. 29⅖s. Speed, 48¼ m.p.h.



A. H. Ilsley, riding a 2¾ h.p. Matchless fitted with M.A.G. engine, won the race for machines under 350 c.c. His speed was 65¾ m.p.h.

The final motor cycle event was the club championship for the "Harry Smith" gold challenge cup. Open to successful competitors in the first three events. Distance, ten laps. It was an excellent race, the first three men finishing within 16s. Results:

	Bore and Stroke.
1. Kaye Don (Norton, 1-cyl.)	79 × 100
2. J. Emerson (A.B.C., 2-cyl.)	68.5 × 54
3. J. F. Hall (Wooler, 2-cyl.)	0.5 × 60

Time, 36m. 17s. Winner's speed, 60.18 m.p.h.

Mrs. Bell (A.J.S. sc.), near Dalwhinnie, in the Scottish Trials. After a sporting ride, Mrs. Bell unfortunately failed within a mile of the finish

CURRENT CHAT (Continued from p. 70)

Police Activity.

A correspondent informs us that the police are very active in Conway and Penmaenmawr, in North Wales. He speaks very well of the behaviour of the police in Llanfairfechan and Bangor.

A Stolen Triumph.

Readers are warned against purchasing a second-hand countershaft Triumph bearing the following numbers: frame, 285326; engine, 57868; magneto, M-L 24775. This machine was stolen from Army Headquarters, Aldershot.

The Proposed French Sidecar Tax.

Our French friends are very much exercised concerning the proposed law which, if passed, will entail owners of sidecar machines paying the same tax as motor car owners. The idea is to tax the sidecar according to horse power. There is, of course, the chance that the law may be read to understand that the sidecar outfit is a motor cycle paying 12 frs. a year. On the other hand, there is a danger that the sidecar outfit may be accounted a motor car. If this is the case, a 5-6 h.p. sidecar outfit will have to pay a tax equivalent to about £11 10s.

The law has actually passed through the Chamber of Deputies and the Senate, and, unless arrested, will go into effect next year. There is just one ray of hope. Before being finally accepted, the general Budget proposals will come before Parliament, and an effort will then be made to rectify this extraordinary and unjust piece of legislation. If this effort fails, it is certain that the sidecar will disappear from the roads of France, and an industry which is on the point of bursting into activity will be killed. Instead of increasing the revenue, the State will therefore be the loser.

The underlying thought in this measure appears to have been that cycle cars in France are taxed as cars, and that the same treatment should be meted out to sidecars.

Imports and Exports.

Imports of motor cycles each month remain at a fairly consistent level, though June figures show a slight increase on the previous month.

IMPORTS FOR JUNE.

	1913.	1919.	1920.
Number of machines	243	6	254
Value of machines and accessories ...	£22,066	£4,499	£29,418

BRITISH EXPORTS.

Exports of motor cycles, like the imports are not varying much from month to month. There is a very slight decrease to record, as against May's exportation.

EXPORTS FOR JUNE.

	1913.	1919.	1920.
Number of machines	1,419	678	1,405
Value of machines and accessories ...	£80,938	£66,959	£154,586

The total value of motor cycle and accessory exports for the last six months amounted to £852,523 compared with £468,758 in 1913. Considering the extraordinary demand of the home market during this year, the figures would show that our manufacturers have not been neglecting the overseas market to the degree that some critics have asserted.

A One Day Trial in Lakeland.

What promises to be a very sporting event will be held on Saturday next, in the northern portion of the Lake District. This is the open one-day reliability run organised by the Cumberland County M.C.C., for which an entry of sixty-one has already been obtained.

As one of the twenty "supported" events many prominent riders are competing, including G. Dance, T. C. de la Hay, and E. Williams, on Sunbeam machines. There are many valuable awards, including the Alan Trophy for best individual performance and the Cumberland County Trophy, the Carr Cup, and the Barron Trophy, for best performances in the solo, light car, and passenger machine classes respectively.

International Six Days.

Competitors for the French International Six Days Trial number twenty-three riders. This event is the French equivalent to the Scottish Six Days.

British entries are exceedingly few, which may be due to the Paris-Nice fiasco. The following are the names of the solo entrants: Sermens (Giller), B. Gold (Wolf), Alfter (Condor), H. Naas (A.B.C.), Detruche (A.B.C.), Yenné (A.B.C.), Duverue (Rudge-Multi), Mahieu (Rudge-Multi), Gabriel (Triumph), Belli (Magnat-Debon), André (Motosacoche), P. Gonnell (Motosacoche), Pinney (Triumph), Bernard (Indian), H. P. Lucas (Zenith).

SIDECARS.—A. Gallien (Benoit-Gonin), E. Gex (Motosacoche), S. Barron (Harley-Davidson), and — Sandford (Morgan). There are also three Scotts and one Triumph entered, the riders of which have not yet been nominated.

The following is the French team entered for the "Concours International de Tourisme": H. Naas (solo A.B.C.), Gabriel (solo Triumph), and A. Gallien (Benoit-Gonin sc.).

Route Marking.

Aniline dye will be used to mark the routes for the A.C.U. Six Days trial in August.

A Club Rally.

Secretaries of London clubs are reminded of the forthcoming rally fixed for August 8th, and those who have not already communicated with Mr. B. Staley, Victoria Avenue, Finchley, N.6, with a view to participation, are requested to do so, in order to make the event a success.

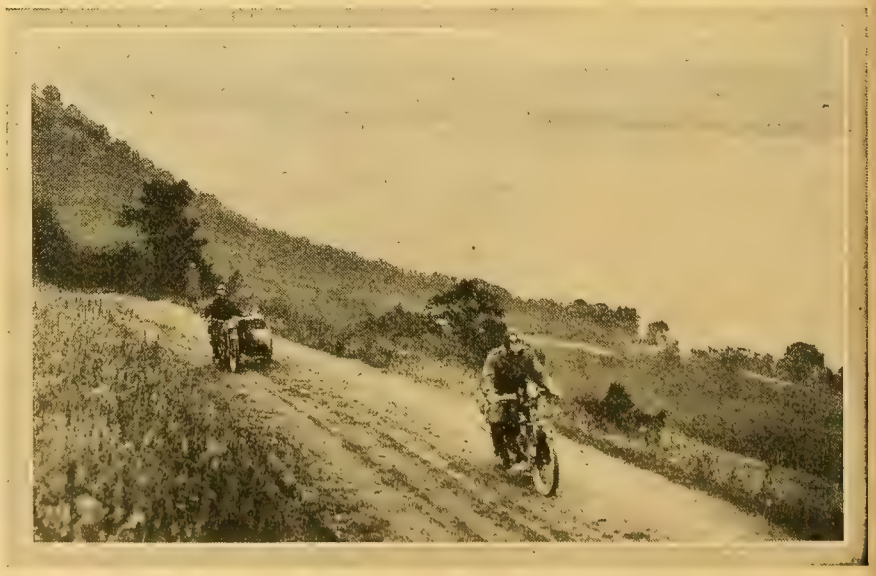
Candour and Otherwise.

Like *The Motor Cycle* Query Department, the A.C.U. are bombarded with all kinds of strange requests. A lady recently telephoned the A.C.U. from the outskirts of London to say that she was in a "paralytic fright" of the traffic. Another member also telephoned that he was "fed up" and tired, and required someone to drive his machine into London. The lady was at least candid.

An Irish Two-day Trial.

The forthcoming Irish Two-day Reliability Trial is an open event, and starts from Dublin on Saturday, the 31st inst. Saturday night to Monday is to be spent at Glengarriff, Co. Cork, and the trial finishes on Monday evening (August 2nd).

As the Irish End-to-end is indefinitely postponed, the organisers hope that some of the English and Scottish competitors will support the two-day run. The famous hill of Gowlane, Co. Kerry, is included in the course, also the pass of the Knockmealdown Mountains between Tipperary and Cork. A sporting trial is assured, and no trouble or interference from the country people is anticipated; on the contrary, great help and interest are manifested in every district. Full particulars are obtainable from the sec., Mr. W. Freeman, 16, Fade St., Dublin.



SILVER AND GOLD MEDAL WINNERS IN THE SCOTTISH SIX DAYS.

T. R. Fellows (James) and G. Grinton (Harley-Davidson) on Abriachan. This hill is on the north-western bank of Loch Ness, between Inverness and Drumnadrochit.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Time to Decarbonise.

(1.) What would be the result of using a chemical carbon remover in the cylinder of my 1913 Triumph? I notice that it is claimed to be satisfactory and to have no harmful results. (2.) Can I in any way clean out the silencer of my Triumph without upsetting the Bosch magneto? To my knowledge, it has not been cleaned out since the machine was delivered. (3.) My engine runs hot, and I take it, if everything else is in order, a perfectly clean silencer would be an improvement?—R.A.D.

(1.) We have had no experience with the type of preparation you mention. We do not think that it will cause any damage to the engine. (2.) It will be necessary to remove the magneto if you wish to dismantle the silencer, but you can probably clean it by removing the exhaust pipe, which is merely held by the union nut on the cylinder and the extension pipe, which is held by the hanger on the chain stays of the machine and is only a push fit in the silencer end plate. (3.) Probably the engine requires decarbonising, and also the exhaust valve may need grinding in.

Crankshaft out of Truth.

My 1913 two-stroke Sun-Villiers was recently taken down for overhauling on account of oil and petrol leakage. After being assembled again it made a knocking noise, and then stiffened owing to binding in the crank case. On taking down again it appeared to run smoothly in the two shaft channels of the crank case, but when built up it tightened again. Is it a case of the two shafts being out of line? Would slackening the crank pin nuts, correcting the alignments, and tightening up again correct matters? Is it a job an ordinary mechanic could accomplish? If it were necessary to send to the makers, should the whole cycle or just the crank case be sent?—A.R.

You should slacken the crank pin nuts and set the main shafts in line by tapping the balance weights with a light hammer. Then carefully retighten the crank pin nuts, taking care that the shafts do not move during the process. If the engine still gives trouble in this direction, it is probably due to the tapers of the crank pin being worn and not fitting well in the holes in the crank web. In this case, it would be necessary to return the engine, or, at any rate, the crankshaft and connecting rod, etc., to the makers.

Over-lubrication.

(1.) Being a novice, will you kindly advise me on the following matter? My Ruby two-stroke will fire as long as I run with it, but smokes a lot, and does not pull. Compression is poor. (2.) Should the crank case be half full of lubricating oil? I have not put much in because it smokes a lot, and I thought too much oil might be the cause. (3.) Oil runs from the exhaust, and after I have tried running it once it will fire out of the release valve at the cylinder head before I drop the lever. (4.) Am I right in thinking the piston rings a bad fit? (5.) Is there danger of catching fire? (6.) Please state timing for engine.—F.R.

(1.) The smoking is caused by over-lubrication, but the details you give are insufficient to enable us to tell you why the engine does not pull. It may be due to the ignition being too far retarded. (2.) The crank case should not be half full of lubricating oil. You do not state the method of lubrication employed on your machine. If the petroil system is used, about one pint of oil should be mixed with one gallon of petrol, but if a drip feed is fitted it should be regulated so that it delivers about thirty drops of oil per minute. (3.) This trouble again is due to over-lubrication. (4.) There is no need to replace the piston rings unless you are quite sure that they are a bad fit. As the engine has been excessively over-lubricated, it would be wise to fit a new sparking plug. (5.) There is no danger of the machine catching fire. (6.) Time the spark to occur when the piston is at the top of the stroke, the ignition control being fully retarded.

Magneto for Vertical Twin.

I have an old 12 h.p. car engine which has never been fitted for a magneto. Behind the handle starter on the main crankshaft there is a forty-tooth wheel driving the governors, and I intend to run the magneto off it. What tooth wheel should I require on the magneto, and what degree magneto should I require? The engine is a vertical twin with a two-throw crankshaft.—C.H.

You will require a two-cylinder magneto for an engine with firing intervals of 180°, and this must run at the engine speed. If you intend driving it from the forty-tooth sprocket already on the engine-shaft, you will require a similar size sprocket on the magneto-shaft. If possible, you should fit smaller sprockets.

AMONG THE FELLS OF LANCASHIRE.

Early arrivals at the East Lancashire M.C.C.'s Hill-climb described last week. During the afternoon thousands of spectators assembled to witness what proved to be a good afternoon's sport.

Worn Gear Parts.

[?] The middle gear of my 4¼ h.p. chain drive B.S.A. slips out of engagement. The control rod is properly adjusted. In testing the gears with inspection plate off, I notice that the dogs in the middle gear do not mesh fully. They will go in if pushed with a screwdriver, or some such tool, but the operating rod will not send them in properly. This dog clutch, for engaging with the middle and low gears, seems too loose on its operating fork. (1.) What can I do to correct this? (2.) What is the best way to remove the smaller chain wheel from the gear box?—W.W.

The trouble is most probably due to the selecting fork in the gear box being worn where it fits in the groove of the dog clutch. As, of course, both these parts may be worn, you will possibly have to renew them. The safest method of removing the small chain sprocket from the gear shaft is by means of a sprocket drawing tool, but if you are unable to obtain the use of one, the sprocket may be removed by levering it off the shaft, and this process will be helped by sharp blows on the end of the latter with a mallet.

A Lightweight Trouble.

[?] (1.) Whilst riding my 1919 Levis a few days ago the engine suddenly started to hesitate and then stopped. Just before stopping, however, loud explosions occurred in the crank case and the silencer. I have not been able to start the engine since, although I have decarbonised and retimed the magneto. I might say that when I opened my drain tap on the crank case liquid petrol ran out mixed with oil. (2.) My carburetter is always dripping at the jet. What mode of procedure should I take to overcome this? (3.) Should there be any side and up and down play in the piston, also any side play in the connecting rod? (4.) When I insert my finger through the sparking plug hole and feel at the piston there appears to be some movement. Should this be so? The compression is quite good. (5.) A week or two ago I had the engine entirely out of the frame and noticed that there was a small backward and forward movement in the front down tube. Do you think this is caused through the lug being loose at the top or to the steering head being loose?—J.T.H.

(1.) Unfortunately, the details you give are insufficient to enable us to tell you the cause of the stoppage and the reason which prevents the engine running. It is possible that the timing of the magneto slipped, and we suppose that you have readjusted it correctly, with the spark occurring when the piston is at the top of the stroke, the control being fully retarded. (2.) If your carburetter is an Amac, a leakage at the base of the jet is probably due to the coned seating of the jet platform being damaged, when it no longer makes a petrol-tight joint. The carburetter may also be flooding slightly, and this you can cure by lowering the petrol level. The easiest method of doing this is by placing a light washer on the top of the float underneath the split-pin on the needle. (3.) Side play in the connecting rod bearings is of no importance, but there should not be any up and down play. (4.) The piston should not move sideways appreciably when it is in the cylinder. (5.) The movement in the front down tube of the frame may be merely the natural spring of the tube. You should be able to tell, however, whether it is loose in the head lug or not if you inspect it closely. It would perhaps be advisable to remove the enamel from the region of the lug if you are at all uneasy about it, as the results might be serious if the tube breaks away when the machine is travelling at any speed.

IMPORTANT DATES.

Thurs., July 15th—
Essex M.C. Joint Open Speed Trials, Westcliff-on Sea.
Sat., July 17th—
Cumberland County M.C.C. Open Reliability Trial.
Sat., July 24th—
Luton and South Beds. A.C. Open Trial at Luton Hoo.
Sun., July 25th, to Aug. 1st—
International Six Days Trial in France.
Thurs., Aug. 5th, to Mon., Aug. 9th—
Anglo-Dutch Trial in Holland.
Sat., Aug. 7th—
East Midland Centre A.C.U. Open Speed Trials at Chatsworth Park.
Sat., Aug. 7th—
S.A.C.U. Inter club Meet at Callander.
Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.
Sat., Sept. 4th—
Scottish Speed Championships at St. Andrews.
Scott Trial in Yorkshire.
Nov. 29th-Dec. 4th—
Olympia Motor Cycle Show.

THE SIMPLE SOLO SINGLE.

A sporting entrant, Robert Carfrae, who rode a single-geared Triumph in the Scottish Six Days Trial.

Cancelling an Order.

[?] I should be pleased if you could put me right on the following point: Last June I advertised for sale in *The Motor Cycle* the delivery of a new sidecar outfit in about three weeks' time, as the agents thought they could deliver on or about July, my order being placed last May. I received a reply and agreed to let the machine go at list price when it arrived; the buyer to agree to the same terms as regards the rise in price, etc., as laid down by the makers. I have now received from him a letter demanding the return of £10 deposit paid. (I had paid £10 deposit to the makers.) Am I compelled to return to him the amount, or must he lose this as he has cancelled the order? If I must pay him, can I claim my deposit from the makers?—C.H.

If the buyer paid a deposit such payment constitutes a contract to complete the purchase, and you can insist upon this being carried out. In the same way, your deposit of £10 to the manufacturers also constitutes a contract to purchase the machine, and, unless you can obtain the return of your deposit, there is no reason why you should be compelled to cancel the agreement with the person to whom you have sold the machine.

RECOMMENDED ROUTES.

BIRMINGHAM TO BLACKPOOL.—C.M.

Birmingham, Sutton Coldfield, Lichfield, Rugeley, Stone, Woore, Nantwich, Tarporley, Colebrook, Weaverham, Stretton, Warrington, Winwick, Ashton-in-Makerfield, Wigan, Standish, Euxton, Preston, Kirkham, Marton, Blackpool.

SOUTH PETHERTON TO EAST DEREHAM.—J.H.M.

South Petherton, Yeovil, Sherborne, Shaftesbury, Salisbury, Andover, Tarrant, Newbury, Shefford, Wantage, Oxford, Marne, Aylesbury, Aston Clinton, Ivinghoe, Dunstable, Luton, Hitchin, Baldock, Royston, Cambridge, Ely, Littleport, Downham Market, Swaffham, Dereham. Approximately 200 miles.

YORK TO WORCESTER.—E.M.

York, Fulford, Eserick, Selby, Brayton, Askern, Doncaster, Worksop, Nottingham, Leicester, Blaby, Lutterworth, Cottesbach, Rugby, Dunchurch, Southam, Bishops Itchington, Wellesbourne, Stratford-on-Avon, Alcester, Worcester. Approximately 160 miles.

BIRMINGHAM TO BOURNEMOUTH.—G.P.

Birmingham, Stratford-on-Avon, Shipston-on-Stour, Enstone, Woodstock, Oxford, Abingdon, Steventon, East Ilsley, Newbury, Woodhay, Tarrant, Andover, Salisbury, Fordingbridge, Ringwood, Christchurch, Bournemouth.

BIRMINGHAM TO CHELMSFORD.—H.G.P.

Birmingham, Coventry, Dunchurch, Daventry, Towcester, Stony Stratford, Wolverton, Newport Pagnell, Broughton, Ridgmont, Ampthill, Shefford, Baldock, Buntingford, Standon, Bishop's Stortford, Takeley, Great Dunmow, Dunmow Station, Great Waltham, Chelmsford. Approximately 110 miles.

O'Donovan Motors

76a, Gt. Portland Street, W.1.

IMPORTANT ANNOUNCEMENT

D. R. O'Donovan

begs to inform his friends and the public that he has opened offices and showrooms for the sale of motor cycles and accessories at the above address, having secured amongst others the **Sole London and District agency** from this date for the world-famous

NORTON

For July and August deliveries of this make, wire, write, or call. Distance no object. Official repairers for London and District to Messrs. Norton Motors Ltd.

NOTE: We are open to tune up a limited number of second-hand Norton Motor Cycles. Results guaranteed. Early application essential. Large stocks of spare parts and accessories carried.

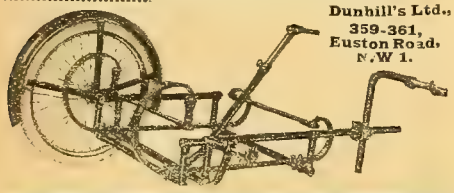
HIGH-CLASS TRADE CHASSIS.

Dunhills Limited

Rep irs to all makes of chassis & frames. Quick and effi ient work.

Write for list—Trade only—of all parts for building up chassis, wheels, springs, mudguards, etc. Complete chassis as illustrated, or to specification.

Dunhill's Ltd., 359-361, Euston Road, N.W 1.



IN STOCK

FOR IMMEDIATE DELIVERY

MATCHLESS, Model H.
BLACKBURNE, 8 h.p.
H.B.
VERUS
COULSON
LEVIS
IVY
ALL WTIH BLACKBURNE ENGINES.

R. A. WHITFIELD & Co.,
CARRINGTON ST. (Tel. 637)
NOTTINGHAM

Preserve your Cylinders.
Rosco Cylinder Black
TINS 1/3 POST FREE 2/6
WITHSTANDS HEAT.
OWEN BROS. & Co. LTD.
HULL, Eng.

NO MORE PUNCTURES!

Once you fix an M.P. Puncture Preventer to your motor cycle, all puncture troubles are at an end.

The M.P. Puncture Preventer has been exhaustively tried and tested for some years, and has stood the hardest tests.

PROOF.

Without P.P. .. .. 47 punctures in 11,000 miles.
With P.P. .. .. 0 punctures in 25,000 miles.

These figures are absolutely guaranteed.

Can be fitted in five minutes.

When ordering, state make of machine.

Make motor cycling a pleasure by eliminating puncture worries. Each P.P. is fully guaranteed in every respect.

With full instructions, **10/6.** By post, **11/-.**

M.P. PUNCTURE PREVENTER CO.,
38, BATH STREET, GLASGOW.

R. B. CLARK & CO.
(Late H. F. EDWARDS & Co.),
7, Exhibition Road, South Kensington.

NEW MACHINES FOR IMMEDIATE DELIVERY.

1920 **DOUGLAS** 4 h.p. Combn. **£170**
„ **DOUGLAS** 2¾, clutch, 3-spd. **£105**
„ **B.A.T.,** Model No. 4 ..... **£160**
„ **HARLEY** Flat Twin, Sports model..... **List**
„ **EXCELSIOR** 2¾ J.A.P., 2-sp. **£78**
„ **EXCELSIOR,** 2-stroke, 2-spd. **£67**
„ **DIAMOND,** 2-stroke **£63**
„ **COULSON - BLACKBURNE** 2¾, 2-speed..... **£99 15**

SECOND-HAND.

1920 Model H **MATCHLESS,** as new ..... **Offers**
1915 Overhauled **DOUGLASES £58 £63**
1916 **SINGER** Light Car, overhauled, repainted, lamps, tools **£350**

SUPER MOTOR SUITS.

Direct from Manufacturers at wholesale prices. Double breasted jacket, belt, wind cuffs, storm collar. Seatless trousers, gaiter fronts, clip fasteners. In double texture super cotton cashmere. Suit **63/-** Jacket **40/-** Trousers **25/-** In super double texture fawn stout twill. Suit **72/6** Jacket **45/-** Trousers **30/-** In super cashmere, with Beaverteen back. Suit **85/-** Jacket **52/6** Trousers **35/-** All carriage paid. Immediate delivery. Send chest, waist, and fork to ground measurements.

North of England Supply Co., Lower Audley St., Blackburn.

Oil Drip Feed, **17/6.** Engines: 3½ **MINERVA, £6**; 3½ **ARIEL, £10. MABON** Gear, **£4 10s.** 8 h.p. **J.A.P.** Unit Mag. Carburetter, **£30.** 3½ **RUDGE-MULTI,** less Piston and Intermediate Wheel, **£7 10s.** 3½ **REX,** incomplete, **£3.** Frame and Tank, **ARIEL, £6.** Modern Frame, Tank, and Forks for Countershaft, **£12 10s. DRUID** Forks, 3½ h.p., **£5.** Second-hand Wheels, Magnetos, Carburetters, Handle-bars, Saddles. *Write us.* We have a good assortment of second-hand and new parts in stock. *'Phone: Putney 1652.*
BRITNELL, 43-45, HIGH ST., FULHAM.

THE "UNIQUE" ELECTRIC TAIL LAMP

EASILY FITTED TO ANY NUMBER PLATE.

NICKEL PLATED WITH BULB POST FREE **6/-EACH.**

ASK YOUR DEALER TO FIT ONE OR APPLY THE MAKERS.

M. MOLE & SON LTD., MOTOR ACCESSORY MANUFACTURERS.
CHARLOTTE ST., BIRMINGHAM.

SPARE PARTS

supplied from stock or immediately made to pattern, any machine. **Rudge Spares** in stock. **Rudge Repairs** our specialty. **N.S.U. Gears,** British made, supplied to fit any machine. **N.S.U. Spares** and **Repairs.** ROC 2-speed **Countershaft Gears,** to fit any make Lightweight, **£7 - 10 - 0** complete.

Call, write, or 'phone—Kingsbury 162
THE C.W. MOTOR CO.,
Motor Cycle Specialists.
299, Broadway (Edgware Road), West Hendon, N.W

ACME

8 h.p. Combination.

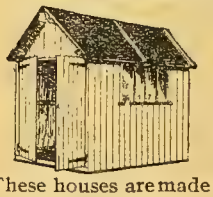
Price £214.

FOR PARTICULARS APPLY SOUTHERN DISTRIBUTORS:

B. S. MARSHALL, Ltd.
17a, Hanover Square, W.1.

NIGHT AND DAY GARAGE.

GODDARD'S



MOTOR CYCLE HOUSES

Ft.	Ft.	Ft.	£	s.	d.
7	x 5	x 6½	10	0	0
8	x 6	x 7	11	10	0
9	x 6	x 7½	13	5	0

Carriage Paid.

These houses are made in sections to bolt together. Easily fixed. Made of well-seasoned ⅜in. T. and G. and V-jointed Matchboards, and complete with floor and window. Roof felted.

GODDARD'S Vicarage Lane, ILFORD, ESSEX.

TAKE IT EASY

PILLION SEAT FITS ANY CARRIER

MENTION DEALER AND WE SEND BOOK FREE.
CLARKES, SINEW WORKS, REDDITCH.

DIE CASTINGS IN ALUMINIUM
for Motor Cycles
Crank Cases, Gear Boxes, Chain Covers, etc.

OPEN FOR LONG CONTRACTS

COAN CASTS CLEAN CRANK CASES

Robert W. Coan.
Aluminium Foundry.
219, Goswell Road, London, E.C.1.

COAN CASTS CLEAN CRANK CASES

SIDECARS FOR SERVICE

WE ARE SIDECAR SPECIALISTS.

"Montgomery" Sidecars are lighter and stronger than any others. This means less wear on your tyres, less strain on your engine, less petrol consumption, and greater satisfaction.

Ask your Agent, or write for our 1920 Catalogue, free on request.

"Montgomery"

Doubles your Pleasure.

1920 PRICES.

Model No. 1.	£30	10 0
„ 2.	£27	0 0
„ 3.	£21	0 0

Write for Delivery Dates.

THE PIONEER FIRM.

18 years' experience in Sidecar Construction.

SIDECARS FOR COMFORT

Above all, your passenger must be comfortable; really well-sprung upholstery and plenty of foot room. "Montgomery" sprung upholstery is patented, and superior to any other obtainable. You cannot buy better sidecars. . . . . .

W. MONTGOMERY & CO., The Pioneer Firm, **COVENTRY.**

SCOTTISH SIX DAYS

(Provisional Results).

MACHINES FITTED WITH THE FAMOUS

BLACKBURNE

ENGINES SECURE

3 GOLD, 1 SILVER, and 1 BRONZE MEDAL.

As usual, no engine trouble was experienced by any of these riders.

THE

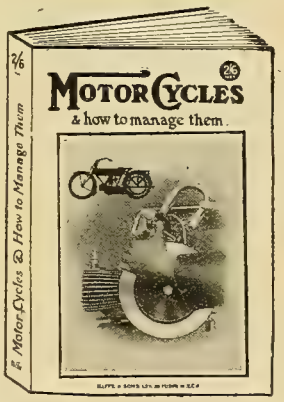
D. R.

ENGINEERING CO., LTD.,

61, Queen Street, Edinburgh.

EVERY Motor Cyclist

Should possess a copy of this useful book



"Motor Cycles and How to Manage Them" is the standard handbook on the motor cycle; its care and management. It deals with every part of the machine, and with all types of machines, and gives useful information in regard to keeping every part in good order. 286 pages. 400 illustrations.

THE TWENTY-FIRST EDITION—revised and brought up to date—is now on sale.

Price 2/6 net; by post (Home & Abro'd) **2/10**

Obtainable from—

ILIFFE & SONS Ltd., 20, Tudor St., London, E.C.4

AND LEADING BOOKSELLERS.

THE MOTOR CYCLE SPECIAL PRIVILEGE

A free weekly copy of "THE MOTOR CYCLE" is sent to every policy holder when the premium paid is £5-0-0 or over

Insurance Policy

Underwritten by The Autocar Fire and Accident Insurance Company, Ltd. (Incorporating "The Autocar" Insurance Dept. Established 1904).

COVERING MOTOR CYCLES or CYCLES and SIDECARS—USED FOR PRIVATE PURPOSES.

Complete Comprehensive Cover Free of Vexatious Restrictions.

THIRD PARTY. Complete indemnity up to an **unlimited amount** against all legal liability. All law costs incurred with the Company's consent paid in addition to compensation awarded. Defence of any police summons for driving to the danger of the public when an accident, as insured, is concerned free of legal costs.

ACCIDENTAL DAMAGE up to full value, including side slip. Reasonable repairs up to **£5** may be put in hand at once.

FIRE up to **full value,** including tyres and accessories.

THEFT up to **full value,** including tyres and accessories when machine is stolen. Damage through attempted theft included.

TRANSIT. Accidental damage during transit by road, rail, or inland waterway.

Comprehensive Policy
SCHEDULE OF PREMIUMS.

Motor Cycles not exceeding

	3 h.p.	4 h.p.	5 h.p.	6 h.p.	8 h.p.
A)	£3 13 4	£4 0 0	£4 13 4	£5 13 4	£6 0 0
	Third Party, Fire, and Theft.				
B)	£1 16 8	£2 0 0	£2 3 4	£2 6 8	£2 10 0

Occasional business journeys, 25% extra. Professional purposes, 40% extra. Trade purposes, 75% extra.

BONUS: 10% reduction on renewal premium if no claim.

If present value, including all accessories, exceeds £100, an extra premium of **10/-** is payable, exceeding £200 **20/-**

Cycle used to carry passenger on pillion seat or luggage carrier—**50% extra.**

If machine driven by any person other than owner—**10/- extra**

If **named** extra rider—**5/- extra.**

REDUCTIONS.

To be taken off premiums in schedule (A) only.

15% if Insured bears first £1 of all claim.
25% " " £2 "
33⅓% " " £5 "
50% " " £10 "

Two cycles insured—one out at one time **25%**

ACCIDENTS TO OWNER.

BENEFITS: Death, **£250.** Loss of two limbs or sight of both eyes, **£250.** Loss of one limb or sight of one eye, **£150.** Total disablement, limited to 26 weeks each accident, **£3** per week.
Premium **25/-** cycles, **20/-** cycles with sidecars.
Half Benefits—Half Premiums

ACCIDENTS TO PASSENGERS.

BENEFITS AS FOR OWNER: If passenger specified by name. Premium **15/-** sidecars. Any passenger of not less than 16 or more than 55 years of age Premium **20/-** sidecars.

PROPOSAL FORM. Particulars of Motor Cycles

Make.	H.P.	Date of Make.	If with Sidecar.	Value (including Accessories). NEW Cost.	Present Value.	Registered Letter and Number
				£	£	

Owner's Name (in full).....
Address.....
.....
Occupation (if any).....
Have you any physical defect or infirmity?..... Age.....
Will cycle to be insured be used solely for private pleasure purposes?.....

If not, please give full particulars.....
Will cycle be solely driven by proposer?.....
Have you ever had your licence endorsed or suspended?.....
Are you now, or have you ever been, insured in respect of a Motor Vehicle?.....
Has any Company refused to renew your insurance or required an increased premium?.....

I declare that the above statements are true and complete.

Date..... Proposer's Signature.....

Immediate protection can be obtained by forwarding this Form, filled in, and remittance for first premium to

The Autocar Fire and Accident Insurance Company Limited

Telegrams—"Cyclist, Fleet, London." **20, Tudor Street, London, E.C.4.** Telephone—2848 City.

Branch Offices: BIRMINGHAM: Guildhall Buildings, Navigation Street.
MANCHESTER: Century Buildings, 199, Deansgate
LEEDS: Calverts Chambers, 8, Commercial Street.
NEWCASTLE-ON-TYNE: Atl·s Chambers, Westgate Road.
CARDIFF: 15, High Street. GLASGOW: 137, West Regent Street.

BEARDMORE Precision MOTOR BICYCLE

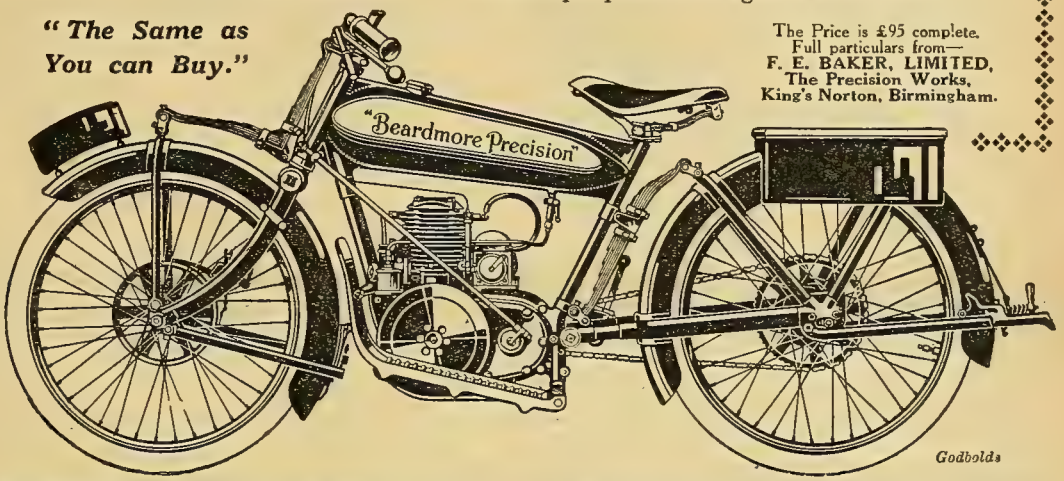
"A Motor cycle de Luxe."
Daily Graphic.

"The Same as You can Buy."

Easy Riding.

THE Beardmore "Precision" Motor Bicycle is intended for the rider who looks for the fullest possible enjoyment and the least personal discomfort; who wants to use his machine every day and regards motor cycling as a pastime rather than as a feat of physical endurance; who prefers comfort and cleanliness to mere pace: who wants to feel that he has the best. It has a highly effective spring frame, and ample protection against mud and dirt.

The Price is £95 complete. Full particulars from—
F. E. BAKER, LIMITED,
The Precision Works,
King's Norton, Birmingham.



Godbolds

PRECISION

Ramont SPORTS COAT

MADE TO MEASURE
30/-

Great Offer to Motor Cyclists

Sports Coats direct from makers at half shop price.

Only by dealing direct with the actual makers can a coat similar to the "RAMONT" be bought for 30/-. Our only expense, apart from the manufacture, is the cost of this advertisement. You deal direct with the manufacturer, and, by so doing, cut out the agents' and middlemen's profits.

The "RAMONT" is a sound, serviceable Sports Coat, cut on the smartest of fashion lines. It is made up in Sand Cloths, Yorkshire Tweeds, Herring-bone Tweeds, Donegals, etc., in Brown, Grey, and Heather mixtures, and is ideal for motoring or for wear at outdoor functions. The smart, clinging appearance (for the "RAMONT" is made to your own measurements) make it equal to any coat at double the price. Prices from 30/- to 50/-, according to the quality of tweeds. TROUSERS can also be made of the same material as coat if required, making the "RAMONT" SPORTS COAT into a cheap Summer suit.

30/- NOT £3.

SOLD WITH "MONEY-BACK" GUARANTEE.

Every Coat is sold on the understanding that if you are not satisfied with it we refund your money in full.

SEND NO MONEY—SEND FOR PATTERNS.

Send p.c. for patterns of "RAMONT" Tweeds Booklet and order form. All goods despatched within seven days of receipt of order.

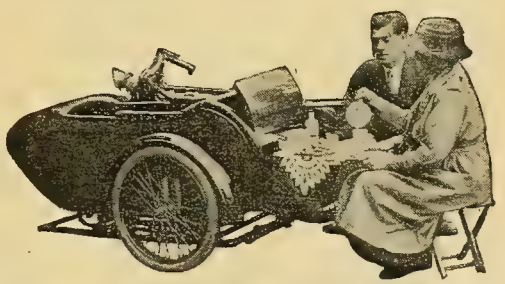
Pleated back, with 3 pockets.

RAMONT Ltd. (Dept. 14), FINSBURY PAVEMENT HOUSE, LONDON, E.C.2.

Langford Model Supreme

"The Picnic Sidecar"

THE LAST WORD IN LUXURY



SPECIFICATION.

Solid welded Frame, Spring Shock Absorbers to Sidecar Wheel, Transfer Spring. With New Design four-point Easy Attachments. Beautifully finished Coach Built Spacious Body, with Bulbous Back and Rounded Pillows, and fitted with Luncheon and Tea Cabinet for two, Camp Stools, Locker for Petrol and Oil, Patented Design, finished any Colour. Delivery within 14 days. Write or Call for Catalogue. Agents, Foreign and Colonial Shippers invited.

THE LANGFORD SIDE-CAR BODY AND CHASSIS COMPANY, LIMITED,
NORBURY WORKS, LONDON ROAD, NORBURY. S.W.16

A SPECIAL LINE IN MOTOR CYCLING OVERALLS.

We have no hesitation in claiming that this "Draperstyle" Motor Cycling Overall has no rival at its price. Made from a special stout dark fawn material, absolutely dust proof, and specially proofed to give adequate protection against showers. Satisfaction guaranteed or money refunded in full.

Description of Model O50
Special line in Motor Cycling Overalls, made from stout dark fawn material which is absolutely dust proof, and which has been specially proofed so that if you get caught in a shower it will give adequate protection. The Jacket is double breasted, and the sleeves are made with storm straps at wrist. Slash pockets. The Leggings are made with special gusseted sides and leather straps to go under the boot.

"All British" Factory Prices:

31/6

the Suit Complete.

STOCKED IN SIZES:—Breast over Jacket 34 36 38 40 42 44 in.

Carriage paid to your door.

WEATHERPROOF BOOKLET FREE.

Our new booklet of weatherproofs and waterproofs should be in the hands of every motor cyclist. Contains complete range of garments at direct-to-wearer prices. Send postcard for a free copy.

We are offering some special lines in Overalls in Blue Dongaree and Brown Denim for Mechanics, and which are also very suitable for Gentlemen owners of Cars and Motor Cycles. A copy of our Special Overall Booklet sent free on request.

ERNEST DRAPER & CO., LTD.,
54, "All British Works," NORTHAMPTON.

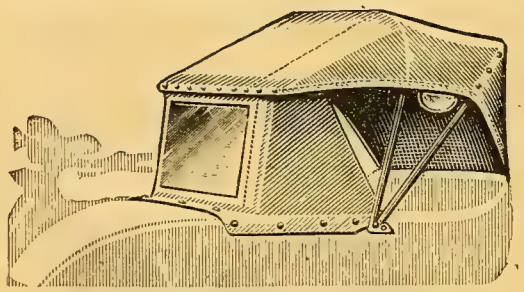
To ensure COMFORT

when riding, even over the roughest roads, fit your mount with an EMPIRE-DE-LUXE Pan Seat. The Patent Shock-absorbing Link at peak, and the Double Hangers with Extension Springs at rear, eliminate vibration and road shock.

Write for Catalogue.

The LEATHERIES, Ltd.,
Sampson Road North,
BIRMINGHAM.

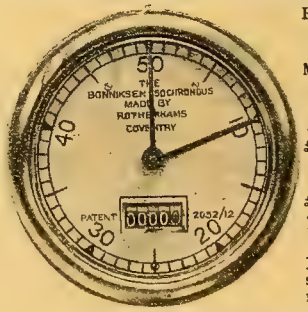
EMPIRE-DE-LUXE



Our latest mode of Combined Sidecar Hood and Screen. The whole folds back and is contained in a neat and compact envelope.

W. D. TALBERT & CO.,
46 and 48, Sun Street, LONDON, E.C.2.

THE BONNIKSON ISOCHRONOUS SPEEDOMETER



Rocksteady and Unlimited Speed Reading.

Trip and Non-Trip Types for Motor Cycles, Cars & Cycle Cars.

PRICES.

Motor Cycle Type.
Trip. Non-Trip.
£6 10 0 each. £5 15 0 each.

Cycle Car and Car Type.
Trip. Non-Trip.
£8 15 0 each £8 0 0 each.

These Prices are subject to an increase of 5% as from the 1st May.

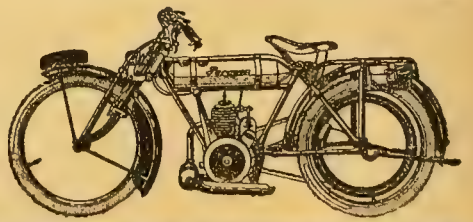
For any further information write stating type required to the manufacturers—

ROTHERHAM & SONS, LTD.,
Telephone: 752 & 753. **COVENTRY.** Telegrams: "Rotherhams, Coventry."

PARAGON

2-stroke 2-speed, Spring Frame.
Unit Construction of Power Plant.

PRICE £70



MOTOR MANUFACTURING CO., PARAGON WORKS, MANNINGTREE

BEARDMORE-PRECISION £95

STOCKIST AND DISTRIBUTING AGENT—SPARES.

AGENTS WANTED. **Delivery this week. E. BENNETT, 138, Grays Inn Rd., LONDON, W.C.**

Reconstructed Douglases.

DOUGLAS 1917-8 Combinations, 4 h.p., 3-sp. clutch and kick-starter, thoroughly overhauled, repainted maker's colours, sidecar repainted and reupholstered **£120 Cash** or **£60** down, and 12 monthly instalments of **£5 15s.**

DOUGLAS 1917-8, 4 h.p. Solos, thoroughly overhauled, re-enamelled and plated in our own workshops, appearance as new, maker's colours .. .. **£95 Cash** or **£45** down, and 12 monthly instalments of **£4 15s.**

DOUGLAS 1916, 2¾ h.p., 2-speed, thoroughly overhauled, and repainted maker's colours .. .. **£65 Cash** or **£30** down, and 12 monthly instalments of **£3 7s. 1d.**

DOUGLAS 1916, 2¾ h.p., 2-speed, thoroughly overhauled, re-enamelled and plated in our own workshops, maker's colours, appearance as new ... .. **£70 Cash** or **£35** down, and 12 monthly instalments of **£3 7s. 1d.**

TRADE SUPPLIED.

TERMS. — Any machine sent on 24 hours' approval against remittance, and money returnable in full, less carriage, should machine not be accepted, or on "The Motor Cycle" Deposit System.
We will replace any part that proves faulty within one month of purchase.

Cash. Exchange. Extended Payments.

SEE MISCELLANEOUS ADVTS. FOR NEW MACHINES.

ALLEN-BENNETT MOTOR CO.,

The Motor Cycle Specialists,

9, 10, 11, ROYAL PARADE, WEST CROYDON.

'Phone—Croydon 2450. 'Grams—"Truck, Croydon."

JULIAN'S

New 1920 BLACKBURNE and Sidecar, £198

1920 A.J.S. Combination, DYNAMO Lighting, speedometer, etc., mileage 1000, £245

1920 Indian Combination, DYNAMO Lighting, etc., 160 Gns.

LEVIS £60

O.K. JUNIOR, 48 Gns.

CLYNO 2-stroke £75

DELIVERY TO-DAY

New 1920 FRANCIS BARNETT, 84 Gns.

ROYAL ENFIELD, 2-stroke. 70 Gns.

CALTHORPE-JAP, 71 Gns. + 5%

NEW HUDSON, 2-stroke. £75

MILLS-FULFORD, Corvette and Skiff.

HENDERSON Sidecar. £45

"BIGGEST DEALERS IN THE SOUTH."

H. JULIAN, 84, Broad St., READING.

'Phone ; 1024

"The Albany"

MOTOR CYCLE CLOTHING is GUARANTEED absolutely WATERPROOF

ALSO FOR

Smartness Comfort & Durability

THESE SUITS ARE

UNSURPASSED.

PRICES.

Made in strong double texture twill cloth, with best quality rubber proofing.

Jackets, double-breasted storm cuffs, deep collar and waist belt .. Price, **52/6**

Trousers. Our own new design with seat, but opening at side to prevent overheating; gussets and clip fasteners Price **37/6**

Complete suit **90/-**

Terms:—
Nett cash with Orders.

All Goods sent carriage paid by return.

These suits are made of the finest proofed cloth. Your money returned in full if not satisfied.

Send for patterns and self measurement forms to

G. RAWS & SONS, LTD.

THE ALBANY, OLD HALL STREET, LIVERPOOL.

'Phone : 8038 Central. Telegrams : "Raws, Liverpool."

RENNOC SIDECARS Bodies and Hoods

ORDER NOW FOR IMMEDIATE DELIVERY

Largest Stock in London of complete Sidecars and Bodies.

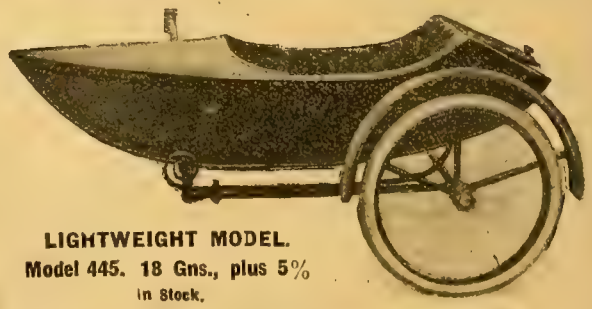
ACTUAL MANUFACTURERS THROUGHOUT.

Wholesale, Retail, and Export. Send for List.

20 various model bodies, single and tandems, from £4 10s.

300 complete Sidecars and Bodies in stock.

CHASSIS A SPECIALITY.



LIGHTWEIGHT MODEL.

Model 445. 18 Gns., plus 5%

in Stock.

Rennoc Motors, Ltd., 86, Victoria Rd.,

STROUD GREEN, N. ——— 'Phone Hornsey 850.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed ~~& Co.~~ Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½ %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

1920 A.B.C., immediate delivery; £150.—Rootes, Ltd., Maidstone. [5051

A.B.C., absolutely new, Lucas horn; £145.—Desouttes, 51, Baker St., W.1. [4884

1920 A.B.C., not done 250 miles, guaranteed; £140. —Rootes, Ltd., Maidstone. [5057

A.B.C., delivered this week; 150 gns. secures.—Box 5,993, c/o *The Motor Cycle.* [4155

CROW Bros., Guildford, can offer early deliveries of A.B.C. No premiums accepted. [1634

1920 A.B.C., ridden 20 miles only, with horn; £145.—60, London Rd. Reading. [4490

WAUCHOPE'S.

The following NEW MACHINES at Maker's List Price—All in Stock for Immediate Delivery.

B.S.A. 4¼ h.p. Model H. dynamo lighting Combination £178 0
RUDGE, 3½ h.p., I.O.M. Model £110 0
TRIUMPH Junior, 2¾ h.p., 2-stroke £75 0
DOUGLAS Combination, 4 h.p., 3-speed, clutch, and kick-start £170 0
ROYAL RUBY, 3 h.p., spring frame, 3-speed, clutch, and kick-start £130 0
SCOTT, 3¾ h.p. £140 0
QUADRANT Combination, 4½ h.p., 3-speed, countershaft £145 0
ENFIELD, 2¾ h.p., 2-stroke, 2-speed £73 10
JAMES, 2¾ h.p., 2-stroke £75 0
LEA-FRANCIS, 3 h.p., 2-speed, clutch, and kick-start £130 0
P. & S., 2½ h.p., 2-stroke, 2-speeds only £73 0
P. & S., 2½ h.p., 2-stroke, clutch, and kick-start £78 10
NEW IMPERIAL, 2½ h.p. £89 5

SECOND-HAND MACHINES, all overhauled and guaranteed.

SOLOS.

LEVIS, 2½ h.p., 1915 ..... £57 10
TRIUMPH Junior, 2¾ h.p., 1914 ..... £60 0
RUDGE, 3½ h.p., I.O.M. Model, 1919.... £110 0
RUDGE, 3½ h.p., 1912 ..... £45 0
TRIUMPH, 4 h.p., 3-speed, 1914 ..... £70 0

SECONDHAND COMBINATIONS.

MATCHLESS and Sidecar, 8 h.p. M.A.G. engine, 1914 ..... £137 10
ZENITH and Sidecar, 6 h.p., 1913-14 ... £95 0
DOUGLAS Combination, 4 h.p., 1920 .... £170 0
MATCHLESS Combination, 8 h.p., 1918 .. £160 0
HARLEY - DAVIDSON Combination, 7-9 h.p., 1920 ..... £195 0
WILLIAMSON Combination, 8 h.p., 1914 £117 10
RUDGE-MULTI and Sidecar, 5-6 h.p., 1914 £99 10
POWERPLUS INDIAN, 7-9 h.p., 1920 .. £195 0
A.J.S. Combination, 6 h.p., 1918 ..... £185 0

SECOND-HAND CARS.

CARDEN, 8 h.p., 1919, 2-seater £145 0
MORGAN Runabout, 8 h.p., Grand Prix . £195 0
CARDEN Monocar, 5-6 h.p., 1914 ..... £100 0

SIDECARS.

WATSONIAN Sidecar £33 0
B.S.A. Sidecar £42 0
WILLIAMSON Sidecars £28 10
WAUCHOPE'S No. 2 Sidecars £23 10
WAUCHOPE'S No. 3 Sidecars £22 10
CANOELET K., sporting model £22 10
CANOELET K4, sporting model £23 5
CANOELET D4, touring model £30 5
WHITLEY Sidecar, No. 12 ..... £37 0
Sidecars to fit Harley-Davidson Machines at £37 10s.

SPECIAL REDUCED PRICES

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ACCESSORIES.

Large Variety of **Lamps, Horns, Speedometers** (Trip and Ordinary Models), **Windscreens, Pillion Seats, Tyres, Sidecar Aprons,** and **Sundries** of every description.

List sent on application.

Wauchope's.

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'Phone: Holborn 5111. Grams: Opificer, Fleet, London

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., just delivered, owner taking delivery car; list price.—Hamar, Grocer, Builth. [4077

A.B.C., 1920, 4-speed, T.T. bars; delivery from stock.—Pearson's, 52, Elm Grove, Southsea. [4306

A.B.C., brand new, just delivered; best offer accepted.—Kelham, Nassington, Peterborough. [4291

A.B.C., brand new, unridden, delivered July 7th; first £143; buying car.—Robinson, Tailor, 5, Norwich Rd., Ipswich. [4535

A.B.C., 1920 (May), perfect, electric lighting, too fast for present owner; £150.—Dr. Thompson, Salisbury House, Taunton. [5040

1920 A.B.C., only ridden a few miles, complete with Lucas dynamo lighting set; reason for sale, purchased car; accept £160.—Chapman, Duke St., Norwich. [4859

1920 A.B.C., unequipped, mileage 200; nearest list price, or exchange for flat twin Harley, equal mileage.—Hampton ,Home Farm, Withdeane, Brighton. [4136

DELIVERY of the A.B.C. Motor Cycle from stock. Distributers for the county of Lincoln.—The Spalding Motor Co., Ltd., Pinchbeck St., Spalding 'Phone: 144. T.A.: Service. [0015

FOR Sale, A.B.C. combination, 3½h.p. twin, Bosch mag., Amac carburetter, just been thoroughly overhauled, and in excellent condition, very fast; £70, or offers to Box 5,992, c/o *The Motor Cycle.* [4154

1920 (May) A.B.C., complete with Lucas dynamo lighting and electric horn, Bonniksen trip speedometer, copper exhaust pipes, T.T. bars, mileage negligible, beautiful condit on, £200, reason selling, bought car.—Bostock, Upmeads, Stafford. [4569

A.B.C.—The Layton Garages, London Rd., Bicester, distributing agents for Oxfordshire, North Bucks., and North Berks., can give immediate delivery of one new T.T. model, and have several July deliveries still open. 'Phone: 35 Bicester. T.A.: Integrity, Bicester. Please ask for our July bargain list, which gives particulars of 50 machines, all priced at lowest possible figures. [3534

A.B.C. Combination, 1920 standard model, with semi-T.T. bars, special A.B.C. Swan sporting model sidecar, electric lighting outfit, not dynamo, Stewart horn, Smiths trip type speedometer, mileage less than 300, condition as new; cost about £210; best offer accepted.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3533

A.B.C.—The Layton Garages, London Rd., Bicester, distributing agents for Oxfordshire, North Bucks, and North Berks, can give immediate delivery of new 1920 models at list price, and have always in stock ready for immediate use a variety of slightly used 1920 A.B.C.'s. Fullest particulars with pleasure. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for a copy of our July bargain list, which gives particulars of about 50 modern machines, all priced at lowest possible figures. [5260

Abingdon.

ABINGDON 6-7h.p. Combination; £185.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6004

ABINGDON King Dick 7h.p. Twin, brand new, solo or combination, in stock at list price.—Welford's, St. James's St., Brighton. [4302

Acme.

1920 New 8h.p. Acme-Jap Combination, spare wheel; £213/15.—Halifax Motor Exchange, Union St. South, Halifax. [4248

ACME Combination, 8h.p., interchangeable wheels; immediate delivery.—8, Warrington Rd., Ashton-in-Makerfield. [X6023

NEW 1920 Acme 8h.p. Combination, J.A.P. engine, 3-speed, kick starter, detachable and interchangeable wheels, spare wheel and tyre; £213; immediate delivery.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [2446

1920 Acme Combination, 8h.p. J.A.P., smartest turnout on the road, 4 interchangeable wheels, wind screen, Bonniksen speedometer and Stuart horn, carefully used by engineer, mileage 950; for sale after 9th August; owner taking delivery of light car; nett cash £210, no offers.—Blumfield, Ltd., Engineers, Lower Essex St., Birmingham. [3974

A.J.S.

CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premiums. [9995

BRIGHTON, Hove and district A.J.S. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0202

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [9624

A.J.S. 2¾h.p. 2-speed, clutch, kick start, good condition; 55 gns.—140a, Broadway, Southend-on-Sea. [3802

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. Combination, spares, mechanically perfect; trial anywhere; £70.—F.E.S., 56, Victoria Rd., Surbiton. [4445

A.J.S. 2¾h.p., 1912, 2-speeds, hand clutch, good condition; 30 gns.—The Hollins, Church Rd., Farnborough, Hants. [3769

1920 A.J.S. Combination, brand new, complete, lamps, horn, tools; accept £225.—Box 6,057, c/o *The Motor Cycle*. [5245

A.J.S. 6h.p. Combination, Lucas No. 1 lamps, horn, spares, only run 300 miles; £210.—244, Newcastle St., Burslem, Stoke-on-Trent. [X5575

1920 A.J.S., delivery July, standard equipment, Lucas Magdyno lighting; near London; £250.—Box 6,048, c/o *The Motor Cycle*. [5232

A.J.S. Specialists, The Walsall Garage, Wolverhampton St., Walsall (Tel.: 444). can give favourable deliveries of these grand combinations. [5760

1916 6h.p. A.J.S. Combination, interchangeable wheels, splendid running order; £140; first cheque secures.—Taylor's Garage, Falmouth. [0239

1920 A.J.S. Combination, complete with hood, Lucas dynamo lighting; highest over £225; appointment.—29, Westmount Rd., Eltham, S.E.9. [4672

A.J.S. 2¾h.p., 1914, laid up 1916-17-18, chain drive, 3-speed, hand clutch, speedometer, Bosch, new tyres; 60 gns.—Lawry, 13, Clifton Rd., Sidcup. [4028

A.J.S. 1916 6h.p. Combination, complete with spare wheel, lamps, speedometer, etc., in splendid condition; £180.—Howlett, 39, Stanmore Rd., Birmingham. [4876

A.J.S., 2¾h.p., just overhauled and re-enamelled, perfect, 1916 model, engine No. 803.—Motor Cycle Mart, Fair Row, High St., Chatham. 'Phone: 301. [X6108

A.J.S., late 1919 combination, 6h.p., spare wheel, wind screen, Lucas head lamp, tail lamp, horn, and tools, as new.—Careless, Cartwright St., Wolverhampton. [X5363

£180.—A.J.S. combination, all complete, practically new, Lucas lamps, horn, pillion seat, etc., green model.—Miller, 62, Hampstead Rd., N.W.1 'Phone: North 1519. [2321

A.J.S. 1919 November Combination, 3 lamps, horn, speedometer, Tan-sad, hood, and cover, spare wheel and insurance policy; £215.—A.J.S., Pinehurst, Headley, Hants. [3656

A.J.S. 6h.p. Countershaft Combination, C.B. sidecar with dickey and wind screen, new tyres, and lamps and horn, just been done up; £145.—Seen, 4, Melbourne Rd., Coventry. [X5748

A.J.S., late 1916, new puncture-proof tubes, Bosch, lamps, speedometer, spares, etc., de luxe sidecar, perfect, and beautiful condition.—Crawley and Sons, Motor Garage, Bedford. [4828

A.J.S. 1920, recently delivered, large F.R.S. electric lighting set, speedometer, horn, mirror, spare wheel, wind screen, cover, spares; offers; buying car.—266, Lytham Rd., Blackpool. [3803

1919 6h.p. A.J.S. Combination, perfect condition, spare wheel, original tyres good, Lucas lamps; £205; appointment.—Dickinson, Stourwood House, Stourwood Av., Bournemouth. [4812

BARGAIN.—5-6h.p. A.J.S. combination, 2-speed (h.c.) clutch, K.S., lamps, horn, tools, etc., tyres as new, splendid condition throughout; any trial.—Bryan, 2, Sutton Benger, Chippenham, Wilts. [4667

A.J.S. 1915 4h.p., A.J.S. sidecar, fully equipped, spare wheel, all wheels interchangeable, tyres good, condition excellent; £140, close offer; take 3 anywhere; ideal holiday machine.—Maddox, Wychwood, Hayesfield Park, Bath. [5063

1920 A.J.S. Combination, specially picked engine, in new and perfect condition, Lucas Magdyno lighting set, hood and screen, latest Amac automatic single-lever carburetter; any trial; best offer over £250; Midlands.—Box 190, c/o *The Motor Cycle*. [X6105

1919 (Oct.) A.J.S. 6h.p. Combination, No. 11557, run 1,400 miles, standard equipment, also spring seat pillar, Lucas lamps, horn, Watford speedometer, mirror, Tan-Sad, hood, cover, side curtains, perfect order; £210.—Arnold, 4, Myrtle Terrace, Sidmouth. [4635

1919 A.J.S. Combination, new November, complete with spare wheel and discs, Easting wind screen, 3 electric lamps, Lucas horn, spare new tyre and tube, absolute perfect mechanical order and condition; £215, including full insurance policy.—Haddon, North St., York. [4689

Alder.

ALDER 2½h.p. 2-stroke, good tyres, fine order, Villiers engine, lately overhauled; £39.—Simson, 38, The Polygon, Southampton. [4262

Alecto.

ALECTO 1920 3½h.p. 2-stroke, 2-speed, clutch, K.S., lamp, horn, perfect condition; cost £90, £75, near.—48, Derwentwater Rd., Acton. [4664

Alldays.

NEW 1920 Allon 2-speed, hand clutch, kick-starter, horn, etc.; £79/10. 365, King St., Hammersmith. [3224

THE BIRMINGHAM HOUSE

P. J. EVANS

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'Phone: Mid. 2910-2911.

'Graph: "Lytcar, B'ham."

The August Holidays are approaching. Have you secured your Motor Cycle?

I am Agent for:

A.J.S., INDIAN,
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JAMES, CONNAUGHT,
HUMBER, NEW IMPERIAL,
EDMUND, CALTHORPE,
ROVER, METRO-TYLER,
ZENITH.

New 1920 Models for Immediate Delivery:

JAMES 4½ h.p. Combination	£170 0 0
JAMES 5-6 h.p Combination	£190 0 0
ROVER 3½ h.p. 3-speed and Sidecar	£187 16 0
ROVER 3½ h.p. T.T.	£114 11 0
ENFIELD 2¼ h.p., 2-stroke, 2-speed	£73 10 0
JAMES 2¼ h.p., 2-stroke, 2-speed	£70 0 0
METRO-TYLER, latest model type S. 2¾ h.p., 2-speed	£98 0 0
CONNAUGHT, Miniature single speed	£62 0 0
CONNAUGHT, 2-speed	£70 0 0
CALTHORPE-JAP, 2¾ h.p., 2-speed	£78 5 6
CALTHORPE 2¾ h.p., 2-stroke	£75 0 0
EDMUND-JAP 2¾ h.p., 2-speed, spring frame	£92 8 0
EDMUND, 2-stroke	£86 12 6
AUTOPED SKOOTER	£42 0 0
AUTOPED SKOOTER, slightly used	£32 0 0

LIGHT CARS.

MERRALL BROWN, 10 h.p., 4-cylinder, electric lighting, detachable wheel and spare	£375
BLERIOT WHIPPET, 8 h.p.	£280

P. J. EVANS.

MOTOR CYCLES FOR SALE.

Alldays.

ALLDAYS Allon: instant deliveries from stock.—Hewin's Garages, Ltd., the Real Service Firm, Totnes. [4192

ALLDAYS Allon 1920 Model, 2¾h.p.; 2-speed, brand new; list price, £85.—John C. Beadle, Ltd., Dartford. [4045

8h.p. Alldays Combination, good as new, hood, wind screen, lamps, spare gears, etc.; £180.—Box 5,927, c/o *The Motor Cycle*. [3863

1919 Allon 2¾h.p., full accessories, excellent condition; £55.—125, Hainault Rd., Leytonstone. 'Phone: Woodford 360. [4552

1920 Alldays Allon, kick start (in stock), for immediate delivery at makers' price.—Hayward's Garage, Pembroke St., Cambridge. [3894

8h.p. 3-speed K.S. Alldays Matchless Combination, lamps, horn, speedometer; nearest £110.—Knowelden, 7, Priory Av., London, N.8. [4846

ALLON 2¾h.p., 2-speed, hand clutch, lamps, horn, Henderson lightweight sidecar, first-class condition; £70.—42, Markhouse Rd., Walthamstow. [4466

ALLON 2-stroke, 1920, engine in tip-top condition, £65; 2¾h.p. Hazlewood-Jap, 1914, price £45.—370, Hornsey Rd., Holloway, London, N.19. [3911

ALLON 2¾h.p., 2-speed, clutch, good Dunlops, B. and B. carburetter, all in fine order; trial any time; 56 gns; buying combination.—Carpenter, Bosham, Sussex. [3772

1918 Alldays Allon 2¾h.p., 2-speed, lamps, horn, tools, spare belt and chain, perfect condition; £55.—39, Camber Grove, Camberwell, London, S.E.5. [4118

ALLON, 1917, stored 2½ years, 2-speed, clutch, lamps, horn, tools, spares, discs, tyres and condition excellent; £65.—Write Geach, Kenilworth, Newburgh Rd., Acton. [3980

ALLEN-BENNETT Motor Co.—Allon 2¾h.p., 2-speed, clutch, and kick starter; £85; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5308

2¾h.p. Alldays-Villiers 2-stroke, 1916, just overhauled, guaranteed mechanically perfect, mileage 900, not used last 3 years, room wanted; £36, or nearest offer.—Thwaites, 29, Greenford Av., Hanwell, W.7. [5087

ALLON, 1920, standard model, 2-speed, clutch and kick-start, used few miles only, and as new; cost £86/10. Pricing this machine at £70, we are endeavouring to make the ultimate purchaser our friend. We can also offer one 1919 Allon single-speed model, in thoroughly nice order, and almost new, at the specially attractive price of £47/10. New Allons for delivery from stock at list prices.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3535

Arden.

ARDEN (April, 1920) 2¾h.p., 2-stroke, little used, perfect condition, lamps, horn, accessories; trial; £55, or offer; must sell.—62, Station Rd., Handsworth, Birmingham. [3814

Ariel.

1920 Ariel, shop-soiled, 3½h.p.; £112.—Ross, 86, High Rd., Lee. [4212

3½h.p. Ariel, good running order; £36.—Rootes, Ltd., Maidstone [5061

ARIEL, 1920, 3½h.p., brand new; list price £115/10.—Box 6,038, c/o *The Motor Cycle*. [5220

ARIEL 3½h.p., 1915, mag., good running order; £45.—W. Wood, 17, Five Bells Lane, Rochester. [3874

CYRIL WILLIAMS, for early delivery of Ariels.—Chapel Ash Depot, Wolverhampton. [2267

1920 Ariel 3½h.p. Combination, brand new, unridden; first offer £150.—Box 6,040, c/o *The Motor Cycle*. [5223

1914 Ariel 3½h.p., 3-speed Armstrong, reliable, running order; £70.—Staley, Highley, nr. Kidderminster. [4298

1920 3½h.p. Ariel, 3-speed Countershaft Combination, mileage 250; £125.—Angel Hotel, Wainfleet. [4767

ARIEL 3½h.p. Countershaft Coach Combination, in crate; list price.—Brown, Moorhouse View, South Elmsall, Pontefract. [4711

ARIEL, all models, early deliveries; all parts stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [7414

ARIEL Solo, just delivered, or fitted with Henderson Model A sidecar; list price.—Mecten Motors, Ariel Agents, Dorking. 'Phone: 163. [2276

ARIEL 3½h.p. with Countershaft Combination, coach-built sidecar, immediate delivery; list price, £152/10.—John C. Beadle, Ltd., Dartford. [4048

ARIEL Combination, 3½h.p., 3-speed, clutch and kick start, lamps, horn, and speedometer; £75.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [5254

ARIEL Combination (1915), 5-6h.p. twin, fully equipped, and in first-class condition; £135; or nearest offer.—Mowles, Old Bedford Rd., Luton. [3850

MOTOR CYCLES FOR SALE.

Ariel.

LATE 1919 4h.p. Ariel Combination, electric lighting, mechanical horn, Cameo screen, etc.; £125, bargain.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6000

1919 (Aug.) 3½h.p. Ariel C.B. Combination, complete, head and tail lamps, etc., spare tube and tools, new cover back, splendid condition; £127.—197, Higher Hillgate, Stockport. [4275

ARIEL Countershaft Models, solo or sidecar, in stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., N.W.1. ('Phone: 5476 Museum). [4008

1920 Ariel Combination, 6-7h.p., mileage under 200, lamps, horn, pump, tools, apron, absolutely perpect any trial; bargain, £180, near offer.—78, Hamilton Rd., Wimbledon, S.W.19. [4526

ARIEL 3½h.p. Combination (Exhibition model), delivered December, complete with lamps, horn, tools, etc., perfect condition; £140.—Gilbert, Dyers Hall Rd., Leytonstone, E.11. [5175

ARIEL, late 1919, 3½h.p., 3 speeds, electric lamps and horn, Binks 3-jet carburetter, decompressor, hand and foot clutch, discs, only done small mileage, first-class condition; nearest £115.—Letters first, Smith, 3, Alexandra Mansions, Prince of Wales Rd., Norwich. [3979

Arno

4h.p. 2-speed, Free, Arno Combination, perfect condition, just thoroughly overhauled; 60 gns., or exchange good combination, cash adjustment.—Apply, Smithers, Kingston. [3913

Auto-Wheels.

WALL Auto-Wheel, very little used; £10/10. Bailey, Perry St., Chislehurst. [4015

AUTO-WHEEL, Model de Luxe, perfect order; £12/10.—23, Adys Rd., Peckham. [4344

AUTO-WHEEL, perfect order; bargain, £9.—27, Coleridge Walk, Garden Suburb, N.W.4. [4150

B.S.A. Auto Wheel, running condition; what offers (cash)?—Bright, Bridge St., Exeter. [4724

AUTO-WHEEL, B.S.A. de Luxe, as new, £14; also Wall, £9.—Robinson, Sandy, Bedfordshire. [4519

WALL Auto-Wheel, just overhauled, complete with attachment; offers.—Cornforth, Borrowby, Thirsk. [X5567

WALL Auto-Wheel, good condition, just overhauled; £10.—5, Park View, Cross Keys, Newport, Mon. [4594

AUTO WHEEL, B.S.A. Model, almost new; to clear £12/10.—The Minotaur Works, 48, High St., Windsor. [2669

B.S.A. Auto-Wheel de Luxe, engine No. 43587, in splendid running order, little used; £10.—Norrie, 28, Cross St., Fraserburgh. [3842

AUTOWHEEL, with strongly built 3-speed back pedalling brake bicycle, excellent condition; £23.—Wallis, 45, Dingwall Rd., Croydon. [6036

ROBERT BAMFORD.—I generally own, and always know of the best Auto Wheels in town; each unit specially selected and tested. See under Consulting Engineers. [2130

AUTO-WHEELS, £27/10 cash, or £8/5 deposit and £2 monthly; 80 page illustrated list post free.—M.Y. Dept., The Metropolitan Machinists' Co., Ltd., 243, Bishopsgate, E.C.2. [9729

Bat.

BAT-J.A.P. 6h.p. Combination, 2-speed, free engine; £65: trial.—23, Streatham Rd., S.W.16. Z5014

1920 Bat, Model 4, new, £160; immediate delivery.—Wright's Garage, Saffron Walden. Tel.: 16. [5191

BAT.—Immediate delivery 6h.p. countershaft 3-speed model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X5923

1920 new 6h.p. Bat-Jap and sidecar; £198/10.—Halifax Motor Exchange, Union St. South, Halifax. [4249

BAT Model 4 6h.p., just received; £160.—Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes. [4194

1920 Bat 6h.p. in Stock, solo, £160; combination £204.—A.S.C., 60, Mortimer St., W.1. Tel.: 6626 Museum. [3930

EARLY delivery of new 1920 Bat models.—Sole Birmingham agents: The Premier Motor Co., Aston Rd., Birmingham. [2444

1920 6h.p. Bat, Model 4, not done 200 miles, absolute bargain, £150, or near offer.—Boulton, Seek Rd., Smallthorne, Staffs. [4931

BAT-J.A.P. 8h.p., C.B. combination, 3-speed countershaft, recent model, as new, equipped; £135.—7, Daysbrook Rd., Streatham Hill. [2133

BAT 6h.p. 1914, 2-speed, disc wheels, long exhaust, complete with lamps, etc., a good sporting 'bus; £75.—Hewin's Garages, Ltd., the Real Service Firm, Totnes. [4200

BAT-J.A.P. 6h.p., spring frame, Dunlop heavy tyres, new Pedley belt, lamps, tools, etc., all in splendid condition; £55, or nearest.—Evans, 39, Albert Rd., Aldershot. [4540

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IMMEDIATE DELIVERY.

NEW 1920 MODELS

SCOTT, water-cooled, twin-cylinder, standard model	£147 0
ROVER, 3½ h.p., 3-speed, complete with Sidecar	£206 0
TRIUMPH, 2¼ h.p., lightweight	£75 0
BLACKBURNE, 8 h.p. twin, standard model, solo	£170 0
ENFIELD, 2¾ h.p., 2-speed	£73 10
LEA-FRANCIS, 3½ h.p. twin, M.A.G. engine	£130 6
NEW IMPERIAL, 6 h.p., twin J.A.P., 3-speed	£147 0
DIAMOND, 2¼ h.p. Villiers, 2-speed, clutch, kick-start	£84 3
FRANCIS-BARNETT, 2¾ h.p. J.A.P., 2-speed, clutch, kick-start	£84 0
RUBY, 2¾ h.p. J.A.P., 3-speed, kick-start, spring frame	£120 0
VERUS, 2-stroke, single-speed	£60 0
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F.N., 2½ h.p., shaft drive, 2-speed	£85 0
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RUDGE-MULTI, 1916, 3½ h.p., clutch, and pedal starter	£63 0
ENFIELD, 2¼ h.p., all chain drive, all accessories	£69 0

SIDECAR COMBINATIONS

B.S.A., 1912 model, 2-speed, Millford Sidecar	£63 0
DOUGLAS, 1914 model, 3½ h.p., 2-speed, kick-start, Bosch magneto	£110 0
NEW IMPERIAL, 8 h.p. J.A.P. engine, 3-speed, W.D. model, complete with Sidecar	£145 0
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BAT-J.A.P. Combination, 1914, 8h.p., 3-speed countershaft, kick starter, Bosch mag., electric light, coachbuilt sidecar, in splendid condition; £90.—Mattock Moto Co., Mattock Lane, Ealing, W.5. [4862

BAT-J.A.P. 6h.p. Coachbuilt Combination, 2-speed, chain drive, Bosch, B. and B., splendid condition, tyres new, tools, lamps, £10 of spares; any trial; £75.—153, Peckham Park Rd., S.E.15. [4965

BAT-J.A.P. 1914 8-10h.p., 3-speed, clutch, kick start, coachbuilt sidecar, stored during war, mileage 4,000, lamps, panniers, belt case, Watford speedometer, Bosch mag., tyres excellent; immediate disposal; £90, no offers.—8, Moorland Rd., Leeds. [4064

BAT-J.A.P. 6h.p., 1914, wicker sidecar, 2-speed countershaft, new Binks, new discs, new P. and H. largest set, speedometer, mechanical horn, long exhausts, thoroughly overhauled, good tyres, spare belt, all black; £115, or near offer; done 3,400 miles.—Hard Crag Farm, Cartmel, Grange-over-Sands. [4394

Beardmore

BEARDMORE-PRECISIONS; delivery 7 days; £95.—Grandex, 138, Gray's Inn Rd., W.C. [1216

1920 Beardmore-Precision, immediate delivery; £95.—Rootes, Ltd., Maidstone. [5053

1920 Beardmore-Precision, run 80 miles; accept £86.—5, Victoria Parade, Muswell Hill. [5131

BEARDMORE-PRECISION 1920 3½h.p. Solo, spring frame, in stock for immediate delivery; £95.—Kays, 8, Bond St., Ealing. 'Phone: 1827. [4478

Blackburne

EGERTONS, Northgate, Ipswich.—Place your order now for earliest delivery Blackburne.—'Phone: 962. [4053

4h.p. Blackburne, brand new; immediate delivery; list price, £128/10.—John C. Beadle, Ltd., Dartford. [4046

NEW 1920 8h.p. Blackburne with Montgomery sidecar, smart and powerful outfit; £198/10; in stock to-day.—Julian, 84, Broad St., Reading. 'Phone: 1024 [4105

ALLEN-BENNETT Motor Co.—Blackburne 8h.p. twin and Henderson Elite sidecar; £215; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5237

4h.p. Blackburne and low cane sidecar, Sturmey 3-speed hub, tyres very good, spare back wheel with cover and tube, Bosch mag., special racing engine, electric lighting; particulars stamp; £100, or best offer.—Burney, 26, Knoll Rd., Wandsworth. [4287

LATEST 4h.p. Blackburne, engine E 2103, Sturmey-Archer, plated flywheel and clutch cover, Sterling legshield watch tank, solo and sidecar, sprockets, lamps, spare chains, Henderson Elite sidecar; the whole as new; £160, or best offer.—Apply Sunday to Wednesday, Blackburn, 44, West St., Fareham, Hants. [5282

BLACKBURNE 1920 8h.p. Solo, for immediate delivery; £170. Delivery of 4h.p. solo or combination guaranteed July.—Sole Oxfordshire distributers, The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3536

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F.O.C.H. have a Bown-Villiers, sporting little 'bus, ready for the road; £35.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7 (including Saturdays [4380

Bradbury

1920 Bradbury 4h.p., just unpacked; list price, £120.—Turnill, North Peterborough. [4227

BRADBURY.—Order now to avoid disappointment.—The Walsall Garage, Wolverhampton St., Walsall. [5762

1920 Bradbury 6h.p., sidecar and accessories; £205.—Halifax Motor Exchange, Union St. South, Halifax. [4253

LATE 1919 4h.p. Bradbury Combination, 3-speed, new condition; £120.—Spears, 13, Eastdean Rd., Eastbourne. [4935

BRADBURY Combination, 4h.p., chain drive, 1920 model in stock, at list price.—Arnatt's, The Premier Depot, 3, Holdenhurst Rd., Bournemouth. [X6058

1914 Bradbury 4½h.p. Combination, 2-speed, Bosch mag., coachbuilt sidecar, good condition, only wants seeing; £75.—57, Upham Park Rd., Chiswick, W.4. [4434

BRADBURY Combination, 1915, 3-speed, A1 condition, no dealers; would exchange lightweight and cash.—Snyders, 7, Waverley House, Kenton St., Russell Square. [4427

BRADBURY 3½h.p. Combination, 2-speed, Bosch, new back tyres, lamps, several spares, perfect running order, after 6; £60.—2, Queensgate Villas, Victoria Park Rd., Hackney. [4317

1913 Bradbury Combination, 4h.p., 2-speed, kick starter and clutch, coachbuilt sidecar, spares, tools, lamps, and speedometer; 50 gns.—Dunstan, Meadhurst, Sunbury-on-Thames. [X5882

MOTOR CYCLES FOR SALE.

Bradbury.

BRADBURY 4h.p. Combination, 3-speed countershaft, hand clutch, K.S., chain drive, Bosch, Amac, Mills-Fulford C.B. sidecar, lamps, luggage grid; ride away; £80.—47, Tollington Rd., Holloway, N.7. [4124

4h.p. Bradbury Combination, 1914, Sturmey-Archer 3-speed, Bosch mag., new belt, tank restored, splendid condition, stored since 1915; must sell; £65, bargain.—Box 6,041, c/o *The Motor Cycle.* 'Phone: Chiswick 1211, Boxmoor 62. [5225

BRADBURY 1915 4¼h.p. Big Single Combination, Sturmey-Archer 3-speed and clutch, K.S., Bosch mag., coachbuilt sidecar, complete set Lucas acetylene lamps; best offer over £75; can be seen by appointment.—Box 6,021, c/o *The Motor Cycle.* [4387

1920 Bradbury Combination, 4h.p., 3-speed countershaft gear, kick start, hand-controlled clutch, chain drive, speedometer, F.R.S. head light, latest type Montgomery sidecar, Easting wind screen, only run 500 miles; price £200.—F. Hickey, Alcombe, Minehead, Somerset. [3954

Brough.

NEW 1920 Brough Model G, 5-6h.p., 3-speed; £140; now on view.—Sole Birmingham agents: The Premier Motor Co., Aston Rd., Birmingham. [2445

BROUGH 6h.p., Olympia 1919 model, speedometer, Cameo screen, Tan-sad seat, and luxurious sidecar, with two receptacles, condition as new; £195.—Oak Lodge, Marbury Rd., Chester. [4099

BROUGH 1920 5h.p., Henderson lightweight sidecar, not run 700 miles, accessories; would separate; privately owned.—Can be seen at The Eardley Garage, Belvedere, Kent. 'Phone: 239 Erith. [3915

1920 Brough 5h.p., Swan sporting sidecar, Cowey, Lucas electric lights, mileage 1,400, perfect, unscratched; £160; 1920 solo considered and cash.—Baines, Wigton St., Hightown, Manchester. [X6028

1919 5-6h.p. Brough and Special Sidecar, disc wheels, electric and acetylene lighting sets, many spares, gold medal London-Land's End; £175, or offers.—L. Reynolds, 55, Trentham Rd., Longton, Staffs. [4843

Brown.

3½h.p. Brown, thoroughly sound and good running order; any trial; £31.—Rootes, Ltd., Maidstone. [5060

B.S.A.

B.S.A., mileage 200, all on, insurance.—Browning, 52a, New St., Durham. [4796

1920 B.S.A. Model H., all-chain; £110.—16, Hesper Mews, Earl's Court. [4397

B.S.A. 3½h.p., 2-speed; £50, or offer.—Kettlewell, 39, Victoria Rd., Clapham, S.W.4. [4609

B.S.A., K., 1919 (Aug.), all accessories, perfect; after 7; £108.—6, Caple Rd., Harlesden. [3910

B.S.A.—The Walsall Garage, Walsall, booking orders for all models; rotation deliveries. [5761

1914 B.S.A., 3½h.p., clutch, lamps, horn, etc., perfect; 55 gns.—39, South Parade, Oxford. [4773

B.S.A. 1915 4h.p., good running order; £85, or nearest offer.—Verrall, Walsgrave, Coventry. [X5808

B.S.A. Combination, chain, all accessories, trial free; £110.—Hutchinson, Platts Common, Barnsley. [4813

1920 B.S.A. Combination, not run 200 miles; £165.—Yates, Market Place, Tickhill, near Rotherham. [X5903

B.S.A. 4¼h.p. Combination, 3-speed countershaft, clutch; £85.—Marks, 121, Acton Lane, Chiswick. [5024

4¼h.p. B.S.A. and Gloria sidecar, 3-speed countershaft gear and kick starter; gilt, £100.—3, Parker Lane, Burnley. [X5900

B.S.A. 3½h.p. 1914 T.T. Model, splendid condition, carefully used; £57/10.—51, Queen St., Hitchin, Herts. [5034

B.S.A. Combination, 1916, and Canoelet sidecar, overhauled; £105.—41, Wyley Rd., Radford, Coventry. [X5960

B.S.A. 4½h.p. and combination, splendid condition; £110; seen any time.—Apply, 66, Arthur St., Chelsea, S.W. [3777

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B.S.A. 6-7h.p. Twin Combination; immediate delivery; sell chance for deposit paid.—134, Latimer St., Birmingham. [4889

1917 B.S.A. Combination, perfect order, lamps, horn, wind screen, apron; £140.—Tunnill, North Peterborough. [4225

1919 B.S.A. Combination, as new, fully equipped; £125, quick sale.—5, Dunsmore Rd., Hall Green, Birmingham. [X5917

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1920 New 4¼h.p. B.S.A. Combination, Lucas magdynamo lighting, unridden; £185.—Box 6,077, c/o *The Motor Cycle.* [5251

1919 B.S.A., Canoelet sidecar, special competition engine, gold medal winner, perfect; £130.—Jack Fox, Hawarden, Chester. [X5905

1916 B.S.A., 3-speed, etc., and B.S.A. sidecar, fully equipped; £125; excellent condition.—68, Queen St., Leek, Staffs. [4898

1920 B.S.A. Combination, Easting screen, lamps, etc., not ridden 40 miles; best offer.—O. Birch, Tiddington, Stratford-on-Avon. [X6015

1920 B.S.A. 3-speed Combination, mag-dynamo, special 3½h.p. engine, absolutely perfect; £165.—16, Hesper Mews, Earl's Court. [7941

B.S.A. 1920 4¼h.p., Model K, delivery very shortly; list price; London only.—Turner Bros., 134, Upper Thames St., London, E.C. [4905

B.S.A. Countershaft Combination, all-chain Model H., in lovely condition, complete, lamps, horn; £110.—75, Warwick Rd., Bowes Park. [4571

1916 B.S.A. Combination, excellent condition, in use, seen any afternoon; £90.—Tromans, Bellows Makers, Blackheath, Birmingham. [4163

B.S.A., 1916, all chain drive, 3 speeds, sidecar, all accessories, etc., as new; £95; after 6 o'clock.—61, Colvestone Crescent, Dalston, E.8. [4899

B.S.A. 4¼h.p., 3-speed, all chain Combination, overhauled, repainted, Triplex screen, smart, perfect; £92, nearest.—1, Cricklefield Rd., Clapton. [4677

B.S.A. 3½h.p. 1912 Combination, belt drive, Millford sidecar, Bosch mag., 2 speeds, pedal start; £63.—Maudes', 100, Gt. Portland St., London. [5166

1916-17 B.S.A. Coachbuilt Combination, screen, chain, belt, excellent condition, fully equipped, spares; £120.—Boydell, Orford, Warrington. [4060

1920 B.S.A. and B.S.A. best sidecar, disc wheels, accessories, little used, as new throughout, beautiful outfit; £150.—89, Oak Lane (Tel.: 2190), Bradford. [4866

B.S.A. 1915 Model K, also 1919 Model K, with or without sidecars.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5153

1914 4h.p. B.S.A. and Millford wicker sidecar, 3-speed countershaft gears, kick start and clutch, lamps, horn, etc.—Hayward's Garage, Pembroke St., Cambridge. [3895

1915 B.S.A. Combination, 3-speed countershaft, splendid engine, all tyres new, 3 lamps, horn, Tan-sad, equal to new; £110.—Burns, Prehen, Dals Rd., Purley. [4168

B.S.A.—Early deliveries of all models, B.S.A. replacements, sidecars, screens, hoods, etc., always in stock.—County Cycle and Motor Co., 307, 314, Broad St., Birmingham. [4080

1918 B.S.A. Combination, 3-speed, countershaft, kick start, all chain driven, fully equipped, as new; 98 gns., or exchange lightweight.—64, Church St., Edgware Rd., W. [5149

1914 B.S.A. and Coahbuilt Sidecar, 4¼h.p., all-chain, 3-speed, clutch, lamps, horn, good running order; £80; after 6 p.m.—39, Springfield Gardens, Upper Clapton, E.5. [4765

1919 B.S.A. 4¼h.p. Model H., engine 23702, speedometer, D.A. lighting, Montgomery sidecar, Easting screen, luggage carrier, perfect; £130.—Burnes, No. 2 Flat, 388, Finchley Rd., N.W.2. [4208

1919 B.S.A. Model K., Mead-Deakin coachbuilt sidecar, engine perfect, and good tyres, mileage 1,000, 3 lamps, horn, tools; trial by appointment; bargain, £135.—Morris, Brogbrook Rd., Desborough, Northants. [4565

B.S.A. Combination, 1920 (May), 4¼h.p., 3-speed, chain drive, coachbuilt sidecar, absolutely new, unsoiled; reason for sale, owner buying car.—Pile, c/o St. Alban's Garage, High St., Teddington. 'Phone: Kingston 1533. [4708

1915 B.S.A. Coachbuilt Combination, 3-speed, countershaft, clutch, K.S., variable jet carburetter, Splitdorf re-enamelled green, lamps, pump, hood, overalls, insurance, reliable; any trial; £110.—11, Fromefield, Frome. [4911

B.S.A. 4¼h.p., all-chain, 3-speed countershaft, electric light, horn, watch, Jones tip speedometer, Millford coachbuilt sidecar, hood, wind screen, spares, etc., beautiful condition; best offer over £100.—199, Uttoxeter New Rd., Derby. [X5576

CAPT. BREESE'S T.T. 1920 B.S.A., on which 4-hour record was broken last week, used only for this run, perfect road and track equipment, spares, good for fast touring, £100; with new sidecar, £119.—Breese, The Cottage, Aston Clinton, nr. Tring. [3768

B.S.A. Combination 4¼h.p., June, 1916, 3-speed countershaft, kick start, clutch, enclosed chain drive, variable jet, handsome Swan bulbous back coachbuilt sidecar, wind screen, luggage carrier, etc., guaranteed like new; 98 gns.—20, Canterbury Rd., Croydon. [3975

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B.S.A. 1915 4¼h.p., all-chain K.S., clutch, 3-speed combination, climb anywhere, fast and powerful, but not good looking; £75, a real bargain.—Morris, 21, Beauclerc Rd., Hammersmith, London. [3785

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LATE Model 4¼h.p. B.S.A., 3-speed, clutch and K.S., C.B. combination, horn, lamps, car generator, wind screen, discs, new tyres, belt, Brooks' saddle and Tan-Sad, tools, spare belt, etc., splendid condition, recently overhauled; photo; £120.—74, Manville Rd., Balham. [4913

B.S.A., 4¼h.p., 2 speeds, F.E., K.S., all chain, excellent, extra heavy Dunlops unpuncturable, lamps, speedometer, horn, watch, practically new, Paragon C.B. sidecar, body removed, chassis folded in few minutes, combination pass through 30in. doorway— Cameo wind screen; £90, or near offer.—Garner, Glenholm, Hook Rd., Surbiton. [4618

Calthorpe

3½h.p. Calthorpe and Sidecar, variable gear; £45.—Ben-o'-Farleys, 72, High St., Hounslow. [3938

CALTHORPE Junior, Precision, F.E., 2-speed, good condition; £30.—31, Willoughby Rd., Hornsey, N.8. [4171

CALTHORPE 1917 2-stroke, 2-speed countershaft, lighting set; 46 gns., rare bargain.—Fowler, Stonham. [4701

CALTHORPE Junior, 2-speed, Precision, B. and B., splendid condition; £38.—Claremont, Wolseley Rd., Mitcham Junction. [4128

CALTHORPE-J.A.P. 2¾h.p., 1915-16, Enfield 2-speed, tyres nearly new, splendid appearance; £45.—Cookson, Malmesbury, Wilts. [2602

CALTHORPE-J.A.P., 1916 2¾h.p., Enfield 2-speed, new tyres, take 2 anywhere; £46, near offer.—C. Fox, Charnwood St., Sutton-in-Ashfield. [4320

CALTHORPE 1920 Motor Cycles, latest models, J.A.P. 2-speed, 71 gns.; 2-stroke, 2-speed model, 68 gns.—Eagles and Co., 275, High St., Acton, W.3. [X6041

3½h.p. Calthorpe, 2-speed, Bosch, B. and B., new heavy Dunlop tyres, with lamps, horn, complete, good order; £32.—Ogden, 11, Thomas St., King's Lynn. [4881

CALTHORPE-J.A.P. 4-5h.p. Twin C.B. Combination, Enfield 2-speed countershaft, fully equipped, disc wheels, sporty model; £120, or near offer.—6, Windsor Rd., Richmond. [5002

CALTHORPE Motor Cycles, wholesale and retail agents for the county of Devon, all models in stock for immediate delivery.—The Carlton Motor Co 33, Torwood St Torquay. [0201

CALTHORPE Motor Cycles.—2¾h.p. Jap model £78/5; two-stroke model, £75; both fitted with Enfield 2-speed gear; delivery from stock.—P. J. Evans 83-91, John Bright St., Birmingham. [0174

CALTHORPE J.A.P., 2¾h.p., 1915, Enfield 2-speed gear, well kept and in excellent condition, can be seen after 7 Friday evening; £35, no offers.—10, Pattison Rd., Finchley Rd., Hampstead. [4722

ALLEN-BENNETT Motor Co.—Calthorpe 2¾h.p., 2-speed, 2-stroke; £71/8; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5302

ALLEN-BENNETT Motor Co.—Calthorpe-Jap 2¾ h.p., Enfield 2-speed; £74/11; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5301

1914 4¼h.p. Racing Calthorpe-Precision, disc wheels, long flexible exhaust, Lucas lamps, Bosch mag., watertight, full T.T. bars, B.B. pump; this is a very fast machine; £54.—Ford, Sotwell, nr. Wallingford, Berks. [X6019

1920 Calthorpe 2-stroke, 2¾h.p., Enfield 2-speed, only ridden 150 miles, absolutely as new, P. and H. lamp set, horn, tools, full insurance, genuine; £65, lowest, no offers.—P. Webber, 21, Edinburgh Rd., Walthamstow, E.17. [3851

CALTHORPE-J.A.P. 1916 4h.p. Twin, engine No. 6546, appearance fair, very fast and mechanically sound, W.S.R. jet adapter, long flexible exhaust, Enfield, 2-speed, 5½ and 8¾ to 1, handle-start, Henderson sporting sidecar with special sprung tool box, spares, and tools, adjustable pulley and John Bull belt for speed work, consistently placed in first three in Oxford University M.C.C. events; took 2 and luggage over Bwlch-y-Groes on Jan. 4th this year; best offer over £100, or would sell solo; seen by appointment.—G. Harwood, Woodhouse, Almondsbury, Glos. [4850

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COVENTRY EAGLE - J.A.P. 2¾ h.p., 2-speed, clutch, and kick-starter	£90	6	
DIAMOND 2½ h.p., 2-stroke. 2-speed	£84	3	
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ROVER 3½ h.p., T.T., with Philipson pulley	£123	7	6
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CAMPION-VILLIERS 2-stroke, new last July, head and tail lamps, horn, etc., in first-class order; what offers?—J. G. Maxted, Bridge Chambers, Burton-on-Trent. [3898

CAMPION-J.A.P. 6h.p. 1915 Combination, all chain drive, kick starter, fine sidecar, perfect, speedometer, lamps, mirror, mechanical horn; price £98.—51, Queen St., Hitchin, Herts. [5033

1915 4h.p. Campion-Jap Combination, Sturmey-Archer gear box, 3-speed, clutch, kick start, Lucas horn, Empire coachbuilt sidecar, underslung chassis, very nice condition; £75.—Cobbold, Clifton Mount, Summerhill Rd., Dartford. [4456

1920 6h.p. Campion-J.A.P. Solo, S.A. 3-speed C.S. gear, all-chain drive, B. and B., Thomsen-Bennett mag., just delivered, unused, list price; owner having another machine.—Vernet, Balsall Common, nr. Coventry. [X5957

8h.p. Campion-Jap Combination, late model, hood, screen, side curtains, Binks carburetter, speedometer, lamps, Brooks B150 (padded) saddle, insured, 76 m.p.g. benzol, climb anything with 2 passengers (Kirkstone last week), speed 4-70 m.p.h., ready for tour or speed trial; £160, or close offer.—8, Church Av., Harrogate. [4794

Cedos.

CEDOS.—Immediate delivery 2¼h.p. 2-speed model.—Parker's, Bradshawgate, Bolton. [X5921

CEDOS gent's model in stock; £73/10.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6006

CEDOS, gent's model; 70 gns.; delivery from stock.—Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes. [4193

1914 Centaur Lightweight, unused 4 years, condition and appearance as new, genuine bargain; £35.—4, Lower Park Rd., New Southgate. [3940

Centaur.

CENTAUR 3½h.p., new tyres, saddle, tank, etc.; bargain, £25.—7, Central Hill, Upper Norwood. [4823

CENTAUR 3½h.p., Bosch, B. and B., engine, overhauled, new tyres and tube on back, modern frame, re-enamelled, tools, horn.—Bailey, 130, Nicholls St., Coventry. [X6032

Chater-Lea

1920 Chater-Lea 2-stroke, 2-speed, just received; makers' price.—Rose's Garage, Uxbridge. [4699

CHATER-LEA 3h.p. Twin, Amac, new mag., less mag. sprocket; cheap.—P. Willcocks, Datchet, Bucks. [4524

CHATER-LEA latest 8h.p. No. 7 Combination; £194; immediate delivery.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6002

7-9h.p. Chater-Lea Combination, coachbuilt sidecar, recently overhauled, tyres nearly new, full kit tools; owner purchased car; what offers?—293, Hainton Av., Grimsby. [3786

CHATER-LEA 3½h.p., single-speed, belt drive, with light coachbuilt sidecar, fast sporty lot, reliable climber; sell cheap, £42; trial; bought car.—Chemical Company, 3, Nicholson Rd., Addiscombe, Croydon. [5110

CHATER Combination, 1920, 8-10h.p., 3-speed countershaft, all chain, perfect condition guaranteed, wind screen, fully equipped; £130; bargain, must sell.—7, Seymour Mews, Lower Birkeley St., W. 'Phone: Mayfair 7070. [4945

Chater-Lea-Jap.

£85; Chater-Lea 8h.p., twin J.A.P., 3 speeds, chain drive, coachbuilt sidecar.—103a, High St., Wandsworth. [5007

Chater-Lea-Triumph.

CHATER-LEA, 1917 Triumph engine fitted (C.A.V., Clinchers, Mabon gear, all new), Lucas lamps, mechanical horn, red discs, smart, reliable; trial; £65, offers.—Tarlton, 33, Essex Rd., Manor Park, E. [4116

Cleveland.

1920 Cleveland 3h.p., 2-speed, clutch, K.S., perfect condition; any trial; £78; owner purchased Sunbeam combination.—Gaskell, East View Terrace, Lytham Rd., Fulwood, Preston. [4267

Clyde.

CLYDE, 4h.p. J.A.P., Bosch, Druids, Grado gear, lamps, horn, etc.; £34.—Clarke, Chapel St., Ibstock, Leicester. [5212

Clyno.

1920 Clyno Lightweight; £75.—Rootes, Ltd., Maidstone. [5055

CLYNO Lightweight in stock; £75.—Rhosha Motor Co., Bank Mews, Romford. [2162

CLYNO Combination, 1918, lamps, etc., £125.—C.A.E. Co., Ltd., Hobson St., Cambridge. [5106

CLYNO 1916 6h.p. Twin, C.B. outfit, exceptional condition; £105.—109, St. Leonard's Rd., Mortlake. [3873

LATEST Clyno 2-stroke, 2 speeds, clutch, as new; £68.—J. H. Clayton, Glazebrook, nr. Manchester. [4829

MOTOR CYCLES FOR SALE.

Clyno.

1920 Clyno 2-stroke, 2-speed, clutch; £75; in stock to-day.—Julian, 84, Broad St., Reading. 'Phone: 1024. [4108

6h.p. Clyno, run 500 miles, equipped, spare wheel, etc.; £110; bargain.—Povey, Cartref, Burnham, nr. Windsor. [2883

CLYNO Combination, 1915, new Bowser 2-seater side-car; £135.—King Edward Garage, Church End, Finchley. [4968

OCTOBER (1919) Clyno Lightweight, lamps, horn, good condition; £65.—Illingworth, Whinney Field, Halifax. [3989

2½h.p. 1920 Clyno, 2-speed, clutch, brand new; list price, £75; immediate delivery.—John C. Beadle, Ltd., Dartford. [4044

CROW Bros., Guildford, West Surrey Clyno agents, have large contracts for 8h.p. combinations and 2¾h.p. lightweights. [3172

CLYNO 6h.p. Combination, 3-speed, countershaft; any trial; £100, offers; take lightweight.—Coffin, Holwell, Sherborne. [4922

MAUDES'.—Clyno 2½h.p., 2-speed, belt drive, C.A.V. magneto, Amac carburetter, Dunlop tyres, bulb horn; £72.—Below.

CLYNO 2½h.p., 1920 model, C.A.V. magneto, Amac carburetter, Dunlop tyres, belt drive, tool bag, pump and tools; £73.—Maudes', 100, Gt. Portland St., W.1. [5173

CLYNO 2-stroke, 2-speed, clutch, guaranteed perfect; £45; must sell.—48, Plough Lane, Haydons Rd., South Wimbledon. [X5964

1920 Clyno Lightweights, 2-speeds, hand clutches, in stock for immediate delivery; £75.—Kays, 8, Bond St., Ealing. 'Phone: 1827. [4479

1916 Clyno Combination, well equipped, mechanically perfect, any trial; offers near £120.—Crighton, 12, Burnham Rd., Dartford. [4316

CLYNO 6h.p., 1916, 3-speed, kick start, spare wheel, interchangeable, smart sidecar, lamps, horn; £135.—Turnill, North Peterborough. [4221

CLYNO Combination, 6h.p., K.S., bulbous sidecar, just overhauled, and Tansad; apply after 6 p.m.: £87/10.—47, Voltaire Rd., Clapham, S.W.4. [3788

1916 5-6h.p. Clyno Combination, 2 spare wheels, lamps, tools, horn, coachbuilt sidecar, in first-class running order; £95.—Taplin, 159, Hornsey Rd., N. [4209

CLYNO, 2-stroke, 2-speed, aluminium footboards, engine just overhauled, new belt, in excellent condition; £45.—F. Claxton, East Harling, Norfolk. [4802

CLYNO Lightweight in stock. Orders booked in rotation. Clyno combination orders booked in rotation. —Rothwell and Milbourne, Cowleigh Garage, Malvern. [6185

CLYNO Combination, 3-speed, kick start, clutch, chain drive; 120 gns.; exchange lower power and cash.—57, Kenbury St., Coldharbour Lane, Camberwell. [4901

CLYNO Combination, 1917 W.D. Model, 6h.p., 3-speed countershaft, K.S., interchangeable wheels, Klaxon, lamps, generator; 105 gns.—21, Glendale Rd., Erith. [4455

CLYNO 1920 Lightweights, 2 speeds, clutch, new lamps, horn, nearly new; £66, carriage paid.—Manager, Lake Hotel, Llangammarch Wells, Brecon-shire. [X6024

1220 Clyno 2½h.p., 2-speed, clutch, in absolutely perfect condition, not ridden 500 miles; 65 gns., very great bargain.—Julian, 84, Broad St., Reading. 'Phone: 1024. [3833

1916 Clyno 6h.p. 3-speed C.B. Combination, chain drive throughout, 4 wheels interchangeable, equipped complete, splendid order; £120.—R.K., 6, Kathnor Rd., W.12. [4006

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd. Wolverhampton. Tel.: 1160. [3459

CLYNO Combination, 6h.p. twin, 1915, 3-speed, kick start, detachable wheels with spare, lamps, horn, magnificent outfit; £120; accept half down.—Bunting's Motors, Wealdstone, Harrow. [5080

ALLEN-BENNETT Motor Co.—Clyno 2½h.p. 2-stroke, 2-speed, clutch; £75; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5303

1916 Clyno 6h.p. Combination, 3 speeds, kick, 4 interchangeable wheels, 700×80 tyres (1 new), 3 lamps, mechanical horn, black and gold, new condition; £125; after 6.30.—65, Clifton Av., Wembley Hill. [4764

CLYNO Combination, 3-speed, kick start, clutch, chain drive, interchangeable wheels, wind screen, lamps, horn, overhauled and enamelled, any trial; nearest £110.—S., c/o Lee and Newman, Portland St., Brighton. [4613

CLYNO Lightweight Model in Stock for delivery at list price; also similar model, as new, run few miles only, at bargain price of £66.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3537

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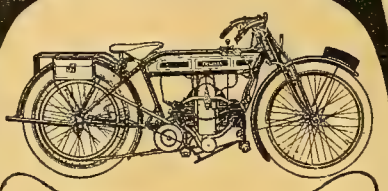

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Connaught.

CONNAUGHT 2¾h.p., as new, lamps, etc.; £55.—Mitchell, Westbury, Brackley, Northants. [3984

CONNAUGHT Motor Cycles.—2½h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. J. Evans, 83-91, John Bright St., Birmingham. [0250

1914 Connaught 2-stroke 2¾h.p., just completely overhauled, sound mechanical condition, very smart appearance, fast; £40.—S. Berry, 4, Forest Side, Newport, I.W. [4123

2¾h.p. Connaught, new 1920, 2-speed, kick-start, sloping tank, mudshields, 26in. wheels, long exhaust; £90, including lamps, etc.; special machine. —2, Whitley Villas, Whitley, Coventry. [X5963

Coulson

EGERTONS, Northgate, Ipswich, can give immediate delivery Coulson-B.—'Phone: 962. [4054

£85; Coulson B 2¾h.p., 2 speeds, spring frame, 1920 model, accessories.—103a, High St., Wandsworth. [5003

1920 Coulson B, 2¾h.p., speedometer, lamps, etc.; £97.—King Edward Garage, Church End, Finchley. [4675

COULSON B, 2¾h.p., 1920, just delivered; 95 gns., plus carriage.—Renown Motor Co., South Bridge St., Bathgate, Scotland. [X5179

COULSON B, 2¾h.p., spring frame, Blackburne engine, delivery from stock; 95 gns.—Clark, 7, Exhibition Rd., South Kensington. [X6099

1920 Coulson B, 2-speed, immediate delivery; list price; £97/10.—A. J. Young and Co., Ltd., 75, Albany St., Regent's Park, London, N.W.1. [0225

NEW Coulson-B 4h.p., with 3-speed clutch and kick starter, spring frame, etc.; 118 gns., or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [3879

NEW Coulson-B 2¾ and 4h.p. Models in stock, 2-speed gear, spring frame, Blackburne engine; at manufacturers' list prices; easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [3878

COULSON B. 2¾h.p., Blackburne engine, spring frame, 2-speed gear, delivery from stock at list price; extended terms if desired; 95 gns.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

ALLEN-BENNETT Motor Co.—Coulson B 4h.p., Blackburne engine, 2-speed, spring frame; £110/5; cash, exchange, or extended payments.—9-10, 11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5289

ALLEN-BENNETT Motor Co.—Coulson B 2¾h.p., Blackburne engine, 2-speed, spring frame; £99/15; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5290

ALLEN-BENNETT Motor Co.—Coulson B 4h.p., Blackburne engine, 3-speed, clutch, and K.S.; £123/18; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5291

ALLEN-BENNETT Motor Co.—Coulson B 2¾h.p., Blackburne engine, 2-speed, clutch, and K.S.; £110/5; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5292

1919 2-speed Coulson, 2¾h.p. Blackburne, D.A. lighting set, Bonniksen speedometer, leaf springs (rear wheel) enclosed in Wefco spring gaiters, 1920 type tank, brake and stand, mudshields, long copper exhaust, Brampton forks, 3in. rear tyre, almost new, spare 2½in. cover good condition, latest jet control to Capac, mileage 2,000; private owner; £100.—Seen at Ballards Motors, 92, Gloucester Rd., S.W.7. [4299

Coventry Eagle.

COVENTRY EAGLE, 1919, 2-speed, 2-stroke, in tip-top condition, Lucas lamps, complete with spares; £53.—Finney, 35, Pride Hill, Shrewsbury. [3805

COVENTRY EAGLE 2¼h.p. J.A.P., 2-speed, Sturmey gear, kick start and clutch; £85, bargain.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6001

1920 Coventry Eagle, 2¼h.p. J.A.P., Sturmey-Archer gear and clutch, complete spares and accessories, done 300 miles; £80.—Seel, Saxby Rd., Melton Mowbray. [4351

COVENTRY EAGLE, 1918, Villiers engine, 2-speed, finish and condition as new, owner bought combination; £55, or offer.—63, Albemarle Gardens, New Malden, Surrey. [3936

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Coventry Eagle.

1920 Coventry Eagle 3½h.p., S.A. 3-speeds, K.S., clutch, T.T. bars, long copper exhaust, all accessories; £120.—Hearne, Rose Cottage, Penn St., Amersham. [3763

1920 Coventry Eagle-Jap 2¾h.p., 2-speed, clutch, K.S., Lucas accessories, delivered new April 27th, mileage 700; £78; must sell quickly.—Roberts, 59, Minstead Rd., Gravelly Hill, Birmingham. [X5971

ALLEN-BENNETT Motor Co.—Coventry Eagle 2½ h.p., single-speed, Villiers engine; £67/1; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5305

Dene.

1914 Dene 4¼h.p. Coachbuilt Combination, 3-speed, clutch, handle-start, new tyres, lamps, tools, in good running order; a bargain, £80.—Mr. Ralph Abbott, West End, Witton Gilbert, Co. Durham. [4097

Diamond.

DIAMOND, Villiers engine, single speed, new; £62.—Nelson, 39, Queen St., Rhyl. [X5847

DIAMOND, new 2-stroke in stock; £63.—Clark, 7, Exhibition Rd., South Kensington. [X6100

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266

DIAMOND 2¾h.p., in new condition, bought February; lowest £50 cash, no offer.—Jackson, 40, South St., Crewe. [5278

DIAMOND 2-stroke, 2-speed, 2 lamp sets, spare belt; write offers.—Kennard, Y.M.C.A., Forest Gate, E.7. [1562

1920 2¾h.p. Diamond-Jap, Enfield 2-speed gear, copper exhaust, lamp, speedometer, horn; evenings after 5 p.m.; best offer over £70.—S. Midwood, Wellington House, Leyland, Lancs. [3912

ALLEN-BENNETT Motor Co.—Diamond 2½h.p., sports model; £62/3; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5304

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DOUGLAS, 2¾h.p., 1915, very nice order; £58.—Below.

DOUGLAS, several W.D. in stock; from £70.—C.A.E. Co., Ltd., Hobson St., Cambridge. [5104

1920 Douglas 4h.p., new, in stock; list price.—Union Garage, Ryde. [5036

1915 2¾h.p. Douglas, £54; also 1916 4h.p. model, £70.—Ross, 86, High Rd., Lee. [4213

1920 Douglas Combination, brand new; list price.—2, Nightingale Rd., Lower Clapton. [3547

1916 Douglas 2¾h.p., new condition; bargain, £62.—103, Choumert Rd., Peckham, S.E. [4659

1915 Douglas Combination, 4h.p., 3-speed, excellent condition; £85.—179, Holland Rd., W. [4501

4h.p. Douglas, 1918, complete lamps, etc.; £90.—Percy Gummer, Clifton Lane, Rotherham. [X5910

DOUGLAS 4h.p. Combination, makers' colours, cheap; offers.—114, Hill St., Peckham, S.E. [5127

DOUGLAS 2¾h.p., late 1916, exceptionally good; £57.—Acacia, Centre Av., Acton (side door). [4989

2¾h.p. Douglas, late 1916, lamps, etc., perfect; £70. —W. Webb, Forest Green, Walford, Ross. [3804

£19/10.—Douglas, going order; first cash secures.—Stationer, 46, Chapel St., Marylebone. [4464

DOUGLAS 2¾h.p., 1916, 2-speed; £50.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [5257

4h.p. Douglas Combination, 1917, 3-speed, clutch, K.S.; £90.—62, Barnsbury St., Islington. [4603

BRIGHTON, Hove and district Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS 1916 2¾h.p., 2-speed, makers' tank, good; £58.—B. Clementson, Mossley, Manchester. (D) [3990

DOUGLAS 2¾h.p., 2-speed, clutch, lamps, horn, ride away; 42 gns.—321, Ivydale Rd., Nunhead. [4436

DOUGLAS 2¾h.p., engine No. 36124, splendid order; any trial; £60.—43, Canterbury Rd., Whitstable. [4004

2¾h.p. Douglas, mileage 600, Binks, disc wheels, perfect; cheap.—42, St. Peter's Av., Kettering. [X6037

£75; Douglas 4h.p. solo, 3 speeds, clutch, kick starter, as new.—103a, High St., Wandsworth. [5006

1916 Douglas 2¾h.p., reconstructed, makers' colours; £58.—4, Denman Place, Piccadilly Circus. [4986

DOUGLAS 1912, 2 speeds, needs attention, or sell parts; offers.—7, Market St., Millam, Cambs. [4975

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1920 Douglas Combination, equipped, done 1,000 miles only; £150.—Bird, Melton, Norwich. [4709

4h.p. Douglas Combination, perfect condition; £140; lamps; offers.—Orton, Blyth, Northumberland. [4791

DOUGLAS 2¾h.p. 2-speed, exceptionally fast, smart machine, all accessories; £56.—179, Brixton Rd., S.W.9. [2604

1920 Douglas Combination, screen, lamps, etc., only done 500 miles; £145.—Box 6,029, c/o *The Motor Cycle*. [5209

4h.p. Douglas Combination, brand new, immediate delivery; list price, £50/8.—John C. Beadle, Ltd., Dartford. [4047

1920 4h.p. Douglas Combination; immediate delivery; list price.—Morriss, 139, Finchley Rd., N.W.3. [4075

PUT Your Name on Our List for Douglas Combinations; from 68 gns.—14, Effra Parade, Brixton. [5138

DOUGLAS 1914 2¾h.p., 2-speed model, excellent condition throughout.—Parker's, Bradshawgate, Bolton. [X5913

DOUGLAS 2¾h.p., 1916, fully equipped, in splendid condition; £64.—22, Roman Rd., Barnsbury, N.7. [4810

£22.—Douglas 2¾h.p., single gear, about 1911, splendid running order and condition.—42, Lavington Rd., Ealing. [3776

DOUGLAS 4h.p. Countershaft; £75, or offer.—Nicholls, 6, Cavendish Rd., Merton, S.W. Tel.: City 628. [5144

1919 4h.p. Douglas and Sidecar, perfect; £145; with lamps and horn.—18, Stanley St., Leek, Staffs. [4897

1920 New 4h.p. Douglas Combination; £170.—Halifax Motor Exchange, Union St. South, Halifax. [4251

DOUGLAS 2¾h.p., in nice condition, belt and tyres as new; £35; ride away.—Box 189, c/o *The Motor Cycle*. [4847

1920 New 2¾h.p. Douglas, 3-speed, clutch; £105.—Halifax Motor Exchange, Union St. South, Halifax. [4252

DOUGLAS 4h.p. and New Sidecar, lamps, horn, etc., £95; solo £75.—143, Ravensbury Rd., Earlsfield, S.W. [5194

1918 Douglas Combination, complete with spares, accessories, grand condition.—Ring Buying Dept. L.W. 4360. [5129

1919 Douglas 4h.p., absolutely unscratched, indistinguishable from new; £90.—Dawson, 34, Ampthill Rd., Bedford. [4206

DOUGLAS 2¾h.p., 1916, condition as new, all lamps, etc.; £55.—Apply side door, 36, High St., Hampstead. [4530

4h.p. Douglas, 1918, condition as new throughout, any trial; 80 gns.—Side door, 36, High St., Hampstead. [4531

DOUGLAS Combination 4h.p., 1918 (June), lamps, tools; £118, near offer.—81, Dundee Rd., South Norwood. [4738

1920 Brand New Douglas 4h.p. Combination, just delivered, unused; £160.—West, Bladon, Woodstock, Oxon. [4363

DOUGLAS 2¾h.p.—Two of these useful little bikes, both top hole; one £75, other £65.—'Phone: Hamp. 7822. [5203

DOUGLAS 4h.p. Combination, just overhauled, mechanically perfect.—Motor Cycle Mart, Chatham. 'Phone: 301. [X6110

DOUGLAS Combination, late 1919, lamps, wind screen, many spares; offers.—45, The Rushes, Petersfield. [4742

2¾h.p. W.D. Douglas, splendid order throughout; £48.—Speechley, 1, Gunnersbury Lane, Acton Hill, London, W.3. [5044

DOUGLAS 2¾h.p., 1914, 2 speeds, good tyres and condition, perfect order; bargain, £48.—8, Shalimar Rd., Acton. [4176

DOUGLAS 4h.p. 1916 Combination, 3 speeds, excellent condition; £85.—Hurst, Southwood Rd., New Eltham, S.E. [4643

1919 2¾h.p. Douglas, perfect condition, buying combination; £70. — Charles Dixon, 9, The Crescent, Surbiton. [5037

DOUGLAS Combination, 1918, clutch, kick starter; offers of £78 considered.—43, Brailsford Rd., Tulse Hill, Brixton. [5139

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DOUGLAS 1916 2¾h.p., buffer forks, makers' colours, splendid running order; £53.—30, Crystal Palace Park Rd., Sydenham. [4887

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DOUGLAS 1915 W.D. Model, re-enamelled and plated, perfect condition; £68; seen after 6.—Goodley, Replingham Rd., Southfields, S.W. [4182

1918-19 4h.p. Douglas Combination, standard colours, little used, new condition; £100; exchange.—63, Solon Rd., Brixton. [4631

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DOUGLAS 1917, 58 gns.; 1915 ditto, 52 gns.; lady's ditto, 42 gns.—Garage, 5, Eglon Mews, Berkeley Rd., Primrose Hill (near Chalk Farm Tube). [4543

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DOUGLAS 2¾h.p., W.D., 2-speed, makers' colours, new tyres, new lamps and horn, a real good 'un, not trash; £65.—60a, Kirkdale, Sydenham. [4596

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DOUGLAS 2¼h.p. 2-speed, clutch and K.S., tyres as new, not war model, splendid condition; ride away; £65.—1, Larkhill Rise, Clapham, S.W. [4492

DOUGLAS, 1915, 2-speed, complete less carburetter, engine needs assembling, many new parts; £42.—Clark, 7, Exhibition Rd., South Kensington. [X6094

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TWO 4h.p. Douglas Combinations, 1918 and 1914; £115 and £75; two 2¾h.p. Douglases, 1916 and 1914, £63 and £53.—374, Grove Green Rd., Leytonstone. [2084

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1919 (Aug.) Douglas Combination, royal blue, exceptional order, any trial, tyres good; £120.—Wilson, Purveyor, 226, Shirley Rd., Southampton. Tel.: 1664. [X5754

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DOUGLAS 1916 2¾h.p., 1920 carburetter, new tyres, recently overhauled, enamel, plating good, ride 50 miles, £5 deposit; £59.—Capt. Breese, The Cottage, Aston Clinton, Bucks. [3944

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ELSWICK-PRECISION, 2¾h.p., 2 speeds; £34.—81, Dundee Rd., South Norwood. [4740

Enfield.

ENFIELD 2-stroke, new machine; 70 gns.—Nelson, 39, Queen St., Rhyl. [X5846

ENFIELD Twin, 3h.p., as new; £38.—4, Denman Place, Piccadilly Circus. [4987

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1920 Royal Enfield 2¼h.p., 2-speed, clutch; 70 gns.; in stock to-day.—Julian, 84, Broad St., Reading. 'Phone: 1024. [4107

ENFIELD Combination, 6h.p., 1914, excellent condition throughout; price £95.—51, Queen St., Hitchin, Herts. [5032

ENFIELD 1916 2-stroke, 2-speed, chain drive; £50. —Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0231

1918 3h.p. Enfield, M.A.G. twin, 2-speed, clutch, kick starter, thoroughly overhauled; £58.—155, Mill Rd., Kettering. [X6038

1915 3h.p. Enfield, M.A.G. engine, 2-speed, countershaft clutch, lamps, splendid condition; £45.—230, Archway Rd., N.6. [4927

ENFIELD Combination, 6h.p., any trial; a bargain, £85.—Mitchell, 185, Central Park Rd., East Ham. 'Phone: East Ham 259. [4809

ENFIELD 2¼h.p. 2-stroke, 2-speed, Palmers, lamps, horn, etc., condition new; what offers —84, Oakhill Rd., E. Putney, S.W.15. [4019

1919 Enfield 2-stroke, E1532, 2-speed, 1,200 miles, horn, spares, perfect; £56.—Harrison, Lea Head, Pipe Gate Market, Drayton. (D) [4233

LATE 1916 Enfield Combination, in topping condition, with all accessories; going cheap; cash wanted. —15, Summerhill Rd., Dartford. [4457

1915 6h.p. Enfield Combination, all lamps, perfect condition, any trial; £140, no offers.—Apperley, Tilston, near Malpas, Cheshire. [5090

MAUDES'.—1919 lightweight 2-speed Enfield, Palmer tyres, Klaxon horn, Cowey, 2 lamps; £69.—Maudes', 100, Gt. Portland St., W.1. [5170

ENFIELD 1915-16 6h.p. Combination, in perfect condition, hood, screen, lamps, speedometer, spares; £135.—21, Church Rd., Erith, Kent. [3807

1915 Enfield 6h.p. Combination, in good condition, with lamps and accessories; £135.—J. L. Balmforth, Park Road Garage, Ormskirk. [3461

ENFIELD 1917 2-stroke, 2-speed, lamps, horn, discs, splendid condition, new tyres; owner bought higher power; £55.—Smith, Bank, Holbeach. [4365

ENFIELD Combination, 8h.p. standard model; immediate delivery from stock.—Leighton Motor Co., 287-9, High Rd., Wood Green, N.22. [4081

ENFIELD 6h.p. Combination, June, 1919, horn, speedometer, 3 lamps, new condition; £170; original tyres.—Shinton, Bull St., West Bromwich. [3922

ROYAL ENFIELD 3h.p. Twin, 1916, 2-speed, clutch, good condition, lamps, horn, speedometer, £57.—Apply, 62, Manor Rd., Stoke Newington. [3829

ENFIELD Combination, overdue, expected any day, £5 deposit paid; £10, or best offer for option. Yorkshire.—Box 6,045, c/o *The Motor Cycle*. [5229

ENFIELD Combination, late 1915, Lucas dynamo lighting, mechanically and appearance as new; £135.—2, Westgate Villas, High Rd., Hayes, Middlesex. [4463

ENFIELD 3h.p. Twin, fully equipped with lamps, horn, tools, original tyres, all as new; £80.—F.W.S., 25, Frederick Rd., Custom House, E.16. [4279

ENFIELD, 1919 8h.p. Combination, hood, wind screen with side wind screen; £180.—Hydesville, 22, Hewitt Rd., North End, Portsmouth, Hants. [4499

ENFIELD 1917 2¼h.p., 2-speed, 2-stroke, tyres as new, accessories; £55; exchange combination or higher power, adjust.—12, Lower Charles St., E.C.1. [4503

ENFIELD 6h.p. Combination, all complete, in thorough good condition, 1916, any trial; £140; any time.—94, Hoppers Rd., Winchmore Hill, N. [4942

W.T. DUNN

326, Euston Rd.

'Phone—Museum 5391.

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1920 **A.B.C.,** 4-speed, T.T. bars.
1920 **SUNBEAM,** 3½ h.p., sports model.
1920 **SUNBEAM,** 3½ h.p., standard model.
1920 **TRIUMPH,** Model H, 4 h.p., C.S.
1920 **B.S.A.,** 4¼ h.p., Model H.
1920 **B.S.A.,** 4¼ h.p., Model K.
1920 **NORTON,** T.T., 3½ h.p.
1920 **NORTON,** Big Four, C.S.
1920 **ZENITH,** 5 h.p., sports.
1920 **ZENITH,** 8 h.p., sports.
1920 **ROYAL RUBY,** 3 h.p., spring frame.

NEW 1920 COMBINATIONS.

1920 **A.J.S.,** 6 h.p.
1920 **MATCHLESS,** M.A.G.
1920 **MATCHLESS,** M.A.G., dynamo lighting.
1920 **SUNBEAM,** 3½ h.p.
1920 **TRIUMPH** and Gloria.
1920 **ENFIELD,** 8 h.p., dynamo lighting.
1920 **B.S.A.,** Model H, and No. 2 Sidecar.
1920 **B.S.A.,** Model H, and No. 2 Sidecar, dynamo lighting.

NEARLY NEW COMBINATIONS.

1920 **INDIAN,** 7-9 h.p., dynamo lighting, Easting, spares **£210**
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MOTOR CYCLES FOR SALE.

Enfield.

NEW 1920 Royal Enfield, 2¼h.p., 2-stroke; price £37/10; delivery from stock.—D. J. Shepherd and Co., Enfield Highway, Waltham Cross 31. [0242

ENFIELD Combination, 1916, good condition, complete, speedometer, wind screen, etc.; £130.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [4196

LATE 1919 2¼h.p. Royal Enfield motor cycle, little used, in good order, 2-speed gear; price £60.—Apply, D. H. Watson, Golden Lion Hotel, Newmarket. [4152

ENFIELD 3h.p. Twin, 2-speed, clutch and kick starter, like new; £65.—Turner, Westbourne House, Richmond Rd., Twickenham. 'Phone: 217 Richmond. [3928

ENFIELD 6h.p. 1915-16 Combination, screen, apron, grid, lamps, generators, etc., just rebushed, perfect; trial; £138.—32, St. Martin's Av., Boleyn, East Ham. [4780

1915 6h.p. Royal Enfield Combination, Lucas dynamo lighting set, perfect condition, any trial; £160, no offers.—Apperley, Tilston, near Malpas, Cheshire. [5089

ENFIELD Combination, 1913-14, stored 3½ years, Bosch mag., new chains, fittings, lamps; a machine of good reputation; £105.—David, Greenwood, Nuarberth. [4934

1919 Enfield Combination, small mileage, horn, lamps, speedometer, wind screen, guaranteed; any trial; £170.—45, Malden Rd., New Malden, Surrey. 'Phone: 39 Malden. [4953

ENFIELD 1917 6h.p. Combination, very good order, £137/10; also 1920 8h.p. Enfield, magdyno lighting, £220.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [4654

1919 6h.p. Enfield Combination, fully equipped, Lucas lamps, Tan-Sad, spares, valves, and chains, condition equal to new; £155.—Field, 256, Mt. Pleasant, Redditch. [X5976

ENFIELD Combination, 1916, little used, hood, screen, electric lighting, recently overhauled by makers; any trial; £150.—Hill, 60, Marchmont St., Russell Sq., London. [4665

1918 8h.p. Enfield Combination, Lucas dynamo lighting, hood, windscreen, splendid order; no reasonable offer refused; must sell.—Scholes, Market St., Buxton. 'Phone 378. [X5989

ENFIELD Combination, 6h.p., 1919, new tyres, Tan-Sad, speedometer, priceless engine, 55 m.p.g., 50 m.p.h., climb anything, like new; offers.—Atkins, 71, East Hill, Wandsworth. [5068

ENFIELD 2¼h.p., 2-stroke, 2 speeds, F.E., new May, 1920, mechanical horn, rear lamp, tools; £70, or offer; would exchange for 1920 Allon, cash adjustment. —5, Albany Rd., Ealing, W. [3926

ENFIELD 6h.p. Combination, 1916, brand new Enfield sidecar, grid, etc., lamps, horn, speedometer, in beautiful condition; any trial; £148, or near offer.—125, High St., Woolwich. [5162

ENFIELD 3h.p. Twin, 1916, lamps, speedometer, watch, tools, spares, insurance, enamel as new; owner bought combination; £68.—Valentine's Park Lodge, Cranbrook Rd., Ilford. [4026

ROYAL ENFIELD 8h.p. Combination, new, fully equipped, 3 electric lamps, wind screen, 2 side curtains, boots, fast and powerful; £200.—S. S. Britton, 3, Albert Rd., Belvedere, Kent. [5197

FOR Sale, 1915 6h.p. Enfield Combination, coach-built sidecar, dynamo lighting set, machine in very nice condition; price £105.—Apply, King and Harper, Bridge St., Cambridge. [5094

ROYAL ENFIELD 2¾h.p. Twin, semi-T.T., low mileage, perfect condition and appearance; bargain, 30 gns.; appointment by letter after 5 o'clock.—103, Ashby Rd., Loughborough [4273

ENFIELD 1918 2¾h.p. 2-speed 2-stroke, lamps, generator, horn, tools, all-chain drive, original enamel practically unscratched, perfect; £62/10.—48, Petersham Rd., Richmond, Surrey. [5070

1920 8h.p. Enfield Combination, Lucas Magdyno lighting, Cowey speedometer, horn, wind screen, Tan-Sad pillion seat, all accessories; £215.—Threlfall, 22, Waldegrave Rd., Upper Norwood, S.E. [4907

ENFIELD 1915 3h.p., 2 speeds, K.S., excellent condition, new P. and H. mechanical horn, etc., good heavy tyres, pillion, fast, 2 anywhere, thoroughly overhauled; £58.—67, Malyons Rd., Ladywell, Lewisham, S.E.13. [4324

ENFIELD Combination, late 1919, just overhauled, hood, screen, lamps, etc., Bosch mag., in new condition; any examination; a genuine bargain, £160 for quick sale; after 6.30 p.m.—33, Orlando Rd., Clapham Common, S.W. [4329

1913 6h.p. Enfield Combination, 2-speed, Binks carburetter, 3 lamps, spares, everything complete, in good order, ready drive away, just been completely overhauled; will sell for £135, including speedometer. —Salmon, Farringdon Park Farm, Fishwick, Preston. [3962

ENFIELD 1920 2-stroke, 2-speed, in stock for immediate delivery, also one or two similar 1920 models, slightly used, at bargain prices.—The Taylor Garages, London Rd., Bicester. Tel.: Integrity Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3540

MOTOR CYCLES FOR SALE.

Enfield.

ROYAL ENFIELD 1917 Combination, lamps, speedometer, 2 horns, luggage grid, hood, screen, side curtains, fully equipped, and in beautiful condition; illness cause of sale; best offer accepted.—Grover, Bletchley. 'Phone: 45. [4399

1920 (delivered May) Enfield Combination, 8h.p., Magdyno lighting, fitted with speedometer, Easting, Tan-Sad, luggage grid, priming taps, and spares, as new; bargain, £220, or near offer.—355, York Rd., Battersea. [4786

6-7h.p. Enfield Combination, just overhauled and re-enamelled, engine rebushed, new pistons, rings, etc., new sidecar, wind screen, new Dunlop tyre, lamps, horn, pump, looks new; reason selling, ill-health; £130, or best offer.—Simpson, Finningley, Doncaster. [3969

Excelsior.

8h.p. Excelsior Combination, electric model, perfect; £130.—H.G., 595, High Rd., Tottenham. [4424

AMERICAN Excelsior and Millford de Luxe sidecar, new combination; £193.—Nelson, 39, Queen St., Rhyl. [X5855

1920 Excelsior, 2-stroke, 2-speed, new, just delivered; list price.—Wright's Garage, Saffron, Walden. Tel.: 16. [5185

1920 American Excelsior, 7-9h.p., electric model, speedometer, new condition; £150.—L. Avery, Wheatley, nr. Oxford. [4770

EXCELSIOR Brand New (American) Solo and Combinations in Stock.—W. H. Grimes and Co., 18, Bruton Place, New Bond St., W.1. [5048

1920 American Excelsior, solo, mileage 750, as new, 7-9h.p., in excellent condition; £145.—H. E. Hall, Jun., Westnor, Tonbridge, Kent. [X5861

EXCELSIOR, new 2-speed J.A.P., £78; 2-speed 2-stroke, £67; delivery from stock.—Clark, 7, Exhibition Rd., South Kensington. [X6102

NEW 1920 2½h.p. Excelsior, 2-stroke 2-speed model, actually in stock for immediate delivery; £67.—The Premier Motor Co., Aston Rd., Birmingham. [2447

ALLEN-BENNETT Motor Co.—Excelsior, 2¾h.p. J.A.P., 2-speed; £78; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5307

AMERICAN Excelsior 7-9h.p. C.B. Combination, full dynamo lighting set, thoroughly overhauled, re-enamelled and plated, mileage 6,000; offers.—Wibberley, Trescott, Compton, Wolverhampton. [X5310

ALLEN-BENNETT Motor Co.—Excelsior 2¾h.p. 2-stroke, 2-speed; £67; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5306

8h.p. 1920 British Excelsior Combination, done 600 miles, electric lighting, horn, all-chain drive, interchangeable wheels; first offer over £175.—F. O. Taylor, Wireless School, Winchester. [4553

Fafnir

3½h.p. Fafnir, Chater-Lea frame, spring forks, speedometer, splendid running order, low, fast; seen after 7: £25.—47, Leopold Buildings, Columbia Rd., Hackney Rd., E. [4151

F.N.

F.N. 5-6h.p., 4-cyl., overhauled, genuine.—8, Hatherley Rd., Reading, Berks. [3924

F.N. 2¼h.p., 2-speed, clutch, Bosch, Binks; ride away; £226.—99, Fielding Rd., Chiswick. [3852

CROW Bros., Guildford, F.N. agents for the 7h.p. 4-cyl. and 2¾h.p. lightweight. Book your machine now. [3171

2½h.p. F.N., Simms-Bosch, running order; £20, nearest.—Yendall, 12, Clapham Terrace, Leamington Spa. [X5953

F.N., 2½h.p., Bosch, shaft drive, 2 speeds, good tyres; what offers?—Green, The Wents, East Farleigh, Kent. [4946

F.N. 5-7h.p., Bosch, Binks, Brooks, brand new, heavy Dunlops and tubes; £33, nearest.—63, Station Rd., Poulton-le-Fylde. [X6050

NEW 1920 F.N. 7h.p. Combination and 2½h.p. lightweight, now on view.—The Premier Motor Co., Aston Rd., Birmingham. [2448

5-6h.p. F.N., drop frame, recently overhauled, Amac mag., lamps, horn, tyres, in good condition; £30.—48, Witham Green, Boston, Lincolnshire. [X5755

4-CYL. F.N., 6h.p., 1914, new Wood-Milne tyres, Bosch mag., very powerful, fast, T.T. mount; £50.—W. Bell, Ermysted House, Skipton, Yorks. [4370

1913 2½h.p. F.N. Lightweight, countershaft gear box, hand clutch, waterproof mag., K.S., mechanical horn, lamp set, etc., tyres nearly new; any trial, and written guarantee by owner; £35. After 6 p.m.—30, Legard Rd., Highbury, London, N.5. [4120

£56.—2¾h.p. F.N., 2-speed, clutch, 1920 engine in 1914 frame, Bosch, B. and B., new head lamp, horn, tool bag, etc., in perfect order and an ideal solo mount; must sell, got combination.—Box 5,989, c/o *The Motor Cycle.* (D) [4082

1914 F.N., No. 70443, 7-9h.p., 4-cyl., 3-speed, kick start, hand and foot dics clutch, thoroughly overhauled, oiling system modified to 1920 standard, new lighting set never used, horn, speedometer, pillion seat, new Milford Corvette sidecar, Easting screen, spares; £140.—Box 171, c/o *The Motor Cycle.* [X5969

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MOTOR CYCLES FOR SALE.

Francis-Barnett.

FRANCIS-BARNETT, 2¾h.p. J.A.P., Sturmey-Archer 2-speed, hand clutch, kick starter, new; 84 gns.—Nelson, 39, Queen St., Rhyl. [X5848

NEW Francis-Barnett 2¾h.p. J.A.P., 2-speed, clutch and kick starter, in stock at manufacturers' list price; easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [3880

Harley-Davidson.

1918 Harley, as new, only done 500, 7-9h.p.; £120.—133, Liverpool Rd., N.1. [3840

HARLEY Combination, 1915 mag. model; £120.—T.H.M., 2, Rosemont Rd., Hampstead. [8854

HARLEY-DAVIDSON, all models.—Official agents, The Motor Cycle Mart Stafford St., Walsall. [6430

HARLEY Combination, 1918, mag., perfect; £126, offer quick sale.—54, Paddenswick Rd., W.6. [4532

1919 Harley-Davidson 7-9h.p., absolutely as new, perfect; £125.—C., 12, Station Parade, Muswell Hill. [4423

HARLEY-DAVIDSON Combination, 1915, 3-speed, K.S.; inspection invited.—2, Windsor St., Leamington. [X5752

HARLEY-DAVIDSON Combination, electric mod l, 1915; £125.—Ormerod, 66, Hazelbank Rd., Catford, S.E.6. [4425

HARLEY-DAVIDSON.—Immediate delivery 7-9h.p. standard model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X5922

HARLEY-DAVIDSON, Sports Model, delivery one week; list price.—C.A.E. Co., Ltd., Hobson St., Cambridge. [5100

HARLEY-DAVIDSON 7-9h.p., 1919 model, excellent order and appearance; £125.—12, Guild St., Stratford-on-Avon. [X5757

1920 4h.p. Harley-Davidson, lamps, horn, speedometer, mileage 400, as new; £150.—O. Chivers, Wychfield, Cambridge. [4954

HARLEY-DAVIDSON, 1918, 7-9h.p., £105; 1919, £110.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0232

1920 Harley-Davidson Flat Twin, new, equipped lamps, generator, speedometer, horn, 3-speed; bargain, £150.—Phipps, Netley Abbey. [3408

1920 Harley Combination, as new, hood, screen, speedometer, lamps; £210; take solo and cash.—Graham, 44, Regent St., Wrexham. [4563

HARLEY-DAVIDSON and Sidecar, with hood, screen, spares, etc., perfect condition.—Farmer, Hope Dene, Pengrove Rd., Hereford. [X6007

HARLEY-DAVIDSON 1920 4-h.p. Flat Twin, 3-speed, and speedometer; delivery from stock.—Pearson's, 52, Elm Grove, Southsea. [4307

1920 Harley 4h.p., new flat twin, speedometer 80 m.p.h., lighting and warning; list.—964, Warwick Rd., Acocks Green, Birmingham. [X6010

HARLEY-DAVIDSON Solo, 1918, 7-9h.p., 3-speed, absolutely perfect condition; 120 gns.—Osborne, 377, Norwood Rd., West Norwood, S.E.27. [4589

1918 Harley-Davidson and new sidecar, disc wheels, electric lighting combination, new condition; £145.—61, New Kent Rd., London, S.E.1. [4170

HARLEY Flat Twin, only done 900 miles, speedometer, lamp set, perfect condition, better than new; £140.—18, South Bruton Mews, Bond St., W. [5066

1919 Harley Davidson Solo 7-9h.p., as new, stove enamelled and plated, mechanically sound; £125.—Hartwell's Garages, Ltd., 22, Queen St., Oxford. [3766

HARLEY 7-9h.p. Combination, Gloria sidecar, 1915 Dunlops, splendid condition; too fast; £152, with accessories.—Richardson, 106, Eastgate, Worksop, Notts. [3794

NEW 1920 Electric Harley-Davidson 7-9h.p. Combination, most luxurious sidecar made, cost £80, hood, screen, all on; £270.—365, King St., Hammersmith. [3223

1919 Harley-Davidson Combination, 7-9h.p., as new, stove enamelled and plated, mechanically sound; £155.—Hartwell's Garages, Ltd., 22, Queen St., Oxford. [3767

HARLEY-DAVIDSON 7-9h.p. Combination, not ex-army, mag. model.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5158

1919 HARLEY-DAVIDSON C.B. Family Combination, lamps, horn, magneto model, all in new condition; £158.—Hedges, East End Farm, Moss Lane, Pinner. [4412

1920 Harley Flat Twin Combination, all accessories; £163; also 1920 solo (new), £162; and 1918 8h.p. combination, lamps and horn, £154.—Ross, 86, High Rd., Lee. [4215

HARLEY-DAVIDSON Combination, 1916, 6-7h.p., dynamo lighting, speedometer, wind screen, good condition; £127.—King Edward Garage, Church End, Finchley. [4967

HARLEY-DAVIDSON 1919 7-9h.p. Combination, electric, recently overhauled, well equipped; £215, including insurance policy.—223, New King's Rd., Fulham. [3781

MOTOR CYCLES FOR SALE.

Harley-Davidson

HARLEY-DAVIDSON 1917 7-9h.p. Combination, brand new sidecar, all new covers, lamps, beautiful condition; £185; no offers; appointment.—20, Lynton Rd., Queen's Park, N.W.6. [4089

1915 Harley Combination, electric, B.S.A. sidecar, Cameo wind screen, speedometer, 2 tyres new, spare retreaded, re-enamelled and plated; £120. —E., 71, North St., Sudbury, Suffolk. [4624

1920 Harley-Davidson, 4h.p. twin horizontal engine, fitted with acetylene lighting, mechanical horn, speedometer, etc., done 100 miles, unscratched; what offers?—Palin, 164, Mansfield Rd., Derby. [5084

1919 7-9h.p. Harley-Davidson Combination, condition and appearance as new, large bulbous back sidecar, complete with lamps, aluminium number plates; £180.—66, Church Rd., Barnes, S.W. [4761

HARLEY-DAVIDSON, bought January, 1920, not ridden 50 miles, ill-health, double seater sidecar, wind screen, etc., luxurious turnout, any trial; £210. —Chadwick, Tool Merchant, Wrexham. 'Phone: 341. [4562

HARLEY-DAVIDSON 1919 and Sidecar, mag., lamps, etc., new tyre and chain, spare tube, lamps, etc., Easting screen, insurance; £170; owner giving up driving.—179, Selhurst Rd., Norwood Junction, S.E. [4458

HARLEY-DAVIDSON Combination, 1916, electric model, Harley sidecar, electric horn, all lamps, well kept, overhauled Remy and gears, tools; seen Monday, Wednesday, Saturday afternoons; £160. — Whitehead, Adelbert House, Berkhamsted, Herts. [3837

HARLEY-DAVIDSON Combination, 1920, not done 800 miles, complete with all lamps, Tan Sad, speedometer, wind screen, tools, spares, etc., all as new; £260, or exchange for good single and cash.—155, Stoney Lane, Sparkbrook, Birmingham. [X6017

HARLEY-DAVIDSON Combination, 1915, 7-9h.p., Phœnix sidecar, complete with oil lamps, Tan-Sad, etc., all tyres just fitted new, only done 5,000 miles, in excellent condition; trial anywhere; what offers?—Welch, 45, Sutherland Rd., Tottenham. [4030

1915 Harley-Davidson and C.B. Sidecar, latter repainted as new, machine just completely overhauled by Harley Co., lamps, horn, speedometer, tyres good, whole a sound bargain; nearest to £120 secures; seen London.—Farrell, Harley, Tower Rd. West, St. Leonards-on-Sea. [4348

HARLEY-DAVIDSON, 1915, guaranteed perfect condition, stored 3 years, thoroughly overhauled by makers, re-enamelled khaki, plated, etc., electric light, horn; £125; simply wants seeing; sidecar if wanted £30, as new; any trial; owner taking 1920 model.—Sparrow, Photographers, Finchley. [3783

1920 Harley-Davidson Combination, 7-9h.p., electric model, equipped with discs, speedometer, Tan-Sad, watch, £75 sidecar, with specially built chassis, luggage grid and petrol carrier, large electric lamp on body, cost £285; will take £260.—Nisbet Aviemore, Monkhams Drive, Woodford Green. [4309

1920 Harley-Davidson Combination, 7-9h.p., Swan sidecar, compressed acetylene lighting with lamps, mechanical horn, speedometer, Tan-Sad, mileage small, in absolutely first-class condition, new middle March; will deliver any reasonable distance after purchase; best offer about £250.—Blakey, 20, St. Bedes Terrace, Sunderland. [5012

HARLEY 1920 Flat Twin, used few miles only and as new, complete with lighting set and speedometer, bargain; price £140.—The Layton Garages, London Rd., Bicester. Tel.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3541

Hazlewood.

HAZLEWOOD 6h.p. Combination, new, for £186.—Nelson, 39, Queen St., Rhyl. [X5853

1920 Hazlewood Combination, 5-6h.p. Jap engine, 3-speed countershaft, chain-cum-belt drive; £192; little used.—Lythalls Lane Garages, Foleshill, Coventry. [X5967

5-6h.p. Hazlewood Combination, 3-speed, clutch and kick-starter, at manufacturers' current list price, or on easy payments 4% extra.—Harrods, Ltd., 118 Brompton Rd., London. [3877

HAZLEWOOD-J.A.P. 5-6h.p. Combination, late 1916, 3-speed countershaft, clutch and kick starter, lamps, hood, wind screen, new tyres, splendid condition; £116, or near offer.—17a, Richmond Rd., Ilford. [4286

HAZLEWOOD-J.A.P. 5-6h.p. Combination, brand new, complete, lamps, horn, tools, cost £209, sell £175; consider T.T. or countershaft Triumph 2¾h.p. Douglas part exchange.—Wale, Hope St., Mile Rd., Cambridge. [5242

HAZELWOOD Combination, 1920 5-6h.p. J.A.P., 3-speed countershaft clutch, K.S., mud shields, speedometer, mirror, cane-let sidecar with screen, lamps, tools complete, new in May; price £188, no offers; bargain. Apply, F. D. Lexton, Cleford, Frome. [4985

COMBINATION, 1915 Hazlewood-Jap (grey), 5-6h.p. K.S., Armstrong 3-speed hub, foot clutch, new heavy Dunlops, and 1920 Millford sidecar (black), running perfectly, fast, powerful, no lamps; £125 trial.—Write C. R. Jenkins, Firfield, Holyport, Maidenhead. [3918

MODELS

COMBINATIONS.

TRIUMPH, 4 h.p., complete with Montgomery sidecar, Easting screen, Miller's head, sidecar, and rear lamps, bulb horn, Bonniksen speedometer.....£173 10s.

NEW IMPERIAL, 8 h.p., 3 speeds, kick-start, all-chain drive, Canoe-let Model MM4 Sidecar £190

ZENITH, 8 h.p., Model H, clutch and kick-start, £162. "Grindlay de Luxe" Model Sidecar fitted. £39 extra.

COVENTRY ACME-J.A.P., 8 h.p., 3 speeds, kick-start, with detachable and spare wheel..£213 15s.

HUMBER, 4½ h.p. flat twin, 3 speeds, kick-start, all-chain drive, "Grindlay de Luxe" Sidecar.... £179 10s.

HAZELWOOD BIG H, 6 h.p., 3 speeds, kick-start.....£214 12s.

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PREMIER "SUPER," guaranteed delivery (one only) July 29th £350

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HOBART-J.A.P., 2 speeds, kick-start, footboards £90
OMEGA-J.A.P., 2 speeds, kick-start..... £83

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MOTOR CYCLES FOR SALE.

H.B.

H.B., 2¾h.p., Blackburne engine, 2-speed, hand control clutch, immediate delivery; list price:—C.A.E. Co., Ltd., Hobson St., Cambridge. [5099

ALLÉN-BENNETT Motor Co.—H.B. 2¾h.p., Blackburne engine, 2-speed, clutch, and kick starter; £99/15; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5296

Henderson

HENDERSON, electrical model, just arrived; 176 gns.—Nelson, 39, Queen St., Rhyl. [X5857

1920 New Henderson, 4-cyl. and sidecar; £210.—Halifax Motor Exchange, Union St. South, Halifax. [4255

HENDERSON 2-speed, with C.B. sidecar, first-class condition, smart outfit; £155.—Oaklands, Kendall Av. South, Sanderstead, Croydon. [3919

HENDERSON Combination, sporting sidecar, smart lot, lamps, Cowey horn, speedometer, discs; cheap.—2, Mayfair Terrace, Morden Rd., Merton. [4188

1920 Henderson Solo, unscratched, only ridden 300 miles solo, dynamo lighting set and extras, absolutely as new; £195.—Crow Bros., Guildford. [2927

MODEL Z2 Henderson, 10h.p., 3-speed, with Millford de luxe sidecar, mileage 500, condition as new; £215.—The Premier Motor Co., Aston Rd., Birmingham. [2449

HENDERSON 4-cyl. 1920 Electric Model, low mileage, specially built 2-seater sidecar by Langford, hood, etc., magnificent turnout; offers.—42, Perran Rd., Tulse Hill. [3849

Hobart.

NEW 1920 2¼h.p. Hobart 2-stroke, 2-speed, in stock; £75.

HOBART 2-stroke, footboards, mag., etc.; excellent condition; 35 gns.—7, Central Hill, Upper Norwood. [4822

1920 Hobart-Villiers 2-stroke, 100 miles, lamps; £46.—Gully, 5, Connaught Villas, Ashtead, Surrey. [4928

1916 2¾h.p. Hobart-Villiers, 2-speed, lamps, Klaxon, accessories, new condition; £50; exchange.—63, Solon Rd., Brixton. [4632

NEW 1920 2¼h.p. Hobart 2-stroke T.T. model, in stock.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [4997

HOBART-VILLIERS 2-stroke 2½h.p., new last month; list price £63/15, will accept £59.—60, Leam Terrace, Leamington. [X5566

HOBART 2¾h.p., 3-speed, clutch, new Dunlops, new belt, lamps, mechanical horn, footboards; £35.—58, Erlanger Rd., New Cross, S.E. [4839

HOBART 2¾h.p., 1916, 3-speed, clutch, in perfect condition, 42 gns. or offer; also sidecar, £9.—Osborne, 377, Norwood Rd., West Norwood, S.E.27. [4590

HOBART 2h.p., 4-stroke, topping little lightweight, go anywhere, fast, slow, flexible, worth trying; sacrifice, £38.—Chemical Co., 3, Nicholson Rd., Addiscombe, Croydon. [5111

HOBART 1920 Lightweight, one or two slightly used shop-soiled models for disposal at much below list prices.—The Layton Garages, London Rd., Bicester. Tel.: Integrity Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3545

Humber.

3½h.p. Humber, 2-speed, F.E., excellent condition; £38.—67, Leighton Rd., Cheltenham. [4860

LIGHTWEIGHT Humber Cycle, running order; £20.—People, 14, Hatherden, Andover, Hants. [3951

3½h.p. Humber, 2-speed hub gear, accessories, all good condition; trial here; £35.—Parsons, Winchelsea. [4541

2¾h.p. Twin Humber, fully equipped, splendid condition, guaranteed; 35 gns.—19, Streatley Rd., Brundesbury. [4512

HUMBER, 1915, 3-speed, kick start, Mills-Fulford sidecar, splendid condition; £65.—190, Broadway, Hendon, N.W. [5177

NEW 1920 4½h.p. Twin Humber Motor Cycles; delivery 14 days at list price.—Lankester Engineering Co., Surbiton, Kingston, and Esher. [3638

HUMBER 3½h.p., Roc 2-speed, Capac (new), Bosch, handle start, good condition; first £50 secures; bargain.—Jenkins, Oaklands, Clynderwen. [4078

HUMBER 3½h.p. 2-speed C.B. Combination, large nearly new sidecar, good condition, accessories; £58, no offers.—47, Topsfield Parade, Crouch End, N.8. [X5800

HUMBER Combination, 1913, 4h.p., 2 speeds, clutch, handle start, perfect condition throughout; bargain, 40 gns.—102, Hamilton Rd., Wimbledon, S.W.19. [4525

HUMBER 1915 3½h.p., 3-speed, kick start, equipped speedometer, etc., in exceptionally good condition; £65.—Watson, 181, Clapham Rd., S.W. Brixton 2984. [3752

3½h.p. Humber, Bosch, B.B., Philipson pulley, less cylinder, piston, connecting rod, otherwise good condition; £25, or offer.—Turner, Bridgeman Place, Bolton. [X6047

MOTOR CYCLES FOR SALE.

Humber.

EARLY Delivery of the Celebrated Humber machine from the accredited agents.—The Lankester Engineering Co., Motor Cycle Dept., 63, Brighton Rd., Surbiton [2090

3½h.p. Humber Combination, 2-speeds, free engine, Cameo wind screen, Bosch, lamps, good condition, ride away; £67.—Elderton, 7, Upper Ashby St., Clerkenwell. [5130

LATE 1918 6h.p. W.C. Humber Combination, guaranteed perfect, complete with electric light, Millford sidecar, hood and curtains, screen, all lamps, tools, spares, single lever carburetter; any trial given; price £165 nett.—4, Station Buildings, Woodside, S.E.25. [4237

Indian.

7-9h.p. Indian Combination, 2 speeds, ride away; £75.—105, Usher Rd., Bow. [4969

1916 5-6h.p. Indian Combination, splendid order; £105.—9, High St., Barnes. [4527

INDIAN Combinations, 7-9h.p. 1914 and 1915, good running order.—2, Windsor St., Leamington. [X5751

INDIAN 1915 7-9h.p., clutch model, lovely condition, discs, etc.; £65.—6, East Drive, Brighton. [4614

1913 2-speed 7-9h.p. Indian, splendid condition; £70, offers.—Williamson, 26, St. Mary's Rd., Stamford, Lincs. [4366

INDIAN Combination, wind screen, electric lamps, horn, grand condition; £105.—Southgate. High St., Hythe, Kent. [3818

NEW Powerplus Indian, just delivered, owner emigrating; what offers?—2, Portman Rd., Kingston-on-Thames. [4970

INDIAN Combination, 5-6h.p., 3-speed, 1916, good condition; what offers?—166, Revelstoke Rd., Southfields. [4419

INDIAN 5-6h.p. Sporting Model, sporting sidecar, very fast, lamps, horn; £112.—Turnill, North Peterborough. [4224

EGERTONS, Northgate, Ipswich, are booking early delivery for Indian Scout and Powerplus models. —'Phone: 962. [4055

INDIAN 1914 5-7h.p., with coachbuilt sidecar, 3 lamps, tools, in good order; £95.—G. Marland, Badley House, Daventry. [3977

INDIAN Combination, 7-9h.p., disc wheels, new gears, etc.; best offer secures.—8, Homesdale Rd., Bromley, Kent. [4776

1919 Powerplus Indian, in first-class condition, guaranteed tuned and tested; £120.—Rootes, Ltd., Maidstone. [5058

1914 Indian Combination, 5-6h.p., excellent condition; £98, or near offer.—King Edward Garage, Church End, Finchley. [4674

7-9h.p. Indian, T.T., 2-speed, clutch, grand condition, discs; genuine snip, £73.—Stationer, 46, Chapel St., Marylebone. [4465

INDIAN Combination, 7-9h.p., May, 1920, 3 electric lamps, speedometer, fully insured; £225.—Marshall, Cannon Hill, Lancaster. [3901

1916-17 Indian Powerplus Combination, electrically equipped, Swan sidecar, as new; bargain.—554, Fishponds Rd., Bristol. [4001

INDIAN Combination, 7-9h.p. 1916 model, 3-speed, K.S., discs, tools and spares; £110.—12, Guild St., Stratford-on-Avon. [X5756

7-9h.p. Indian, 1915 road racer model, clutch, splendid condition; £75, no offers.—Bowman, 23, Melbourne Av., West Ealing. [4143

1914 Indian Combination, tyres new, very fast, in good working order; £75.—Yates, Market Place, Tickhill, near Rotherham. [X5904

INDIAN 7-9h.p., spring frame, 2-speed gear, clutch, recently overhauled, excellent condition; offers.—Boycott, St. Giles, Norwich. [3941

1920 7h.p. Indians in stock, combinations or solo; Scout models this month.—Sussex Agents, Hewett Bros., 94, Western Rd., Hove. [4239

INDIAN 7h.p., blue, clutch, 2-speed, Montgomery sidecar, condition good, lamps, horn, speedometer. —Guthrie, Grocer, Lochgelly, Fife. [X6027

POWERPLUS Indian Combination, dynamo lighting, new Cameo and apron, tyres all good; nearest £150.—374, Grove Green Rd., Leytonstone. [2082

1920 Indian Powerplus Combination, hood, wind screen, little mileage, as good as new, pillion seat; accept £195. 'Phone: Hamp. 7822. [5199

INDIAN, 7-9h.p., 1916, 3 speeds, clutch, overhauled, re-enamelled, accept fair offer; exchange lower power.—62, Queen's Park Rd., Brighton. [4745

1920 7-9h.p. Indian Solo, electric lighting, speedometer, only ridden few miles, as new; £170.—Wright's Garage, Saffron Walden. Tel.: 16. [5187

1919 Indian, enamelled and plated, new electric lighting set and horn, splendid mount; £115.—Hedges, East End Farm, Moss Lane, Pinner. [4412

7-9h.p. Indian Combination, spring frame, 2 speeds, etc., fine running condition; worth £110, accept £85.—3, Parker Lane, Burnley. Tel.: 1032. [X5899

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MOTOR CYCLES FOR SALE.

Indian.

BRAND New 1919 7-9h.p. Indian, fitted with 1920 bulbous back sidecar (unridden); big snip, £185; bought car.—Myrtle Cottage, Ormerod Rd., Burnley. [X5992

1920 7-9h.p Indian Combination, with dynamo lighting set and speedometer; 160 gns.; in stock to-day.—Julian, 84, Broad St., Reading. 'Phone: 1024 [4111

1919 7-9h.p. Indian, mag. model, 3-speed, clutch and kick starter, enamel and plating as new, good tyres; £105.—66, Church Rd., Barnes, S.W. [4760

1919 Powerplus Indian Speed Model, mileage only 700, 65 m.p.h. road speed guaranteed; cost £184; offers over £130.—Apply, 2, Wolseley Rd., Aldershot. [4857

INDIAN 5-6h.p., in good condition, very fast, Bosch mag. and carburetter, ready for the road; £70, or nearest offer.—'Phone 4375 Hop. for appointment. [3934

1914 7-9h.p. Indian Combination, spring frame, 2 speeds, legshields, Easting wind screen, in splendid condition; £95.—5, St. Peter's Rd., Hammersmith. [5075

1914 Indian Combination, 2-speed, clutch, kick start, just overhauled, with all spares; £80.—Anthony, Bryn Celyn, Duffryn Rd., Ammanford, Carmarthenshire. [4312

INDIAN 1915 7-9h.p. Spares, frames, rear forks, chains, crank and cam cases, flywheels, and all parts; after 5 o'clock.—Indian, 45, Handcroft Rd., W. Croydon, Surrey. [4537

1915 7-9h.p. Indian Combination, 3-speed, electric lights and horn, splendid condition; must sell; best offer over £115; after 6.—27, Norman's Buildings, Old St., E.C.1. [4973

7-9h.p. Powerplus Indian Combination, 3-sped, spring frame, exceptionally good condition, no reasonable offer refused.—Apply, 38, Blandford St., Marylebone, W.1. [4092

1915 5-6h.p. Indian, 2-speed, clutch, kick-starter, lamps, horn, etc., new back Dunlop, excellent running and condition; £75.—Bell, 3, St. Mark's Terrace, Wrexham. [X5962

INDIAN.—For early delivery of the famous powerplus motor cycles and sidecar combinations with electrical equipment, write to P. J. Evans, 83-91, John Bright St., Birmingham. [0173

7-9h.p. Indian Combination, clutch, lamps, horn, etc. splendid condition and in good running order, any trial; £75, no offers.—59, Macks Rd., St. James Rd., Bermondsey. S.E. [4420

1919 Indian Powerplus, dismantled, would take down for inspection, needs handle-bars, one piston cracked, otherwise complete and perfect; £96, offers.—9, Red Hill, Bassett, Southampton. [4757

1920 7-9h.p. Indian Combination, electric lighting and horn, speedometer, mileage 1,500, aluminium discs, the whole guaranteed in top-hole condition; £200.—Mason, 39, Midland Rd., Wellingborough. [5027

INDIAN Combination, 1920, 7-9h.p., complete with dynamo lighting, horn, and Easting screen, splendid condition, not done 2,000 miles; 170 gns., very great bargain.—Julian, 84, Broad St., Reading. 'Phone: 1024. [3834

1914 Indian Combination, kick starter, 2 speeds, electric lights, speedometer, insurance and spares, perfect appearance, reliable order throughout; trial; best offer secures.—Hulme, 360, Blackburn Rd., Accrington. [4494

INDIAN Powerplus Combination, dynamo, speedometer, wind screen, new spare chain and tyre, little mileage, unscratched, wonderful engine, owner buying car; £200, or nearest. Hull district.—Box 6,043, c/o *The Motor Cycle*. [5227

1915 7-9h.p. Spring-frame Indian C.B. Combination, 3-speed, K.S., clutch, wind screen, in really splendid condition throughout; £130, or best offer; must sell, bought car.—Wignall, Dental Surgery, Friargate, Preston, Lancs. [4599

INDIAN 7-9h.p. Combination, 1916, 3 speeds, K.S., spring frame, speedometer, horn, acetylene lighting, good tyres, recently overhauled, electric head lamp and horn, 1½h.p. generator and self-starter; £120. —Seen at Scrase's, 381, Battersea Park Rd., S.W. [4604

INDIAN 7-9h.p. 1915 Combination, 3-speed, clutch, kick start (right side), Bosch mag., electric lights and horn, speedometer, luggage grid, all in exceptionally good condition, enamel and plating splendid, trial of any distance or hills given; £120.—60a, Kirkdale, Sydenham. [4595

1915 Indian, 7-9h.p., clutch, Dixie, Stewart mechanical horn, large spare tank, 2 lamps, generator, tyres, enamel good, overhauled, £13 spares fitted (receipts shown); seen running any evening, appointment; £68; if fitted with trip-season speedometer, £74; no offers.—50, Dornton Rd., Balham, London, S.W. [3952

INDIAN Powerplus Solo Model, 3-speed, one each, 1918 and 1919, models remaining, as offered by other dealers at £125; our price £95 each; sidecars to suit can be supplied if required.—The Layton Garages, London Rd., Bicester. Tel.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3542

MOTOR CYCLES FOR SALE.

Indian.

1920 (May) Powerplus Indian Combination, electrically equipped, dynamo, speedometer and horn, in faultless condition and unscratched, Easting wind screen; £200, or what offers? officer going abroad.—Box 175, c/o *The Motor Cycle.* [X6016

1915 7-9h.p. Indian, 2-speed, clutch, kick start, spring frame, Lucas head lamp and generator, Klaxon, little used, enamel as new, too powerful for owner; £95, or near offer.—Box 6,042, c/o *The Motor Cycle.* 'Phone: Chiswick 1211, Boxmoor 62. [5226

1920 7-9h.p. Indian Combination, engine No. 70R566, spring frame, Indian bulbous back sidecar, dynamo lighting, 3 lamps, ammeter, electric horn, Easting wind screen, handle-bar muffs, speedometer, special leg shields, spare inner tube, spare short drive chain and links, tyres unpunctured, mileage 2,000, full insurance, perfect condition, all tools and pump; £232.—Wilmot, Perrystone Towers, Ross-on-Wye. [3957

INDIAN Powerplus Combination, delivered new January, 1920, complete with usual electrical equipment and speedometer, very good condition, sidecar new last month, 170 gns. Several other similar Indian combinations in stock at indisputable bargain prices.—The Layton Garages, London Rd., Bicester, or 90, High St., Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for a copy of our July bargain list, which gives particulars of about 50 modern machines, all priced at lowest possible figures. [5261

Invicta

INVICTA, Villiers 2-speed, Lucas head and tail lamp sets, Flexa spring pillar, spare tube, accessories, Oct., 1919; £67.—Moisley, Farmhouse Lane, Pogmoor, Barnsley. [4265

NEW Invicta, 2¾h.p. J.A.P., 2-speed, clutch and kick starter, in stock at manufacturers' list price; easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [3881

NEW Invicta Lightweight, fitted with the famous Villiers 2½h.p. 2-stroke engine, a thoroughly reliable mount; many other machines in stock; latest lists and particulars of Harrods system of easy payments sent on application.—Harrods, Ltd., 118, Brompton Rd., London. [3875

Ivy.

IVY.—The Walsall Garage, Walsall, can supply at early dates. [5763

IVY 2½h.p., 2-speed, pretty machine; £43, or exchange.—Burrows, Potton, Beds. [4266

IVY 2-speed 2-stroke in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [6186

1915 Ivy 2-stroke, 2 speeds, excellent condition; £45. — 152 Meeting House Lane, Peckham, S.E.15 [4929

IVY 2-stroke, 2-speed, 1917, pan seat, as new, complete, all on; £50.—Seen 43, Dinsmore Rd., Balham, S.W.12. [3732

IVY 2-stroke, delivered May, 1920, 2½h.p., P. and H. front lamp and rear, mechanical horn, mileage under 400; £63, or not equipped, £59.—H. A. Woodman, Burnham-on-Sea. [4301

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G Henly and Co., London and District Agents, 91, Gt Portland St., W.1. Mayfair 4084. [0022

Ixion.

IXION 2-stroke, single speed, 2 months old, done 100 miles; highest offer secures.—Tibbles, 34, Mansfield Rd., Northampton. [X5578

James.

THE Walsall Garage, Walsall, for good deliveries of all James models. [5764

JAMES 3½h.p. Solo; list price; early delivery.—129, Brockley Rise, S.E.23. [4374

1920 James 6h.p. Combination at list price, plus carriage.—Taylor's Garage, Falmouth. [0249

JAMES 1920 5-6h.p. Combination, dynamo lighting, as new; £188.—Hucclecote Lodge, Gloucester. [4522

JAMES 1916 2¼h.p., 2-stroke, 2-speed, good condition throughout; £48.—P. Granger, Drayton, Tamworth. [X5807

JAMES 4¼h.p. Countershaft Combination, good reliable machine; £75.—Turner, 12, Stratford St., Oxford. [4833

JAMES 4¼h.p. Combination, perfect running order, any trial given; £90.—100, Richardson St., High Wycombe. [4670

JAMES 1920 4¼h.p. Combination, new; list price.—364, Lillie Rd., Fulham, S.W. 'Phone: 1553 Hammersmith. [4017

4¼h.p. James Combination; immediate delivery, list price. Brixton Motor Works, Ltd., 289a, Brixton Rd., London. [X5804

1920 3½h.p. James, lamps, Klaxon, discs, as new; £125; must sell.—St. Ives, Burwood Park Rd., Walton-on-Thames. [4878

JAMES 3½h.p. Twin, 3-speed, kick starter, excellent condition, lamp horn; £75; after 8 p.m.—257, Brockley Rd., S.E. [4658

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MOTOR CYCLES FOR SALE.

James.

1919 5-6h.p. James, solo, appearance as new, little used, lamps, horn, spares, etc.; £120.—62, Latimer Rd., Eastbourne. [4564

1920 4¼h.p. James Combination, Easting, horn, etc., about 200 miles; £160; seen any time.—Lucas, 20, High St., Rugby. [X6051

1920 6h.p. James Combination, lamps, horn, tools, excellent condition; £145.—King, 13, Hope St., Mill Rd., Cambridge. [5247

NEW 1920 James 4¼h.p. Combination and 2¼h.p. lightweight in stock.—The Premier Motor Co., Aston Rd., Birmingham. [2450

JAMES, 1916, like new, 3½h.p. twin, clutch, kick start, 3-speed, fully equipped; £80.—S. Thwaites, 29, Greenford Av., Hanwell, W.7. [5088

JAMES 3½h.p. Twin, 1916, 3-speed, kick start, top-hole condition; £85.—Apply, 134, Westfield Rd., King's Heath, Birmingham. [4598

1920 James Solo, complete, lamps, horn, speedometer, done about 500 miles; £128.—Wright's Garage, Saffron, Walden. Tel.: 16. [5189

JAMES 1920 5-6h.p. Combination, electric lighting, usual accessories; £200; owner bought car.—Naylor, Leahaven, Kidderminster. [4775

JAMES 6h.p. Twin, with James de luxe sidecar, brand new, in stock, immediate delivery at list price.—Welford's, St. James's St., Brighton. [4303

NEW 1920 5-6h.p. James Combination, in stock, makers' price plus carriage.—D. J. Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [4994

1919 James Combination, 4¼h.p., lamps, horn, screen, mileage about 1,000, as new; £145.—Garner, Causeway House, Godmanchester, Hunts. [4179

5-6h.p. James Solo, August, 1919, thoroughly overhauled and worn parts replaced, lamps, spares, etc.; £125.—Carter, 66, St. Mary St., Ladywood, Birmingham. [4704

JAMES 4¼h.p., 3-speed, free engine, coachbuilt sidecar, good condition; ride away; £95; higher power wanted or small car.—Drew, 5, Richmond St., Barnsbury, N.1. [4286

JAMES Combination, 4¼h.p., 3-speed, kick start, clutch, chain drive; £85; exchange lower power and cash.—57, Kenbury St., Coldharbour Lane, Camberwell. [4900

JAMES 1915 4¼h.p. Millford Combination, enclosed chain, 3-speed, lamps, horn, speedometer, engine perfect; £98; after 6.—Royston Tea Gardens, Ruislip Common. [4260

1919 5-6h.p. James Combination de Luxe, low mileage, Easting screen, Lucas lamps, legshields, Tan-Sad, spare tyre; £175.—Write 103a, Horseferry Rd., Westminster. [4268

JAMES (about 1915) Combination, 3-speed countershaft good condition throughout; illness cause of sale; first cheque for £70 secures.—Grover, Bletchley. 'Phone: 45. [4398

1919 5-6h.p. James Model De Luxe Combination, all accessories, insurance policy; 138 gns., or near offer.—W. A. Low, St. Thomas's Hospital, London, S.E.1. Tel.: Hop 2450. [5142

JUST Delivered, 4¼h.p. James de luxe combination, unridden, delivered too late, special model, James Co. recommends, fitted ready for road; bargain, list price.—P. T. 43, Brayburne Av., S.W.4. [4642

JAMES 3½h.p. Twin, late 1919, 3 speeds, clutch, kick starter, lamps, horn, practically new, mileage under 100; owner going abroad; seen by appointment; £120.—Kenton Grange, near Harrow. [3893

JAMES 1915-16 4¼h.p. Coachbuilt Combination, 3-speed, kick start, countershaft, Bosch mag., accessories, spares, excellent condition; £105; seen by appointment.—25, Ouseley Rd., Balham, S.W. [4778

JAMES Big Single Combination, little used, horn, speedometer, lamps, spare tyre, tube, all accessories, luggage grid, smart appearance, excellent condition; £95.—Mitchell, Malwood House, Balham Hill. [4728

JAMES Combination, 5-6h.p., Lucas lamps, Cameo wind screen, legshields, luggage grid, spares, new Whitsuntide, 1919, mileage 6,000; any trial; £160.—H. Rem. Fowler, 28, St. Paul's Sq., Birmingham [X5801

JAMES 4¼h.p. Coachbuilt Combination, 3-speed countershaft, kick starter, excellent running order, climbs any hill with ease when loaded, Easting wind screen, lamps, new tyres; 90 gns.—9, Norwich Rd., Thetford, Norfolk. [3771

JAMES 6h.p., 1919, little ridden, engine No. 871, Empire sidecar, Lucas electric lights, Bluemel's wind screen, Tan-Sad pillion with back and footrests, tyre outfit, levers, valve, tools complete; £175.—Trelawny, Ross, Lyon House, Sherborne. [4127

1920 James 5-6h.p. Twin Combination, all lights, horn, Bonniksen speedometer, luggage grid, Easting wind screen, photo; 160 gns., or near offer; run 2½ months only.—C. P. Guise, 1, Bayshill Mansions, Bayshill Rd., Cheltenham, Glos. [5074

J.A.P.

J.A.P. 2¾h.p., in first-class condition, T.T. bars, good tyres and belt; £45.—Fletcher, Barnack, Stamford, Northants. [3819

MOTOR CYCLES FOR SALE.

J.A.P.

LUXURIOUS Combination, 6h.p. Jap, hood, wind screen, speedometer, all accessories; bargain, £135; after 7 evening.—105, Allcroft Rd., Kentish Town, N.W.5. [4100

J.A.P. 4¼h.p. Motor Cycle, new engine, new tyres, in thorough good order; too fast for owner, speedometer, footboards, T.T. bars; £48/10.—Britton, 3, Albert Rd., Belvedere, Kent. [5198

J.E.S.

J.E.S. Motorcyclette, 1919, 1¼h.p., lamp, horn, as new.—C. Barton, Clapham, Yorks. [0247

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3h.p. Lea-Francis, M.A.G. engine, new 1920; £130. [3749

MAUDES'.—J.E.S., 1920 model, standard Dunlop tyres, Lucas horn, as new; £44.—Maudes', 100, St. Portland St., W.1. [5169

1915 J.E.S., on 1919 New Hudson, running order; first £18.—Fleming, 4, Westfield Grove, Wakefield. [X5860

J.E.S. on B.S.A. 3-speed cycle, perfect, spares, tools; £17.—24, St. George's Square, Regents Park, N.W.1. [4422

J.E.S. Lightweight, splendid condition throughout; £22, or offer.—Cleary, H, Avenue, Arsenal, Woolwich. [4470

Kerry.

3½h.p. Kerry-Abingdon, N.S.U. 2-speed, with nearly new coachbuilt sidecar, nice, reliable little lot; £58.—85, Church Rd., Willesden. [5113

Lea-Francis.

LEA-FRANCIS, brand new, M.A.G. engine, in stock; £130.—Rhosha Motor Garage, Romford. Tel.: 95. [9721

1920 Lea-Francis, M.A.G. engine; list price.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [3618

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 193, Gt. Portland St., W.1. [0099

LEA-FRANCIS 1914 J.A.P., 3½h.p., 2-speed, lamps, horn, new Dunlop on back, condition perfect; £75. The Garage, Sandhurst, Sandhurst Rd., Tunbridge Wells. [4369

LEA-FRANCIS, 1915, 3½h.p. twin J.A.P., 2-speed, clutch, Bosch mag., and sporting Canoelet sidecar; £87/10.—H. Martin, 44, High St., Biddulph, Staffs. (D) [3903

LEA-FRANCIS, 1920, delivery from stock of this famous twin, fitted with M.A.G. engine; £130 plus carriage from works; extended terms if desired.—Ice and Co., 15-16, Bishopsgate Av., Camomile St., E.C.4. [0066

Levis.

LEVIS, 2¼h.p., new; list price.—C.A.E., Co., Ltd., Hobson St., Cambridge. [5097

LEVIS, 1916, 2-speed, lamps, horn, pump; £40.—5, Bloomfield Rd., Bromley, Kent. [4845

1915 2¼h.p. Levis Popular, good condition; £38.—89, Dymchurch Rd., Hythe, Kent. [4024

LEVIS, 1919, single, perfect; £40.—Matthews, 4, Cornwall Mews, Gloucester Rd., S.W.7. [4354

LEVIS, 1916, 2¼h.p., excellent condition, trial 2 up; £45.—49, Beechwood Rd., Hornsey, N.8. [4720

1919 Levis 2¼h.p., little used, new condition; 47 gns., no offers.—17, Belgrave Rd., Ilford. [3845

LEVIS Popular, 1915, splendid condition, new tyre; 38 gns.—Davies, Berthen, Chester Rd., Flint. [4125

1920 Brand New Levis Motor Cycle in stock; list price.—Brook Bros., Burnham-on-Sea. [4354

1920 Levis 2¼h.p.; £60; in stock to-day.—Julian, 84, Broad St., Reading. 'Phone: 1024. [4109

LEVIS 2¼h.p., 1916, lamps and horn, condition as new; £43.—Wellington, 40, Lowlands Rd., Harrow. [3831

LEVIS Popular Models in Stock; £60.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 14). [4012

1920 Levis, magnificent condition; 49 gns., very great bargain.—Julian, 84, Broad St., Reading. 'Phone: 024. [3835

FOR Sale, Levis Popular, 1915, in excellent condition; £37/10.—Apply, Dr. Coleman, 129, Castle Hill, Reading. [4289

FOR Sale, Levis 2¼h.p., condition as new, not run 100 miles, acetylene lamps and horn —90, Park St., London, W.1. [3778

LEVIS, 2¼h.p., 2-speed countershaft, 1916, new head lamp, low, fast, good condition; £45, offers.—70, Lenthall Rd., Dalston. [5120

LEVIS 2¼h.p., 2-speed, clutch, very smart, powerful, good lamps, etc., any trial; £54.—Coomber, 5, Princes St., Tunbridge Wells. [4528

NEW 1920 Levis 2¼h.p. Popular Model; £60; the master 2-stroke; early delivery.—The Premier Motor Co., Aston Rd., Birmingham. [2451

LEVIS.—We strongly recommend, and can supply early, this famous 2-stroke.—District agents, The Walsall Garage, Wolverhampton St., Walsall. 'Phone: 44. [5765

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1920	**ARIEL** and Ariel Sidecar	£152	10
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1920	**JAMES** No. 6 Combination	£170	0
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1920	**LEA-FRANCIS**	£130	0
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1920	**BLACKBURNE**, 8 h.p.	£170	0
1920	**BLACKBURNE**, 4 h.p.	£128	10
1920	2¾ h.p. **O.K. JUNIOR**, 2-speed	£65	0
1920	2¾ h.p. **O.K. JUNIOR**, single-speed	£50	8
1920	**JAMES** 4¼ h.p. Combination	£170	0
1920	**JAMES** 5-6 h.p. Combination	£215	0
1920	**ROVER** 5-6 h.p. Combination	£235	0
1920	**ZENITH** Combination	£204	0
1920	**CALTHORPE-J.A.P.**, 2-speed	£78 5	6
1920	**CALTHORPE**, 2-stroke, 2-speed	£74 19	4
1920	**NEW IMPERIAL**, 2¾ h.p.	£89	5
1920	**NEW HUDSON**, 2-stroke, 2-speed	£75	0
1920	**ENFIELD**, 2-stroke, 2-speed	£73	10
1920	**ALLDAYS-ALLON**	£85	0
1920	**DOUGLAS**, 2¾ h.p., 2-speed	£100	0
1920	**ROVER**, 3½ h.p. Solo, T.T. Bars	£149	16 3

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NEARLY NEW.

1920	**P. & M.** and P. & M. Sidecar.	
1920	**RUDGE**, 5-6 h.p., and Rudge Sidecar, horn.	
1919	**ENFIELD**, 2¾ h.p.	
1920	**RUDGE**, I.O.M., T.T. bars, trip speedometer, lamps.	
1920	**TRIUMPH** and Paragon Sidecar (folding), lamps, and horn.	
1919	**BRADBURY**, 6 h.p., and Enfield Sidecar, lamps, screen, and Klaxon.	
1920	**COULSON-B.**, only soiled, 2¾ h.p.	
1919	**INDIAN**, 2¾ h.p., 3-speed, kick-starter.	
1919	**ENFIELD**, 8 h.p., dynamo lighting.	
1920	**A.B.C.**, 8 h.p.	
1920	**LEVIS** Popular.	
1920	**WOOLER**, with accessories.	
1920	**DOUGLAS** 4 h.p. Combination, lamps and horn.	
1920	**P. & M.**, 3½ h.p., lamps and horn.	
1920	**N.U.T.**, dynamo lighting.	
1920	**QUADRANT** Combination.	

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1917	**CLYNO** 6 h.p. Combination	£135 0
1917	**LEVIS**	£52 10
1915	**JAMES**, 3½ h.p.	£85 0
1916	**ENFIELD** Combination, lamps and horn	£160 0
1915	**DOUGLAS** 2¾ h.p. Combination	£90 0
	TRIUMPH and Sidecar, 3-speed	£92 10
	W.D. **B.S.A.** and B.S.A. Sidecar	134 gns.
	W.D. **B.S.A.** and Canoelet Sidecar	126 gns.
	W.D. **DOUGLAS**, 2¾ h.p.	72 gns.

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CARS.

1920	**MAXWELL** 5-seater Touring Car, many spares, 5 months old	£450 0
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1920	**FORD**, 5-seater Touring Car.	

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'Phone : Hornsey 1956.

387, EUSTON ROAD, N.W.1.
'Phone : Museum 4978

MOTOR CYCLES FOR SALE.

Levis.

FOR Sale, 1920 Levis Popular model, not done 100 miles, absolutely new; reason for selling, just got delivery new Triumph.—Rider, Low Catton, Stamford Bridge, York [4277

LEVIS 2¼h.p., 1915, T.T. bars, 2-speed, 2-gallon tank, footboards, Harcourts, lamps, overhauled makers, perfect condition; £55.—Long, Barton-under-Needwood, Staffs. [X6029

1919 2¼h.p. Levis, Amac, E.I.C., Hutchinson tyres, lamps, accessories, hooter, tools, Druids, brand new, ridden 100 miles; £49. — 35, Perrers Rd., Hammersmith. [4634

LEVIS 2¼h.p. Single, new cyl. and piston, new E.I.C. mag. (variable) rebushed, good Dunlops, new belt, lamps, generator, horn, tools, together with Levis 2¼h.p. cyl, reground, piston and rings, gudgeon pin and bush; the whole in excellent condition; £40. —L. Watts, Sticklepath Hill, Barnstaple. [4906

Lincoln-Elk.

£33.—3h.p. Lincoln Elk, Bosch, B. and B., splendid running.—144, Clarence Rd., Wimbledon, S.W. [4347

1914 T.T. Lincoln-Elk, 3½h.p., Philipson pulley, accessories, brand new condition; £40; exchange.—63, Solon Rd., Brixton. [4633

L.M.C.

L.M.C., 1913, 2-speed, K.S., perfect condition, powerful sidecar machine; £47.—White, 62, High St., Kingston-on-Thames, Surrey. [4916

1920 L.M.C. Combination, 6h.p. twin, Sturmey 3-speed, K.S., luxurious coachbuilt sidecar, few miles, beautiful turnout; £175.—George Hotel, Pangbourne, Berks. [3822

L.M.C. 1920 6h.p. C.B. Combination, used twice only, owner changing for Colonial Model for Overseas use; cost £183, nearest offer to £165 accepted; condition as new, and full guarantee as with a new machine given.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives particulars of nearly 50 machines, all priced at lowest possible figures. [3526

Lugton.

LUGTON Combination, 3½h.p., 3-speed and clutch, Bosch, B. and B., 3 lamps, in daily use; £60.—Sibthorp, Abbscross Rd., Hornchurch, Essex. [4338

Martinsyde.

MARTINSYDE-NEWMAN Combination for sale, just delivered.—Tennant, Allsprings Drive, Gt. Harwood. [4311

1920 Martinsyde-Newman 6h.p. Combination, delivered June; what offers?—Grimshaw, Deadmanstone, Berrybrow, Huddersfield. [4515

6h.p. Martinsyde-Newman Combination, Cameo screen, Lucas horn, mileage 1,000; what offers?—Mears, Confectioner, Peterborough, Northants. [3909

MARTINSYDE-NEWMAN 6h.p. Combination, fully equipped, electric, and screen, new; £210, or near.—Norman, 855, High Rd., Leytonstone. [4789

JUNE (1920) Martinsyde Combination, mileage under 400, fully equipped, better than new, magnificent turnout, genuine; £215, no offers.—2, Northampton St., Dover. [3888

MARTINSYDE-NEWMAN 6h.p. Twin Combination; £170; sole distributers for Kent.—Motor Cycle Mart, Ltd., Fair Row, High St., Chatham. 'Phone: 301. [X6109

Matchless.

1920 Model H Matchless, 200 miles, as new, electric; list price.—Peel, Watchet. [4069

1920 Matchless Combination, D.A. lighting, Lucas lamps; £210.—114, Brixton Hill. [4732

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Matchless combination, 1918; £160. [9778

1920 Matchless Combination, as delivered; £220.—Wright's Garage, Saffron Walden. Tel.: 16. [5190

MATCHLESS, Model H, 2 almost new, Lucas lighting; offers.—7, Exhibition Rd., South Kensington. [X6103

1920 Model H Matchless, Lucas electric lights, as new; £230.—2, Nightingale Rd., Lower Clapton. [3550

CROW Bros., Guildford, West Surrey agents for this first-class outfit. Matchless in name and quality. [3173

8h.p. Matchless Combination, recently overhauled, 2-speed, kick, ride away.—114, Crystal Palace Rd., E. Dulwich. [4690

MATCHLESS Victory Model, lovely sidecar, full accessories; £155.—Driscoll, 58, Woodfield Rd., Ealing. [4787

MATCHLESS, 6h.p. J.A.P., 2-speed and free, Bosch watertight; bargain, 42 gns.—Box 6,032, c/o *The Motor Cycle*. [5214

MATCHLESS Combination, 3½h.p. twin, 3-speed, countershaft, perfect; £72.—Parkes, Edith St., West Bromwich. [X5975

MODEL H Matchless, dynamo lighting, delivery from stock; list price.—Cleare and Lowe, 125, High St., Woolwich. [3827

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS Model H., M.A.G. engine, Lucas lamps, hood, rear drive speedometer, perfect condition; £228.—16, Hesper Mews, Earl's Court. [4396

MATCHLESS-J.A.P., new, driven from London only, lamps, spare wheel, hood, horn; owner has two; offers.—85, Montagu St., Kettering. [4172

1920 Matchless Combination, M.A.G. engine, complete, all Lucas lamps, horn, etc., brand new; £225.—Box 6,058, c/o *The Motor Cycle.* [5246

MATCHLESS, Model H.—Place your orders with S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. 'Phone: Greenwich 751. [2067

MATCHLESS Combination, 8h.p., 2-speed, clutch, 3 lamps, generators; full toolkit, laid up 4 years; £110.—Morris Smith, Goathland, Yorks. [4073

1920 Model H Matchless, in splendid order, Lucas dynamo lighting, hood, leg guards, horn, etc.; £230.—2, Nightingale Rd., Lower Clapton. [3548

1920 Matchless Combination, Model H, as new, complete, lamps, etc.; £212/10.—Potter, 33, Birdhurst Rise, S. Croydon. 'Phone: 368 Croydon. [4774

MATCHLESS 1920 Model H., hood, Lucas gas set, speedometer, horn, super J.A.P. engine, 1,700 mileage, perfect condition; £205.—Mack, 111, High St., Woolwich. [4454

1918-19 Matchless, new Easting screen, new hood, top-hole condition; trial anywhere, any distance; £150; consider late Ford.—335, Bethnal Green Rd., London, E.2. [4442

MATCHLESS Combination, 6h.p., J.A.P., 2-speed, clutch, Binks 3-jet, nearly new, tyres, lamps, mirrow, all on; nearest £70, mornings.—183, Howard Rd., Walthamstow. [4415

1920 Matchless Model H Combination, magdynamo, Lucas fittings, Dunlops, special model, unregistered; £260, or nearest.—Read, Butcher, High St., Brentford, W. [4551

1920 Matchless Combination, Model H., J.A.P. engine, Lucas lighting, fully equipped, legshields, mileage 250; private owner; £230, or offer.—Box 5,990, c/o *The Motor Cycle.* [4113

MATCHLESS 1920 Model H Combination, lamps, horn, screen, delivered May; £215; before 1 o'clock Thursdays, any time Friday, Saturday.—136, Lambeth Walk, S.E. [4355

MATCHLESS Combination, 3-speed, interchangeable wheels and spare, perfect order, lamps, speedometer, horn; £160; after 2 o'clock.—25, Davisville Rd., Askew Rd., Shepherd's Bush. [4908

MATCHLESS latest Model H Spring Frame Combination, Lucas Magdyno, spare wheel and tyre, luggage grid, only done few hundred miles.—Parker's, Bradshawgate, Bolton. [X5915

MATCHLESS Combination For Sale, 8h.p., Sept., 1919, Victory Model as new complete, hood, screen 5 tyres; price £165. — Lister, Holbrook, Shooters Hill, Woolwich [5020

1920 Model H, Matchless Combination, little and carefully used, speedometer, Lucas accessories, spare wheel, etc., as new; £220.—Wrixon, 41, Richmond Park Rd., East Sheen. [4319

MATCHLESS 1920 (April) H. Combination, standard equipment, special hood, Cowey horn, F.R.S. acetylene lamps; £215 for quick sale.—Goodbrook, 5, Finchley Rd., St. John's Wood, N.W.8. [4568

1920 Matchless Model H Combination, Magdyno lighting, hood, screen, legshields, speedometer, etc.; £240, no offers; would consider 1920 4-stroke part exchange.—106, Atbara Rd., Teddington. [3846

MATCHLESS Combination, late 1917, 8h.p., in perfect order, lamps, horn, speedometer, wind screen, Tan-Sad, spare wheel; £135.—Curtis, Linkwood, Link Lane, Wallington, Surrey. [4940

MATCHLESS Model H Combination, Lucas magdyno electric lighting, Lucas horn, legshields, hood, spare wheel, brand new; at makers' list price.—Rhosha Motor Co., Bank Mews, Romford. [5095

8h.p. Matchless-Jap Combination, 2-speed, kick start, C.B. sidecar, smart, powerful, mechanically perfect, speedometer, mechanical horn, discs, electric lamps; £95.—S., 560, King's Rd., Chelsea. [4729

1919 Matchless Combination, 8h.p. Victory model spare wheel, screen, speedometer, Klaxon, lamps good tyres, excellent condition; £165.—849, Harrow Rd., Willesden Junction (after 7 by appointment. [4282

MATCHLESS New Spring Frame Model.—Early delivery at list price. Demonstration model on view. Replacements for Matchless models of all dates in stock.—Tassell, 1a, Bloomfield Rd., Plumstead, S.E. [9411

MATCHLESS Model H 1920 Combination, lamps, speedometer, horn, spare wheel and tyre, screen, etc., mileage undr 1,000, condition as new; £220.—Melvin, 197, London Rd., Croydon. 'Phone: 2379. [4980

8h.p. Matchless, Canoelet, Binks, 2-speed V.S., K.S., spares; £100; electric and acetylene lighting, horn, hood, wind screen, Lucas horn, pillion, Stewart trip extra optional. Sheffield, 33, Longford St., Gorton, Manchester. [3971

MATCHLESS 8h.p. J.A.P. Coachbuilt Combination, 2 speeds, kick start, engine just overhauled, new oversize tyres, new lighting set, hood, screen, spares, tools, perfect; genuine bargain, £115.—257, Beckenham Rd., Beckenham. [3801

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1920 **MATCHLESS** Combination, M.A.G. engine, Lucas magdyno, hood, windscreen, Watford trip speedometer, rear drive.
1920 4 h.p. **DOUGLAS** Combination, brand new, never been ridden.
1920 3½ h.p. **SUNBEAM** Combination, complete with Lucas lamps, Lucas horn.
1920 H Model **MATCHLESS** Combination, Lucas Magdyno, complete with horn, as new.
1920 H Model **MATCHLESS** Combination, Lucas acetylene lamps, Lucas horn, been ridden 10 miles.
1920 **A.J.S.** Combination, complete with hood, windscreen, 3 lamp sets, and horn; all ready for the road; never been ridden.
1920 6 h.p. **A.J.S.** Combination, screen, no accessories, as new.
1920 8 h.p. **ENFIELD** Combination. Lucas Magdyno, all complete, as new.
1920, 8 h.p. **ZENITH**, countershaft model, kick starter, Swan Sporting Sidecar, complete with lamps all new, immediate delivery, list price.
1920 **INDIAN** Combination, fitted with Swan sporting Sidecar, disc wheels all round, T.T. bars, dynamo lighting, indistinguishable from new. Very smart lot.
1920 4¼ h.p. **B.S.A.** Combination, all-chain drive, not registered.
1920 6 h.p. **ENFIELD** Combination, Lucas Magdyno, fitted with hood, windscreen, as new.
1920 **A.J.S.** Combination, spare wheel wind screen, never been ridden.

SOLO MACHINES.

1920 4 h.p. **TRIUMPH,** countershaft model, T.T. bars, disc wheels, large Lucas lamp set, Stewart car horn, only ridden 60 miles.
1920 brand new I.O.M. **RUDGE-MULTI,** immediate delivery.
1920 3½ h.p. **LEA-FRANCIS,** J.A.P. engine, only done a few miles.
1920 4¼ h.p. **B.S.A.,** complete, as received from makers.
1920 3½ h.p. **SUNBEAM,** not been ridden.
1919, November, 3½ h.p. **SUNBEAM,** complete with Lucas lamps, Lucas horn, Sunbeam leg shields, very small mileage, as new.
1920 solo **A.B.C.,** 4-speed, brand new, immediate delivery.
1920 6 h.p. countershaft **ZENITH.** Sidecar for same if required.

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MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS Model H. Combination, 1920, spare wheel, screen, luggage grid, Headley's Tan-Sad, 3 lamps (Lucas), also spares, mileage 192; will give any trial; this is a most splendid outfit; £225/10.—Moxon, New St., Darfield, Yorks. [4003

1920 Model H Matchless Combination, Lucas lighting, Binks carburetter (55 m.p.g.), speedometer, extra (Bowden) back brake, 8 months' insurance, hood, and all accessories, splendid condition; best offer over £225.—Box 5,958, c/o *The Motor Cycle.* [4039

MATCHLESS Combination, 6h.p. J.A.P., Meade and Deakin coachbuilt, engine bearings just renewed throughout, receipts shown, outfit in tip-top condition; best offer over £100; after 6 p.m.—13, Belsize Cres., Hampstead, N.W., or 'phone Norman 6118 Bank. [4284

LATE Pre-war 6h.p. Matchless Combination, stored 4 years, overhauled and re-enamelled this summer, 1920 Binks, Bosch, new tyres, lamps, speedometer, wind screen, etc., 2-speed, kick start; trial; £120; after 6 p.m., or week-end.—39, Park Rd., Chiswick, W.4. [A5895

MATCHLESS Combination, 2-speed, kick start, £55; Matchless combination, 8h.p. J.A.P., 2-speed, kick start, £88; Matchless combination, 2-speed, kick start, clutch, chain drive, fine turnout, £120, or exchange.—57, Kenbury St., Coldharbour Lane, Camberwell. [4902

1920 Model H. Matchless Combination, luxurious outfit, spring frame, dynamo lighting, electric horn, speedometer, hood, wind screen, sidecar step, spare wheel, legshield, spares, mileage 800, perfect in every way; £350, no offer; private owner bought car.—Parsons, 237, Stanley Park Av., Liverpool. [3891

MATCHLESS Combination, Victory Model, 7-9h.p. M.A.G., double-seated spring wheel sidecar, Cowey, hood, screen, electric or acetylene light, interchangeable wheels, car tyres, luggage and petrol tin carriers, in first-class condition, any trial given; price £150.—Walker, Pumping Station, Coulsdon. [5134

MATCHLESS Combination.—Book your orders with Ross, 86, High Road, Lee, S.E., for 1920 spring frame 8h.p. Matchless combination. A model always on view at above address. Deliveries guaranteed strictly as per order received. Retail price as ruling at time of delivery. A large assortment of second-hand motor cycles of all makes always in stock. [5242

Metro.

METRO-TYLER, 2-speed, nearly new; £70.—Nelson, 39, Queen St., Rhyl. [X5851

METRO-TYLER, late 1919, the 2-stroke; going cheap. —J., 292, Earl's Court Rd., S.W. [4117

METRO-TYLER, 2-speed, Sept., 1919, perfect condition, lamps, horn; seen by appointment.—5, Rosslyn Court, Ornan Rd., Hampstead. [3791

METRO-TYLER, 1919, 2-speed model, long nickel exhaust, P. and H. lamp set, as new; £58.—36, St. Thomas Rd., South Hackney. [5121

1915 2¾h.p. 2-speed Metro-Tyler, just thoroughly overhauled, rebushed, and re-enamelled, absolutely as new; £46.—Taplin, 159, Hornsey Rd., N. [4210

METRO-TYLER 1919 late, long nickel-plated exhaust, in perfect running order, done about 80 miles, owner bought Triumph; £45.—Denholm, Windmill Hill, Enfield. [4661

METRO-TYLER.—Delivery from stock of this super 2-stroke, 2-speed, fitted with long exhaust and disc wheels, £77/17/6; extended terms quarter down, balance in 12 instalments; call and inspect or write for particulars.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0068

Minerva.

MINERVA 3½h.p., good running condition, with sidecar or sell separately; £22, sidecar £9.—Osbourne, 377, Norwood Rd., West Norwood, S.E.27. [4591

Moto-Reve

MOTO-REVE Twin, wants timing; £18.—9, Claverley Grove, Finchley, N.3. [3811

MOTO-REVE 2¾h.p., easy starting, climb anywhere, good tyres, Triumph carburetter; first cheque £23 secures, bargain.—32, Stuart St., Luton, Beds. [4865

Motosacoche.

MOTOSACOCHE 3½h.p. Twin, believed 1914, De Lissa valves, Enfield 2-speed gear, kick start, good tyres, requires magneto, and a few nuts and bolts; first cash £25 to clear, genuine bargain.—Hill, 131a, Uxbridge Rd., West Ealing, W.13. [4566

2½h.p. Motosacoche, in first-class order throughout, 22 improved variable gear, free engine, speedometer, tools, spares, both lamps, good Dunlops and belt, a really good lightweight; £35.—Angus, The Vicarage, Coleshill, Birmingham. [3959

New Comet.

2¾h.p. New Comet, Arden 2-stroke engine, new 24 this year, guaranteed perfect order, photo; first £45; lamps, etc.—Barnard, Green Lane, Calvert St., Norwich. [4308

New Hudson.

1920 New Hudson T.T. 2¾h.p., 2-stroke, unused; £72.—'Phone: Hamp. 7822. [5201

NEW HUDSON 2-stroke, 2-speed, fine condition; 50 gns.—Bolt, 113, Bath Rd., Exeter. [4723

MOTOR CYCLES FOR SALE.

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1920 New Hudson 2½h.p., 2-speed; £75; in stock to-day.—Julian, 84, Broad St., Reading. 'Phone: 1024. [4106

NEW HUDSON.—Immediate delivery 2¼h.p. 2-stroke model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X5920

6h.p. New Hudson, 1915, 3-speed, chain-cum combination; £84, or best offer.—21, Spencer Rd., Acton. [4671

NEW HUDSON, 2¾h.p. J.A.P., perfect condition, 3-speed, clutch, Bosch, lamps; £40.—King, Fire Station, Salisbury. [4357

1915 New Hudson, 2-stroke, 2-speed, perfect condition, lamps, mechanical horn; £45.—62, Marefair, Northampton. [X5898

NEW HUDSON, 2-stroke, guaranteed perfect, splendid appearance; £38; after 6.—44, Wargrave Av., Stamford Hill, N.15. [4431

1920 New Hudson de Luxe, sporting model, used once only; nearest offer £65 accepted.—Box 174, c/o *The Motor Cycle*. [X5996

NEW HUDSON 2-stroke, late 1916, very fast, splendid condition; £38. See advt. in Matchless.—136, Lambeth Walk, S.E. [4356

NEW HUDSON, 2¾h.p. J.A.P., 3-speed and clutch, in good condition; £40; lamps and horn.—Bennoson, 501, Hornsey Rd., N. [3780

NEW HUDSON 1916 2¼h.p., splendid condition Lucas head light; £45.—Apply, 6, Winscombe Crescent, Brentham, Ealing. [4020

NEW HUDSON 3-speed Coachbuilt Combination, excellent condition, 1915; £80; cycle only £65.—Knights, High St., Yoxford. [4948

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NEW HUDSON 1919 4h.p. Combination, 3-speed countershaft gears; £119.—Frank Whitworth Ltd., 139, New St., Birmingham. [X6007

2½h.p. New Hudson Lightweight, 2-speed countershaft, new April this year, perfect condition and unsoiled.—Karl Dunwell, 63, Hagley Rd., Stourbridge. [3947

NEW 1920 2¼h.p. New Hudson 2-speed Lightweight, in stock; price £75.—D. J. Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [4996

COMBINATION, New Hudson 6-8h.p. twin, coach built sidecar, underslung, 3-speed gear, splendid order; £95.—Murray, 37a, Charles St., Hatton Garden, Holborn. [X5909

1915 4h.p. New Hudson C.B. Combination, 3-speed countershaft, kick starter, T.-B. mag., in thorough mechanical order; £80; no offers.—19, Ashley Rd., St. Annes-on-Sea. [4841

LATE 1919 New Hudson 4h.p., 3-speed countershaft latest utility sidecar, screen, apron, lighting set guaranteed perfect, splendid condition; £130, lowest.—153, Knollys Rd., Streatham. [2531

NEW HUDSON, late 1919, 2¼h.p., 2-speed, P. and H. lamps, Klaxon horn, perfect condition; £65 or near offer; owner purchased more powerful machine apply after 7 p.m.—George Hotel, 210, Haverstock Hill Hampstead. [403

2¾h.p. New Hudson-J.A.P., 3-speed, clutch, Bosch mag., long exhaust, footboards, new Dunlop inner and outers, climb anywhere, used daily, gives no trouble; £40.—Wilkinson, St. James' Villa, Bridgnorth, Shropshire. [X5740

NEW HUDSON 1914 Combination, special sidecar, 6h.p., 3-speed and clutch, kick starter, new Palmer cord back, Binks carburetter, perfect order, little used, horn, lamps complete; £85, or near offer.—Crouch, 91, Masons Hill, Bromley, Kent. [4584

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1920 New Imperial-Jap 2¾h.p., Lucas and P. and H. fittings, all new; £75; must sell.—2, Plashet Rd., E.13. [4453

4h.p. New Imperial, 3-speed, hub, good condition, equipped; £60, offers.—Coffin, Holwell, Sherborne. [4923

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IMPERIAL-J.A.P. 1916 3½h.p., 3-speed, Bosch, all accessories, excellent condition; £75.—Wall, 80, London Rd., Chelmsford. [3925

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2½h.p. New Imperial, new, 1920 model, immediate delivery; £89/5. [3746

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1920 New Imperial-Jap 2¾h.p., 2-speed, lamps, Klaxon, as new; £73, or near offer.—17a, Richmond Rd., Ilford, Essex. [4085

NEW IMPERIAL-J.A.P., 1916, 2¾h.p., 2-speed, fully equipped, perfect, 130 m.p.g.; £47.—8, Bishops Mansions, Fulham. [4644

NEW IMPERIALS.—1920, Model No. 1; immediate delivery.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [2066

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NEW IMPERIAL, 2¾h.p. J.A.P., 2-speed, new tyres, perfect condition, and running order; £55.—Whiteley, Broadmoor, Crowthorne, Berks. [3817

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, splendid condition, recently overhauled; £42, offers.—Lewis, 51, Earl's Court Sq., S.W.5. [5150

1920 8h.p. New Imperial Combination, just delivered, ridden 40 miles; sacrifice £170 (list £180).—Cooke, Grange, Montford Bridge, Shrewsbury. [X5859

8h.p. New Imperial W.D. Combination, almost new, all accessories, a lovely touring outfit; £135.—8a, Blue Ball Yard, St. James's St., Piccadilly. Gerrard 6536. [4460

NEW IMPERIAL-J.A.P., 2½h.p., 1916, 2-speed, electric lamps, speedometer, little used; £60, exchange, or half down.—Bunting's Motors, Wealdstone, Harrow [5079

1919 New Imperial Combination, 8h.p. J.A.P., Klaxon, lamps, storm apron, screen, Tan-Sad, tools; trial given; £160.—Taylor, 59, Vivian St., Abertillery, Mon. [X5573

NEW IMPERIAL-J.A.P. 2¾h.p., 1916, perfect condition, powerful, 100 m.p.g., accessories; after 2 Saturdays, or appointment; £55.—Green, 9a, Palace Sq., Upper Norwood. [3841

1920 2¾h.p. New Imperial, mileage only 150, 2-speed, lamps, pump, mechanical horn; owner taking delivery of car; nearest to 75 gns.—Apply, 2, Wolsley Rd., Aldershot. [4856

NEW IMPERIAL 1920 Model, 6h.p., 3-speed, all chain, with coachbuilt sidecar, very small mileage; £167/10.—Newnham Motor Co., 223, Hammersmith Rd. W.6. 'Phone: Hammersmith 80. [5151

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8h.p. New Imperial W.D. Combination, Sunbeam sidecar, all-chain drive, hand clutch; Fellows mag., lamps side and rear electric, Cowey mechanical horn and speedometer, Tan Sad, screen, apron, accessories, excellent running order; £160.—Cheeseright, Sutton, Cambs. [4583

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NEW IMPERIAL 1914 2½h.p., 2-speed, engine completely renewed, new cylinder, valves, bearings, bushes, cams, rockers, etc., frame and tank re-enamelled, new Amac carburetter, new saddle, new lamp set, complete with horn and accessories; £48.—16, Westover Rd., Wandsworth Common, S.W.18. [4608

NEW IMPERIAL 8h.p. J.A.P. Combination, new April, 1920, all enclosed chain drive, complete lighting set, Klaxon horn, speedometer, tools, spares, engine specially tuned and whole machine guaranteed, in sound mechanical condition, does 65 m.p.g., small mileage, carefully used by experienced rider, any examination or trial; £155.—Apply, after 8 p.m., or appointment week-end, Brodie, 106, Highgrove St., Reading. [4619

New Ryder.

2¾h.p. New Ryder 2-stroke, roller bearings, splendid condition, lamps, etc.—69, North St., Plaistow, Broadway [4272

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NORTON Big Four Sporting Model, special combination, trial or examination.—Parker's, Bradshawgate, Bolton. [X5914

1920 Norton Big Four, brand new, no accessories; reasonable offer; Warwickshire.—Box 179, c/o *The Motor Cycle.* [X6012

NORTON 3½h.p., 3-speed, clutch model, lamps, complete; £50.—Hayden, Spring Villa, Church St., Chalvey, Slough. [476(

NORTON, 1916-17, T.T., Philipson h.c., lamps, Klaxon, knee grips, splendid condition, Binks, any trial; £90.—Green, Grocer, Reigate. [4842

B.R.S. Norton, 1919 (late), Brooklands certificate with machine, lamps, horn, knee-grips; any trial; £125; Surrey.—Box 5,991, c/o *The Motor Cycle.* [4139

A Very Smart 1920 Big Four Norton Sporting Combination for sale at list price, no offers, as new, exceedingly fast.—Holloway, Torver, Coniston, Lancashire. [X6034

1920 Norton Big Four, ridden 250 miles, unscratched, F.R.S. lamps, horn, insurance, spare pulley, speedometer, all tools.—Ward, 81, Monk's Rd., Lincoln. [4496

1920 Big Four Norton, T.T. bars, knee grips, footrests, Lucas lamps and horn, low mileage, condition perfect; 135 gns. Lancashire district.—Box 188, c/o *The Motor Cycle.* [X6035

T.T. Norton, with 8h.p. J.A.P. engine, Mabon gear, brass tank (Norton pattern), and exhaust pipes, Binks, quite new and unused; £120; wanted, Morgan.—Brailsford, 17, Glenalmond Rd., Sheffield. [X5958

1920 Norton, 4h.p., 3-speed, new April, mileage 500, semi-T.T. bars, complete with lamps, Klaxon horn, tools, etc., better than new, any trial; £130; Reading district.—Box 5,928, c/o *The Motor Cycle.* (D) [3864

BIG Four Norton, 1920, just delivered, family sidecar, Triplex wind screen, Cowey horn and speedometer, oversize tyres, electric lighting, insurance; near London; £230.—Box 6,047, c/o *The Motor Cycle.* [5231

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NORTON Big 4, countershaft 3-speed, 1919, as new, Klaxon, Lucas lamps, speedometer, etc., glorious machine; accept £150; any trial.—Montague's Motor Mart, 85-87, London Rd., Manchester. 'Phone: 7745 Central. [4021

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NORTON, B.R.S., 1916, specially fitted Sturmey-Archer countershaft kick start, does over 60, everything on complete, appearance topping, perfect throughout; £115 cash.—Richardson, Station Rd., West Byfleet, Surrey. [4748

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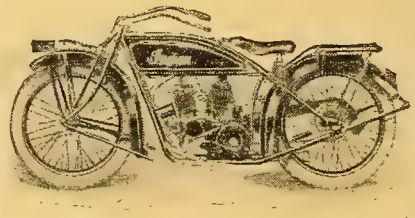

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N.U.T. 1920 Model, Magdyno lighting, early delivery from the city agents at list price.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0065

N.U.T. 1920 3½h.p. V Twin, only run 500 miles, in perfect running order and condition; price £155.—James' Garages, Ltd., Church Stretton. [4158

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1920 N.U.T., electric lighting model, 3 speeds, equal to new, only done 500 miles and unscratched; £160; seen any time.—Bailey, 72, Mitcham Rd., Croydon. [4559

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N.U.T., 3½h.p., May, 1920, Lucas dynamo lighting, Cowey speedometer, spares, and all accessories, mileage 800, very fast, fully insured, 10 months to go; £160, list price £165.—Kendall, Jubilee Villas, Staveley, Chesterfield. [3797

O.K.

NEW 1920 O.K. with Villiers engine; £50/8.—Brook Bros., Burnham-on-Sea, Som. [4145

1920 O.K.; 48 gns.; in stock to-day.—Julian, 84 Broad St., Reading. 'Phone: 1024. [4110

O.K. Junior, 2-speed, 2-stroke, just unpacked; list price, £65.—Turnill, North Peterborough. [4228

O.K. Union 2¾h.p., single speed, in stock, immediate delivery; list price, £50/8.—John C. Beadle, Ltd., Dartford. [4050

O.K. Union, instant deliveries from stock; 48 gns.—Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes. [4198

O.K.-VILLIERS and O.K.-Union Models in Stock at makers' prices; £50/8.—Eagles and Co., 275, High St., Acton, W.3. [X6042

O.K. Union actually in stock, the marvellous lightweight; list price.—Meeten Motors, O.K. Agents, Dorking. 'Phone: 163. [2277

1920 2¾h.p. 2-speed O.K.-Villiers, fully equipped, only ridden few miles, private owner; £65.—Buxted Garage, Sussex. [4746

O.K. Union 2¾h.p., March, 1920, lamps, horn, and accessories, cost £55; accept £52, or near offer.—Fairbairn, 26, Alma Rd., Sidcup, Kent. [4557

O.K. 2¾h.p., 2-speed countershaft gear box, free engine, very fast, condition new, order guaranteed sound; 34 gns.—14, Arundel Rd., Croydon. [4232

1920 O.K.-Union, 2-stroke, immediate delivery; list price; £51.—A. J. Young and Co., Ltd., 75, Albany St., Regent's Park, London, N.W.1. [0220

O.K.-JUNIOR, 1915, 4-stroke, 2-speed gear, been stored, little used, good condition; £35; after 6.—R., 55, Thornton Av., Streatham Hill, S.W. [4433

O.K. Juniors from Stock; 48 gns.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone 214), and 75, Albany St., Regent's Park, N.W.1 ('Phone Museum 5476). [4010

ALLEN-BENNETT Motor Co.—O.K Villiers, single speed, 2-stroke; £50/8; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5300

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Omega

OGNS.—1919 Omega-Jap 2¾h.p.; offers.—Roberts, 24, Armitage Rd., Birkby, Huddersfield. [3826

MEGA-J.A.P. 1918 Lightweight Combination, clutch, kick start, lamps, overhauled; £65.—162, Ford Rd., E.2. [4581

MEGA-J.A.P., 2-speed and model de luxe; at 71 and 79 gns. respectively; early deliveries.—Lloyd & Son, 29, Station St., Lewes. [7966

1920 Omega-Jap, 2¾h.p., 2-speed, complete with full insurance, lamps, Klaxon, as new; £73.—Lieut. Wilson, Flowerdown Camp, Winchester. [4886

MEGA-J.A.P. 2¾h.p., 2-speed, Bosch, B. and B., splendid order throughout, bargain, ride away; £5.—32, Montgomery Rd., Edgware. [4579

MEGA,1917, 2 speeds, good tyres, accessories, fine condition; trial; £48, lowest, or part exchange higher power.—20, Somerset Rd., Walthamstow. [5015

P. and M.

1920 P. and M., immediate delivery; £115.—Rootes, Ltd., Maidstone. [5054

P. and M., 1918, 2-speed, as new; £78, or offer.—2, Harewood Rd., Merton, S.W. [5145

P. and M. 1919 Combination, good condition; £115.—H., 24, Fulham Rd., S.W.3. [4554

P. and M., late R.A.F., hardly used, plated; £78; snip.—57, Clarence Rd., Teddington. [4622

P. and M. Combination, late 1919, full equipment; £135.—Orton, Blyth, Northumberland. [4792

P. and M., 1920, brand new, never ridden; best over list.—14, Northcote St., Leamington. [4230

1919¾ P. and M., as new; what offers? Exchange considered.—68, Tanfield Rd., Croydon. [3799

P. and M., late model, in splendid condition; £70.—The County Garage, Gerrards Cross, Bucks. [0230

BRIGHTON, Hove and district P. and M. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0204

GATE P. and M. Combination, little used, owner now abroad; £80.—14, Effra Parade, Brixton. [5140

P. and M., 3½h.p., 2-speed countershaft, chain drive, perfect order; cheap, £56.—32, Church St., Oldbury. [2862

P. and M. 1917-18 Combination, coachbuilt sidecar, in perfect order; £85.—N., Vine Cottage, Ham, Surrey. [4936

P. and M. 1917 Combination, in first-class order, 2-speed, free engine; any trial; £75.—22, Wyeths Epsom. [4476

P. and M., 1918, as new, new tyres, perfect condition mechanically; £70; 'phone.—Andrew, 2, Thrid Rd., Barnes. [4759

1918 P. and M., splendid condition, good tyres, lamp included; seen any time; £73.—Olphert, Church Rd., Barnes, S.W. [4762

1918 P. and M., in excellent condition throughout, lamps, horn, etc.; £80.—Gill, 51, Narsington Hampstead, N.W.3. [5274

P. and M. 3½h.p., 2-speed, K.S., lamps, horn, etc., in good condition throughout, with insurance ...y; £75.—11, Crescent Rd., Ramsgate. [4475

1914 P. and M. Coachbuilt Combination, new oversize tyres, perfect order, most reliable machine; £5.—627, London Rd. South, Lowestoft. [4626

1919 P. and M., aluminium discs, lamp set, legshields, new October, looks as new, runs better ... new; £95.—28 Warrington Rd., Ipswich. [4502

P. and M. 3½h.p., K.S., B. and B. carburetter, as new, 1918 E.I.C. magneto, new Palmer cord tyres; £...—Lamb and Flag, Rose St., Covent Garden. [4093

1919 P. and M., not W.D., splendid condition, electric lighting, speedometer, Klaxon, good tyres, ...rance transferred; £90.—51, Morland Rd., Walthamstow. [3950

P. and M. 1918 R.A.F. Model, overhauled, and in splendid condition, owner bought car; £75.—...es, Wood Turner, 163, Railway Approach, Shepherd's Bush. [4988

1919 P. and M. Combination, condition perfect; expert examination invited; private owner, lamps, ...; £120, or nearest offer.—26, St. Edward's Rd., ...ading. [5252

P. and M. 3½h.p., 2-speed, just overhauled; £37/10, first-comer, no letters. Sidecar for same, £18.—...tional.—165, Pentonville Rd., King's Cross, N. (Call ...ore 6 p.m.) [4219

1919 P. and M. Combination, wind screen, lamps and horn, Cowey speedometer, spare chains and accessories, excellent condition; £118, or near offer.—Paine, ...ney House, Lydd, Kent. [4133

P. and M. Combination, just overhauled and in perfect condition, Easting screen, lamps, horn, ...dometer; £90.—Arnatt's, The Premier Depot, 3, ...denhurst Rd., Bournemouth. [X6060

SHELON-MOORE, ex-military stores, overhauled and sent on approval, £78; complete with B.S.A. 2 sidecar, £115; trade supplied.—Maude's, 100, Portland St., London, also Paris St., Exeter. [5165

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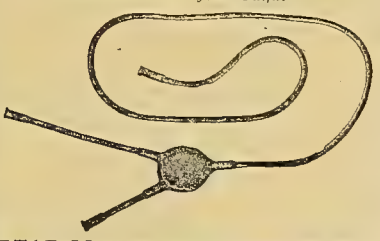

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P. and M.

P. and M. 1920 Combination, just driven from works, mechanical lubrication, luxurious sidecar, complete with Lucas head, tail, and sidecar lamp sets and horn; £165, lowest.—21, Tindal St., Chelmsford. [5119

P. and M., 2-speed and kick starter, drip feed, enamel and plating excellent, underslung sidecar, Lucas lamps, all on; £90, or near offer.—Apply, after 7 p.m., 5, Becklow Place, Becklow Rd., Uxbridge Rd., Shepherd's Bush. [5122

P. and M. 1920 R.A.F. Model, new February, horn, lamps, acetylene and electric, 2 generators, leg shields, cyclometer, handle-bar mirror, extra toolbag, Tan-sad, spares, machine unscratched, mileage 950; price £115, or best offer. Lancashire.—Box 6,019, c/o *The Motor Cycle*. [4385

LARGE Number of P. and M., 1917 and 1918, 3½h.p., 2-speed gear, kick starter, all-chain drive, semi-T.T. bars, W.D. models, overhauled, perfect condition, makers' colours, ready to ride anywhere; real bargain, £70. The trade supplied. — Barnett, c/o Morris and Hall, Engineers, Ridge Mews, Child's Hill, Cricklewood, N.W.2. 'Phone: Hampstead 7667. [5137

P. and S.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—P and S. 2-stroke. 2-speed model, Villiers engine, £73; kick start and clutch models, £78/10; from stock. [9779

Pax.

ALLEN-BENNETT Motor Co.—Pax 2¾h.p., Blackburne engine, 2-speed; £96/12; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone Croydon 2450. [5310

Peugeot

3½h.p. Peugeot, U.H., fast and powerful; £35, nearest.—Yendall, 14, Clapham Terrace, Leamington Spa. [X5952

5-6h.p. Peugeot Combination, Sturmey-Archer; 45 gns.; ride away; after 7.—Slade, 290, Brixton Hill, S.W.2 (side door). [4756

Pope.

POPE 7-9h.p. Combination, in excellent condition: a real bargain, £100.—Longney, Oswestry. [X4966

Precision.

PRECISION 4¼h.p., single speed, very fast, Bosch, B.S.A. carburetter, lamps; £38.—202, Trinity Rd., S.W.17. [4002

PRECISION, perfect order, Bosch, 4½h.p.; bargain, £30, or exchange lightweight.—11, Marlborough Crescent, Bedford Park, W. [4517

PRECISION 3¾h.p., 2 speeds, clutch, everything A1 condition; reason, cash wanted; £45; after 6.—107a, Granby Rd., Well Hall, S.E.9. [4342

Premier.

1913 Premier 2½h.p., lamps, horn, splendid condition; £32.—50, Glenparke Rd., Forest Gate. [4924

1914 Premier 2¾h.p., 3-speed, 4-stroke, free engine, accessories; £45.—1, Clydesdale Rd., Romford. [4328

PREMIER 2¾h.p., Armstrong 3-speed clutch, lamps, perfect condition; £40, no offers.—15, Alexander Rd., Uxbridge. [5023

3½h.p. Premier, 2-speed; seen running; bargain, £28.—Speechley, 1, Gunnersbury Lane, Acton, London, W.3. [5043

PREMIER 2¾h.p. Lightweight, 1914, stored since war, condition new; £40.—5, Southwest Rd., Leytonstone, E. [4938

1915 Premier Combination, lamps, speedometer, Klaxon horn, tyres nearly new.—A.S.C., 60, Mortimer St., W.1. Tel.: 6626 Museum. [3933

PREMIER 4h.p. Coachbuilt Combination, new tyres 2-speed countershaft, Bosch, B. and B., accessories; £60.—20, Leahall Rd., Leyton. [4341

PREMIER 2½h.p., 3-speed clutch, engine and tyres thorough good order; £42; after 6 p.m. or week-end.—4, St. Alban's Rd., Seven Kings, Essex. [5123

PREMIER 3½h.p., 3-speed countershaft, clutch, Millford sidecar, hood, screen, lamps, etc., splendid order; £70, or near.—Batchelor, Horley, Surrey. [4346

1916 4h.p. Premier, 3-speed, countershaft, clutch, kick start, all accessories, condition perfect; £68, near offer.—Cole, 7, Northcote Rd., Croydon. [4680

PREMIER Combination, 3-speed and clutch, new sidecar, Easting, etc., good condition; £80.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [4202

PREMIER-J.A.P. 4h.p., 1914, clutch, K.S., Bosch, B. and B., lamps, Klaxon, tools, appearance and mechanical condition perfect; £60.—23, Flaxton Rd., Plumstead, S.E.18. After 7 p.m. [4910

Priory.

NEW Priory, 2½h.p. Villiers engine, Albion 2-speed gear; easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [3882

Pullin.

PULLIN-GROOM, £5 deposit paid, delivery August; offers wanted.—Box 5,988, c/o *The Motor Cycle*. [4067

MOTOR CYCLES FOR SALE.

P.V.

ALLEN-BENNETT Motor Co.—P.V. 2¾h.p., Villiers engine, 2-speed, spring frame; £75; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5309

Quadrant.

CLIFFORD WILSON Mfg. Co., the premier Quadrant agents. Quickest deliveries. See displayed advert [3670

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—For early delivery of Quadrant machines, book now. Solos £105, combinations £135. [2114

QUADRANT Combination 4½h.p., complete with accessories and insurance; £154.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6003

4¼h.p. Quadrant and C.B. Sidecar, 3 speeds, lamps, horn, thoroughly overhauled: £70, or nearest.—247, Droop St., Queen's Park, Paddington. [4790

NEW 1920 4½h.p. Quadrant Combination, in stock; makers' price plus carriage.—D. J. Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [4995

1920 Quadrant Combination, almost new, only ridden 200, all accessories, Easting screen, costs to-day £157/10; offers invited, buying car.—214, Kew Rd., Richmond. [4679

QUADRANT 2¼h.p. 4-stroke, sound and good throughout, E.I.C. mag., Senspray carburetter, spring forks, low, light, serviceable; bargain, £25.—85, Church Rd., Willesden. [5116

Radco.

RADCO, 1917-18, 2-speed, kick start, clutch; bargain, 42 gns.; offers.—Toll, London Rd., Stevenage, Herts. [4840

NEW 1920 Radco 2¼h.p., 2-speed; £60/10; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [2452

Reading-Standard.

1916 Reading-Standard Combination, lamps; £118.—Ross, 86, High Rd., Lee. [4216

READING-STANDARD Spares, 1915 and 1916, for sale, cheap.—89, Dymchurch Rd., Hythe, Kent. [4023

1920 Reading Standard 10h.p., electric lighting, horn, 3-speed and clutch, as new, under 500 miles; £155.—Upton, 136, London Rd., St. Leonards-on-Sea. [4504

READING-STANDARD 10h.p. Combination, just received, magnificent outfit; owner purchased car; cost £225, what offers?—Lait, Oak Terrace, Burnt Tree, Tipton. [X5309

1916 Reading-Standard Combination, 8-10h.p., 3-speed clutch, kick start, Bosch, tyres nearly new; £140, or nearest offer.—74, Denison Rd., Collier Wood, Merton. [4803

READING Standard Combination, 10h.p., 3-speed, C.S., K.S., excellent order and appearance, any trial or examination; £140.—Majestic, 197, Stanhouse St., Clapham Common. [5019

Regal.

1913 3½h.p. Regal Precision, water-cooled, 3-speed and clutch, gear damaged; £50, or nearest offer.—Sykes, Eleanor Villa, Nether St., Finchley, N.12. [4489

REGAL-PRECISION 1914 4¼h.p., c.b. combination, w.c., overhauled, enamelled as new, tools, accessories; £80; seen by appointment.—Hall, 30, Elliott Rd., Chiswick. [4892

Regent.

REGENT 5-7h.p. Flat Twin; earliest deliveries.—Full particulars from The Lancaster Motor Co., 158, Norwood Rd., West Norwood, S.E., distributing agents for South-east London. [9149

Revere.

REVERE 2½h.p., Villiers, single gear, 1920 model, the smartest lightweight on the road; £60.—Arnatt's, The Premier Depot, 3, Holdenhurst Rd., Bournemouth. [X6062

Rex.

6h.p. Rex Combination, excellent condition; cheap.—Apply, 13, Albert St., Brigg, Lincs. [3914

3½h.p. Rex, very fast, tyres and belt nearly new, real snip; first cheque over £33 secures.—Malmsmead, Farnham. [4505

REX 3½h.p., Bosch, spring forks, dropped frame, excellent condition; £30.—Nash, 49, Riverside, Kingston-on-Thames. [X5572

5-6h.p. Rex Coachbuilt Combination, 2-speed, clutch, 1911, good condition; £48.—Root, 79, Huntingdon Rd., East Finchley. [4486

REX 5-6h.p. C.B. Combination, Bosch, 2-speed, F.E., lamps, etc., running order; £40, or offer.—Brundish, 9, Clifton Rd., Southall. [3885

1912 6h.p. Rex, overhauled, 2-speed, splendid condition, insurance policy; 45 gns.—Bond, 11, High St., Burnham, Somerset. [4758

6h.p. Rex Combination, overhauled at cost £32, Binks, Bosch, splendid condition; £75.—Foxcote Cottage, Peasedown, Bath. [4597

2-SPEED Rex 5-6h.p., overhead valves, Bosch mag., wicker sidecar, running order; £50.—White, 193, South Circular Rd., W. Dulwich. [4285

6h.p. Rex Combination, countershaft, new tyres and chains, usual accessories, perfect; particulars; £100, offers.—Devon.—Box 5,952, c/o *The Motor Cycle*. [4036

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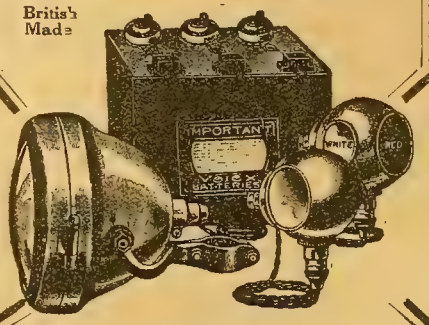
DRY BATTERY Lighting Outfit for the MOTOR CYCLE & SIDECAR.

British Made



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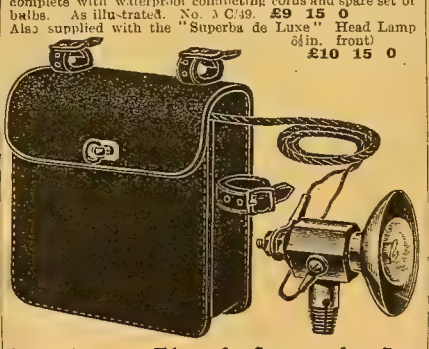

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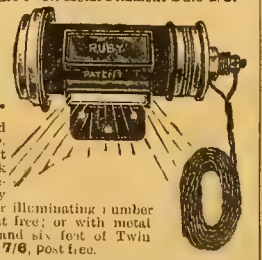

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6h.p. Rex de Luxe Combination, 2-speed, handle start, Bosch, Stewart speedometer, lamps, horn, in splendid condition; offers.—Geake, West View, Launceston [4573

REX Combination, 6-8h.p., 1914, kick start, clutch and all-chain drive, with coachbuilt sidecar, for sale, in perfect condition; owners bought car.—Address Rex, William Porteous and Co., Glasgow. [4469

REX 1914 4h.p., Bosch, B. and B., 2-speed, clutch and kick starter, large spring saddle, good tyres and tubes, lamp, perfect, minus lug for frame, unassembled; first cheque £25 secures.—P. Decry, Strabane. [X6055

REX 6h.p. Coach Combination, 2-speed, handle start, Bosch waterproof, B. and B., powerful and smart, lamps; any trial; £70, or exchange lightweight and cash.—Bootmaker, 82, Godstone Rd., Whyteleafe, Surrey. [4966

Rover.

3½h.p. Rover, 1914, 3-speed clutch model; £65.—Ben-o'Farleys, 72, High St., Hounslow. [3937

1920 Rover, speed model, complete with lamps, £100, offers.—29, Preston Rd., Brighton. [0203

ROVER 3½h.p., countershaft, just arrived; list price —87, Fulham Palace Rd., Hammersmith. [4576

ROVER, T.T., Philipson pulley, Cowey horn; £115 —C.A.E. Co., Ltd., Hobson St., Cambridge. [5101

1919 6h.p. Rover, splendid condition; £130.—Wright's Garage, Saffron Walden. Tel.: 16. [5188

1920 Rover Jap Combination, screen, lamps, etc. £170.—B. Robbins, Hillmorton Paddox, Rugby [X5976

ROVER, 1920, 4-5h.p., 3-speed, done 500 miles £150.—C.A.E. Co., Ltd., Hobson St., Cambridge [5101

1920 New 5-6h.p. Rover Combination; £235.—Halifax Motor Exchange, Union St. South Halifax. [4254

1920 3½h.p. Rover, countershaft, mileage 300; list price £150; sell £138.—Cant, Chrishall, Royston. [4837

1919 T.T. Rover, complete, lamps, horn, good condition; £90.—Wright's Garage, Saffron Walden Tel.: 16. [5188

ROVER, 1919, 3½h.p., 3-speed, countershaft, excellent condition; offers.—Spencer Parker, Mildenhall, Suffolk. [4794

LATE 1919 Rover Combination, 3½h.p., little used as new; offers over £120.—97, Pendle Rd., Streatham, S.W. [5021

1920 Rover Combination, 5-6h.p., brand new, latest type, in stock; list price.—2, Nightingale Rd., Lower Clapton. [3549

ROVER 3½h.p., lamps and insurance, fully guaranteed; £150.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6005

ROVER 3½h.p. Late 1919 Combination, lamps, horn, perfect, £130; or would separate, £115.—Daniels, Loughton, Bletchley. [4845

ROVER 3½h.p. T.T., 1917, new Philipson pulley, overhauled, splendid condition; 70 gns.—48 Haltemprice St., Hull. [3986

ROVER Combination; offers exceeding £70 considered by committee July 20th.—District Surveyor, Coleshill, Birmingham. [X5867

1916 T.T. Rover, Philipson pulley, perfect sporting machine, fast, well equipped; £70.—Lowerth, 6 Mount Pleasant Rd., Ealing. [4697

3½h.p. Rover, original 1914 T.T. machine, Philipson, lamps, spares, very fast, perfect condition £65.—5, Aynho St., Watford. [4927

1920 5-6h.p. Rover and Rover Sidecar, discs, lamps, mechanical horn, triplex screen, luggage grid £185.—Rootes, Ltd., Maidstone. [5057

ROVER, 1920, new, 3½h.p., countershaft; list price or nearest offer; owner taken delivery 2 machines —19, Morley Rd., Lewisham, S.E. [4767

ROVER 1920 3½h.p. all chain Combination, just delivered, new, owner must sell; £185; Midlands —Box 6,020, c/o *The Motor Cycle*. [4387

1920 5-6h.p. Rover Combination, all lamps, Lucas horn and speedometer, mileage 650, in brand new condition; £185.—'Phone: Hamp. 7822. [5207

ROVER 3½h.p. Combination, 1914, 3-speed, good tyres, re-enamelled, new coachbuilt sidecar; £70 solo £60.—31, Sharsted St., Kennington. [4547

1920 Rover-Jap Combination, 6h.p., perfect, unscratched, mileage about 150; bargain, £169.—A. Thoumaian, Oakhurst, Chigwell, London. [4737

ROVER 1920 5-6h.p. Coachbuilt Combination, late improvements throughout, just arrived; maker price.—Eagles and Co., 275, High St., Acton, W.3. [X6047

ROVER Combination, 1916, 3½h.p., machine unscratched, new Cameo, new apron, smart and reliable; £115.—374, Grove Green Rd., Leyton-stone. [2087

1916 Rover, 3-speed countershaft, new Watsonian R. 34 sidecar, speedometer, lamps, just overhauled by makers; £130, or nearest.—Atkinson, 2 Athol Park, Sunderland. [5013

1919 Rover Combination, 5-6h.p. J.A.P. engine, scarcely scratched, complete, lamps, horn, all spares; bargain, £175; what offers?—J. Byrd, Littlehales Manor, Newport, Salop. [4827

 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

Rover.

18 (Dec.) 3½h.p. 3-speed Rover Combination, excellent condition, all accessories, including lometer; £110, trial, evening, by appointment.—, 47, Museum St., W.C.1. [4417

AUDES'.—Rover 1918 6h.p. W.D. combination, all-chain, 3-speed, kick starter, Dunlop tyres, mps and horn, very little used £130.—Maudes', Gt. Portland St., London, W.1. [5172

PER-SPORTING Rover, 1918, hand Philipson, Lucas head lamp, rear light, and horn, knee , in real good condition throughout; £85, or best —4, Queen's Mews, Windsor. [4685

)VER 3½h.p., 1914, 3-speed, clutch, adjustable pulley, Dunlops, new back, excellent order, £65; Montgomery sidecar, Cameo screen, £90.—1, erfield Rd., North Finchley, N.12. [4165

17 Rover Combination, with sporty Sandum sidecar (exhibition model), 3½h.p., 3 speeds, 3 good , 3 lamps, and horn, in very excellent condition, climb anywhere, mechanically perfect; £95.—Pem-n, Tailor, Crewe. [X5798

)VER Combination, 5-6h.p., 1920, not done 100 miles, perfect, disc wheels, lamps, wind screen, hields, speedometer, hood to sidecar; cost £250; , or best offer.—Hewin's Garages, Ltd., the Real e Firm, Totnes. [4199

20 Rover 3½h.p., in stock for delivery at maker's list price; 1920 Rover 3½h.p. combination, for ediate delivery, list price; 1920 5-6h.p. Rover mation, immediate delivery at list price.—Kays, ond St., Ealing, W. 'Phone: 1827 [4481

)VER 5-6h.p. 1919 Combination, Watford speedometer, Lucas 462 head light, side and tail s, Cameo wind screen, Lucas horn, new Dunlop heavy spare tyre, spare tube, tools, fully in-l to May, 1921, perfect order, owner going ad, trial by appointment; £150.—Rollings, Old Belton Lane, Grantham. [4623

Royal Ruby.

h.p. Royal Ruby 2-stroke, 1915 type; 35 gns.—3, Parker Lane, Burnley. [X5901

YAL RUBY 1920 3h.p. Solo; list price; early delivery.—129, Brockley Rise, S.E. [4373

). Royal Ruby Combination, 3 speeds, new tyres, belt; £80.—32, Poplar St., Failsworth, Manchester. [4714

YAL RUBY 2¾h.p., 2-speed, splendid condition; £42.—Swaffer, High Halden, Ashford, Kent. [4851

ST Sell.—3h.p. 1920 Royal Ruby, indistinguishable from new; £90, or offer.—67, High St., Saffron en. [4950

20 New Royal Ruby 3h.p., 2-speed, spring frame; £120.—Halifax Motor Exchange, Union St. . Halifax. [4250

YAL RUBY, Villiers 2½h.p., a powerful little mount, and in excellent order; £35.—75, Warwick Bowes Park. [4572

18 8h.p. Royal Ruby Combination, smart and powerful, lamps, tools, etc.—A.S.C., 60, Mortimer W.1. Tel.: 6626 Museum. [3929

20 Royal Ruby 3h.p. Spring Frame Solo, in stock for immediate delivery; £120.—Kays, 8, St, Ealing. 'Phone: 1827. [4480

p. Twin Model 1919 Royal Ruby Combination, equipped with 3 lamps and generators and metal horn, sidecar fitted with hood and screen; offers?—Box 5,961, c/o *The Motor Cycle*. [4042

)YAL RUBY 1920 3h.p., standard spring frame model, used less than 200 miles, and as new; cost , accept 95 gns.—The Layton Garages, London Rd., ester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. Please ask for our July bargain list, which gives olours of nearly 50 machines, all priced at lowest ble figures. [3529

Rudge.

13 Rudge, T.T. clutch model; £35.—Ross, 86, High Rd., Lee. [4217

W 1920 3½h.p. Rudge Multi in stock.—Webster, Engineers, Folkestone. [4391

14 Rudge, clutch model, new tyres, pump, horn; £42.—8, Vale Rd., Forest Gate. [5124

AUCHOPE'S, 9, Shoe Lane, London, E.C.4 - 3½h.p. I.O.M. Rudge, 1919; £105. [9780

h.p. Rudge Multi, immediate delivery; list price, £120/15.—John C. Beadle, Ltd., Dartford. [4049

DGE Multi, 1918, very nice condition; £60.—C.A.E. Co., Ltd., Hobson St., Cambridge. [5103

h.p. Rudge Multi, late 1919, as new, accessories; first cheque £88 secures.—Gower, Bridport, Dorset. [3838

)20 5-6h.p. Rudge Multi, perfect, mileage 300; £110.—13, Missenden Rd., Chesham, Bucks. [X5990

DGE Multi Combination, 3½h.p., new tyres and belt; £60.—Trapp, Market Place, Bromsgrove. [4364

DGE Multi, 1914, fast, sporty, overhauled, perfect; £52, or near offer.—Bourne, c/o Danby, ford [0190

)15 5-6h.p. Rudge Multi, overhauled, very reliable, sidecar good; £85.—Turnill, North Peterough. [4223

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MOTOR CYCLES FOR SALE.

Rudge.

RUDGE Multi 5-6h.p., new model, just delivered; 116 gns., on rail Sittingbourne.—Pullen, West St., Sittingbourne. [X5569

1920 I.O.M. Rudge Multi, latest pedal starter, unsoiled, accessories; £105.—294, Kennington Park Rd., S.E.11. [4867

3½h.p. Rudge, clutch, lamps, horn, as new; after 6; £48.—Hunt, 186, Iverson Rd., West Hampstead, London, N.W.6. [3949

1915 Rudge Multi Combination, drive away; £75; seen any time.—216, Sandycombe Rd., Richmond, Surrey. [4523

3½h.p. Rudge Multi, 1914, good condition, Multi gear, £60; sidecar, £5.—36, Cavendish Rd., Merton, London. [4593

1920 (June) 3½h.p. Rudge Multi, I.O.M., clutch, perfect, as new; £105.—W. J. Bladder, Sidbury, Worcester. [4549

1919 5-6h.p. Rudge Multi Combination, as new; bargain, £115.—Willetts, Rookery, Lanesfield, Wolverhampton. [4819

1919 3½h.p. Rudge Multi, lamps, horn, speedometer; £75, or near offer.—Nunn, Farmer and Co., 73, Union St., Torquay. [4477

RUDGE, I.O.M. Model, list price; from stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214). [4615

RUDGE Multi, I.O.M., 1916, tanks repainted makers' colours, all lamps, tyres good; £80.—'Phone: Hamp. 7822. [5204

RUDGE Multi, 3½h.p., late model, overhauled, new Dunlops and belt; trial; £65.—32, St. Martin's Av., Boleyn, East Ham. [4781

1914 Rudge 3½h.p., clutch model, Free engine, good condition; £35; no reasonable offer refused.—103, Warwick St., S.W.1. [4706

RUDGE Multi, T.T., 3½h.p. model, just delivered; £110/5.—Arnatt's, The Premier Depot, 3, Holdenhurst Rd., Bournemouth. [X6061

RUDGE 7-9h.p. Twin Combination for early delivery. —Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5155

RUDGE I.O.M. 3½h.p., just delivered; list price.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5154

RUDGE Multi 3½h.p., W.D. model, in absolutely new condition throughout, equipped new; £83.—181, Clapham Rd., Brixton. 2984. [2132

1920 T.T. I.O.M. Rudge Multi, mileage 1,200, Lucas lamps and horn, spare belt and tools; £105.—37, Queen's Rd., Horley, Surrey. [4592

1920 Rudge Multi, 3½h.p., T.T., just delivered from works; 105 gns.—Mundy and Banbury, Motor and Cycle Agents, Somerton, Somerset. [4183

MAUDES'—Rudge Multi, 1914 (late), 3½h.p., C.A.V. mag., Senspray carburetter, new tyres; £56.—Maudes', 100, Gt. Portland St., W.1. [5167

1920 Rudge Multi I.O.M. 3½h.p., complete with lamps, horn, not done 200 miles, guaranteed perfect; £120.—Rootes, Ltd., Maidstone. [5056

1920 T.T. Rudge Multi, pedal starter, Cowey horn, only ridden 200 miles, as new; accept £115.—Bolton, 2, Suffolk Rd. South, Bournemouth. [4707

3½h.p. Rudge Multi, 1913-14, roller bearings, sound reliable mount; 50 gns; trial after 7 or week-end.—9, Tollington Place, Finsbury Park, N. [5266

1919 Rudge Multi, 5-6h.p., new lamp set, mechanical horn, small mileage, new condition; £105.—Wellington, 7, Latchett Rd., S. Woodford, E.18. [4418

1919 3½h.p. Rudge Multi Combination, electric lights and horn, wind screens, speedometer, new tyres; £130.—Berridge Mount Rd., Hinckley. [X5961

RUDGE 1914 3½h.p., adjustable pulley, in sound condition; £48, or near offer; after 5 o'clock.—Rudge, 134, Farmers Rd., Kennington, S.E. [4538

LATE 1919 3½h.p. Rudge Multi, mileage under 1,000, in top-hole condition throughout; first £95 secures.—107, Holyhead Rd., Coventry. [X5749

1918 Rudge Multi, excellent condition and reliable, tools, lamps, etc., only wants seeing; £78.—105, Walsall Rd., Bridgtown, Cannock, Staffordshire. [5011

RUDGE Multi 3½h.p. Coachbuilt Combination, overhauled, re-enamelled, mechanically perfect, accessories; £75.—Write S., 38, Grosvenor Rd., Ilford. [4430

RUDGE Multi 1920 3½h.p. I.O.M. Model, just arrived from makers, unridden; £120, or nearest.—Deaville, 4, Winston Terrace, Porthill, Stoke-on-Trent. [4290

1920 Rudge 5-6h.p. Combination, Lucas lamps and horn, Cameo wind screen, spares, 4 weeks old; what offers?—24, Oxton Rd., Birkenhead. Tel.: 2155. [X5897

1920 Rudge Multi I.O.M. 3½h.p., complete with lamps, horn, Watsonian sidecar, new condition, not done 200 miles; £135.—Noah Green, Denby Dale, Huddersfield. [4323

RUDGE, 1916, just reassembled and painted, absolutely the stuff, disc wheels, lamps, horn, etc., perfect; any trial; accept £60.—Ward, 81, Monk's Rd., Lincoln. [4497

MOTOR CYCLES FOR SALE.

Rudge.

I.O.M. Rudge Multi, December, 1919, engine 16621, C.A.V., knee grips, etc., mileage 500; £92.—Chaloner, 39, Hungerhill Rd., Nottingham. [X5986

ROBERT BAMFORD.—I generally own, and always know of the best Rudge Multis in London; every machine specially selected and tested. See under Consulting Engineers. [2129

3½h.p. I.O.M. Rudge Multi, 1917, long exhaust, knee-grips, horn, tools, unused Dunlop rear, condition and appearance particularly good; £75.—Austin, Irvine House, Atherstone. [4204

RUDGE Multi, 1916, splendid order, £72/10; also Rudge with Philipson pulley, £47/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5156

T.T. Rudge, fitted with 1914 Triumph engine, 90 miles per gallon, 1920 Mabon new saddle, tool bags, in perfect condition; £44.—Ford, Sotwell, nr. Wallingford, Berks. [X6020

RUDGE Multi 7.9h.p. Combination, 1920, Easting screen, hand Klaxon, F.R.S. lighting, Cowey speedometer, Tan-Sad, mileage 800; £180.—Spilsbury, Spring Gardens, Leek. [X5977

1920 (May) Rudge size 6 and Sidecar, lamp, horn, Watford, screen, apron, engine spares, tools, etc., etc.; cost £190; accept reasonable offer.—Box 6,049, c/o *The Motor Cycle*. [5233

RUDGE 3½h.p. and C.B. Sidecar, N.S.U. 2-speed, good tyres, new Dunlop belt, 2 lamps, in good condition; £60, or exchange to value.—Webber, 97, Haunchwood Rd., Stockingford. [X6022

1920 Rudge Multi 3½h.p. I.O.M., scarcely used and in practically brand new condition; buying combination; £105; after 6.—Newton Villas, Seven Sisters Rd, (1 min. Finsbury Park Gates). [4034

RUDGE Multi 3½h.p., 1916, new cyl., piston, pulley, etc., spare valves, fast, powerful, efficient, reliable, variable jet, paint good; £60, or offers; Saturdays.—Thorpe, 41, Regent St., Lancaster. [4952

RUDGE, 1920 (June) I.O.M., long exhaust, Klaxon, knee grips, electric light, condition perfect, done 500 miles; £112, or offer.—Maxwellton, Chase Side, Southgate, N. 'Phone: Palmers Green 828. [3589

RUDGE Multi, believed 1916, engine No. 12620, enamelled 1920 colours, polished discs, T.T. bars, new lamps, perfect appearance and condition; any trial; £60.—95, Riversdale Rd., Highbury, N.5. [4435

1920 Rudge Multi 3½h.p., I.O.M., pedal starter, brand new, just delivered, with fine accessories and insurance; £115, or best offer.—Lieut. Sorensen, Knightsbridge Hotel. Letters, or call only Sunday morning. [3982

NEW 1920 5-6h.p. Rudge Multi Combination, lamps, horn, unregistered, never been ridden, owner unable to take delivery; accept £170.—D. J. Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [4993

ALLEN-BENNETT Motor Co.—I.O.M. Rudge Multi 3½h.p., sports model; £110/5; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5286

RUDGE Multi 1920 T.T. Model, run gently for fortnight only, absolutely new condition, all accessories including Tan-Sad, a genuine bargain; 97 gns.—Aldous, 119, Brynland Av., Bishopston, Bristol. [4297

F.O.C.H. have a Rudge Multi, fully equipped, ready for the road.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4378

RUDGE Multi 3½h.p. I.O.M. T.T., 1920, completely equipped, lamps, tools, speedometer, and Tan-sad, only done a few miles, top-hole condition; £120, or exchange for twin combination.—Seen 42, Salisbury Rd., West Ealing. [4687

F.O.C.H. have a 1919 Rudge Multi and Coachbuilt Sidecar, fully equipped, equal to new.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4379

1920 5-6h.p. Rudge Multi Combination, long stroke, free engine, clutch, multi gear, pedal starter, Miller lamp set, horn, tools, new last April, under 500 miles, same as new; £150 cash.—E. W. Howard, Market Place, East Harling, Norfolk. [4103

RUDGE Multi, 1914-15, recently overhauled and enamelled, D. A. lighting set, speedometer, semi-T.T. bars, knee grips, engine perfect, complete; bargain, £65; any trial; appointment. — Mackley, Downderry, Kingsdown Av., S. Croydon. [5180

MANCHESTER District.—Rudge Multi 3½h.p. combination, 1914-15, coachbuilt sidecar, new P. and H. lamps, Watford, knee grips, tyres excellent (new back Dunlop), new belt, engine just thoroughly overhauled, in excellent condition; £89.—Rudge, 1, Manchester Rd., Kearsford. [4065

Scott.

SCOTTS, solo or combination, in stock.—Welford's, St. Jame's St., Brighton. 4305

SCOTT T.T., new; list price.—Brown, Moorhouse View, South Elmsall, Pontefract. [4712

1920 Scott, lamps, speedometer, mod. horn, £130.—Stubbs Garage, Loughborough. [5076

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MOTOR CYCLES FOR SALE.

Scott.

UNREGISTERED 1920 Scott; list price; machine i London.—Aberlady, Danbury, near Chelmsford. [388

SCOTT, sporting T.T. 3¾h.p., 2-speed, F.E., K.S. £45 for quick sale.—Box 6,039, c/o *The Mot Cycle*. [522

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4. 3¾h.p. Scott, new, 1920 model, from stock £140. [374

SCOTT Combination, excellent condition; £80; aft 7 p.m. or Saturdays.—14, Waltham Rd., Southal Middlesex. [982

1914 Scott, coachbuilt sidecar, good condition; ba gain, £70.—Ridge Cottage, Coleridge Rd., Nort Finchley. [418

SCOTT, No. 3685, Sept., 1919, 500 miles only, 192 sidecar, perfect; £156.—Parkhurst, Carholme Ro Lincoln. [X603

1920 Scott, unscratched, Binks, Cowey, low mileag £135, or best offer.—14, Highham Cresce Sheffield. [461

1919-20 T.T. Scott, mileage 1,000, all Lucas acce sories; best offer over £125.—41, Tavistock Driv Nottingham. [397

SCOTT Combination, 2-speed, 1915, good conditio lamps, horn, Scott sidecar; £95.—Turnill, Nort Peterborough. [422

1920 Scott (May), ridden very little, lamps unlighte tyres unpunctured, perfect; £135.—R. Moo Suttonbridge, Wisbech. [47

1913 Scott, 2-speed, water-cooled, just overhaule any evening after 5, or Saturday and Sunday. 146, High St., Woolwich. [38

SCOTT Combination, lamps, horn, tools, etc., tyr good, whole as new.—A.S.C., 60, Mortimer S W.1. Tel.: 6626 Museum. [39

SCOTT 3¾h.p., 2-speed, K.S., Bosch, Binks, Jon horn, lamps, generators, mechanically perfec trial; £85.—8, Warburton St., Newark. [43

SCOTT 1919, engine No. 3762, in perfect conditi and mechanical order; £138.—Motor Cycle Ma Fair Row, High St., Chatham. 'Phone: 301. [X61

A SMART Scott Combination, 1915, speedomet lamp set, new tyres, etc., grand condition; £95. Dentistry, 769, Romford Rd., Manor Park, London, [47

1920 Scott Combination (March), lamps, etc., co plete, guaranteed; first cheque £150 secure owner bought car.—Holmes, 190, Mere Rd., Leicester [40

SCOTT, March, 1920, sports model, with Middlet racing sidecar to match, exceptionally smart outfi £155, or offer.—Deneholme, The Beeches, Carshalto [42

EXCEPTIONAL Opportunity.—Just delivered th week, 3¾h.p. Scott, list price, T.T. bars; fi deposit secures.—Millards, Motor Engineers, Chest field. [X57

SCOTT 1915 C.B. Sidecar, Bosch, new Bin lamps, horn, and spares, splendid condition; pert examination; £100.—Newton, 142, London R Preston. [37

SCOTT 1920 Standard Model, T.T. bars, electr lamps, Lucas horn, Bonniksen speedometer, do 650 miles, perfect condition; £140.—Siddeley, Crackl Kenilworth. [X59

SCOTT Combination, 2-speed, water-cooled, wi genuine Scott sidecar, smart turnout; sacrifi £50; quick sale.—Ison, 29, Old Lane, Bloxwich, Walsall. [46

NOV., 1919, Scott and Henderson sidecar, perf mechanical condition, complete equipment, lamps, horn, toolkit, etc.; £145, no offers; seen by pointment.—Hambro' Lodge, Datchet, Bucks. 'Phon Windsor 348. [44

SCOTT, 1913, and Coachbuilt Sidecar, lamps, scre Stewart horn, many spares, good condition; £7 seen by appointment.—Robson, 71, Melbury Garde West Wimbledon. [47

1920 Scott Combination, No. 3945, insured March, 3 electric lamps, Lucas horn a mirror, watch, Bonniksen trip, 2 spare sprocke ready to ride away, bought car; best offer over price.—51, Portland St., Southport. [41

1914 Scott, 3¾h.p., with Scott-Myers C.B. sidec mileage, 7,325, Lucas lamps, horn, Cowey spee meter, Binks, Bosch, Palmers, tools, recently ov hauled, fine condition, any trial; £95.—Stidwell, Rosemont Parade, North Finchley, N.12. [13

SCOTT, 1913 or 1914, T.T. engine, No. 1305, 1 frame, gears just overhauled, and in perf condition, lamps, tools, Binks, very good accelerati machine lately property of one of the best kno Scott riders; owner buying car; £75, or near Heddenwick, Partney, Birchwood Rd., Parksto Dorset. (D) [48

SCOTT and Sidecar, in good condition, £75. I completely dismantle and re-erect machine for tending purchaser. I have one new Scott unsold for livery July 21st. First order secures. Priority de mined by postmark. Price current at time of deliv —E. W. Ball, Scott's Birmingham Agent, 6, Wheel Rd., Edgbaston. [X5

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Twopence a Mile.

"IT is an ill wind that blows no one any good," and the proposed increase in train fares should encourage the sale of motor cycles to a marked degree. There is an enormous number of people who live from ten to twenty miles from their work, and whose means are such that the extra halfpenny a mile will make an appreciable difference to them. Under these circumstances, some alternative form of locomotion becomes desirable, and what more suitable can be found than the motor cycle?

A lightweight machine can be run for a considerably smaller sum than even the present railway rate. Here is the opportunity for the all-weather lightweight. The business man requires no great speed. A light machine should take him to his office door in approximately the same time as a suburban train plus the usual 'bus, tube, or walk; but he must arrive in a presentable condition, and it is essential that his machine shall be more or less "foolproof" as well as cheap to run. There are already machines on the market which satisfy all necessary requirements, but there are still many which are incomplete as regards mudguarding, but satisfactory in other respects. It will be interesting to watch the progressive firms who seize the opportunity which is now presented to them of modifying existing models in order to catch a large and growing market. In this connection, the single-cylinder dual-purpose machine will be found very suitable as a general utility mount for the masses. In the meanwhile, the sales of the more suitable lightweights and medium-powered sidecar outfits should increase steadily, and many prospective purchasers who have been hovering on the brink will be converted to the motor cycle, and will find the new mode of travel will provide them with better health and a sense of freedom which those who are tied to trains and a timetable can never experience.

Imports and Exports.

WHILE everyone is concerned by the increased cost of living, the maximum effort does not appear to be made to increase production in the manufacturing world in order to swell our exports. Our imports are still considerably more than our exports, and while that state of affairs exists we cannot reasonably expect a reduction in the cost of living. This is a question affecting everyone, and, although only indirectly a motor cyclist's matter, we are constrained to urge a general speeding up from a national point of view, and also because the motor cycle can only come fully into its own when national prosperity is as real as it is, at present, only apparent. An effort to increase exports by everyone concerned is the only way by which the present rate of exchange can be improved. Then we shall secure a reduction in cost of living.

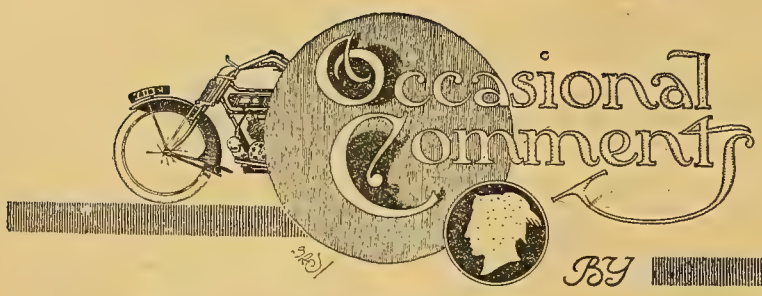
International Competitions.

ALTHOUGH the T.T. and the A.C.U. Six Days Trial are international contests, there has been very little of an international nature about these events since the war. Even the International Six Days starting this week-end has not attracted a really representative British entry. The Anglo-Dutch trial in August, therefore, may be counted as the first truly international event in the motor cycle world since the signing of the Armistice, and as such will attract national interest.

In this trial a picked team of British riders rides against a picked team of Dutch motor cyclists. The event, therefore, can be likened to such contests as that for the America Cup in the yachting world, and the Olympic Games at Antwerp.

The future may produce competitions in the motor cycle world between picked riders of Great Britain, Ireland, U.S.A., Holland, France, Belgium, and the Overseas Dominions.

An index to the advertisements in this issue will be found on the page facing the back cover.



Exchanging Saddle Springs.

IT may be news to some readers that the saddle makers stock saddle springs to suit different weights. Saddles — like sidecars — should be sprung to suit the person whom they carry. So far as my experience goes, the average saddle spring is rather on the stiff side, and is calculated to suit a twelve-stone man. The makers' fee for exchanging a set of springs is usually no more than a shilling or two, and is worth paying when a machine is bought for keeps.

Chain Drive on Spring Frames.

IT may not have occurred to all users of spring frames that the chain tension varies a little according as the saddle is occupied or empty, because the centre of the front sprocket does not coincide with the centre of the pivot of the rear springs. Manufacturers are apt to gloss over the point for obvious reasons, but the difference in tension is sometimes sufficient to be perceptible. Little or no practical inconvenience results if the owner is careful to make his chain adjustments with a friend of approximately his own weight seated on the saddle.

Night-riding Restrictions.

IT is interesting to notice that the problems of night riding are now being tackled from both ends. In connection with the medical examination, mooted as a preliminary to the issue of driving licences, the oculists have specified a "minimum vision," and Sir Eric Geddes will shortly define a "maximum light." This looks as if the policy were to limit the use of the roads after dark to people with hawk-like eyes travelling in a pallid gloom, and reminds one irresistibly of Plato's description of the infernal regions as a cellar peopled by shadows. The trend of these proposals is full of danger. If motoring is to be regarded either as a dangerous hobby confined to the unco' rich (like hunting), or as a utilitarian method of transport (like the railways), severe restrictions might be justifiable. But motoring actually fulfils both the above definitions, and is also a great deal bigger than either of them. It is the favourite hobby of the middle classes and of the more prosperous artisans. In the past our road law has been framed and administered, on the whole, in the interests of liberty. Blind folk are permitted to walk. Deaf persons are permitted to cycle. Uneducated flappers are permitted to wheel prams with twins in them. Little toddlers are permitted to play pegtop. Elderly females without powers of decision are permitted to ferry great armfuls of parcels about the public streets. The safety of road users has been mainly entrusted to the commonsense and sympathy of other road users. The system has worked well. There are symptoms of change. The mantle of Dora appears to have fallen on our bureaucrats. It would be folly to allow bleareyed octogenarians to drive three-litre Bentley cars with 100,000 c.p. head lamps. But it will be oppression if our lamps are dimmed down to the likeness of 1in. paraffin wicks, and night riding is then confined to men who can pass the sight tests for an R.A.F. pilot. Undoubtedly the price of liberty is eternal vigilance.

Toolbag Fastenings.

AT the risk of being taken for a scorcher, I must plead guilty to having lost the entire contents of three pannier bags in the last nine months. In each case the bag was properly fastened, in the sense that its spring catch was secured, but the bags were not locked, since I find that the flimsy keys usually supplied are apt to buckle when a little inevitable dust has entered the lock. In no case did I recover any of the lost items. (To anticipate several gleeful assailants, I freely admit that, if I rode a dead silent machine, I should have heard the tools clatter on the road.) Can it be wondered that I lament the disappearance of the old strap and buckle fasteners? They may be more tiresome for cold fingers to operate than any form of press catch, but when they are once fastened they stay fastened. Existing snap catches have two main defects. The first is that few of them are absolutely vibration-proof. The second is that the catch is mounted on a panel of flexible leather, and that a catch which is perfect when the bag is new often shows less security when months of overfilling have strained the shape of the pannier.

The Two-wheeled Car.

THE motor cycling correspondent of *The Times* is a fearless, outspoken person, and his lucubrations (*what* a lovely word!) are always worth reading. The other day he was coquetting with the notion of a two-wheeled car on the lines of the canoe type of bicycle which A. V. Roe begot before he switched off into aviation. He considered that the great weight consequent upon a very long wheelbase was the chief snag, especially because weight increase spells cost increase. I don't quite see why a two-wheeled car should necessarily be very lengthy. Of course, if the occupant is to be recumbent between the wheels, *à la* sports car, the beastie would amass a wheelbase of about 12ft., and be a peach to manage over grease. But if a two-wheeled car is desirable, it may be possible to wangle it upwards instead of lengthways; the charm of the idea is full weather protection plus the chance of wearing ordinary clothes. If a windscreen is used, the wheelbase need not be long, and the machine would not be more top-heavy than current patterns. I think the real difficulty is to

Occasional Comments.—

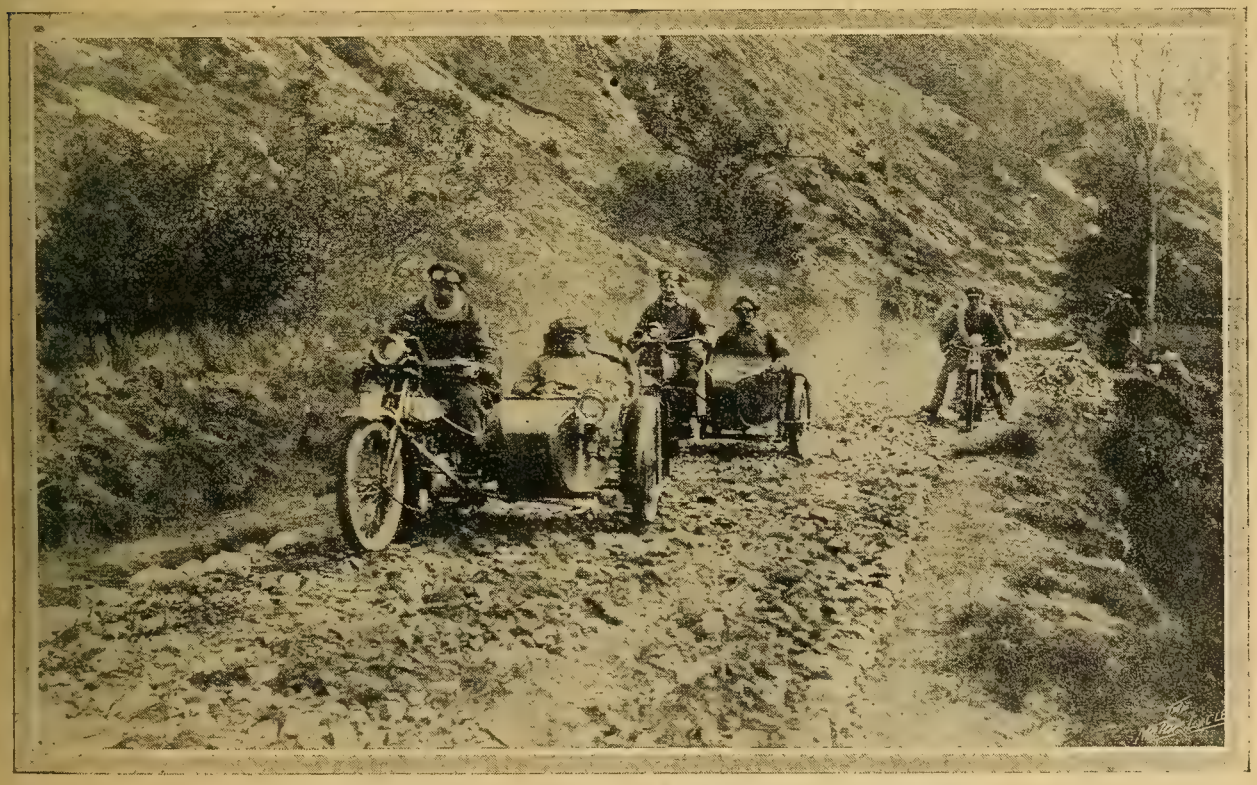
devise a presentable body which shall be both light and durable. During the war some of us talked a lot of hot air about laced fabric over skeleton spreaders, *à la* aeroplane; but the appearance of either laced linen or plywood after one hundred hours' flying is worse than that of my 1920 leg overalls, which are already ragged, charred, and oily. On the other hand, my experience of disc wheels suggests that the side wind might become a horrid fellow if the side view of the machine resembled a sail, and perhaps this justifies *The Times* expert in taking a long, low profile for granted. Anyway, if the mono track car comes along, I for one will not ride it in a howling gale across Dartmoor.

Motorcycleopolis.

A COLLEAGUE of mine on *The Autocar* staff has had a brainwave which, like all real brainwaves, is attractive, if its practicability is uncertain. Dealing with the vexed question of the car shows, he points out that the 1919 Olympia was most unsatisfactory, that and all proposals yet promulgated for the improvement of the 1920 Show have been futile. The root defect was that more people wanted to see the Show than any known building can accommodate, so long as the exhibition is limited to a single week. Actually, the number of people who want to see the Show far exceeds the attendance, but thousands of provincial and oversea motorists cannot be in London during Show week, though they visit town at other times. Accordingly, he proposes that all the London organisations of the car factories should be concentrated in a single suburb, preferably under one roof, which would be tantamount to a permanent show, and prove more economical and more efficient than the present annual week. The cost of such a giant motor hall would be recouped in a few years by the money saved through the suspension of the annual show in a hired building; and a special Demonstration Week would still be held annually in November. This suggestion reminds me of the days when the London showrooms of the cycle factories were all massed in Holborn Viaduct. There is already a tendency to clump motor cycle agencies together, *e.g.*, in Great Portland Street. The metropolitan organisations of the motor cycle manufacturers occupy comparatively little space, and need not be massed in or near the West End; in fact, such a location as Willesden would suit them better, for visitors by road and customers who want a trial run often dislike central London traffic intensely. My colleague's suggestion seems even more applicable to the motor cycle than to cars.

C. B. Franklin on the Warpath.

A BREEZY letter from Russell Coes, the Indian exponent, advises me to try the old method of finding air leaks by squirting petrol on the induction joints whilst the engine is running, and noticing whether the spirit is drawn in and affects the beat. Coes is very gleeful about the Indian attacks on the new Harley-Davidson records, especially Gene Walker's 500 c.c. mile at the gait of 87.8 m.p.h. Coes says that C. B. Franklin should have the credit for making all the new Indian records at Daytona possible.



DIFFICULT GOING IN THE 1920 SCOTTISH SIX DAYS TRIAL.

Road repairs are in progress in many parts of the country. J. S. Holroyd (8 Blackburne sc.), A. F. Downie (6 A.J.S sc.), and some solo riders crossing a stretch of unrolled metal.

Over 70 m.p.h. on Westcliff Esplanade.

Fine Weather favours the Essex and Southend Club's Speed Trial. Some Sensational Speeds. Fastest Motor Cycle and Fastest Car Tie.

Start of the 750 c.c. sidecar class. C. H. Smith (4 Triumph), G. E. Stobart (5-6 James), who won this and several other events, and E. Kickham (3½ Douglas).

AN excellent meeting! Such was the general opinion of the many thousands of spectators who witnessed the very successful meeting held at Westcliff-on-Sea last Thursday. The weather was ideal, and remarkable speeds were attained by small and large machines alike.

First place in eighteen of the thirty motor cycle events was secured by five machines, including a 5-6 h.p. James sidecar ridden by G. E. Stobart. This machine and rider carried off no fewer than six first places. Good performances were also put up by E. Porter (3 A.B.C.), who won four events.

Close Finishes.

Fastest time of the day was made by H. R. Harveyson (7 Indian), who attained a speed of 75.57 m.p.h. in the "unlimited" event. In this race, C. E. Baragwanath, on his fearsome looking 8 h.p. Zenith, also put up a good show, finishing second. His time was but $\frac{1}{5}$ of a second longer than the winner.

The most sensational race of the day was undoubtedly the match between the motor cycle and car which had created the highest speed in the preceding events. Harveyson, of course, represented the motor cyclists, and he was pitted against L. V. Cozens (24 Sunbeam).

Harveyson was seen rounding the corner, quarter of the distance from the finish, at a terrific speed, practically neck for neck with the Sunbeam, and passed the finishing line abreast of the car. A somewhat heated discussion among spectators then ensued as to the winning machine. The speed, which was 73.58 m.p.h., was so great that it was impossible to venture a suggestion, and later it was officially announced as a dead heat.

F. W. Applebee, on his little Levis, finished second in class two in which were entered eight machines of a greater capacity. Le Vack's Duzmo, which now bears a question mark, figured in three races, capturing the premier place in each, whilst E. Kickham, who rode both a 2¾ and a 3½ Douglas, secured two firsts.

One motor scooter event was provided, the winner piloting a 1½ h.p. Bunty at a speed of 29.91 m.p.h.

A factor which possibly led to the high speeds of the larger machines was an upwind blowing at approximately 15 to 20 m.p.h.

The officials of the Southend A.C. and the Essex M.C., the joint organisers, must be congratulated on the successful organisation of the meeting. Special praise is due to Messrs. A. V. Ebblewhite, T. D. Dutton, and A. G. Reynolds, the official timekeepers, who so speedily furnished the anxious spectators with the results at the conclusion of each race, and supplied members of the press with the complete time results within ten minutes of the last event.

Results.

CLASS 1. Motor Scooters (S.S.).—1, S. C. Marshall (1½ Bunty); 2, G. A. Bray (1½ G.A.B.). Time, 1m. 14⅘s. Speed, 29.91 m.p.h.

CLASS 2. Touring Machines not Exceeding 350 c.c. (S.S.). 1, J. F. Lidstone (2¼ James); 2, F. W. Applebee (2¼ Levis); 3, F. Thorpe (2¾ Douglas). Time, 51⅘s. Speed, 43.52 m.p.h.

CLASS 3. Touring Machines not Exceeding 500 c.c. (S.S.). 1, H. le Vack (3½ Duzmo); 2, G. Strange (3½ James); 3, L. H. Herrtage (3½ Rudge). Time, 37⅖s. Speed, 59.49 m.p.h.

CLASS 4. Touring Machines not Exceeding 750 c.c. (S.S.). 1, H. le Vack (3½ Duzmo); 2, Capt. R Charlesworth (5 Zenith); 3, E. L. Gay (4 Triumph). Time, 36⅖s. Speed, 61.79 m.p.h.

CLASS 5. Touring Machines of Unlimited Capacity (S.S.). 1, G. Strange (3½ James); 2, E. L. Gay (4 Triumph). Time, 40⅖s. Speed, 55.10 m.p.h.

CLASS 7. Touring Sidecars not Exceeding 500 c.c. (S.S.). 1, E. Porter (3 A.B.C. sc.). Time, 58⅘s. Speed, 38.17 m.p.h.

CLASS 8. Sidecar Touring Machines not Exceeding 750 c.c. (S.S.). 1, G. E. Stobart (5-6 James); 2, E. Porter (3 A.B.C.); 3, Capt. R. Charlesworth (5 Zenith). Time, 46s. Speed, 48.63 m.p.h.

CLASS 9. Touring Sidecars, Unlimited Capacity (S.S.).—1, G. E. Stobart (5-6 James sc.); 2, W. J. Barker (8 Henderson sc.); 3, E. Porter (3 A.B.C. sc.). Time, 46⅕s. Speed, 48.42 m.p.h.

CLASS 10. Solo Machines not Exceeding 350 c.c. (S.S.).—1, E. Kickham (2¾ Douglas); 2, J. F. Lidstone (2¼ James); 3, E. B. Ware (2¾ N.U.T.). Time, 42⅘s. Speed, 53.01 m.p.h.

CLASS 11. Solo Machines not Exceeding 500 c.c. (S.S.).—1, G. Strange (3½ James); 2, H. le Vack (3½ Duzmo); 3, F. J. Boshier-Jones (3 A.B.C.). Time, 41⅕s. Speed, 54.03 m.p.h.

CLASS 12. Solo Machines not Exceeding 750 c.c. (S.S.).—1, F. J. Boshier-Jones (3 A.B.C.); 2, E. Porter (3 A.B.C.); 3, H. le Vack (3½ Duzmo). Time, 38⅗s. Speed, 57.65 m.p.h.

CLASS 13. Solo Machines of Unlimited Capacity (S.S.).—1, H. R. Harveyson (7-9 Indian); 2, C. E. Baragwanath (8 Zenith); 3, H. Boshier-Jones (3 A.B.C.). Time, 39⅗s. Speed, 56.2 m.p.h.

CLASS 15. Sidecar Machines not Exceeding 500 c.c. (S.S.).—1, E. Kickham (3½ Douglas). Time, 1m. 13s. Speed, 30.64 m.p.h.

CLASS 16. Sidecar Machines not Exceeding 750 c.c. (S.S.).—1, G. E. Stobart (5-6 James sc.); 2, E. Kickham (3½ Douglas sc.); 3, C. H. Smith (4 Triumph sc.). Time 46⅕s. Speed, 47.80 m.p.h.

CLASS 17. Sidecars, Unlimited Capacity (S.S.).—1, G. E. Baragwanath (8 Zenith sc.); 2, W. J. Barker (8 Henderson sc.); 3, H. R. Harveyson (7 Indian sc.). Time, 44⅗s. Speed, 49.93 m.p.h.

CLASS 18. Touring Machines not Exceeding 350 c.c. (F.S.).—1, F. Thorpe (2¾ Douglas); 2, F. J. Lidstone (2¼ James); 3, C. H. Smith (2¾ Douglas). Time, 40⅗s. Speed, 55.10 m.p.h.

CLASS 19. Touring Machines not Exceeding 500 c.c. (F.S.).—1, H. le Vack (3½ Duzmo); 2, G. Strange (3½ James); 3, N. H. Herrtage (3½ Rudge). Time, 32⅕s. Speed, 69.47 m.p.h.

CLASS 20. Touring Machines not Exceeding 750 c.c. (F.S.).—1, H. le Vack (3½ Duzmo); 2, E. L. Gay (4 Triumph); 3, W. R. Bailey (3 A.B.C.). Time, 32⅗s. Speed, 69.04 m.p.h.

CLASS 21. Touring Machines, Unlimited (F.S.).—1, Capt. O. M. Baldwin (8 Matchless); 2, G. Strange (3½ James).

CLASS 23. Touring Sidecars not Exceeding 500 c.c. (F.S.).—E. Porter (3 A.B.C sc.). Time, 1m. 2⅕s. Speed, 35.85 m.p.h.

CLASS 24. Touring Sidecars not Exceeding 750 c.c. (F.S.).—1, G. E. Stobart (5-6 James sc.); 2, E. Porter (3 A.B.C. sc.). Time, 39⅗s. Speed, 56.49 m.p.h.

CLASS 25. Touring Sidecars, Unlimited Capacity (F.S.). 1, G. E. Stobart (5-6 James sc.); 2,

ver 70 m.p.h. on Westcliff Esplanade.—

7. J. Barker (8 Henderson sc.); 3, E. Porter 3 A.B.C. sc.). Time, 39⅘s. Speed, 56.78 m.p.h.

CLASS 26. Solo Machines not Exceeding 50 c.c. (F.S.).—1, E. Kickham (2¾ Douglas); 2, H. Alliott (2¾ Douglas). Time, 35⅗s. Speed, 3.19 m.p.h.

CLASS 27. Solo Machines not Exceeding 00 c.c. (F.S.).—1, E. Porter (3 A.B.C.); 2, H. Vack (3½ Duzmo); 3, F. J. Boshier-Jones 3 A.B.C.). Time, 31⅗s. Speed, 70.79 m.p.h.

CLASS 28. Solo Machines not Exceeding 780 c.c. (F.S.).—1, E. Porter (3 A.B.C.); 2, F. J. Boshier-Jones (3 A.B.C.); 3, H. le Vack (3½ Duzmo). Time, 31⅗s. Speed, 71.24 m.p.h.

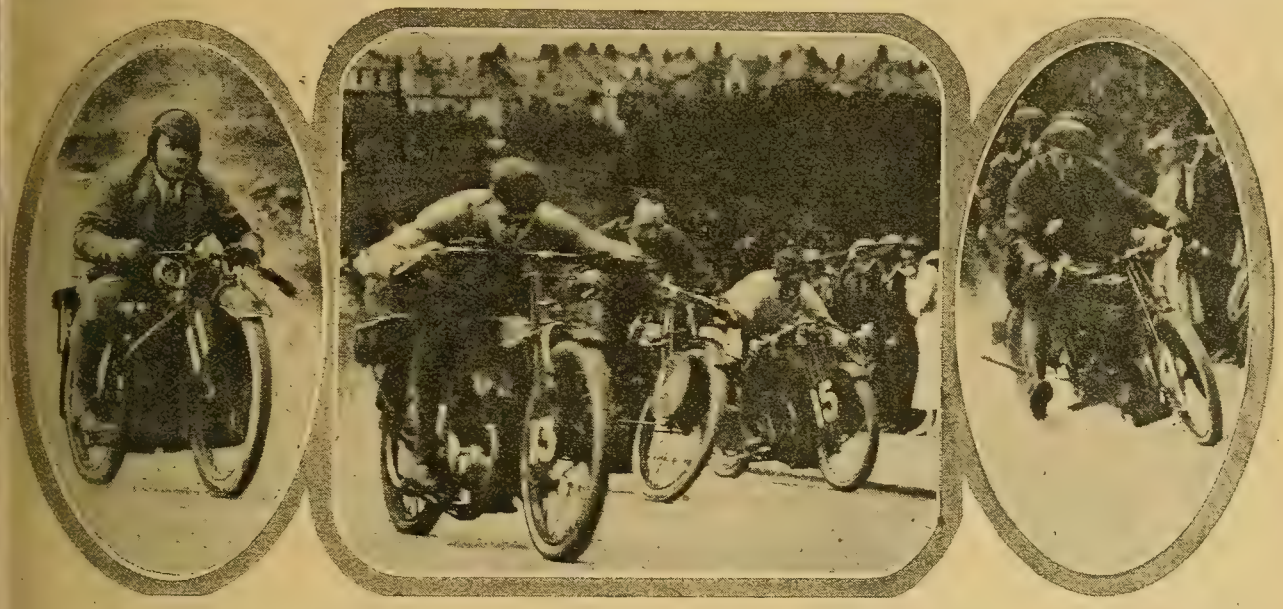
CLASS 29. Solo Machines, Unlimited Capacity (F.S.).—1, H. R. Harveyson (7 Indian); 2, C. E. Baragwanath (8 Zenith); 3, Capt. O. M. Baldwin (8 Matchless). Time, 29⅗s. Speed, 75.57 m.p.h.

CLASS 32. Sidecar Machines not Exceeding 750 c.c. (F.S.).—1, G. E. Stobart (5-6 James sc.); 2, D. H. Davidson (4 Harley-Davidson sc.); 3, E. Kickham (3½ Douglas sc.). Time, 39s. Speed, 57.36 m.p.h.

CLASS 33. Sidecar Machines of Unlimited Capacity (F.S.).—1, C. E. Baragwanath (8 Zenith sc.); 2, W. C. Veasey (8 Henderson sc.); 3, H. R. Harveyson (7 Indian sc.). Time, 36⅗s. Speed, 60.78 m.p.h.

CLASS 47. Match, Motor Car *v.* Motor Cycle.—Dead heat: L. V. Cozens (24 Sunbeam), H. R. Harveyson (7 Indian). Time, 30⅗s. Speed, 73.58 m.p.h.

*(F.S.) and (S.S.) mean flying or standing start.



Some impressions of men and machines a few yards from the starting line. No. 11, W. R. Bailey (3 A.B.C.), is steady. No. 13, G. E Stobart (5-6 James), in his characteristic style with elbows out. No. 14, H. le Vack, on the Duzmo, has not yet got into his stride. No. 15, J. Day (3½ Sunbeam), is dangerously near the kerb. No. 3, the veteran F. W. Applebee (2¼ Levis), starts off with a skid

AN ECHO OF THE TOURIST TROPHY.

THE riders of Sunbeam Tourist Trophy machines were assembled on the evening of July 15th at the Victoria Hotel, Wolverhampton. A dinner in their honour had been arranged by Messrs. John Marston Ltd., and the gathering included the directorate and staff chiefly concerned in the production of the T.T. sunbeams. With the exception of R. Rice, the reserve rider, who broke his arm during practice, all the riders were present. Mr. C. Marston was in the chair, supported by Mr. A. S. Bowers as vice-chair, and a thoroughly enjoyable evening was provided. Following the toast of "The King," given by Mr. C. Marston, Mr. Bowers rose to propose "The T.T. Riders." He congratulated T. C. de la Hay on his win, Reg. Brown (third) on being the first amateur to finish, F. C. Townsend on a plucky ride, and Eric Williams on his fortunate escape when he fell through no fault of his own. George Dance, of course, came in for his share of felicitations in connection with his wonderful record lap. In his reply de la Hay expressed for himself and the other riders their cordial feelings towards the firm. The Vice-chairman then presented a Sunbeam gold medal to each of the riders, also to the designer, Mr. J. E. Greenwood, and Mr. T. Rutherford, a well known Sunbeam amateur rider who acted as an official during the race. In reply to Mr. Marston's proposal of "The Press," Major Axford spoke very ably and was followed by Mr. H. D. Teage (*The Motor Cycle*). Among other speakers may be mentioned Messrs. Alec Ross, J. E. Greenwood, W. Newill, and T. Rutherford. The toasts were interspersed by an excellent musical programme provided by Major Axford, Mr. J. E. Greenwood, Mr. W. Morgan, and Mr. T. Green.

ROAD BUILDING BY COMPRESSED AIR.

THERE is as much engineering in building a good road as in building a motor cycle. By building roads in concrete they last practically for all time. Every mile of concrete road that is built represents a big saving in petrol. Just how greatly concrete helps in this phase of conservation may be gathered from the following figures based on actual tests made with motor lorries:

Tractive resistance per ton of weight: Concrete road, 30 lb.; gravel, 82 lb.; dirt, 99 lb.

Up to the present the methods employed in handling and carrying concrete have been, in most cases, exceedingly crude. Very few attempts have been made to employ machinery for this purpose, or to evolve new methods for the saving of time. It is becoming a truism to say that the development of compressed air and its employment for all sorts of purposes are increasing by leaps and bounds. As some confirmation of this, we may say that we have recently heard of a concrete cannon that has been invented for the conveyance and distribution of concrete by means of compressed air, and which is particularly applicable to roads.

The concrete cannon is a modern, improved, efficient application of an old principle. It operates by the direct positive displacement of a batch of concrete by air under pressure. The only essentials to successful operation are adequate supplies of concrete and compressed air. It pumps concrete in any quantity, to any distance and height. It consists of a reservoir (mounted on a portable truck with road wheels) with a valve arrangement controlling the admission and discharge of concrete and compressed air. An air pipe from a portable compressor (which may be driven by steam, oil, or electricity) and a hose pipe for the delivery of concrete, are the only connections.

In operation, the reservoir is filled with concrete, from the mixer, when compressed air is admitted, and this forces the concrete out to the place of deposit arranged for. When the reservoir is empty the air is automatically released.

The proprietors of the device, The British Compressed Air Building Company, have temporary offices at 51, Thurlow Park Road, West Dulwich, S.E.21.

The Scottish "Six Days" from within.

by H. Mortimer Batten.

A Competitor records his Impressions of a Strenuous Week.

EVERY competitor hates the first day of a Six Days Trial, especially the Scottish Six Days, which kicks off with that notorious fly-crawl, Amulree Hill. There is a special horror attached to the project of failing on the first hill of the first day, and my initial noteworthy impression of the Trial was that of a group of competitors, who, partly owing to the chill of the early Scottish morn, and partly on account of the close proximity of the first hill, were quivering like so many jellies—leather-skinned, wind-hardened jellies—while they paused to adjust transmissions or to remove some haunting terror by dint of hammer or spanner.

The Introductory Hill.

Ahead of us, looming through the cloud wreaths, was Amulree, a straight pull of close upon a mile preceding the treacherous S bends, then with its final stretch appearing almost perpendicular till it vanished into the deluges of the upper heavens.

Personally, I do not believe in this pausing to contemplate misfortune. Modern engines are about at their best after thirty miles of steady pulling, and by pausing one merely permits the carburetter to absorb heat, so that one may find one's carburation a trifle tricky when the old familiar setting of the levers is most desired. Again, the two minutes lost here and there often lead to nervousness towards the end of the check, and a resultant blind in the last mile or so; and these periodical blinds make all the difference between a loose machine and a sound one when trouble falls on about the sixth day, and the real necessity for blinding comes. Far better to "saw wood" steadily, as the French say, and I must state, in justice to the new P. and M., that, though every climb was made with a hot engine, often succeeded by several miles of low gear work, there was in no single instance any indication of overheating when, finally, the big step into "top" was made.

Single-gear Sportsmen.

A day-to-day report of the Trial has already appeared in *The Motor Cycle*, so in the following I propose to give merely the outstanding impressions of a competitor. Foremost among these are the repeated visions of Robert Carfrae, of the single-gear brigade, shedding superfluous garments at the foot of every observed hill, turning inner tubes about his neck, winding belts about his middle, but always well ahead of time and ready to push a tram over. Then there was Campbell McGregor, to whom these Trials owe so much, another single-gear sportsman, who rode a good machine, and rode it well, but into whom the puncture fiend had firmly set his teeth. Generally we saw McGregor at the side of the road in the attitude of a Rugby half waiting for the ball, while rain streamed off his hat on to the carefully solutioned patch, and gathered in a miniature loch about his feet. Foremost among all the impressions was the rain itself, and on the second day the Highlands surpassed themselves in their own supreme art from Inverness to John-o'-Groat's and back to Thurso.

We left Inverness at 8 a.m., and it deluged unceasingly till six in the evening. We were then at Thurso, and the trip to John-o'-Groat's and back seemed an appalling waste of time and energy. Everyone had

Reminiscences of the 1920 Scottish Trials.

SCENES AND INCIDENTS IN THE RECENTLY CONCLUDED 1,000 MILE TEST IN THE HIGHLANDS.

(1) Once dreaded as one of the worst hills in Scotland, Amulree has not lost its terrors to riders of modern machines. Jesse Baker (3¾ Scott) taking the second hairpin on the first day of the trial. (2) F. J. Hutchinson (7-9 Indian sidecar) on Dunbeath Hill, one of the unobserved climbs. (3) Farthest north. E. A. Colliver (4 Indian Scout) and W. Westwood (Triumph) in the control at Thurso (4) Near Wick R. C. McCrae (7-9 Harley-Davidson sc.) and H. F. Barge (Morgan). (5) Feeding time. Machines "parked" during a luncheon control at Lairg. (6) L. Newey (4½ Ariel) on the moors near Wick. (7) In the Sma' Glen. W. Westwood (Triumph) and E. W. Choldcroft (4 A.J.S.)

The Scottish Six Days from Within.—

visions of hot drinks and warm fires. Nothing doing. Away we went to the far northern point, and now the sun condescended to shine, and life took on a new aspect. By white-walled cottages and fields of mustard we hurtled, each cottage with its knock-kneed horse and its village idiot in the way of a rooster determined to commit suicide—away to the dreaming little "land's end," which most people picture as standing, isolated and grand, alone on a rugged cape, but which, in reality, might be any spot on the coast of Norfolk.

A Formidable Stretch.

I have omitted, however, to mention the delightful little hotel at Lairg where we took lunch that day—I think the best lunch we had, and, as usual, the cheapest. The salmon was straight out of the river, and the mutton straight from the moor. Och, mon, after lunch we ordered something to keep us warm. It was brought in a tumbler, a double dose and ordinary price—the choicest pre-war stuff at that.

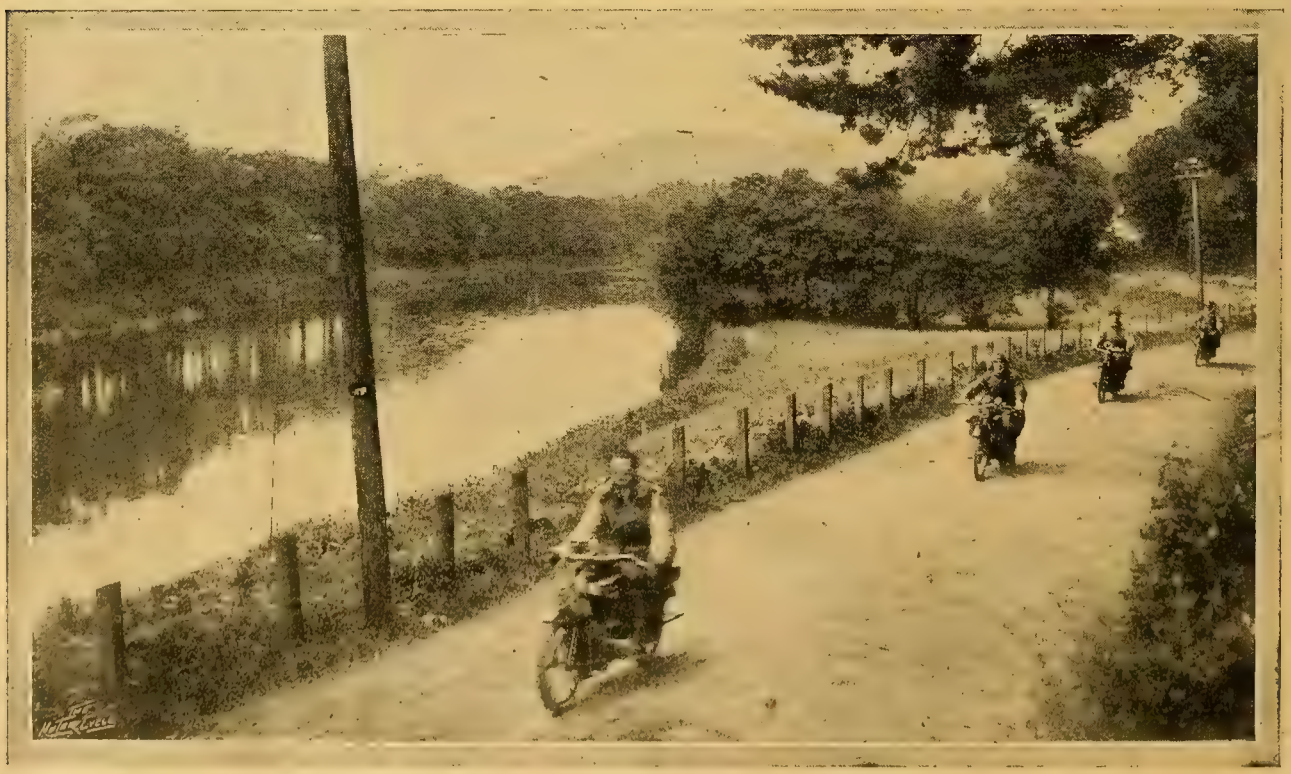
The road following consists of a series of ridges, each exactly 2in. wide. You select your ridge, and tight-rope along it till it terminates in a shell-hole. Also there are corners, so mild and gentle-looking as you approach; but these corners continue and become sharper till you find yourself ricochetting over the ruts into the rushes. This ceased at length. We were skirting a loch—still pouring in solid sheets. One obtained visions of fairy groves of silver birch, with beds of flowering "flags" here and there. The corners became worse, and real grease hampered us now. Someone overshot, and was found seated serenely among the iris while his machine reclined at the loch margin. He said he was all right, anyway, and "Good old Scotland." He had been taking advantage of the one sunny spot in a sunless day!

Another rider shot by me at about 47 m.p.h. over the ruts and shell holes. He had one finger on the bars, and he turned right round in the saddle and grinned at me—a silly, idiotic grin, considering the roads and the weather, considering our boots were full of water, and a burn following the trend of our backbones. He, too, had been guarding against chill!

Rain and more rain. Colliver was my riding mate, and all the week we stuck together, closer than brothers, exchanging dust and occasional comments. Other riders hurtled by in clouds of brown spray. Many overshot corners, not a few blued their engines or had tyre troubles. Often we saw Hugh Gibson, who was truly one of the heroes of the Trial, surmounting insurmountable obstacles, never unduly early, never late. The little Clyno possessed an extraordinarily vicious bark, and was a marvel of power and speed. Naturally, the early numbers saw little of the late. They belonged to another world, and only on the sixth day did the writer make their acquaintance. Then, alas, he saw too much of those late birds, and roused their ire on every check by passing and repassing!

An Historic Run.

The fourth day was unquestionably the most historic. Through the morning the weather was intermittently fine, and the scenery down Glenelg incomparably grand. Mam Ratachan was tackled just before lunch, and a more remarkable hill could not be

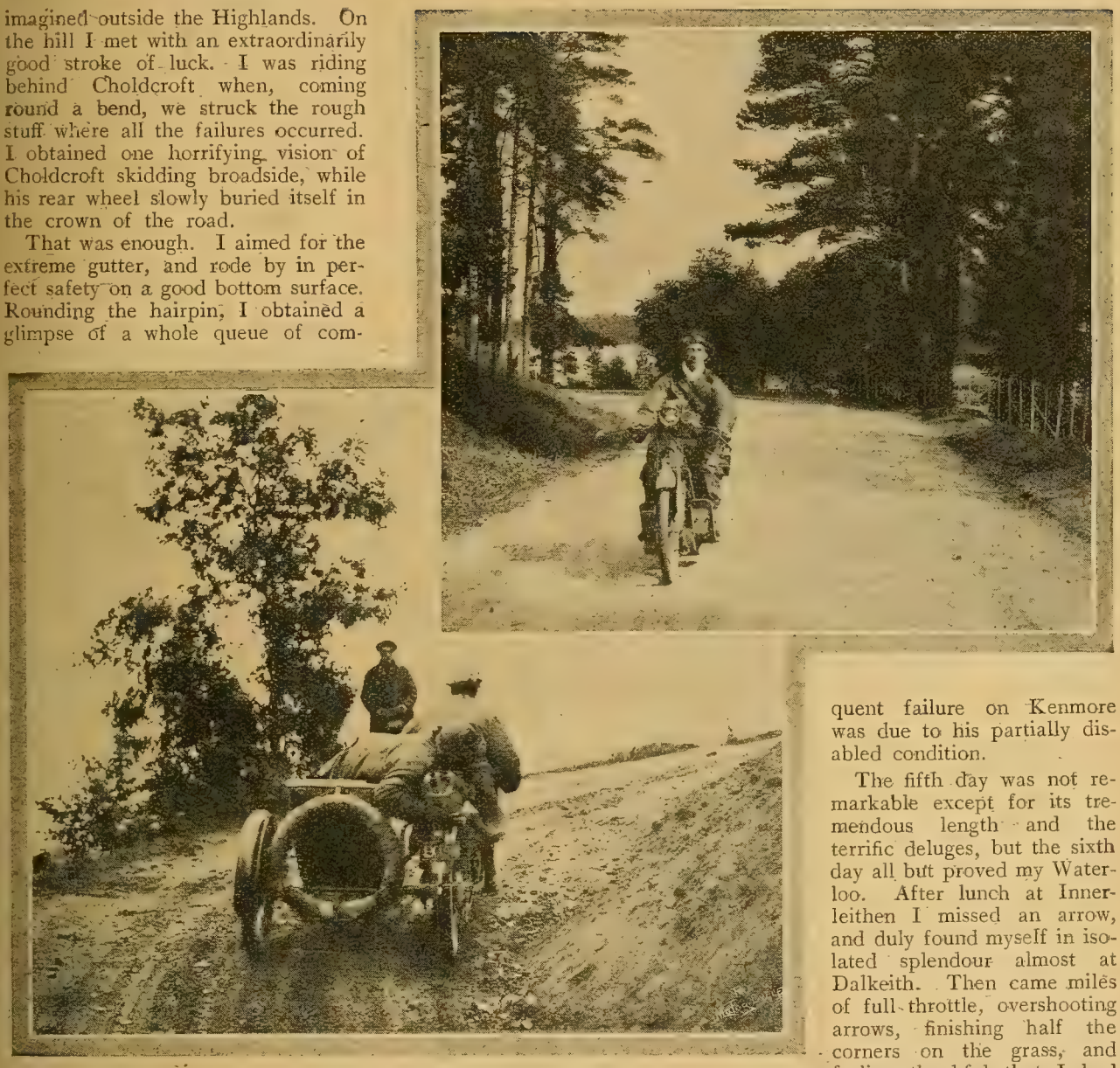


Better going on main roads near Pitlochry. G. V. Shaw (4 Norton) and Ellison Hawkes (3½ Douglas), followed by two other competitors.

The Scottish Six Days from Within.—

imagined outside the Highlands. On the hill I met with an extraordinarily good stroke of luck. I was riding behind Choldcroft when, coming round a bend, we struck the rough stuff where all the failures occurred. I obtained one horrifying vision of Choldcroft skidding broadside, while his rear wheel slowly buried itself in the crown of the road.

That was enough. I aimed for the extreme gutter, and rode by in perfect safety on a good bottom surface. Rounding the hairpin, I obtained a glimpse of a whole queue of competitors stuck on and about the point where Choldcroft had failed.



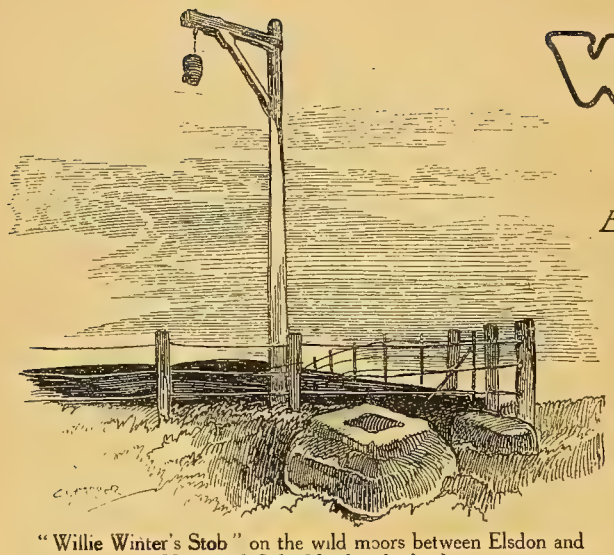
A CONTRAST IN ROAD CONDITIONS.

A. G. Cocks (Beardmore Precision) near Inverness, and C. H. Moir (Harley-Davidson sidecar) on Abriachan Hill a few miles further on.

A little while later, after a long ascent which terminated in a sharp bend round a protruding crag, I came upon my friend and team mate, Alan Hill, lying under his machine. It was one of those spills for which one cannot account, as the road surface was comparatively good. Hill had quite seriously damaged his leg, and at first we thought he had broken it. Ten precious minutes were lost ere we could get him astride his machine again, but the fall led to a short circuit in his ignition system and other minor troubles, which caused him, in a semi-dazed state, to lose twelve marks on time in this check. His subsequent failure on Kenmore was due to his partially disabled condition.

The fifth day was not remarkable except for its tremendous length and the terrific deluges, but the sixth day all but proved my Waterloo. After lunch at Innerleithen I missed an arrow, and duly found myself in isolated splendour almost at Dalkeith. Then came miles of full throttle, overshooting arrows, finishing half the corners on the grass, and feeling thankful that I had spared my engine earlier in the week. So on to Giffard, checking in at the last second of the last minute of my three minutes' allowance, and on again to Redstone Rig. Almost at the top the low gear chain broke, and there was nothing for it but to slam into high. A series of short, savage konks carried me past the non-stop section, where chain cases were torn off, and the discovery made that the spare chain would not fit. It was at this juncture that C. P. Wood sportingly came to my aid, giving up at least twenty minutes of his time on the twenty-seven miles check.

One word for the officials, who were gentlemen and sportsmen, and for the organisation, which was superb. Though a "reliability trial" in the true sense, this year's Scottish Six Days will prove a source of many happy memories to all who participated in it.



"Willie Winter's Stob" on the wild moors between Elsdon and Harewood Gale, Northumberland.

WAYSIDE GIBBETS

By Charles G. Harper

Some Gruesome Relics of Bygone Days seen by the Motor Cyclist on Tour.

"I WANTS to make yer flesh creep," like the Fat Boy in "Pickwick," but I realise fully that this is nowadays a difficult enterprise. Now that no one believes in ghosts—or, believing, would be impudent to one when it appeared, rather than afraid—and now that the horrors of war are done with, and we have come down from those high eminences of feeling, one's flesh refuses that symptom of fear and dread.

But I will do my best—no man can achieve more—and I propose to talk about gibbets. "Thank God, I have come back to a civilised country!" exclaimed the returned traveller long ago, when, coming back to England, home, and beauty, he perceived those evidences of an ordered and advanced state of society, the gibbets, on which hung the rotting bodies of executed highwaymen and other criminals. We have, in fact, a number of such objects, the gibbets, still in existence as relics in various parts of the country, but they have long ceased to bear their ancient fruit; and, indeed, the last instance of a person being hanged and his body afterwards exhibited in this way, as a warning to others, took place nearly a century ago, when the body of a murderer named Cook was gibbeted at Leicester in 1832.

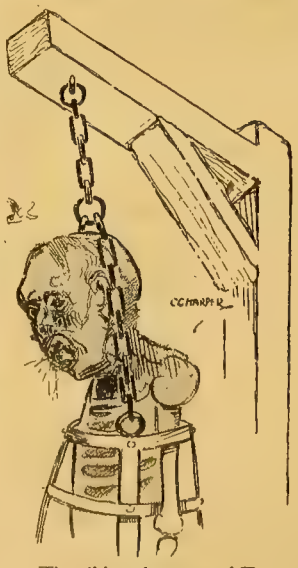
One of our most authentic original gibbet-posts, which is not now at its olden full height, may be found in a lonely by-road between Atherstone and Gopsall. It is well known locally as "Gopsall Gibbet," and the road itself is "Gibbet Lane." A board nailed to this relic says: "This gibbet was erected here in 1800, a quarter-mile from the scene of a murder committed by John Massey, February, 1800." I would like to know the details of that crime, but, although I have long sought, they elude my research.

The motor cyclist who finds these horrific wayside vestiges of the past very probably considers that such things were few. On the contrary, they were once common objects of the country; and if some people, who like quiet roads and contemplative, absent-minded walks in the middle of them, had their way, there might be a reappearance of them, and the motor cyclists themselves would dangle in chains and in iron cages just as the old criminals did. The practice was to suspend the body by chains, and in a neatly fitting iron framework, so that when the clothes rotted, and the body likewise, the skeleton might be held together. In the best regulated and most thoroughgoing circles, the body, clothes and all, was plentifully tarred on being hung up, so that it might last a very long time. And, lest relations might come and cut it down and bury it, the gibbet-post was usually studded with hundreds of nails and sharp spikes as a deterrent to climbing it.

As my intention is to give you the horrors, I cannot do better than talk about Tom Otler, and show a picture of what happened to his gibbeted carcase. Tom Otler, in the year 1808, murdered a woman in the lane still well known locally as "Gibbet Lane," Saxilby, in Lincolnshire. He was hanged at Lincoln Gaol, and his body was, following the old custom, gibbeted at the place of the crime. As time went on, some tomtits, seeking a likely place to build a nest, selected the gaping mouth of hanged and gibbeted Tom Otler, and in the nest thus built in this unconventional situation they reared seven young ones. The occurrence was so well known a local curiosity that it gave rise to a puzzle verse:

> "10 tongues in one head,
> 9 living and 1 dead,
> 1 flew forth to fetch some bread,
> To feed the living in the dead."

"What were they?" the stranger would be asked. And when he "gave it up," he was told, "The tomtits whose nest was in Tommy Otler's head." The irons from this gibbet are still preserved at Doddington Hall, Lincolnshire.



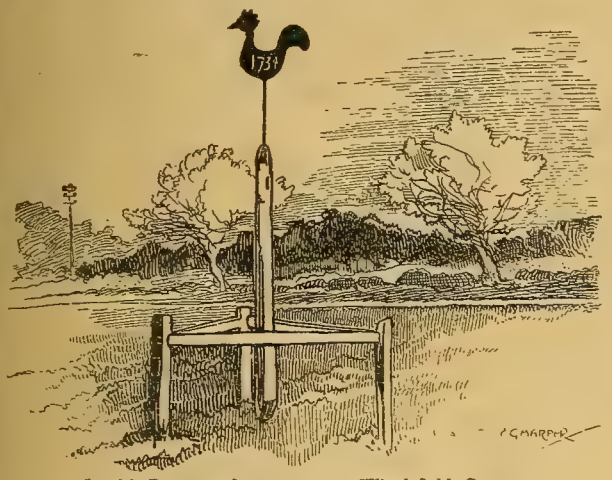
The gibbeted carcase of Tom Otler was made a nesting place for a family of tomtits.

An old gibbet, which may well compare with that at Gopsall, is "Jacob's Post," as it is called, on the wide common at Wivelsfield, between that village and Ditchling, in Sussex. It is the post on which was suspended the body of one Jacob Harris, a Jew pedlar, who in 1734 murdered two persons at the Royal Oak Inn, close by. The fragment of it now remaining is crested with the figure of a rooster (not a weathercock, because it is

Wayside Gibbets.—

a fixture, and won't go round) pierced with the date.

Turning again to the north, we find, on the wild moors between Elsdon and Harewood Gale, Northumberland, three miles north of Elsdon, a restoration of the gibbet on which was exposed the body of William



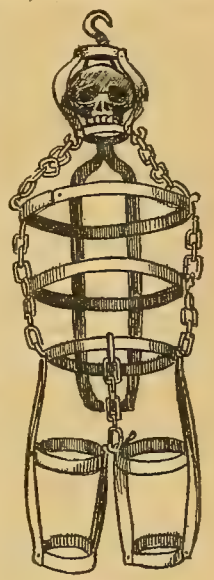
Jacob's Post, on the common at Wivelsfield, Sussex.

Winter, who in 1791 murdered an old woman, Margaret Crozier, who kept a small drapery shop, and was supposed to have plenty of money by her. Winter, with the aid of two pedlar women, Jane and Eleanor Clark, broke into the house and did the deed. All three were hanged at Newcastle-on-Tyne, and Winter's body swung here in the winds of this desolate spot in sight of the victim's abode, at the place called "The Raw," by the road leading to Scot's Gap. The existing post, styled "Willie Winter's Stob"—"stob" means "gallows" in the Northern dialects—has a wooden head hanging from it. Sir Walter Trevelyan caused the new post to be set up.

A Footprint Clue.

It is noteworthy that this cruel murder was brought home to the criminals, as so often, by what seemed a trivial incident. Winter and his companions were of a vagrant company of besom-makers. On the day before the murder, one Robert Hindmarsh, a shepherd boy, had idly amused himself by counting the hob-nails in the boots Winter was wearing, and noting their peculiar pattern, as he sat cutting sticks and making besoms. When footprints were discovered near the old woman's cottage, he mentioned this fact, and his evidence secured the conviction. When Winter's body, after some years, fell, a hideous effigy was made to take its place, and, that falling, a Moor's head was made and exhibited. Elsdon will not willingly forget that old tragedy.

What those cages were like which held gibbeted bodies we can see by the well-preserved specimen kept in Rye Town Hall. John Breeds, a butcher, was in 1742 hanged for murdering a Mr. Lamb. The crime was one of revenge. Unfortunately, Mr. Lamb was not the person whom Breeds had intended to kill. He mistook his victim for the real man, who had, therefore, the extreme satisfaction of seeing Breeds hanged, with his revenge not satisfied. There seem to be several morals to this story: the usual conventional ones, and another, which is, "Don't, if possibly you can help it, resemble anyone else." Mr. Breeds's "irons," as they are called, stand on a dark staircase, and give strangers the jumps.



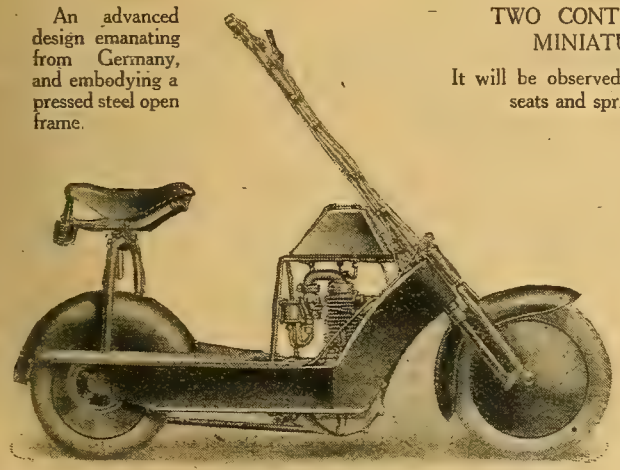
"Mr. Breeds's Irons," which stand on a dark staircase in Rye Town Hall

I will conclude with a notice of the spot called "Three Maids' Cross," a tall wooden cross in the hedge on the right-hand side of the road as you go from Winchester to Ludgershall, five miles from Winchester. The legend, which gives no date to the occurrence, tells us that three sisters were buried here, up to their necks, for poisoning their father, and so left to die of starvation. It was just one of those picturesque punishments in which the Middle Ages were so fruitful: not, like the punishment in the "Mikado," "humorous and lingering," but lingering without the humour.

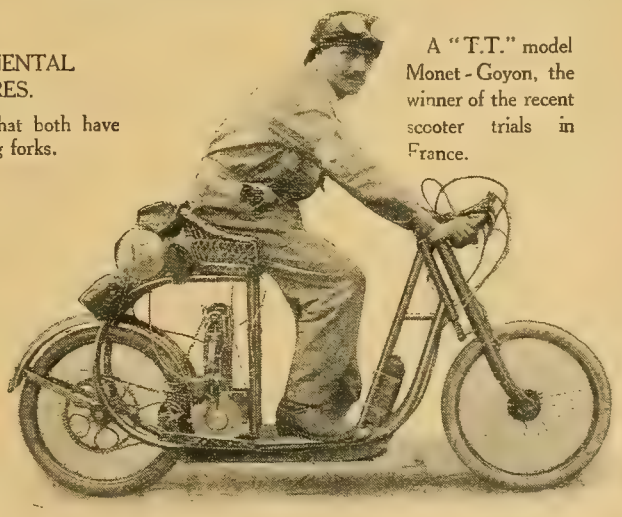
TWO CONTINENTAL MINIATURES.

It will be observed that both have seats and spring forks.

An advanced design emanating from Germany, and embodying a pressed steel open frame.



A "T.T." model Monet-Goyon, the winner of the recent scooter trials in France.



THE ANGLO-DUTCH TRIAL.

A Brief Review of Previous Events and the British Teams competing in them. This Year's Team for the Contest on Aug. 7th.

THE annual Anglo-Dutch Trial, between representative riders of Great Britain and Holland, owes its inception to a visit of members of the Dutch Motor Cycle Club in 1911. The very friendly relationship which sprang into being between these riders of Holland and *The Motor Cycle*, as a result of that visit, brought about the first trial which was organised by the Dutch club in 1912.

Three types of machines were catered for in pre-war events: *i.e.*, machines up to 350 c.c., over 350 c.c. and up to 500 c.c., and over 500 c.c., and each class has been open to three trade and three private owners of each country. The competitive teams being selected by popular vote.

In the first event, held in Holland in August, 1912, the Dutch team won by thirty-five points against representative British riders of that year. The British team consisted of the following:

UP TO 350 C.C. CLASS.—Private owners: F. C. Wasley (2¾ Douglas), C. M. Down (2¾ Enfield), and *Geoffrey Smith (2¾ Humber). Trade: *W. W. Douglas (2¾ Douglas), R. Holloway (2½ Premier), and *S. Wright (2¾ Humber).

351 C.C. TO 500 C.C. CLASS.—Private owners: Vernon Taylor (3½ Rudge), *Fred Dover (3½ Premier), and *E. Lester (3½ P. and M.) Trade: *W. F. Newsome (3½ Triumph), *W. Pratt (3½ P. and M.), and *J. H. Slaughter (3½ New Hudson).

OVER 500 C.C. CLASS.—Private owners: *W. Cooper (3½ Bradbury), *C. W. Wilson (Morgan), and A. E. Uffleman (6 Rex-Jap). Trade: *Frank Smith (5-6 Clyno sc.), *F. W. Barnes (6 Zenith sc.), and *F. A. Applebee (3¾ Scott sc.).

Second Contest won by British Team.

In 1913 the Continental riders came to England, and the trial resulted in a win for the British team by a far greater margin than that by which the visitors won the year before in their own country. Many of the same British riders competed, their names being printed in italics in the list given below.

UP TO 350 C.C. CLASS.—Private owners: *W. Cooper* (2¾ Humber), **Geoffrey Smith* (2¾ Humber), and *F. A. Hardy (2¾ Douglas). Trade: **S. Wright* (2¾ Humber), **R. Holloway* (2½ Premier), and *W. B. Gibb (2¾ Douglas).

500 C.C. CLASS.—Private owners: **F. Dover* (3½ Premier), **C. Lester* (3½ P. and M.), and A. R. Abbott (3½ Rudge). Trade: **W. Pratt* (3½ P. and M.), **W. F. Newsome* (3½ Triumph), and *F. C. North (3½ Ariel).

OVER 500 C.C. CLASS.—Private owners: *R. G. Charlesworth (6 Zenith), **C. W. Wilson* (Morgan), and R. E. Guest (8 Matchless sc.). Trade: *C. R. Collier (6 Matchless), **F. W. Barnes* (6 Zenith), and **F. Smith* (5-6 Clyno sc.).

Those marked with an asterisk made non-stop runs.

Thus it will be seen that a number of British competitors have clean sheets in the two events which were run before the war. These include S. Wright, Geoffrey Smith, R. Holloway, F. Dover, C. Lester, W. Pratt, W. F. Newsome, C. W. Wilson, F. W. Barnes, and F. Smith.

The 1914 event was abandoned owing to the war. On August 4th a representative British team will again visit Holland, including a few of the 1912 and 1913 riders. Fred Dover, W. Pratt, and Geoffrey Smith are the only riders in this year's team who have competed in both pre-war events, while W. B. Gibb, C. R. Collier, and F. A. Hardy, who competed in 1913, are also included

When the Dutch team came to England in 1913. A visitor on a Dutch-built Simplex ascending Station Hill, Wycombe.

The 1920 British team selected is as follows:

UNDER 500 C.C.

PRIVATE OWNERS.

T. Rutherford	3½	Sunbeam.
Geoffrey Smith	3½	Sunbeam.
Lt. Glen. Kidston, R.N.	3½	Sunbeam.
E. A. Edwards (reserve)	3½	N.U.T.

TRADE.

W. B. Gibb	2¾	Douglas.
H. Gibson	2½	Clyno.
J. A. Newman	3½	Sunbeam.

OVER 500 C.C. SOLO.

PRIVATE OWNERS.

D. H. Noble	5-6	Rover.
F. A. Hardy	5-6	Zenith.
F. Dover	4	Triumph.
G. W. G. Codd (reserve)	10	Reading-Standard.

TRADE.

Kaye Don	6	Zenith.
L. Newby	6	Ariel.
G. W. Moffatt	4	Douglas.

SIDECARS.

PRIVATE OWNERS.

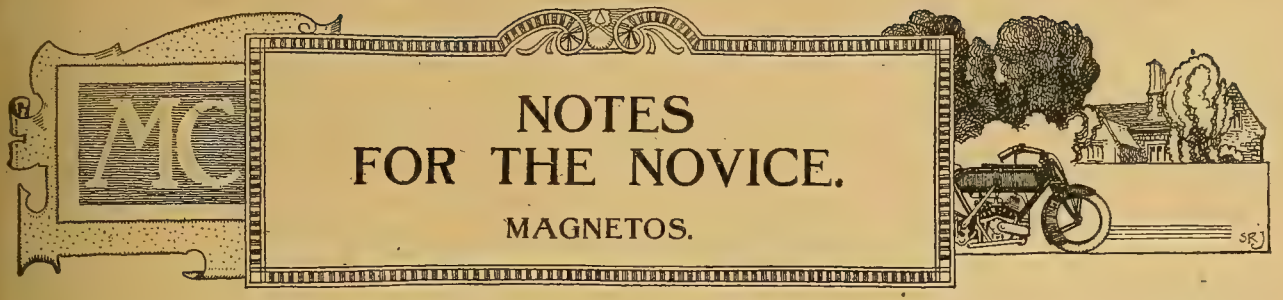
C. H. Boynton	5-6	James sc.
C. Crossthwaite	5-6	James sc.
W. A. Fell-Smith	8	Blackburne sc.
S. Bannon (reserve)	7-9	Harley-Davidson sc.

TRADE.

C. R. Collier	8	Matchless sc.
H. A. Collier	8	Matchless sc.
W. Pratt	6	A.J.S. sc.
E. B. Ware (reserve)	8	Matchless sc.
H. F. S. Morgan (reserve)	8	Morgan.

The above teams are the choice of the A.C.U. and affiliated clubs who were asked to vote for their preference among a long list of names submitted.

As previously mentioned in *The Motor Cycle*, the Dutch Club is making arrangements to give the British representatives a real hearty welcome, and no doubt, whichever team scores the highest in the trial, the visit will further cement the very cordial relationship existing between the two countries. In proportion to its population, Holland is probably second to Great Britain as a motor cycling country, and much is gained by these international contests, of which there are so few.

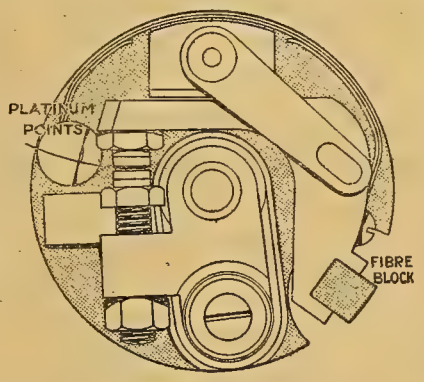


NOTES FOR THE NOVICE.

MAGNETOS.

IT is not proposed to enter here into a scientific discussion on the theory of magneto ignition and the construction of the magneto. Readers who wish to acquaint themselves more fully with these mysteries are advised to refer to "Magnetos," by A. P. Young, A.M.I.E.E., or to the excellent articles on this subject which are included in the latest edition of "Motor Cycles and How to Manage Them," both published by Messrs. Iliffe and Sons Ltd., 20, Tudor Street, London, E.C.4.

A few hints on the care and adjustment of magnetos may, however, help the novice to avoid trouble; but it may be said at once that the magneto needs very little attention, and a very good rule is "to let well alone." It is, of course, desirable to keep the outside of the instrument clean, and, while the cleaning is being carried out, it is easy to notice whether or not the magneto is firmly fixed to its bed, and that the screws which hold the instrument together are tight. I have known much trouble, including the return of the magneto to its makers for overhaul, to ensue from neglect of these simple precautions. It must be remembered that the magneto is a delicate piece of mechanism, which must be treated with care, but it is at the same time one of the most reliable parts of a modern motor cycle.



Make-and-break of a well-known British magneto.

Timing.

There is no one general rule for the timing of magnetos, which varies in the case of different engines and for different purposes—*e.g.*, a greater advance is given for racing than for touring work, and, again, when a sidecar is attached, a slight retard is often beneficial. In this case, it is better to retard the timing throughout than to run the engine with the ignition lever somewhat retarded, as, when this latter method is adopted, the spark is not occurring at the moment of its greatest intensity.

In the case of a 3½ h.p. single-cylinder engine, the following timing can be recommended for general purposes and touring. Set the engine on the top dead centre at the end of the compression and commencement of the firing strokes, and connect up the magneto (ignition lever two-thirds retarded) with the platinum points just separating. In screwing up the nut which holds the sprocket or pinion to the spindle of the magneto, great care must be used, for, as the sprocket is a taper fit on the spindle, and held in its place by friction only, it is very easy to derange the timing while tightening the nut, and it is always advisable to check the timing again when this is completed. The top dead centre just referred to can be found as follows: Open or remove the compression tap, if one is fitted to the top of the cylinder—if not, remove the plug—and, by inserting a piece of wire, note when the piston comes to its highest position. In a two-stroke engine, this is all that is required; but, in the case of a four-stroke, the engine must be slowly rotated, and the movement of the valves carefully watched. On one occasion, as the piston reaches its highest position, the exhaust valve will close and the inlet open; on the next rise of the piston, no valve movement will take place, and the latter shows the top dead centre required.

Small engines, which naturally run at a higher speed, and racing machines should be timed with the ignition levers fully retarded instead of only two-thirds. Two-stroke engines generally require a considerable advance, but on one occasion I effected a real improvement in the running of a two-stroke by timing the magneto somewhat later than the makers had done.

The amount of advance and retard is usually 20° on the magneto contact breaker, and, as the magneto, on a four-stroke, runs at half engine speed, this means 40° of rotation on the engine itself. On two-strokes, and in all cases where the magneto runs at engine speed, the timing variation is reduced to 20°.

Multi-cylinder Engines.

On multi-cylinder engines, where the firing intervals are equal, as they are in the case of flat twins, four-cylinders, vertical twins with cranks at 360°, and vertical twin two-strokes with cranks at 180° (as the Scott), magneto ignition presents no difficulty. But where the firing intervals are unequal, special provision must be made to meet these conditions, and the difficulties increase as the discrepancy in the firing intervals becomes greater.

In V twin engines having an angle A between the cylinders, the firing intervals are 360 + A and 360 − A alternately. On the magneto these intervals will be halved. Thus the firing intervals are:

Angle.	Intervals on engine.	Intervals on magneto.
45°	405 and 315	202½ and 157½
50°	410 and 310 ...	205 and 155
60°	420 and 300	210 and 150
90°	450 and 270 ...	225 and 135

Notes for the Novice.

Originally, the spark was set to occur before the maximum position in one cylinder, and after it in the other; but, later, the conditions were improved by means of staggered armatures and other devices, and I understand that a special magneto has been designed by Mr. A. P. Young for 90° engines, in which type the discrepancy of the intervals is very marked.

Adjustment.

It is not advisable for the novice to take down a magneto for repairs, but there are one or two points where adjustment or attention may be required. The platinum points on the contact breaker should separate ½ mm., and this distance can be checked by the gauge provided on the magneto spanner. If this gap is allowed to increase, the timing will in consequence become more advanced, as the fibre block will strike the steel cam on the periphery of the contact breaker a little earlier, while, if the gap decreases, which it may do by the wear of the fibre, the contrary takes place.

Freeing the Rocker Arm.

Sometimes, especially in damp weather, the rocker arm may become tardy in operation, owing to the swelling of the fibre bush on which it works. If it sticks entirely, the trouble is easily located, but occasionally when tested by hand it seems to be working satisfactorily, but it is not in reality springing back with sufficient quickness to allow the magneto to function as it should. It will now be necessary to remove the contact breaker by taking out the centre screw. This done, the spring of the rocker arm should be released, care being taken that the tiny screw is not thrown by the spring into the corner of the motor house. A roll of fine emery-paper may next be used to ease the bush, but the best thing, in my experience, is a twist drill of suitable size. This should be revolved backwards while being inserted, so that the corners of its cutting edge may not damage the bush.

Some magnetos are, owing to the method of their construction, immune from this trouble, as they are fitted with metal bushes, or, like the C.A.V., have no bearing at this point. A little vaseline on the edge of the contact breaker ring will make it work more freely, and help to keep out the wet, and if this part is inclined to stick, a cure may often be effected by increasing the pressure of the spring which holds the contact breaker cover in place.

The Carbon Brushes.

It used to be the custom to recommend that the carbon brush, from which the current is taken to the plug, should have its end roughened when it became glazed, but this is now considered quite undesirable. It is necessary, however, to remove the brush with its holder from time to time, and to clean the slip ring with a piece of clean rag soaked in petrol; this can be wrapped round a piece of wood, such as a pencil. In the event of the carbon brush being broken or lost, a substitute may be made from a piece of lead-pencil, or in some cases the holder may be inserted a little further, and the spark will jump to the brass tube, which normally contains the carbon brush.

J.H.W.

The A.C.U. Six Days Trial.

Positions of Hills not to be Known to Competitors. Three Judges to Test Machines for Silence. Entries limited to 150.

THE preliminary regulations for the A.C.U. Six Days Trial have now been issued. It has been mentioned already in *The Motor Cycle* that the trial is to conclude with half an hour's run at speed and a brake test on the test hill at Brooklands.

Those who disapproved of the "silence" test in last year's trial may be disappointed to learn that a test for "silence" will again be included. This time there will be three judges, one using the Low audiometer, and the other two will judge by ear.

Tests will be made on the first and last days, and five marks, or less, will be forfeited in each test. Only the quietest motor cycle in each class will lose no marks.

System of Marking.

200 marks will be credited to each competitor distributed as follow:

100 marks for reliability, i.e.,—adherence to schedule, 1 mark per minute, or part of a minute, over allowance will be deducted. Maximum penalty will be 50 in any one day.

50 Marks for Hill-climbing.—The positions of the hills will not be published. 5 marks will be deducted for one or more stops on any one test hill.

Braking.—Motor cycles to descend Brooklands test hill without stopping at a maximum speed from top to bottom of 10 m.p.h. 20 marks, or less, at the discretion of the judges, will be deducted on results only, without design being taken into consideration.

20 Marks for Condition at Finish.—Competitor or entrant may be present at the examination following the half hour's running on Brooklands. 5 marks or less may be deducted at the discretion of the judges, and for defects obvious on examination. 5 marks for failure to reach the schedule speed, plus1 mark for every mile or part of a mile per hour below that speed, up to a maximum of 15 marks. The schedule speeds are:

Solo.	m.p.h.	Sidecar.	m.p.h.
250 c.c.	25	350 c.c.	22
350 c.c.	30	500 c.c.	24
500 c.c.	35	750 c.c.	28
750 c.c.	38	1,000 c.c.	32
1,000 c.c.	40	Over 1,000 c.c. ...	33

10 Marks for Silence.—5 marks or less in each of tests on first and last days. The quietest motor cycle in each class to lose no marks.

Fuel consumption during part of the trial may be recorded.

Minimum weights and tyre sizes are the same as last year; *i.e.*, 250 c.c., 88 lb. (1¾in.); 350 c.c., 110 lb. (2in.); 500 c.c., 132 lb. (2¼in.); 750 c.c., 154 lb. (2¼in.); 1,000 c.c., 176 lb. (2½in.).

Awards will be granted on the following marks:

	Gold.		Silver.		Bronze.	
	Solo.	Sc.	Solo.	Sc.	Solo.	Sc.
250 c.c.	150	— ...	135	— ...	110	—
350 c.c.	175	150 ...	165	135 ...	140	110
500 c.c.	175	160 ...	165	145 ...	140	120
750 c.c.	180	175 ...	170	165 ...	145	140
1,000 c.c.	180	175 ...	170	165 ...	145	140
over 1,000 c.c.	—	175 ...	—	165 ...	—	140

The entry this year will be limited to 150 machines, and entries close at mid-day Saturday, July 31st. The fees are, trade (manufacturers, traders, and riders in their employ), £12 12s.; private owners, £6 6s.; or if a member of any affiliated club, £5 5s.

The address of the Auto Cycle Union is 83, Pall Mall, London, S.W.1.

The Big Twin Sidecar at Record Speeds.

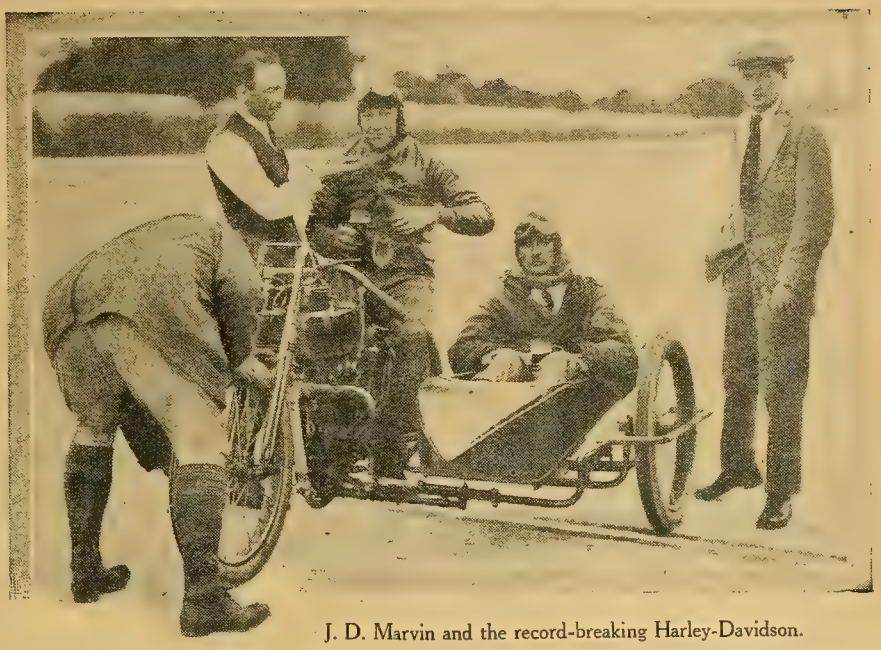
A PARTICULARLY fine series of records was put up on the 12th inst. by a standard Harley-Davidson magneto model to which a light sidecar was fitted. The performance was due to the private enterprise of Messrs. Ballards Motors, Ltd., 92, Gloucester Road, South Kensington, London, S.W.7, and, contrary to usual practice, two drivers were employed—Messrs. J. D. Marvin and J. A. Sullivan—who each took two-hour spells of driving. Mr. Marvin, who is a partner of Messrs. Ballards Motors, has only one leg.

The following is a list of the records attained:

	Miles.	Yards.	M.P.H.
2 hours ..	106	1,025	53.29
3 ,, ..	160	909	53.50
4 ,, ..	212	1,564	53.22
5 ,, ..	256	46	51.21
6 ,, ..	308	1,739	51.40
7 ,, ..	360	1,136	51.52
8 ,, ..	404	279	50.51
9 ,, ..	456	398	50.69
10 ,, ..	508	759	50.48
11 ,, ..	558	846	50.77
12 ,, ..	609	1,087	50.8

In addition to these the following distance records were made:

	h.	m.	s.	M.P.H.
100 miles in	1	53	1⅘ ..	53.09
150 ,,	2	48	53⅘ ..	53.29
200 ,,	3	45	45⅘ ..	53.17
250 ,,	4	53	13½ ..	51.16
300 ,,	5	50	10⅘ ..	51.40
350 ,,	6	48	22½ ..	51.42
400 ,,	7	55	26¼ ..	50.47
500 ,,	9	50	50¼ ..	51.77
600 ,,	11	48	39½ ..	50.8



J. D. Marvin and the record-breaking Harley-Davidson.

The petrol consumption worked out to 50 m.p.g., which is remarkably good. A single lever Schebler automatic carburetter was employed. The sidecar body was a canoelet, the oil used Wakefield's Castrol, and the petrol Pratt's No. 1. Other items of the equipment were K.L.G. plugs, a B.L.I.C. magneto, Palmer cord tyres, Coventry chains, and Brooks saddle.

Will Two-strokes Keep Cool?

THE manufacturers of the Ivy motor cycle have decided to concentrate on a 348 c.c. engine (75 × 79 mm.) for next year, and, being determined to disperse the impression that two-strokes overheat, at least as far as their own product is concerned, they undertook twenty-five consecutive ascents (non-engine-stop) of the old Wyche at Malvern.

The demonstration machine was in the hands of Mr. Percy Newman, and, the tanks filled, he started at 12.27. Descending the "new" road he took the by-road to the foot of the Old Wyche and commenced the climb, rounded the hairpin at the top, and recommenced the circuit. His time for the first lap, of 1.6 miles, was five minutes; of this distance about half-a-mile is on the ascending gradient which reaches a maximum of 1 in 2.8 at the top.

With only slight variations from the five minutes per circuit the rider continued with the utmost regularity. It was noticed that on each round very little departure was made from the wheel tracks of the previous circuit and gear changes were made in exactly the same place each time, bottom gear being used on the last 150 yards of steep gradient only; incidentally, a Sturmey-Archer three-speed box was employed, in conjunction with all-chain drive.

The last lap was completed at a higher speed and Newman came up the 1 in 2¾ at a great pace to receive the congratulations of the observers, exactly two hours eight minutes after starting.

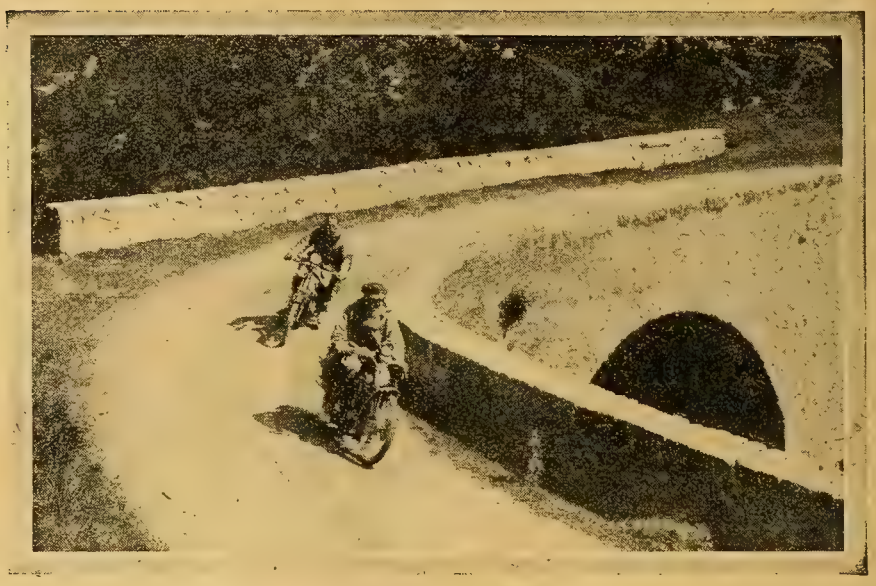
The distance covered was forty miles, the time taken was 2hrs. 8mins., and the average speed, therefore, was 18.75 m.p.h. Immediately the engine was stopped it was examined, but no sign of excessive heat was observed, the cylinder was at a normal temperature and the hand could be placed momentarily on the radiating fins. Altogether the demonstration was one which clearly shows that the 3 h.p. Ivy two-stroke is equipped with an engine capable of undertaking any task imposed by the normal rider. The test was observed by a representative of the A.C.U.

Breasting the 1 in 2¾ section of the Old Wyche for the twenty-fifth time.

REFLECTIONS ON THE SCOTTISH TRIALS.

Some Impressions of the Six Days Trials in the Highlands.

Notes on Hills and Outstanding Performances of Riders by an Observer who covered the Course.



Lt. Lochead, whose 2¾ h.p. New Imperial appeared to be quite an old and well-used model, nevertheless made some excellent performances on the hills. In the picture he is closely followed by McGregor (3½ Brough single-gear) over a bridge near Brora.

ONLY twenty-six competitors out of ninety-four starters in the Scottish Six Days Trial secured gold medals. If viewed superficially, this low percentage of successes would seem to reflect discredit upon the modern motor cycle.

It is perhaps well to remember that a competitor had only to lose one mark to forfeit his "gold." A stop on one of the ten test hills through carelessness or misfortune, or to be more than three minutes behind schedule time at any one of the thirty-three checks, was sufficient to relegate a rider to the second class.

That twenty-six riders covered the difficult course without loss of a single mark is a remarkable tribute to the reliability of present-day motor cycles.

Anyone fresh back from the Highlands, with its memories of hills, hairpin bends, bad roads, and the rain must indeed marvel at the performances of both men and machines.

Tyres the Chief Evil.

Tyre troubles and falls were responsible for more failures than mechanical deficiencies. B. Alan Hill (3½ P. and M.) can usually be counted on for a gold medal, yet was knocked out on this account. He had a fall on Thursday that was mainly responsible for his failure on Kenmore the following day, because he could not use his leg to steady himself in the deep ruts at the foot of the hill. Jesse Baker (3¾ Scott) is another consistently good performer who had to retire through a fall, although his machine was in no way damaged. W. Westwood (Triumph) made a third expert rider who lost a premier award by a fluke. He changed into "top" a little too soon on Mam Ratachan, causing a momentary wobble in the rough.

Causes of retirement were various. A. Alexander (7-9 Indian) had two punctures in the first twelve miles of the trial, and retired when the rear tyre collapsed altogether. Campbell McGregor (3½ single-geared Brough) averaged about five punctures per day, and finally retired on the sixth day through this cause. O. P. C. Collier (Beardmore-Precision) so damaged his machine in a fall that he was unable to proceed. Beck (8 New Imperial sc.) retired on Tuesday owing to the bearings of his rear wheel giving out. D. Wright (4 Blackburne) burst a tyre, and had a fall that caused his retirement, while J. Morton on a sister machine had a collision with a Ford van. Tom Peck (4½ Ariel) had tyre troubles, and in striving to make up time fractured his piston. G. W. Lush, who very sportingly drove a 3 h.p. A.B.C. with a sidecar, can blame tyre troubles for his failure to finish. He had persistent punctures, and when he arrived in the control on Wednesday night (when the rules allowed a change of tyres), his rear tyre was in ribbons. Making up time and riding with a flat tyre may have been responsible for the fork breaking on the last day.

Illness was responsible for Mrs. Knowles's withdrawal on the sixth day, and a smash through taking a right-hand bend too fast accounted for Hamilton (Harley-Davidson sc.) Water in the magneto led to the retirement of J. Westwood Wills (2¾ Verus). The causes of the retirement of "Parson Wilkin," as the Rev. J. M. Philpott (2¾ Wilkin) came to be known, were many, but he was finally knocked out by his carrier coming adrift.

Few Mechanical Troubles.

Serious mechanical breakdowns were exceedingly few. E. C. Palmer (A.B.C.) had a broken camshaft, and Mrs. Bell (6 A.J.S. sc.) within a mile of the finish also had engine trouble. Norman Black (Norton) with only a few miles to go, "chewed up" his gears.

So much for the unfortunates. One must admire many of them for their plucky but futile efforts to carry on under difficulties. We will now consider the credit side of the balance sheet.

There were few new machines to attract attention, but many watched with interest the performances of the new P. and M.'s. This was their first appearance

Reflections on the Scottish Trials.—

in a really long and severe trial, and they have distinguished themselves considerably. To begin with, it takes a good 500 c.c. machine to maintain schedule time over such a course, and yet be able to make clean ascents of all the observed hills; and secondly, their steering and road-holding propensities were noticeably good on loose surfaces.

Another machine which has so far done but little competition work in this country is the 3½ h.p. spring frame Douglas. Ellison Hawkes, the rider of the only one in the trial, was dogged with tyre trouble, but was delighted with the smooth pulling of the engine, and at times one could not help envying his smooth and comfortable progress over the villainous roads. He managed to secure a "bronze."

Tyre troubles, as already mentioned, were frequent and disastrous throughout the trial, but large tyres have suddenly come into great prominence, and most of the machines so fitted were entirely immune from punctures. Good riding plays a very important part over Scottish roads, and it was curious that so many of our very best and steadiest riders lost marks through falls this year.

J. A. Newman (3½ Sunbeam), H. M. Batten (3½ P. and M.), L. Guy (3¾ Scott), and A. L. Downie (2¾ Wilkin) were all conspicuous for their fine riding, and Hugh Gibson's performance on the little two-speed two-stroke Clyno was a thing to wonder at. A fall on the Spittal of Glenshee damaged his footrests to such an extent that he constantly "blinded" so as to have time to refix them temporarily, yet his little engine never overheated, and climbed all hills comfortably.

While on the subject of riding, both the lady competitors deserve special mention, though both had extremely hard luck. Olive M. Knowles, after some riding which astonished even the old hands, was forced to retire through laryngitis, developed on the last morning, and Mrs. Duncan Bell failed in Princes Street, Edinburgh, within pushing distance of the finish.

TALLA LINNS ON THE LAST DAY.
Miles of this kind of rough road were responsible for many tyre troubles.

Only two single-geared machines remained in the trial long enough to be interesting, and of these Campbell McGregor (3½ Brough) was eliminated by tyre trouble, while Robert Carfrae (4 Triumph), though he failed on five hills, lost no marks on time, and is to be congratulated on a very sporting, if somewhat arduous, ride.

There were no single-cylinder sidecars in the trial—the first time the Scottish Six Days entry has not included such machines. This was perhaps unfortunate, because the single is undoubtedly the utility mount for the masses, and, although to have got a 4 h.p. sidecar through the trial would have been no mean achievement, the chances of success well merited the effort on the part of some of the makers of these popular machines.

The performance of the little A.B.C. sidecar was really remarkable, for it must be remembered that the engine has a capacity of only 400 c.c., and yet it got round, with only one hill failure, to within fifty miles of the finish.

If I were asked which make I considered had put up the best all-round performance, I should hesitate between the B.S.A., the Clyno, the Rover, and the P. and M. The only Coulson B entry also secured a "gold." This was the only 100% result achieved by any make of machine.

The B.S.A. record is decidedly good. Seven were entered, four obtained "golds," and three "silver." They secured the team prize, as they deserved to do, thus repeating their performance in last year's A.C.U. Six Days Trial in Wales.

Next in order of merit—although standing alone on account of the type of machine used—comes the Clyno. Three lightweights started and finished, and one secured a "gold" and the lightweight prize. One 8 h.p. model competed and also obtained the premier award.

Rovers were the only other make to have their riders finish intact. Of the four entered two secured gold, one each silver and bronze medals. H.D.T.

LETTERS to the EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

REUNION OF EX-D.R.'S.

Sir,—I am an interested reader of the correspondence *re* Ex-Sergeant Schofield's scheme for a reunion of D.R.'s, which, by the way, I think is excellent, but why confine it to 1914 men only? I was at Dunstable early in 1915, volunteered, and was sent out to France, months before some of the 1914 men, who, in the meantime, had evaded drafts, reached the base at Abbeville.

Wrexham. 1915 A.C.O. SIGS.

A.C.U. SIX DAYS TRIAL.

Sir,—As a possible competitor in the above event, may I suggest that when the regulations are issued by the A.C.U. they should be complete, so that all the conditions are known before an entry is invited? There is no real reason why there should be any last minute "final regulations," and, whilst we cannot control the interpretation of these regulations, it is nicer to know them before entering, or to have an opportunity of refraining from doing so if in disagreement with them. V. E. HORSMAN.

THE SMALL TWO-STROKE.

Sir,—I have been astonished at the capabilities of the modern "baby" two-stroke. My machine has been in daily use for the last seven months, and I have reason to feel grateful for its mechanical simplicity, its unfailing reliability, and surprising power. Not so many issues back brother "Ixion" indulged in a few morbid reflections on noting the large proportion of youthful two-strokists among the present-day motor cycling fraternity. I am of opinion that this proportion will still further increase, because the two-stroke engine provides such a delightful mount. To those of us who "saw the world and got paid for doing it" during the year 1914-1918, the steady hum of the two-stroke is as soothing to the nerves as a pipe of the choicest tobacco. Personally, the four-stroke single (mechanically magnificent, I willingly admit), with its "hot-stuff" exhaust, produces nervous irritation akin to that engendered by a salvo of French "75's." Praised be he who invented the Scott, the possession of which so often fixes the *Ultima Thule* of ardent two-strokists. If Beardmore Precision is disguised as half-way house, the patient wayfarer will hardly go astray.

West Bergholt. VA DOUCEMENT.

POLICE PERSECUTION.

Sir,—It is with great interest I have read communications from many of your readers on the subject of "police persecution." I think that the Rev. R. C. Measures has got the present condition of affairs pretty well sized up, and I sincerely hope that the associations will do their utmost to try and put an end to the useless interferences of the police. In this district at present the police are conducting a great campaign against "long exhausts," and several of my friends have been recently fined and ordered to remove the long pipes. I am quite aware that open exhaust pipes are against the law (though I may say my own is four and a half feet long and two and a half inches in diameter), but I am of the opinion that if motor cycles were as effectually silenced as motor cars there would be many more accidents. A motor car has bulk which is easily seen; a cycle has not bulk, and consequently is not so easily seen. Therefore, I say, let the cyclist have the kind of exhaust that makes its presence felt. In this town there are some busy corners where the traffic is not too well regulated, and pedestrians wander about like lost souls. The unfortunate cyclist is expected to disengage his clutch with one hand, throttle down with the other, and keep his horn going with what? Yes, indeed, I agree heartily with your correspondents. If the police paid more attention to motor thieves than to technical offenders they would be doing a lot more good. K.A.M.

Edinburgh.

Sir,—I heartily agree with everything said by "Cricket" in your issue of the 1st. I was myself made the victim of an organised "round-up" in the town of Rhyl, North Wales. Apart from this, some of the police seem to think it their bounden duty to be as insulting as they can to any motorist whom they are "lucky" enough to catch.

If we must have these "round-ups," at least let us have sane men to carry them out. I may also mention that on the same day I was caught, I saw three men drunk in the streets at five o'clock in the evening, so evidently there is work for the "splendid organisation" of the police in other directions.

St. Asaph. TWO-STROKE

On Kenmore hill in the Scottish Trial. R. B. Clark (2¾ Coulson B), who rode the only machine of this make in the trial and secured a gold medal

LEFT-HAND DRIVE.

Sir,—In spite of all arguments to the contrary, I fail to see the danger and disadvantage of left-hand drive, on what J. Harrison is pleased to call foreign vehicles, provided that ordinary care, due from all drivers of motor cars, is exercised.

I also suggest that J. Harrison and other nervous road users, possessing cars with right-hand drive, fit similar devices to that proposed by the former to actuate on the left of their cars, thus ensuring perfect immunity from collision to all concerned. R.C.P.

Garstang.

SANS MAGNETO.

Sir,—I was very much interested in the letter by Mr. A. R. Jones *re* running without magneto. I hardly think he is correct in crediting the ignition to carbon, however. Would it not be possible for a fairly high compression engine to ignite the charge by virtue of the heat set up on the compression stroke, or, in other words, on the Diesel principle? I fancy on a two-stroke engine this would result in four-stroking, but, as I am no theorist, I will leave it at that. Hoping to see other readers' opinions on this interesting point, and wishing your paper every success.

Monkseaton. VALVELESS.

SILENCE TEST IN A.C.U. SIX DAYS TRIAL.

Sir,—Under the heading of "The English Six Days Trial," I see it stated that the silence test is not to be renewed on account of its unpopularity.

I am naturally unable definitely to state any decision upon this point, further than the regulations which must be familiar to you, but it is a fact that the unpopularity existed solely with a few competitors.

The vast bulk of the public for whom the Auto Cycle Union caters were much impressed at a genuine attempt on the part of the Union to render the motor cycle less unpleasant to the public and less unpleasant to the every day, apart from the professional, user.

It was also stated that noises recorded by the instrument were not distinguishable from the unpleasant note which chiefly affects the human ear.

The audiometer can be made sufficiently sensitive to distinguish between the vowel sounds of human speech, and I might say the apparatus is being adopted for very much more delicate work than the measurement of motor cycle exhaust noises.

I am not aware that any tests have been made with the audiometer other than those with which I am familiar, but if you will examine the photographs in *The Motor Cycle* itself you will see that the sound is taken directly to the human ear quite apart from the photographic part of the apparatus. The very point of measuring noise by the ear drum through a variable trumpet audiometer, and apart from any photographic or electrical apparatus, was brought out by me when a similar apparatus was used in the A.C.U. Silencer Trials long before the war. The suggestion that this question of sensibility of the human ear is not receiving attention is therefore totally wrong, although as a matter of fact it is quite easy to make the instrument photograph the requisite sounds.

Many people seem to discuss the measuring of exhaust noises as though it were necessary to hold one's breath during the operation. This is far from being the case, as anything but a really sensitive instrument is needed to measure the unpleasant noises familiar to anyone who lives on a main thoroughfare.

As it happens a better method has been designed, and in order to be absolutely fair to everyone separate judges are to note the exact degree of offensiveness of the noise as was done in the A.C.U. silencer trials successfully conducted under the direction of Gen. Sir Capel Holden many years ago.

Also under the heading of the "English Six Days Trial," I see it suggested that the A.C.U. rules are too technical, and that deduction of marks should not be a matter of opinion. If exact marking is to be carried out without any more or less human agency, obviously more apparatus would have to be devised, and the rules would have to be far more technical and complicated if an exact deduction is to be given beforehand for every mishap which may occur.

Is it not far more just to leave it to a certain extent to a question of discussion? You will notice that the riders of machines will be able this year to discuss everything with the officials and to see that they are satisfied in every possible detail.

Whilst on the question of Six Days Trials I was interested to read again that no overheating troubles now occur in competition work.

This remark will seem very strange to anyone who stood on the Bwylch-y-Groes hill on the last Six Days held by the A.C.U.

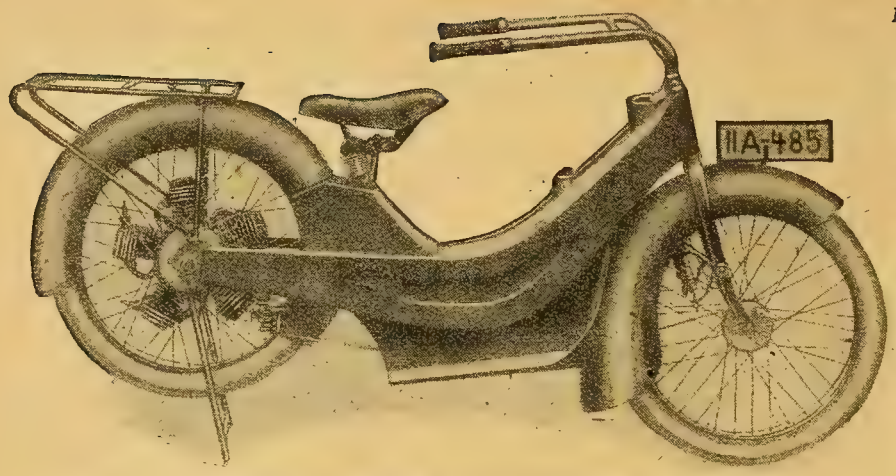
I also read that band brakes are always useless. The words "badly designed" are surely omitted here? I have a band brake on the front wheel of a 2¾ h.p. Wooler which, like everything else on the machine, is a pleasure to use.

I write this in no carping spirit, but merely as notes and an appreciation of your most interesting article,

A. M. LOW.

SOME NORTON EXPONENTS.

The Norton machine has two distinct reputations—first, as a big single for sidecar work, and, secondly, as a speedman's mount. The performances of the latter type in the T.T. races will long be remembered as an example of what can be done by standard machines in competition with special racing models. Above are seen some Norton exponents. Reading from left the riders are: Noel Brown, J. W. Shaw (who won *The Motor Cycle* Cup in the Flying Kilometre at Douglas), D. Brown, J. A. Walker, and F. C. North. Behind them stand D. R. O'Donovan, J. L. Norton, and W. J. Hassall.



A five-cylinder radial engine is embodied in the back wheel of a new German motor cycle. The drive is through a train of gears.

PUNCTURE-PROOF TUBES.

Sir,—I can thoroughly endorse your recent correspondent's remarks on puncture-proofed tubes, but the reason they are not already in universal use is the fact that they are mistakenly believed by the majority of motor cyclists to belong to the same class as the old sugar solutions we used to insert in the valve stem. The P.P Tube Company are also unwilling to proof one's own tubes at present, and some motor cyclists hesitate to scrap their existing tubes, which may be quite good, before being convinced of the practicability of the P.P. tube. That they will eventually become "standard practice" I am quite convinced. The next best precaution is to buy a Schrader tyre pressure gauge, and to use it. I use both, but am uninterested in the firms otherwise. T. S. SHARRATT.

113 M.P.G. WITH A SCOTT.

Sir,—Recently I noticed in "Occasional Comments" by "Ixion," that Scott merchants on the Island are doing big things, especially Captain Vinter's engine, which gives him five extra miles to the gallon if the plugs are fitted to the heads of the cylinders.

I am inclined to think that this is not *all* he could do, if he only went the right way about it; I have for some considerable time been getting thirty extra miles to the gallon, because I have fitted a Degory carburetter. With the plugs in the cylinder heads, I have been able to get 106 to 113 m.p.g. The 106 I got with 40 and 50 mile runs, and the 113 with a straight run from Chelmsford to Stockbridge, in Hants. This included fifteen miles of London traffic, and was accomplished in 4¼ hours, which shows a fairly high average speed.

I may state now that I find the Degory carburetter suits the "supposed petrol drinker" better than any other type I have tried. NOT INFALLIBLE.

Chelmsford.

OVERALLS.

Sir,—Your correspondent "Ixion" and others have been greatly exercised over the difficulty of keeping their overalls from leaving dirt on their trousers when they take them off. I have suffered long from the same trouble, and the solution may be useful to others. I may say that I visited all the London stores in the hope of getting something to meet my need, but failed; finally I wrote to Messrs. Barbour and Sons, of oilskin fame, asking them if they would make me a pair of seatless trouser overalls in their grey-green oilskin to fasten right up the side and so cure the trouble. They replied to the effect that they did not think that the seatless style would be successful, but they would readily make me a pair in the seated style to fasten right down the outside of the leg at the moderate price of 38s. 6d.

Needless to say, I ordered them, and they have now arrived, and there is every promise that they will be a complete success. SATISFIED.

Dunstable.

PLUG EFFICIENCY.

Sir,—Having just completed a tour of 800 miles, I think it only fair to bear testimony to the excellent performance of my machine—a 1919 B.S.A. with chain-cum-belt transmission, and a Sphinx D41 plug.

During the whole journey over all conditions of roads, and in fair and bad weather, I had no trouble whatever, and all hills were tackled with ease, though I used a heavy sidecar—136 lb. in weight without passengers and heavy luggage.

The plug was fitted early in May, since which time I have travelled over 1,100 miles on the machine, and it has not yet been necessary to examine it once, though previous to fitting it I was constantly being held up by an oily or overheated plug. Having obtained such excellent results I am quite sure I shall not try any other plug for my B.S.A. W. B. DOUGLAS.

WHAT IS HAPPENING TO THE TRADE?

Sir.—I was most struck with the editorial comments on the T.T. Race. It is quite certain to many of us that the abstention of leading firms from the T.T. Race was a mistake, and that next year there will be a desperate fight to regain laurels.

There is, however, another question which might be brought to light just now: it is the general attitude of the trade during this boom. There is a very self-satisfied spirit showing. Order books, etc., are all right, and so the idea of making friends of the rider is entirely being lost sight of. Many of the firms are losing sight of the fact that their position of favour is due in a large extent to the loyalty of the rider, who, at personal risk and with a most sporting instinct, has forced the development of the motor cycle to its present stage. Some of us have been through the mill from the start to now, and it is not a very happy state of things when old and tried riders find themselves treated with scant courtesy both by agent and manufacturer. Some of the young firms are quick to realise this, and the writer, who sees and talks to many competition riders, is struck with this. There is going to be quite a keen fight in this next year for top place, and it might be worth a lot to the manufacturers if a hint were given that they are losing old and tried friends just because the old-time courtesy is being lost sight of in the rush to sell machines.

Now the rider is much more an advertisement than the machine, for if a rider finds he gets generous and courteous treatment from even a less known firm, he is going to boom that make. I had a model example of that this week. An old and tried rider (not a shamateur, for he has paid for even the smallest item since the earliest days in full) was talking to me. He pointed out what a difficulty he had had in getting any decent treatment as to delivery; he had just made a visit to the firm whose make he has stood loyally by since the very first days of the motor cycle, and he had come away surprised at the scant treatment he got at his visit to the works. In former days he had been a welcome visitor always; this time he left feeling he was an outsider again, and for the first time in many years I found he was losing his loyalty to his favourite mount and the firm that made it. In fact, only a little—a very little—would make him at this moment cease to ride his old and favourite make and start in on a new make for his work and competition riding, and he is a well-known and tried rider with brainy ideas. What would be the result? Well, for it, as for his old mount, he would be a live advertisement wherever he went, with consequent results. Have the manufacturers thought of this? ONE WHO WATCHES.

Correspondents are urged to express themselves as concisely as possible, especially in view of the fact that only a small percentage of letters received can possibly be published. Many interesting letters are unavoidably omitted in consequence of their abnormal length.

CURRENT HAT

Times to Light Lamps.

July	24th	... ...	9.29 p.m.
,,	26th	... ...	9.26 ,,
,,	28th	... ...	9.24 ,,
,,	30th	... ...	9.21 ,,

A.C.U. Six Days.

This year's event will be limited to 150 competitors.

Records.

Twenty more records were broken last week. This time by the Harley-Davidson, see page 103.

Australia makes Motor Cycles.

Several manufacturers of motor cycles are springing up in Australia. The machines generally follow American lines.

Gibbets.

Charles Harper—the historian of the road—writes on the fascinating, if gruesome, subject of gibbets in this issue. His interesting article will be found on page 98.

The British Motor Cycle Racing Club.

The first open meeting of the B.M.C.R.C. will take place on August 14th, and will be open to both cars and motor cycles. The car events will be organised by the Essex Motor Club.

Paris Policemen Motor Cyclists.

Following the example of many American cities, Paris is to have a force of motor cyclist policemen, whose machines will be fitted with speedometers. They will use these machines for the purpose of catching motorists who exceed the speed limit. Sidecars will also be used for the purposes of transport.

Welsh Championship Meeting.

A Welsh open speed championship meeting takes place on Penchine sands, Pembrokeshire, on August 18th. This is one of the twenty open events sanctioned by the A.C.U., and a large entry is expected because the venue is one of the finest natural speedways in this country. The organising secretary is Mr. John Jenkins, Nelson Hotel, Carmarthen.

Open Speed Trials at Chatsworth.

The clubs affiliated to the East Midland and Yorkshire centres of the A.C.U. have organised open speed trials to take place on the 7th of next month in Chatsworth Park. Entries close on Saturday, the 31st, and should be sent to Mr. J. Simmonds, 10, Cranmer Street, Nottingham. There are classes for all types of machines and events for both flying and standing starts.

Hill-climbing on Two-strokes.

Twenty-five times up the Old Wyche without an engine stop on a two-stroke lightweight constitutes a demonstration described on page 103.

Twopence a Mile.

After the August holidays railway travelling will cost 2d. per mile (third class). A motor cycle carries two persons for considerably less than this—and first class.

Going to U.S.A.

Mr. Arthur Butterfield, of Levis Motors, and Mr. C. A. Easting, of Easting windscreens, are off to America on the 18th prox.

Should Know Better.

One of our American contemporaries shows a sketch of a right-hand sidecar lifting on a left bend. The opposite result would happen, of course.

Hush!

There is to be a "silence" test in the A.C.U. Six Days Trial after all. Only one machine in each class will escape penalty—according to the preliminary regulations, a review of which appears on page 102.

Special Features.

THE SCOTTISH TRIAL FROM WITHIN.

A.C.U. SIX DAYS REGULATIONS.

NOTES FOR THE NOVICE.

For the Novice.

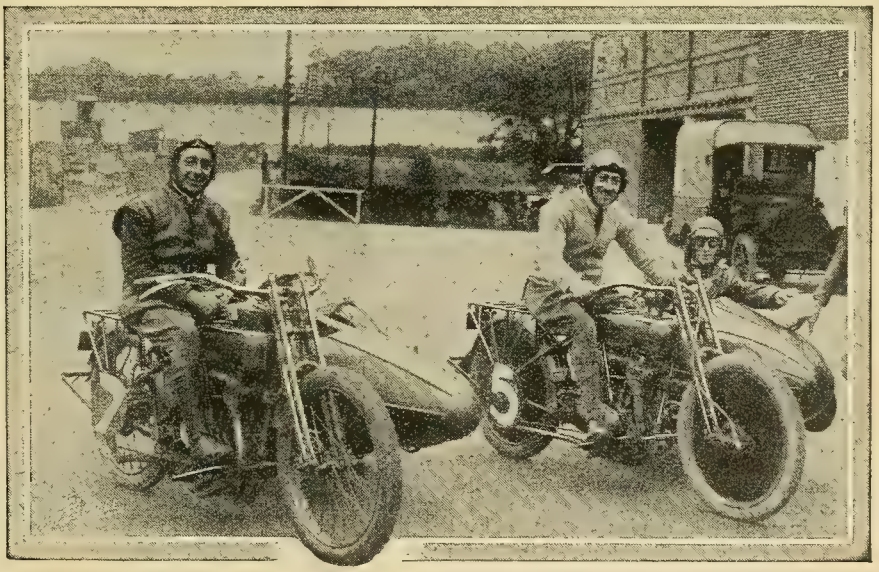
An instructive article on magnetos, specially prepared for the novice, is included in this issue (page 101), and is the first of a series of similar articles which will appear in subsequent issues.

An Inter-team Trial.

For next week-end the North-Western Centre A.C.U. are organising an inter-team trial for the "Blake Cup," starting from Town Hall Square, Bolton, at 11 a.m. on the 25th.

Machines for Nothing.

Some would-be motor cyclists seem to think that motor cycle manufacturers have machines to give away. The makers of the R.W. Scout recently forwarded us a letter containing the request for a free machine for advertising purposes from a rider in Wales. Not very long ago a Bishop made a similar request.

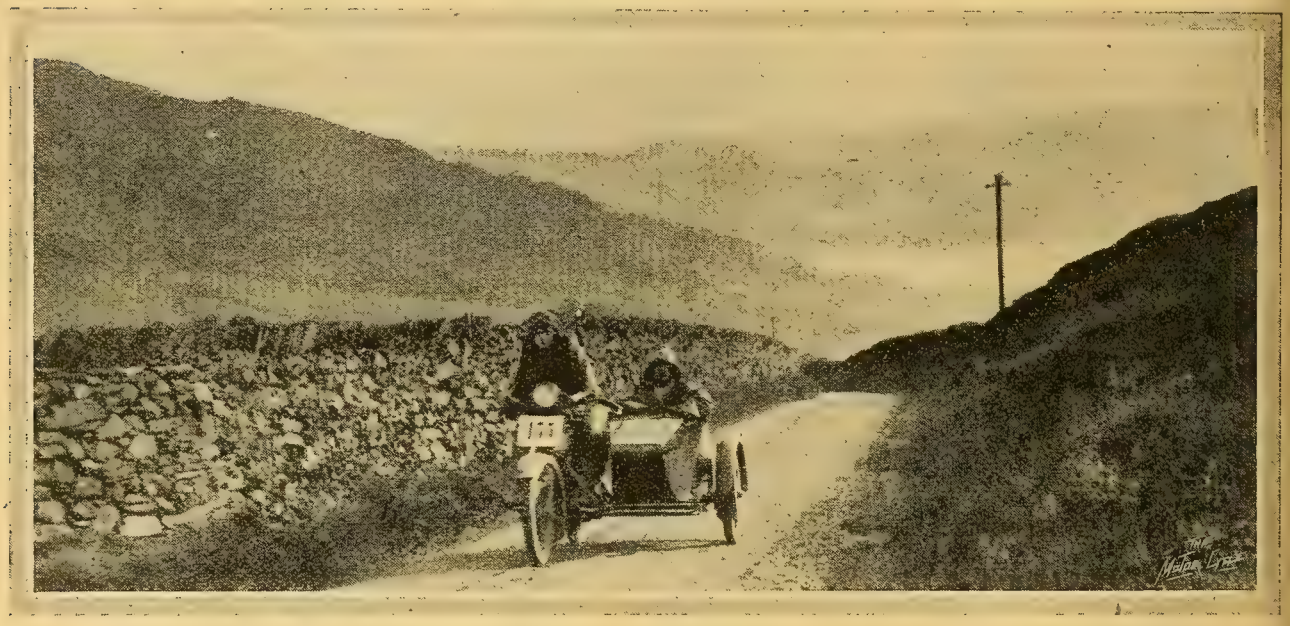


AMERICAN TWINS ON BROOKLANDS.

In addition to the records put up by J. D. Marvin and T. A. Sullivan on Tuesday of last week, other Harley-Davidson sidecars have distinguished themselves on the track recently. Above are shown J. A. Masters (No. 5) and E. Longman (No. 7), who finished first and second respectively in the 1,000 c.c. sidecar event at the last Brooklands meeting. Masters's speed was officially given as 57·8 m.p.h.

'MIDST LAKELAND HILLS.

The Cumberland County M.C.C. One Day Open Trial. Typical Lake District Weather Conditions encountered.



Half-way up Kirkstone, with Windermere in the distance. S. Parker (8 Enfield sc.) is changing up on one of the easier portions.

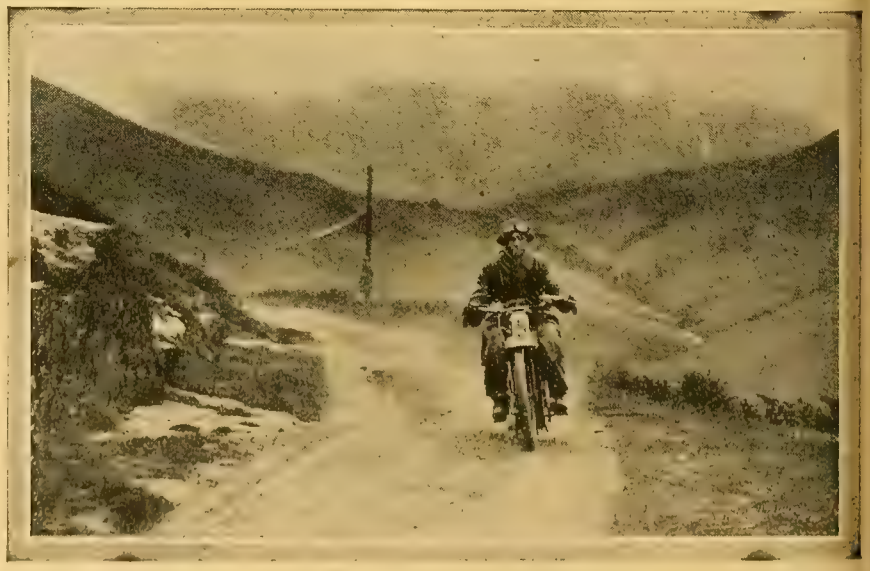
As organisers of an open trial the Cumberland County M.C.C. are perhaps a little lacking in experience, and the event which took place on Saturday last was, despite its sporting nature, somewhat long drawn out.

Another feature which might have been eliminated with advantage was the long main road run home and the comparatively easy sections early on the outward journey in the morning. This detail, of course, is due to the club headquarters being in Carlisle, which is an appreciable distance away from Lakeland proper. Had the run started from, say, Penrith, and ended at Pooley Bridge, there would have been time for the inclusion of some much more severe hill-climbing.

"A Wild Wan Morning."

Rain fell almost continuously during the preceding night, and the first man started out from the Crown and Mitre Hotel, Carlisle, at 9 a.m. in a steady downpour. The main Cockermouth road was followed for ten or eleven miles. Catlands, the first observed hill, was not a very severe climb, being a long winding ascent over a stony lane. A dense mist, however, obscured the view.

At Ireby, a sharp drop in the village led to a small watersplash, and then followed some very greasy lanes until the main road was rejoined, only to be left again by a sharp bend, for the second hill at Embleton Golf Course. This was rather trying, having a rough and slimy surface and one left-hand acute bend on a steep pitch. The soloists had no difficulty, however, but sidecars experienced a little wheel slip. From here good roads were followed to Cockermouth and the Lake Country was entered in real earnest. The weather showed signs of improving as Crummock Water was passed by the earlier competitors, and the rain ceased and the mist lifted as they climbed Buttermere Hause. This one-and-a-half mile climb caused very little trouble. The Sunbeams especially came up well but D. S. Alexander (7-9 Indian sc.) had a sooted plug, Ellison Hawkes (3½ Douglas) was in great difficulties, apparently suffering from faulty carburation and a stiff gear change. W. T. Tiffen (4¼ B.S.A.) made a splendid ascent, and J. W. Wills (2¾ Verus-Blackburne) came up well, doing a smart foot gear change on the top corner. Lower down the hill A. Boggis (4½ Quadrant sc.) caused some excitement by failing and running back, only just being saved from going over the edge of the road into the valley below. Of the lightweights R. Pape (2½ Clyno)



Buttermere Hause was wreathed in mist, which shrouded the distant mountain tops. The rider is G. W. Wilkin on his 2¾ h.p. Wilkin.

'Midst Lakeland Hills.—

made an excellent performance but just lacked the necessary power to get over the top, while J. Browne (2¾ Douglas) also had to foot-slog.

The drop down to Newlands required careful negotiation, as the roads were a mass of slime, and almost everyone was losing time. Near Keswick the third non-stop section commenced, and this was a twenty-mile run over grassy and greasy tracks, including a hair-raising descent and a watersplash. Everyone struggled on, however, and finished the morning's run in Keswick in good spirits, despite soaked garments and a plastering of mud which was so bad that new number cards had to be issued all round.

Towards Thirlmere.

A restart was made at 2.15, and a short distance out of Keswick the route ascended the hill to the left over some very greasy lanes, rejoining the main road a little further on. Towards Thirlmere the splendid surface and expansive view was enjoyable, as the rain had almost ceased. Away in the distance were patches of sunshine on the mountains. Descending Dunmail Raise, Grasmere was skirted and the road to Red Bank taken. The surface was not very slimy and was rapidly drying, but a hiatus occurred here as the necessary timing arrangements for the flexibility test were incomplete. In consequence, the competitors were delayed an hour at the foot of the hill.

The slow section of this test was on the steepest gradient and was very severe, After the fast section many competitors climbed the rest of the hill slowly and surely, but some continued at speed over the 1 in 4 at the crest. J. J. Dias (3½ P. and M.), who knowing the course romped round well ahead of time, was noticeable in this respect.

Of those who made excellent climbs the following deserve mention: H. W. Glendinning (3½ Sunbeam), steady; T. C. de la Hay (3½ Sunbeam), fast; J. W. Moffatt (4 Verus); and R. E. Darnton (7-9 Indian). J. A. Newman (3½ Sunbeam) came up imperturbably, and T. J. Stordy (2¾ A.J.S.) and G. W. Wilkin (2¾ Wilkin) both made fine ascents. T. M. Lawson (4 Harley) was very noisy, as was R. G. Lawson, who had special "silencing" arrangements on his Scott. I. H. Dickson (7 F.N.) came up in a cloud of smoke at a great pace; but F. Fieldhouse and E. A. Edwards on 3½ N.U.T. machines both footed when accelerating. In the slow section of the climb W. Kantlehem (3½ Wilkin sc.), S. Parker (8 Enfield sc.), and A. E. Pape (4 Triumph sc.) made excellent performances, and got away well, and J. E. Greenwood (3½ Sunbeam) also was exceptionally good.

Off the Route.

After leaving Red Bank many competitors went astray, but had they followed the excellent marking they would not have done so. Ullets Nest and Foolstep were two bad hills, although short, and on the latter T. C. de la Hay and D. S. Alexander came to grief. This non-stop section also included Kirkstone Pass—a gruelling climb after the day's adventures. Little trouble was experienced, however, and there were only two failures. Descending to Patterdale was no test of brakes after the drop down Blea Tarn Pass, which came earlier in the section, and everyone was able to gain some lost time on the main road run of thirty miles to Carlisle. Near Pooley Bridge, T. Rutherford (3½ Sunbeam) had a fall, and was somewhat severely damaged, and G. Dance sportingly retired to render assistance, while J. C. Coney (3½ Wilkin) had a seized engine near the same place.

Nearing the Finish.

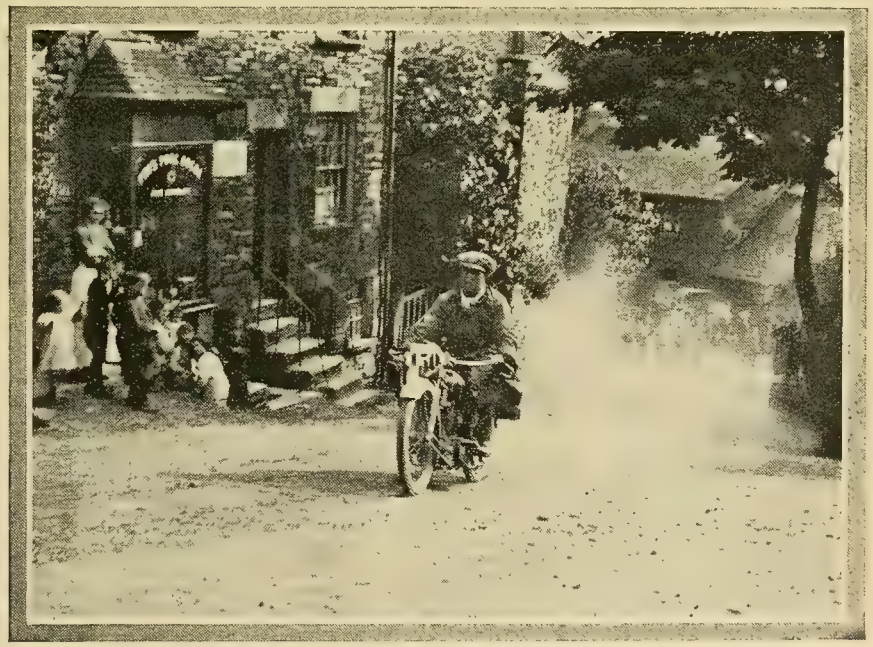
Possibly due to "blinding" along the main road, several competitors were in trouble between Penrith and Carlisle. The most exciting incident was when H. J. Birch (Le Zèbre light car) shed a wheel at speed. He, nevertheless, finished in time. The Richardson friction-driven cycle cars all passed at a great rate, endeavouring to finish within their time allowance, which they did, thus being the only complete team of one make to finish.

The following is a list of starters; an asterisk marks those who retired.

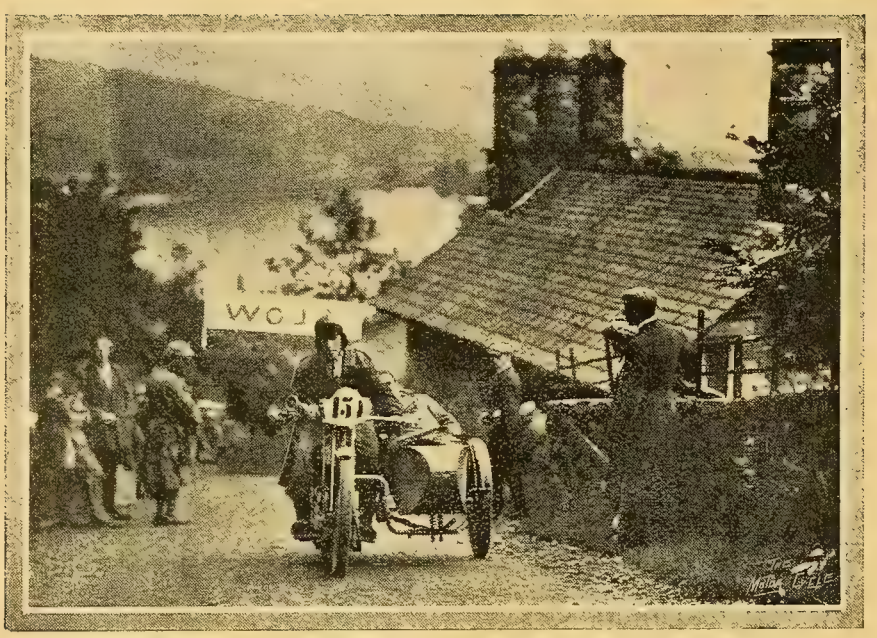
J. J. A. Dias (3½ P. and M.).
H. W. Glendinning (3½ Sunbeam).
F. O. Huntrods (3½ Ariel).
T. C. de la Hay (3½ Sunbeam).
*John C. Coney (3½ Wilkin).
D. S. Alexander (7-9 Indian sc.).
*Herbert W. Crampin (2¾ Wilkin).
*Alan Douglas (3¾ Scott).
Eric Williams (3½ Sunbeam).
*Arland Ussher (5 Brough).
Rupert E. Darnton (7-9 Indian).
J. Wallace Moffatt (4 Verus).
T. J. Stordy (2¾ A.J.S.).
J. A. Newman (3½ Sunbeam).
G. W. Wilkin (2¾ Wilkin).
*T. Rutherford (3½ Sunbeam).
G. Gray Barnard (3½ Sunbeam).
T. M. Lawson (4 Harley-Davidson).
*G. Dance (3½ Sunbeam).
R. G. Lawson (3¾ Scott).
W. Westwood (4 Triumph).
W. G. Harrison (3½ Sunbeam).
*Ellison Hawkes (3½ Douglas).
B. Hill (3¾ Scott).
W. T. Tiffen (4¼ B.S.A.).
Jas. Browne (2¾ Douglas).
J. Westwood Wills (2¾ Verus).
I. H. Dickson (7 F.N.).
Wilfred Marley (3½ Lea-Francis).
E. A. Edwards (3½ N.U.T.).
Stanley Bell (3 A.B.C.).
A. Ferris Morton (4 Harley-Davidson).
D. H. Watson (3½ Rover).
*John G. Hartley (2¾ Douglas).

The first part of the course was covered in a blinding rainstorm. H. W. Glendinning (3½ Sunbeam) in the watersplash at Ireby; he is followed by the T.T. winner T. C. de la Hay (3½ Sunbeam),

*E. Eldon Lightfoot (2½ British Excelsior).
Richard Pape (2¼ Clyno).
*William Myers (2¼ Ivy).
*W. A. Muncaster (2¾ Sun Vitesse).
R. Lamley Williamson (3½ Norton).
David Robb (3½ N.U.T.).
Fred Fieldhouse (3½ N.U.T.).
*W. C. Thompson (3½ N.U.T.).
W. Kantlehem (3½ Wilkin sc.).
*W. A. Fell-Smith (8 Blackburn sc.).
A. E. Pape (4 Triumph sc.).
Stanley Parker (8 Royal Enfield sc.).
G. W. Shepherd (4 Norton sc.).
J. H. Tiffen (8 Matchless sc.).
B. S. Tatham (7-9 Harley-Davidson sc.).



An unfamiliar view on Kirkstone Pass. The steepest gradient is at the foot, amongst the cottages of Ambleside, between which F. Fieldhouse, on his 3½ h.p. N.U.T., is passing.



A. E. Pape (Triumph sc.) in the slow section of the flexibility test on Red Bank Grasmere can be seen below.

J. E. Greenwood (3½ Sunbeam sc.).
•John Shields (8 Sunbeam sc.).
B. Jeffreys (4 Norton sc.).
T. Blain Westmorland (7-9 Harley-Davidson sc.).
•A. Horrocks (10 Morgan).
J. Leo. Shaw (10 Morgan).
H. J. Birch (8 Le Zèbre).
E. Richardson (9 Richardson light car).
R. G. McEwen (9 Richardson light car).
J. L. Roy Jenson (7-9 Harley-Davidson sc.).
H. M. H. Deeley (4 Triumph).
C. E. Richardson (9 Richardson light car).
A. H. G. Boggis (4½ Quadrant sc.).
George Townend (3½ P. and M.).
•J. C. Boyd (6 A.J.S. sc.).
R. W. Loughton (3½ N.U.T.).

NOTES.

The Lake District is undoubtedly the rainiest corner of England, and oilies, racing helmets, and sou'-westers were the order of the day until the lunch stop.

High averages cannot be maintained in the winding, stone-walled lanes of Cumberland and Westmorland, although the dalesmen can take some apparently blind corners at speed with safety; a knowledge of local topography is useful. J. J. Dias, who carried "No. 1," simply T.T.'d the course, and stopped outside each control to clean his machine in true P. and M. fashion.

In contrast, most of the other machines were smoothered in mud which the riders allowed to remain until the trial was finished.

MOTOR CYCLISTS AS OUTRIDERS TO THE KING.

RECENTLY, the Isle of Man, famous as the home of the T.T. races, was honoured by a visit from their Majesties the King and Queen, who were accompanied by Princess Mary and the Home Secretary, Mr. Shortt, K.C. As there are no mounted police on the Island, the Chief Constable requested the assistance of a number of the best known motor cyclists to help in clearing the roads of the Island and also the crowded streets. These six motor cyclists met the Royal party in Ramsey when they disembarked and rode in front of the special Daimler cars all the way to Douglas and then round the Island, visiting Castletown, Peel, and all the villages on the way. They kept a few lengths ahead. Douglas Brown was in charge, and in the towns they travelled in file and in the country in pairs, with one at the back to keep touch with the pilot car. The arrangements worked well, and the motor cyclists received a message of appreciation for their voluntary services both from the King's Equerry and from the Chief Constable, while the Home Secretary stated that he expected that motor cyclists, now that they had shown what they could do in this way, would be asked to repeat their work in other places. This is the first time that motor cyclists have acted in this manner for the King. The other cyclists were G. Brown, H. Barlow, H. Rylance, G. Trustrum, H. Lay, and A. Hogg.

NEWCASTLE & DIST. M.C. RELIABILITY TRIAL.

THE White Cross Insurance Association added additional interest to the Newcastle and District Motor Club's reliability trial by presenting a trophy—in the form of a handsome silver rose bowl to be won outright—for the best performance. A 204-mile route, *via* the old Roman road to Carlisle and on to Penrith, was planned. The Crown Hotel, Penrith, was chosen as the lunch stop for the fifty-seven competitors, comprising cars, light cars, and motor cycles.

From Penrith the course lay over Kirkstone, and then on to Kendal, Brough, Barnard Castle, Durham, and Newcastle, the first man being timed in at the latter hour at 8 p.m. The Newcastle Club is composed of prominent agents and manufacturers' representatives in the North of England. Consequently, most of the competing machines represented the latest productions from both English and American factories. Five gold medals were awarded to cars whilst four were carried off by motor cycles, Geo. Middleton, on a Harley-Davidson sidecar, carrying off the White Cross trophy.

DUBLIN M.C. HILL-CLIMB.

AN open handicap hill-climb was held by the Dublin and District Motor Cycle Club on Saturday afternoon, over a distance of a third of a mile at Cornell's Court, Co. Dublin. J. W. Shaw, of Belfast, on a T.T. Norton, was the actual scratch man. He received the distinction of fastest time, but he was only sixth over the handicap, which resulted in a tie between a Henderson and a 3½ Rudge. The times were as under:

	H'cap time. secs.
G. Thompson, 8-10 Henderson (scr.) ..	28¼
G. Griffin, 3½ Rudge (2 secs.)	28¼
F. Holmes, 3½ Rudge (2 secs.)	29⅝
J. A. H. Waters, 2¼ Diamond (14 secs.)	29⅝
C. W. Johnston, 7-9 H.-Davidson (scr.)	30⅜
J. W. Shaw, 3½ Norton (owes 4 secs.) ..	30⅜
R. Humphreys, 2¼ Velocette (14 secs.) ..	30⅜
G. Bewley, 3½ Norton (2 secs.)	32¼
H. Ellerker, 2¼ Douglas (11 secs.)	34
J. R. Boyd, 8 Sunbeam (scr.)	34⅜
H. McAllister, 2¼ Triumph (14 secs.) ..	34½
J. McGrath, 2¼ Velocette (14 secs.) ...	35⅜
J. A. Doyle, 3 A.B.C. (5 secs.)	35½
R. G. Millar, 2¼ Verus (7 secs.)	35½
H. Potterton, 3½ Norton (3 secs.)	38⅜
R. Nesbitt, 4 Douglas (3 secs.)	38½
W. Wilhelmj, 2¼ Bradbury (7 secs.) ...	39⅜
W. F. Robinson, 2¼ Excelsior (17 secs.)	40⅜
J. Chapman, 2¼ Levis (14 secs.)	41
E. J. Mecredy, 3½ Scott (3 secs.)	41⅜

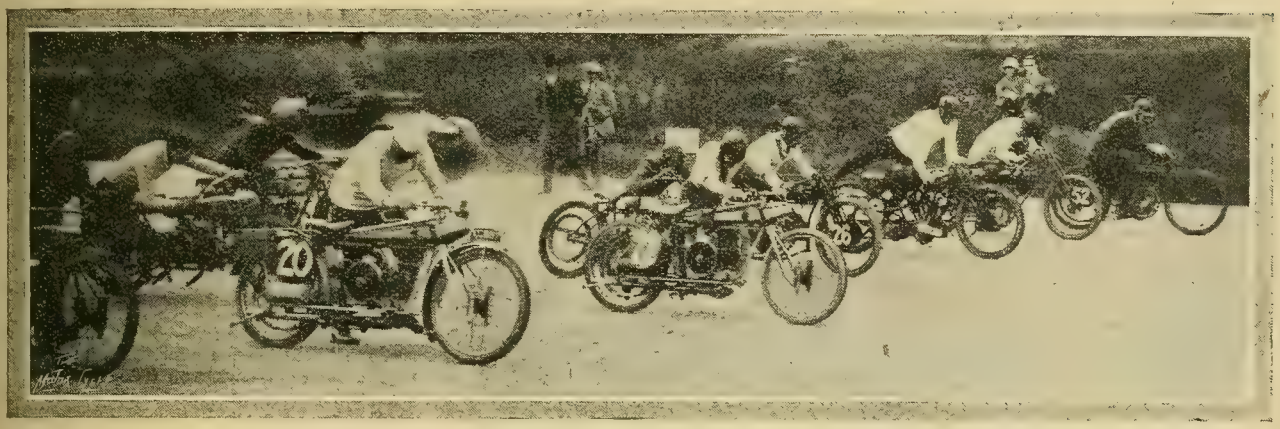
A LONG RUN FOR A TINY ENGINE.

QUITE a good unofficial run was recently made on a B.S.A. lady's model bicycle propelled by a Simplex motor attachment manufactured by the Patrick Engineering Co., Brearley Street, Birmingham. The run was carried out by Mr. A. G. Goldsmith, of the X Motor Cycle Co., of Torquay, who informed us that his petrol consumption worked out approximately at 130 miles per gallon. He covered the distance from Torquay to Birmingham, which is approximately 200 miles, at an average speed of fourteen miles an hour. With the exception of a few yards on the worst hills encountered, the little engine carried him right through without pedal assistance, and he neither opened his toolbag nor changed a plug.

Fitted with a Runbaken magneto, the attachment weighs only 26 lb., and the unit has a miniature single-cylinder two-stroke engine lying in a horizontal position on a special aluminium carrier, which also supports a countershaft plate clutch, which is gear driven.

The British Motor Cycle Club Meeting.

A Well-organised Programme of Racing. Two Records Broken.



Start of the ten miles scratch race for machines under 350 c.c. E. B. Ware (No. 28, 2¾ N.U.T.-J.A.P.) is seen mounting his machine.

WITH each event run absolutely to schedule, and with each race finishing at the fork where the spectators could note without the aid of powerful glasses the progress of each lap, the B.M.C.R.C. meeting last Saturday proved how interesting a Brooklands race meeting could be made.

One of the features of Saturday's racing was the triumph of the single lever carburetter. It has often been argued that better results should be obtained with the two lever variety, in speed work at any rate. Notwithstanding this, single lever carburetters brought success to the winners of the first, second, fourth, and fifth races.

It was unfortunate that only two starters appeared for the first event, the ten-mile scratch race for motor cycles with sidecars not exceeding 500 c.c., but the five other ten-mile scratch races were well supported on the whole.

The two starters in Event 1 were E. Porter (A.B.C.) and W. R. Brown (3½ Sunbeam), of these the rider of the smaller machine had the race his own way from the outset and increased his lead on each lap. Result :

	Time.
1. E. Porter (3 A.B.C.)	11m. 11⅕s.
2. W. R. Brown (3½ Sunbeam)	—

The winner's speed was 53.63 m.p.h.

Event 2 provided eight starters, and a casual glance at the machines showed several items of interest. Baragwanath, the winner, who, though a consistent supporter of B.M.C.R.C. events has never won before, used a Zenith, equipped with an overhead valve J.A.P. engine fitted with a car type Zenith carburetter. Sawer, riding the "X" (American Excelsior), had an ingenious foot controlled oil pump. The first, second, and third men all used one lever carburetters. F. W. Barnes employed both a Flexi, the carburetter designed by Messrs. Jones and Marchant, and a two-lever Amac.

Sawer, on the "X," who made the best start and acceleration, was using his clutch instead of being pushed off like the others. On their first appearance at the fork the order of the competitors was : Baragwanath (Zenith), Barnes (Zenith), Harveyson (Indian), Sawer ("X"), Chater-Lea (Chater-Lea), Dequin (Zenith), Bond (Zenith), and Watson-Bourne (Zenith). At the end of the first lap Baragwanath was followed by Barnes, Harveyson, and Sawer. In the second lap Baragwanath again increased his lead. Barnes, who apparently suffered plug trouble, retired, so that Harveyson took second place, while Sawer was third. The leader won by about a mile. Result :

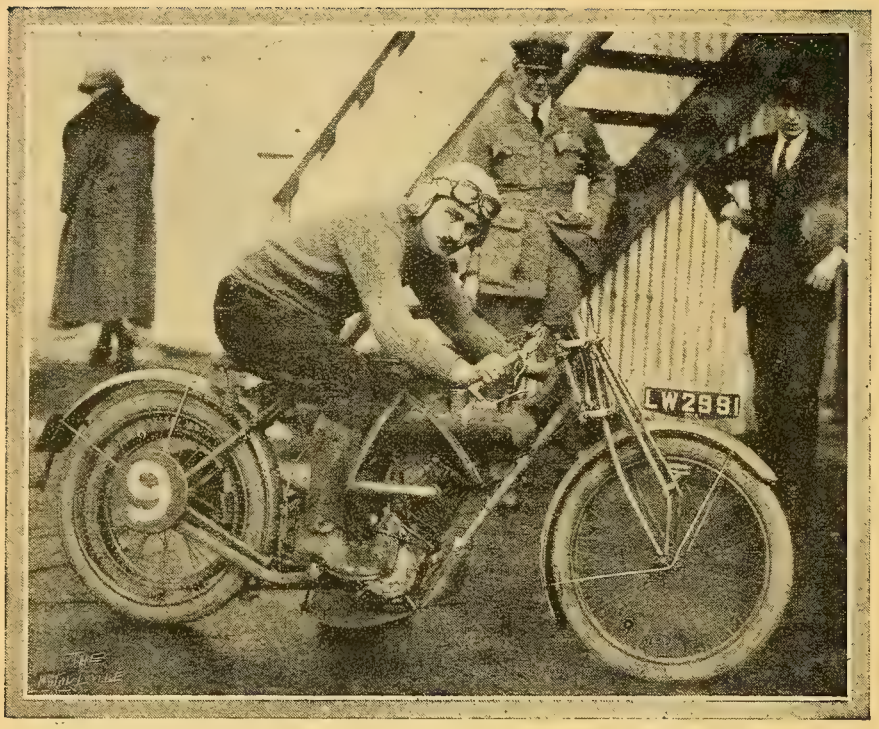
	Time.
1. E. C. E. Baragwanath (8 Zenith-Jap) ..	9m. 48s.
2. G. L. Sawer (7-9 American X)	—
3. H. R. Harveyson (7-9 Indian)	—

The winner's speed was 61.22 m.p.h. This beats F. W. Barnes's record made 13th September, 1913 ; time 10m. 21⅕s., speed 58.78 m.p.h.

Event 3, ten miles scratch race (Class B) for motor bicycles with engines not exceeding 350 c.c., saw the accomplishment of another record, this time in Class A, by G. J. McIntosh (one-cylinder Singer, 274 c.c.), who covered the ten miles in 11m. 35⅘s., speed 51.74 m.p.h. The previous best was W. A. Jacobs (one-cylinder Singer, 65 × 75 mm., 248 c.c.) ; time, 11m. 42s., 51.40 m.p.h., July 25th, 1914. Jacobs competed in this race, but his luck forsook him, as in the previous Saturday's meeting. Ware, who was riding an N.U.T., had a valve cotter carry away, and had to retire. McNab was mounted on a very smart looking Wooler, while McIntosh's Singer had rubber pipes con-

THE PRELIMINARY CANTER.

Riding down to the starting line. E. B. Ware (2¾ N.U.T.-J.A.P.) is seen on the extreme left, and McNab, the Wooler exponent, in a white jersey, behind him. A. Watson (2¾ Douglas) is in the centre, and G. J. McIntosh (2½ Singer) on the right.



Harry Martin (3½ Matchless-M.A.G.) makes a re-appearance on the track.

necting the crank case releases to the main air inlet of the carburetter so as to convey the waste oil to the engine.

At the end of the first lap T. Thompson (Douglas) overhauled E. B. Ware, whose engine was missing fire, just opposite the timekeeper's box, and after them came Watson, Longden, Hull, McNab, and Henry.

Despite his trouble, Ware got ahead of Thompson in the second lap, only to be passed again by the Douglas rider at the fork.

		Time.
1.	Tudor Thompson (2¾ Douglas)	1om. 45⅘s.
2.	G. J. McIntosh (2½ Singer)	* 11m. 35⅘s.
3.	E. Longden (2¾ Dot-Jap)	—

*Record Class A. Winner's speed 55.8 m.p.h.

There were two interesting Douglases entered for the Class C ten miles scratch race for motor bicycles up to 500 c.c., both of them had overhead inlet valves. Of these Bailey's mount had cast iron cylinder heads, while Thorpe's engine had aluminium cylinder heads. Martin (Matchless M.A.G.) employed a Claudel-Hobson one-lever carburetter, which brought him home to victory.

At the end of the second lap S. L. Bailey shed his belt, and A. Miller (Matchless) retired. The leaders all came past in a bunch in the following order: Martin, Emerson, Harveyson, and Kennedy. The veteran Harry Martin rode a splendid race. Result:

		Time.
1.	H. Martin (3½ Matchless)	8m. 53⅘s.
2.	H. R. Harveyson (3½ Indian)	—
3.	J. Emerson (3 A.B.C.)	—

The winner's speed was 67.47 m.p.h.

After leaving the start in the 750 c.c. scratch race Porter (A.B.C.) was leading, followed by Horsman (Norton), and Gayford (Zenith), an interval, then Chawner (Sunbeam), Davidson (Harley-Davidson), and finally S. L. Bailey whose Douglas was firing on one cylinder only. In the last lap Porter still further increased his lead, and the order remained unchanged. Porter was lapping at 73.23 miles an hour. Result:

		Time.
1.	E. Porter (3A.B.C.)	8m. 20⅘s.
2.	V. E. Horsman (3½ Norton)	—
3.	V. Gayford (6 Zenith-Jap)	—

The winner's speed was 71.88 m.p.h.

Next came the last of the ten-mile scratch races (up to 1,000 c.c.). Only five machines materialised, and of these Sawer's "X" broke a chain on the way to the start. Remington (N.U.T.-J.A.P.) was well away at the start, and led throughout. He was followed by Baldwin (Matchless), Garrett (Indian), and Newnham (New Imperial), who did not appear again. In the second and third laps the order did not change, but Remington forged further ahead.

		Time.
1.	E. Remington (8 N.U.T.-J.A.P.)	7m. 57⅕s
2.	O. Baldwin (8 Matchless)	—
3.	S. F. Garrett (7-9 Indian)	—

The winner's speed was 75.44 m.p.h.

The all-comers' three-wheel three-lap handicap was well supported, and resulted as follows:

		Start.	Time.
1.	H. Jepson (8 Zenith sc.)	1m. 3s.	8m. 6s.
2.	J. Chater-Lea (8 Chater-Lea sc.)	1m. 51s.	—
3.	C. Crossthwaite (5-6 James sc.).	3m. 3s.	—

The winner's speed was 60.09 m.p.h.

The final event was the all-comers' motor cycle handicap, distance three laps. The limit men, Longman, Henry, and McNab, all on Woolers, had repassed the starting line before the scratch man, Garrett (Indian), had been sent off. Result:

		Start.	Nett time.
1.	Violet Longden (2¾ Douglas)	3m. 39s.	9m. 21⅘s.
2.	A. Watson (2¾ Douglas) ...	3m. 39s.	—
3.	F. A. McNab (2¾ Wooler) ..	4m. 18s.	—

The winner's speed was 52.27 m.p.h. The first eight men finished within threequarters of a minute.

Lightweight Makes Fastest Time on Stile Kop.

A Hill-climb for Members of the Sutton Coldfield and North Birmingham A.C.

AN excellent half day's sport was provided by the Sutton Coldfield and North Birmingham A.C. last Saturday when several thousand motor cyclists journeyed to Stile Kop for the club members' hill-climb. Competitors in the motor cycle events were run off in pairs on the knock-out principle.

In the 250 c.c. class, G. Kuhn (Levis) beat F. Whitworth (Cedos) in the first round, and Newey (Levis) proved faster than F. Wilkinson (Cedos), while J. Johnson (Massey-Arran) secured a place in the second round by beating C. H. Hanwell (Cedos). This brought Kuhn (Levis), Newey (Levis), E. Smith (Cedos), and Johnson (Massey-Arran) into the second round, which resulted in wins for Newey and Johnson, who met in the final, the Levis rider taking first place, his time being 60⅕ secs.

A similar process of elimination was followed in the 300 c.c. event, Porter and Pugh, both on Levis machines, meeting in the final. The former won, his time being 57⅗.

Fastest Time of the Day.

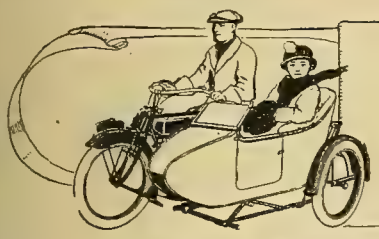
H. R. Davies, on his T.T. A.J.S., carried off the 350 c.c. class against Boston on a similar machine. In this event he made fastest time of the day, 46 secs.

The 560 c.c. event brought out some very "hot stuff" Nortons. The second round winners proved to be Boston (A.J.S.), Walker (Norton), Hassall (Norton), and W. E. Smith (Norton), while the third round resulted in a win for Walker, the event finally being won by Hassall (Norton), who also secured first place in the 750 c.c. class from Smith (Norton). In the unlimited class, however, Hassall had a partial seizure while going well, which gave the event to A. W. Thrush (Triumph).

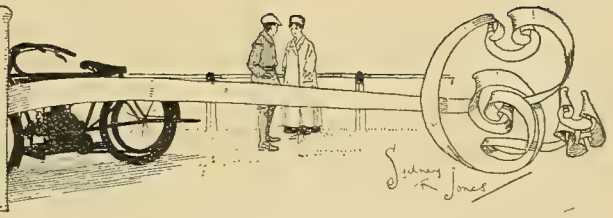
H. R. Davies (2¾ A.J.S.) also carried off both the sidecar events, his fastest time being 57⅗ secs. at a remarkable speed for so small an engine propelling a sidecar. A G.N. cycle car, driven by H. R. Godfrey, made fastest time in the two car classes included in the programme, its time being 51 and 50⅗ secs., the next best being G. Bedford (9.5 racing Hillman), who did the course in 55⅕ secs. in both events.

THE GRAND PRIX.

Three British entries have been notified for the Grand Prix of Le Mans, which is to take place on August 27th and 28th. These are D. S. Alexander and E. Kickham on 3½ Douglas and E. B. Ware (Morgan).



Activity in Clubland



Results of Speed and Reliability Trials organised by Provincial Clubs.

A Stiff Derbyshire Course.

The Loughborough Club recently held a trial over a sporting 120 mile course, including some of the stiffest country in Derbyshire. The route followed was to Ambergate Church, with a stiff non-stop section to Crick (lunch stop). Thence to Gorsey Bank, another severe climb, many failures occurring on the sharp gradient immediately beyond the watersplash. From Gorsey competitors proceeded to Green Hill, at Wirksworth, where many fine performances were witnessed. In the afternoon two exceptionally steep gradients—Riber Hill and Rowsley Bar—had to be negotiated, and on the first of these many competitors found their Waterloo. The club is indebted to members of the Mansfield and North Derbyshire clubs for their assistance in acting as marshals and observers. The following awards were made :

GOLD MEDALS, full marks.—W. Hadfield (4 Triumph), W. Chapman (6 A.J.S. sc.), and P. Strong (4 Norton sc.).

SILVER MEDALS.—Two stroke Class: H. J. Woodgate (2½ Clyno), E. Heggs (2½ Hobart). Four-stroke Lightweights: E. A. Evans (2½ Verus), A. Wadlock (2¾ New Imperial). Unlimited Solo: A. Roberts (4 Verus), H. S. Harvey (4 Blackburne). Sidecars: N. Dowland (7-9 Harley sc.).

One Retirement Out of Sixteen.

With three observed hills on a circuit of twenty-six miles, ridden three times in a sporting reliability trial held recently, by the Ilkley Motor Cycle and Light Car Club, only two riders out of sixteen failed to make clean ascents of each hill. Two of the observed hills, Beamsley Beacon and Snowden Bank, failed to eliminate any of the riders, and the only failures were at Church Bank at Blubberhouses. Here the difficulty lay in a sharp right hand turn at the foot of the steepest portion which prevented any approach at speed.

The route lay over the hilly country between the Washburn and the Wharfe, but, despite its hills and awkward corners, despite the trouble with sheep on the moorland ways and chars-à-bancs on the main roads, it was only by resorting to the timing for consistency riding that the various decisions were reached. Of the sixteen riders only one failed to complete the course.

H. W. Sellars (Calthorpe) won the President's Cup for the best individual performance, and the gold medal for the best sidecar or runabout performance. This, in spite of a puncture and the breaking of a water joint which cost him nine minutes on the last circuit. W. F. Scott (3¾ Scott) won the gold medal for the best solo performance. The certificate winners were as follow :

SOLO.—275 c.c., W. Reed (2½ Sparkbrook); 350 c.c., E. H. Webster (2¾ Diamond); 500 c.c., F. P. Denton (3½ N.U.T.); 750 c.c. and over, W. F. Scott (3¾ Scott).

SIDECAR.—750 c.c., C. A. Barker (3 Enfield); 1,000 c.c., H. W. Sellars (Calthorpe).

65 m.p.h. with V Twin.

The Westmorland M.C.C. held some very successful speed trials recently at Lowther Park, Lord Lonsdale's north country seat. The course, which was just over half a mile in length, had a splendid surface, and quite satisfactory times were made. The fastest time of the day was made by Hugh Mason (N.U.T.), who completed the course in 28 sec., at an average speed of 65 m.p.h. Several riders had narrow escapes at the bends, but fortunately no accidents occurred. In the solo classes many riders felt that they could have managed higher gears, but with the sidecars the experience was the reverse, the long pull at the finishing post being a strain on most of these machines. It will be observed the V twins won every event but that for 550 c.c. sidecars. The results were as follow :

350 C.C. CLASS.—1, Hugh Mason (N.U.T.), 32s.; 2, B. Houlding (Douglas), 36s.; 3, T. Lightbody (2¾ Douglas), 37½s.

550 C.C. CLASS.—1, Hugh Mason (N.U.T.), 28s.; 2, H. Russell King (A.B.C.), 29⅘s.; 3 (tied), J. Whalley (A.B.C.) and Guy Jeffreys (Norton), 30⅘s.

750 C.C. CLASS.—1, Hugh Mason (N.U.T.), 29⅘s.; 2, H. Russell King (A.B.C.), 29⅘s.; 3, J. Whalley (A.B.C.), 29⅘s.

UNLIMITED CLASS.—1, S. A. Marks (Indian), 29⅘s.; 2, J. Whalley (A.B.C.), H. Mason (N.U.T.), and H. Russell King (A.B.C.), all tied—30s. each.

In the deciding race Mason finished the course in 28⅘s., whilst Whalley occupied a second longer and Russell King came in third with 30s.

550 C.C. SIDECAR CLASS.—1, M. Parkinson (Norton sc.), 44s.; 2, W. G. Harrison (Sunbeam sc.), 45s.; 3, R. M. Chaplow (Scott sc.), 50s.

UNLIMITED SIDECAR CLASS.—1, S. A. Marks (Indian sc.), 36⅘s.; 2, R. O. Hodgson (Norton sc.), 38⅘s.; 3, Bryan Jeffreys (Norton sc.), 38⅘s.

A T.T. Winner Declines Award.

The official results, on time and formula, of the flying half-mile speed trials, held by the Worcester M.C.C. on the Gloucester Avenue, Madresfield Court, were as follow :

TIME.

Gold medal for fastest time of the day.—H. G. Cullis (2¾ Douglas). Eric Williams actually made the fastest time on his special Tourist Trophy machine, but in true sporting spirit retired, leaving the award to Cullis.

Scooters.—P. W. Barker, first-class certificate.

350 c.c.—H. G. Cullis (2¾ Douglas), first-class certificate; J. Westwood Wills (2¾ Verus) and M. Holland (2¾ Sudbrook), second class.

500 c.c.—C. L. Whatley (3½ Norton), first class; H. Moule (3½ Rudge-Multi), second class; R. W. Wickham (3½ Rover), third class.

750 c.c.—R. W. Wickham (3½ Rover), first class; H. C. Cullis (2¾ Douglas), second class; H. Moule (3½ Rudge-Multi), third class.

Unlimited c.c.—H. Moule (3½ Rudge-Multi), first class; F. Drew (3½ N.U.T.), second class; H. G. Cullis (2¾ Douglas), third class.

Passenger, 500 c.c.—M. Hadland (2¾ Sudbrook), first class.

Passenger, 750 c.c.—M. Hartland (2¾ Sudbrook), first class; H. Moule (3½ Rudge-Multi), second class.

Passenger, 1,000 c.c.—M. Hartland (2¾ Sudbrook), first-class; H. Moule (3½ Rudge-Multi), second class.

Passenger, unlimited c.c.—B. Bladder (8 New Imperial), first class; M. Hartland (2¾ Sudbrook), second class.

FORMULA.

Class 1.—P. W. Barker (Scooter), first class.

Class 2.—H. G. Cullis (2¾ Douglas), first class, H. Woodhall (2¾ Douglas), second class.

Class 3.—H. G. Cullis (2¾ Douglas), first class; C. L. Whatley (3½ Norton), second class; J. Westwood Wills (2¾ Verus), third class.

Class 4.—H. G. Cullis (2¾ Douglas), first class; J. Westwood Willis (2¾ Verus), second class; R. D. Wickham (3½ Rover), third class.

Classes 5 and 6.—H. G. Cullis (2¾ Douglas), first class; J. Westwood Wills (2¾ Verus), second class; R. W. Wickham (3½ Rover), third class.

Class 8.—O. K. Bevington (3¼ Sunbeam), first class.

Classes 9, 10, and 11.—M. Hartland (2¾ Sudbrook), first class; O. K. Bevington (3½ Sunbeam), second class.

Comparatively few clubs are able to hold local speed trials owing to the difficulty of obtaining a suitable speedway. The Nottingham and Dist. M.C.C. are fortunate in this respect. Competitors lining up for the start at the successful meeting held in Bestwood Park, the seat of Sir Frank Bowden. For results see "Club News" page.

CLUB NEWS.

Week-end Club Events.

July 24.—Sheffield and Hallamshire M.C.C. Bisley Trophy.
July 22.—Eastern Valley M.C.C. Wye Valley to Newport.
July 24.—Westmorland M.C.C. Fixed Gear Trial.
July 24-25.—Birmingham M.C.C. Run to Chepstow.
JULY 24.—LUTON AND S. BEDS. A.C. OPEN SPEED TRIALS.
July 24.—Public Schools M.C.C. Speed Trials.
July 24.—Southend and District A.C. Club run to Great Waltham.
July 24.—Bedford and District M.C. and L.C.C. Club Run.
July 24.—Edinburgh and District M.C. Speed Contest.
July 24.—Dublin and District M.C.C. Club Run.
July 24.—York and District M.C. Speed Trials.
July 24.—North Derbyshire M.C.C. Reliability Trial.
July 24.—Exeter M.C. and J.C.C.. Run to Fingle Bridge.
July 24.—Oxford M.C. Map Reading Trial.
July 24.—North Lindsey A.C. Run to Thirsk and Sutton Bank.
July 24.—North London M.C.C. Obstacle Race.
July 24-25.—Dewsbury and District M.C.C. Week-end run to Wales.
July 24.—Yeovil and District M.C.C. Reliability Trial.
July 24-25.—Yorkshire Club's Reliability Trial to London and Back.
July 24-25.—Worcester and District M.C.C. Join Birmingham Club at Chepstow.
July 25.—Stamford and District M.C.C. Run to Skegness.
July 25.—Sutton M.C.C. Run to Guildford.
July 25.—Ilkeston and District M.C.C. Run to Purfleet.
July 25.—Basingstoke M.C.C. Run to Hayling Island.
July 25.—Liverpool M.C. Club Run and Picnic.
July 25.—Loughborough and District M.C.C. Run to Oakham.
July 25.—Lancaster, Morecambe and District M.C.C. Reliability Run.
July 25.—Fleet and District M.C.C. Run to Pangbourne.
July 25.—Goldthorpe and Thurnscoe M.C.C. Run to Buxton.
July 25.—Bury and District M.C. Competition.
July 25.—North Lindsey A.C. Run to Sutton Whitestone Cliff.
July 25.—Essex M.C. Picnic, Kentish Hills.
July 25.—Stalybridge and District M.C. Social.
July 25.—N.M.C.F.U. (Wolverhampton). Run to Bewdley.
July 25.—Reading and District M.C. and L.C.C. Run to Egham.
July 25.—N.M.C.F.U. (Leeds). Run to Bridlington.
July 25.—Scarborough M. and M.C.C. Run to Harrogate.
July 25.—Eastbourne and District M.C. Reliability Trial.
July 25.—Woolwich, Plumstead and District M.C. Picnic.
July 25.—N.M.C.F.U. (Portsmouth). Run to Hangers.
July 25.—North-West Centre A.C.U. Inter-team Trial, Blake Cup
July 25.—Northern M.C. Run to Alnmouth.
July 27.—Ilkeston and District M.C.C. General Meeting.
July 27.—Lancaster, Morecambe and District M.C.C. Run to Knott End.
July 28.—York and District M.C. Run to Hawnby.
July 28.—Loughborough and District M.C.C. Run to Costock.
July 28.—Ilkeston and District M.C.C. Run to Ashbourne.
July 28.—Leeds and District M.C. Run to Copgrove Park.
July 28.—Rochester, Chatham and District M.C. Run to Chiddingstone.
July 29.—Yeovil and District M.C.C Crock's Hill-climb.
July 29.—Eastern Valley M.C.C. Secret Run.

Club News.—

Romford and District M.C.C.

It has been decided to form a motor cycle club under the above title, for Romford and District, open to all interested in motor cycling.

Particulars may be obtained from the hon. sec., George T. Carter, 37, Mildmay Road, Romford.

Marlow and District M.C.C.

An enjoyable run was recently held to Hampton Court and Bushey Park, but was somewhat marred by the weather. The club has accepted the invitation to participate in a rally organised by the North London M.C.C., to take place on August 8th, and it is hoped that all members will endeavour to turn out on that date.

Rochester, Chatham, and District M.C.C.

On August 2nd, the above club will hold a gymkhana on the Mathematical Ground, Rochester Esplanade, in aid of St. Bartholomew's Hospital. All motorists and motor clubs within reach are invited to enter, and a good programme has been arranged; there will be no entrance fees, and competitors can enter the majority of the events on the field. Prizes will be given for each event. All enquiries should be made to the hon. secretary, Mr. S. White, 34, Maidstone Road, Rochester.

Taunton and District M.C.C.

The reliability trial from Yeovil to Land's End, recently promoted by the above club, attracted sixty-two entries from the following clubs: Taunton, Yeovil, Dorchester, Sidmouth, Bournemouth, and Exeter. Fifty-seven competitors faced the starter and most of these completed the course.

Rain fell until Exeter was reached, and the going in places was very heavy. The two observed hills, Holne Chase and Newbridge, caused most of the competitors to lose time, but this was recovered before the next check. Thirteen machines failed to negotiate Holne Chase without assistance, and five had to be assisted up Newbridge. Results:

HARRISON HOTEL CUP, for best team performance.—Yeovil M.C.C. team, who lost no marks, and whose total error in time was 30s. The team were: P. W. Moffat (3½ Douglas), G. E. H. Fletcher (3½ Zenith), and M. D. Stirling (4 Triumph sc.).

SOLO PERFORMANCE.—1, P. W. Moffat (3½ Douglas); 2, G. L. Morrish (3½ Rudge). The following also completed the course without loss of time or marks: S. Goodman (4 Douglas) and F. Hewin (6 Bat).

LIGHTWEIGHT.—1, E. Wood (2½ Scale); 2, F. A. M. Dodd (2¾ Coulson-B).

SIDECAR.—1, P. Pike (3½ Coventry Eagle sc.); 2 (equal), M. D. Stirling and C. Taylor (both 4 Triumphs). The following also completed the course without loss of marks or errors in time: H. A. Pickson (6 A.J.S. sc.) and I. F. Anderson (7-9 Indian sc.).

SPECIAL PRIZE.—L. A. Comfort (2¼ Triumph).

York and District M.C.C.

The second annual reliability trial from York to Edinburgh and back, organised by the above club, will be held on August Bank Holiday. Starting from York Minster at 12.1 Sunday midnight, the coast route will be followed to Edinburgh, and competitors will be due back at midnight on Monday, August 2nd. All classes of motors from scooters to cars are eligible to enter, and valuable cups will be awarded in the various classes. The trial hon. secretary is Mr. F. E. Wasling, 22, Blake Street, York.

Northern M.C.

In lieu of a badge the above club has adopted a green pennant. The name of the club is embroidered thereon in gold, and a special attachment is included so that the pennant can be affixed to the number plate.

In spite of adverse weather, a most successful run to Whitby was recently made, the club leaving Newcastle on the Saturday and returning the following evening.

Stamford and District M.C.C.

At a recent meeting of motor cyclists in Stamford a new club was formed entitled "The Stamford and District Motor Cycle Club," with headquarters at the Crown Hotel, Stamford. In order that activities might be commenced as early as possible, the officers of the club were appointed by those present, who all signified their intention of becoming members. All interested in the formation of the club, which will have social and sporting events every week-end, are invited to communicate with the hon. secretary, H. L. Simpson, Brockenhurst, 4, Emlyn St., Stamford.

Nottingham and District M.C.C.

The results of the speed trials held recently in Bestwood Park were as follow: Class 1, under 500 c.c., solo on forumla: 1st G. W. T. Hartwell (3½ Norton), 2nd Reg. Lucas (3 A.B.C.), 3rd H. Russell (3½ Brough). Class 2, over 500 c.c., solo on formula: 1st G. W. T. Hartwell (3½ Norton), 2nd H. Russell (3½ Brough), 3rd N. C. Saward (3½ Rudge). Class 3, unlimited passenger machines in formula: 1st G. W. T. Hartwell (3½ Norton sc.), 2nd H. R. S. Birkin (D.F.P.), 3rd D. R. King (4 Norton sc.). The fastest times were made by H. Russell (3½ Brough) 29 3-5 secs., G. W. T. Hartwell (3½ Norton) 30⅖ secs., and Reg. Lucas (3 A.B.C.) 32⅖ secs.

Birmingham M.C.C.

The results of the Birmingham M.C.C. reliability trial to Llangollen and back, a report of which was published recently in *The Motor Cycle*, were as follow:

WINNERS OF GOLD MEDALS FOR BEST PERFORMANCE IN THE VARIOUS CLASSES: G. Denley (2½ Velocette), H. O. Hayes (3½ Sunbeam), J. H. Walker (4 Triumph), W. T. Woodcock (3½ Ariel sc.), F. W. Giles (6 A.J.S. sc.), and G. T. Baragwanath (4 Triumph).

SILVER MEDALS: W. Bown (Bown-Villiers), H. J. Egginton (3 Enfield), H. C. Jennens (3½ James), B. Kershaw (3 Verus), E. H. Seymour Tye (3½ Rover), W. A. Egginton (3½ Sunbeam), R. F. Cooke (4 Triumph), T. C. Bowen (4 Triumph), H. H. Peters (4 Triumph), H. Davies (4¼ B.S.A.), A. E. Rollason (3½ Ariel sc.), R. E. Pugh (2½ Levis sc.), J. G. Orford (2½ New Imperial sc.), A. H. Edwards (4¼ James sc.), E. W. Winkle (6 A.J.S. sc.), W. E. Emery (4 Rex sc.), T. F. Watson (4 Norton sc.), H. H. Timson (4 Triumph sc), H. H. Saddington (5-6 James sc.), H. Boynton (5-6 James sc.), H. P. Cutler (5-6 James sc.), H. A. Pattman (4 Norton sc.), and H. Riley (6 A.J.S. sc.).

BRONZE MEDALS: J. Buckley (2½ Velocette) and A. H. Haden (2½ New Comet).

North-west London M.C.C.

Owing to the fact that old North West London Motor Cycle Club has resumed its activities, the newly founded club with this title is changing its name in order to avoid any possible chance of confusion.

On the 25th inst., a gymkhana and flying meeting is being arranged for at the Central Aircraft Co.'s Northolt Aerodrome. The new name of the club will be announced as soon as a general meeting has decided on this.

With regard to the original North West London Club, activities were suspended only on account of the war, and, as many members have been scattered over the Empire, no active work has been undertaken until recently, when all members have had full opportunity of returning home.

The hon. sec., Mr. H. J. Pooley, 23, Clifton Avenue, Finchley, N.3, would like all old members to communicate with him.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Fitting New Valve Guides.

Being desirous of fitting two new valve guides to my B.S.A. engine, will you please tell me (1) if I shall experience any difficulty in removing the existing guides? (2.) Is there any fear of fracturing the cylinder? (3.) In fitting new guides, will they fit so well that I shall have no trouble with the faces of valve and pocket? I shall procure B.S.A. guides, and, being a skilled mechanic, though not possessing any machine tools, wondered whether I shall have a disappointing result.—E.M.

(1.) It is unlikely that you will have any great difficulty in removing the valve guides. (2.) If the guides do not come out with gentle tapping, it would be advisable to arrange some form of drawing tool, using a long bolt and nut and a bush, and then there will be no danger of cracking the cylinder. (3.) The new guides should be a perfect fit when received from the makers.

Enfield Gear Adjustments.

(1.) My machine is fitted with Enfield gear, and I have covered about four hundred miles on it. How do I oil the gear without taking off the aluminium chain cover, as there seems to be no special injecting orifice provided except one for oiling the chains near the engine-shaft? (2.) Should I require to dismantle the gear, etc., must I remove gear handle and rod if I take off the cover? If so, please inform me as to the correct method of removing. (3.) How is the tension of the gear chains adjusted? Should they be slack? Is it better to leave them fairly slack?—W.C.

(1.) Lift the gear handle against the spring, and turn it away from the pinion over which it fits. This latter can then be lifted out and the orifice filled with oil, which will soon make its way into the gear, when the pinion can be replaced. (2.) To dismantle when new, cam is required to be brought into action, take off cap, turn handle to extreme low gear position, take out the small screws round gear cover, and remove this; the three-cam operating piece can then be withdrawn. This should not be necessary for many months. (3.) The chain adjustment of front chains is controlled from the right-hand side. Loosen nut in quadrant and loosen lock ring; the countershaft barrel can then be rotated and front chains adjusted. Do not have them too loose, but, what is more important, there must be no tight spot.

Noisy Driving Chain.

Can you tell me (1) how to silence the screech of the countershaft chain on a 1919 2½ h.p. Sparkbrook? The chain has always been noisy. It sags about ¼in. when pressed down. Is that the correct tension? (2.) After riding the machine I get oil on my left leg. Where can I buy leg shields to stop this, or can you suggest some better method?—G.M.

(1.) The noise arising from the driving chain is probably due to wear between the rivets and the rollers, and we cannot suggest any cure if this is so. We take it, of course, that the chain is not rubbing against any stationary part of the machine. Perhaps the condition of the chain would be improved by allowing it to soak in a mixture of melted grease and graphite for a few hours. (2.) There are no shields on the market such as you require. It should be quite easy to improvise one, however, from sheet steel or aluminium, securing it to the footrest or footboard.

Legal Action Inadvisable.

I should be much obliged if you would give me the following information. I purchased a B.S.A. outfit, recently advertised, giving £100 for it. The side-car was leaning slightly over towards the machine. I remarked about this to the owner, and he said it was set like that. Going out on the outfit in the evening of the day it was bought, I noticed it leaned more when rounding corners, so I examined the chassis and found that one of the connections was broken, the parts being quite rusty. Can I make the late owner pay for repairing it?—R.R.

Unless the machine was sold to you under a definite guarantee as being in perfect condition, there is very little possibility of your obtaining satisfaction from the late owner. In any case, the amount involved in the repair of the broken connection would be so comparatively small that it would not be worth while incurring legal expenses in recovering it.

ONE OF THE WORST HILLS IN THE SCOTTISH TRIALS.

Kenmore was conquered by all competitors but ten, and considering the atrocious surface and bad bends the performances were good. A solo rider using both feet on the corners.

A Racing Engine.

I am thinking of rebuilding a small one-cylinder engine (350 c.c.) with o.h. valves, and I should be very glad of your advice on the following points: (1.) What compression ratio would you advise, remembering that this engine is to be used *solely* for short sprint work, and is to be very adequately cooled? (2.) I intend to use the cams from a 1920 6 h.p. J.A.P. engine (as I rather think the valve-contour will take some beating). What valve timing do you suggest? I shall be able to plot out the exact timing chosen, but once fixed, I shall not be able to depart from it. (3.) Is the ideal sprint engine suitable for speed-hill work, gear ratio being carefully studied, of course? —S.S.D.

Without definite knowledge of the design, we cannot give you the ideal compression ratio: it would probably lie between 80 or 90 lb. per square inch. If you intend using the valve cams from a J.A.P. engine, you cannot vary the timing other than by altering the shape of the contact faces of the rockers. The actual timing, of course, largely depends upon the design of the cylinder, the induction and exhaust passages, and the valve areas. You might try the following: inlet valve opens top dead centre and closes 10° after bottom dead centre. Exhaust valve opens 45° before bottom dead centre and closes 5° after top dead centre. A high compression, high efficiency, engine would be the most suitable for short speed hill-climbs.

Economy, Speeds, and Lubrication.

(1.) What are the most economical speeds of single-cylinder four-strokes in general? (2.) Would a hot air intake reduce fuel consumption to a sufficient degree to make it worth the trouble of fitting it? If so, how could I arrange it on my 4 h.p. Triumph, having a Triumph semi-automatic carburetter? (3.) Is it advisable to run at a slower speed (on top gear) than 12 m.p.h.? If I close the throttle to run at a lower speed the engine labours and snatches badly at the transmission. (4.) What are the immediate signs of under lubrication? It is rather a bugbear to me in case oil might not be reaching the engine all unknown to me, and I want to know the first thing to look for. (5.) What is "knocking" exactly? What is it that actually happens to cause that metallic ring? Is it harmful to the engine? Ought not closing of the air lever, and/or retarding spark immediately to stop it?—M.J.

(1.) Your query is not quite clear. The maximum efficiency of the internal combustion engine used on motor cycles is obtained at a fairly high number of engine revolutions. At low speeds the power output, in proportion to the fuel consumed, is not so good as it is when the engine is revolving at from 1,800 to 2,200 r.p.m., but in ordinary running you will find that the overall economy of the machine is best at from 20 to 25 m.p.h. (2.) It is very unlikely that a warm air intake would appreciably reduce the fuel consumption of your machine. (3.) It should be possible to run on the level at about 9 or 10 m.p.h. on top gear, but it is really much better to change into second gear than to attempt to do this for any distance. (4.) If the engine is badly under-lubricated, the power will fall off, the cylinder will become unduly hot, and the engine will knock when under heavy load or when accelerating. You should have no uneasiness with regard to the delivery of oil to the engine, as the resistance of the oil in the pump can be felt when the plunger is depressed. One pumpful per six or eight miles normal running should suffice. (5.) Knocking or konking is the result of the spark occurring too early in the compression stroke for the particular engine speed at the moment. The noise is caused by the hammering of the bearings as the flywheel forces the piston against the increasing pressure of the exploding gases. The spark should be retarded before the engine commences to knock and the air lever should be closed slightly.

READER'S REPLY.

A Technical Question.

If "E.W.B." requires maximum power at low speeds I would suggest that he adopts the following valve timing: exhaust to close between 30° early and top dead centre; inlet to close between 30° early and bottom dead centre. The opening positions may be disregarded.—J.T.B. (Colne).

RECOMMENDED ROUTES.

WHITEHAVEN TO BLACKPOOL.

Whitehaven, Cockermouth, Keswick, Cumbleside, Kendal, Lancaster, Garstang, Poulton, and Blackpool.

TORQUAY TO NOTTINGHAM.

Torquay, Exeter, Taunton, Bridgwater, Wells, Bath, Stroud, Cheltenham, Winchcombe, Broadway, Stratford, Warwick, Rugby, Leicester, and Nottingham.

PLYMOUTH TO SUNDERLAND.

Plymouth, Exeter, Taunton, Bristol, Gloucester, Evesham, Birmingham, Lichfield, Derby, Chesterfield, Sheffield, Leeds, Ripon, Northallerton, Darlington, Durham, and Sunderland.

IMPORTANT DATES.

Sat., July 24th—
Luton and South Beds. A.C. Open Speed Trials at Luton Hoo.

Sun., July 25th, to Aug. 1st—
International Six Days Trial in France.

Thurs., Aug. 5th. to Mon., Aug. 9th—
Anglo-Dutch Trial in Holland.

Sat., Aug. 7th—
East Midland Centre A.C.U. Open Speed Trials at Chatsworth Park

Sat., Aug. 7th—
S.A.C.U. Inter club Meet at Callander.

Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.

Sat., Sept. 4th—
Scottish Speed Championships at St. Andrews.
Scott Trial in Yorkshire.

Nov. 29th Dec. 4th—
Olympia Motor Cycle Show.

SPARKLETS

The Ilkley Trial.

H. W. Merrall, who rode an A.B.C. in the Ilkley trial, has been awarded a third-class certificate.

Stimulating Overseas Efforts.

A handsome silver trophy has been presented by the Leicester Rubber Co., Ltd., to their agents in Denmark, to be competed for in an annual trial in that country.

A Removal.

Burney and Blackburne, Ltd., wish to give notice that they have concentrated their administrative and selling departments at 38, Conduit Street, Regent Street, W.1, where all communications should be addressed.

More Lighting Dynamos.

We are informed by the makers of F.R.S. lamps that their new dynamos for motor cycles and cars are in an advanced stage, and will shortly be possible to give delivery of these.

Liverpool Garages.

Motor cyclists arriving late in Liverpool will find the city inhospitable in the way of garages. There seems to be no accommodation for motor cycles after business hours. We were recently compelled to take a machine across the Mersey, where, behind Hamilton Station, Horn's all-night garage was located.

About Carburetters.

We have received from Messrs. Charles H. Pugh, Ltd., Whitworth Works, Wilton Road, Birmingham, the latest booklet describing the 1920 Senspray carburetter, which should be of great value to Senspray users. Readers interested are invited to write to Messrs. C. H. Pugh for a copy.

Of Interest to Manufacturers.

The makers of a well-known make of carburetter are anxious to get into touch with a firm of manufacturers able to produce complete carburetters to the said firm's specification and drawing. Those interested should address letters, marked "Carburetter," c/o the Editor, *The Motor Cycle*, 20, Tudor Street, London, E.C.4, when they will be forwarded without delay.

A Norton Expert.

Mr. D. R. O'Donovan, the well-known exponent of Norton machines on Brooklands track, is shortly opening premises at 76a, Great Portland Street, London, W.1, where he will act as official repairer to, and agent for, Norton motor bicycles. He is undertaking to tune up a limited number of second-hand Nortons, and those who would like this work carried out should make early application. He is also contemplating taking up other agencies.

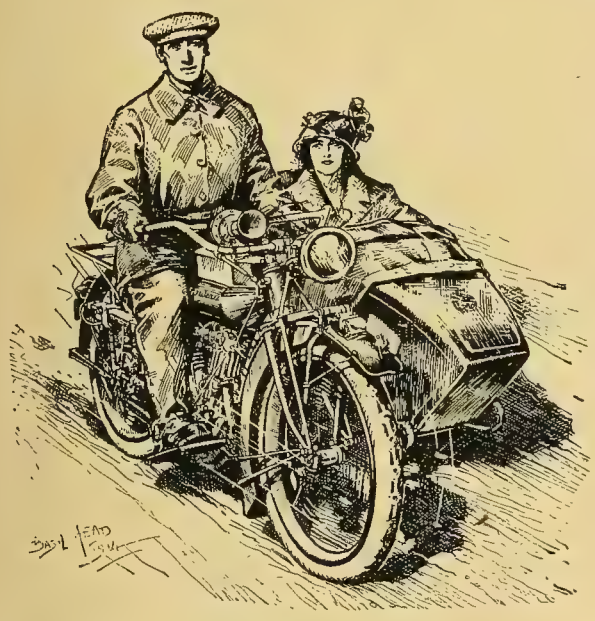
100% UP!

The Transport Ministry have notified the Railway Rates Advisory Committee that they desire to increase railway fares not later than August 1 in order to take advantage of the holiday traffic, and the Minister has requested the committee to let him have their recommendations some time before that date.

It appears that the committee will probably recommend an increase of passenger fares of 33 1-3 per cent. on existing rates, which will bring railway fares to exactly double what they were before the war.

The Minister of Transport desires to net a large revenue from the holiday-going public, as otherwise he fears it will be impossible to wipe off the deficit on this year's working.

Extract from "The Daily Mail."



TWO UP
ON THE INDIAN.

Godfrey's can supply you with just the Combination you want.

Call and inspect their large stock of new machines and sidecar outfits.

If unable to do so write for full lists.

EASY TERMS ARRANGED IF DESIRED.

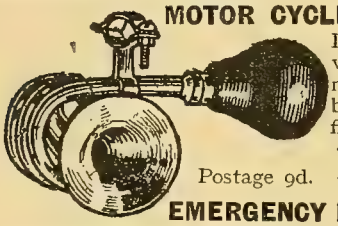
'PHONE: 7091 MAYFAIR. (2 lines)

GODFREY'S LTD.,
208, GT. PORTLAND ST., LONDON, W.1.

BENETFINKS

"The City's Own Store."

Motor Cyclists instinctively turn to our weekly column of specialities, knowing the value we offer.



MOTOR CYCLE HORNS.

Double twist, very deep note, large bulb, nickel finish. Price

Postage 9d. **10/9**

EMERGENCY LIGHT

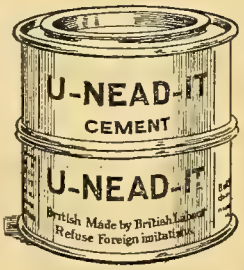
Burns Petrol. A handy little lamp you can carry in your tool bag, and if you run out of carbide fill with petrol from your tank and clip on to burner. Will last two hours. Price, post free **3/9**

A WONDERFUL SUCCESS!

U-NEAD-IT!

A Real Economiser. Have you tried it? The Tyre Stopping that will not come out.

REPAIRS Punctures in Tubes and Cuts in Covers.

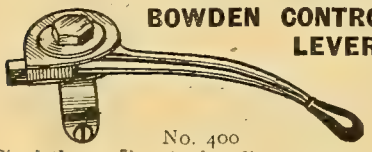


U-NEAD-IT! MOTOR CYCLE OUTFIT consists of preparatory solution and cement in patent combination tins.

Price, post free **3/-**

N.B.—Free demonstration at our Store.

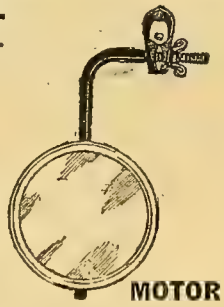
No Motor Cyclist should be without it.



BOWDEN CONTROL LEVERS.

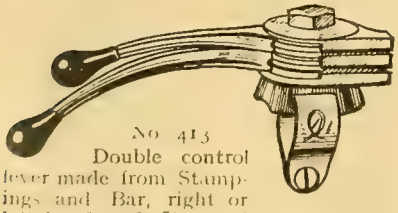
No. 400 Single lever, ⅞in. or 1in. clip, straight or curved handle, length of lever 5in. Price **8/4**

Postage 9d.



MOTOR CYCLE MIRROR.

British made, fully adjustable 4in. convex glass, giving wide range of vision. Oxydised finish, will fit any handlebar. Post free **7/6**



No. 413 Double control lever made from Stampings and Bar, right or left hand to fit ⅞in. or 1in. bar. Price, post free **17/-**

BOWDEN MOTOR CYCLE FRONT RIM BRAKES in stock. Lightweight **28/9**. Heavyweight **48/3**, post free. When ordering state make and h.p. of machine and date of manufacture.

BENETFINKS, 107, CHEAPSIDE, LONDON, E.C.2.

Comfort in the long run

Speed, Power, Strength, and Comfort are moulded together in the building of the M.T. S. Type.
The Power Unit has an inbred love for speed and climb.
The Gears are simple, flawless—reliable.
The All-Steel Frame gives strength, and the entire machine is smart sound, and comfortable.
Bad roads, long hills, don't worry the M.T. rider—he's confident, comfortable, and secure.
The M.T. is the All-Purpose, All-Weather Mount, it should be *your* mount.

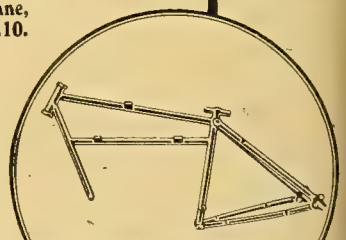
Write us for particulars.

Metro-Tyler

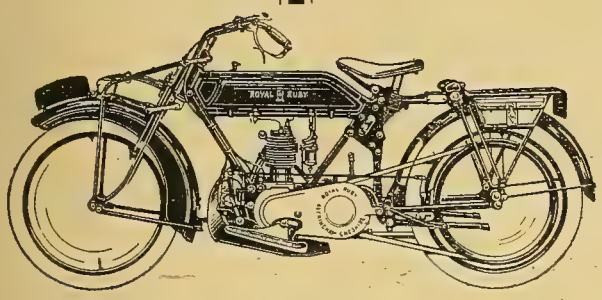
TYLER APPARATUS CO., LTD.,
Banister Rd., Kilburn Lane,
North Kensington - W.10.

Telegrams:
'Tylemalco, Phone, London.
Telephone:
Willesden 1356 (2 lines).

The M.T. S. Type Frame is All-Steel—
No malleable iron lugs are used—
It's joints are welded together, giving abnormal strength.



M.T. FRAME ALL STEEL.



It's Easy to Sell

a motor bicycle, but it is only possible to sell more by selling a first-class article. We make every rider of a

ROYAL RUBY

an agent for more sales by his own recommendations.

The Royal Ruby is a real spring-frame which allows the rider to ride without vibration. Enquire into its merits—the machine for which everyone has been looking.

Price £120 Nett Cash

Write for address of nearest agent

THE RUBY CYCLE CO., LTD., ROYAL RUBY WORKS, ALTRINCHAM.

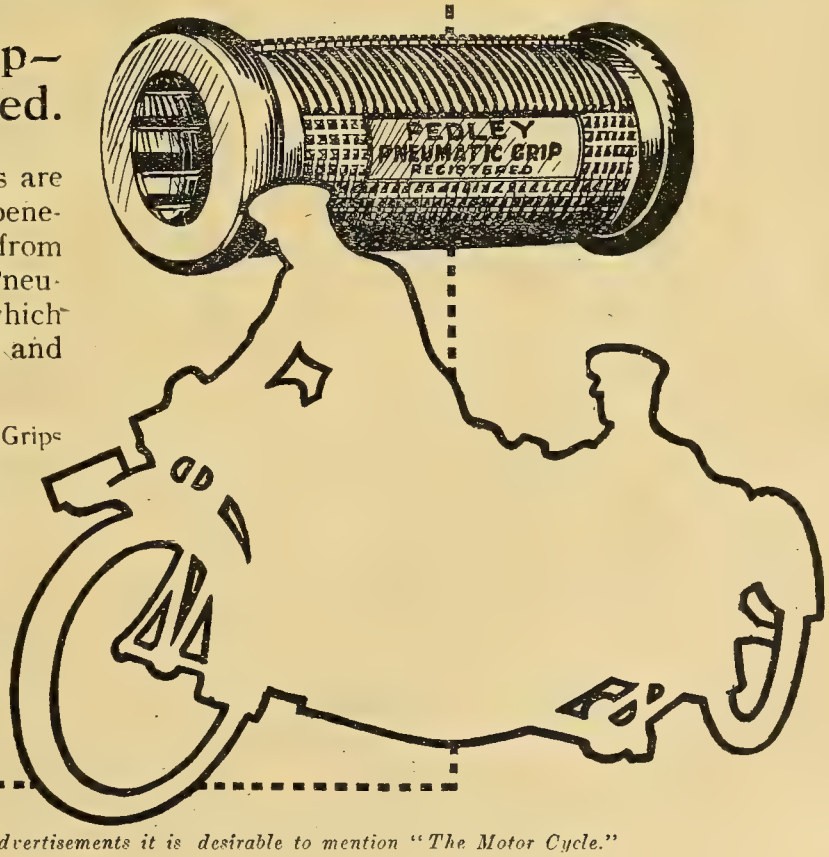
Manufacturers and Patentees of Royal Ruby Motor Cycles, Cycles, and Sidecars.

Telephone: Altrincham 655 (4 lines). *Telegrams: "Machines, Altrincham."*

This is a real Grip—the Grip you need.

MOST motor cyclists are now aware of the benefits to be derived from using the Pedley Pneumatic grips—the grips which have eliminated tired and aching wrists.

Naturally, the sale of Pedley Grips has increased enormously but we are again in the happy position of being able to give our usual prompt delivery. You should get in touch with us



J PEDLEY & SON. LTD
Oxford Works, Birmingham.
London Address: 30 Holywell Lane
Great Eastern Street. E.C

HERE IS

THE FAMOUS

KICK-STARTER MODEL

GRADO Multi-Gear

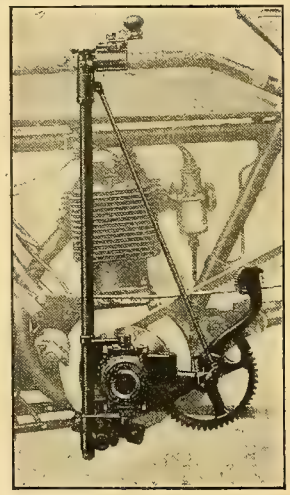
WITH FREE ENGINE

JUST THE THING
for motor cyclists with single gear machines.

Gives gear ratios from 4 to 1 to 8 to 1 free engine, and kick-starter.

Think what it means to be able to start your engine from the saddle.

IN TWO HOURS
the pulley can be fitted by anyone to Triumphs, Bradburys, Precisions, Nortons, B.S.A., N.D.C., etc.



PRICES for 1920 Kick Starter Models.

We can now supply for J.A.P. and other engines requiring a recessed pulley.

For Machines up to 4½ h.p., **£12 0 0** Postage, 4/6 extra
For Machines up to 6 h.p., **£12 10 0** Postage, 4/6 extra
Special Models for Jap Engines, 10/- extra.

Full instructions for fitting supplied with each pulley.

Delivery from Stock.

THIS MODEL IS FOR

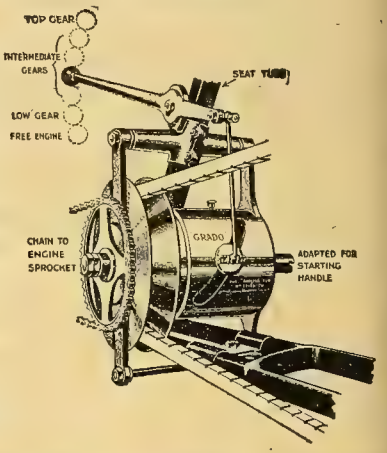
TWO-STROKE MACHINES

with Outside Flywheels.

THE . . GRADO

Countershaft Chain-cum-Belt variable Gear, with handle to start, gives you a free engine and any gear. Can be fitted in two hours to any machine.

It is the finest Gear ever made.



Price, all complete with chain, sprocket, adapter, etc., £12 0 0.

ORDER TO-DAY.

GRADO LTD., Pershore St., BIRMINGHAM.

CYLINDER CASTINGS.

BELGIAN CASTINGS ARE THE BEST.

TO MANUFACTURERS—

Production Increased and Scrap Reduced to a Minimum.

Ask the man who machines and compare the output.

GREINER FRERES, BRUSSELS.

Sole British Agent for Automobile Trade.

R. H. SYMONDS,

Army and Navy Mansions, 109, Victoria St., S.W.

Can deliver without delay, and respectfully solicits enquiries which shall receive prompt and careful attention.

THE MARVEL OF BRITISH MOTOR CYCLE PRODUCTION.

A MOUNT FOR THE MILLION.

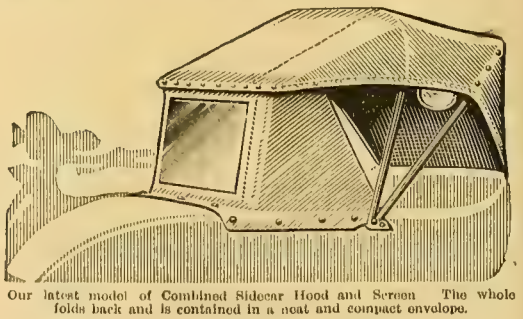
48

GUINEAS.

STARTS EASILY, GOES ANYWHERE.

Trade Supplied.

F. J. YOUNGS, 2, The Parade, High Road, KILBURN, N.W.6.



Our latest model of Combined Sidecar Hood and Screen. The whole folds back and is contained in a neat and compact envelope.

W. D. TALBERT & CO.,
46 and 48, Sun Street, LONDON, E.C.2

EX GOVERNMENT MOTOR CYCLES.

Douglas $2\frac{3}{4}$ h.p. Douglas 4 h.p.
P. & M., Clyno, etc.

Motor Cycle Agents desirous of purchasing some of the above machines, at prices to show them a good profit after renovation, should communicate at once with

CRABTREE & SON, LTD.,
or BURLINGTON MOTOR CYCLE CO., LTD.,
Royal Hotel, SLOUGH.

DOUGLAS $2\frac{3}{4}$ h.p.

Reconstructed Government machines, thoroughly overhauled, re-enamelled, and replated, tanks in makers' colours. Guaranteed as good as new machines. Many machines for immediate delivery.

Price £65 each.

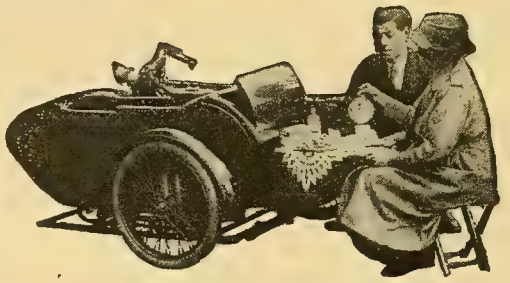
Special quotations to the Trade.

CRABTREE & SON, LTD.,
Motor Engineers, WISBECH.

Langford Model Supreme

"The Picnic Sidecar"

THE LAST WORD IN LUXURY



SPECIFICATION.

Solid welded Frame, Spring Shock Absorbers to Sidecar Wheel, Transfer Spring. With New Design four-point Easy Attachments. Beautifully finished Coach Built Spacious Body, with Bulbous Back and Rounded Pillows, and fitted with Luncheon and Tea Cabinet for two, Camp Stools, Locker for Petrol and Oil, Patented Design, finished any Colour. Delivery within 14 days. Write or Call for Catalogue. Agents, Foreign and Colonial Shippers invited.

THE LANGFORD SIDE-CAR BODY AND CHASSIS COMPANY, LIMITED,
NORBURY WORKS, LONDON ROAD, NORBURY. S.W.16

A SPECIAL LINE IN MOTOR CYCLING OVERALLS.

We have no hesitation in claiming that this "Draperstyle" Motor Cycling Overall has no rival at its price. Made from a special stout dark fawn material, absolutely dust proof, and specially proofed to give adequate protection against showers. Satisfaction guaranteed or money refunded in full.

Description of Model O50
Special line in Motor Cycling Overalls, made from stout dark fawn material which is absolutely dust proof, and which has been specially proofed so that if you get caught in a shower it will give adequate protection. The Jacket is double breasted, and the sleeves are made with storm straps at wrist. Slash pockets. The Leggings are made with special gusseted sides and leather straps to go under the boot.

"All British" Factory Prices:

31/6

the Suit Complete.

STOCKED IN SIZES:—Breast over Jacket 34 36 38 40 42 44 in.

Carriage paid to your door.

WEATHERPROOF BOOKLET FREE.

Our new booklet of weatherproofs and waterproofs should be in the hands of every motor cyclist. Contains complete range of garments at direct-to-wearer prices. Send postcard for a free copy.

We are offering some special lines in Overalls in Blue Dongaree and Brown Denim for Mechanics, and which are also very suitable for Gentlemen owners of Cars and Motor Cycles. A copy of our Special Overall Booklet sent free on request.

ERNEST DRAPER & CO., LTD.,
54, "All British Works," NORTHAMPTON.

Norwell's 'Perth' Brogues

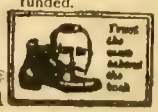
"Direct from Scotland."

For the links, the hills, the open country, the shore, there is no finer footwear procurable.
The sound principles of Scotch brogue-building are carefully adhered to by Norwell craftsmen working with the finest leather obtainable. Exclusive cut and distinctive smartness are as characteristic of Norwell Brogues as their durability and comfort. **The "Byng" (No. 50a).** Is a cleverly made shoe for gentlemen. Uppers of Zulu calfskin. Best butt leather soles, black & brown.

Special Clearance Price **47/6**

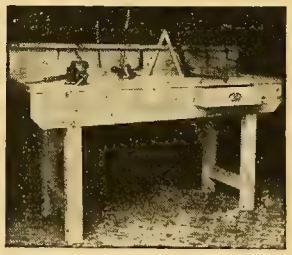
When ordering give name or number required.

Orders are sent post free in Britain, postage abroad extra. Should dissatisfaction arise the purchase money will be fully refunded.



Write for Illustrated Catalogue to
NORWELL'S 'PERTH' FOOTWEAR, Ltd.
Perth, Scotland.

The "IDEAL" Bench



as shown is just the thing for Motor Cyclists for doing home repairs. It is rigid, well braced, made of special seasoned timber, well planed and fitted, will easily fold up, and can be carried anywhere. Bolts, etc., all ready for quickly erecting. Suitable where room is limited. A good drawer and tool rack provided. Made in three sizes.

PRICES: 4ft. **£3 5** 5ft. **£3 10** 6ft. **£3 15**
all by 18 inches wide. Carriage paid to nearest Railway Station.
Parallel vice, 2½in. jaw, 15/6 extra.

OLDFIELD & HOUTBY, Wellington Street, LINCOLN.

MASS PRODUCTION AS IT SHOULD BE,

O.K.—JUNIOR

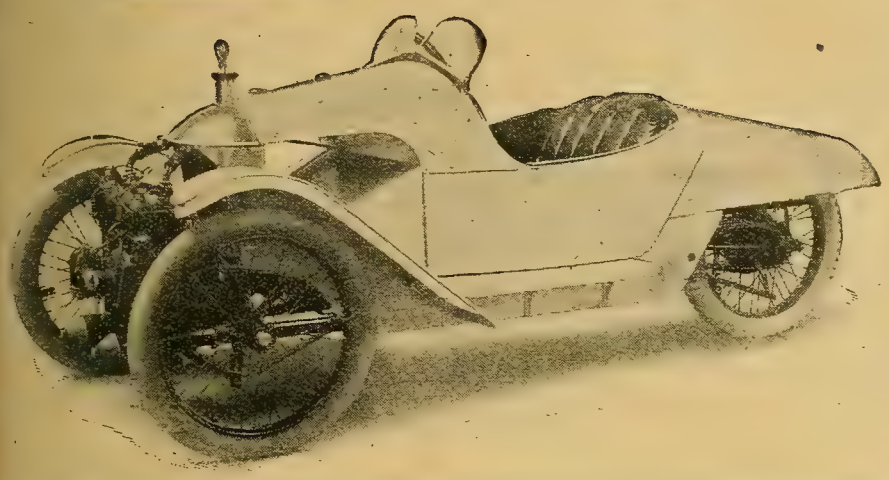
The motor cycle that is being produced in hundreds per week and British throughout.

48 GUINEAS.

COME AND TRY ONE.

TOM DAVIES, 229, Deansgate, Manchester.

Morgan Runabout



was the only Light Car or Cycle Car to obtain a

Gold Medal

in the

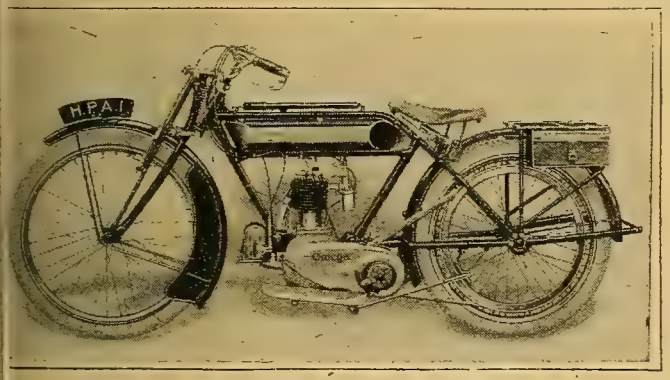
Scottish Six Days

(driven by Private Owner).

Morgan Motor Co.,

Ltd.,

Malvern Link.



Model "C," with Clutch and Kick Starter.

Acceleration—

¶ If you need increase in acceleration, in power, in speed and flexibility—you need an OMEGA, "The Sporting Solo Single."

¶ The OMEGA never labours, never lags when you try to get away suddenly—open out the OMEGA and feel how she pulls right away, whether you're jogging along at 10 miles an hour, or humming along at 45. That's what we call OMEGA ACCELERATION—flexibility—power—an exclusive OMEGA advantage.

¶ *Get an OMEGA—and get the advantage.*

Write TO-DAY for Catalogue.

W. J. GREEN, Ltd., COVENTRY.

London Agents: Bartlett's, 93, Great Portland Street, W.

OMEGA

"The Sporting Solo Single."

In answering these advertisements it is desirable to mention "The Motor Cycle."

B35

'SPEEDWELL' MOTOR CYCLE OILS

Be ahead of the times and use Super Oils.

Some Recent Success :

1920
May 20—**14 Records broken at Brooklands by D. R. O'DONOVAN on 3½ Norton and Sidecar.**
June 5th—Ilkley Open Reliability Trial.
GOLD MEDAL
H. PATTINSON on New Imperator and Sidecar.
June 25—National Motor Cyclist Fuel Union Hill Climb at Leathley Bank.
HIGHEST AWARD.
H. PATTINSON on 4 Triumph and Sidecar.

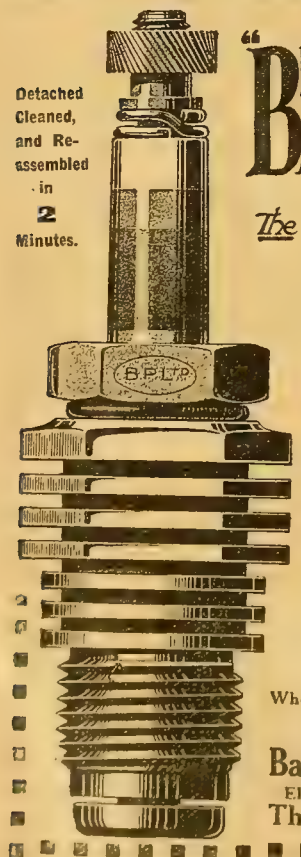
1920
June 25-26—24 Hours Reliability Trials of Dublin and District M.C. Club. TWO GOLD MEDALS.
DENE ALLEN on NORTON.
W. WILHELMJ on MATCHLESS.
July 3—Motor Cycle Union of Ireland (Ulster Centre)—Magilligan Speed Trials.
50 MILES CHAMPIONSHIP OF IRELAND.
First—S. J. REDMOND, Dublin, on INDIAN.
Second—J. W. SHAW, Belfast, on NORTON.

GRADES USED
"SPEEDWELL" C. (Air-cooled) OIL.
"SPEEDWELL" GRANDE VITESSE (Heavy Air-cooled).
NOTE—These were not specially prepared racing oils but just our usual grades.

REGISTERED TRADE MARK.

Sole Manufacturers :
The British Oil & Turpentine Corporation. Ltd.,
55 & 56, Chancery Lane, London, W.C.2.
Branches : Glasgow and Aberdeen

Detached Cleaned, and Re-assembled in 2 Minutes.



The "BRADFORD PLUG" by BARRACLOUGH PARKER LTD
The Plug with entirely new features

MICROMETER ADJUSTMENT

ALL MICA INSULATION

Motor Cycle Pattern TYPE "MA"	Car Pattern TYPE "MW"
7/-	6/-

When ordering please state make of motor cycle or engine.

Barraclough-Parker Ltd.
Electrical & Mechanical Engineers,
Thornton - BRADFORD

CONFIDENCE

The joys of motor cycling will always be enhanced if the rider has complete confidence in the control of his machine.

If he FEELS safe his full enjoyment awheel is far more likely to be realised, and—

If his machine is equipped with "BOWDEN, Tyseley" Brake and Control Fitments he will BE safe and ready for the steepest hill or any emergency likely to be encountered on the road.

BOWDEN BRAKE Co. Ld.
Tyseley, B'HAM.

Bowden Tyseley

Acmeisms (No. 10)

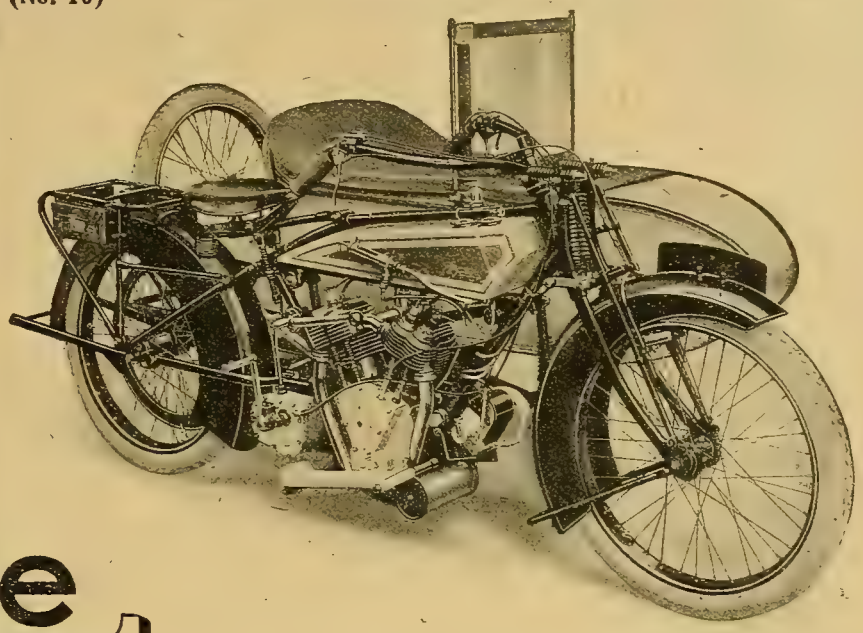
"Well-bred people discuss things, not people."

xactly, whilst not wishing to enter to any discussion about people, we sist on discussing the merits of the Acme" Motor Cycle. Built as a otor cycle should be, designed in ery detail, perfect in every part—The machine of no regrets." Cat-ogue list is yours for the asking

8 h.p. Twin-cylinder.

ree-speed Gear Box.
x 3" Detachable Interchangeable Wheels.
manent Sidecar connections.
ich-built Sidecar.
ntilever Sp inging, etc.

rice £190-0-0 nett
+ 12½%.
Complete Combination, Spare Wheel included
(Get a copy of the specification now.)



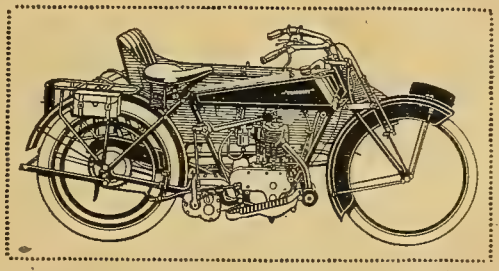
8 h.p. Twin-cylinder "Acme" Combination.

Acme MOTOR CYCLES:
HE MACHINE OF NO REGRETS

The Coventry Acme Motor Co., Ltd., Coventry

REVISION OF PRICES
OF
THE RELIABLE QUADRANT
4½ H.P. 3-SPEED STURMEY-ARCHER.

SOLO
£115



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Ariel.

20 7h.p. Ariel Combination, as new, large lighting set; £170.—Kingston Dene, Halifax. [X6692

IEL, 3½h.p., not run 100 miles, bought June 22nd, going abroad; £110.—23, Waterloo Place, ington. [X6677

19 (Sept.) 3½h.p. Ariel and sidecar, little used, perfect running order; any trial; £120.—H., Bur-Tonbridge. [5954

20 3½h.p. Ariel Coachbuilt Combination, just delivered; list price.—Marriott's Garage, St. 's, Hereford. [6826

20 3½h.p. Ariel, 3-speed countershaft, just in for immediate delivery.—Wincycle Co., Ltd., 236, Holborn, W.C.1. [5695

IEL, all models, early deliveries; all parts stocked.—F. Speakman, Ariel Expert, 7, Roodale Harpurhey, Manchester. [7414

IEL 1920 6h.p. Combination, mileage under 200, combined hand and foot clutch, grid; £162, or t.—Box 234, c/o *The Motor Cycle.* [X6704

IEL 5-6h.p. 1915 Combination, 3-speed countershaft, fully equipped, splendid condition; £98.—Weston Lane, Greet, Birmingham. [X6722

IEL, 3h.p., with countershaft combination, coachbuilt sidecar, immediate delivery; list price 10.—John C. Beadle, Ltd., Dartford. [5516

.p. Ariel Combination, from works at Easter, not done 300 miles, complete with lamps, etc.; .—Coryn, Walden, Hornchurch, Essex. [6784

20 (April) Ariel 3½h.p., solo, countershaft 3-speed, large P. and H. lamps, horn, tools, splendid con-; £120.—8, Little Goodge St., London, W.1. [5369

EL 3½h.p., with very smart sidecar; delivery from tock subject to being unsold; price £151/10, plus y charges.—James' Garages, Ltd., Church Stretton. [6054

'E 1919 4h.p. Ariel Combination, electric lighting, mechanical horn, Cameo screen, etc.; £125, n.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6000

IEL Countershaft Models, solo or sidecar, in tock.—A. J. Young and Co., Ltd., Heath Garage, arket ('Phone: 214), and 75, Albany St., N.W.1. e: 5476 Museum). [4008

EL 3½h.p. Combination (Exhibition model), lelivered December, complete with lamps, horn, etc., perfect condition; £140.—Gilbert, 30, Dyers Rd., Leytonstone, E.11. [5175

EN-BENNETT Motor Co.—1914 Ariel 3½h.p., semi-T.T. model, splendid condition, very carefully used; ash, exchange, or extended payments.—9-10-11, Parade, London Rd., West Croydon. 'Phone: n 2450. [6002

) Ariel 3½h.p. Countershaft Combination, delivered May, Lucas lamps, Easting screen, speed-, luggage carrier, Klaxon, spare belt, inner tube, nce; £130.—Davis, Leigh Holm, Pollards Hill Norbury, S.W. [6253

Arno

Arno, good conditoin, good tyres; £38.—117, avendish Rd., Leicester. [6386

Auto-Wheels.

O-WHEEL, B.S.A., perfect; £15.—Sibley, 106, Market Place, Romford. [5667

O-WHEEL, £12, recently overhauled, excellent rder.—Stent, Inglefield, Stoke Rd., Guildford. [5883

O-WHEEL, excellent order, run 500 miles, de uxe model; £14/15.—Box 6,267, c/o *The Motor* [5984

'O-WHEEL, in excellent condition throughout; 0 gns.—Apply after 6 p.m., 60a, Kirkdale, ham. [6643

'O-WHEEL, variable carburetter and mag., ex-ellent condition; bargain, £12.—Slessor, Inver-Peterhead. [6317

O-WHEEL, good running order, attached special icycle; £20; Auto-Wheel separately £12.—10, igh Rd., Weston-super-Mare. [5388

LL Auto-Wheel, just overhauled, 1¼h.p., and 120 .p.g.; £15, or offers, absolute bargain; ready to ride away.—Sanders, 21, Earl's Court Sq., S.W.5. [5603

'O-WHEELS, £27/10 cash, or £8/5 deposit and £2 monthly; 80 page illustrated list post free.—Dept., The Metropolitan Machinists' Co., Ltd., Bishopsgate, E.C.2. [9729

Bat.

', 1920, 6h.p., spring frame, new, in stock; £160.—Below.

', 1920, 6h.p., spring frame, Henderson Elite idecar, in nearly new order, semi-T.T. bars; bar-£175.—Elce and Co., 15-16, Bishopsgate Av., ille St., E.C.3. [0066

UCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. Bat, new, 1920 model; £160. [6920

Model 4 6h.p., new, in stock; £160.—Clark, 7, Exhibition Rd., South Kensington. [6760

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TRIUMPH, 2¾ h.p., lightweight .. £75 0
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ENFIELD, 2¾ h.p., 2-speed £73 10
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VERUS, 2-stroke, single-speed £60 0
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P.V., spring frame, 2¾ h.p., 2-speed, slightly soiled (less 10%) £78 15
METRO-TYLER, 2¼ h.p., 2-speed, slightly soiled (less 10%) £69 18
METRO-TYLER, 1920, new model . £95 18
PORTLAND, 2¾ h.p., 2-speed £60 0
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DOUGLAS, 2¾ h.p., W.D. model, 2-speed, with re-enamelled tank £68 0
NEW IMPERIAL, 2¾ h.p. J.A.P., 2-speed £70 0
RUDGE-MULTI, 1916, 3½ h.p., clutch, and pedal starter £63 0
ENFIELD, 2¾ h.p., all chain drive, all accessories £69 0

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RACING Bat-Jap, 8-10h.p., clutch, do 60 easily; £65, offers.—Sarel, Field House, Marlborough. [5931

1920 new 6h.p. Bat-Jap and sidecar; £198/10.—Halifax Motor Exchange, Union St. South, Halifax. [5912

B.A.T. Model 4 6h.p.; £160.—Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes. [5759

BAT.—Immediate delivery 6h.p. countershaft 3-speed model.—Parker's, Bradshawgate, Bolton. Tel.: 1343. [X6617

1920 Bat, 6h.p., in stock; solo £160, combination £204. — Tel.: 6626 Museum. — A.S.C., 60, Mortimer St., W.1. [5426

8h.p. Bat-Jap Coachbuilt Combination, 3 speeds, overhauled, enamelled; £62, solo £52.—Dornoch, Bristol Drive, Lincoln. [5394

BAT-J.A.P. 8h.p., C.B. combination, 3-speed countershaft, recent model, as new, equipped; £135.—7, Daysbrook Rd., Streatham Hill. [2133

B.A.T.—Early delivery of all models from the sole Berkshire and Buckingham agent: A. J. Luce, Hamilton Road Garage, Reading. 'Phone: 967. [6429

BAT-J.A.P. 6h.p., solo or combination, at list price, in stock.—W. H. Grimes and Co., 18, Bruton Place, New Bond St., W.1. 'Phone: Mayfair 4792. [6597

BAT 6h.p. 1914, 2-speed, disc wheels, long exhaust, complete with lamps, etc., a good sporting 'bus; £75.—Hewin's Garages, Ltd., the Real Service Firm, Totnes. [5766

1920 8h.p. Bat and Montgomery sidecar, under 1,000 miles, complete with lamps, speedometer, tools, pump, wind screen; price £195.—Ivens, Bacombe Cottage, Wendover, Bucks. [5830

1920 Bat-Jap 8h.p. Combination, magnificently equipped, fully insured, mileage 1,030, any trial; £160; solo £145.—32, Aspland Grove, Hackney Station, London, N.E. [6277

BAT 1920 6h.p. Combination, special all-weather sidecar, electric lighting, horn, watch, complete, 100 miles; £235, or near offer.—Ruck, Roydene, Private Rd., Nottingham. [5627

B.A.T.-J.A.P. 1920 (March) 5-6h.p. Twin Combination, hood, screen, speedometer, horn, and lamps, every detail as new; £180, or deferred payments.—Bunting's Motor Exchange, Wealdstone. [6803

BAT-J.A.P. 1914 6h.p. C.B. Combination, Armstrong 3-speed K.S., h.c. clutch, Lucas horn and lamp, Stewart speedometer, new Avon covers and tubes, stored during war; any trial; £85.—Billington, 6, North St., Peterborough. [6320

Beardmore

BEARDMORE-PRECISION, brand new, in stock; £95.—Sibley, Martock, Somerset. [5987

BEARDMORE-PRECISIONS; delivery 7 days; £95 —Grandex, 138, Gray's Inn Rd., W.C. [1216

BEARDMORE-PRECISION, 1920 (May), with insurance policy, P. and H. lamp, tools, spares; £90; seen any time.—98, Mitcham Rd., Croydon. [5460

BEARDMORE-PRECISION 1920 3½h.p., spring frame, 2 speeds and clutch, kick-starter, under 300 miles, glorious machine, buying combination; £80 or offer.—Voss, Grantham Lodge, Friars Place Lane, Acton. [6256

Blackburne.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—4h.p. Blackburne, new, 1920 model; £128/10. [6922

4h.p. Blackburne, brand new, immediate delivery; list price £128/10.—John C. Beadle, Ltd., Dartford. [5514

1920 Blackburne, 8h.p., and sidecar, in stock; £198.—'Phone: 1024.—Julian, 84, Broad St., Reading. [5632

BLACKBURNE, 1920, 8h.p. solo, Burman gear, new stock; £170. — Roberts, Motor Agent, Barrow-in-Furness. [6541

1920 4h.p. Blackburne Combination, run 500 miles, lamps, tools, apron; £148, or exchange small car.—34, Queen's Rd., Reading. [6212

BLACKBURNE 8h.p., with Montgomery sidecar, just delivered; £200; a grand combination.—Whitfield and Co., Carrington St., Nottingham. [X6246

BLACKBURNE, 4h.p., delivered March, 1920, engine carefully run in, tyres unpunctured, better than new; £120.—P. Selbie, The Orchards, Chorley Wood. [5962

BLACKBURNE, 1919, Oct., 4h.p., 3-speed, clutch, K.S., and accessories, very little used, perfect condition; £115, or near; offer.—Shalders, Gartmore, Northwood. [6033

1920 4h.p. Blackburne, Grindlay sidecar, Easting screen, speedometer, spare tube, cover, all accessories, run 3,400; owner bought car; £175, or nearest offer.—Houston, Cambridge House, Portsmouth. [6514

ALLEN-BENNETT Motor Co.—Blackburne 8h.p. twin and Henderson Elite sidecar; £215; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5287

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BLACKBURNE 1920 4h.p., 3 speeds, countershaft gear clutch, kick starter, all-chain drive, £40 sidecar to match attached, very striking outfit, only done 200 miles careful driving, condition better than new, fully insured; owner going abroad; £160, complete with accessories, etc., or what offers —16, Beaconstree Rd., Leytonstone, E.11. [6050

Bradbury

BRADBURY 4½h.p., 3-speed, clutch; £50; after 6. —264, Brixton Hill, S.W.2. [5973

1920 Bradbury 4h.p., chain drive model, in stock; list price.—Cross, Agent, Rotherham. [X6665

BRADBURY.—Order now to avoid disappointment.—The Walsall Garage, Wolverhampton St., Walsall. [5762

4h.p. Bradbury Combination, 3-speed, countershaft, K.S., lamps; £78.—60, Lonsdale Av., East Ham, E.6. [6328

1920 Bradbury 6h.p., sidecar and accessories; £205. —Halifax Motor Exchange, Union St. South, Halifax. [5915

1920 Bradbury, 4h.p., 3-speed, hand clutch, kick-start, just delivered; list price £128.—Turnill, North Peterborough. [5854

BRADBURY 4½h.p., Bosch, B. and B., adjustable pulley, discs, lamps, horn, footboards, as new; 50 gns.—85, Larch Rd., Cricklewood. [6171

BRADBURY 1914 6h.p., coachbuilt 2-seater sidecar, hood, screen, etc., complete; Nottingham; £120; trial.—Box 6,213, c/o *The Motor Cycle*. [5583

6h.p. Bradbury Combination, fitted with best spring wheel Gloria sidecar, delivered October, 1919; price £180.—Chadwick, Century Works, Oldham. [X6742

4h.p. Bradbury and C.B. sidecar, 3 speeds and clutch, complete with lamps, in perfect order; £55, or nearest offer.—Belcher, Little Tingewick, Buckingham. [6488

BRADBURY 4h.p. Sidecar, new N.S.U. 2-speed, free engine, electric light, equipped Bosch mag.; first £60.—Dickinson, 7, Upper Ashby St., Goswell Rd., E.C.1. [6263

BRADBURY 1920 4h.p. Model, just delivered, 2 speeds, kick starter, with Millford Olympia Corvette sidecar; £128.—Eagles and Co., 275, High St., Acton, W.3. [X6713

BRADBURY Coachbuilt Combination, 4½h.p., 2-speed countershaft, all-chain, sound; any trial; lamps and accessories; £75.—Allison, c/o Wardill's Garage, Pound St., Carshalton, Surrey. [6745

4¼h.p. Bradbury, cane sidecar, 2-speed, tyres good, machine overhauled and perfect, trial; 60 gns., or exchange with cash for new Tamplin, Carden, or similar.—Buxton, Emneth, Wisbech. [6093

6h.p. Twin Bradbury Combination, 3-speed countershaft, clutch, kick start, all chain drive, C.B. sidecar, 2 lockers, apron, Easting, luggage grid, lamps, tools, spares, good running order; £120; trial willingly. 245, Canterbury St., Gillingham, Kent. [3298

BRADBURY 4½h.p. 3-speed C.B. Combination, 3 lamps, horn, speedometer, Cameo wind screen, apron, perfect running order, engine recently overhauled, new tyres; seen Cabeldu's Garage, 371, High St., Lewisham; price £80, or near offer.—Cogswell, 30, Embleton Rd., Lewisham, S.E. [X6707

Brough.

1920 Brough 5h.p., Sturmey gear, less than 500 miles, T.T. bars, racing cam, fast, all accessories, as new; £135.—Bailey, Tarnock, Axbridge. [X6806

T.T. Brough, 3½h.p. flat twin, o.h.v., 2-speed, free engine, just overhauled, plated exhaust pipes, all accessories; £70.—Smith, British Arms, Irthlingborough, Northants. [5519

BROUGH, new 1920 Model G, 5-6h.p., 3-speed, now on view; £140.—For earliest delivery place your order with the Premier Motor Co., Aston Rd., Birmingham. [5815

BROUGH Combination, twin 5-6h.p., 3-speed, new U.H. twin mag., new Sensaray fitted, in good condition; price £110, or offer.—F. J. Coope, Lime House, Leacroft, Cannock, Staffs. [5423

ALLEN-BENNETT Motor Co.—1914 Brough 6h.p. twin, T.T. model, very fast, thoroughly overhauled; £50; cash, exchange, or extended payments.—9-10-11, Royal Parade, London, West Croydon. 'Phone: Croydon 2450. [6011

Brown.

3½h.p. Motor Cycle, Brown, any trial; £30.—603, Green Lanes, Harringay. [5708

1914 Brown 7h.p. 2 speed, F.E.; £40. 11, St Loys Rd., Tottenham, N.17. [6420

BROWN 4h.p., Bosch, perfect order, accessories, bikes 2 £28-56, Stanmerfields Rd., Hendon. [5444

1915 Specially-built Brown, 8h.p., Gradua reins, new Dunlops, very powerful, reliable, little used, brand new condition throughout; bargain, 48 gns. 102, Hamilton Rd., Wimbledon, S.W.19 [6114

B.S.A.

B.S.A. 4½h.p., all chain; £70.—16, St. Thomas's Sq., Hackney. [6025

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ALLON, 2¾ h.p., 2-speed, clutch, and kick-starter	£85 0
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DIAMOND, J.A.P., 2½ h.p., 2-speed ..	£82 10
HOBART-J.A.P., 2¾ h.p., 2-speed, clutch, and kick-starter	£90 0
INVICTA, 3½ h.p., 3-speed, clutch, and kick-starter	112 gns.
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LEA-FRANCIS, 3½ h.p. twin, 2-speed, clutch, and kick-starter	£130 0
MATCHLESS, 8 h.p. Combination, with dynamo lighting	£230 0
MATCHLESS, 8 h.p. Combination, with acetylene lighting	£214 0
METRO-TYLER, 2½ h.p., single-speed .	£62 0
METRO-TYLER, 2½ h.p., 2-speed	£74 0
METRO-TYLER, 2½ h.p., 2-speed, Type S.	£95 18
NEW IMPERIAL-J.A.P., 2¾ h.p., 2-speed	77 gns.
NEW IMPERIAL-J.A.P., 2¾ h.p., 2-speed, clutch, and kick-starter	85 gns.
O.K.-JUNIOR, 2½ h.p. 2-speed	£65 0
OMEGA-J.A.P., 2¾ h.p., 2-speed	71 gns.
ROYAL ENFIELD, 2¾ h.p., 2-speed ..	£73 10
ROVER, 3½ h.p., 3-speed, all-chain drive	£149 16
RUDGE-MULTI, 3½ h.p., I.O.M. Model.	105 gns.
SCOTT 3¾ h.p. Combination	£185 0

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W.D. **ROVER** Combination, 5-6 h.p. .. £145 0
(This machine has a J.A.P. engine, 3-speed countershaft gear box, kick-starter, and all-chain drive, and is finished "Service" green.)

SECOND-HAND.

1920 **METRO-TYLER**, 2½ h.p., 2-speed, lamps and horn	£70
1919 **JAMES**, 2¾ h.p., 2-speed	£65
1912 **WOLF**, 3½ h.p., lamp, and horn ...	£38
1916 **A.J.S.** 6 h.p. Combination, detachable wheels, lamps, and horn	£155
1914 **SUNBEAM**, 6 h.p., and Sidecar, Lucas lamps and horn	£130
1920 **ARIEL**, 3½ h.p., Canoelet Sidecar, 3-speed, Lucas accessories, horn, speedometer	£133 0
1920 **LEA-FRANCIS**, 3½ h.p., Henderson Sidecar, P. & H. lamps, Lucas horn, speedometer, as new	£150 0
1920 **HARLEY-DAVIDSON**, 7-9 h.p., Sidecar and accessories	£200 0

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B.S.A. 4¼h.p., 1916, but as new, with new sidec £125.—Longney, Oswestry. [X66

B.S.A.—The Walsall Garage, Walsall, booking ord for all models; rotation deliveries. [5

B.S.A. 6-7h.p. Twin; immediate delivery.—Geo. Ba and Son, Motor Agents, Ealing Green. [5

B.S.A. Combination, Aug., 1919, top-hole conditi £125.—283, Foleshill Rd., Coventry. [X6

1913 B.S.A., 3½h.p., 2-speed, recently overhaule Vaun, Kenora, Blenheim Rd., Bickley. [6

B.S.A., 1919, late, lamps, speedometer, perfect c dition; £100.—Rice, Oxley, Shrewsbury. [6

4¼h.p. B.S.A., late date, kick start, chain-cum-b £80.—12, Kinnerton St., Knightsbridge. [5

1914 B.S.A. Combination, 2-speed, kick start, lan etc.; £65.—Young, Market Place, Andove [6

1916 B.S.A. Combination, 4½h.p., 3-speed, clut K.S., any trial; £95.—130, Camberwell Rd., S. [5

B.S.A., 1915, all-chain, 3-speed, K.S., mechanic perfect; £75.—103, St. Paul's Rd., Highbu N.1. [6

B.S.A. Combination, 2-speed, 1913, good conditi ride away; £65.—82, Ealing Rd., Wembley, Mid sex. [6

B.S.A., 1920, Model K, 4½h.p., unused; first reas able offer accepted.—Box 6,308, c/o *The M Cycle*. [6

3½h.p. B.S.A., 2-speed, B.B., Bosch, new tyres, accessories.—156, Hartington St., Barrow Furness. [5

1919 B.S.A., with Rover sidecar, very good co tion; £110, or near offer.—Hauberg, 164, Bo St., Bedford. [X6

1920 B.S.A. 4¼h.p., chain and belt, absolutely n first cheque over 115 gns. secures.—Box 2 c/o *The Motor Cycle*. [X6

3½h.p. B.S.A., 3-speed, Bosch, Binks, lamps, t in perfect order; first £65 secures.—17, St. M St., Truro, Cornwall. [5

B.S.A. 4¼h.p., 3-speed, clutch, chain drive, ac sories; any trial; £75; after 6.—2, Rosemead Holland Park, W.11. [5

4¼h.p. B.S.A. 1915 Combination, all-chain drive, speed, excellent condition, hood, lamps; £95.— Wilson St., Battersea. [6

B.S.A., 1914, 3½h.p., Bosch mag., clutch, pe start, good running order; 55 gns.—Farr, Seward Rd., Hanwell, W.7. [6

1919 B.S.A., 3-speed, 4¼h.p., Canoelet sidecar, gine just overhauled, in perfect condition; £1 —29, Chapel Rd., West Norwood. [6

B.S.A. 1920 Model K., just arrived; immediate livery London only; list price.—Turner Bros., Upper Thames St., London, E.C. [6

1915-16 B.S.A., Model K, recently done up as by makers, Lucas lamps, horn, knee gr £95.—11, Clarence St., Ulverston. [6

FOR Sale, 1 late 1919 B.S.A., Model K. East screen, Montgomery sidecar, all accessor £140.—Pryce, Smith, Astley, Lancashire. [6

B.S.A. 3½h.p. 1912 Combination, belt drive, Mill sidecar, Bosch mag., 2 speeds, pedal start; £ —Maudes', 100, Gt. Portland St., London. [6

B.S.A. 4½h.p. Combination, 1916-17, perfect dition, everything on; £115, for quick sale.—3 Shattmoor Lane, Hall Green, Birmingham. [6

1919 B.S.A., engine No. 29308, all-chain, Mill lamps, Klaxon, Montgomery sidecar, in condition; £135.—Bagshawe, Chelmorton, Buxton. [6

B.S.A. 1918 Combination, lamps, horn, tools, little mileage, excellent condition; first offer £115 secures.—D. Norris, Talbot, Mere, Wilts. [5

B.S.A. 1915 Model K, also 1919 Model K, with without sidecars.—Newnham Motor Co., Hammersmith Rd., W.6. 'Phone: Hammersmith [5

B.S.A. Combination, new Dec. last, complete tools, spares, hood, etc., perfect, low mile £135, or near offer.—2, Reading Rd., Henley Thames. [X6

B.S.A.—Early deliveries of all models, B.S.A. placements, sidecars, screens, hoods, etc., n in stock.—County Cycle and Motor Co., 307, 314, Bi St., Birmingham. [4

B.S.A. (New 6-7h.p. Model A Twin-cyl. Motor Cy chain drive and 3-speed countershaft gear, Henderson Elite sidecar; £195.—Porter, 18, High Whitchurch, Salop. [X6

B.S.A. 1915 Combination, all-chain, K.S., 3-sp clutch, very fast, climb anything; £75 or offer; a real bargain.—Morris, 21, Beauclere Rd., H mersmith, London.

B.S.A. 1917 4h.p. Combination, 3-speed, lam Lucas horn, Bramble C.B. sidecar, wind sc apron, perfect condition inside and out; £120.— mill, North Peterborough. [5

MOTOR CYCLES FOR SALE.

Coulson.

COULSON-BLACKBURNE, 4h.p. sporting model, low mileage, unpunctured, engine not yet decarbonised; £80.—Box 6,276, c/o *The Motor Cycle*. [6091

NEW Coulson-B 4h.p., 3-speed Sturmey-Archer, kick starter model, immediate delivery.—Clapham Motors, 27, Stockwell St., Greenwich, or 'phone Greenwich 751. [6840

NEW Coulson-B 4h.p., with 3-speed clutch and kick starter, spring frame, etc.; 118 gns., or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5402

1920 Coulson B., spring frame, 2-speed, with light Canoelet sidecar, lamps, horn, spare belt, chains, in perfect condition; any trial; £125.—F. C. Edwards, Engineer, Tenterden. [5487

NEW Coulson-B 2¾ and 4h.p. Models in stock, 2-speed gear, spring frame, Blackburne engine; at manufacturers' list prices; easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5401

COULSON-B, 1920, 2¾h.p. Blackburne engine; £97, or nearest; 2-speed, horn, mileage 600, perfect condition, fully insured, owner bought combination; ointment.—'Phone: 386.—Tatlow, 23, Foden Rd., Clapham. [5381

ALLEN-BENNETT Motor Co.—Coulson B 4h.p., Blackburne engine, 2-speed, spring frame; £10 5; cash, exchange, or extended payments.—9-10, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5289

ALLEN-BENNETT Motor Co.—Coulson B 2¾h.p., Blackburne engine, 2-speed, clutch, and K.S.; £10/5; cash, exchange, or extended payments.—9-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5292

ALLEN-BENNETT Motor Co.—Coulson B 4h.p., Blackburne engine, 3-speed, clutch, and K.S.; £23/18; cash, exchange, or extended payments.—9-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5291

ALLEN-BENNETT Motor Co.—Coulson B 2¾h.p., Blackburne engine, 2-speed, spring frame; £19/15; cash, exchange, or extended payments.—9-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5290

O.C.H. Have a New 4h.p. Coulson B., 3-speed Sturmey, also 2¾h.p. 2-speed model in stock; list price—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5833

Coventry Eagle.

1915 Coventry Eagle 2-stroke, £36; 2-speed F.N., all on, £36.—31a, Compton Rd., Kensal Green. [5573

COVENTRY EAGLE 2¾h.p. J.A.P., 2-speed, Sturmey gear, kick start and clutch; £85, bar.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6001

COVENTRY EAGLE 2¾h.p., 2-speed, new tyres, engine overhauled by makers, and repainted, perfect new; first offer over £45.—D. Norris, Talbot, Mere, Wilts. [5502

1920 (April) Coventry Eagle-Jap, 2¾h.p., Sturmey 2-speed, clutch, K.S., long exhaust, horn, lamp complete, under 300 miles, condition as new; £85/10. Wick, Preston, Cirencester. [6283

ALLEN-BENNETT Motor Co.—Coventry Eagle 2½ h.p., single-speed, Villiers engine; £67/1; cash, change, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450). [5305

O.C.H. Have a Coventry Eagle, 2¾h.p., kick-starter model, in stock; list price.—Fair Offer House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5839

Cygnus.

CYGNUS-J.A.P. 3½h.p., 2-speed, all-chain drive, spring frame, excellent condition; £55.—Rising Sun Hotel, Burghfield, Berks. [2213

Dene.

DENE-PRECISION 3¾h.p., 3-speed and clutch, Bosch, B.B., spare valve, engine overhauled.—Dodger, Birdwell, Barnsley. [5646

Diamond.

DIAMOND, brand new, J.A.P. and 2-stroke models in stock.—Moss, Wem. [X6652

DRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266

DIAMOND 2¾h.p. 2-stroke, in stock, new; £63.—Clark, 7, Exhibition Rd. South Kensington. [6761

DIAMOND, 1919, 2-speed, 2-stroke; £55; exchange combination.—54, Pritchard Rd., Hackney Rd., London. [6710

1919 (Dec.) Diamond-Villiers, 2¾h.p., single discs, lamps, spares, 300 miles; £55; 6 p.m.—63, Broadway, Bexley Heath. [6180

1920 Diamond-Jap, winner Liverpool and Southport 12 gold medals. Speed Trials; offers considered.—Life, 23a, Scarisbrick Av., Southport. [6715

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Proprietors: Erling L. Newberry Cobbett & Cedric Crosthwaite.

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1920 8 h.p. **ZENITH** Combination, Elite sidecar, luggage grid, F.R.S. lamp set, Cowey horn, Cowey speedometer, excellent condition £210 0

1920 5-6 h.p. **JAMES** Combination, Lucas lamps, horn and windscreen £195 0

1920 **T.T. NORTON**

1920 **DOUGLAS** Combination, fully equipped £170 0

1920 **MATCHLESS** Combination, Model H., Lucas accessories, hood, screen, spare wheel. Shop-soiled ..... Offers.

1920 **LEA-FRANCIS,** 3½ h.p. twin M.A.G. engine, lamps, and all accessories .. £125 0

1920 I.O.M. **RUDGE-MULTI** ..... List.

1920 **COVENTRY-EAGLE,** 2¾ h.p. J.A.P., Sturmey-Archer 2-speed, kick-starter, hand control clutch. In stock £87 10

1920 **AMERICAN EXCELSIOR,** 7-9 h.p., twin. In stock ..... —

1920 **BRITISH EXCELSIOR,** 2¾ h.p. J.A.P., 2-speed. In stock £68 0

1920 **WOOLER,** 2¾ h.p. twin, variable gear. In stock £98 0

1920 **NEW HUDSON,** 2-stroke, 2-speed, legshields, fully equipped. In stock . List.

1920 **COULSON-B.,** 4 h.p. Blackburne engine, spring frame. In stock. Mileage about 200 ..... £98 0

1920 **ROYAL ENFIELD,** 2-stroke, 2-speed £75 0

1919 (late) **COULSON-B.,** 2¾ h.p. Blackburne, D.A. lamp set, speedometer, legshields. In stock £100 0

1920 **COULSON-B.,** 2¾ h.p. Blackburne, 2-speed. In stock £88 0

1919 **DIAMOND,** 2¾ h.p. J.A.P., Enfield 2-speed gear, electric lamps, horn, speedometer £60 0

1916-7 **TRIUMPH** Combination, fully equipped £80 0

1920 7-9 h.p. **HARLEY-DAVIDSON,** mag. and electric model, from stock ..... List.

1920 2¾ h.p. **F.N.'s** from stock ..... List.

1920 **AUTOPED SCOOTER,** dynamo lighting £35 0

BLERIOT Light Car, 50 m.p.g., 50 m.p.h., 8 h.p., wide 2-seater body, Cape hood, adjustable screen, 5 interchangeable wheels, light car Dunlop tyres, internal expanding Ferodo-lined brakes, electric lighting, absolutely fool-proof and reliable. Demonstration given. Distance no object. Delivery, 9 days. **Price** (all in) £280 0

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Diamond.

ALLEN-BENNETT Motor Co.—Diamond 2½h.p., sports model; £62 3; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5304

Douglas.

MOFFAT, Douglas Expert, Yeovil.

NEW 1920 Models, 4h.p. combination £170, 2¾h.p. W. 20, £100 and £105.

IMMEDIATE Delivery. Why wait?

MOFFAT, Yeovil. Tel.: 50 Yeovil. [5698

4h.p. Douglas, 3-speed, powerful; trial; £70.—7a, Morden Terrace, Merton. [6498

2¾h.p. Douglas, single speed; ride away; £25.—93, Hessel Rd., West Ealing. [5956

4h.p. Douglas, 1919, as new; £90.—52a, Kingston Rd., New Malden, Surrey. [6204

DOUGLAS 2¾h.p., makers' colours, perfect; £60.—109, Dalberg Rd., Brixton. [6578

DOUGLAS, 1914, 2¾h.p., good condition, fast trial.—Holroyde, St. Paul's Cray, Kent. [5320

2¾h.p. Douglas, 2-speed, perfect; must sell; 60 gns. —18, Eastwood Mount, Rotherham. [5867

4h.p. Douglas Combination, any trial given; £93 cash.—Burnett, Rowsley, Derbyshire. [6701

1920 2½h.p. Douglas, 3-speed, kick-starter, as new; £105.—Chirnside, Cable St., Lancaster. [5647

1919 Douglas 4h.p., K.S., solo, excellent order; bargain, £85, solo.—122, Wood Vale, S.E. [6490

DOUGLAS 1914, 2-speed; any trial or examination; £47.—N. Wheeler, Wixford, Alcester. [X6676

DOUGLAS, 2¾h.p., just overhauled; £28, quick sale.—Hartshorn, 123, Ray St., Heanor. [6533

DOUGLAS, brand new, 2¾h.p.; first cheque £100 secures.—Evans, Fron Terrace, Newtown. [6544

DOUGLAS, 2¾h.p., new carburetter, tyres, etc., very good, ride away.—Parrish, Aveley, Essex. [5737

DOUGLAS, new and second-hand, 50 in stock.—Popplewell's, Woodbridge Rd., Ipswich. [5723

DOUGLAS 1912, 2 speeds, needs attention, or sell parts; offers.—7, Market St., Millom, Cumbs. [4975

1919 2¾h.p. 2-speed T.T. Douglas, good condition; £72.—Bounds, 223, High Rd., Kilburn. [5770

DOUGLAS 2¾h.p., 1916, excellent condition; 50 gns. —436, Whitehorse Rd., Thornton Heath. [6690

2¾h.p. Douglas, 1910, single-speed, Bosch, Druids, running order.—2, Reading St., Swindon. [6314

DOUGLAS, 1916, 2¾h.p., sound, lamps, tools; £60, offers.—13, Lacon Rd., E. Dulwich, S.E. [5613

NEW 1920 2¾h.p. 3-speed Clutch Douglas; £105.—Bounds' Garage, 223, High Rd., Kilburn. [5769

DOUGLAS 4h.p. Combination, late 1918, smart, magnificent order; £95.—21, Newton Av., Acton. [5873

BRIGHTON, Hove and district Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

1916 2¾h.p. Douglas, 2-speed, bufferhead, perfect; £55.—76, Herongate Rd., Wanstead Park. [6416

DOUGLAS 2¾h.p. 2-speed, very fast, perfect running order; 45 gns.—Hussey, Earnshaw, Binfield, Berks. [5495

2¾h.p. Douglas, 2-speed, clutch, makers' colours; £50, or offer.—120, Sutherland Rd., W. Croydon. [6615

4h.p. Douglas Combination, fully equipped, as new; £112.—143, Ravensbury Rd., Earlsfield, S.W. [6732

£25.—1911 (believed) 2¾h.p. Douglas, good condition, good running order.—King, Egrove Farm, Oxford. [X6729

DOUGLAS Combination, 1918, clutch, kick starter, £78.—89, Appach Rd., Josephine's Av., Brixton. [6860

NEW 1920 4h.p. Douglas Combination in stock; £170.—Bounds' Garage, High Rd., Kilburn. [5763

DOUGLAS, 2¾h.p., 1914 model, equal to new.—Apply, Cowell, Windmill Lane, Cheshunt, Herts. [5475

DOUGLAS, 4h.p., 1918, makers' colours; £85.—Rose Lawn, Sycamore Grove, New Malden, Surrey. [6205

DOUGLAS 1920 4h.p. Combination, little used; first £150.—Box 255, c/o *The Motor Cycle*. [X6705

DOUGLAS 4h.p. Combination, lamps, horn, and spares.—Padd. 2423, 89, Abbey Rd., N.W.8. [6716

DOUGLAS, 1911, good running order, used daily; £52, or near offer.—Jewell House, Marsden, Kent. [5678

DOUGLAS 4h.p. Combination, 1918, lamps, horn; trial; £96.—64, Framfield Rd., Hanwell, W.7. [5323

1920 Douglas Combination, brand new; list price; exchanges.—2, Nightingale Rd., Lower Clapton. [6752

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS, 1915, fast, lamps, after 7; £54; makers' colours.—205, Isledor Rd., Finsbury Park, N.4. [5926

DOUGLAS.—Immediate delivery, 1920 4h.p. combination.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X6618

4h.p. Douglas, 3-speed, etc., lamp, horn, go anywhere; trial; £75.—W. T. Bovett, 147, Southampton St., S.E.5. [6510

DOUGLAS 2¾h.p., perfect condition, overhauled, lamps, etc.—Vulcanising Works, Havelock St., Ilford. [5542

1914 2-speed Douglas, guaranteed perfect, lamps, horn, a bargain; £45.—Rice, Oxley, Shrewsbury. [6639

1919 4h.p. Douglas Combination, 3 speeds, clutch, K.S.; £110.—Pope, 9, Pepys Rd., New Cross, S.E.14. [5628

DOUGLAS, 1920, ridden from works only; what offers?—R.L., c/o Martin, 36, Frogmore St., Bristol. [6929

DOUGLAS, 2¾h.p., 1915, bought new in crate last year; £56; all accessories.—179, Brixton Rd., S.W.9. [5960

1918 Douglas, 4h.p., just overhauled, in splendid condition; £88.—45, Venner Rd., Sydenham, S.E.26. [6642

DOUGLAS 1914 2¾h.p., 2-speed model, excellent condition throughout.—Parker's, Bradshawgate, Bolton. [X6605

1920 New 2¾h.p. Douglas, 3-speed, clutch; £105.—Halifax Motor Exchange, Union St. South, Halifax. [5914

1918 Douglas Combination, W.D., makers' colours, 3 speeds; inspection.—Richardson, 24, Lisburn St., Alnwick. [5673

1915 2¾h.p. Douglas, enamel poor, but mechanically sound and very fast; £48.—Hudson, Brook Rd., Redhill. [6156

DOUGLAS 2¾h.p., 1915, 2-speed, perfect condition and appearance; £55.—Sibley, 106, Market Place, Romford. [5660

DOUGLAS 1915 4h.p., kick-starter, very little used; £85 with lamps, etc.—Gubbins, Swalcliffe Park, Banbury. [6697

DOUGLAS Combination, 1918, wants slight adjustment, everything on; £68.—14, Effra Parade, Brixton. [6858

4h.p. Douglas Combination, brand new, immediate delivery; list price £170.—John C. Beadle, Ltd., Dartford. [5515

1917 Douglas 2¾h.p., as new, mechanically perfect; bargain.—J. Owner, Cheltenham Rd., Gloucester. [6561

DOUGLAS, 1916, 2¾h.p., makers' colours, splendid condition; £53.—30, Crystal Palace Park Rd., Sydenham. [6457

LATE 1914 Douglas, 2-speed, fast, and excellent condition; best offer over £45. — 3, Cedars Rd., Beckenham. [5736

2¾h.p. Douglas, 1917, new tyre and belt, horn, special forks, speedy; £68.—4, North View, Wimbledon. [6245

DOUGLAS 4h.p. Combination, 3 speeds, kick starter, condition perfect; £90.—103a, High St., Wandsworth. [6865

1917 3½h.p. Douglas, kick starter, 3-speed; £85, or near offer.—Horswill, 42, Bridge St., Chester. 'Phone: 943. [6022

4h.p. Douglas as new; trial; Douglas chassis, perfect; £100, separate.—Letters, Jury, 7, West St., Bromley, Kent. [X6754

1916 Douglas, 2¾h.p., 2 speeds, makers' colours, condition as new; £68.—15, Queen's Terrace, Thames Ditton. [5792

DOUGLAS 2¾h.p., 2-speed, footboards, new Dunlops, 1914-15; £55; evenings.—66, Bovill Rd., Forest Hill, S.E. [6076

£47.—2¾h.p. Douglas, 1915, good running order, spare belt, chain, valves, etc.—14, Thurlern Rd., North End, Portsmouth. [5843

DOUGLAS 4h.p. Combination, brand new; at makers' list price.—Jack Pruen, Oxford St., Weston-super-Mare. [5805

OCTOBER (1919) 4h.p. Douglas Solo; what offers?—Scott Hansen, 7, The Grove, Boltons, S.W.10. (After 7 o'clock). [6044

1919 2¾h.p. Douglas, perfect condition, buying combination; £70. — Charles Dixon, 9, The Crescent, Surbiton. [5037

1920 4h.p. Douglas, new this week, not registered; £165. 620, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [6185

DOUGLAS, 2¾h.p., 2-speed, clutch, lamps, generator, speedometer, perfect condition; £55. 464, Old Kent Rd., S.E. [6289

DOUGLAS 2¾h.p., 1915, lamps, horn, speedometer, splendid condition, very fast, £58. 34, Pembury Grove, Clapton, N.E. [X6756

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MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 2¾h.p., 1916-17, perfect running ord buffer forks, horn, etc.; £55.—F., 16, Clarenc Rd., Putney, S.W.15. [57

4h.p. Douglas, late 1919, fully equipped, mak receipt shown, as new; £125.—149, Bowes R Palmers Green, N.13. [6

DOUGLAS, 1913, 2-speed clutch model, tyres new, good order throughout; £45, or near.—16, H St., Brentwood, Essex. [5

DOUGLAS 1918 4h.p. Combination, lamps, ho tools, new tyres.—Offers to R.L., c/o Martin, Frogmore St., Bristol. [6

DOUGLAS 1915 4h.p. Combination, just overhaul £85; 1914 2¾h.p., ride away, £50.—Brawn, High St., Beckenham. [6

DOUGLAS 2¾h.p., clutch, K.S., lamps, 2 spe excellent order; £65.—62, Stanmore Rd., W Green, Tottenham, N.15. [6

DOUGLAS 1916 T.T., Vauxhall exhaust, all ac sories, perfect; can be seen any time; £70.— Vernon Rd., Luton, Beds. [5

1920 3½h.p. Douglas, spring frame, Lucas dyna lighting, mileage done 100.—Linington, 54, C mercial Rd., Portsmouth. [6

DOUGLAS 2¾h.p., Nov., 1914, renovated, o hauled, as new, footboards, etc.; bargain, £6 43, Ursula St., Battersea. [6

1916-17 2-speed 2¾h.p. Douglas, fast, power condition as new, real bargain; 59 gns.— Widdrington Rd., Coventry. [6

1916 2¾h.p. Douglas, W.D. model, brand new, miles, exceptionally fast, buffer forks; £75.— 6,240, c/o *The Motor Cycle*. [5

DOUGLAS 1915, 2-speed, lamps, Klaxon, genera pump, discs, good condition; £52.—209, Sh Speare Crescent, East Ham. [5

2¾h.p. Douglases, brand new tyres, worn parts 24 placed, in splendid condition; £50.—But worth's Garage, Brixton Hill. [5

1919 Douglas 2¾h.p., 2-speed, low mileage, bea ful and perfect machine; £72.—60, Wall ford Av., North Kensington. [6

NEW 1919-20 4h.p. Douglas, with lamp and ho £120; no offers; seen by appointment.— 6,275, c/o *The Motor Cycle*. [6

DOUGLAS 4h.p., 1917, 3-speed, clutch, mak colours, lamps, horn, etc.; £78.—Write W.M 35, Kingshall Rd., Beckenham. [5

DOUGLAS 1916 2¾h.p., 2-speed, lamps, horn, f board, makers' colours, splendid order; £5 36, St. Thomas Rd., Hackney. [6

1915 2¾h.p. Douglas 2-speed, spare belt, new t engine splendid, fast, excellent condition; £6 28, Streatley Rd., Brondesbury. [6

DOUGLAS 1920 4h.p. Combination, brand n just arrived; at makers' price.—Wilkins, Si son, opposite Olympia, London. [5

1914 4h.p. Douglas Combination, lamp set, spe meter, all in good order; £110, or near off Heather, London Rd., Bromley. [6

DOUGLAS 2¾h.p., 2-speed, not used since thorou overhauled, £63; another, £58.—Clark, 7, hibition Rd., South Kensington. [6

DOUGLAS, 1913, 2¾h.p., lamps, makers' col splendid machine, £40; another, £26; away.—8, Shalimar Rd., Acton. [5

1920 Douglas Combination, done 1,000 miles condition perfect, for quick sale; £145. Bird, Metton, Roughton, Norwich. [6

DOUGLAS 2¾h.p. 1920 T.T. 2-speed, re-enam plated, and overhauled, as new; bargain £ owen, 59, Scholefield Rd., Holloway. [X

DOUGLAS 1916, navy model, 2¾h.p., uncrated 1920, mechanically as new, Lucas horn; 60 g Knapp, 33, Kendrick Rd., Reading. [X

1920 4h.p. Douglas Combination, complete lamps, horn, tools, only run few miles; £1 Doel, Poles Hole, Southwick, Wilts.

1915 4h.p. Douglas Combination, C.B. sidecar in excellent condition; £97.—Stripp, Oa Stangrove Rd., Eden Bridge, Kent.

COMBINATION, 1918, blue Douglas sidecar, u stery, condition, and mechanically A1; £90. Brailsford Rd., Tulse Hill, Brixton. [

DOUGLAS, 2¾h.p., 2 speeds, etc., very smart guns, or exchange for heavier machine or bination.—158, Avenue Rd, Acton, W. [

JACKSON'S, High St., Guildford, are authe Douglas agents. Have large stock of ge spares, etc. Douglas repairs a speciality. [

COLMORE Depot have Douglas motor cycles sidecar combinations in stock, for first received.—31, Colmore Row, Birmingham. [

DOUGLAS 2¾h.p., W.D. model, 2-speed, engine 32335, Lucas King's Own lamp set, footbo £60. 57, Lower Addiscombe Rd., Croydon.

DOUGLAS 2¾h.p., 2-speed, lamps, horn, sp meter, long exhaust, fast, splendid condition; after 6.—4, St. Peter's Rd., Hammersmith.

MOTOR CYCLES FOR SALE.

Harley-Davidson.

) Harley-Davidson Combination, 7-9h.p., bought April, all as new, Easting screen, lamps never eedometer, tools, spares, insured to April, 1921; air offer taken.—Hignett, Chepstow Mansions, ourne Grove, W. [6552

RLEY-DAVIDSON, 1917, overhauled by makers, ew Rennoc sidecar, all spares, lamps, low gener- insurance policy, re-enamelled, re-tyred, seen ay; £165.—Fitzgerald, 23, Queen's Gate Gar- South Kensington. [6637

RLEY-DAVIDSON 1917 and Mills-Fulford Sidecar, not army machine, fitted with wind tyres as new, lamps, and horn, etc., had little ccept £145.—Edwardes, 277, Camberwell Rd., 'Phone: Hop. 4913. [6232

RLEY-DAVIDSON 1918 Mag. Model, 7-9h.p., 3 ears, clutch, kick starter, right-hand all-metal . upholstered leather, lamps, etc., ride 100 miles hser; £125, or offer; must sell; would separate. ltham Rd., Lee, S.E. [5578

) (October) Harley-Davidson Combination, elec- tric model, in perfect condition, Easting screen, eter, discs, tyres excellent, successfully com- this year's London-Edinburgh; price £230.—7, ld Av., Muswell Hill, N.10. [6048

9. Harley-Davidson Combination, late model, all as new, finest combination on the road, alu- disc, electrically equipped, absolutely perfect; ial; £220; owner bought car.—John H. Holt, 's' Merchant, Altrincham. [6406

). Harley-Davidson and Sidecar, early 1919, ctric lighting throughout, electric horn, com- e and roomy sidecar, engine and coachwork very little used; £185, or near offer.—Love- Garage, Bourne End, Bucks. [6558

LEY-DAVIDSON 7-9h.p., Dec., 1919, won two ld medals London-Edinburgh and London-Exeter, under 3,000, disc wheels, speedometer, horn, ll-accessories, perfect order; £185, or near offer- appointment.—Box 237, c/o *The Motor Cycle.* [X6761

TING Harley-Davidson, 7-9h.p., electric model, peed, hand and foot clutch, kick starter, T.T. ng exhaust, electric and bulb horns, lamps, speedometer, new tyres, laid up for 2 years war, whole in perfect condition; £145.—Capt. r, Dettinggen Baracks Blackdown Surrey. [5571

N-BENNETT Motor Co.—1920 Harley-Davidson h.p. and dinky sporting sidecar, electric lamps, eedometer, polished aluminium dash and instru- ard, over £40 worth of accessories; cost £275; er 2,500; snip, £235; cash, exchange, or ex- ayments.—9-10-11, Royal Parade, London Rd., oydon. 'Phone: Croydon 2450. [6009

Harley-Davidson Combination, 7-9h.p., Swan lecar, compressed acetylene lighting with lamps, al horn, speedometer, Tan-Sad, mileage small, utely first-class condition, new middle March; ver any reasonable distance after purchase; r about £250.—Blakey, 20, St. Bedes Ter., nd. [6680

Harley-Davidson, latest delivery, mag. model, 9h.p., Harley-Davidson latest model luxurious extra large space for luggage, extra strong Lucas dynamo lighting set just fixed, speedo- watch, Klaxon horn, 2 spare tubes, set of d pillion seat, fully insured, only done 700 early new, trial given, can be seen any time; £220, or nearest offer.—3, Liverpool Rd., , N.1. [6885

Special Sporting Clutch Model Harley, 7-9h.p., etically new condition, complete with lamps dometer; a glutton for speed work! At its milestones turn pale and tremble in their Incidentally, they have been known to lie moss standing on end with fright. Altogether bus. Offers invited over £100; also a 1919 nodel Harley combination, replete with refine- nd in first-class condition throughout. Not ! Offers invited over £200. Will potential indly note that, owing to these mews being restricted in space, the queue should not of a mile in length and 11 feet deep?—Apply, am Mews, Belsize Lane, Hampstead, N.W.3. [5757

Hazlewood.

5-6h.p. Hazlewood Combination, 3-speed, utch, and kick starter; £204.—The Garage, on St., Derby. [5894

Hazlewood-Milford Combination, just in, for ediate delivery at list price; £204/12.—Victor Ltd., 7, Mount Pleasant, Liverpool. [X6241

Hazlewood Combination, 5-6h.p. Jap engine, peed countershaft, chain-cum-belt drive; tle used.—Lythalls Lane Garages, Foleshill, [X5967

-6h.p. Hazlewood Combination, 3-speed, clutch kick starter, at manufacturers' current list on easy payments 4% extra.—Harrods, Ltd., npton Rd., London [5400

H.B.

BENNETT Motor Co.—H.B. 2¾h.p., Black- e engine, 2-speed, clutch, and kick starter; cash, exchange, or extended payments.—9- yal Parade, London Rd., West Croydon. Croydon 2450. [5296

THE NEWEST B. S. A.

6-7 h.p. Twin £150

IN STOCK.

NEW MACHINES AT MAKERS' PRICES.

1920	**ARIEL** and Ariel Sidecar, 3½ h.p.	£152	10
1920	**DOUGLAS** 4 h.p. Combination	£170	0
1920	**JAMES** 4½ h.p. Combination	£170	0
1920	**DIAMOND**, 2-sp., K.S., h.-clutch	£84	3
1920	**LEA-FRANCIS**, 3½ h.p.	£130	0
1920	**CLYNO**, 2¾ h.p., 2-stroke	£75	0
1920	**BLACKBURNE**, 4 h.p.	£128	10
1920	**O.K.-JUNIOR**, 2¾ h.p., single-sp.	£65	0
1920	**O.K.-JUNIOR**, single-speed	£50	8
1920	**JAMES** 5-6 h.p. Combination, and accessories	£215	0
1920	**ROVER** 5-6 h.p. Combination	£235	0
1920	**ZENITH**, 8 h.p., and Zenith S/car	£204	0
1920	**CALTHORPE - J.A.P.**, 2-speed, 2¾ h.p.	£78 5	6
1920	**CALTHORPE**, 2-stroke, 2-speed, 2¾ h.p.	£74 19	4
1920	**NEW IMPERIAL**, 2¾ h.p., K.S., hand-clutch	£89	5
1920	**NEW HUDSON**, 2-stroke, 2-speed	£75	0
1920	**ENFIELD**, 2-stroke, 2-speed	£75	10
1920	**ALLDAYS ALLON**, 2¾ h.p., K.S., hand-clutch	£85	0
1920	**DOUGLAS**, 2¾ h.p., 2-speed	£100	0

Deferred Terms : Quarter down and 11 monthly payments.

NEARLY NEW.

1920	**SCOTT**, 3¾ h.p.	—	
1920	**P. & M.**, and P. & M. Sidecar, 3½ h.p.	—	
1920	**RUDGE**, 5-6 h.p., and Rudge Sidecar, horn	£160	0
1920	**RUDGE**, I.O.M., T.T. bars, lamps	—	
1919	(Dec.) **TRIUMPH** and Paragon folding Sidecar, 4 h.p.	—	
1920	**COULSON-B.** (only soiled), 2¾ h.p.	£90	0
1919	**INDIAN**, 2¾ h.p., kick-st., 3-speed	£67	10
1919	**ENFIELD** dynamo lighting 8 h.p. Combination	—	
1920	**A.B.C.**, 3½ h.p.	—	
1920	**LEVIS** Popular	—	
1920	**WOOLER** and accessories, 2¾ h.p., hand-clutch	£120	0
1920	**P. & M.**, 3½ h.p., lamps and horn	—	
1920	**N.U.T.**, dynamo lighting, twin	—	
1920	**QUADRANT** Combination	£135	0
1920	**JAMES**, 2¾ h.p., 2-speed	£63	10
1917	**LEVIS**, 2¾ h.p.	£52	10
1915	**JAMES**, 3½ h.p.	£85	0
1916	**ENFIELD** Comb., lamps and horn, 6 h.p.	£160	0
	TRIUMPH and Sidecar, 3-speed	£92	10
	W.D. **B.S.A.** and B.S.A. Sidecar	134 gns.	
	W.D. **B.S.A.** and Canoelet Sidecar	126 gns.	
	W.D. **DOUGLAS**, 2¾ h.p.	72 gns.	
1920	**MATCHLESS** 8 h.p. Comb., and accessories	—	
1920	**MAXWELL** Car, 5-seater, fully equipped	£510	0
1920	**FORD** Car, 5-seater, fully equipped	£320	0
1920	**MORGAN** Runabout, discs, and accessories	£285	0
1920	**ENFIELD**, 8 h.p. M.A.G., dynamo lighting	—	
	W.D. **SUNBEAM** Sidecar, new	£45	0
	W.D. **ENFIELD** Sidecar, new	£35	0

Deferred Terms : Half down and 11 monthly payments.

LAMB'S

151, HIGH ST., WALTHAMSTOW.
'Phone : Walthamstow 169.
'Grams : "Cyclotomo, Phone, London."

50, HIGH ROAD, WOOD GREEN, N.22.
'Phone : Hornsey 1956.

387, EUSTON ROAD, N.W.1.
'Phone : Museum 4978.

MOTOR CYCLES FOR SALE.

H.B.

H.B. Blackburne, new, 2¼h.p. 2-speed model, just arrived.—Moss, Wem. [X6656

ALLEN-BENNETT Motor Co.—1920 H.B., 2¾h.p. Blackburne engine, 2-speed clutch and K.S., Sunbeam finish, large P. and H. head lamp, Cowey speedometer, horn, very small mileage; £100; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: 2450. [6012

Henderson

1916 Henderson Combination, perfect order; £170.—Knight, 16, Longmead Rd., Tooting. [6165

1915 4-cyl. Henderson Combination, in perfect running order, any trial.—Langdon's Garage, Exmouth. [5883

1920 New Henderson, 4-cyl. and sidecar; £210.—Halifax Motor Exchange, Union St. South, Halifax. [5917

HENDERSON Combination, believed 1917, Millford sidecar, good; £119/10.—Wilkinsons, Engineers, Doncaster. [X6673

HENDERSON Combination, brand new, in stock.—W. H. Grimes and Co., 18, Bruton Place, New Bond St., W.1. [6594

HENDERSON, 4-cyl., late 1915, with new tandem sidecar, 2 wind screens, all accessories, new tyres, in first-class condition; £155.—Mathews, Thrift Hall, Sewardstone Rd., Waltham Abbey, Essex. [6341

HENDERSON, 1920, Model Z2, 10h.p., 4-cyl., 3-speed, fitted with special Canoelet bulbous-back sidecar, enamelled to match; one only for immediate delivery; £215.—The Premier Motor Co., Aston Rd., Birmingham. [5818

HENDERSON, 1917, 4-cyl., amazing power and flexibility, electrically equipped, clock, Klaxon, speedometer, etc., commodious steel sidecar and specially sprung passenger saddle, negligible mileage, new condition; 185 gns.—Hunter, 3, Park Rd., Wallington. [6360

HENDERSON 10h.p., 1915, engine just overhauled and whole machine in perfect running order, with nearly new Mills-Fulford underslung sidecar and special coachbuilt body, Easting wind screen, lamps, and horn, fast and powerful combination; £160.—36, Portland St., Leamington. [X6690

HENDERSON 1920, Model Z2, 10h.p., 4-cyl., 3-speed, Canoelet bulbous-back sidecar, Ward and Goldstone electric lighting equipment, leg shields, Stewart mechanical horn, mileage 200, carries makers' full guarantee; £225.—The Premier Motor Co., Aston Rd., Birmingham. [5808

Hobart.

NEW 1920 2¼h.p. Hobart 2-stroke, 2-speed, in stock; £75.—Below.

NEW 1920 2¼h.p. Hobart 2-stroke T.T. model, in stock.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [4997

HOBART-VILLIERS, brand new 1920 model, unpacked; first cheque £60.—Box 6,301, c/o *The Motor Cycle.* [6835

HOBART, 2¾h.p., 2-stroke, 2-speed, lighting set, all accessories, condition perfect; £52.—Evans, 70, Warwick St., Leamington. [6379

1920 Hobart-Jap, 2-speed, etc., just delivered, not done 10 miles; £90; accept Baby Triumph or Levis part exchange.—F. Harrison, West Bradford. [5615

NEW 2½h.p. Hobart Lightweight, 2-speed models, in stock at manufacturers' list price; 4% extra for easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [5406

Hockley.

HOCKLEY Motor Cycle for sale, new condition, ride away; £70, or near offer.—Tomkins, 73, London Rd., Wembley. [5377

1918 Hockley 2-stroke 2-speed, 3h.p., aluminium footboards, starts easily, run economically, horn, lamps; perfect tyres, belt, £42; Watsonian featherweight sidecar chassis, £4.—76, Langham Rd., Teddington. [6729

Humber.

4h.p. Humber, Bosch, B.B., Brooks, good condition; £32, offer.—102, Kenyon St., Fulham. [6748

HUMBER, latest model, immediate delivery.—Popplewell's, Woodbridge Rd., Ipswich. [5725

3½h.p. Humber, 2-speed, new Dunlops on rear, Bosch; £30.—Floyd, 23, Queen Victoria Rd., Coventry. [X6560

HUMBER 3½h.p., free engine, perfect condition, horn, lamps; bargain £32, or offers.—The Haven, Whyteleafe. [6878

HUMBER 1914 3½h.p., 3-speed, stored 4 years, splendid order; £47.—Covell, 23, Victoria Rd., Redhill, Surrey. [6300

HUMBER 1918 3½h.p. Twin, all-black, perfect condition; £95, or nearest offer.—Millward, 26, Morland Rd., Croydon. [6588

HUMBER 3½h.p., 3-speed, clutch, handle start, overhauled by makers, new Dunlops; £49.—Gray, 15, Lea St., Kidderminster. [X6559

MOTOR CYCLES FOR SALE.

Humber

3½h.p. Humber, 2-speed, Albion F.E., mag., B. and B.; £30, cash or nearest.—R. Hill, 137, Highfields, North Wingfield, nr. Chesterfield. [6589

1920 4½h.p. Humber Flat Twin Combination, Milford. Corvette 4-point, 20 miles; nearest list price; trial.—Lines, Union House, Coleshill. [X6678

HUMBER Combination, 2 speeds, F.E., wind screen, accessories, any trial; £70 or near; first-class condition.—3, Victoria Gardens, Ladbroke Rd., W. [6254

HUMBER Combination 3½h.p., 3-speed, Bosch, new Dunlop, just thoroughly overhauled, ride away; £75; write appointment.—Coles, 5, Carlingford Rd., N.W.3. [6605

Indian.

7-9h.p., Indian Combination, 1915, in fair condition; £100.—Preston, Garage, Ellesmere. [5555

INDIAN 5-6h.p., 2-speed, Amac, Palmer cords; £60.—89, Devas St., Bromley, Bow, E.3. [5868

INDIAN Combination, 1914, 7-9h.p., 2-speed, Bosch mag.; £95.—97, High St., North Finchley. [6191

£50.—Indian 5-6h.p., clutch, Bosch, good condition; bargain; appointment.—Capt. Collins, Sunbury. [5539

INDIAN 1918 5-6h.p., K.S., 3-speed, clutch; £90.—F. Green, 63, Ravensbourne Rd., Bromley, Kent. [6159

INDIAN 5-6h.p., splendid order and condition; £60, or near offer.—Wright, 76, High St., Deptford, S.S. [5442

INDIAN 7-9h.p., T.T., 1915, like new, with all accessories; £75.—Sibley, 106, Market Place, Romford. [5665

INDIAN 1914 7-9h.p., 2-speed, clutch, been overhauled; £60.—Thomas, Hurstbourne Tarrant, Hants. [5650

INDIAN, 1915, 7-9h.p., clutch, in tip-top condition.—Seen at Lewington, 145, Hertford Rd., Enfield Wash, N. [5899

INDIAN Combination, 7-9h.p., 2-speed, clutch model, excellent condition; £87/10.—74, Addison St., Nottingham. [X6595

INDIAN Combination, wind screen, electric lamps, horn, grand condition; £105.—Southgate. High St., Hythe, Kent. [3818

1920 7-9h.p. Indian Combination, full equipment, mileage under 400; £218; Liverpool.—Box 6,239, c/o *The Motor Cycle*. [5713

1915 Indian 7-9h.p. sporting, clutch model, discs, splendid condition; £75.—Loweth, 6, Mount Pleasant Rd., Ealing. [6111

BRAND New 4h.p. Indian Scout Machine, delivery this week; £10 premium secures.—N. Walker, 17, George St., Hull. [5409

1916 Powerplus Indian, 7-9h.p., 3-speed, clutch, sporting sidecar, perfect; £125.—Blake, 216, Westbourne Grove, W.11. [6426

INDIAN C.B. Combination, complete, lamps, etc.; £75, nearest offer; splendid condition.—11, Friern Barnet Rd., New Southgate. [5483

1916 5-6h.p. Indian, 3-speed, K.S., splendid condition, sporting sidecar, electric lamps, horn; £105.—Turnill, North Peterborough. [5858

1915 5-6h.p. Indian, 3-speed, clutch, kick starter, just overhauled, new back tyre; £90, or nearest.—J. H. Ely, Romsey, Hants. [6650

1919 Powerplus Indian Combination, dynamo lighting, all accessories, good condition; £170.—Bounds, 223, High Rd., Kilburn. [5771

7-9h.p. Indian Combination, 1916, thoroughly overhauled, enamelled and plated as new; £125.—Garner, 134, Bracebridge St., Nuneaton. [5319

INDIAN, 1915, good lamps, chains, tyres, appearance and condition perfect, clutch model, 5-6h.p.; £60.—Garage, 37, Malden Rd., Kentish Town. [6546

7h.p. Indian, 3-speed, clutch, kick, Lucas lamps, mileage about 500, all round new condition; £110.—81, Little Ealing Lane, Ealing, W. [5533

5-6h.p. 3-speed Indian, 50 G. 491, Millford Cabin sidecar, speedometer, Klaxon, electric; any reasonable offer.—Elkins, 2, Moorland Rd., Bath. [6140

WAUCHOPE'S, 9, Shoe Lane, London, E.C.— 7-9 h.p. Indian combination, 1914, disc wheels, £105; also 5-6h.p. Indian and sidecar, 1914, £80. [6913

1920 Indian, Henderson sidecar, hood and discs; £170; will accept 1920 I.O.M. Rudge in part payment.—Allum, Jesus College, Cambridge. [6611

1920 7-9h.p. Indian Combination, dynamo lighting, etc.; cost £227, accept £210; only ridden 50 miles, bought car.—30, Talbot St., Burnley. [X6663

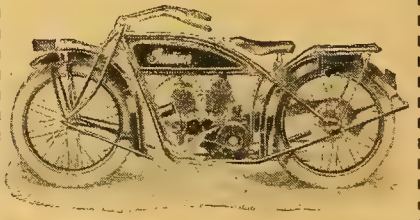
SPECIAL T.T. Model Indian Sporting Combination, torpedo, new chassis, spares, accessories, complete; £125.—Smith, West Sussex Club, Chichester. [5384

1919 7-9h.p. Indian, mag. model, 3-speed, clutch and kick-starter, enamel and plating as new, good tyres; £105. 66, Church Rd., Barnes, S.W. [6579

INDIAN Combination, 2 speeds, 7-9h.p., C.B. sidecar, Cameo wind screen, disc wheels, perfect order; £90.—J. T. Langley, Springfield St., Market Harborough. [X6558

THE Pytchley AUTOCAR Co Ltd

We have a large stock of 7-9 Powerplus Indian Machines of recent date.



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LONDON, W.

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MOTOR CYCLES FOR SALE.

Indian.

INDIAN Scout, 4h.p.—Advertiser unable take del would accept small premium. Delivery in fort £10 deposit paid.—Box 6,265, c/o *The Motor Cy*

INDIAN 7-9h.p. Combination, electric lamps horn, recently overhauled by makers, cond perfect, very smart; £120.—176, High St., To S.W.

1915 7-9h.p. Indian Combination, thorough condition, electric light and horn, good £115, or near offer.—27, Norman's Buildings, Ol E.C.1.

INDIAN, 1914, T.T., hand clutch, 7-9h.p., fast, docile, top-hole order; £55; would take side Smith, 67, Redcliffe Gardens, Earls Court. We 1232.

1915 7-9h.p. Indian Combination, fine cond electrically fitted, horn, spares, tyres, pi nearest £130; evenings.—16, Dundonald Rd., K Rise.

INDIAN 7-9h.p. Combination, 1915, electric stored 3 years, new tyres, makers' overha £100.—Park Farm, Stoke Trister, Wincanton, erset.

7-9h.p. Indian C.B. Combination, as new, abso perfect, all accessories, electric lights, any £125, or nearest offer; after 6.—78, Gordon Ealing.

INDIAN, 1915-16 5-6h.p., 3-speed, K.S., clutch, Lucas lighting set and horn, English con £77; exchange lower power.—52, Canterbury Brixton.

7-9h.p. Indian Combination, 2-speed, clutch, electric lights, horn, perfect order, too pow for owner; £85.—Robinson, 79, Main Av., Bush Park, N.

LATE 1914 7-9h.p. Indian Combination, 2-speed, start, speedometer, electric head light and h in splendid condition; £120.—Frank Mehew, Bi ham, Hunts.

INDIAN 7-9h.p. Powerplus Late Combination, h horn, speedometer, clock, tool kit, hood, screen; bargain, £115.—143, Ravensbury Rd., field, S.W.1.

INDIAN 7-9h.p. Combination, 3-speed, kick st sporting sidecar, splendid condition; £125; evening after 7 p.m.—Maxted, 12, Alberta St., nington, S.E.

PERFECT 7-9h.p. Indian Combination, comp overhauled, enamelled for £20, all access best offer.—Michelsen, 26, Blakesly Av., Ealing, 'Phone: 1850.

1915 5-6h.p. Indian, 3-speed, clutch, kick-st lamps, horn, etc., new back Dunlop, exc running and condition; £75.—Bell, 3, St. M Terrace, Wrexham.

INDIAN Powerplus, 1916, 3 speeds, Millford con tion, Lucas, dynamo, set discs, speedometer, thing top-hole, luggage grid; snip, £135.—C., 12, St Parade, Muswell Hill.

INDIAN 1915 7-9h.p. Combination, sprung clutch, K.S., electric light, speedometer, lovely condition, bought car; £120, or nearest. High St., East Ham.

1915 Indian C.B. Combination, 7h.p., spring hand and foot clutch, 2 speeds, overhaul £30, too powerful; any trial; £95.—61, Kens Av., Manor Park, E.12.

INDIAN.—For early delivery of the famous plus motor cycles and sidecar combinations electrical equipment write to P. J. Evans, 83-91, Bright St., Birmingham.

INDIAN Motor Cycle, 1915, sporting model, 7- clutch, T.T. bars, acetylene head and electric tail full kit of tools; price £77.—Caversham Motors, Church St., Caversham, Oxon.

1916 7-9h.p. Indian Combination, spring frame tric lights, horn, speedometer, and discs, lent condition; £140, or near offer.—H. C. W Thorns Farm, Lymington, Hants.

1916 Indian Combination, 5-6h.p., paintwork new, head light on sidecar, also on Indian overhauled (costing £20); owner gone abroad; complete.—G. Letts, Semer, Ipswich.

INDIAN 1920 Powerplus Combination, d lighting set, mileage about 2,000, in bea condition, ready to go anywhere; £160 gns.—P 1024.—Julian, 84 Broad St., Reading.

INDIAN 7-9h.p.—1914 Combination, spring hood, screen, electric lamps and horn, K speedometer, Binks; seen and trial appointment —Smith, 65, Nottheross Rd., E. Dulwich, S.E.

INDIAN Combination, 1914, 7-9h.p., 2 speeds, starter, electrically equipped, thorough good tion and going order; £90; good solo mount, pa ment.—Parkinson, 215, Jamaica Rd., Bermondsey.

INDIAN Combination 7-9h.p., late 1915, 2 clutch, speedometer, pillion seat, wind screen insurance policy, just overhauled; a real fine lot; after 6 o'clock.—162, Usk Rd., Battersea, S.W.

1916 7-9h.p. Indian Combination, 3-speed, spring frame, 1920 bulbous body, Klaxon screen, apron, lamps, spare tyre, and insurance. —27, Crystal Palace Rd., East Dulwich, S.E.22.

MOTOR CYCLES FOR SALE.

Levis.

VIS Popular, uncrated January, 1920—mileage 800, lamp, horn; highest offer over £50.—comb, 28, Rosemont Rd., Richmond. [5734

VIS 2¾h.p., 2-speed, lamps, tools, etc., new tyres, condition perfect; trial any time; first offer over secures.—D. Norris, Talbot, Mere, Wilts. [5501

VIS, 1920 engine April, done 750 miles, new back tyre, take any hill; bought combination; £48; ap-l, deposit.—Morton, 3, St. David's Rd., Carnarvon. [5393

VIS 1918 (Sept.) 2¾h.p., all-chain drive, Enfield 2-speed, lamps, Tan-Sad, accessories, perfect con-; £55.—Infield, 39, Stonebridge Park, Willesden. [5538

X G. MUNDY.—Levis 1915 Popular Model, just overhauled, new cylinder and piston fitted, tools, £37/10 or near offer.—1, Duke St., Richmond. [6736

VIS.—We strongly recommend, and can supply early, this famous 2-stroke.—District agents, The ll Garage, Wolverhampton St., Walsall. 'Phone: [5765

VIS, the master 2-stroke, for early delivery of the new 1920 2¼h.p. popular model; £60; place order direct with the Premier Motor Co., Aston Birmingham. [5820

4-15 Levis Popular, 2¼h.p., new piston by makers, new 2-speed Roc gear, new chain and tyres, lamps, -hole condition, tank enamelled blue; nearest £50; 0 miles to meet.—Entwistle, Garage, West Haddon, . [5425

Lincoln-Elk.

.p. Lincoln-Elk, Bosch, B. and B., splendid con-dition, ride away; £30, or offer; seen after 6.—eechill Rd., Eltham, S.E.9. [6591

5Z!—1914 3½h.p. Lincoln-Elk, B. and B., Bosch, ane sidecar, Grado pulley, tools, spares, recently uled; £50, or nearest.—Rodney, Brockenhurst. [5449

COLN-ELK 1920 6h.p. Twin, countershaft 2-speed, chain and belt drive, Millford Skiff side-owey speedometer, P. and H. large head lamp, tail lamp, sidecar lamp, etc., outfit carefully d and in first-class order; £170. — Andrew e, 19 to 31, Haymarket Terrace, Edinburgh. [X6255

L.M.C

C., 4h.p., 1911, good running order, Bosch mag.: £30.—Thompson, 716, Stratford Rd., Birming- [5614

L.M.C. Combination, new; £178; immediate elivery.—Maudes' Motor Mart, 100, Paris St., . [6423

C. 3½h.p., Bosch, Senspray, Clipper, Wood-Milne, orn, new piston and connecting rod; £35, offers. ea St., Kidderminster. [5316

) 6-7h.p. L.M.C. with tandem S.C., with lamps, tools, horn, wind screen, and hood, as new; Artillery Grounds, Clifton, Bristol. [6112

2 L.M.C. 3½h.p., just rebushed, fast and power-ful, good tyres; a reliable bus going cheap; ny trial.—Oliver, 120a Bollo Bridge Rd., Acton. [6258

Martin.

TIN-J.A.P., 1914 4h.p. single, T.T., enamelled d, black discs, long exhaust, overhauled June s), splendid condition, very fast; £45.—8, Wool-Rd., Harringay, N.4. [6749

Martinsyde.

TINSYDE-NEWMAN Combination, as new, Stewart horn, fully insured; £195.—Davis, 1, ourt Sq., Northampton. [X6259

Martinsyde-Newman Combination, brand new, unridden, at list price, £170; first cheque secures. , 91, Cromwell Rd., Luton. [5705

ND New 6h.p. Martinsyde-Newman Combina-ion, just received from makers, complete with nd screen; £190; first deposit secures.—Beau-, 27, West Park, Clifton, Bristol. [6566

TINSYDE-NEWMAN.—Sole agents for Lon-on, Essex, Bucks, Surrey, Middlesex, and Hert-also Cornwall and Devonshire, for Martinsyde-n combination, £170; deliveries now being d; sub-agents appointed.—Maudes' Motor Mart, t. Portland St., W.1, and Paris St., Exeter. [6618

Matchless

TCHLESS Combination.—Padd. 2423, 89, Abbey d., N.W.8 [6719

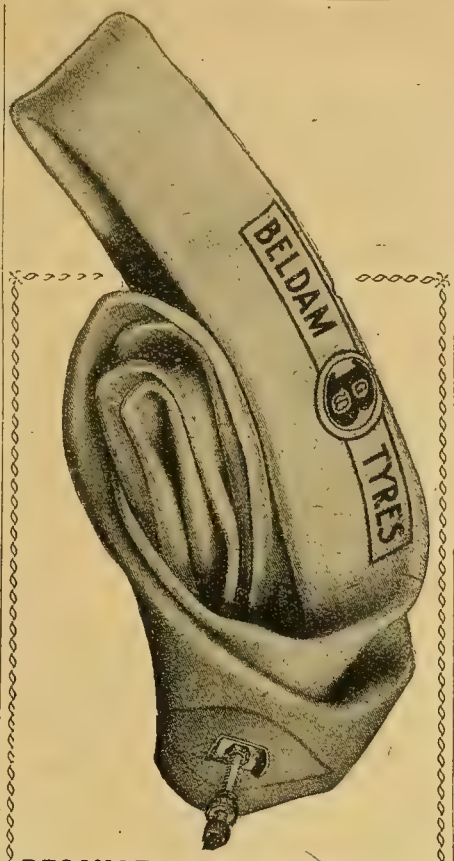
TCHLESS-J.A.P. 3½h.p., Bosch, B. and B., run-ning order; trial; £28.—Allen, 60, Charlton Rd., [6134

TCHLESS Model H, few miles only, Lucas light-ng; £225.—Clark, 7, Exhibition Rd., South Ken-[6767

W Bros., Guildford, West Surrey agents for his first-class outfit. Matchless in name and [3173

TCHLESS Combination, 130 gns.; Bedford dis-rict, particulars, stamp.—Box 5,778, c/o *The Cycle.* [6908

TCHLESS Model H Combination, just delivered: at list price.—Prior, 40, Replingham Rd., South-S.W.18. [6325



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1920 Matchless, brand new, Model H, standard equipped, unscratched; £205.—Swains, butcher, Bishops Stortford. [5892

MATCHLESS H Combination, as new, complete accessories; £25 under list.—Goodbrook, 5, Finchley Rd., N.W.8. [6239

6-8h.p. Matchless Coachbuilt Combination, kick, clutch, 2-speed, mileage 8,000, unscratched; £135.—Wall, Aldenham Rd., Bushey. [6503

MATCHLESS Combination, beautiful turnout; no reasonable offer refused.—57, Kenbury St., Cold-harbour Lane, Camberwell. [6295

MATCHLESS-J.A.P., new, driven from London only, lamps, spare wheel, hood, horn; owner has two; offers.—83, Montagu St., Kettering. [4172

MATCHLESS Model H., M.A.G. engine, Lucas lamps, hood, rear drive speedometer, perfect condition; £228.—16, Hesper Mews, Earl's Court. [4396

1920 Matchless Model H., dynamo lighting, hood, spare wheel, etc., perfect; consider exchanges; £230.—2, Nightingale Rd., Lower Clapton. [6753

COLMORE Depot for 1920 Matchless Combination; order now from the largest dealers in the Midlands, 31, Colmore Row, Birmingham. [X6325

MATCHLESS 1920 Model H Combination, Lucas Magdynamo lighting, brand new, and not registered; £250.—Sandsfield House, Sutton-on-Sea. [6410

1920 (May) Matchless Combination, M.A.G. engine, Lucas acetylene lighting, many extras, absolutely as new; £205.—294, Kennington Park Rd., S.E.11. [6095

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4 — 8h.p. Matchless combination, 1918, £160; also 7-9h.p. Matchless Combination, 1914, M.A.G., £137/10. [9778

VICTORY Model Matchless, 8h.p., 3-speed, detachable wheels, hood, screen, lamps, speedometer, etc., in perfect condition; £165.—5, Jackson St., Woolwich. [X6524

8h.p. Matchless, Amac, K.S., clutch, chain drive, Millford Empress, Watford, C.A.V. lighting, splendid condition, great bargain; £90.—Dart, 99, Mayow Rd., Sydenham. [5349

MATCHLESS latest Model H Spring Frame Combination, Lucas Magdyno, spare wheel and tyre, luggage grid, only done few hundred miles.—Parker's, Bradshawgate, Bolton. [X6607

MATCHLESS, latest Model H, M.A.G. engine, Magdyno lighting, speedometer, legshields, just delivered; £245.—Levello Dining Rooms, 468, Harrow Rd., Paddington, W.9. [6861

6h.p. Matchless Combination, 3 speeds, Binks electric lighting, large coachbuilt sidecar, Cameo screen, excellent condition throughout; £93.—Smith, Gt. Gidding, Peterborough. [6567

1920 Model H. Matchless 8h.p. Combination, Lucas mag-dynamo lighting, spare wheel, grid, Tan-Sad, extra accessories, as new; immediate delivery; £245.—Jackson's Garage, Guildford. [5591

MATCHLESS Model H Combination, Lucas magdyno electric lighting, Lucas horn, legshields, hood, spare wheel, brand new; at makers' list price.—Rhosha Motor Co., Bank Mews, Romford. [5095

MATCHLESS-J.A.P. 8-10h.p., with coachbuilt sidecar, 2-speed, K.S., Binks carburetter, hood, screen, lamps, in good condition, mechanically perfect; £125, bargain.—20, Somers Rd., Walthamstow. [6743

1919 Victory Model Matchless Combination, 1920 colour, new condition, spare wheel, screen, and all accessories, pillion seat, any trial; £180.—Rushton, 334, Old Kent Rd., London, S.E.1. [6035

MATCHLESS 8h.p. Combination, 1913-14, V.S., K.S., Senspray, Stewart, electric, large silencer, heavy tyres, spares; genuine snip; London; £130. See Exchange.—Box 6,278, c/o *The Motor Cycle.* [6818

MATCHLESS, 1914, 8h.p. J.A.P., single gear, T.T. bars, and C.B. Canoelet sidecar, electric lighting set, sporty appearance; £80; after 2 p.m.—68, Roupell St., Cornwall Rd., near Waterloo Station, S.E.1. [5336

8h.p. Matchless Combination, 1914 model, just overhauled, perfect order, M.A.G. engine, 3 speeds, Bosch mag., fitted for electric light; owner going abroad; £125.—14, Kinver Rd., North Sydenham, S.E. [6152

MATCHLESS New Spring Frame Model.—Early delivery at list price. Demonstration model on view. Replacements for Matchless models of all dates in stock.—Tassell, 1a, Bloomfield Rd., Plumstead, S.E. [9411

MATCHLESS, 7-9h.p. M.A.G., 1914-15, 8B model combination, 3-speed, kick start, speedometer, lamps, horn; £115, or near offer; excellent condition.—Dutton, Rose Bank, Leicester Rd., New Barnet. [6034

1920 Matchless, Model H, J.A.P., F.R.S. electric lighting, rear driven speedometer, hood and screen, Klaxon, aluminium discs to four wheels; best over £200.—204, Selwyn Av., Higham Pk., Chingford. [6330

1920 Model H Matchless Combination, Lucas Magdyno lighting, hood, screen, speedometer, electric horn, also Lucas horn, spare wheel, etc.; £215, bargain.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [6184

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1920 Matchless H Combination, as new, negligible mileage, standard equipment, F.R.S. lighting, speedometer, Cowey horn, special hood, legshields, mirror; £205, bargain.—Goodbrook, 5, Finchley Rd., St. John's Wood, N.W.8. [6240

MATCHLESS Combination, 1918, 8h.p., specially built, special engine for well-known racing expert, spare wheel, speedometer, wind screen, lamps, Lucas horn, in excellent condition throughout, guaranteed; £180.—278, Walworth Rd., S.E.17. [6163

ALLEN-BENNETT Motor Co.—1920 Model H. Matchless, M.A.G. engine, run under 500 miles, unscratched, and indistinguishable from new, lamps, horn, speedometer; £225; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5999

MATCHLESS Combination.—Book your orders with Roes, 86, High Rd., Lee, S.E., for 1920 spring flame 8h.p. Matchless combination. A model always on view at above address. Deliveries guaranteed strictly as per order received. Retail price as ruling at time of delivery. A large assortment of second-hand motor cycles of all makes always in stock. [5242

Metro

METRO-TYLER, brand new, 2-speed, shop-soiled only; £68.—Sibley, Martock, Som. [5986

1920 Metro-Tyler, 2-speed, just delivered; list price. —Talbot, Heron Court, Richmond, S.W. 'Phone: 1697. [5432

METRO-TYLER, 1920 (July), S Model, horn, cost £98; nearest offer.—Freeman, 18, Caroline St., Dudley. [6543

METRO-TYLER, 1919, 2-speed, lamps, horn, perfect order; £58; offers.—36, St. Thomas Rd., Hackney. [6883

METRO 1916 2½h.p., 2-speed, lamps, horn, etc., splendid condition; £48.—Penn, Land Oak, Kidderminster. [6559

EGERTONS, Northgate, Ipswich, are able to offer delivery of Metro Tyler machines from stock.—'Phone: 962. [4058

METRO-TYLER 1919 2½h.p., new March, 1920, lamps, Klaxon, Watford; £55.—27, Kendall Av. South, Purley. [5327

METRO, 2¾h.p., 1918, discs, long plated exhaust, lamps, etc., A1 condition; bargain, £48/10.—38, Roland Rd., Handsworth, Birmingham. [6464

1919 (Nov.) Sporting Metro-Tyler, 2½h.p., long exhaust, lamps, horn, tools, spares; £55; after 6.—22, Torbay Rd., Chorlton-cum-Hardy, Manchester. [6419

METRO-TYLER, 2-speed, lamps, accessories, absolutely perfect, mileage under 100; private owner; bargain, £65.—Hill, c/o Hewitt Bros., 94, Western Rd., Hove, Sussex. [5756

METRO-TYLER 1919 late, long nickel-plated exhaust, in perfect running order, done about 80 miles, owner bought Triumph; £45.—Denholm, Windmill Hill, Enfield. [4661

1915 2¾h.p. 2-speed Metro-Tyler, just thoroughly overhauled, rebushed, and re-enamelled, absolutely as new; £46.—Taplin, 159, Hornsey Rd., N. 'Phone: North 280. [6771

Minerva

3½h.p. Minerva, new tyre, lamps, etc., good order; £18, no offers.—Aylott, New Malden. [5777

1911 3½h.p. Minerva, Dixie, Amac; £23; ride away; photo 6d.—50, Manor Park Rd., Harlesden, N.W. [6203

2¾h.p. Minerva, mag., mechanical valves; £20; ride away.—Platts, 602, King's Rd., Fulham, S.W.6. [6486

2¾h.p. Minerva, Bosch mag., good running order; £23.—46, Chesterfield Gardens, Harringay, London. [5524

MINERVA 4h.p., new Senspray, Bosch, new belt, Lucas lighting, rebushed and painted, ride away; £25.—Sarjent, Main Rd., Sidcup. [6074

MINERVA 5-6h.p., Grado gear, Bosch, new Amac, lamps, re-enamelled, overhauled, splendid condition; £48.10.—118, High St., Putney. [6523

7-9h.p. Minerva, Bosch, Amac, Mabon, heavy Druids, long exhaust, racing tune; nearest £68, bargain for sportsman.—Hughes, 127, Court Rd., Wolverhampton. [X6739

Moto-Reve

MOTO-REVE Twin, Druids, Amac, take any bill; offers.—Freemantle, Stockbridge, Hants. [5526

MOTO-REVE 2¾h.p. Twin, Druids, Amac, mag., adjustable pulley, good running order; £25.—Pickett, 73, Park Lane, Chippenham, Wilts. [5659

Motosacoche.

MOTOSACOCHE 11h.p., C.A.V. mag., fine running condition.—Stevenson, Congleton Rd., Butt Lane, Stoke-on-Trent. [6267

MOTOSACOCHE 3½h.p. and 1916 C.B. Sidecar, M.A.G., Enfield 2-speed, overhauled, new chains, etc., good order; £70; London.—Box 6,309, c/o *The Motor Cycle*. [6902

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4h.p. New Hudson, 3 speeds, C.B. sidecar, £65.—176, South Ealing Rd., W.5.

1920 2¼h.p. New Hudson, brand new, lamps; no offers.—34, Queen's Rd., Reading.

1920 New Hudson 2-stroke, 2-speed, in stock; —'Phone 1024.—Julian, 34, Broad St., Rea

1916 6h.p. New Hudson 3-speed Combinatio good condition.—33, Harrison Rd., Halif

NEW HUDSON.—Immediate delivery 2¼h.p. 2-s model.—Parker's, Bradshawgate, Bolton. 1348.

NEW HUDSON, 1914, 6h.p., 3-speed, clutch, B in excellent condition; £59.—59, West St., ham.

1920 New Hudson 2-stroke, not ridden 100 with lamps and horn; £74.—Thos. B Frodsham.

1914 3½h.p. New Hudson, 3-speed Armstrong and clutch combination.—76, Manor Rd., Wa ton, Surrey.

NEW HUDSON, 2-speed, 1917, splendid condi lamps, horn, etc.; £55, offers.—97, Nightingale Wood Green.

1919 6h.p. New Hudson Combination, many a sories, practically as new; £140.—Miss By Wem, Shropshire.

NEW HUDSON 2¾h.p., 3-speed, clutch, footbo Bosch mag., perfect condition; £50.—24, Ha ton Rd., New Brighton.

NEW Hudson 2¼h.p., 2-stroke, 2 speeds, wheel, suitable for lady, new; £75.—Porter, High St., Whitchurch, Salop.

NEW HUDSON 1919 4h.p. Combination, 3-s countershaft gears; £119.—Frank Whitwo Ltd., 139, New St., Birmingham.

1920 New Hudson 2-speed Lightweight, new plete lamps, horn, insurance policy, all offers.—Cave, 74, Rectory Rd., Redditch.

BROUNDELL'S, Engineers, Faversham.—New H son, 3½h.p., 1914, 3-speed, clutch, access sound condition throughout; £65.—'Phone: 155.

NEW 1920 2¼h.p. New Hudson 2-speed Li weight, in stock; price £75.—D. J. Shepherd Co., Enfield Highway. Tel.: Waltham Cross

1920 6-7h.p. New Hudson C.B. Combination, livered Easter, hood, screen, lamps, spe meter; £165.—Garrett, 20, Moor St., Luton, Bed

NEW HUDSON 3½h.p. C.B. Combination, 3-sp clutch, hub speedometer, screen, etc., all w ing parts replaced 1920; £65, or £50 solo.—296, P ton Rd., S.W.

6h.p. 1917 New Hudson Combination, lamps, h etc., enamel and plating like new; lowest £13 Minchin Engineering Co., Ltd., 39, Penrhyn Kingston-on-Thames.

NEW HUDSON Combination, late 1915, 3-sp clutch, lamps, Bosch, luggage carrier, new t splendid condition, genuine bargain; £95.—Hill St. Albans Rd., Moseley, Birmingham.

NEW HUDSON 4h.p. Combination, late 1919, 3-s countershaft, speedometer, lamps, all perfect dition, stylish, and carefully used turnout; £130 near offer.—Jenkins, 64, High St., Rochester.

New Imperial.

CROW Bros., Guildford—New Imperial-Jap agents expert repairers since 1914.

1920 New Imperial-Jap, 2-speed, in stock; 77 'Phone 1024.—Julian, 34, Broad St., Read

1920 2¼h.p. New Imperial-Jap, 200 miles, as horn, footboards; £78.—Turmill, North P borough.

NEW IMPERIAL 2¼h.p. J.A.P., 2-speed, la Klaxon, condition excellent; £50.—4, Dou Rd., South Croydon.

NEW IMPERIAL, 2¾h.p., 1918, perfect condit low mileage; £50.—Southern, 30, Callcott Brondesbury, N.W.6.

WAUCHOPE'S, 9, Shoe Lane, London, E.C 2¼h.p. New Imperial, new, 1920 model, in diate delivery; £89/5.

2¾h.p. New Imperial-Jap, Dec., 1919, 2 sp lamps, and accessories, as new; £70.—Corri 21, Dunedin Rd., Leyton.

1920 New Imperial, 2¾h.p., 2-speed clutch, starter, lamps, horn, insured; £76.—Jelly Co., Oxford St., Leicester.

NEW IMPERIAL-J.A.P. Lightweight, believed 1 2-speed, lamps, horn, good tyres; £38; photo. Orchard St., Newport, Wight.

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, starter model, brand new, unpacked; £85.— 6,291, c/o *The Motor Cycle*.

NEW IMPERIAL-J.A.P., 2¾h.p., dynamo light splendid condition; £50.—Lassen, Danebu High Rd., Nottingham, S.E.

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UCHOPE'S, 9, Shoe Lane, Fleet St., London.—P. and S. 2-stroke, 2-speed model, Villiers en- £73; kick start and clutch models, £80; from [6916

UCHOPE'S, 9, Shoe Lane, Fleet St., London. P and S. 2-stroke, 2-speed model, Villiers £73; kick start and clutch models, £78/10; stock. [9779

nd S., 3h.p. (April, 1920), 2 speeds, expert ex- amination invited, owner buying combination, cessories, mileage 1,300 ; £70, no offers.— sson, King's Oak Hotel, High Beech, Loughton, [5321

Pax.

EN-BENNETT Motor Co.—Pax 2¾h.p., Black- urne engine, 2-speed; £96/12; cash, exchange, ended payments.—9-10-11, Royal Parade, Lon- td., West Croydon. 'Phone Croydon 2450. [5310

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GEOT 5-6h.p. Twin, just overhauled, smart ap- arance, very fast; £35.—Powell, 10, Jackson ast Barnet. [6279

GEOT 6-7h.p. Single-cyl. 2-seater, hood, screen, mps, good condition throughout, engine No. ; price £85.—Scoth, Hextable, Kent. [6105

Pope.

Combination, 8-10h.p., very smart and fast, lone under 700 miles, special Dunhill sidecar up- d pale grey, girder chassis, Tan-Sad, large luggage r generator, several spare tyres, tubes, chains, 170; by appointment.—Littlefield, 188a, High pham, S.W.4. [5333

Portland.

2¾h.p. 2-stroke 2-speed Portland, never been idden; cheap.—Faber, Egglescliffe Village, County [5829

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Water-cooled Precision 1914 Crescent, Bosch g., Zenith carburetter, friction drive, smart ap- ; any trial; £128.—Downing, Chapple Rd., ton. [5372

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Premier.

IER Combination, 2-speed, clutch, Bosch, good ning order; £55.—Morford, Brenchley, Kent. [5454

IER, 2¾h.p., 3-speed, clutch; lamps, horn, endid condition; 36 gns.—Naworth, Parkhurst ildford. [6224

IER, 2¾h.p., 3-speed, clutch, Bosch, B. and condition and tyres excellent; £38.—Morris, 89, ll Rd., S. Croydon. [6131

Premier 3½h.p., sidecar, S.A. 3-speed, lamps, ols, splendid mechanical condition; £48, bargain. ell, Whitegate, Edgworth, Bolton. [5386

Premier Combination, lamps, speedometer, laxon horn, tyres nearly new.—Tel.: 6626 .—A.S.C., 60, Mortimer St., W.1. [5427

IER Combination 3½h.p., Bosch, White and oppe engine, 3-speed, new tyres; ride away; bargain, £60.—47, Tollington Rd., Holloway. [6149

IER 3½h.p., 3-speed, clutch, 1914, coachbuilt mbination, entirely overhauled, any trial, all ies; £65.—Ives, Gravel Path, Berkhamsted. [6380

IER 2¾h.p., perfect running order, good tyres, sch, B.B., pedal start; no dealers; £33 down; e.—75, Westmoreland Rd., Walworth, S.E. [5869

Premier Combination, clutch, 3-speed, Bramble decar, Easting wind screen, new tyres and belt; l; £75, or nearest.—245, Stoney Stanton Rd., v. [X6519

IER Combination, coachbuilt sidecar, 3-speed intershaft, 4h.p., new condition and perfect; d; going abroad; first offer of £100.—W., Colyn- ouse, Westfaling, Hereford. [5482

IER Combination, 3½h.p., 3 speeds, spacious decar, 4-point attachments, special springs, grid, lamps, horn, good tyres, ready for tour; arage, 37, Malden Rd., Kentish Town. [6547

IER 1914, 3-speed, clutch, Bosch, new Dun- s, coachbuilt sidecar, accessories and spares, t condition, been carefully used; £70; seen o'clock.—Perry, Fishmonger, Norbury, S.W. [6062

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ALLEN-BENNETT Motor Co.—P.V. 2¾h.p., Villiers engine, 2-speed, spring frame; £75; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5309

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QUADRANT, 1912, mag., Amac, in excellent order; £20.—Walsh, 43, Ridley Rd., Forest Gate. [6340

QUADRANT 3½h.p., new condition, Bosch mag.; £22.—534, Fulham Rd., Walham Green (Basement). [5415

4½h.p. Quadrant Combination, new, immediate delivery; £145.—Maudes' Motor Mart, 100, Paris St., Exeter. [6422

QUADRANT 4h.p., Grado gear, splendid going order, and large sidecar; £35. 10 a.m. till 6 p.m.—37, Crowthew Grove, East Dulwich. [5486

QUADRANT Combination, 4½h.p., 1915, registered 1916, new B.S.A. 3-speed and clutch; £85.—Gresham, Marine Drive, Bridlington. [5345

1920 Quadrant Combination, almost new, only ridden 200, all accessories, Easting screen; £135.—214, Kew Rd., Richmond. [6230

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4—For early delivery of Quadrant machines, book now. Solos £115, combinations £145. [2114

QUADRANT Combination 4½h.p., complete with accessories and insurance; £154.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6003

2¾h.p. Quadrant, 2-speed gear, Bosch mag., B. and B. carburetter, electric lighting, just overhauled; £35.—31, New St., Dordon, near Tamworth. [5654

NEW 1920 4½h.p. Quadrant Combination, in stock; makers' price plus carriage.—D. J. Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [4995

3h.p. Quadrant, Amac, just overhauled, 1 new tyre, tube, ride away, £20; sidecar, complete, good condition, £4/10; after 7 o'clock.—Webb, 21, Augustus St., Albany St., N.W.1. [6068

QUADRANT 4½h.p. Combination, new October, 1919, electric light, usual accessories, done about 300 miles; owner going abroad; £130.—Carter, Burnage, Sydenham. [6646

1920 (June) Quadrant Combination, perfect as from makers, and under their guarantee; accept for immediate sale £20 below list price, £125; cash needed. —106, Audley Rd., Hendon. [6057

CLIFFORD WILSON Manufacturing Co.—The premier Quadrant agents can give delivery of both models in 3 days; solo £115, combination £145; special inclusive prices for accessories and insurance, with free delivery. We extend the makers' guarantee to 1 year and make no charge for periodical overhauls; 14 years' experience with Quadrants.—70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. [6602

Radco.

1920 Radco, 2¾h.p. T.D.C. engine, lamps; £38, offers.—C/o Morgan's Garage, Prittlewell. [5441

RADCO 2-stroke, engine perfect, good tyres and belt, lamps.—82, Pepys Rd., Wimbledon. [6291

RADCO, new 1920 2½h.p. 2-stroke, £52; 2¼h.p. 2-stroke 2-speed, £60/10; now in stock for immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [5821

Reading-Standard.

1916 Reading-Standard Combination, 8-10h.p., 3-speed clutch, kick start, Bosch, tyres nearly new; £110.—74, Denison Rd., Collier Wood, Merton. [4803

READING-STANDARD 10h.p., just received, electrically equipped, 80 m.p.g. tested, owner returning Canada; first £180.—21, Gloucester Rd., East Croydon. [5378

BRAND New Reading-Standards, dynamo lighting, electric horn, £184; combination, £229; with Elite sidecar to match, £229; immediate delivery.—Heath Garage, Horsmonden. [5706

Regent.

REGENT 5-7h.p. Flat Twin; earliest deliveries.—Full particulars from The Lancaster Motor Co., 158, Norwood Rd., West Norwood, S.E., distributing agents for South-east London [9149

REGENT in Stock, brand new, Royal blue, with Henderson Elite sidecar, cover, and mat, Binks carburetter electric lighting, 3 lamps and switchboard, Lowe- horn, a very smart combination; price £195. —Wallisdown Motor Works, Bournemouth, Dorset Agents. [5648

Revere.

1920 2-stroke 2-speed Revere, with lamps and horn; £70; quite new.—Thos. Booth, Frodsham. [6676

Rex.

3½h.p. Rex, 1912, Grado gear, running order; £30. —28, Westfield Rd., Hornsey, N. [6027

6h.p. Rex, Bosch, 2-speed, handle start; £40.—Naworth, Parkhurst Rd., Guildford. [6223

REX 5-6h.p., twin-cyl., copper exhaust, good running order; £30, or near offer.—Bosley, 9, Chertsey Rd., Leytonstone. [5955

MOTOR CYCLES FOR SALE.

Rex.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Rex combination, 8h.p., new, 1920, with spare wheel; £218/18. [6924

3½h.p. Rex, new belt and tyres, 2-speed gear, in splendid condition, ride away; £45.—182, Old Bank Rd., Dewsbury. [X6681

1920 New 8h.p. Rex-Blackburne Combination, Model 55, spare wheel; £218/18.—Halifax Motor Exchange, Union St. South, Halifax. [5911

REX 6-8h.p. C.B. Combination, car Klaxon, lamps, etc., appearance as new; £88. 'Phone: North 870.—Optician, 46, Camden Rd., N.W.1. [5841

3h.p. Rex a.i.v., Bosch variable ignition, B. and B. variable jet, full running order, any time; £22/10 or offer,—59, Gartmoor Gardens, Southfield, S.W. [6483

REX 3½h.p., Bosch, B. and B., N.S.U. 2-speed, good tyres, comfortable cane sidecar, rainproof front wind screen; £45.—39, Calcutta Rd., Tilbury. [6390

4¼h.p. Rex, Bosch mag., B.B. carburetter, Gradomulti pulley, good condition; £45, or near.—Apply, 124, Old Kent Rd., S.E. (back entrance). [6069

REX 6h.p. 1913 Combination, 2-speed clutch, thoroughly overhauled, climb any hill, trial run given; £75.—Williams, 343, Whitehorse Rd., Croydon. [6331

6h.p. Rex Unit and Canoelet Sidecar, chain drive, 3-speed gear box, kick starter, speedometer, and accessories; £100.—Bowen, 26, Ford St., Roman Rd., Bow. [5964

REX 3½h.p. Coachbuilt Combination, 1912, Armstrong 3-speed and clutch, just overhauled, Bosch, B. and B., hand start, lamps, Klaxon; £50.—Gittens, 121, Albany St., Regent's Park, N.W.1. [6269

4h.p. Rex, 1913, engine overhauled by makers (costing £12), Bosch, B. and B., 2 new heavy Dunlops, Brooks saddle, mudguards, Pedley belt, footrests, drip feed, Druid spring forks, emergency oil pump; price £33.—Apply, G.P.K., Manor Croft, Woking. [6047

REX, T.T. Speed King model, 5-6h.p., overhead inlets, single speed, just completely overhauled, rebushed, enamelled purple, fitted new rear whel, duplicate oiling, long twin exhausts, latest B.S.A. carburetter, low dropped frame, new Dunlop belt, tyres perfect, in splendid condition throughout, very powerful and handsome solo mount; photo; £50; write or 'phone appointment any evening after 6 before Sunday.—Rose, Highfield, Gainsborough. Tel.: 36. [X6693

Rex-Jap.

8h.p. Rex-Jap, 1914, 2 speeds, Miller's lamps, Klaxon, engine recently overhauled by makers, C.B. sidecar, good sound outfit; £100.—Bagshawe, Chelmorton, Buxton. [6393

REX-J.A.P. Combination, late 1913, 8h.p., 2-speed, in good running condition, horn, tools, etc.; price £75.—Can be seen Arncliffe, Christchurch Cres., Radlett, Herts., by appointment. [5541

ALLEN-BENNETT Motor Co.—1913 Rex-Jap 6h.p. twin, black and gold finish, T.T. bars, very fast; £45; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: West Croydon 2450. [6001

Roc.

3½h.p. Roc Combination, 2-speed, Bosch, Amac; £28 secures.—Glynn, Britannia St., Shepshed. [6559

ROC 6h.p. Military Model, clutch, handle starting, Bosch, B. and B., coachbuilt sidecar, perfect condition, re-enamelled; £45.—65, Crayford Rd., Erith. [6513

4h.p. Roc, 1912, Bosch, B. and B., Druids, 2-speed and free, handle start, run 50 miles since thorough overhaul and re-enamelling, low and powerful; £40, or near offer; Saturdays after 6 p.m.—Skelton, 38, Innerdale Rd., Richmond, Surrey. [5936

Rover.

ROVER 1914 3½h.p., Philipson, Bosch, good condition; £50.—Rainbow, Arlesey, Beds. [5700

ROVER Combination, late 1919, nearly new, complete; £145.—Hunt, Netherbury, Dorset. [5395

1920 Rover, speed model, complete with lamps; £100, offers.—29, Preston Rd., Brighton. [0203

1919 5-6h.p. Rover-Jap, Grindlay de luxe sidecar, hood, screen.—Davies, Foregate, Stafford. [6438

JACKSON'S, High St., Guildford, are Rover agents. Immediate delivery of 1920 3½h.p. combination. [559.

ROVER, 3½h.p., countershaft, just arrived; list price—87, Fulham Palace Rd., Hammersmith. [6321

1920 6h.p. Rover Combination, mileage 50; accept £240 under list. Box 236, c/o *The Motor Cycle*. [X6706

ROVER 1917 6h.p. Twin J.A.P. Combination, 1919 Rover sidecar; £130.—Fleet Motor Co., Alcester. [X6675

TT Rover 1916 3½h.p., equipped ideal sporting machine, £70.—Lowell, 6, Mount Pleasant Rd., Ealing. [6110

3½h.p. T.T. Rover, 12 months old, fast, excellent condition; nearest £60. 214, Alcester Rd., Birmingham. [X6582

INTEGRITY

LAYTON GARAGES

YOUR MACHINE ON APPROVAL

CARRIAGE PAID BOTH WAYS

if not as described.

Carriage paid one way guaranteed.

¶ That in a sentence sums up an ideal way of doing business from YOUR point of view, and is at once **convincing** that the machines offered are in first-class condition, and sound value for money. Such is the offer of the Layton Garages.

YOU TAKE NO RISK

from such an offer. Every description is a **guarantee.** That is the practical expression of our trade mark, "Integrity"—the way we make and keep friends.

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a point we appreciate.

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IT IS YOUR GUARANTEE OF A FAIR DEAL

Write TO-DAY for our

JULY BARGAIN LIST

it contains really remarkable values in new and second-hand machines.

For particulars of machines

ACTUALLY IN STOCK

see our further displayed advertisement in centre column facing, and write us at once. YOU RUN NO RISK—WE TAKE IT FOR YOU.

I. W. TOLLADY,
General Manager

The Layton Garages

London Road, Bicester, and 90, High Street, Oxford.

'Phone 35 Bicester

Telegrams: "Integrity, Bicester."

MOTOR CYCLES FOR SALE.

Rover.

1920 New Rover 5-6h.p. Combination, latest pat at list price.—Birch's Garage, Wolverhampton Walsall. [

1920 New 5-6h.p. Rover Combination; £2 Halifax Motor Exchange, Union St. So Halifax. [

3½h.p. Rover, 3-speed, clutch, in excellent co tion; £50.—Myers, 103, Scott St., Barro Furness. [

ROVER, 1913, 3½h.p., free engine, exceptional dition, ridden very little, any trial; £60.—Ti Marden, Kent. [

ROVER 3½h.p. Combination, lamps, horn, ap new tyres, condition guaranteed; offers.—7, Vale, Acton, W.3. [

1915 Rover, 3-speed, clutch, with sporting un slung sidecar, lamps, etc.; £80.—Young, Ma Place, Andover. [

ROVER 3½h.p., lamps and insurance, fully gua teed; £150.—Frank Whitworth, Ltd., 139, St., Birmingham. [X6

ROVER Combination, 4h.p., 1915, wind scr lamps, tools, etc.—Reliance Motor Works, Cross Rd., Winchester. [

ROVER Combination, W.D., 6h.p. J.A.P., 3 spe good condition, run 500 miles; £125.—Bou 223, High Rd., Kilburn. [

1920 Rover 3½h.p., countershaft, done 100 m unscratched; sacrifice £120; owner must se 92, High St., Bromley, Kent. [

1919 Rover Combination, 5-6h.p. J.A.P., splen condition, grand hill climber; bargain, £16 Osbaldeston, Digbeth, Walsall. [

ROVER, 3½h.p., 3-speed, 1917 model, under 5 miles, in first-class condition; offers over £8 Box 6,248, c/o *The Motor Cycle*. [

ROVER T.T., 1919, excellent condition, lamps, mileage under 2,000; £85, or nearest.—Tra Birmingham Rd., Kidderminster. [

1920 Rover 3½h.p. Combination, very latest mo all-chain drive, just received; exchange en tained.—Rose's Garage, Uxbridge. [6

ROVER, 1920, new, 3½h.p., countershaft; list p or nearest offer; owner taken delivery 2 mach —19, Morley Rd., Lewisham, S.E. [

3½h.p. Rover, 1914, 3-speed clutch, kick sta coachbuilt sidecar, lamps, excellent condit Carwithen, Kenilworth, Southampton. [

ROVER, 1915 T.T., clutch, accessories, as new, st during war, original tyres, mechanically per £72.—Trodd, 41, Griffin Rd., Plumstead. [

ROVER, 1914, T.T., special engine, fast, mechan condition perfect, ready any journey; £50; wickshire.—Box 233, c/o *The Motor Cycle*. [X

ROVER 1920 5-6h.p. Coachbuilt Combination, l improvements throughout, just arrived; ma price.—Eagles and Co., 275, High St., Acton, W [X

ROVER Combination, coachbuilt, 3½h.p., 3-sp lamps, wind screens, good condition; 75 apply after 7.—Manning, 66, Seaford Rd., Eal [

ROVER T.T., Sept., 1919, new condition, mechan perfect, Philipson pulley, Lucas accessories; Southwell, 18, Bournbrook Rd., Bournbrook, Birmin Write. [

3½h.p. Rover, 3-speed, rebushed, new piston, B Binks, new belt, Dunlops, nice condition, £68 nearest; trial.—R. Bristow, Downley, Wyc Bucks. [

ROVER Combination, 3½h.p., 3 speeds, clutch, plete with lamps, etc., stored 4 years; £75 trial.—Daley, 31, Cranbrook Rd. (top Whitehall Tottenham. [

1919 Rover, 3½h.p., 3-speed, delivered March, mileage about 1,000, in perfect condition any time; price £125.—Snale and Collins', G Hythe, Kent. [

4¼h.p. Rover, late 1919, countershaft, 3-speed clutch, K.S., lamps, horn, tools, etc., con splendid condition; £100.—Harmsworth Boat Ash Vale, Surrey. [

1920 5-6h.p. Rover Combination, brand new, registered, fitted Rover bulbous sidecar, type; at list price; in stock; exchanges.—2, Nigh Rd., Lower Clapton. [

ROVER T.T., late model, Philipson pulley, ometer, lamps, mechanical horn, spares, condition; £75, nearest; after 6.—Ingle Nook, borough Rd., Coventry. [

ROVER 3½h.p. Coachbuilt Combination, Binks carburetter, 3-speed, easy starting, running, excellent condition; £80.—Wilkins Tavistock Sq., London. [

3½h.p. T.T. Rover, Bosch, Senspray, recently hauled, enamel and plating as new, D Brooks B170, fast, reliable, comfortable; gift, 42, Southsea Av., Watford. [

MAUDES'.—Rover 1918 6h.p. W.D. combi all-chain, 3-speed, kick starter, Dunlop 3 lamps and horn, very little used £130.—M 100; Gt. Portland St., W.1. [

MOTOR CYCLES FOR SALE.

Rover.

ROVER 1920 4h.p., 3-speed and countershaft model, complete with Mills-Fulford Corvette sidecar, very small mileage, indistinguishable from new.—Parker's, Bradshawgate, Bolton. [X6611

1919 Rover 5-6h.p. Combination, wind screen, luggage carrier, £135; horn, 3 lamps, 2 generators (1 Lucas), Smith's speedometer, £14 extra.—H-C., 30, Upper Grosvenor Rd., Tunbridge Wells. [5340

ROVER Combination, 5-6h.p., 1920, not done 100 miles, perfect, disc wheels, lamps, wind screen, side shields, speedometer, etc.; cost £250; £220, or best offer.—Hewin's Garages, Ltd., the Real Service Firm, Totnes. [X5765

1914 3½h.p. Rover Combination, 3-speed, clutch, kick starter, hood, wind screen, lamps, accessories, extra heavy Dunlops, tools, brand new condition; £78; exchange lightweight.—63, Salon Rd., Brixton. [6403

ALLEN-BENNETT Motor Co.—1918 Rover 5-6h.p. twin, W.O. finish, Lucas lamps, mechanical horn, etc.; snip, £135; cash, exchange, or extended payments. 9-10-11, Royal Parade, London Rd., West Croydon. Phone: Croydon 2450. [6005

1919 5-6h.p. Rover C.B. Sidecar Outfit, sidecar painted mauve, fitted with electric horn, lights, visting screen, all accessories; £200; would consider change for 1920 Indian combination.—Mottershead, Didsbury Rd., Stockport. [2034

1919 (Dec.) Rover, 3½h.p., 3-speed, Cowey horn and speedometer, large Lucas lamps, separate rear generator, fast, reliable, silent and economical, climb anything with two up, posh touring omnibus, perfect; £30; trial; seen by appointment.—89, Palmerston Rd., Bowes Park, N.22. [6106

Royal Ruby.

INGERTONS, Northgate, Ipswich, can deliver 5h.p. Royal Ruby from stock.—'Phone 962. [4057

3h.p. Royal Ruby, spring frame, just arrived from works; £110.—Young, Misterton, Somerset. [6849

1920 3h.p. Royal Ruby, spring frame; £110.—71, Lansdowne Rd., Handsworth, Birmingham. [6067

VAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3h.p. Royal Ruby, new, 1920, spring frame model; £120. [6921

1920 New Royal Ruby 3h.p., 2-speed, spring frame; £120.—Halifax Motor Exchange, Union St., Halifax. [5913

ROYAL RUBY 1916 2-stroke, unscratched, only done 300 miles, perfect; £45.—Sibley, 106, Market Place, Romford. [5663

BRAND New Royal Ruby Combination, 6h.p., only done 800 miles, splendid condition, speedometer, screen, hood, screen, side curtains, locker, best set lamps, self-generators, any trial; will accept £200 for quick sale; cash wanted, taking delivery car this week.—Black, 17, Horsemarket St., Warrington. [X6679

Rudge.

RUDGE, brand new, I.O.M. T.T. model, just arrived.—Moss, Wem. [X6655

NEW Rudge 3½h.p., ridden few miles; £95.—Chard, 1, High St., Deal. [5465

RUDGE Multi, 1920, very little used; £95.—Evans, Garage, Newport, Salop. [X6589

VAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. I.O.M. Rudge, 1919; £105. [9780

RUDGE, 3½h.p., single-gear, good running order; £36.—6, Broughton Terrace, Banbury. [X6727

RUDGE Multi in Stock.—W. H. Grimes and Co., 18, Bruton Place, New Bond St., W.1. [6598

3½h.p. Rudge Multi, I.O.M. T.T., 1920; £120.—2 King Smith, White End Park, Chesham. [6148

5-6h.p. Rudge Multi, immediate delivery; list price £120/15.—John O. Beadle, Ltd., Dartford. [5517

1914 Rudge Multi 5-6h.p., new C.B. sidecar, lamps, horn; £90.—32, Brettenham Rd., Walthamstow. [5331

3½h.p. Rudge, clutch, lamps, horn, perfect condition; £47.—16, Belmont Rd., Maidenhead. [X6808

RUDGE Multi, T.T., 3½h.p., pedal starter, brand new; £110/5.—Grey's Garage, Beaconsfield. [6539

BRAND New Rudge Multi, T.T., uncrated; best offer accepted.—Box 6,297, c/o *The Motor Cycle*. [6815

1920 I.O.M. Rudge in stock, unregistered; at list price, £110/5.—2, Nightingale Rd., Lower Clapton. [6755

3½h.p. Rudge Multi Combination, good condition; nearest offer £70.—59, Carr Hill, Balby, Doncaster. [5380

RUDGE Multi, 1914, fast, sporty, overhauled, perfect; £52, or near offer.—Bourne, c/o Danby, Bickford. [0190

RUDGE Multi, I.O.M. Model, brand new, in stock, list price.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [6534

1914 Rudge Multi and Canoelet sidecar, running order; £70.—Featherstone, 22, London Rd., Tunbridge Wells. [X6554

INTEGRITY

LAYTON GARAGES

NEW 1920 MODELS IN STOCK.
(Immediate delivery).

A.B.C., just received £150 0
ALLON, 2½ h.p., 2-speed, clutch, kick-start £85 0
BLACKBURNE, 8 h.p., solo .. £170 0
BLACKBURNE, 4 h.p., solo . £128 10
BLACKBURNE 4 h.p. Comb. . £158 10
EDMUND-J.A.P., 2¾ h.p., Enfield 2-speed, spring frame. £92 8
ENFIELD 2-stroke, 2-speed £73 10
INDIAN Powerplus, solo, with dynamo lighting, speedometer £181 14
INDIAN Powerplus Combination, with dynamo lighting £223 14
INDIAN Scout Model £140 0
IVY, 2½ h.p., 2-speed, lightweight £70 0
L.M.C. 6 h.p. 3-speed Comb. .. £183 5
METRO-TYLER, 1920, "S" Type £95 18 10
O.K.-VILLIERS, single-speed, lightweight £50 8
SPARKBROOK, lightweight, single-speed £69 0
RUDGE-MULTI, I.O.M., new model £110 5
RUDGE-MULTI, Roadster Mod., pedal start £110 5
ZENITH, 5 h.p., clutch, and kick-starter £148 0
CLYNO, lightweight £75 0
Etc., etc.

SOILED AND SLIGHTLY USED MACHINES.

(Which may be had **on approval,** as our advertisement on opposite page.)

1920 **A.B.C.,** as new, Swan sporting Sidecar, electric lighting, speedometer, etc. Cost £210 (worth £200 now) **£175**
1920 **A.B.C.,** solo, almost new . **£137 10**
1920 **EDMUND-J.A.P.,** 2¾ h.p., 2-speed, spring frame; cost £92, used once **£78**
1920 **ENFIELD,** lightweight, mileage under 250 ..... **£65**
1920 **INDIAN** Powerplus Combination, new May, fully equipped **£190**
1920 **INDIAN** Powerplus Combination, new January, very good order, **£170**
1920 **L.M.C.** Combination, 6 h.p.; cost £183; almost new **£152 10**
1920 **ROYAL RUBY,** 3 h.p., spring frame; cost £120; **£92 10**
1920 **SUN-VITESSE,** kick-starter model, **£60 10**
1920 **A.B.C. Skootamota** **£49**
And many other bargains.

See our Advertisement on opposite page.

Our July Bargain List will be sent you with pleasure on receipt of a postcard.

J. W. TOLLADY,
General Manager

The Layton Garages

London Road, Bicester, and 90, High Street, Oxford.

'Phone 35 Bicester.

Telegrams: "Integrity, Bicester."

MOTOR CYCLES FOR SALE.

Rudge.

LATE 1919 Rudge Multi, 3½h.p.; any expert examination; perfect condition; £90.—107, Holyhead Rd., Coventry. [X6795

RUDGE Multi 5-6h.p., Jan., 1920, Lucas horn, mileage, ridden solo; £107.—Longman, Fisherton St., Salisbury. [6375

1915 Rudge, Philipson, fine condition; £49; after 6 p.m.—Porter, 15, Oberstein Rd., Clapham Junction, S.W. [6026

RUDGE 5-6h.p. Multi, new, unridden, list price £120/15; accept nearest offer.—Southfields, Henley-on-Thames. [5360

1920 T.T. Rudge Multi, little used, lamps, horn, speedometer, etc.; £121.—G. Crawley, 18, West Rd., Saffron Walden. [5978

RUDGE, I.O.M. Model, list price; from stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214). [4013

3½h.p. Rudge Multi, 1913, fully equipped, insurance, fine order, new cyl. and tyres; £46.—E.D.C., Town Hall, Colchester. [6364

RUDGE Multi 5-6h.p. C.B. Combination, 1916, as new, with all accessories; £95.—Sibley, 106, Market Place, Romford. [5661

RUDGE I.O.M. Multi in stock, new, £110/5; with Millford sidecar, £137/10.—Clark, 7, Exhibition Rd., South Kensington. [6768

RUDGE, 1914, 3½h.p., clutch, free engine, excellent condition, lamps and horn; £48.—36, Windmill Rd., Headington, Oxford. [6355

1916 Rudge Multi 5-6h.p. Coachbuilt Combination, in perfect condition, all lamps and accessories, 2 tubes; £80, must sell.—Smith, 97, Tollington Park, Holloway, N. Hornsey 1241. [6396

1920 3½h.p. Rudge Multi, I.O.M. T.T., mileage 250, guaranteed perfect; 102 gns; must sell.—Lynn, 32, Grafton Rd., Bedford. [5540

RUDGE 7-9h.p. Twin Combination for early delivery.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5155

RUDGE Multi, clutch, engine just overhauled, horn, lamps, ready to ride away; £40.—Tasker, 7, Somerset Place, Teignmouth, Devon. [5944

1920 Rudge-Whitworth, 3½h.p., new I.O.M. Model, from stock; list price.—Harvey Hudson and Co., S. Woodford (next George Hotel). [5743

3½h.p. Rudge, 1914, guaranteed perfect running order; any trial; £42 gns.—Laurence, 49, Eastbrook Rd., Waltham Abbey, Essex. [6413

RUDGE I.O.M. 3½h.p., just delivered; list price.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5154

RUDGE Multi 5-6h.p. and new C.B. large Sidecar, splendid condition, accessories, spares; £98.—Buck, 6, West Av., Walthamstow. [6601

RUDGE Multi Combination, 3½h.p., good running order; £50, or offer.—Ford, 20, North Terrace, Hermitage Rd., Finsbury Park, N. [6870

MAUDES'—Rudge Multi, 1914 (late), 3½h.p., C.A.V. mag., Senspray carburetter, new tyres; £56.—Maudes', 100, Gt. Portland St., W.1. [6623

RUDGE Multi, 1920, 3½h.p., I.O.M. T.T. model, in nearly new order; £105.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

1920 Rudge Multi, T.T., delivered this week; list price.—Bickell and Sons, 247-251, Archway Rd., Highgate, N.6. 'Phone: Hornsey 1090. [0254

RUDGE Multi Combination, 3½h.p., coachbuilt sidecar, overhauled fortnight ago, fast machine; £75.—Hazlewood, Bardon Hill, Leicestershire. [5753

5-6h.p. Rudge Multi 1916 Combination, excellent running order, great bargain; £75.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [6533

RUDGE Multi, 1920, 3½h.p., T.T., brand new, just arrived, immediate delivery; at makers' price.—Wilkins, Simpson, opposite Olympia, London. [5686

1920 I.O.M. Rudge Multi, Cowey horn, Miller lamp, spare belt; £110, or nearest offer.—Bate, Maryvale, Greenbank Rd., Latchford, Warrington. [5396

3½h.p. Rudge Multi, 1915, hand clutch, lamps, horn, spares, good condition, stored during war; nearest £60.—Best, 10, Plymouth Rd., Totnes, Devon. [6577

1920 Rudge Multi, 3½h.p., T.T. Model, completely equipped as new, guaranteed; £110.—Talbot, Heron Court, Richmond, S.W. 'Phone: 1697. [5433

FOR Sale, 1914 3½h.p. Rudge multi, T.T., fast, sporty, in perfect condition, lamps, etc.; £60.—D. O. Thomas, 105, Priory St., Carmarthen. [6794

RUDGE Multi, 1915, re-enamelled (latest colours), overhauled, new belt, tyres, etc., excellent condition; £66.—18, Fulham Place, Paddington, W.2. [6071

1920 I.O.M. T.T. Rudge, excellent condition, lamps, horn, speedometer, and tool kit; £98.—Stafford, 10, Marshside Rd., Churchtown, Southport. [X6452

1919 Rudge Multi 3½h.p. C.B. Combination, mileage under 300, in new condition, mechanically perfect; price £115, no offers.—Carder, Stonebridge, Dorking [5594

MOTOR CYCLES FOR SALE.

Rudge.

NEW 1920 I.O.M. Rudge with starter model, just arrived, immediate delivery.—Clapham (Motors), 27, Stockwell St., Greenwich, or 'phone Greenwich 751. [6839

1920 Rudge Multi, I.O.M., overlap cam, brand new, unregistered; accept £105; guaranteed perfect.—Fenton, 18, Broughton Av., Bentley Rd., Doncaster. [6739

1915 5-6h.p. Rudge Multi, overhauled, enamelled, like new inside and out, spare tyre, etc.; £78, with sidecar £89.—135, Cann Hall Rd., Leytonstone. [X6735

RUDGE-ENGINED C.B. Combination, K.S., Multi pulley (B.S.A.), perfect running order; £48, or near.—16, St. Mary Abbotts Terrace, Kensington. [6221

NEW 7-9h.p. Rudge Multi Twin, T.T. handle-bars; £6 extras; £140; exchange Sunbeam, Norton, A.B.C.—Vincent Gatty, Brandlingill, Cockermouth. [X6648

NEW I.O.M. Rudge Multi, special machine, extra large exhaust, tuned by a winner of many speed events, a real speed man's mount; list price.—Wynn, Alcester. [6237

1920 T.T. Rudge, mileage 1,876, Klaxon, speedometer, Tan-Sad, knee-grips, College shields, excellent condition; £115.—210, Kew Rd., Richmond. 'Phone: 368. [5508

RUDGE Multi, 1916, splendid order, £72/10; also Rudge with Philipson pulley, £47/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5156

RUDGE 3½h.p. C.B. Combination, C.A.V. mag., kick start, free engine, wind screen, all in excellent condition and appearance, easily detached; £63.—44, Cranmer Av., West Ealing. [6508

RUDGE Multi 1920 I.O.M. Model, very small mileage, fast, and equal to new, lamps, etc., guaranteed; £100.—Longman Bros, 387, Uxbridge Rd., Acton. Tel.: 1578 Chiswick. [6527

RUDGE Multi, 1920 I.O.M. model, speedy; month old, ridden under 500 miles, lamps, etc.; £112; quick sale, owner going abroad.—Seen at 32, Ancill St., Fulham, S.W.6. No dealers. [6660

1920 3½h.p. T.T. Rudge Multi, new spare belt, inlet and exhaust valves, in absolutely new condition, tyres unpunctured; mileage about 500; price £100.—Sheppard, 12, Maple Grove, Bath. [5580

NEW 1920 5-6h.p. Rudge Multi Combination, lamps, horn, unregistered, never been ridden, owner unable to take delivery; accept £170.—D. J. Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [4993

ALLEN-BENNETT Motor Co.—I.O.M. Rudge Multi 3½h.p., sports model; £110/5; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5286

1920 5-6h.p. Rudge Multi Combination, long stroke, free engine, clutch, multi gear, pedal starter, Miller lamp set, horn, tools, new last April, under 500 miles, same as new; £150 cash.—E. W. Howard, Market Place, East Harling, Norfolk. [4103

ALLEN-BENNETT Motor Co.—1919 I.O.M. Rudge Multi, lamps, horn, speedometer, very small mileage, splendid condition; £110; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [6000

RUDGE 3½h.p., 1914, N.S.U. 2-speed, new, £45, with sidecar, £65; Rudge Multi combination, 5-6h.p., with nearly new de luxe Rudge sidecar, £150, all lamps, horn, and keys both; tyres, belt, and everything perfect.—Jackson, 27a, Cobden St., Burnley. [6907

Scale.

1920 New Scale, 3½h.p. Precision engine, 2-stroke, 2-speed, clutch, kick start; £90; immediate deliveries.—The Rochester Auto and Supply Co., Rochester. [0199

NEW SCALE 3½h.p., Precision engine, 2-speed, clutch, and kick start; £91/10; from stock.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [5761

NEW Scale, 3½h.p. Precision engine, mechanical lubrication, will take sidecar, only done 200 miles, buying more powerful machine; perfect condition.—Whitfield, City Buildings, Carrington St., Nottingham. [X6247

Scott.

SCOTT 3¾h.p., recently overhauled.—Padd. 2423, 89, Abbey Rd., N.W.8. [6717

NEW Scott Combination in Stock; £185.—Brown's Garage, Maltby, Rotherham. [5366

SCOTT New Sports Model in Stock, early delivery of combination.—Moss, Wem. [X6657

SCOTT 1920, 3 weeks old, small mileage; £135.—Martin, Harrowby Rd., Grantham. [5825

1912 Scott, 2-speed, wants overhauling, tyres good; £28. F. C. Edwards, High St., Tenterden. [5488

SCOTT Combination, 1920, as new; £175.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [5762

SCOTT, Oct., 1919 machine, Feb., 1920 sidecar, perfect condition; £150.—J. Brayley, 215, Oxford St., Swansea. [5709

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SCOTT, latest model; don't wait, delivery from stock; list price. — Central Garage, Swanage. 'Phone: 26. [5934

SCOTT 3¾h.p., 2-speed, free engine, lamps, speedometer, splendid machine; £39.—74, Addison St., Nottingham. [X6596

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3¾h.p. Scott combination, new, 1920 model, from stock; £185. [3745

1915 3¾h.p. Scott, engine perfect, new Binks, Bosch, new front tyre, discs, etc.; £65.—44, Station Rd., Wylde Green. [X6253

1920 Scott (May), ridden very little, lamps unlighted, tyres unpunctured, perfect; £135.—R. Moore, Suttonbridge, Wisbech. [4710

SCOTT 1920 3¾h.p., 2-speed and clutch, complete with head and rear lamps, bulb horn.—Parker's, Bradshawgate, Bolton. [X6612

SCOTT Combination, lamps, horn, tools, etc., tyres good, whole as new.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [5428

SCOTT 1914 Combination, 2-speed, kick, perfect, overhauled and enamelled; £90, or near offer.—Thaxter, Seagate, Hunstanton. [6332

SCOTT, 1919, C.B. sidecar, perfect, unscratched, lamps, Klaxon, new tyres; photo; Derby; £155.—Box 6,279, c/o *The Motor Cycle*. [6820

SCOTTS, 1920, brand new, solos, combinations, or sidecars only; list prices; prompt delivery.—W. Pepper, Market Hill, Royston, Herts. [6459

JULY, 1920, Scott Combination, unused, with hood, screen apron, luggage grid; at cost price.—Write Scott, Judde House, Tonbridge, Kent. [5616

1920 Scott, T.T. bars, large Lucas head lamp, electric tail, Cowey horn, Watford speedometer; £140.—Knox, The Chase, Nuneaton. [X6454

SCOTT 3¾h.p., nearly new, semi T.T. bars, complete with lamps, horn, tools, insurance, etc.; £120.—Ratcliffe, 5, Selborne Terrace, Bradford. [6443

SCOTT 1911, used 4 years, thoroughly overhauled, splendid working condition; £42, or near offer.—Purchas, 25, Hockliffe St., Leighton Buzzard. [X6659

A SMART Scott Combination, 1915, speedometer, lamp set, new tyres, etc., grand condition; £95.—Dentistry, 769, Romford Rd., Manor Park, London, E. [4753

SCOTT, latest model, and sidecar, engine just overhauled by makers, perfect order; £120; ride away.—Nelson, 48a, Marquis Rd., Stroud Green, N.4. [6266

SCOTT, No. 1388, perfect, Capac, overhaul just cost £14; accept £60, no offers.—Fuller particulars write Scott, 98, Michael St., Castle Foregate, Shrewsbury. [5446

SCOTT, engine No. 3641, Binks carburetter, Palmer tyres, P.H. lamps, mechanically perfect, everything like new; £125.—Fawn and Archer, Victoria Rd., Aldershot. [5701

SCOTT 1920 Combination, in gorgeous tune, a dream to drive, great climber, silent, swift, sure; £152; trial by appointment; evenings.—12, Hawkesley Crescent, Northfield. [X6688

1919 Scott Combination, genuine Scott sidecar, fully equipped, 3 lamps, horn, tools, etc.; £145; seen any time.—64, York St., Twickenham. 'Phone: Richmond 1135. [6201

1920 Scott and 2-seater Sidecar, hood, screen, side curtains, electric lighting, ridden 50 miles; offers.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [6186

3¾h.p. Scott, delivered June, 1920, Klaxon horn, full kit of tools, machine unscratched, too powerful for owner; £130, no offers.—N. Walker, 12, George St., Hull. [5406

SCOTT Combination, late 1913, laid up during war, now fitted new cyls., practically good as new Bosch, Binks, lamps, horn, speedometer, tools, spares, any trial; £85, lowest.—Edwards, 3, Park Villas, Okehampton. [5776

1920 Scott Combination, light car tyres, Bonniksen speedometer, horn, spare chain, plugs, tools, 700 miles, perfect condition, makers' guarantee, insurance to May, 1921; best offer over £190.—Price, 3, Sandringham St., York. [6388

1920 Scott Combination, No. 3945, insured to March, 3 electric lamps, Lucas horn and mirror, watch, Bonniksen trip, 2 spare sprockets ready to ride away, bought car; best offer over list price.—51, Portland St., Southport. [4101

ALLEN-BENNETT Motor Co.—1920 Scott 3¾h.p. large P. and H. head lamp, horn, etc., etc., mile age under 700, unscratched and indistinguishable from new; £127/10; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon 'Phone: Croydon 2450. [6000

1913 Scott Combination, twin cyls., coachbuilt Myers sidecar, Binks carburetter, Bosch mag new Dunlop tyres, new Lucas lamp, new Renold chains, Stewart speedometer, Lloyd double oil feed horn, tools, spares, just done faultless week's holiday of 500 miles; £75.—Turner, 11, Temple End, High Wycombe, Bucks. [X6744

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Singer.

ER 3½h.p., single gear, lamps and horn; £35.—Brook Bros., Burnham-on-Sea, Som. [4147

ER Lightweight, less carburetter, recently overhauled, perfect little machine; £20.—45, Ivor Rd., orthy, Dorset. [6489

—Singer 2½h.p., mag., B. and B., wants attention; offers; after 7 evenings.—Southeran, 55, Bedtd., Clapham, S.W.4. [5974

ER Combination, 1915, 4½h.p., 2-speed countershaft, just overhauled, coachbuilt sidecar; £70.—ls, East View, Northwick Rd., Evesham. [6285

4 Singer Combination, 4h.p., 2-speed and clutch, kick start, Bosch, B. and B.; can be seen in ; first reasonable offer secures.—Write Jenkins, Willow Brook Rd., Leicester. [5499

Sparkbrook.

RKBROOK, 1918, 2-speed, fully equipped, splend condition; £56. — Young, Market Place, er. [6455

RKBROOK 1920 2¾h.p., 2 speeds, at makers' rice; £75.—Eagles and Co., 275, High St., W.3. [X6714

RKBROOK, 2-speed models, £75; from our owrooms.—A. J. Young and Co., Ltd., Heath , Newmarket ('Phone: 214), and 75, Albany St., [4011

2½h.p. Sparkbrook 2-stroke, single and 2-speed odels in stock at makers' list price for cash, or ended payments 4% extra.—Harrods, Ltd., 118, ton Rd., London. [5399

Sun.

VITESSE, brand new 1920, 2-speed countershaft; 32/10.—Box 6,292, c/o *The Motor Cycle.* [6834

VITESSE, 1919, 2-speed, accessories; bargain, 35; after 7.—67, Blenheim Gardens, Cricklewood. [5572

VILLIERS 1917 2½h.p., re-enamelled, engine d condition perfect; £43; after 6.—110, Sangley tford. [6725

6h.p. Sun-Jap Combination, Sturmey-Archer ars, perfect condition; £120.—Emery, 98, Derby rthampton. [5455

2¾h.p. Sun-Villiers 2-speed, splendid order; must sell; £38 or offer:—Garaged at 120a, Bollo Rd., Acton. [6257

VILLIERS, 2¾h.p., complete with lamps, speedeter, excellent condition; £40, offers.—106, Rd., Ashford. [5948

Vitesse, 2¾h.p., single speeds, 2 speeds, clutch, l kick-starter models in stock, immediate de- Harrison's Cycle Stores, Beverley. [5826

VILLIERS, 1915-16, single, 5030, C.A.V., ae, all accessories, Brooks, spare belt, new son, easy starter; £45; trial by appointment. , 16, Nightingale Rd., Dover. (D) [X6453

Sunbeam.

SON'S, High St., Guildford, are Sunbeam nts. Inquiries invited. [5593

EAM 3½h.p., delivered this week, unridden; t offers?—95, Peel St., Hull. [6448

Sunbeam, perfect order; with sidecar £100, thout £80.—Baker, Ealing Green. [5675

EAM 3½h.p., standard, 2 weeks old, unetched; £165.—173, Spring Bank, Hull. [6447

EAM 3½h.p. Combination, late 1915, perfect dition; £145.—15, Brandram Rd., Lee, S.E. [6693

8h.p. Sunbeam Combination, just overhauled, y trial; £180.—E.M., 52, Campbell Rd., Salisilts. [5277

1920 3½h.p. Sunbeam Sporting Model, run m works only; £170; private.—Box 6,181, c/o *or Cycle.* [5474

Sunbeam and Coachbuilt Sidecar, all accesies, as new; best offer over £120.—Day, Chelmsford. [5357

EAM 1917, kick starter, 3-speed, h.b.c. clutch, p. horn, etc., excellent condition; £120.—C. Clapham, Yorks. [0246

EAM, 3½h.p. 1920, ridden 150 miles, bought ; accept list price, no offers.—Whitehouse, Bridgetown, Cannock. [X6760

3½h.p. Sunbeam, 3 speeds, clutch, kick start, icker sidecar, must sell; £80.—J. Smith and Hampstead Rd., N.W.1. [6926

EAM 1919 Combination, F.R.S. electric light, spare wheel, hood, cover, and wind screen.— , Bradshawgate, Bolton. [X6610

French Military Sunbeam, black and gold nish, splendid condition, lamps, Klaxon; £135. erfield Rd., Finsbury Park. [6345

Price, immediate possession, 1920 3½h.p. ndard Sunbeam, mileage under 100, perfect. Brittain, Orient Lodge, Buxton. [X6703

EAM 3½h.p., late 1919, all-weather khaki model, W.D., perfect condition, all accessories; £120. elock St., Forest Hill (Syd. 1315). [6155

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3½h.p. Sunbeam, only ridden solo, and in excellent condition, now fitted with brand new Millford sidecar to match; £120.—Crow Bros., Guildford. [6728

LATE 1915 3½h.p. Sunbeam Coachbuilt Combination (sidecar brand new), lamps, accessories, new condition; £135; exchange Morgan.—63, Salon Rd., Brixton. [6402

1914 Sunbeam, 6h.p. twin J.A.P. engine, Bosch mag., B.B. carburetter, 3-speed gear, new tyres, perfect, Gloria car.—King, 67, Westbourne Park Rd., W. [6029

6h.p. Sunbeam Combination for sale, speedometer, lamps, wind screen, accessories, first-rate condition; £150.—Apply during daytime, Matthews, 140, Idle Rd., Bradford. [5849

SUNBEAM 1914 2¾h.p., lamps, horn, tools, speedometer, etc., very fast and excellent condition; £85.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [5763

ONE 4h.p. Sunbeam Combination, guaranteed in perfect order, hardly soiled, delivery Nov. last; £175, or nearest offer.—Apply, W. Cross, 29, New Rd., Newtown, Mont. [6741

SUNBEAM, as new, 1918, 8h.p. M.A.G. engine, Lucas electric lighting, screen, speedometer, etc., any trial, delivered 100 miles; £175.—Queen's Head, Waltham Abbey. [6480

1919 (Dec.) 3½h.p. Sunbeam, fitted with Sunbeam leg shields, Lucas lamps, Lucas horn, mileage 200; price £145.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [3621

SUNBEAM Combination, 6h.p., 1914, gear box and clutch just overahuled by makers, Lucas lamp, etc.; £120, or near, for quick sale.—100, Brecknock Rd., London, N.7. [6177

SUNBEAM, 1914, 2¾h.p., 2-speed gear, chain drive, Bosch mag., Lucas lamp and horn, in very good order, also few spares; 60 gns.—Mitton, Scarsdale House, Loscoe, Codnor, Derby. [5644

3½h.p. Sunbeam, 1914, 3-speed, no play anywhere, enamel unscratched, tyres unpunctured, real pre-war goods; after 6.30 p.m.; about 98 gns.—120, Marlborough Flats, Walton St., Chelsea, S.W.3. [X6646

SUNBEAM 3½h.p., 1916, Green Model, engine No. 4930, general accessories, including electric lamp (dry battery), and spare parts, splendid running order; £115; Fifeshire.—Box 6,184, c/o *The Motor Cycle.* (D) [5477

1918 8h.p. Sunbeam Combination, black and gold, largest lamps, Lucas horn, detachable wheels, new 3in. Dunlop tyres, luggage carrier, condition and appearance as new; £165.—106, Church St., Chelsea, London. [6242

2¾h.p. Sunbeam, 1915, 2-speed, clutch and K.S., chain drive, oil bath gear cases, lamps, new Sensprav carburetter, Bosch mag., new extra heavy Dunlops, perfect; £63.—Smith, 11, Guild St., Stratford-on-Avon. [6705

1920 (July) 3½h.p. Sunbeam Combination, leaf springs, detachable interchangeable wheels, accessories, brand new, unregistered, cost £210; accept £200.—Hamilton, Burton Rd., Kennington, near Ashford, Kent. [5921

1919 Sunbeam 3½-4h.p. French Military Model, chain-cum-belt drive, Lucas lamp, generator, tools, pump, Stewart speedometer, spare new piston, Montgomery sidecar, lamp, generator; £140.—33, Devonshire Place, Harrogate. [5929

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay (late Sunbeam nland).—The Molineux Garage Co., Ltd. Wolverhampton. Tel.: 1160. [3458

SUNBEAM 3½h.p. T.T. Combination, late 1918, Bramble sidecar, Lucas lamps, mechanical horn, etc., small mileage, perfect condition; price £145, or exchange with cash for G.P. Morgan.—Harley, 53, Fountain Hall Rd., Edinburgh. 'Phone: 4684 Cent. [5452

SUNBEAM, late 1919 3½h.p. sporting model, black and gold, T.T. bars, speedometer, Klaxon, exceptionally fast and wonderful on hills, only ridden few times, and in absolutely perfect condition; bargain, nearest £132.—Winteadyne, 11, Russell Rd., Hall Green, Birmingham. [X6672

1920 3½h.p. Sunbeam, with primrose dinky pattern sidecar, largest F.R.S. lamp set, Cowey trip speedometer, Cowey horn, knee grips, mirror, F.R.S. sidecar lamp, Lucas rear lamp, disc on sidecar wheel, done 450 miles, as new; £220.—R.L., c/o Martin, 36, Frogmore St., Bristol [0238

SUNBEAM 2¾h.p., 2-speed, chain drive, kick starter, clutch, footboards, tyres practically unsoiled, Lucas accessories, mirror, spare chain parts, etc., 69 gns.; if required, light Watsonian coachbuilt sidecar, stormproof apron, 11 gns.—Garage, 5, Eglon Mews, Berkley Rd., Primrose Hill (near Chalk Farm Tube). [6304

ALLEN-BENNETT Motor Co.—1916 Sunbeam 3½ h.p., just left repair shops, having been thoroughly overhauled, re-enamelled and plated, and fitted with new tyres at a cost of over £30, now indistinguishable from new; £125; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [6007

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Sunbeam.

LATE 1918 Sunbeam Combination, 3½h.p., black and gold, Easting wind screen, Tan-Sad, Klaxon, splendid turnout, complete; £175; apply after 6.30. —W., 36, Sumatra Rd., W. Hampstead, N.W.6. [6145

1919 (Dec.) 8h.p. Sunbeam Combination, mileage 4,000, Lucas dynamo lighting, spare wheel, Tyres A1, gold medal winner in London-Land's End and London-Edinburgh, engine just been completely overhauled by makers and is equal to new, any trial gladly given; £250, or near offer.—Darnton, Corbie Steps, Harehills Lane, Leeds. [6663

SUNBEAM Black and Gold 3½h.p. Combination, 1919 model, delivered January, 1920, Sunbeam cane sidecar, fitted spring luggage carrier, Cowey horn, Watford trip speedometer, variable jet Amac, knee-grips, F.R.S. electric lighting, with 7in. head lamp, fed by accumulator and dry batteries (2-way), insurance and spares; owner bought car; an outfit for those who require the best of everything; £200.—Naylor, 85, Beamsley Rd., Frizinghall, Bradford. [5747

T.D.C.

NEW T.D.C. de Luxe 2¾h.p., 2-stroke, 2-speed; £56; must sell.—Mrs. Hunter, Gibside Terrace, Burnopfield, Durham. [5884

T.D.C. 3½h.p. Combination, Brampton 2-speed gears, lamps, speedometer, all new Dunlops; £48.—44, Morning Lane, Hackney. [X6758

TWO Brand New 1920 T.D.C. De Luxe motor cycles, each fitted with 2-speed gear, 26in. wheels, with 2-ply tyres, pan saddle, aluminium footboards, and C.A.V. magneto; £52 each; take sidecar anywhere.—Hockley Motor Co., 38a, Cecil St., Newtown Row, Birmingham. [5993

Triumph.

TRIUMPH, 4h.p., 1914, 3-speeds, clutch; £60.—38, Payne St., Deptford, S.E.8. [6361

1920 (March) Triumph 4h.p., lamps, horn, tools, etc.—Scott, 24, Lisburn St., Alnwick. [5672

TRIUMPH 3½h.p., perfect; £28.—534, Fulham Rd., Walham Green Basement. After 2. [6851

1915 Triumph, clutch, perfect condition, £70; also ditto with C.B. sidecar, £85.—Below.

1916 Triumph Countershaft, C.B. outfit, perfect, nicely fitted; £105.—308, Upper Richmond Rd., Mortlake. [X6645

1920 Triumph, Model H, just arrived from makers; £127/10.—Rose's Garage, Uxbridge. [6900

3½h.p. Triumph, engine thoroughly overhauled; £38 —Clow, 117, Cavendish Rd., Leicester. [6385

£85.—Triumph 1918 4h.p. countershaft, splendid condition.—81, Little Ealing Lane, Ealing. [6109

TRIUMPH, just delivered; £127.—Dulwich Cycle and Carrier Co., 356, Lordship Lane, S.E. [6088

TRIUMPH Countershaft Combination, engine No. 57827, perfect; £115.—45, Avignon Rd., S.E.4. [6085

3½h.p. Triumph, renovated, going order, Grado variable, free; £25.—53, Stanway Rd., Coventry. [X6669

TRIUMPH 1919 Combination, Canoelet, Easting, all accessories; £138.—1, Cedar Rd., Cricklewood. [6169

£32, offers.—Triumph, Bosch, perfect order, ride away, or send.—Lambeth, 1, Pitlake, Croydon. [6290

REX G. MUNDY.—1920 T.T. Triumph, as new; £110, or near offer.—1, Duke St., Richmond. [6735

TRIUMPH, 3½h.p., good as new, 1914, 2 speeds; compulsory sale (cash).—Claydon, Eastry, Kent. [6348

£30; Triumph 3½h.p., clutch model, splendid running order, new tyres.—Morrell, Melidin, Flintshire. [5891

TRIUMPH, 1913, sidecar, complete, 3-speed, splendid condition.—Leary, 12, King's Ter., Edgware, N.W.9. [6075

1920 Triumph and show sidecar, nearly new accessories; £170.—V., Malt House, Broom, Bidford-on-Avon. [X6553

T.T. Triumph, dropped frame, 1913 engine, Grado gear, ready to ride away; £45.—Garner, Saffron Walden. [6167

1918 Triumph-Millford Combination, 3-speed countershaft, good condition; £124.—102, Kenyon St., Fulham. [6746

TRIUMPH, 1914, 3-speed, K.S., lamps, horn, etc., good order; 55 gns.—19, Shaftesbury Rd., Hammersmith. [6868

3½h.p. Triumph, 1911, splendid condition, lamps; £38.—13, Cranmer Rd., Hayes End, Hayes, Middlesex. [6887

JUNIOR Triumph, late 1919, low mileage, well equipped; £75; as new.—Baughan, Long Wyre St., Colchester. [5324

3½h.p. Triumph, T.T., new, C.A.V., B.B., in excellent running order; £42.—76, Western Rd., Southall, W. [5535

1913 Triumph, 3-speed, pedal start, excellent condition, lamps, horn; £57.—3, Park Rd., Kingston Hill, Surrey. [6138

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IMMEDIATE Delivery, brand new Model Triumph; best offer secures.—Box 214, c/o *Motor Cycle.* [X

TRIUMPH, 1913, clutch model, appearance as ride away; £56.—2, Beulah Rd., Wimble nr. Station.

3½h.p. Triumph, 1911, N.S.U. gears, in running o £40, or nearest offer; after 7.—11, Thurlow Rd., Dulwich.

1912-13 3½h.p. Triumph, clutch model, good o any trial; £38.—Paine, Downs Farm, Bilsin Ashford, Kent.

TRIUMPH, March, 1920, 4h.p. Model H., lamps, horn, as new; 130 gns.—Dorrington, Chest Wistow, Hunts.

1919 (Oct.) Triumph with Milford Sidecar, accessories; £140.—H. M. Lorden, Ravensw West Hill, Putney.

3½h.p. Triumph, single, good tyres, pow machine, owner gone abroad; £30.—17, St., Deptford, S.E.

TRIUMPH 3½h.p., speeds, clutch, K.S., renov perfect condition; £40.—Woodford, Blacksm Market Harborough.

4h.p. Triumph, 3-speed Sturmey-Archer, rec overhauled and insured; nearest £80.—283, shill Rd., Coventry. [X

W.D. Triumph, completely renovated and in lent condition; £85, no offers.—Bladdale, Queen St., Coventry. [X

TRIUMPH Type H Combination, for immediat livery (on rail to us now).—Kerridges, 32 High St., Alton, Hants.

TRIUMPH and 1920 C.B. Sidecar, never use speed, clutch, all on; trial; bargain, £68.— 45, Charles St., Stepney.

4h.p. Triumph, 3 speeds, free engine, clutch, la horn, etc., pink of condition; £75.—Walke Foxley Rd., Kennington.

TRIUMPH, Model H, 4h.p., countershaft, b new, unridden; £136.—Cathcart House, William St., Mablethorpe.

1920 4h.p. Triumph, countershaft (April), l lamps, indistinguishable from new; £130.— 2-5, c/o *The Motor Cycle.* [X

40 Gns.—3½h.p. Triumph, clutch, renovated makers, looks like new, tools, etc.—Wildgoose Chester Green Rd., Derby. [X

TRIUMPH, 3½h.p., clutch model, engine rec overhauled, new parts, smart; £40.—Lewis, Hartfield Rd., Wimbledon.

TRIUMPH, countershaft engine, No. 42618, 3 sp mechanically perfect, lamps; £82.—14, Or Cottages, Hayes, Middlesex.

1920 (April) Triumph, Model H, perfect, used; West Lancs. district; £120.—Box 6 c/o *The Motor Cycle.* (D)

TRIUMPH 3½h.p. single gear, head lamp, p horn, running order, carriage paid; £36.—G Murchison, Fulford, York.

TRIUMPH, 4h.p., disc., Tan-Sad, good condi evenings, after 7; £50.—10, Allfarthing Wandsworth Common, S.W.

TRIUMPH Combination, 1914, 3-speed, Ivy built sidecar, just overhauled, splendid condi £87.—Tippen, Marden, Kent.

TRIUMPH Combination, 1914, 4h.p., 3-speed, la spare belt, valve, and other accessories; £7 Wrottesley Rd., Harlesden.

1919 T.T. Triumph, 4h.p., condition excellent accessories, speedometer; £94.—Clark, 1, worth Gardens, Acton, W.

1914 4h.p. Triumph and best Gloria Sidecar, l less; £145.—626, Lea Bridge Rd., Le 'Phone: Walthamstow 800.

TRIUMPH 1914 4h.p., Bosch, 3-speed, clutch, cessories, splendid condition; £70, or near —Cobden House, Welshpool. [X

3½h.p. Triumph Combination, 3 speeds, clutch, l excellent condition; £85, near offer, barg Ebbs, Ladbroke Rd., Horley.

TRIUMPH 3½h.p., clutch model, excellent cond throughout; seen after 6.30 p.m.—31, Fulh Av., Highams Park, London.

TRIUMPH, 1911, good tyres, horn, lamps, r series, decompressor, paddles off; £28.—W 83, Manor Rd., Wallington.

TRIUMPH Baby 2¼h.p., 2-speed, lamp, horn, 1916, perfect condition; £56.—49, Gros Place, Newcastle-upon-Tyne.

TRIUMPH 1911, new tyres and belt, lamps, etc., in excellent condition; £38/10.—W Avondale, South Park, Reigate.

4h.p. Triumph, single-gear, D.R. bars, new Berling tyres, etc., low and fast; £56.—Cu Eversholt Lodge, New Barnet.

4¼h.p. 1919 (Aug.) Triumph, as new, Lucas speedometer, rear generator; £115; not days.—Beckett, 89, King Charles' Rd., Surbiton.

MOTOR CYCLES FOR SALE.

Triumph.

4 Triumph 4h.p., A.J.S. sidecar, new engine, 3-speed, Bosch, lamps, luggage carrier; £80.—. Foston, Newport, Salop. [X6744

UMPH, 3½h.p., good condition, fine running order, new lamps; £40, or nearest. — Jones, t Place, Corby, Grantham . [6284

UMPH 4h.p. Countershaft, 3 speeds, clutch and kick start, just renovated throughout; £76.—129, Park Lane, Carshalton. [6581

p. Triumph Combination, 2-speed, lamps, excellent condition; £46/10.—Stored at Tan's, Chippenham Rd., Paddington. [6471

9 Triumph Combination, luxurious sidecar, fully equipped, £140; or exchange lower power.—n, Nassington, Peterborough. [4977

—T.T. Triumph, 3½h.p., fixed engine, Bosch mag., Senspray carburetter, just overhauled; seen me.—5, Theisger Rd., Penge. [6417

UMPH 4h.p. Countershaft, 3 speeds, clutch, kick tart, new sidecar and Tan-Sad; any trial; £100. , 129, Park Lane, Carshalton. [6583

1920 Countershaft Triumphs in stock, ready or delivery.—Services Motor Exchange, Bronsterrace, Cambridge. Tel.: 167. [5942

4 Triumph Combination, 3 speeds, lamps, coach-built sidecar, good condition throughout; £74. h, Gt. Giddington, Peterborough. [6568

UMPH, 3½h.p., 3-speed, and clutch, overhauled, and in perfect condition; £50.—Smith (Motors), Hainault Works, Chadwell Heath, Essex. [5788

UMPH Junior, Sept., 1919, new condition, small ileage, complete with lamps, horn, tools; £70. rs.—Fell, 39, Oxford St., Ulverston, Lancs. [5387

9 Triumph Combination, coachbuilt, in beautiful condition throughout, equipped with lamps, £125.—L. Bull, 44, Hills Rd., Cambridge. [6655

UMPH 4h.p. Model H, overhauled, countershaft ear, with brand new Millford Skiff sidecar; £116. s and Co., 275, High St., Acton, W.3. [X6715

UMPH 1920, Lucas lamps, disc wheels, speedo-meter, equal to new; £112/10.—Longman Bros., xbridge Rd., Acton. Tel.: 1578 Chiswick. [6526

7-18 Triumph Combination, countershaft, 3-speed, clutch, condition and appearance as new; ial; £110.—43, Leavesden Rd., Watford. [6723

UMPH, 1918 engine, new wheels, new tyres, new ag., renovated throughout, in splendid condition; County Garage Co., Gerrard's Cross, Bucks. [0240

-3½h.p. Triumph Combination, perfect me-anical order, Bosch mag. Palmer tyres; trial by appointment.—1, Elmsworth Av., Hounslow. [5645

UMPH, 4h.p., brand new, countershaft, insur-nce, all accessories, spares, and crate; £130.—ing, 159, Trinity Rd., Wandsworth Common. [6241

UMPH 1919 4h.p., 3-speed, Montgomery No. 2 decar, mileage 4,000, perfect condition; £160.—remier Motor Co., Aston Rd., Birmingham. [5811

Sale, Triumph 3½h.p., clutch model, 1912, ondition good, bargain, must sell; apply after —192, Redding's Lane, Hall Green, Birmingham. [X6702

8 Triumph Coachbuilt Combination, Canoelet sidecar, in fine condition, perfect running order; -County Garage Co., Gerrards' Cross, Bucks. [0241

Y Triumph, about 1918, new belt and back yre, in splendid condition, trial; price £55 cash. . Flatt, Home Farm, Quidenham, Attleborough. [4102

UMPH 1914 4h.p., 3-speed, clutch, and C.B. idecar, thoroughly overhauled by makers last £90, or nearest.—H. Smith, Purton, Wilts. [6563

8 Triumph, countershaft, another beauty similar o those we sold last week; £95; don't hesi-Bunting's Motorchange, Wealdstone, Middlesex. [6802

9 Triumph Countershaft Combination, Grindley sidecar (new body), recently fitted new Dunlops, ank; bargain; £135.—50, Marlborough Rd., Cov- [X6810

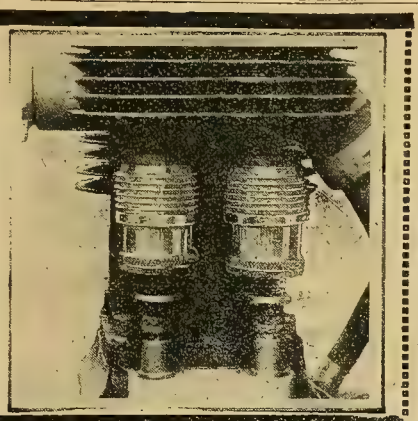
p. Triumph, good tyres, adjustable pulley, handle-bar mag. control, long exhaust, good g order; £32/10.—Walker, 17, East St., Wor- [X6804

2 3½h.p. Triumph, Bosch, B. and B., new belt any tyres, overhauled; £33, or exchange 2-stroke, value; after 6.—Dunsford, 7, Leighton Rd., [6107

0 Triumph-Gloria Combination, 400 miles, all lamps; Easting, spare belt and tube, the whole ; £170. — 190, Balvernie Grove, Southfields, 8. [6790

UMPH 4h.p. Combination, 2-speed, clutch, kick start, in running order; 96 gns. — Smith, 268, der Hill (opposite Arding and Hobbs), Clapham on. [6343

UMPH, countershaft model, 1915, Bosch, Binks, .H. lamps, perfect running order, any trial; no offers.—Humphries, 3, Bowater Place, Black-S.E.3. [6086



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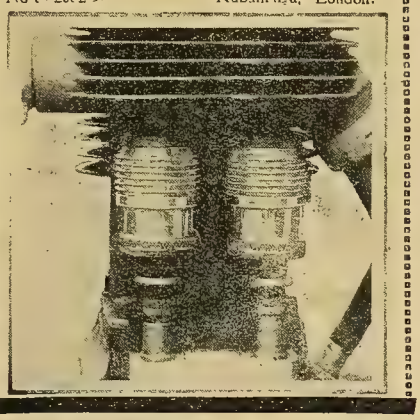

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH, 4h.p., countershaft, engine No. 49723, as new, very fast, new tyres, lamps, tools; any trial; price £82, or nearest.—Box 6,303, c/o *The Motor Cycle.* [6811

1920 Triumph, H model, complete with Lucas lamps, Klaxon horn, disc wheels; immediate delivery at list price.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [3620

£40.—1912 Triumph, clutch, splendid condition, lamps, new carburetter, belt, rings, clutch plates; after 6.—Kendall, Somerset Place, Wellington St., Slough, Bucks. [6479

BABY Triumph, 2¼h.p., late 1919, mileage under 100, head lamp (unused), Klaxon, tools, perfect condition; seen by appointment; £70.—Box 6,238, c/o *The Motor Cycle.* [5712

1920 4h.p. Triumph Type H Combination, lamps, Cameo screen, Cowey speedometer, Klaxon, under 500 miles; £155.—After 7, 18, Ladysmith Av., Seven Kings, Essex. [6119

ROBERT BAMFORD.—I generally own, and always know of the best 4h.p. Triumphs in London. Every machine specially selected and tested. See under Consulting Engineers. [2128

TRIUMPH 4h.p. (1919) and Gloria Sidecar, Lucas lamps, horn, spare tubes, complete spares, carefully driven, tyres perfect; £150.—Slater, Decorator, Styal, nr. Manchester. [6682

1920 T.T. Triumph, low mileage, as new, Miller lighting set, knee-grips, long exhaust, spare belt and tube complete; £105, or near offer, bargain.—Gregory, Codford, Wilts. [5440

TRIUMPH Countershaft Combination, purchased new May, 1919, luxurious sidecar, guaranteed perfect outfit, well equipped; £120.—60, Wallingford Av., North Kensington. [6555

TRIUMPH, 4h.p., September, 1914, 3-speed, clutch, stored 4 years, new Canoelet sidecar, plating as new, lamps, etc.; £90.—Phillips, Craven Lane, Southam, nr. Leamington. [X6708

TRIUMPH Combination 3-speed, countershaft, K.S., luxurious bulbous back sidecar, new 1919, equipped perfect, ride away; £125.—Dentist, 216, Portobello Rd., North Kensington, W. [4500

4h.p. Triumph, late model, countershaft, coachbuilt combination, very smart outfit, with new spare tyre, tube, belt, valves, etc.; absolute bargain, £110.—10, Redcliffe Rd., S.W.10. [5325

1914 Triumph 4h.p. C.B. Combination, 3-speed clutch, Bosch, Dunlops good, spare retread, new belt, lamps, horn, apron; ride 30 miles to purchaser; £85.—201, Railway Terrace, Rugby. [X6581

LATE 1914 Triumph, 3-speed, clutch, new Lucas head and tail lamp sets, mechanical horn, perfect condition; any trial; 65 gns.; after 5 o/c.—6, Etloe Terrace, Church Rd., Leyton. [5775

1919 Triumph-Gloria Combination, countershaft, 3-speed, lamps, tools and spares, perfect condition, little used, fully insured; 145 gns.—Seen, W. Collins, Cwrt Ucha, Port Talbot, Glam. [6687

1918 Triumph Countershaft, Mills-Fulford coach-built sidecar, 4-point attachment, new Dunlops, luggage grid, apron, guaranteed mechanically perfect; £115.—10, Clarendon Rd., W.11. [5653

1919 Triumph Combination, engine No. 61047, lamps, horn, speedometer, wind screen, footboards, very useful spares, excellent condition.—Carr, Wheatstone Park, Codsall, Wolverhampton. [5510

TRIUMPH 1914, 3-speed, 4h.p., has recently been overhauled, and is in perfect condition, nearly new Senspray, new Dunlops, Brooks B170, and belt; £62.—95, Grosvenor Rd., Highbury. [6635

1920 Triumph, countershaft, as new, small mileage, fully equipped, bargain, £120; new Swan sporting sidecar, luggage grid, wind screen, unscratched, £30.—43, St. Matthew's St., Ipswich. [6789

TRIUMPH 1919 Model, with nearly new bulbous back sidecar, electric lighting, splendid condition; £155.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5152

3½h.p. Triumph, single-speed, splendid running order, lamps, horn, spares, climb anything; £45, or exchange for good lightweight.—Write, Arthur Lord, Victoria St., Settle, Yorks. [6318

TRIUMPH 1920 4h.p. motor cycle with Gloria side car, Lucas head, rear, and sidecar lamps, horn, Cowey speedometer, hood, cover, and wind screen; £200.—Parker's, Bradshawgate, Bolton. [X6609

TRIUMPH, late 1919, with new Foxton sidecar, tyres splendid condition (2 brand new), in beautiful running order, appearance equal to new, insurance included; £145, or offer.—Newall, 8, Gt. King St., Macclesfield. [5385

MARCH, 1920, 4h.p. Triumph, Grindlay sidecar, hood, screen, Lucas lamps, horn, spare tyre, tube, belt, valve, condition as new, owner bought heavier combination; £170.—Riley, 5, Newmarket, Norwich. [5649

TRIUMPH Combination 1919, 3-speed countershaft, K.S., beautiful bulbous sidecar, lamps, horn, apron, etc., appearance as new; £125; tyres unpunctured.—13, Grenfell Rd., Notting Hill, W.11. [6557

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1914 4h.p., 3 speeds and clutch, Bosch mag., just completely overhauled and fitted new rings, valves, bushes, adjustable pulley, mudguards, accessories; £70.—Birkenhead, Thornton, Eye, Suffolk. [5893

1918 Countershaft Triumph, 4 h.p., every moving part new, Triumph finish, £90; also 1914 3-speed Triumph, similar guarantee; £65.—Bromley Motor Mart, Orchard Place, Bromley, Kent. Tel.: Bromley 2277. [5630

TRIUMPH Combination, countershaft, 4h.p., 3-speed, K.S., nearly new sidecar, new Cameo wind screen, 3 lamps, horn, spare new tube, valve, etc., smart turnout, in splendid order; £130.—22, Effra Rd., Wimbledon, S.W.19. [6572

TRIUMPH Model H C.B. Combination, hood, screen, electric lamps, discs, luggage grid, spare can holder, Tan-Sad, numerous accessories and spares; bargain, pulls like a 7h.p., £170; after 7.—67, Blenheim Gardens, Cricklewood. [6077

DELIVERED March, 1920, mileage 800, 1919 4h.p. countershaft Triumph, engine 58182, large F.R.S. lamps front and rear, A.K. knee-grips, Lucas horn, as new in every respect; not in Thursdays; £126.—83, Maxey Rd., Plumstead, S.E.18. [6153

TRIUMPH 1919, with No. 1 1920 Montgomery sidecar, disc wheels, all lamps, speedometer, screen, and luggage grid, total mileage about 3,000, perfect condition, and guaranteed; £135.—Longman Bros, 17, Bond St., Ealing. Tel.: 689. [6529

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¼h.p. Triumph Junior, new, 1920, £75; 4h.p. Triumph combination, new, 1920, £182/10; 4h.p. Triumph solo, £127/10; 2¼h.p. Triumph, 1914, £60; and 4h.p. Triumph, 1914, £75. [6923

1919 Triumph Countershaft Combination, lamps, horn, luggage grid, speedometer, full insurance, splendid outfit; £135.—View 6 to 7, Thurs., or Friday, 21, Grosvenor Rd., Ilford, or write Stevenson, 34, Grosvenor Rd., Westcliff-on-Sea. [6692

COUNTERSHAFT Triumph Combination, unscratched, exceedingly smart turnout, disc wheels all round, large P. and H. lamp set, Lucas horn, tools, etc.; accept £120.—3, Cluny Mews, Warwick Rd., Earl's Court. 'Phone: Western 1344. [6409

TRIUMPH 3½h.p., cylinder recently reground, new piston, Binks, Bosch, Grado gear, K.S., drip feed, frame and tank re-enamelled, lamps, horn, etc.; £47/10; owner buying combination; seen after 7 p.m. —29, Woodcote Rd., Wallington, Surrey. [5330

1918 As New 4h.p. Triumph, 3-speed, kick starter tyres, plating, etc., unscratched, brand new sidecar, complete, £135; solo, 98 gns.—Sales Dept. Norris and Hall, Ridge Mews, Child's Hill, Cricklewood, N.W.2. 'Phone: Hampstead 7667. [6799

COUNTERSHAFT Triumph Combination, 1915, with all accessories, including lamps and horn, Dunlop heavy tyres almost new, all in splendid condition; willing to give prospective purchaser a 20 mile trial run; £100.—R. Hayward, Inverness, Carshalton Grove, Sutton. [5702

1914 Triumph, 4h.p., 3-speed Sturmey-Archer, Cowey speedometer, Bosch, acetylene lamp, horn, spares, tyres and belt as new, machine guaranteed mechanically perfect, not used from 1915 to 1919; owner bought car; 68 gns.—Usher, Church Place, Paddington. Padd. 355. [X6235

TRIUMPH-GLORIA Combination, new Jan., 1920, very carefully ridden, mileage 2,000, Lucas electric lighting equipment, Lucas horn, Bonniksen trip speedometer, specially picked machine, guaranteed as new; £180.—The Premier Motor Co., Aston Rd., Birmingham. [5812

ALLEN-BENNETT Motor Co.—1916 Triumph 4h.p., C.S. 3-speed clutch and K.S., excellent condition, nearly new coachbuilt sidecar, coach painted mauve; £120; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [6006

TRIUMPH 4h.p. Countershaft Underslung Coach Combination, new Avon steel-studded, new P. and H. lamp, smart lot, £100; also clutch coach underslung combination, stored 4 years, take 3 anywhere, nice condition, £60; any trial.—Taylor, 637, Seven Sisters Rd., Tottenham. [6097

1914 4h.p. 3-speed Triumph Combination, new carburetter, etc., accumulator lighting, folding luggage platform on sidecar, complete set of tools and spares, including 5 new valves, new unused John Bull 1in. belt, and Dunlop extra heavy tyre, trial given; £115.—G.B., 33, Broadway, Earlsdon, Coventry. [X6579

4h.p. Countershaft Triumph and Gloria Sidecar Combination, Oct., 1919, original tyres and belt, small mileage, sidecar not used until 6 weeks ago, scoop and plate glass wind screen fitted, lamps, horn, and full kit, tools, etc., everything in first-class order, ready for tour; £150.—Tobacconist, 137, Gt. Dover St., S.E. [6271

JAP, Model Triumph, 3-speed countershaft, and 1920 Swan de Luxe sidecar, complete with hood, screen, petal side valance and luggage grid, quick detachable fittings, electric lighting set, 3 lamps, Lucas horn, Jones trip speedometer; the whole out fit in perfect condition; price 125 gns.—Box 162, c/o *The Motor Cycle*. [X5796

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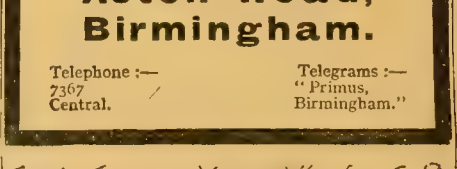

MOTOR CYCLES FOR SALE.

Triumph.

3½h.p. Triumph, Olivos conversion, wide saddle tan spring frame, sprung carrier, almost new tyr engine overhauled, aluminium piston, Gradua ge aluminium discs, enamelled royal blue and cream, very fast and powerful machine with beautiful lin and extremely comfortable, just completed; £65; can accept orders for similar machines.—Olivos Moto 120a, Bollo Bridge Rd., Acton, W.3. [62

Velocette.

CYRIL WILLIAMS, for early delivery of Velocett —Chapel Ash Depot, Wolverhampton. [22

VELOCETTE, 1920 model, brand new, just delivere £73/10; an aristocratic lightweight.—Rhosha Mot Co., Bank Mews, Romford. [21

VELOCETTE, 1920 model, brand new, 2¼h.p., speed, all-chain drive; £73/10; immediate d livery.—The Premier Motor Co., Aston Rd., Birmin ham. [58

2¼h.p. Velocette 2-stroke, watertight mag., good tyre plating and enamel as new, lamps, horn, etc., pe fect running order; trial; £59.—Mac, 13, Victoria R Upper Norwood, S.E. [54

MUST Sell.—Velocette 2¾h.p., 2-speed, chain driv complete with lamps, mechanical horn, guaran teed as new, only done 250 miles, fast and economica accept £68 for quick sale.—Apply, Carter, 11, High Albert St., Chesterfield. [X675

Verus.

1920 (April) 4h.p. Verus-Blackburne, accessories any trial; offers.—Cole, 52, Zetland Rd., Bristo [666

1920 Verus, 2½h.p., K.S., as new, all accessories £75.—Seen, Harvey Hudson, South Woodfor (next George Hotel). [574

4h.p. Verus-Blackburne, 1920 (June), Sturme Archer, mileage 500, perfect; offers.—47, Edwar St., Caeracca, Dowlais. [677

2¾h.p. Verus-Blackburne, new; 105 gns.; immediat delivery; trade quoted.—Maudes' Motor Mar 100, Paris St., Exeter. [642

BLACKBURNE-ENGINED 2¾h.p. 4-stroke Veru new; list price £110/10; no reasonable offe refused.—Foley, West Hagley, Stourbridge. [X600

ALLEN-BENNETT Motor Co.—Verus 2¾h.p. stroke, single-speed; £55; cash, exchange, o extended payments.—9-10-11, Royal Parade, Londo Rd., West Croydon. 'Phone: Croydon 2450. [529

ALLEN-BENNETT Motor Co.—Verus 2¾h.p. speed, clutch, and kick starter; £80; cash, ex change, or extended payments.—9-10-11, Royal Par ade, London Rd., West Croydon. 'Phone: Croydo 2450. [529

ALLEN-BENNETT Motor Co.—Verus 2¾h.p., Black burne engine, 2-speed, clutch, and kick starter £99/15; cash, exchange, or extended payments.—9 10-11, Royal Parade, London Rd., West Croydon 'Phone: Croydon 2450. [529

Villiers.

1919 Villiers Lightweight, 2-stroke, 2-speed, P. an H. lamps, nearly new Dunlops, perfect running order, ridden only a few miles; £47/10.—767, Fulhar Rd., S.W.6. [663

Vindec

1920 2¼h.p. 2-stroke, 2-speed, Vindec motor, a new; £65.—Cook Bros., Newmarket Rd., Cam bridge. [X658

5-6h.p. Vindec Combination, coachbuilt sidecar Bosch mag., B. and B., clutch, in running order £35.—Taplin, 159, Hornsey Rd., N.7. 'Phone: North 280. [677

V.S. Combination, 6-7h.p., Bosch, B. and B. 2-speed, clutch, overhauled, enamelled, with lamps, generators, horn, tools, spares, perfect condi tion; £65.—L.K., 101, Lausanne Rd., Hornsey, N.8 Appointments by letter, or after 6.30. [616

Williamson.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Williamson combination, 1914, w.c. £117/10. [978

WILLIAMSON Combination, 8-10h.p. water-cooled Douglas engine, large sidecar, new tyres, appear ance as new; £150.—Lt. Atkins, Westcourt Garage Canterbury St., Gillingham, Kent. [640

WILLIAMSON 8h.p. Combination, a.c. Dougla engine and 2-speed gear box, clutch, K.S., fully equipped, recently thoroughly overhauled, tyres nearly new, takes 3 anywhere, full inspection invited; £120 after 5 p.m.—Stevens, 7, Purley Ter. (adjoining tram depot), Purley. [495

WILLIAMSON 10h.p., water-cooled, 1915-16, 3 speed, kick starter, well equipped, plating enamel, tyres perfect, 50-gn. all aluminium polished sidecar, also 2-seater coachbuilt body, the whole just thoroughly overhauled, mileage about 5,000, not used 1917-18; £180; reasonable offer entertained.—Write 38, York Mansions, Battersea Park. 'Phone: McCor mick, Wimbledon 951. [627

Wolf.

1914 Wolf 2½h.p., excellent running order; bargain £28.—40, Old Rd. West, Gravesend. [582

JULY 29TH, 1920.

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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The Three-wheeled Runabout.

MANY words and much ink have been expended on the subject of sidecars versus runabouts, but there is a feeling in certain sections of the manufacturing world that in the near future the over-developed sidecar will find it difficult to justify its existence. Prices have risen, and are rising, until the list price of some fully-equipped big sidecar machines approaches that of a small car, and the public are beginning to ask how this can be so. There are, of course, and always will be, some who prefer to pay the top price for the very best outfit rather than a similar price for a cheap car, but, in general, the man who is prepared to lay out £200 and over expects more comfort and better protection from the elements than is afforded by most motor cycles. Taxation will probably handicap the development of the light four-wheeler, though the few firms who have already good selling propositions in this line will be sure to do well; but the three-wheeler is a simple and inexpensive proposition, and we dare prophesy that its development during the next few years will be extremely rapid. Undoubtedly the three-wheeler, as we now know it, has certain inherent disadvantages, but it provides proper protection for both driver and passenger, and, what is equally important, it can be produced as cheaply as, or cheaper than, a motor cycle and sidecar. The majority of high-powered sidecar outfits are never detached from the sidecar, and are clumsy to handle as solo mounts. Why, therefore, should heavy, unmechanical, and expensive couplings be introduced into the designs? From the one-piece motor cycle and sidecar chassis, it would be an obvious step to produce a simpler and more mechanical frame, even if well-tried motor cycle transmission were retained. A good market for the motor cycle and sidecar, and especially for dual-purpose machines, is assured, but we expect that the three-wheeler of the future will meet with considerable favour.

The A.C.U. Six Days Trial.

UNDOUBTEDLY there is a certain amount of enthusiasm among manufacturers regarding the A.C.U. Six Days Trial next month, and there seems to be every likelihood that the limit entry of 150 will be reached.

There was, however, a tendency among would-be entrants to criticise the new rule that observed hills would not be known to the competitors. It was thought that riders with a knowledge of the country traversed would have an unfair advantage, as a study of the route cards would convey to them a full knowledge of the hills likely to be observed.

It is an open question whether this new rule is entirely a wise decision, although, excepting for the point mentioned, there does not seem to be any great disadvantage. However, as we are able elsewhere in this issue to give a list of the worst hills in the trials, the A.C.U. has wisely, we think, removed a possible cause for complaint.

Sidecar Taxation.

IT will be recalled that the motor cycle taxation proposals include an impost on sidecar outfits of £4, irrespective of power and weight. We have frequently pointed out that this is distinctly unfair to those owners of machines under 200 lb. in weight, who attach a light sidecar for occasional use. A 200 lb. lightweight will be subject to a tax of 30s., and machines over this weight £3; therefore, to tax a lightweight sidecar £4 is to obtain £2 10s. for the sidecar, whereas the owner of a larger machine pays only £1 extra for the passenger attachment.

We are glad to be able to announce that efforts are being made to bring about an amendment by which sidecars will be taxed £1 separately, and that there appears to be every reason to anticipate that those who are watching motor cyclists' interests in this matter will be rewarded.

An index to the advertisements in this issue will be found on the page facing the back cover.

Occasional Comments by "Ixion"

Buying at a Distance.

I RECENTLY drew attention to the difficulties which surround the would-be buyer of a second-hand motor cycle who has the misfortune to reside at a great distance from any of the big agencies. A correspondent reminds me that the A.C.U. "consuls" are empowered to "vet" second-hand machines in return for a small fee, and that the employment of a consul solves the problem to which I alluded. The normal examination includes a general inspection and a road trial. For an increased fee, a certain amount of dismantling is performed.

Springing the Luggage.

ONE of my recent visitors—per two-wheeler—was an old pal who is too staid to profit by glad eyes along the road. His wife, I should add, is far too timid for pillion riding, and, incidentally, has a cycle car of her very own. He dismounted cautiously outside my garage, cocking his eye at a kind of Eiffel Tower erection on the carrier. I examined the structure incredulously, and found that it owed its height to the fact that a Tan Sad formed the first storey. "What the ——," I began. "Only way I can get the luggage to stop on over 1920 roads," he explained tersely. I kicked myself. The Tan Sad people should note this dodge with a view to extending their business. No, they need not send me one—I have a sprung frame.

Spare Chains and Tubes.

I RECENTLY counselled the reckless novice not to venture too far abroad without a spare chain and a spare tube. An ostensibly innocent greenhorn has hit me between wind and water by asking where and how he is to carry these necessities. On the spur of the moment I was about to pen eloquent reminiscences of days when motor cycles had capacious cupboards in the sides of their tanks, but I was fobbed off this subterfuge by another enthusiast who burst in, irate with a garage who had refused to split a two-gallon can, and imploring me to plead for the standardisation of three-gallon tanks. Seriously, there are plenty of spare tube carriers on the market, and up to a point they are excellent. That point is the occurrence of the puncture. Such a case must not be large enough to let the tube flop about, or it will chafe; consequently, the job of inserting the damaged tube in the tiny case is perilous to the morals of a hot, tired, dirty, and irritated motor cyclist. The punctured tube should, therefore, be tied round the waist until equanimity has been restored by a wee doch-an-doris, or other suitable prescription. But I am clean beat as to the proper method of carrying a spare chain. Personally, I fold mine in several thicknesses of stout paper, and strap the resulting annular (good word, that) parcel to my carrier. But then I do not carry flappers. Can anybody advise a sound dodge for carrying spare chains?

Where we Score.

I AM told that many externally keen motor cyclists inwardly hanker for the day when they will be able to afford a thumping big car. Let such console themselves and curb their impatience with sundry salutary reflections. Item, our narrow track enables us to pick out a fairly smooth line amidst the pot-holes of the modern road. Item, our narrow width permits us to overtake lorries and chars-à-bancs at sight, instead of having to hoot till our fingers ache and then wait for a wide place in the road. Item, we need not reduce our speed on hills. I have just had a jaunt in a colleague's light car, and a scooter was practically the only motor vehicle we met which could not pass us on hills; even the popular 500 c.c. sidecar outfits climbed about as fast as we did.

A Holiday Route.

DOUBTLESS a good many of our readers will travel West during their annual vacation. I should advise them to avoid the whilom popular route westwards from Exeter *via* Moretonhampstead to Tavistock. I was over it the other day, and for narrowness, sharp corners, and high hedges it is as prehistoric as ever it was, whilst its ancient dangers have been vastly enhanced by the lumbering chars-à-bancs which nowadays infest it. As the daily papers have recorded, a tragic smash occurred on it the other day. No great praise can be given to the surfacing of the alternative route *via* Okehampton and Launceston, which is also far less interesting, but the second route is at least moderately safe. There is, of course, a third and still more interesting route, viz., along the south coast of Devon to Ashburton, and on to Two Bridges. The north coast route has appalling surfaces in parts of North Devon, and is apt to be bleak when Cornwall is entered.

The Cynic at Large.

THE other evening it was raining in torrents—nothing new for an English July. Four of us sat and listened to the rain pattering. The afternoon's golf wouldn't bear talking of. Had we not been mopped up by a leggy individual who tackled an ultra-long course with a bag containing nothing more than (1) a dilapidated brassey, (2) a rusty mashie, and (3) an antique cleek cut down to serve as a putter? The cynic picked up the current issue of a famous motor cycle journal. After one of the weekly features (spare my blushes) had been ruthlessly dissected, he fell to analysing the T.T. advertisements, one or two of which ingeniously camouflaged the fact that the wares concerned had not been right down the course. Then he made venomous capital out of Brooklands, where "records are beaten with a bit up the man's sleeve, only to be won back as soon as they are broken, and where everybody rides with an eye on the handicappers, taking care not to win too easly or too often."

A LAKELAND TRIAL.

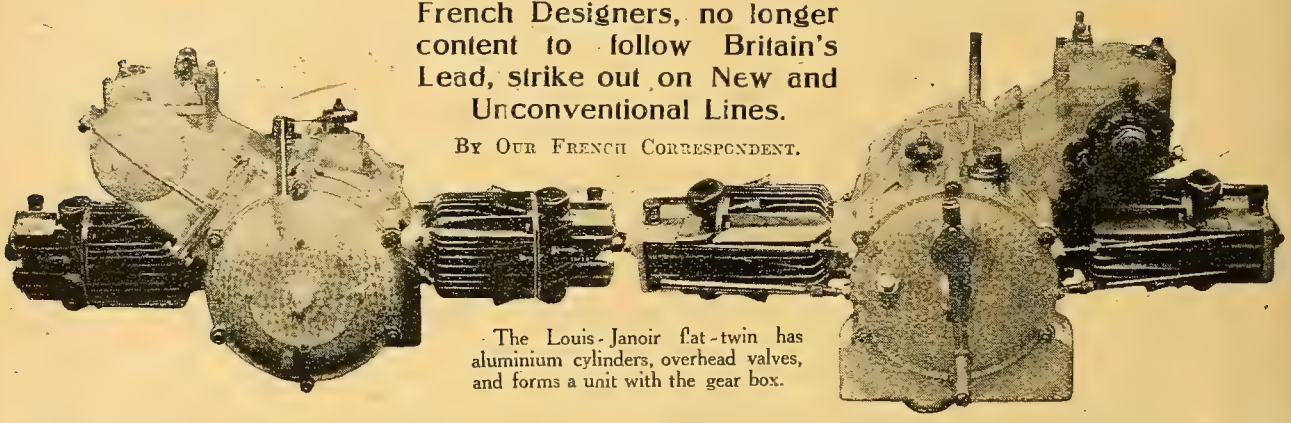
SCENES IN THE RECENT CUMBERLAND COUNTY M.C.C. TRIAL.

(1) R. E. Darnton (7-9 Indian) and Allen Douglas (3¾ Scott) coming through the mists on Buttermere Hause. (2) Red Bank, with Grasmere in the distance. The rider is H. W. Glendinning (3½ Sunbeam). (3) R. G. Lawson (3¾ Scott) skidding round the corner on the observed hill at Catlands. (4) A Sunbeam rider on the 1 in 4 gradient on Red Bank. (5) D. S. Alexander's passenger (7-9 Indian sc.) holds the watch during the Flexibility Test on Red Bank. (6) J. E. Greenwood (3½ Sunbeam sc.) approaching the starting line of the Acceleration Test. (7) The first hairpin on Kirkstone Pass in Ambleside. W. A. Fell-Smith (8 Blackburne sc.)

MOTOR CYCLE DESIGN IN FRANCE.

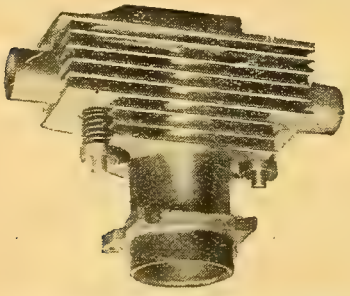
French Designers, no longer content to follow Britain's Lead, strike out on New and Unconventional Lines.

By Our French Correspondent.



The Louis-Janoir flat-twin has aluminium cylinders, overhead valves, and forms a unit with the gear box.

AFTER being stagnant for a number of years, French motor cycle design showed a wonderful revival at the last Paris Salon. On that occasion several machines were brought forth by new concerns and hitherto unknown engineers, in which were incorporated original ideas of such merit as to place them in a class by themselves. France had so long been content to follow timidly in the wake of England, in so far as motor cycle design and production was concerned, that the appearance of the new school created no little surprise among those who attended the show.



One of the T head cylinders of the Bleriot twin engine.

Machines on exhibition last October were nothing more than sample models. Nearly all of them were incomplete, and in the interval many details have been modified as the result of extensive tests on the road. At the present time, eight months after they were first shown to the public, some of them are ready to go into production, while others will still be several months before they are offered for sale.

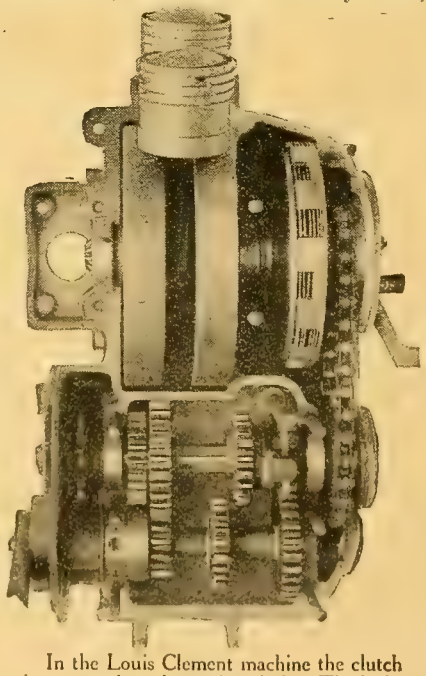
As the most typical of the new French design, the Louis Clement twin may be selected. The engine was designed and built by M. Calvignac before the war, and in a frame of quite ordinary design was in service throughout the hostilities. Improved and modified, it was placed on exhibition at the Salon, and after further modifications, made possible by modern production methods, it is ready to be offered to the public.

The outstanding feature of this machine is that the two cylinders, of 62 × 90 mm. bore and stroke, mounted at an angle of 55° on an aluminium crank case, have a common detachable head carrying the valves, the camshaft, the cam operating mechanism, and combining the intake and the exhaust manifolds. There is a detachable cover over the head, so that no moving parts are visible, and the whole of this mechanism runs in a bath of oil.

In addition to this feature, the engine and the gear box form a compact unit, which naturally tends toward lightness, as well as longevity, for all working parts are completely enclosed. As can be gathered from the illustrations, the drive is taken from the crankshaft to the gear box by a short, enclosed chain, and the final drive is taken to the rear wheel by a second chain inside a detachable housing. A spring hub assures a perfectly flexible drive.

Enclosed Drive.

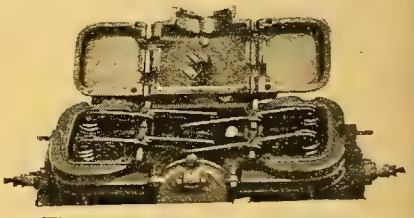
Reverting to the engine, the crank case forms a two-piece aluminium casting, divided horizontally, and forming two compartments, the front one enclosing the crankshaft, with its internal flywheels,



In the Louis Clement machine the clutch is mounted on the engine-shaft. The kick-starter is on the lay shaft of the integral gear box

the mutiple-disc clutch and the sprocket for the main driving chain. The rear compartment is a three-speed gear box, with sliding gears, and with sprocket for the final drive by chain. All the shafts are mounted in ball bearings. The pistons are of aluminium, and the I section connecting rods have roller bearing big ends. A bevel pinion on the extremity of the crankshaft drives an enclosed vertical shaft which operates the transverse camshaft in the detachable head.

There are four cams operating the vertical valves by means of very long rockers. One of the patented features of this engine is the simple method of adjusting the valve stem clearances.



The overhead valve mechanism of the Louis Clement V twin

The valve stem has a flat screwdriver type end, while the extremity of the cylindrical portion is threaded. A special nut with a flat head from which project two studs, screws on to the end of the valve stem, and also receives the forked end of the rocker. The fork, while operating the valve, also prevents the nut from turning To get adjustment, it is only necessary to lift the rocker clear of the valve and turn the nut in the required direction.

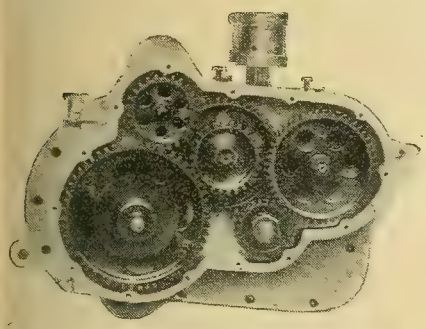
The detachable head, which is secured to the two cylinders by means of eight studs, has the intake and the exhaust passages cast with it. The carburetter, a horizontal Zenith, is thus bolted up direct to the head, without the use of any external intake piping. The main air supply is from two opposed points on the exhaust side of the cylinder head, passing right through it to the intake valves on the opposite side. This not only gives a uniform heating of the mixture, which tends toward economy and even running, but the cold air cools the oil bath forming a part of the head. As there are no plain bearings in the engine, drip feed is used from a tank to the detachable head, and by means of an overflow in this to the base.

Motor Cycle Design in France.—

chamber through the vertical shaft housing. The magneto, as can be seen, is placed on the top of the gear box, and driven by means of a horizontal shaft with bevel gearing. The engine, which has a piston displacement of 540 c.c., runs at 2,500 revolutions, at which speed it is declared to develop 8 h.p.

Steel tubes are only used to a limited extent by the Louis Clement engineers, and brazing has been done away with almost entirely. The front fork, for instance, is a steel stamping, carrying at its upper rear extremity a forged steering pivot. Front suspension is by means of a four-leaf spring shackled at its front end. Both spring and shackle work under ideal conditions, for they are enclosed in a metal housing which constitutes the front number plate. Pressed steel is also used for what is generally described as the top tube. In this case it should be described as the top frame member. It is in two parts, riveted together, and encircles and is welded to the head.

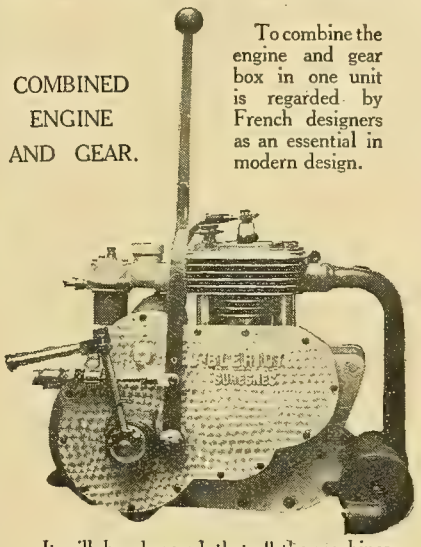
Demountable and interchangeable disc wheels are another very good feature.



Combined "half-time" and change-speed gear of the Bleriot side-by-side twin.

These are built up of a cast aluminium hub, forming brake drum, aluminium discs, and a steel rim. The rear wheel can be taken out, leaving the chain, sprocket, and brake bands in position, and either the front or the sidecar wheel can be put in its place. The advantage of this when it is necessary to repair a puncture on the roadside in bad weather will be fully appreciated by all practical motor cyclists. The front wheel brake is operated from the handle-bar by means of a Bowden wire. The rear wheel brake control is by means of a pedal operated by the left foot. When a sidecar is used, this is also braked by the left foot.

As there is no tube above the tank, the speed indicator and clock are recessed in this latter with very neat effect. A pressed steel tool box is fitted, the top of which forms a strong luggage carrier.

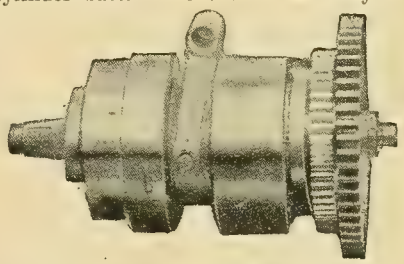


COMBINED ENGINE AND GEAR.

To combine the engine and gear box in one unit is regarded by French designers as an essential in modern design.

It will be observed that all the machines described in this article follow this practice. Above is depicted the Bleriot unit, showing the side-by-side cylinders, kick-starter, and gear lever.

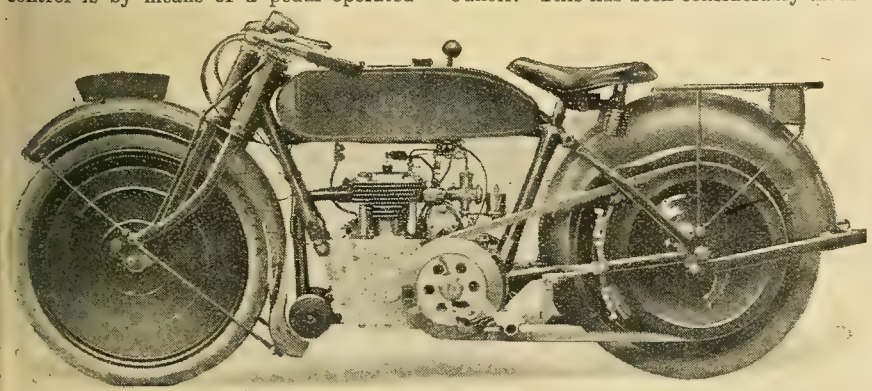
A machine of an entirely different type, but no less original, is the flat twin 8 h.p. Janoir. This has been considerably modified since it was first shown at the Paris Salon, the greatest change being the abolition of all steel tubes. The engine has cylinders measuring 85×85 mm. bore and stroke giving a piston displacement of 965 c.c. The crank case and the two cylinders are a single aluminium casting with pressed-in steel liners and a detachable cylinder head with cast iron valve seats. With this design there is no joint, and consequently no holding-down bolts at the cylinder base. The crank case is cylindrical, and is closed by two circular steel end plates, which on being removed give complete access to the internal organs.



The clutch unit of the Bleriot twin.

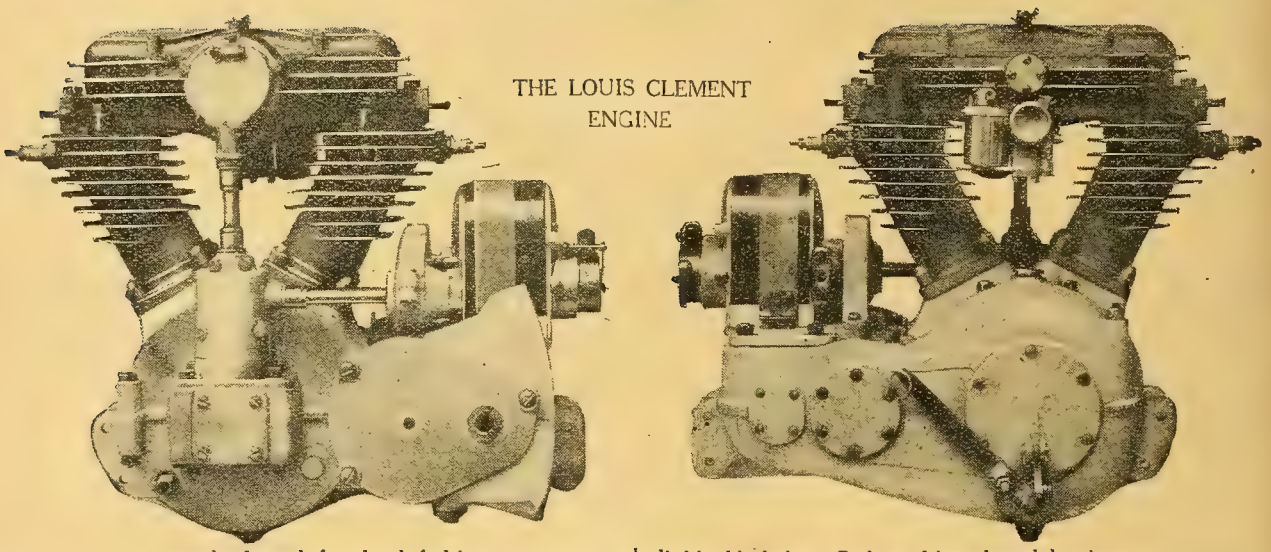
When the right-hand plate is taken off, for instance, it shows the skew gear-driven vertical camshaft, with its four cams, the drive at the lower end for the oil pump, and at the upper end for the high-tension magneto. The main supply of oil is contained in the aluminium sump, but there is also an auxiliary supply within a tank in the frame of the machine. The balanced crankshaft with its two throws at 180° is carried in ball bearings, and has connected to it tubular rods with split big ends. The gudgeon pins are hollow, and work in aluminium pistons with bronze bushings. It is declared that this engine gives off 11 h.p. at 2,000 revolutions, and 16 h.p. at 3,200 revolutions. No attempt will be made to get the highest power out of the engine, but rather to adopt a moderate compression and get a very flexible and smooth running machine. Before leaving the engine, it should be stated that starting is by means of a crank, as in the case of a car engine.

Mounted on the top of the crank case, as clearly shown in the illustrations, is a compact three-speed gear box with sliding gears. Connection is made from the engine shaft to the gear box by means of a chain, contained in a dust-proof and oiltight aluminium housing, and the final drive is taken by chain. A gate type change speed mechanism, with



The Bleriot vertical twin—a very compact design, in which mudguarding appears to have received serious consideration.

THE LOUIS CLEMENT ENGINE



An overhead camshaft and a shaft-driven magneto are embodied in this design. Both are driven through bevel gear.

its lever conveniently placed to the driver's right hand, is made use of. One of the features of this is a simple locking arrangement by means of a flat blade spring which automatically locks the lever in position on the sector as each gear is successively engaged.

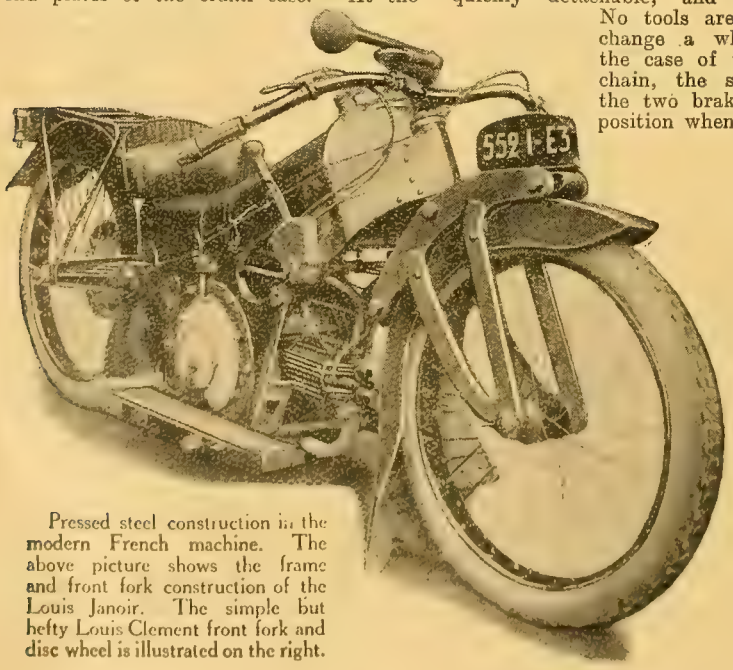
Mention has already been made of the fact that no steel tubes are employed, if exception be made of the handle-bar and the two small tubes for the luggage carrier. The front fork consists of two pressed steel members, the top bar of which is curved. They are united by three pins, the centre one receiving the head piece, and the two end ones being the shackle bolts of opposed leaf springs. This general arrangement is clearly shown in one of the illustrations.

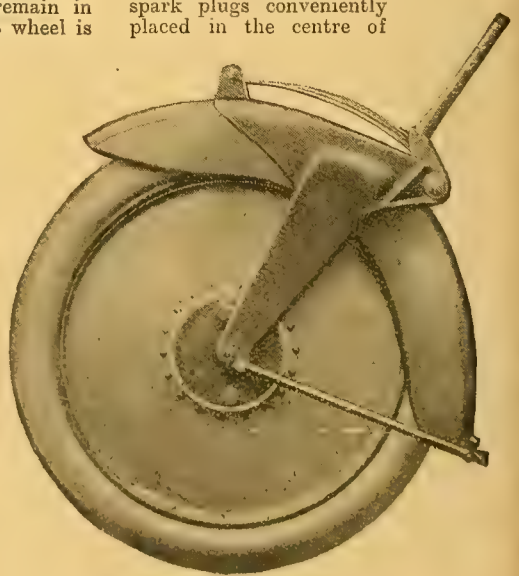
A triangular pressed steel open frame is used, and the engine is bolted into it by a series of bolts going through the end plates of the crank case. At the rear a pressed steel fork, only slightly inclined from the horizontal, is used, with suspension by means of quarter-elliptic springs.

As can be judged from the illustrations, a very low centre of gravity is obtained. The petrol tank is carried within the open pressed steel frame, and at first sight appears to extend from the head to the spring cushion seat. This is not so, however, for the tank stops some distance from the seat, and the intervening space is filled up with a detachable metal cover, by removing which access is obtained to the carburetter and the magneto immediately below and on the top of the engine housing. While being thoroughly protected, these two organs are most conveniently placed for attention and adjustment.

Wire wheels are employed on the Janoir, but they are interchangeable, quickly detachable, and self-centring. No tools are required to change a wheel, and in the case of the rear, the chain, the sprocket, and the two brakes remain in position when the wheel is taken out. Wheel size is 750×85 mm.

In the Bleriot twin an entirely different design has been adopted. Engine and gear box form a unit attached in a more or less standard type of frame. The two vertical cylinders are mounted side by side on an aluminium base chamber, with the exhaust valves facing forward, and the intake valves, the carburetter and the magneto at the rear. The crankshaft has a single throw, the two pistons thus moving up and down together. It is admitted that the balance does not approach that of the flat twin, although this defect has been overcome to a certain extent by light reciprocating parts. On the other hand the cooling is excellent and uniform. Piston displacement is 500 c.c., the cylinder bore being 60 mm., and the piston stroke 88 mm. Excellent features of this engine are the neat arrangement of the exhaust pipes, with perfect cooling; the short intake pipe with the very accessible carburetter; the well protected magneto; the spark plugs conveniently placed in the centre of





Pressed steel construction in the modern French machine. The above picture shows the frame and front fork construction of the Louis Janoir. The simple but hefty Louis Clement front fork and disc wheel is illustrated on the right.

Motor Cycle Design in France.—

the combustion chamber; and the enclosed valve stems.

The multiple disc clutch and the two-speed gear set are contained in the rear portion of the crank case housing. From the main shaft the drive is transmitted through the timing gears to a lay shaft on the extremity of which is mounted the driving pulley. This shaft runs at half engine speed. The lower gear is obtained by means of a dog clutch, and operation is simple and easy.

The Blériot machine is supplied with detachable disc wheels. The mudguards are particularly big, and tend to give a massive appearance to the machine. It has been found, after long road tests, that this width of guard is not really required as a protection against mud, and in consequence the size has been reduced since the machine was first exhibited.

It is stated that the same type of engine, but of 1,000 c.c., will be used in the Blériot Whippet cycle car to be built in France. The Blériot company being one of the biggest aeroplane concerns in France, it is quite natural to find that the sidecars are built up in the same manner as aeroplane fuselages. The lines are particularly pleasing, while the design and the high-class workmanship give lightness with great rigidity.

Engine Units.

These three machines, the Clement, Janoir, and Blériot, are typical of the new French school. They do not, however, exhaust the activities of French motor cycle manufacturers. The product of the Gnome and Rhone Company need hardly be mentioned, for this is built entirely to the British A.B.C. designs. An entirely French design is the Ballot two-stroke, built by the largest engine producing firm in France, with a reputation not confined to that country. It is not the intention of Ballot to produce a complete motor cycle, but to supply the engine only. This is now in production and will be used exclusively by the Alcyon Company. Other firms have arranged to take it up, and the entire output for the next four years is said to be booked. The engine is a unit with its gear set and all control levers. Among its features are the complete enclosing of all working parts. Even the magneto is placed in a dust-proof aluminium casing. Among the French engine specialists, mention should also be made of Anzani, who produced motor cycle engines long before he became interested in aeroplane engines, and who is again devoting his chief attention to power plants for two-wheelers and for cycle cars.

An Adaptation from Aero Practice.

A Proposed Modification of the Monosoupape (or "One Valve") Principle.

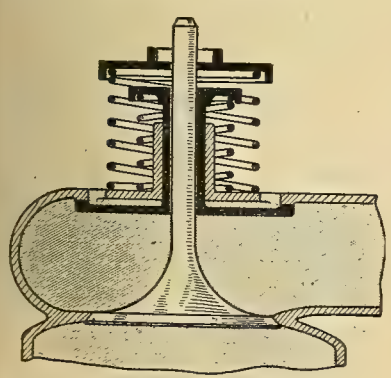
PROBABLY most of the large number of motor cyclists who have been connected with the R.A.F. during the last few years have been struck by the apparent simplicity of the Monosoupape Gnôme engine, and have wondered if the system could be applied to a motor cycle power unit. There are, however, certain difficulties to be overcome before this type of engine can be made roadworthy, and in circumventing them the advantages are mitigated.

One of the simplest modifications which has yet been brought to our notice is the idea of Mr. A. W. Doyle, of Dundrum, Co. Dublin. It is true that the engine can no longer be called a Monosoupape, since a second valve has been introduced, but the action of the valve is subsidiary to the main valve, and in other respects the cycle is similar to that of the well-known French rotary.

For the benefit of those who are unacquainted with the principles involved, it may be as well to explain that the Monosoupape Gnôme has a single valve in the cylinder head, which serves both as exhaust and inlet valve, and a series of holes in connection with the crank case through which a very rich mixture is drawn. The cycle is as follows:

Air is drawn in through the valve (as the piston descends) while the crank travels through 115° from top dead centre. The valve then closes, and a partial vacuum is formed during the next 45° of crank travel. At this point (*i.e.*, 20° from bottom dead centre) the piston uncovers a series of ports through which rich mixture is drawn from the crank case. The mixture is compressed and fired in the usual way, but the valve opens for exhaust at a very early period—85° from top dead centre—and remains open till the end of the inlet stroke.

Now the "Mono" has no silencer, but exhausts directly into the atmosphere, and, consequently, it is unsuitable for road use. If a silencer is fitted it would be obvious that only exhaust gases would be sucked back on the induction stroke. Therefore, Mr. Doyle has introduced a flat valve working concentrically with the main valve, through which fresh air may be admitted.



The concentric valve arrangement on the Doyle engine.

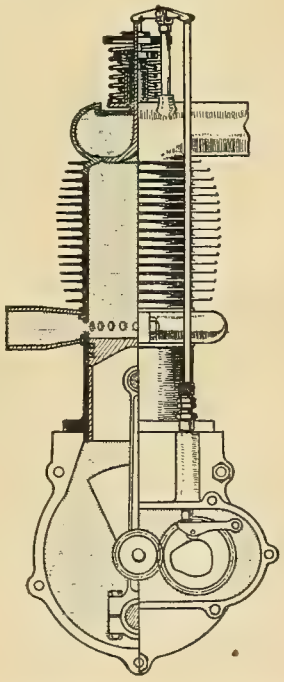
A Double Lift Cam.

From the illustration it will be seen that a double lift cam is used, the first, or lower, step providing the exhaust lift, while the second step raises the valve still further and lifts the auxiliary valve.

In the case of the proposed motor cycle engine, the ports round the base of the cylinder would be in connection with a special carburetter instead of with the crank case.

The working of the suggested engine, which is shown diagrammatically, is as follows: Pure air is drawn into the cylinder by way of the two valves during 140° of crankshaft revolution; then both valves are closed. For a further 20° of rotation a partial vacuum is formed by the continued descent of the piston, which then uncovers a series of holes drilled in the cylinder and communicating with the carburetter, thus allowing a charge of very rich mixture to be drawn in. This excessively rich mixture mingles with the pure air admitted at the commencement of the stroke, and forms a correctly proportioned charge. At 20° past bottom dead centre the rising piston covers up the gas ports and compresses the charge.

The spark, which is timed to take place at from 12° to 14° before the top of the stroke, then fires the charge, and the exhaust valve, operated by the primary cam, opens 40° before bottom dead centre, and remains open until 140° past top dead centre, thus allowing the burned gases to escape. The subsidiary, or air, valve, however, is opened only just after the induction stroke commences by the secondary cam, the exhaust valve being then already open, and as the exhaust gases by their own velocity will have been dispersed, pure air is drawn into the cylinder through the uppermost valve and the cycle is repeated.



An engine based on the *monosoupape* (one valve) principle, suggested by A. W. Doyle.

OVERSEAS SECTION

A Commentary based upon Practical Experience and a Study of Overseas Opinions.

The Uses of a Lightweight.

TIME and again long-distance trials have proved that the modern lightweight is capable of enduring long-distance tours at the legal limit of speed. It should not, however, be imagined that a little two or four-stroke engine is intended to do the work of its larger brethren. It must be obvious to the veriest novice that a big engine running normally on small throttle openings, and consequently developing but a fraction of its maximum power output, will last longer and give better service than a teacup engine which is driven hard in order to obtain similar speeds.

A little common sense on the part of a lightweight owner is all that is required to ensure perfect satisfaction, but this so-called *common* sense is too often lacking. It is a daily experience in this country to see little engines being grossly over-driven, and it is wonderful, under such circumstances, that the tiny machines provide the service that they do. Nevertheless, the many possibilities of the lightweight do not seem to be fully realised in all parts of the world. Wherever there are passable roads or tracks, a modern lightweight can go, and a pony that does not get tired on a fifty-mile trip in hot weather is an advantage not to be scoffed at. In its early stages, the lightweight was a machine fit for little more than an occasional run into town for shopping purposes, but nowadays it is a perfectly reliable and economical mount for all kinds of messenger service. There are already hundreds of owners who live some miles from their places of business, and who daily use a convenient little motor cycle to take them to work without any more thought of mechanical breakdown than if they were relying on a train. For this type of service a good lightweight is ideal, and its popularity is steadily increasing. Small two-strokes score on the point of simplicity and lack of attention necessary; the fuel consumption of the better machines is but little higher than that of equivalent four-strokes. The latter type, however, will always have staunch adherents, on account of its proved reliability and orthodox appearance.

OVERSEAS CONDITIONS.

One of the twenty odd watersplashes on the last day of the Scottish Trials. This was a very mild sample compared with some

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For Messenger Work.

IN many parts of the world, where a man may live forty or fifty miles from town, and be accustomed to accomplish the journey by means of a horse, the lightweight will prove invaluable, though there are, of course, many places where the tracks are unsuitable for wheeled traffic.

At the present time there is talk of an eventual slump in motor cycles; but if manufacturers in this country are wise, they will turn their attention to the Overseas market, and organise a progressive sales campaign, backed by a good service of spares and replacements. Under these circumstances, they will have no difficulty in disposing of their output for many years to come, while they will have the additional advantage of building up a sound Overseas trade, which leads to a world-wide reputation.

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Australia Building Motor Cycles.

ELSEWHERE in this issue will be found particulars of two Australian built machines which have more than usual interest to both buyers overseas and the manufacturer in this country. In both cases, the outlines somewhat follow American lines, although the specifications are in no way similar to the productions of the U.S.A. One machine is assembled from British-made components, while the other is all Australian, and strikes a new note in motor cycle design. At the price mentioned it appears to be a very attractive proposition.

A Selection of Letters from Readers scattered all over the World.

A Race for Life.

A race with a cheetah is described by MR. W. A. SMITH, who writes from Uasin Gishu, British East Africa.

"For some weeks past," he says, "I have been in the habit of visiting daily a neighbouring farm and returning in the evening on my Indian motor cycle. A few nights ago I was returning home as usual at sunset when I became aware of what I took to be a leopard bounding along at my side. At first I thought mere curiosity had tempted him to such close quarters, but I quickly realised that it had more serious business in view, so I immediately put on speed with the idea of outdistancing it. Without any apparent effort on its part it outflanked me, and attempted to head me off into the grass. I then made straight for it; this seemed to be unnerving, for it drew back at the last moment, and I went by like a flash. I thought I had seen the last of it, but was surprised on looking back to see it bounding along at my heels. Then followed a veritable race for life. I put on as much speed as the state of the road would allow (about 40 m.p.h.), but it was only after I had done about 500 yards that I commenced to increase my lead. The race continued for another two miles, and when last I looked it was still bounding along 200 yards behind.

"The next evening a party of us went along to the same spot in a car, and there we discovered it lying in wait on the top of an anthill at the side of the road. I immediately put a bullet through its head. It turned out to be a female cheetah, measuring 74in. from nose to tip of tail. The cheetah is by no means rare in these parts, but it is not often seen, and I have never heard of another instance where one has made an unprovoked attack on a human being. This specimen appeared to be in a starved condition, so evidently hunger had driven her to such desperate efforts."

[Mr. Smith encloses a photograph of himself, his machine, and the cheetah, but it is unsuitable for reproduction.—ED.]

Sunny Spain.

Thinking readers of *The Motor Cycle* would be interested in details of motor cycling in Spain, MR. J. F. ADAM, of Valencia, sends the following:

"I thought you might like to know something about motoring in Spain. During the whole time I have been here, I have only seen one 1920 model—a 5 6 h.p. Rover. I know that the moulders' strike held up things a lot, but it seems such a pity that there are not more British machines here, as the market is simply flooded with American stuff. The Spanish people show every interest in the motoring movement. On Sundays here, everybody goes to a place for a 'sunning' at twelve o'clock (they are open here all day), and motor cycles—in fact, every conceivable kind of vehicle—are seen here at this hour.

"In Valencia there is no speed limit, and cars and motor cycles do not have to be silenced I cannot imagine what London would be like if the 'buses, etc., were not silenced, as the noise here is quite bad enough. Petrol is comparatively cheap here to what it is in England. I do not know whether a flat twin Indian lightweight is new, but there is one here. It makes a noise like a Scott, and appears to be very low geared. There are plenty of the latest American machines here—Indians, Harleys', Reading-Standards, Excelsiors, and Emblems.

"The roads in Valencia seem to be pretty bad—pot-holes everywhere; how the machines stand up to them I do not know, as they are far worse than some in England. The authorities are not very particular whether machines are registered or whether lamps are lit at the proper time. I always look forward to your valuable paper, which I have sent out every week, and I read it from cover to cover always. I am glad to see that pressed steel frames are beginning to creep in, and the design of the Pullin seems to be very good. Petrol seems to be the fairest way to tax motor cycles, for the obvious reason that the heaviest machine uses the most fuel, and does the most damage to the roads."

The two-stroke is now coming into its own in the Overseas markets. The makers of the Ivy lightweight recently demonstrated that a properly designed two stroke does not overheat by giving an officially observed test on a famous competitions hill with a gradient of 1 in 3 (the Old Wyche, Malvern), when twenty-five consecutive climbs were made without any engine stop. The engine was running for over two hours, and the average speed was over 18 m.p.h.

Spring Carriers.

MR. C. HARCOURT, of Melbourne, outlines the ideal machine for Australian conditions:

"As a reader of your paper for many years, may I be permitted to make some criticism on the up-to-date British motor cycle. You have for many years advocated spring frames, and Britain is at last making a move in that direction. But why is it that only one firm has put on the market a frame in which the carrier is also sprung? Is it so difficult to depart from the tentacles of convention? In the A.B.C., Precision, Raleigh, and others, though the rider is well insulated from road shocks with an elaborate system, his luggage is worse off than before, for it gets it all.

"Another mystery which I have never been able to solve is, why do we stick to chain and belt systems of drive when shaft drive has so many advantages? It is more astonishing still when a firm like the A.B.C. actually adopts a shaft running longitudinally and then uses bevel gearing so that a chain may be used for the final drive. Chain is a barbarous device at the best, and where it cannot be completely enclosed and run in oil it ought to be tabooed.

"In Australia the roads are not good, and this is one of the reasons why American machines are so popular. They are comfortable and powerful under adverse conditions. They are, however, too heavy for solo work, and there is an opening for a medium twin of, say, 4 or 5 h.p., with caster front and complete rear springing, so that the tool bags and luggage float with the body weight and that of the whole frame."

NEW MODELS AND NEW NAMES.

The Number of Motor Cycles offered to the Public continues to Grow.

THE motor cycle industry continues to grow. Every week sees new firms entering the manufacturing field, and while the output of a number of these will not be very large, in the aggregate they must make an impression upon demand.

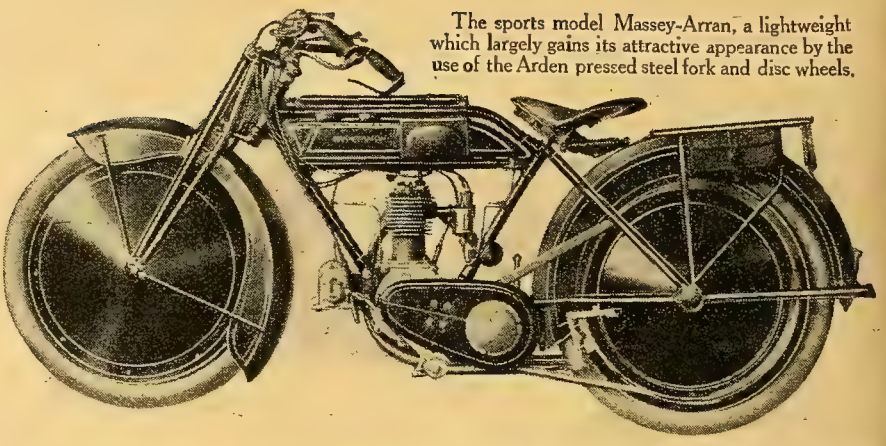
Many of these new makes of motor cycles are what may be termed assembled machines, but even in this field there is a great deal of difference in the quality of the best and the worst examples which may embody the same main units.

In addition to those machines illustrated, there are many which are assembled by garages for local trade, and are therefore not of interest to the majority of our readers. Also, we know of several new models of dual-purpose mounts which are intended chiefly to meet the requirements of those who consider the *de luxe* type of machine too high in price.

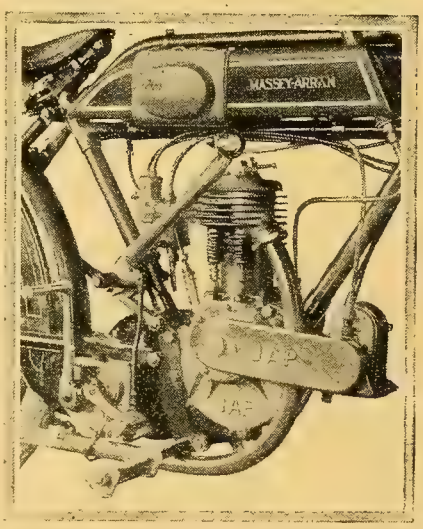
The Massey-Arran Lightweight.

One of the most interesting of the newcomers into the motor cycle field, and one which will appeal especially to the rider who requires a well-made lightweight, is the Massey-Arran. Two models are at present being produced—a sporting model and one for touring, both of which are extremely well finished and attractive in appearance.

The engine is the 2¾ h.p. single-cylinder J.A.P., fitted with C.A.V. magneto and Amac carburetter. No exhaust box is fitted to the sports model, a long pipe with an easy sweep carrying the gases directly to the rear. In the case of the touring machine, however, a large cast aluminium box is used. It is made in three parts,

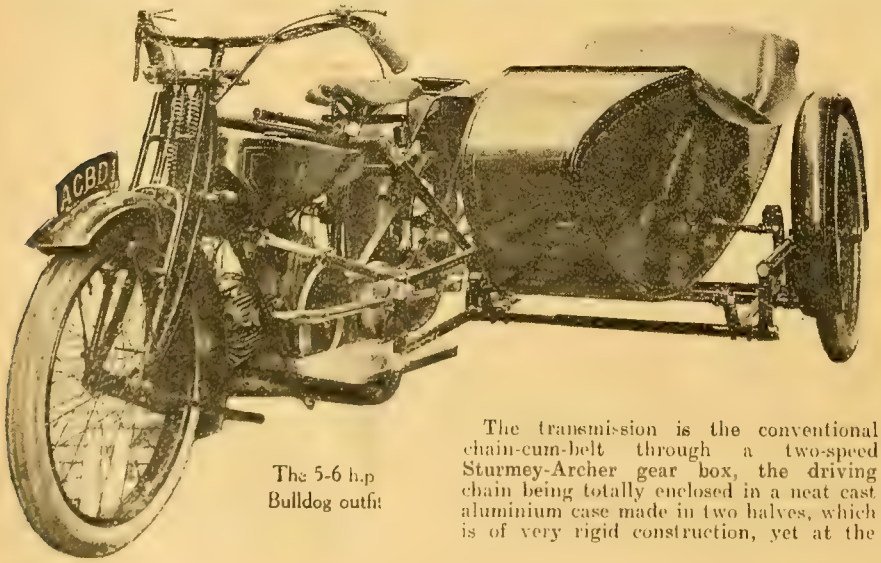


The sports model Massey-Arran, a lightweight which largely gains its attractive appearance by the use of the Arden pressed steel fork and disc wheels.



Valve side of the sports model, showing the clean sweep of the long exhaust pipe, neat aluminium footrests, and the heel-controlled clutch pedal.

as shown in the illustration, and fitted with a long nickel-plated tail pipe, which enhances the appearance of the machine.

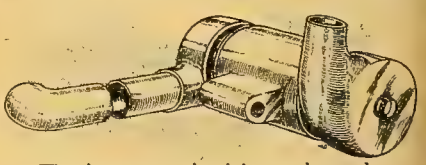


The 5-6 h.p. Bulldog outfit

The transmission is the conventional chain-cum-belt through a two-speed Sturmey-Archer gear box, the driving chain being totally enclosed in a neat cast aluminium case made in two halves, which is of very rigid construction, yet at the same time permits of easy removal for purposes of inspection.

As will be seen in the smaller photograph, in addition to the usual hand lever, a heel pedal is fitted to the end of the clutch operating shaft, giving an alternative means of clutch control.

Long adjustable aluminium footboards covered with rubber matting are fitted to the touring machine, the sports model having aluminum footrests. Wide and



The large cast aluminium exhaust box fitted to the touring models is made in three parts without baffle plates. Asbestos ring washers are used in the joints, the whole being held together by a central bolt.

deeply valanced mudguards are fitted, and the whole machine is finished in smart black with gold lines. Disc wheels, knee grips, and Arden pressed steel forks are standard in the sports model, while the tourist type is fitted with Brampton Biflex forks.

Other details include 26in. × 2½in. tyres, two pannier toolbags, and large saddle. Both machines are marketed at £90, and are manufactured by the Massey-Arran Motor Co., 345, Bellbarn Road, Birmingham.

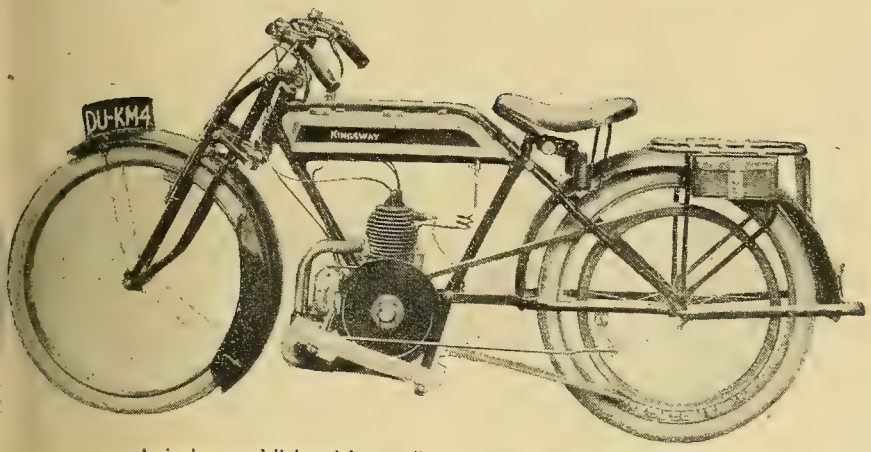
A Big Flat Twin.

Another new machine is the Bulldog, manufactured by H. H. Timbrell, of 59, Slaney Street, Birmingham. The frame is of conventional design with the exception of a special cradle for carrying the engine, which allows of a six-inch ground clearance, and is supported in front by duplex tubes from the head.

The engine is the 5-7 h.p. Coventry Victor flat twin, and is fitted with a T.-B. magneto, and B. and B. two-lever carburetter. No exhaust box is used, the gases being carried directly to the rear through long pipes.

Power is transmitted by enclosed chain to a standard Sturmey-Archer three-speed gear box, thence to the rear wheel by a Pedley belt.

The usual exhaust lifter is dispensed with, as we understand this is considered unnecessary



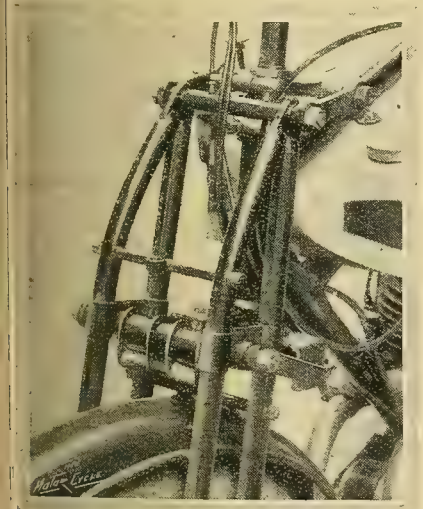
A single-geared lightweight to sell at a popular price—the Kingsway.

Particular attention has been paid to the comfort of the rider, the mudguarding being well carried out; the front guard is deeply valanced, while that at the back is exceptionally wide. Long wide footboards give ample protection for the feet and allow a change of riding position

The tank is finished in black with red panels and gold lines; it is of large capacity capable of carrying two and a half gallons of petrol and half a gallon of oil. Other features of the specification include Brampton Biflex forks, Best and Lloyd lubrication and Gough saddle. The price of the outfit is £180, and we are informed that G. F. Froome, Central Garage, Warwick Road, Olton, who is the sole selling agent, can give immediate delivery.

A Lightweight at a Popular Price.

Known as the Kingsway, the lightweight illustrated on this page is an



The Y spring fork fitted on the Kingsway lightweight.

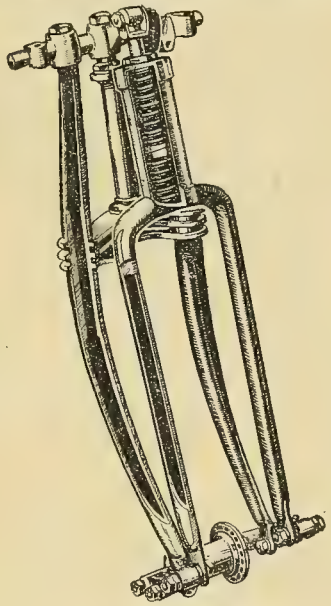
attempt on the part of a new Coventry concern (The Kingsway Motor Cycle Co., Stoke, Coventry) to produce a motor cycle at a popular price. The specification includes a 2¾ h.p. Arden two-stroke engine, Y spring forks, C.A.V. magneto, B. and B. carburetter, Bowden front brake, Lycett's pan saddle and toolbags, Best and Lloyd drip feed, Avon tyres, and aluminium footboards. The suggested price for the single-gear model is £55, the two-speed gear being fitted at an extra £7.

The New American X.

In future the American Excelsior motor cycle will be known as the American X. Many modifications of a distinctly beneficial character have been embodied in the latest model, and the general appearance of the machine is enhanced by the new colour scheme of blue and gold. The familiar transfer on the tank is substituted by the simple letter X, and a new front fork and other detail improvements have been introduced.

The frame construction in general is remarkably sturdy, and the same may be said of the spring fork, which is similar in design to that of the four-cylinder Henderson, but of heavier proportions and having stronger springs. It consists of an auxiliary straight fork bolted at the lower ends to rocker arms, the axis of which is the bottom of the main fork. The hub spindle is connected to the other ends of the rockers. A totally enclosed coil spring is located between the plunger and the upper end of the placed between the plunger and the spring housing, whilst a recoil spring is bottom of the housing. The main forks are reinforced at the head, and the walls of the tapered lower ends are of bigger dimensions, which equalises the loss of strength due to the reduced area of the section.

The three new models are identical, with the exception of the lighting and ignition equipment. Model 20 R will be equipped with an armoured type Splitdorf magneto, whilst the model 20 S is provided with a Splitdorf magneto, in addition to a dynamo of the same make complete with battery, ammeter, lamps,



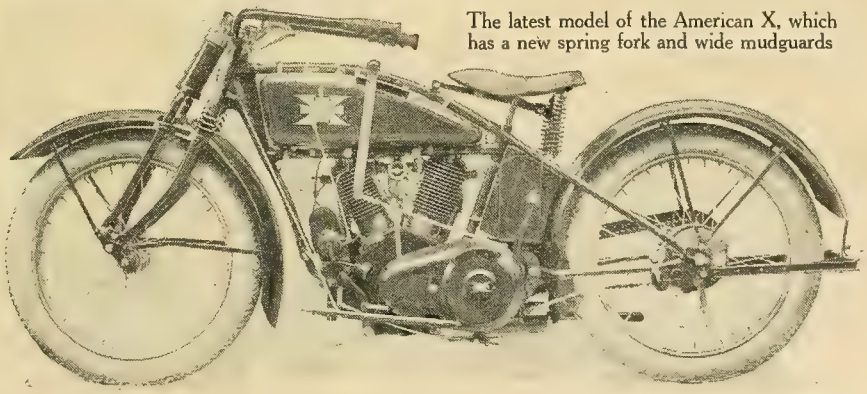
The new American X fork shown in part section.

Another modification is the return to British practice of utilising a cable, in place of rods, for the operation from the off side handle-bar grip of the Schebler and a Klaxon horn. Model 20 M utilises the Midco mag-dynamo, and has an electric horn.

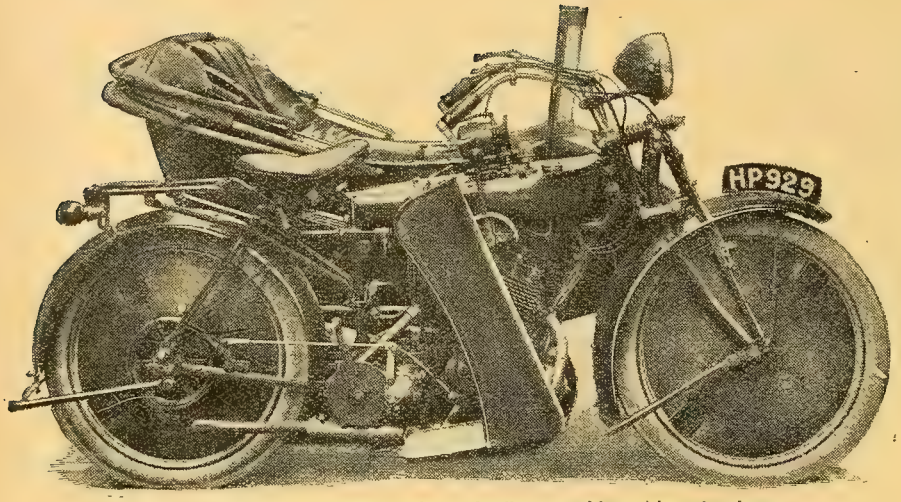
Large Mudguards.

throttle. Wide 7in. domed mudguards have been fitted, and the redesigned frame provides sufficient clearance for the application of non-skid chains. The wheels are now shod with large 27in. × 3½in. Firestone tyres, a size which is becoming increasingly popular in America.

The X motor cycle is handled by Messrs. Melchior, Armstrong, and Dessau, of 14-14a, Great Marlborough Street, London, W.1.



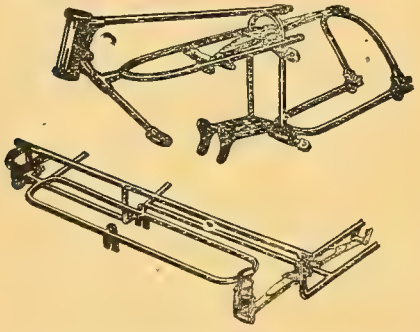
The latest model of the American X, which has a new spring fork and wide mudguards



The Springwell motor cycle, a short wheelbase machine with spring frame.

A Short Wheelbase Spring Frame Design.

We recently examined a motor cycle built by Mr. E. J. Norton, of the Coventry Welding and Engineering Co., 44a, Much Park Street, Coventry, and fitted with his patented system of suspension. A commendable fact is that the wheelbase of the machine is not unduly lengthened—in fact, it is as short as the majority of rigid frame machines. As will be seen from the illustration, the rear portion which carries the wheel is pivoted to the main portion of the frame by a wide bearing at the back of the bottom bracket. The relative movement of this rear portion to the frame itself is controlled by a long laminated spring, the further end of which is anchored at a point nearly midway along the bottom rails. To this sprung portion is also attached the carrier.



The springing system of the Springwell machine, showing also how the sidecar wheel is sprung.

Lateral rigidity is assured by means of the extra wide bearing on which the sprung portion is hinged, and also by the manner in which the laminated spring is anchored. At all points where movement takes place adequate provision for lubrication is made by means of large grease cups fitted to the hollow hinge pins.

A Well-sprung Sidecar Wheel.

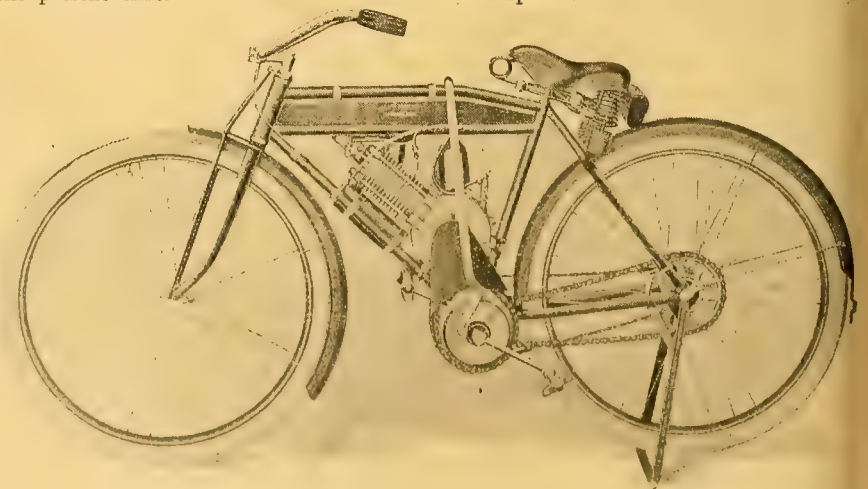
The sidecar chassis has its wheel sprung in a somewhat similar manner to that of the rear portion of the motor cycle. A tubular frame completely encircling the wheel is pivoted at its front end on a bearing of large dimensions, and the other end is attached to a long laminated spring set transversely across the chassis. The illustration is self-explanatory and clearly shows the system adopted.

A short run proved the efficiency of the springing beyond question, no undue shocks being observed when passing over the most atrocious road surfaces. There was also a total absence of that tendency to "swing," which is too often felt when driving spring frame machines, and the feeling of "looseness" was non-existent.

We understand that Mr. Norton would consider offers for the manufacturing rights of both the spring frame and spring sidecar chassis.

An American Lightweight.

A lightweight of the type in vogue in this country about ten years ago is the American made Shaw. It may be described as a step between the motorised bicycle and the lightweight proper. It has a 2½ h.p. four-stroke engine and belt transmission. We understand that there is a brisk overseas business for this machine for short journeys and for general utility purposes where passable roads are encountered. This type of motor cycle is not common in this country at the present time.

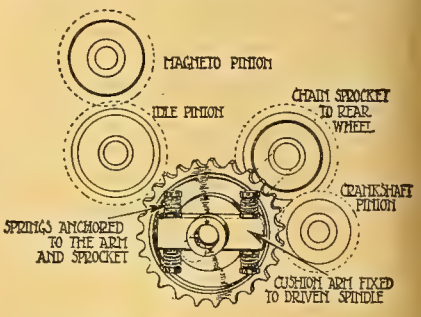


The Shaw lightweight, a type of American machine which appears to be favoured in some Overseas countries

The Harwood Cycle Attachment.

We may say that the neat attachment, weighing under 21 lb., which is marketed by the Harwood Motor Co., Long Lane, Bexley Heath, Kent, gives considerable promise both from our experience when riding the machine, and from the general arrangement of the power unit.

A two-stroke engine having a bore and stroke of 52 × 52 mm. (110 c.c.) is held by two clamps fixed round the two down tubes of the cycle frame. The magneto is mounted on a platform, which in future models will be cast integrally with the crank case, the rear end of which is clamped to the saddle down tube. The usual two-stroke practice has been observed in the construction of the engine, whilst a useful fitting, an inspection plate, is secured by two screws to the transfer port.

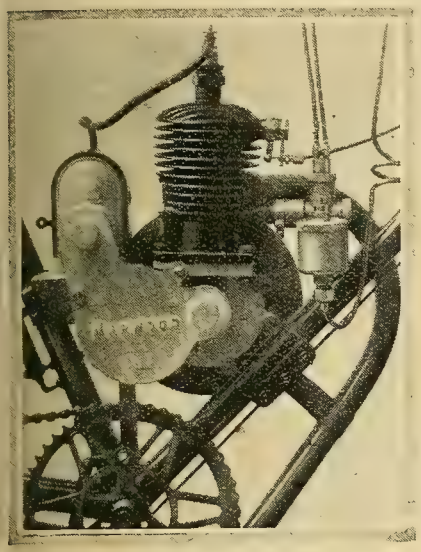

MAGNETO PINION
IDLE PINION
CHAIN SPROCKET TO REAR WHEEL
CRANKSHAFT PINION
SPRINGS ANCHORED TO THE ARM AND SPROCKET
CUSHION ARM FIXED TO DRIVEN SPINDLE

The Harwood transmission, which is enclosed in the crank case casting.

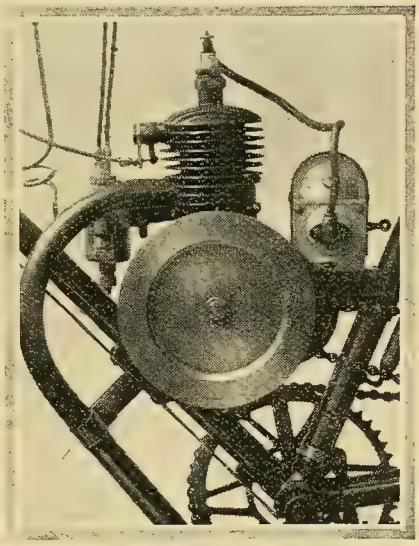
As might be expected from an attachment of this type, the final drive, which is by roller chain to an auxiliary sprocket on the rear wheel, is liable to considerable chain snatch, and in order to obviate this a neat cushion drive is incorporated in the transmission system.

As may be seen from the diagram, a gear reducing pinion is in direct engagement with the crankshaft pinion. The drive, however, is taken through an arm which is in contact with the pinion through four coil springs, which tend to absorb the snatch in the chain. The arm thence conducts the drive, through a spindle running in a phosphor bronze bush, to the chain sprocket.

A NEAT TWO-STROKE MOTOR ATTACHMENT.



Magneto drive side of the Harwood power unit.



Flywheel side of the unit, showing the chain which drives the rear wheel.

The magneto is gear driven through an intermediate pinion in engagement with the driving pinion.

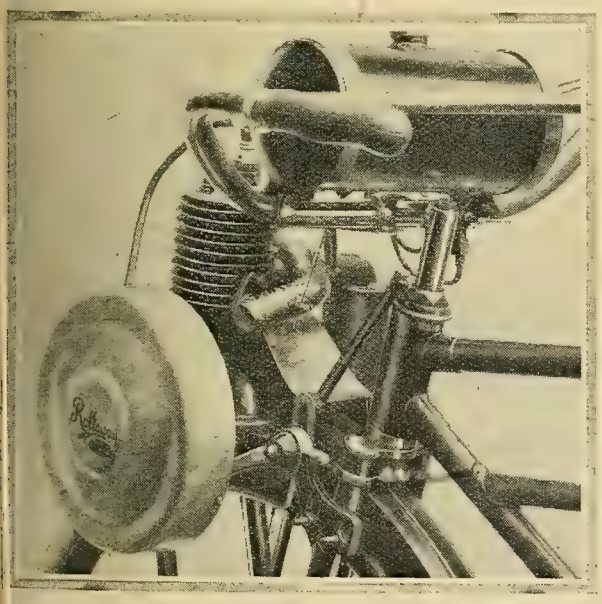
An Amac carburetter is used, and is supplied from a circular tank, which is capable of containing half a gallon of petrol and oil mixed—a quantity sufficient, it is claimed by the manufacturers, to carry the machine for a distance of seventy-five miles.

The makers are prepared to offer the power unit alone or complete fitted to a pedal cycle. The price of the former is £20.

An American Auxiliary Unit.

The "Rollaway" motor cycle attachment for pedal cycles was recently introduced into this country by Mr. Claude Golden, of the Cosmo Commercial Corporation, New York City, U.S.A., whose temporary address in London is 17, Green Street, Leicester Square, London, W.C.

The Rollaway power plant weighs about 20 lb., and consists of a single-cylinder, two-stroke engine, of which the bore and stroke are respectively 50 mm. and 53 mm., developing 1 h.p. at 2,200 r.p.m. It is carried on a suitable bracket bolted to the front forks and to the ends of the front wheel spindle, and drives the front wheel by means of a cast iron pulley shod with rubber. By means of a lever the pressure of this pulley can be decreased or increased at will, so that in the event of any likelihood of slip in wet weather greater pressure can be brought to bear upon the front tyre, whilst it also allows the engine to be disconnected altogether. The petrol tank, which is cylindrical in shape, is carried on the handle-bars, and holds half a gallon of petrol and oil mixed. The magneto is incorporated in the flywheel, following a practice which is not uncommon in the case of American engines.



The American Rollaway auxiliary power unit over the front whee of a pedal cycle.

The method of controlling the mixture is slightly out of the ordinary, as no carburetter proper is used, petrol entering the inlet pipe through a controllable jet worked by a Bowden lever from the handle-bar. In addition to this, there is an ordinary butterfly throttle, by means of which the quantity of mixture may be regulated. The third lever in the group on the handle-bar actuates the compression release. To facilitate starting in very cold weather, there is a shutter at the end of the fixed air inlet.

The machine, when demonstrated to us at Portland Place, appeared to run quite satisfactorily, the roads being exceedingly wet at the time, but the pulley appeared to grip the tyre well.

The Rollaway friction-driven auxiliary attachment being tested under adverse conditions on a rainy day in London

The 4½ h.p. Excelsior.

The new 4½ h.p. Excelsior is perhaps more a sidecar machine than a solo mount—in fact, as the former it has been designed, and has sidecar lugs cast integral with the frame, which also has a specially long head with ¼in. balls. The specification of the machine includes the 4½ h.p. Excelsior engine, which has a bore and stroke of 86 mm. and 112 mm respectively (650 c.c. capacity), Sturmey-Archer gear, chain-cum-belt transmission, 650 × 65 mm. Dunlop tyres, Hans Renold ⅝in. × ⅝in. chain, 1in. Dunlop belt, C.A.V. magneto, Senspray carburetter, and Druid forks. The tank has a capacity for two gallons of petrol and three pints of oil. The price of the machine is £125, or with coach-built sidecar £160, and deliveries are commencing in about two weeks' time.

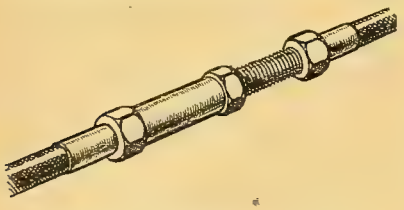
The machine is finished in the thorough manner associated with the firm.

A NEW BINKS CARBURETTER.

A Horizontal Model for Flat Twin Engines, retaining Well-known Features.

THE principles of the Binks three-jet carburetter are already well known to the majority of our readers; but, in addition to the ingenious "damping" pads which prevent leakage of petrol from jets when not actually in use and the extra air on the engine side of the throttle, the latest production embodies new features which are worthy of some description.

Designed primarily for use on flat twin engines, the carburetter fitted snugly alongside the timing cover of the 3½ h.p. Douglas on which it was tested, and since the float chamber is adjustable for position, it was set close on to the engine so as to be well out of the way of the rider's legs. The construction of the float mechanism is simple, but somewhat unusual in that the float is soldered to a spring clip which grips the inverted needle in one of two positions, thus the float and needle become a single unit, and the one



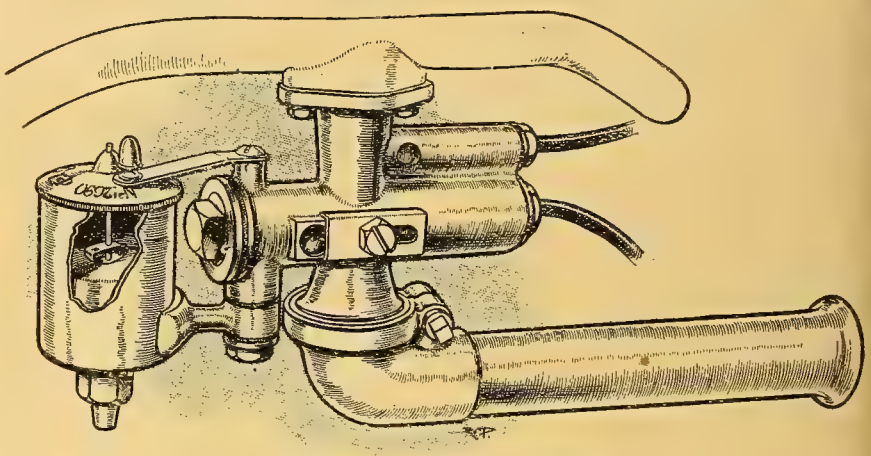
Neat cable adjustment of the Binks control.

does not "jiggle" on the other. In the type under review the jets are disposed horizontally, and are immediately accessible after removing an end cover. This end cover forms an important item, for it is constructed in such a manner as to act as a petrol filter, thus preventing the access of impurities to the jets.

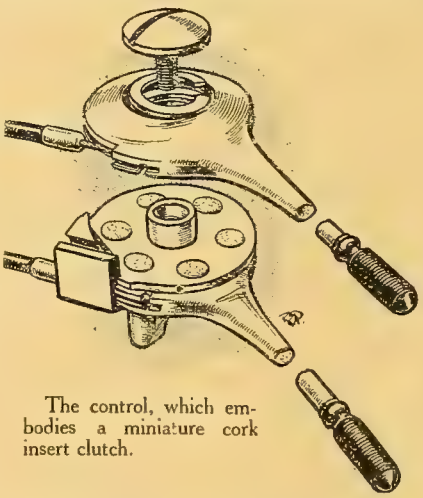
A throttle barrel containing choke tubes for each jet, which are opened progressively by a movement of the lever is, of course, employed, as in other Binks carburetters, and it is hardly necessary to state that the neat little spring-controlled jet dampers form part of this unit.

Improved Slow Running.

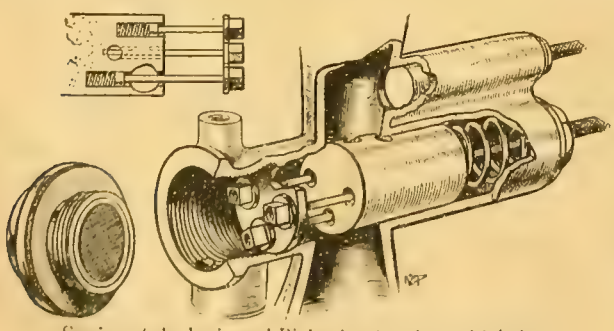
The first noticeable feature on starting up was that the engine ran very much slower than previously. On opening the throttle the engine accelerated well after a momentary choke, and with the aid of the air lever it was the work of a moment to discover that the second pilot jet was too large. To change a jet is a simple matter, and in a few minutes the machine was burbling along with a steady hum. With the series of jets now in use, slow running, acceleration, and speed were all available, but a certain amount of juggling with the air lever was necessary; but as we had been informed that the carburetter could be used entirely as a single instrument, we determined to try another series of jets. In determining the correct jet size the air lever is of the utmost assistance, and the veriest tyro can tell in a moment if a jet is too large or too small. Quite quickly a suitable range of jets was chosen, and so correct was the setting that it was impossible to improve on the road performance by the use of the air lever, though the mixture was slightly weak until the main jet was opened.



The Binks carburetter for flat twins.



The control, which embodies a miniature cork insert clutch.



Section of the horizontal Binks showing the multiple jets.

Such excellent results were obtained with this setting, especially as regards consumption, that we determined to make no further alterations except to fit a hot air pipe which had not been available when the carburetter was first sent to us. The addition of an extemporised fitting made a considerable difference, and for some time we used the carburetter with the utmost satisfaction. The wonderful slow running and excellent consumption obtainable with this instrument were never equalled by any of the four other types of carburetter tested on the same machine.

Mr. Binks makes a speciality of tuning his carburetters to any machine, but the above notes will make it obvious that the selection of correct jets is a simple matter for the normal rider.

Details of the instrument are most carefully carried out and include a simple adjustment for the cables and a cork clutch friction device for the operating levers which provides an extremely smooth action.

BRITISH PROGRESS IN LATE ENEMY COUNTRIES.

AS far as is known Barimar Limited, the welding engineers of 10, Poland Street, London, W.1, is one of the first of British engineering concerns to invade industrially territory formerly known as German East Africa. In association with Messrs. F. Tate, S. Tate and R. Liversidge, of Nairobi, British East Africa, the Barimar Company has arranged a chain of welding factories effectively to cover German East Africa as well as British East Africa, which incidentally will be known, in future, as Kenia Colony, Uganda, Zanzibar, and Nyasaland.

These countries possess great possibilities for development, and it is anticipated that the new engineering workshops will greatly assist and encourage the use of motor vehicles in these countries, because it will no longer be necessary to lay up machines for many months pending the arrival of replacements from England.

Australia Enters the Manufacturing Field.

Two Motor Cycles produced in the Antipodes.

By Our Australian Correspondent.

AUSTRALIA is to produce its own motor cycles. True, only a few firms have started to make machines, but if they are successful others are bound to follow suit, and a field for export trade will gradually be lost to both American and British manufacturers.

One of the Australian produced machines is known as the Aussi-Also, is all-Australian, and the price mentioned in its connection is so low that without doubt it would have a strong appeal with British motor cyclists.

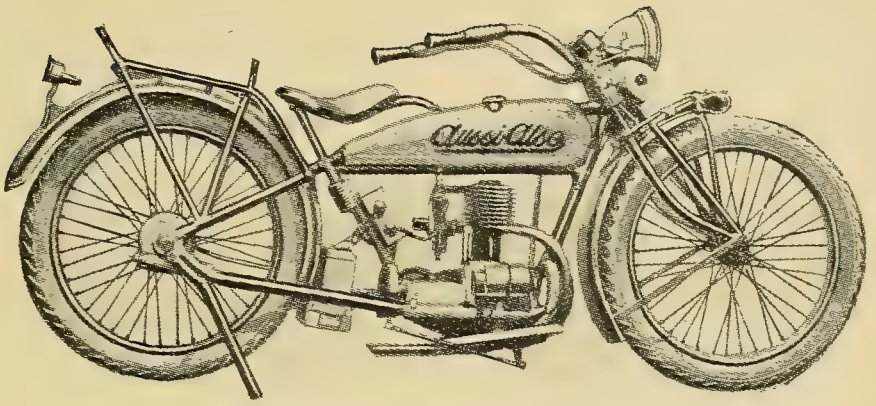
The machine has shaft drive, a large two-stroke engine, and sells at £60.

In laying out the machine the designers have certainly departed from the accepted practice of both Great Britain and America, although externally the products of the latter country have been followed. Mechanically, the machine breaks new ground by having the gear box embodied in the crank case of the two-stroke engine, and by driving with a shaft and worm.

A Large Two-stroke.

The machine was on view in the Exhibition of Australian Industry. It is advertised as designed by Australians, built by Australians, for Australians.

The engine is a large two-stroke, about 6 h.p. by English rating, but it is claimed to develop 7 h.p. This type of engine is adopted for its simplicity, as the average "Aussie" is a slap-dash individual not accustomed to fine machinery. The crank case incorporates the clutch and two-speed gear, the whole of these moving parts therefore running in oil. The engine and gear box unit is placed longitudinally in the frame, and the drive is taken from the layshaft of the two-speed gear to the rear wheel by shaft *via* a universal joint; it is therefore unaffected by wet when fording streams. The final drive is by enclosed worm gear (*via* another universal joint).



The Aussi-Also, an all-Australian machine with shaft drive and large two-stroke engine.

Close Gear Ratios.

The clutch is of the cone type, Raybestos lined, of very generous dimensions, and the two-speed gear is of the constant mesh, dog clutch variety. The top ratio is 4¼ to 1, and the second 6¼ to 1. This is one of the few points open to criticism in the machine. A lower second gear ratio would seem advisable, especially if a sidecar is to be fitted. It must be noted, however, that this model is not designed for sidecar work, a more powerful model with twin cylinders arranged tandem fashion (car practice again) being in process of evolution for this purpose.

The Delco system of combined lighting and ignition is fitted as standard, the dynamo taking the place of a magneto.

The present price of the machine is £60, which, if it can be maintained, should cause English manufacturers with their present high prices to look to their laurels. A large factory for mass production has been erected, but labour troubles at present prevent it working to its full capacity, and delivery cannot be promised within four months of date of order.

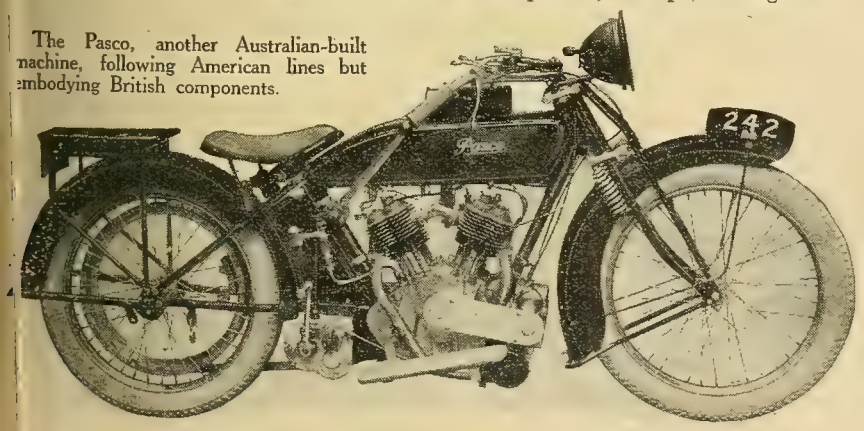
The second machine is a J.A.P.-engined model known as the Pasco, and is manufacured by Messrs. McCrae and Pasco, 242, Elizabeth Street, Melbourne, Victoria.

The frame, it will be observed, has a curved top tube, and possesses graceful lines, while Druid forks are fitted. The mudguards are wide and have deep valances. The lubrication is by a force feed pump combined with a drip feed attached to the lubricating oil tank fitted to the rear, behind the saddle tube, while the transmission is chain-cum-belt through a Sturmey-Archer gear.

Several patents have been incorporated in the Pasco, namely, a patent toolcase underneath the carrier, and a locking device consisting of two lugs brazed to the stand and joined to the stays so that a padlock can be passed through without there being any necessity to use a chain.

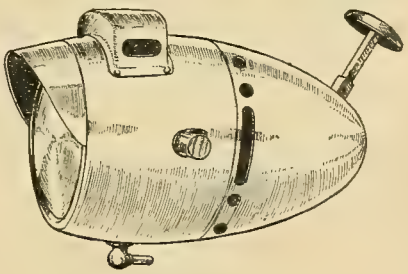
The frame is enamelled in black, and the tank black with gold lines, while the wheels are white with gold lines.

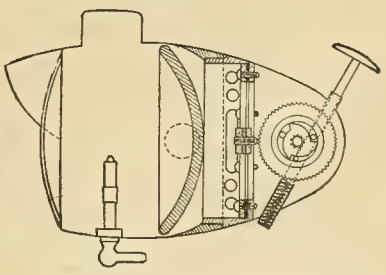
The Pasco, another Australian-built machine, following American lines but embodying British components.



Combined Lamp and Horn.

WE have before us an experimental lamp and horn made by a reader —Mr. A. W. Taylor—to demonstrate the advantages of his patent combination of these two units. The idea appears capable of development. Below we give illustrations of the device for the production of which the designer is willing to negotiate with manufacturers.





A. W. Taylor's patent combined lamp and horn.

A Trial for Motor-assisted Bicycles.

A French Event which attracted Twenty-five Competitors.

Three types of French motor-assisted bicycles in the recent trial in Paris.

On the left the Motor Fly Voisin—the winners—are shown starting in the hill-climb. The centre picture depicts two Cyclotracteurs starting. A third type—the Lumen—is shown on the right.

WITH nearly three and a quarter million bicycles in use in France, there ought to be a good field for the small engines designed to assist these machines over hill and dale. It was as a matter of propaganda and demonstration, therefore, that France held its first motor-assisted bicycle competition on Sunday, the 11th, in the suburbs of Paris, over a set of roads of not very excellent quality. Twenty-five machines faced the starter for the forty-mile trip, which had to be covered in 3 hr. 12 min., or at an average of a little more than 12 miles an hour. Failure to finish within this time entailed penalisation at the rate of one point per two minutes.

Eleven of the twenty-five competitors came home within the time limit, and in order to find a winner, the clean score men were sent away, with a standing start, on a kilometre hill. This gave an opportunity to Raimbault, on the Voisin Motor Fly, to prove the superiority of his mount, for he climbed the hill in 1 min. 43⅘ sec., or nearly six seconds faster than his closest rival, Dieudonné, on a Lumen machine. As all three Voisin machines had finished within the time allowance, they secured the team prize. The Voisin Motor Fly is a friction type of machine produced by the well-known aviation concern, which also builds a high-grade car. The other makes represented in the competition were Lumen, Cyclotracteur, Johnson Motor Wheel, and Monet-Goyon.

The number of motor attachments used in this country is increasing rapidly week by week, and a similar trial of British machines would undoubtedly go far to demonstrate the utility of the motor assisted bicycle.

The B.M.C.R.C. First Open Meeting.

One-design Classes to be introduced. Inter-'Varsity Race.

SEVERAL innovations in the usual British Motor Cycle Racing Club programmes will be made on Saturday, August 14th. Special races will be organised for Zenith and Douglas motor cycles respectively. This is a very excellent idea, which should bring forth some surprising finishes, and is following the lines of yacht racing, when "one design" classes are often instituted. Each yacht competing is similar in every detail, and the winning of the race is due (theoretically) solely to the skill of the helmsman. The suggestion of introducing this idea into motor cycle racing is not novel, and was put forward by a member of our staff some years ago.

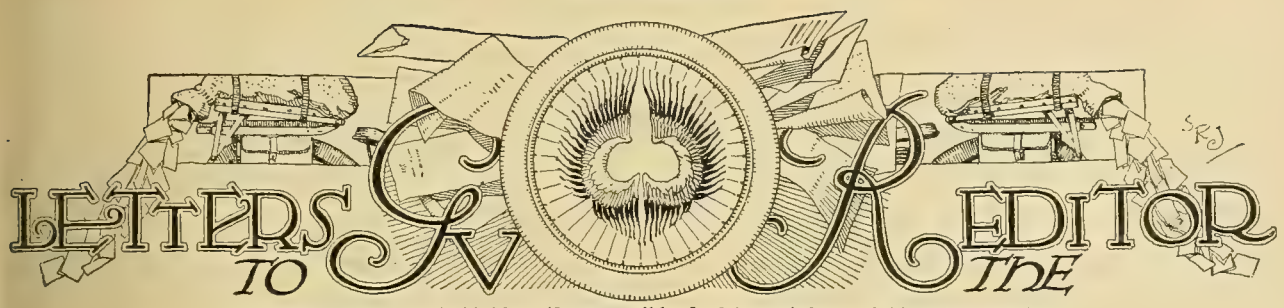
In each race the machines entered are to be standard, the Douglases to be 2¾ h.p. and the Zeniths with 6 or 8 h.p. side-by-side valve engines, and in order to decide what is a standard model, representatives of the manufacturers concerned will be appointed to adjudicate.

One would expect that races of this kind will produce close finishes, but, as we have suggested, some interesting surprise may be forthcoming.

In addition to the above there will be the Senior Open Handicap for motor bicycles with engines exceeding 350 c.c. the Junior Open Handicap for motor bicycles with engines not exceeding 350 c.c., and the Passenger Open Handicap (unlimited).

There will also be car races organised by the Essex Motor Club.

Any who realise what it means for a 3½ h.p. machine to average over 70 m.p.h. for ten laps of Brooklands will appreciate the performance of R. Kaye Don, on a 490 c.c. Norton, who recently won the ten-lap M.C.C. Championship. His time for the distance was 23 min. 15 sec.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

CYLINDER WASHERS.

Sir,—May I call your attention to "Ixion's" remarks on cylinder washers. I had to fit new washers to the base of my cylinders, and as they were made of some composition about 3/32in. thick I could not see how I should manage, but thought of cutting with a fretsaw. It answered extremely well; the saw did not leave any frayed edges, and the fit was exact. I might mention I marked the stud holes with a long needle.

Perhaps "Ixion" might find this useful next time.

A. B. HUNT.

ROADSIDE COURTESY.

Sir,—In reply to "W. 8406's" letter on roadside courtesy: I was riding, a few weeks ago, about five miles from home, when my sidecar tyre burst beyond all hope of repair. I was plodding along by myself when I met the owner of a Zenith outfit without a passenger; he asked me what the trouble was. On being told that I had left my wife and a lady friend footing it a few miles back, he at once offered to go and meet them; which he did and conveyed them right home—for which kind action I could not express enough gratitude.

A. A.

Southampton.

CLUB FOR EX-R.A.F. OFFICERS.

Sir,—I trust I may use some of your space to put forward a suggestion as to the forming of a motor cycle club for ex-R.A.F. officers.

I feel sure such a club would meet with plenty of support. As is well known, a great number of ex-flying officers are keen sporting motor cyclists, and in these days of dull routine, when the good old happy-go-lucky R.F.C. days are but memories, it would liven things up immensely to meet old friends (and new) at runs, trials, and the like.

I hope others will write and express their views.

Wishing your paper every success,

BLIP SWITCH.

Bushey, Herts.

A TYRE REPAIR.

Sir,—Recently I had a bad cut for about two inches in my outer-cover, on almost a new tyre. The tyre was practically ruined, and as I hardly liked throwing it away, having had but little use out of it, I thought of this little plan which has worked very well, and has enabled me to go on using it without trouble. First I cut the beads off the outer cover for about three inches each side of the burst. Then I cut off six inches from a scrap cover, and put it over the top of the burst like a gaiter, and tucked the beads of the short piece of cover into the rim where I had cut the beads off the burst tyre. Blown up hard, the job is a good one. If it is desired to get the short piece in more easily, it may be riveted on to the burst tyre at the four corners near the beads, with the heads of the rivets inside.

H. J. VAISEY.

WELDING MOTOR CYCLE FRAMES.

Sir,—It seldom happens in questions of practical mechanics that one can take a point and settle it purely on its own merits; there are almost always incidental matters that have to be considered, and not infrequently the result is that the main question is decided on a side issue.

I think this may prove to be the case in connection with the jointing of motor cycle frames. In itself it is quite possible that it is better to weld the tubes together than to braze them into lugs. But a lug joint is much more rigid than a welded one, that is to say it offers a far greater resistance to angular disturbance. Unfortunately, in the present undeveloped state of frame design, this rigidity is of vital importance, as, the parts of the frame being made up of multi-sided figures, the whole depends for its strength very largely on the angular rigidity of the joints.

I saw a very practical demonstration of this some time ago, where the owner of a welded diamond frame pointed to one of the angles, and complained that the enamel would not stay on there. The steel was almost bare, and the explanation was that the constant movement of the metal around the joint caused the enamel to flake off.

Of course, this tendency of the joints to work does not exist in any part of the frame that is properly triangulated, and there it should be possible to adopt welding with a minimum of risk.

DOUGLAS LEECHMAN.

PRICES.

Sir,—On page 697 of the issue for June 24th, "Ixion" comments on prices, and states £150 to be not an uncommon figure for a solo mount. Is it a coincidence that on the opposite side of the page the Quadrant advertise their big single combination at £135?

Now, the component parts of this make, gears, tyres, magneto, carburetter, and chain, are all as fitted to many other leading makes. Therefore the finish, frame and engine account for the difference.

When the reconstructed Quadrant Company commenced output in 1914, on the advice of a friend in the trade, I purchased one. I drove this combination up to the day I crossed the Channel, when it was sold.

In 1919 I ordered another, and took delivery of a 1920 model some months ago.

On any good highway I can easily average 30 m.p.h. without pushing the 'bus, and I have got to meet the ordinary main road hill that I cannot roar over on a 5.1 top gear. For hill work I consider the big single hard to beat.

I have no connection with the Quadrant Company, and have paid full list price for both my machines, and if I had to purchase another outfit to-morrow I would not go past this big single at its price.

BIG SINGLE.

Acton.

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REUNION OF EX-D.R.'S.

Sir,—The idea of a reunion of old despatch riders seems to have caught on. In this letter I would like to answer "Under aged at First."

I quite appreciate this man's feelings in the matter, and I know of dozens of cases in which boys were unable to join owing to being under age; but my idea was to have a reunion of despatch riders who came up on their own and were not sent for. Of course, I know it is very hard lines for the youngsters who were unable to join, nevertheless I make the following suggestion, that a Southern and Northern reunion is held, the Southern to be in London, and the Northern, say, in Manchester. As I stated in the previous letter, the Northern county fellows perhaps would not have time or money to travel to London, and *vice versa*. I am perfectly willing to undertake the reunion for the North if someone else will undertake the South. If any of the old R.E. despatch riders are interested in the North, and would help me, I shall be very pleased, as it is going to be a big job. Perhaps *The Motor Cycle* (a paper which is always ready to help) can assist. I am sure we shall all be very grateful. F. C. SCHOFIELD, late Capt. R.E.

GARAGE REPAIRS.

Sir,—Is it not time that something was done to improve the standard of repair work in garages? I have been in the habit of using garages from time to time to do small repairs and decarbonising, etc., in order to save myself the trouble. In nearly every case I have had to go over the job myself after the garage people had finished with it. I have found nuts not screwed up, washers missing, the edges of nuts that were tightened burred over, and endless small things, which all go to show in what a very careless and shipshod way repairs are carried out. No doubt there are good men in garages—by good men I mean experienced fitters and turners, etc.—but one seldom sees them. No doubt they spend their time on cars, whilst the unhappy motor cycle is relegated to a boy of sixteen, who has served perhaps two months of his apprenticeship, and hardly knows a hacksaw from a screwdriver. In addition to his ignorance, the boy has no interest in the machine he is working on, and as long as the machine holds together when he has done his worst he does not care.

Everyone will admit the boy must learn his job, but why can he not learn under the supervision of an experienced man, rather than at the expense of motor cyclists? It would be interesting to hear some of your other readers' views on this subject. As far as I can see the only way to remedy the matter is to refuse payment for "dud" repairs, or report the matter to the A.C.U. L.P.

Plymouth.

BENZOLE AND TWO-STROKES.

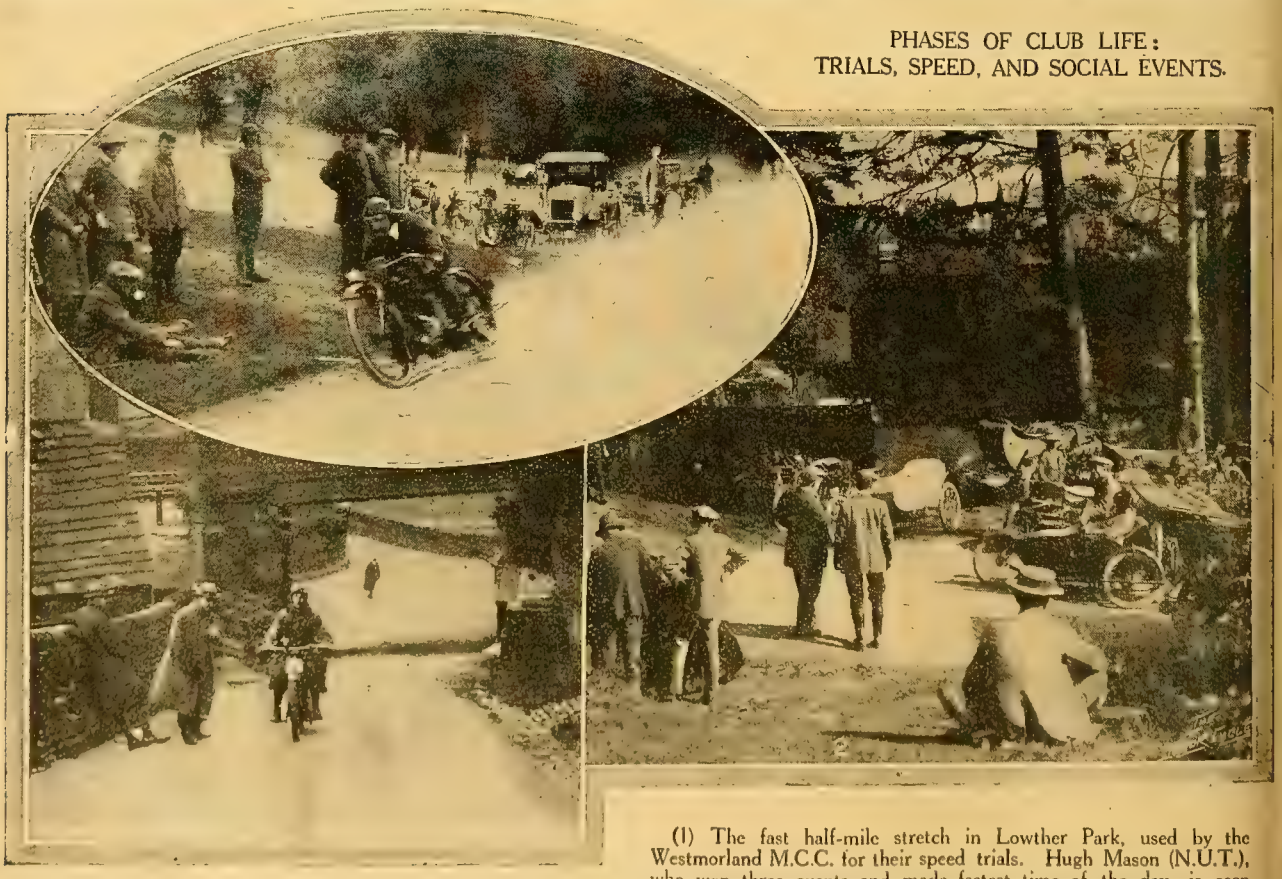
Sir,—In your issue of July 8th Mr. S. J. Bond asks for views of readers regarding benzole in two-stroke engines.

My machine is a 2¼ h.p. two-speed Velocette, and has done over 3,000 miles on Anglo's benzole. Below I give my experience with home-produced fuel:

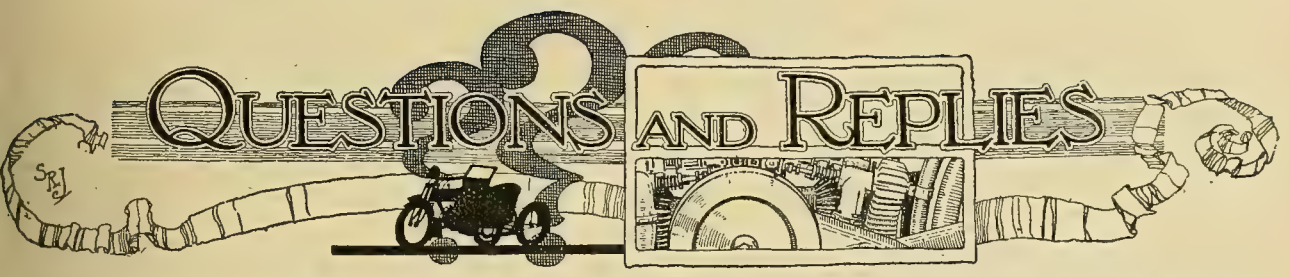
1. Engine extremely smooth running and controllable at all speeds. No "high speed" knock experienced.
2. Increased power generally.
3. Increased m.p.g.
4. Jet reduced from 26 to 24. Air lever permanently fixed in fully open position. Machine driven solely on throttle, with no "popping back" at small openings.
5. On decarbonising after approximately 900 miles, deposit in combustion head surprisingly small, but exhaust port almost choked.
6. Benzole appears to attack solder in tank joints, thereby causing leaks. So far no trouble has been experienced with carburetter float (brass), but on examining a copper float from a car after running on benzole for five months the metal was found to be completely eaten away.

West Bergholt. VA DOUCEMENT.

PHASES OF CLUB LIFE:
TRIALS, SPEED, AND SOCIAL EVENTS.



(1) The fast half-mile stretch in Lowther Park, used by the Westmorland M.C.C. for their speed trials. Hugh Mason (N.U.T.), who won three events and made fastest time of the day, is seen crossing the line "all out." (2) Leith Hill, Surrey, is a favourite rendezvous for motor cyclists, and invariably presents a busy scene during the summer week-ends. (3) A. Roberts (4 Verus-Blackburne) at the commencement of the long climb above Ambergate Church in the recent reliability trial of the Loughborough and District M.C.C.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Will not Run Anyhow.

(1.) My machine (a two stroke) came to a sudden standstill with a click, since when the magneto has been overhauled and re-magnetised, three new rings provided, all air leaks stopped. The magneto was retimed fully retarded, with piston on top dead centre, points just breaking. (2.) Twenty different plugs have been tried—all give good spark *outside* cylinder; but *inside*—neither priming nor heating plug results in the shadow of an explosion! All the usual and likely faults have been tested, and the only engine fault apparent is a worn big end. The carburetter is O.K., and the compression good.—A.E.S.

We presume that you have not replaced your piston the wrong way round, as very often this has been done. When fitting the packing between the cylinder and crank case, it is possible that you so cut that no free passage was given to the transfer port, which would, of course, prevent any mixture from reaching the combustion chamber.

Won't Exceed 53 m.p.h.

Six weeks ago I bought a 1920 6-7 h.p. machine fitted to a sidecar. I sold the latter and took the machine out. I could only get 45 m.p.h. all out. The engine sprocket has sixteen teeth, giving $4\frac{5}{8}$ to 1 gear on top, and the jet is a size 30. My weight is fourteen stone. Since then I have *(a)* retimed magneto, *(b)* fitted 31 jet, *(c)* fitted sprocket with seventeen teeth, giving $4\frac{1}{2}$ to 1 gear, *(d)* removed exhaust extension pipe, *(e)* widened points of plugs, and *(f)* adjusted tappets. On the road I can now just do 53 m.p.h. all out. (1.) Is this a good pace? Surely a 6-7 h.p. twin, even a roadster, ought to do more. (2.) Can you give me any other tips for getting a better top speed?—A.B.W.

(1.) A speed of 53 m.p.h. as a maximum is not too good for your machine, but, after all, you must remember that it was designed primarily for sidecar use, and there are comparatively few sidecar machines which will exceed 55 m.p.h. (2.) You have apparently made all possible adjustments, and it is quite likely that you will not better the speed mentioned, no matter how you try. The engine is not designed for extreme speeds, it is of a low compression type.

Poor Consumption and Bad Starting.

I have a 5-6 h.p. Rover outfit (J.A.P. engine), which, apart from the point now raised, gives me satisfaction. (1.) Petrol consumption is abnormally high, solo, 30-35 m.p.g.—sidecar does not make any appreciable difference. Compression very good. The B. and B. carburetter is not flooding, and I tried a 28 jet instead of 30; is this larger? There certainly seemed to be more power. I give all the air the engine will take, until I hear the popping which indicates weak mixture. (2.) The clutch is in the gear box chain wheel. How should it be lubricated—if at all? I have done 1,000 miles since buying the machine. (3.) In a recent issue, a writer spoke of trouble in starting a warm engine. I often have this and wonder if it indicates serious wear. It seems to me he rather evades the question and only hints at poor compression.—J.J.B.

(1.) The petrol consumption is very high, and you should obtain 45-50 m.p.g. with sidecar. The 28 jet is smaller than the 30, and you might try the effect of a still smaller one, say 26. Possibly the high consumption is due to leakage from part of the petrol supply system, or to the level in the carburetter being too high. Carefully overhaul these parts. (2.) The clutch does not require lubrication. (3.) If an engine will start reasonably well when cold, there is no particular reason why it should not start instantly when warm, unless some of the adjustments are affected by the expansion of parts when heated; for instance, the valve stems may expand when the engine is hot, and so take up the tappet clearance, thus preventing the valves seating and so causing loss of compression. In the case to which you refer, the trouble was probably due to lack of compression resulting from the piston being badly worn in the cylinder. When the engine was cold, the thick oil on the cylinder walls would retain the compression.

Konking.

Having recently bought an old 1910 or 1911 Triumph motor cycle, I should be glad of your advice on the following points: (1.) Is the compression ratio too high, as the engine knocks when accelerating rapidly or ascending hill slowly? The ignition is not too far advanced, points just commencing to open on full retard. (2.) Approximate m.p.g. per quart of oil (T.T. Mobiloil)? (3.) I had a new crank pin fitted, and when I came to reassemble the engine I found that the flywheels when bolted together were not parallel. When tested with inside callipers there was about $\frac{1}{16}$in. difference between opposite sides. I reassembled the engine completely, and it runs perfectly with no vibration whatever. Will this be deleterious to the engine or bearings? (4.) Is it possible to make the carburetter semi-automatic, at the same time preserving economy? I believe I can now get about 90 m.p.g. —M.B.

(1.) The compression ratios of the earlier Triumph engine were rather high, and it is usually necessary to retard the ignition when accelerating from a slow speed or when ascending hills. The ignition timing is rather too far advanced; the points should be just about to open when the control is two-thirds retarded, the piston being on the top dead centre of the compression stroke. (2.) About 200 to 250 miles per quart of oil. (3.) There should not be the amount of difference you mention between the two flywheels; but, provided the main shafts are in correct alignment, and as the engine runs well without vibration, little harm should result. If any trouble is experienced, however, it will probably have an effect on the bearings; but this depends, of course, on the correct alignment of the shafts. (4.) It is not likely that you can make the carburetter automatic without sacrificing economy to some degree.

C3

IMPORTANT DATES.

Sun., July 25th, to Aug. 1st—
International SixDays Trial in France.

Thurs., Aug. 5th, to Mon., Aug. 9th—
Anglo-Dutch Trial in Holland.

Sat., Aug. 7th—
East Midland Centre A.C.U. Open Speed Trials at Chatsworth Park.

Sat., Aug. 7th—
S.A.C.U. Inter club Meet at Callander.

Wed., Aug. 18th—
South Wales Club's Open Speed Championship on Penchine Sands.

Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.

Sat., Sept. 4th—
Scottish Speed Championship at St Andrews.

Scott Trial in Yorkshire.

Nov. 29th Dec. 4th—
Olympia Motor Cycle Show.

75 to 95 M.P.G.

I have a 1920 Baby Triumph, and shall be very pleased to have your advice on the following. (1.) I am only getting about 50 m.p.g. What do you consider a reasonable consumption? (2.) The fault seems to be in the carburetter, which is always flooding, the crank case being covered with mixture after a run. Do you consider I should alter the petrol level? If so, how? (3.) Which type and make of plug do you consider best for this machine? (4.) Do you consider this machine capable of taking a 10 st. man a tour of 500 miles, in a hilly district, at the rate of 170 miles per day?—C.S.C.

(1.) 75 to 95 m.p.g. (2.) Apparently your petrol level is too high. It will be necessary for you to lower the position of the collar on the needle so that the petrol supply is cut off earlier. (3.) Any single point plug with a large and substantial central electrode will give satisfaction. (4.) The machine is no doubt capable of the journey, but you will find 170 miles per day extremely tiring.

Two-stroke without Power.

Up to about a month ago my 2½ h.p. two-stroke has run fairly well, but I could not get more than 15 to 20 m.p.h. out of it, also not more than 20 m.p.g. (benzole). I have tried petrol, but with no better result. Can you explain the cause? There seems to be practically no power, but the engine will start quite easily on bottom or top gears. On mounting, it slows down and stops compression. The carburetter and magneto all seem in good order.—A.B.P.

There is evidently something radically wrong with either your engine or carburetter, as you should get from 75 to 95 m.p.g. You might verify the following points: (1.) The petrol level should be $\frac{3}{32}$in. below the top of the spraying jets, with the carburetter in a level position. (2.) See that the float itself is not punctured. (3.) See that the petrol pipe is thoroughly clear. (4.) We trust you have not reversed your piston by any chance. The short lip on the top of the piston should be nearest the sparking plug hole, *i.e.*, towards the back of the engine. (5.) Magneto timing, which will be near enough if the platinum points are opening with the contact breaker cover in the fully retarded position, when the piston is on top dead centre. You state that compression is good, therefore the assumption is that your rings are in decent order. If you notice a large amount of oil exuding from the main bearing of the crank case it will mean that your crank case compression is being lost at these points, and attention to the bearings will be necessary.

Worn Bearing Housing.

(1.) I have taken down engine shaft and gears of my 2¾ h.p. F.N., and find considerable play between the crankshaft bushes and crank case, although the shaft fits bushes perfectly. I found remains of thin copper packing between bushes and crank case: is this the usual method of making bushes a tight fit? Would the usual brown paper packing, as used for crank case, hold the bushes? (2.) Both cams being on one wheel, what would be the best method of timing F.N. ?—F.J.W.

(1.) It is usual when a bearing is slack in the crank case to pack it with copper foil or some similar substance. Brown paper is sometimes used, but is not very satisfactory. If you find that copper foil does not fulfil your requirements, we would recommend you to have a new bearing turned up. (2.) Arrange the valve timing so that the exhaust valve closes on top dead centre, or a fraction later—this will give you the correct valve timing throughout.

Qualifications of Patent Agent.

(1.) What qualifications are necessary to become a patent agent? (2.) Is it necessary to pass any examinations for this purpose? If so, what examinations? (3.) What does the term "registered" patent agent signify? What registration fees are payable, and who is the registering authority?—S.L.H.

(1.) You require a knowledge of mechanics, various manufacturers, foreign and British patents, designs, and trade mark laws. (2.) It is necessary to pass *(a)* a preliminary examination, such as the London Matriculation; *(b)* an intermediate examination; and *(c)* a final examination. The examinations *(b)* and *(c)* are held by the Chartered Institute of Patent Agents under the auspices of the Board of Trade. (3.) No one may practise as a patent agent until he is registered, *i.e.*, has passed the above examinations and is qualified. A further step is to become "chartered." The registration fee is three guineas per annum, and is payable to the registrar of the Chartered Institute of Patent Agents. Fuller particulars can be obtained from him at Staple Inn Buildings, London, W.C.2.

Fitting Aluminium Fins.

I have a 3 h.p. Twin Enfield and am desirous of fitting aluminium radiating fins to the cylinders; one reason being that I want to keep the engine cool, and another is to improve the appearance of the cylinders which have several fins knocked off at the top. Will you please tell me the best method of fastening these fins, which I intend to cut out of thin sheet aluminium?—F.W.C.

It is possible to fit aluminium fins by wedging sheet aluminium discs between the existing fins with aluminium wedge pieces; but you will find that this is a very delicate and rather difficult job.

RECOMMENDED ROUTES.

DONCASTER TO ST. ANNE'S.—G.A.M.

Doncaster, Barnsley, Huddersfield, Halifax, Todmorden, Burnley, Accrington, Blackburn, Preston, Lytham, St. Anne's.

SWINDON TO LIVERPOOL.—N.J.B.

Swindon, Highworth, Lechlade, Cirencester, Gloucester, Tewkesbury, Worcester, Kidderminster, Bridgnorth, Wellington, Whitchurch, Tarporley, Warrington, Liverpool.

LONDON TO NEW BRIGHTON (CHESHIRE VIA BROMSGROVE.—W.H.C.

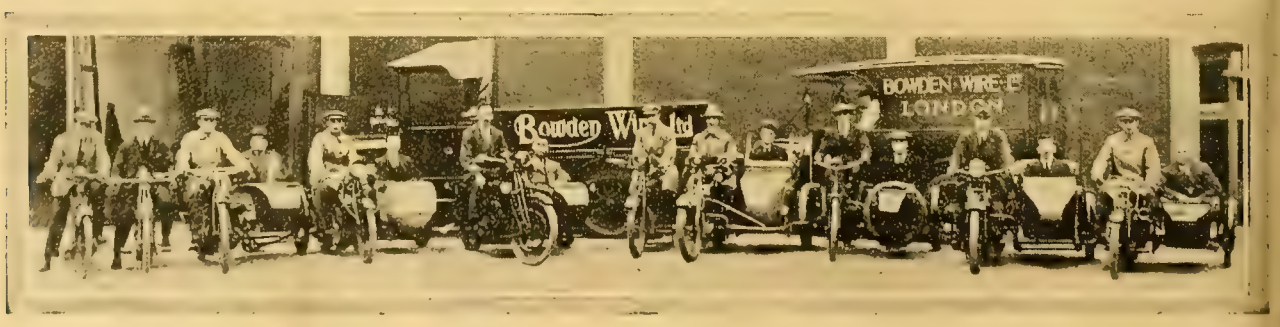
London, Watford, Aylesbury, Bicester Banbury, Stratford-on-Avon, Alcester Bromsgrove, Kidderminster, Bridgnorth Wellington, Chester, Birkenhead, New Brighton.

WHITLEY BAY TO DERBY VIA CHESTER.—H.L.M.

Whitley Bay, Newcastle, Durham, Darlington, Catterick, Boroughbridge Wetherby, Aberford, Wakefield, Barnsley, Penistone, Stockport, Northwich Chester, Tarporley, Nantwich, Stoke Leek, Ashbourne, Derby.

BIRMINGHAM TO EDINBURGH.—G.H.W.

Birmingham, Lichfield, Derby, Mansfield, Worksop, Doncaster, Ferrybridge Wetherby, Boroughbridge, Catterick, Darlington, Durham, Newcastle, Ponteland Otterburn, Hawick, Selkirk, Galashiels Stow, Edinburgh.

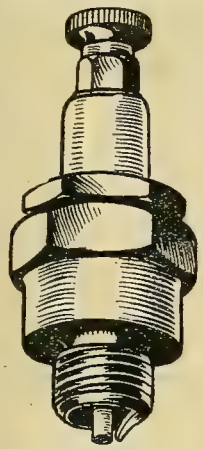


At first sight a large road staff for testing Bowden wire suggests Heath Robinson, and it may surprise motor cyclists generally to know that a really large staff is used by the makers of Bowden wire to test their various specialities. The road test is the only safe means of trying out the efficiency of anything connected with a motor cycle.

BRITISH PLUGS.

A Long Road Test of the Progress Plug.

OF recent days there has been a considerable amount of discussion with regard to the merits, or otherwise, of British sparking plugs. Some complaints have certainly reached us, and as we have in daily use an engine which quickly decides the value of a plug, and has eschewed three unsuitable articles in as many weeks, we are in a position to provide a useful test. Not long ago we obtained a new Progress plug, manufactured by W. H. Harris and Co., Upper Dean Street, Birmingham. This plug was inserted immediately before the Ilkley One Day Trial. Having successfully survived a considerable amount of low gear work in this strenuous event, the plug remained in commission for everyday use, and finally started on its adventures through the Scottish Six Days Trials. In spite of the rough treatment meted out to a "press" machine on a long and arduous trial of this description, the plug was never touched, and remains to-day apparently in as good condition as when fitted.



The Progress plug, which has a detachable steatite and central electrode.

THE "AUTOCAR" HANDBOOK.

THOSE of our readers who own cars will be interested to learn that a new and completely revised edition of "*The Autocar* Handbook" is now in the press, and that copies will be available shortly.

All the various matters relating to electrical appliances—electric engine starters, electric lighting sets, and so forth—have been brought together into a new chapter headed "Electrical Installations," and another innovation is an entirely new chapter devoted to the Ford car.

Special mention should be made of the large folding sectional view of a chassis indicating all the mechanical features of the car, which has always been a feature of the books. For this new edition—the fourth—an entirely new and up-to-date drawing has been specially prepared by the chief artist of *The Autocar*, Mr. F. Gordon Crosby.

This will form the frontispiece of the book, and is specially arranged to make it easy for reference while the book is being read. An extra chapter—explanatory of the drawing—has been inserted.

The price of the new edition will be 3s. 6d. net, or with postage 3s. 10d. Readers desirous of securing early copies should address their orders and remittances to the publishers, Iliffe and Sons, Ltd., 20, Tudor Street, London, E.C.4.

SPEED TRIALS AT WESTCLIFF-ON-SEA.

Formula Results.

WHATEVER the size of a speed trial on the point of entries, the net results are usually divided among a few competitors with exceptionally fast machines. The official results on formula of the recent Westcliff-on-Sea event show that A.B.C. machines secured thirteen firsts, James five, and the Indian four, Levis two, and the Duzmo one. Below we give the results showing the performances of individual riders and the classes in which they scored.

F. J. Boshier-Jones (3 A.B.C.), twelve firsts (members' and open events, Classes 11, 12, 13, 27, 28, and 29).

E. Kickham (2¾ Douglas), five firsts (members, Classes 16 and 26; open, Classes 10, 16, and 26), four seconds (members, Classes 10, 11, 12, and 28), and one third (open, Class 28).

W. R. Bailey (3 A.B.C.), six firsts (members, Classes 3, 4, and 20; open, Classes 3, 19, and 20) and one second (members, Class 19).

J. F. Lidstone (2¼ James), four firsts (members, Classes 2, 10, 18, and 21) and one second (members, Class 26).

H. R. Harveyson (Indian), four firsts (members, Classes 17 and 33; open, Classes 17 and 33), one second (members, Class 27), and one third (open, Class 13).

F. W. Applebee (2¼ Levis), two firsts (open, Classes 2 and 18), one second (members, Class 2), and three thirds (members, Classes 3, 18, and 19).

E. L. Gay (4 Triumph), two seconds (members, Classes 5 and 29) and two thirds (members, Classes 13 and 21).

G. E. Stobart (5-6 James), four firsts (members, Classes 8, 9, 24, and 25) and one second (members, Class 16).

E. B. Ware (2¾ N.U.T.), one second (open, Class 10) and one third (members, Class 10).

W. J. Barber (8 Henderson), three seconds (members, Classes 9, 17, and 25).

E. Porter (3 A.B.C.), two firsts (open, Classes 9 and 25).

S. L. Bailey (3½ Douglas), one third (members, Class 11).

H. Le Vack (3½ Duzmo), one first (members, Class 19), six seconds (members, Classes 3, 4, and 20; open, Classes 11, 27, and 28), and one third (open, Class 12).

H. R. King (3 A.B.C.), two seconds (open, Classes 12 and 13) and two thirds (open, Classes 11 and 27).

S. M. Greening (2¼ Diamond), one second (open, Class 2) and one third (members, Class 2).

G. Strange (3½ James), one first (members, Class 5), one second (members, Class 21), and one third (members, Class 27).

D. Crawford (Zenith), one second (open, Class 9) and one third (members, Class 25).

H. E. Alliott (2¾ Douglas), one second (open, Class 29).

C. H. Smith (4 Triumph), one third (members, Class 16).

S. C. Marshall (1½ Bunly Scooter), one first (members, Class 1).

G. A. Bray (1½ Auto Scooter), one first (open, Class 1).

SIDECAR TAXIS AT LAST.

Vehicle approved by Authorities.

A COMPANY in Nottingham is putting into service a novel sidecar taxi, seating two persons side by side. Nottingham, true to its tradition as an up-to-date city, is the first in the British Isles to adopt this innovation.

Permission was granted by the Nottingham Watch Committee with the distinct understanding that only ex-service men must be employed. The fare is to be at the old rate of 1s. for the first mile and 8d. a mile afterwards.

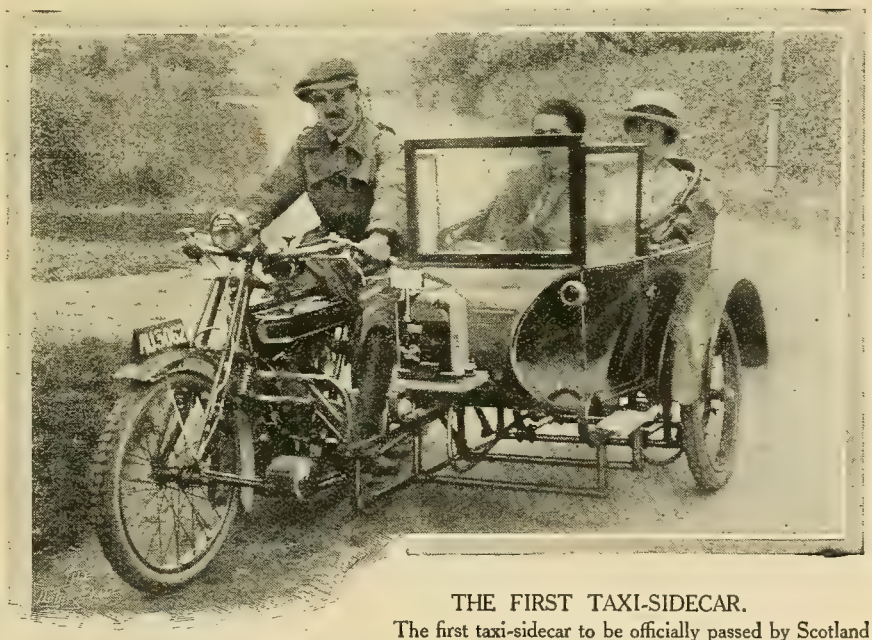
These little vehicles should be particularly adaptable to commercial travellers carrying light samples; also for touring purposes, for which special low rates will be charged.

The sidecar is fitted with a leather hood and celluloid windscreen. In addition, there are side screens that can be raised at will, and are held in position by a catch, thus making the sidecar absolutely weatherproof.

The taximeter (which is driven from the sidecar wheel) is fitted on a small platform at the front of the sidecar, so that the passenger can read the dial while seated.

The machine is a 6 h.p. Campion, and with two passengers second gear is only necessary on the steepest hills; in fact, it has been proved much handier than the ordinary taxicab.

The company intend having half a dozen outfits running within a month.

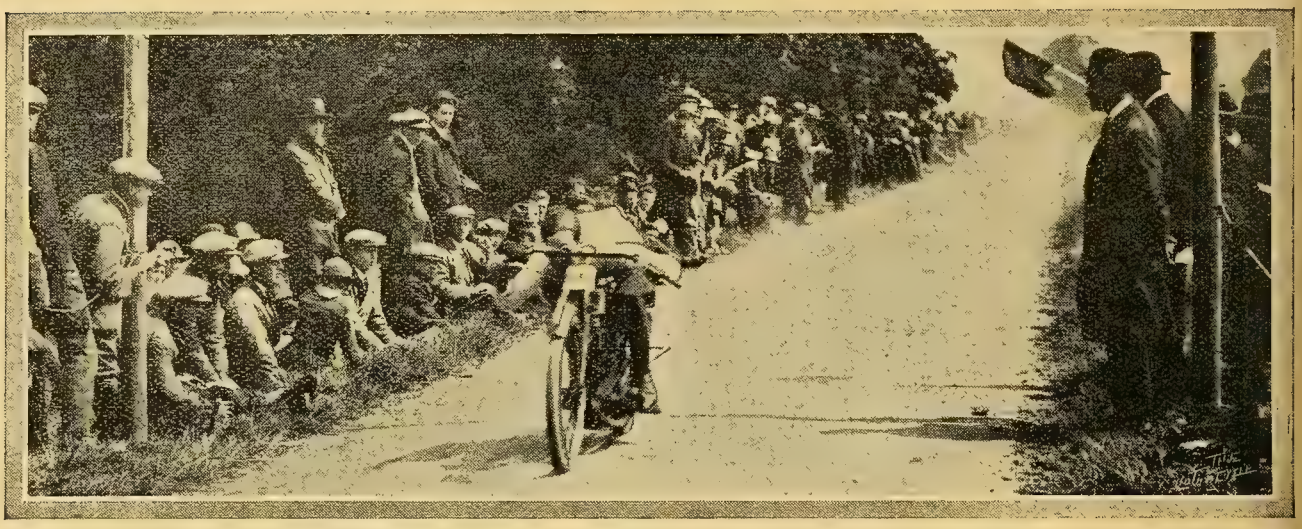


THE FIRST TAXI-SIDECAR.

The first taxi-sidecar to be officially passed by Scotland Yard. The body is of the two-seater type, and the machine a Campion.

The Luton and South Beds A.C. Speed Trials.

A Head Wind lowers Maximum Speeds.



General view of the course in Luton Hoo Park, showing the fine speedway and the large crowd which assembled to witness the racing. The rider is George Dance crossing the finishing line at 70 m.p.h. on his 2¾ h.p. Sunbeam.

THE annual open speed trials run off in Luton Hoo Park are becoming more popular every year. For Saturday's event the entries were in the neighbourhood of 200, while the excellent organisation which enabled the classes to be run off promptly, the fine though blustery weather, and the good condition of the course all helped towards the success of the afternoon. The course was half a kilometre in length, and was situated on a straight piece of road at the south end of the park. The surface was in excellent condition for an ordinary macadam road, and had not the strong north-westerly wind blown against the competitors some wonderfuly fast times would have been made. There was only just one small hitch at the beginning before the field telephone had properly settled down to work. The times were taken by Mr. J. Burley, one of the few of the older timekeepers, who is also an active motor cyclist, and who arrived in his Chater-Lea sidecar outfit. He took the times at the finish, receiving notice of the machine passing the starting line by means of a buzzer. Thanks to the excellent marshalling by Mr. W. Cooper (the A.C.U. steward) and the organising powers of Mr. J. Simpson (the hon. sec.) and his willing helpers, there were no tiresome delays. Despite the adverse wind, the speeds were remarkably good, while the chief feature of the meeting was the struggle for supremacy between Dance on the Sunbeam and Davies on an A.J.S. Both these machines and that ridden by Boston did remarkably well. Owing to the failure of the telephone, F. W. Applebee was not timed in Event 1 and had to run again. Baragwanath had the misfortune to break his piston almost on the finishing line.

There were few novel machines, but Wallace appeared with a 60° twin cylinder Duzmo, built on the same lines as the single of this make, on which he won Event 10.

Considerable amusement was caused by the first sidecar event when H. R. Davies collected a small boy as passenger, and packed him lying face downwards in the sidecar, with the result that as he passed nothing of the sidecar's occupant could be seen but two small feet.

A machine which acquitted itself very well was E. Hill's Rudge, which tied for second place with Capt. Millar's Matchless in Event 6.

Speed attracts Spectators.

As previously mentioned, some excellent times were made, but many of the lesser known riders came by at touring speed. Quite a large number of spectators arrived to witness the trials which began at 1 p.m. and finished at 5.30 p.m. There was an interval of half an hour at the conclusion of Event 7. The following were the results:

EVENT 1.—CLASS 1 (Expert and General). Machines with engines up to 275 c.c.

		Time.
1.	G. Davison (2¼ Levis)	23⅘s.
2.	J. F. Lidstone (2¼ James)	26s.
3.	W. A. Jacobs (2¼ Singer)	26⅕s.

Winner's speed, 46.99 m.p.h.

EVENT 2.—CLASS 1 (Experts barred). Machines with engines up to 275 c.c.

1.	G. Davison (2¼ Levis)	23⅘s.
2.	F. Biggs (2¼ New Hudson)	33⅕s.

Winner's speed, 47.39 m.p.h.

EVENT 3.—CLASS 2 (Expert and General). Machines with engines up to 350 c.c.

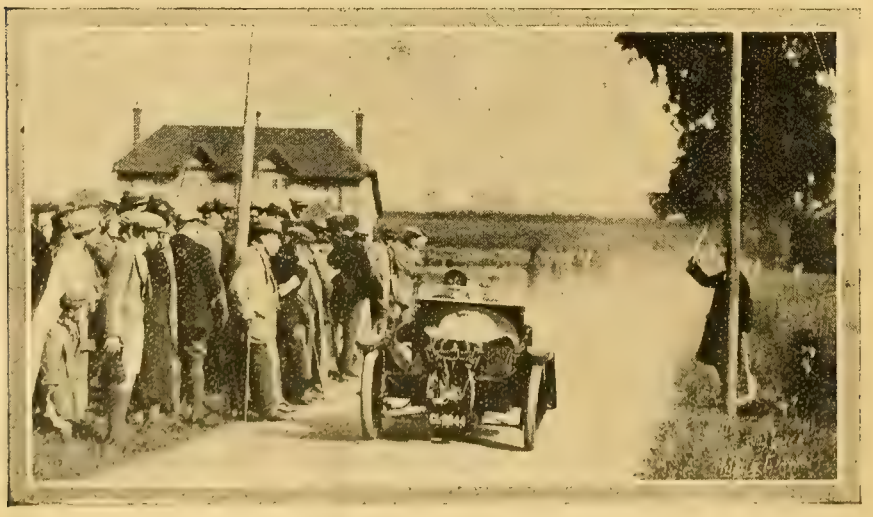
1.	G. Dance (2¾ Sunbeam)	17⅘s.
2.	H. R. Davies (2¾ A.J.S.)	18⅕s.
3.	G. S. Boston (2¾ A.J.S.)	20s.

Winner's speed, 64.28 m.p.h.

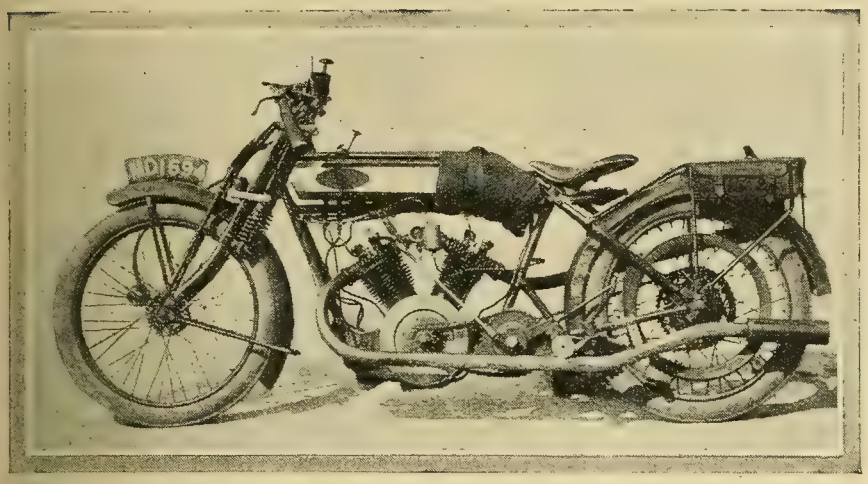
EVENT 4.—CLASS 2 (Experts barred). Machines with engines up to 350 c.c.

1.	H. R. Davies (2¾ A.J.S.)	17s.
2.	E. L. Boston (2¾ A.J.S.)	21⅕s.
3.	A. Sims (2¾ Diamond)	23s.

Winner's speed, 65.79 m.p.h.



The course was half a kilometre in length, with a flying start. P. A. Child, on a Morgan, is seen crossing the starting line. Observe the telephone operator and flagman on the right.



Another V twin with an outside flywheel. The 8 h.p. Duzmo has overhead valves, and is practically a duplication of the well-known single.

EVENT 5.—Class 3 (Expert and General). Machines with engines up to 500 c.c.

1. H. R. Davies (2¾ A.J.S.) ..... 17s.
2. G. Dance (3½ Sunbeam) ..... 17⅝s.
3. V. Horsman (3½ Norton) ..... 18⅛s.

Winner's speed, 65.79 m.p.h.

EVENT 6.—Class 3 (Experts barred). Machines with engines up to 500 c.c.

1. H. R. Davies (2¾ A.J.S.) ..... 17⅛s.
2. {Capt. Millar (3½ Matchless) ..... 22⅝s.
   {E. Hill (3½ Rudge) ..... 22⅝s.

Winner's speed, 65.03 m.p.h.

It will be noticed that in the last two events Davies beat machines in the class above him, and that his running was so consistent that of the last three events his time was identical in the first two and only varied by a fifth of a second in the third.

EVENT 7.—Class 4 (Expert and General). Machines with engines up to 750 c.c.

. G. Dance (3½ Sunbeam) ..... 17⅛s.
. G. S. Boston (2¾ A.J.S.) ..... 17⅝s.
. V. Horsman (3½ Norton) ..... 18⅛s.

Winner's speed, 65.03 m.p.h.

EVENT 8.—Class 4 (Experts barred). Machines with engines up to 750 c.c.

. E. Hill (3½ Rudge) ..... 21⅝s.
. Capt. Millar (3½ Matchless) ..... 22⅛s.
. E. L. Boston (2¾ A.J.S.) ..... 22⅝s.

Winner's speed, 52.7 m.p.h.

EVENT 9.—Class 5 (Expert and General). Machines with engines up to 1,000 c.c.

1. E. Baragwanath (8 Zenith) ..... 16⅛s.
2. G. Dance (3½ Sunbeam) ..... 17⅛s.
3. {G. S. Boston (2¾ A.J.S.) ..... 18⅛s.
   {V. Horsman (3½ Norton) ..... 18⅛s.

Fastest time of the day. Winner's speed, 69.04 m.p.h.

EVENT 10.—Class 5 (Experts barred). Machines with engines up to 1,000 c.c.

J. Wallace (8 Duzmo) ..... 20s.
W. C. Veasey (10 Henderson) ..... 20⅝s.
E. Hill (3½ Rudge) ..... 21⅝s.

Winner's speed, 55.92 m.p.h.

EVENT 11.—Class 6 (Expert and General). Scooters.

R. Whincup (1½ Whippet) ..... 45s.

EVENT 12.—Class 6 (Experts barred).

R. Whincup (1½ Whippet) ..... —

EVENT 13.—Class 7 (Expert and General). Sidecar Machines, 500 c.c.

G. Dance (3½ Sunbeam) ..... 21⅛s.
H. Davies (2¾ A.J.S.) ..... 22⅛s.
E. L. Boston (2¾ A.J.S.) ..... 27⅝s.

Winner's speed, 51.31 m.p.h.

EVENT 14.—Class 7 (Experts barred). Sidecar Machines up to 500 c.c.

H. R. Davies (2¾ A.J.S.) ..... 22s.
E. L. Boston (2¾ A.J.S.) ..... 26⅛s.
G. Davison (2¾ Diamond) ..... 32s.

Winner's speed 50.34 m.p.h.

EVENT 15.—Class 8 (Expert and General). Sidecar Machines up to 750 c.c.

1. G. Dance (3½ Sunbeam) ..... 21⅛s.
2. H. Davison (2¾ A.J.S.) ..... 22⅝s.
3. G. E. Stobart (5-6 James) ..... 23⅝s.

Winner's speed, 52.27 m.p.h.

EVENT 16.—Class 8 (Experts barred). Sidecar Machines up to 750 c.c.

1. H. R. Davies (2¾ A.J.S.) ..... 22s.
2. H. Reyre (5-6 James) ..... 25⅛s.
3. E. J. Boston (2¾ A.J.S.) ..... 27⅛s.

EVENT 17.—Class 9 (Expert and General). Sidecar Machines up to 1,000 c.c.

1. G. Dance (3½ Sunbeam) ..... 21⅛s.
2. G. Stobart (5-6 James) ..... 25⅛s.
3. E. Baragwanath (8 Zenith) ..... 25⅛s.

Winner's speed, 50.76 m.p.h.

EVENT 18.—Class 9 (Experts barred). Sidecar Machines up to 1,000 c.c.

1. H. Reyre (5-6 James) ..... 25⅝s.
2. W. J. Barker (10 Henderson) ..... 26⅝s.

Winner's speed, 44.03 m.p.h.

EVENT 19.—Class 10 (Expert and General). Cycle-cars.

1. P. A. Child (8 Morgan) ..... 30⅝s.
2. S. Hall (8 Morgan) ..... 31⅛s.

Winner's speed, 36.79 m.p.h.

EVENT 20.—Class 10 (Experts barred). Cycle cars.

1. F. A. Child (8 Morgan) 29⅛s
2. P. A. Child (8 Morgan) 30⅝s

Winner's speed, 37.53 m.p.h.

The competition was run in Luton Hoo Park by the kind permission of Lady Ludlow, who is distributing the sum obtained from the admission fees to the park to local charities.

Awards.

Gold, silver, and bronze medals were awarded in all classes in which there were nine entries, gold and silver medals when there were five entries, and if only three entries were received for a class bronze medals. Special prizes are to be awarded to the competitor making the fastest time of the day in the expert and also in the expert barred classes. A special prize, value two guineas, is to be awarded by Mr. P. A. Child to the competitor making the fastest time of the day, and residing within a radius of ten miles of Luton.

HILL-CLIMB AT SOUTH HARTING.

ON Saturday last the Junior Car Club held a successful hill-climb at South Harting in which there were included several classes for cycle cars. The following are the results :

CLASS 1.—Three-wheeled Cycle Cars, engine not exceeding 1,100 c.c.; passenger to be carried: W. D. Hawkes (Morgan), only runner.

CLASS 2.—Touring Two-seaters, engine not exceeding 1,100 c.c.; passenger to be carried: 1, G. H. Tamplin (8 Tamplin); 2, S. Watson (10 Deemster); 3, C. Finch (10 G.N.).

CLASS 5.—Lady Drivers: 1, Mrs. A. Warren Lambert (10 Warren Lambert).

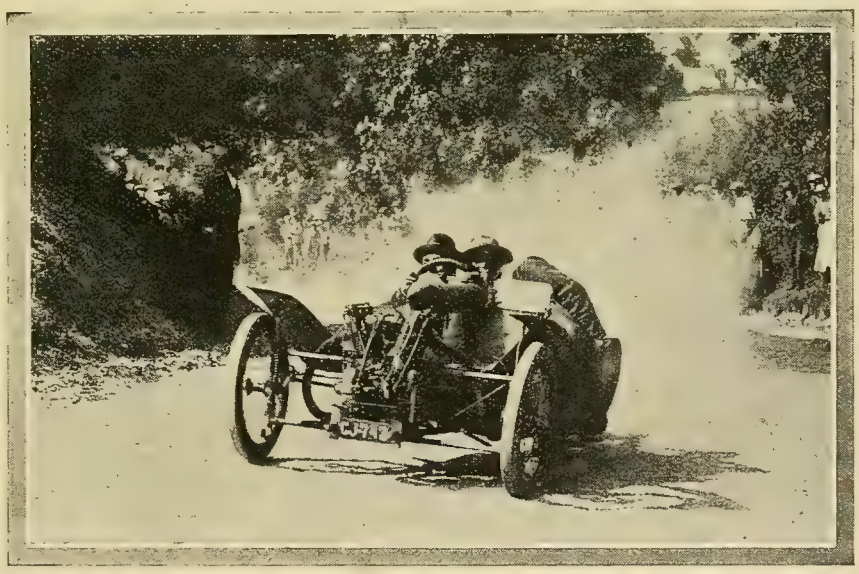
CLASS 6.—Monocars regularly sold and used as Single-seaters, engine not exceeding **1,100 c.c.**: 1, Kaye Don (8 Tamplin).

CLASS 7.—1,100 c.c. Racing Cars: 1, A. F. Nash (10 G.N.); 2, H. R. Godfrey (10 G.N.).

CLASS 9.—Sporting Cars; a passenger to be carried: 1, T. Gilmore Ellis (8.7 G.N.); 2, H. R. Godfrey (10 G.N.-Vitesse).

In Class 7 W. D. Hawkes blew off a cylinder while travelling at speed.

South Harting is an admirable venue for an event of this nature. The scenery is beautiful and the hill sufficiently steep.



A sporting three-wheeler on South Harting. W. D. Hawkes taking the bend at speed on his special o.h.v. Morgan-Jap.

A LIGHTWEIGHT TRIAL.

Successful Week-end Event organised by the Birmingham Club.

THAT the Birmingham M.C. was able to secure an entry of over twenty riders for its lightweight trial last week-end shows that the junior machine is no longer regarded as a runabout unsuitable for serious touring.

In addition to the twenty machines of under 300 c.c. there were several others, which only exceeded the limit mentioned by a few cubic centimetres, in the touring trial, which was run concurrently with the lightweight event.

Starting at 2.30 p.m. from Birmingham on Saturday, the competitors had to maintain an average of 20 m.p.h. over a main road course which included Rose Hill, Bromsgrove, Worcester, the Old Wyche at Malvern, Colwall, Ledbury, Ross, Whitchurch, Monmouth, Bigsweir Bridge, Tintern to Chepstow, while the return, next day, also started at 2.30, and took in Lydney, Blakeney, Newnham-on-Severn, Gloucester, Birdlip Hill, Cheltenham, Rising Sun, Winchcombe, Sudeley Hill, a short "colonial" section to Snows Hill, Broadway, Stratford-on-Avon and Henley-in-Arden; a total mileage of seventy-six and fifty-one miles respectively.

English Weather.

The first day's run was in splendid weather, and competitors were able to see the Wye Valley at its best; but the conditions for the return were not so propitious, high winds and heavy rain prevailing all day.

Rose Hill, a few miles from the start, accounted for one failure only—H. C. Jennens (2¼ James) had a socted plug, but there were many failures on the Old Wyche. On the other hand, Birdlip, as severe as it is, troubled none of the miniatures, but these, however, found Rising Sun very trying in the rain. Several competitors who afterwards made a good climb of the worst part of the gradient stopped on the lower portion through wheel spin and skids, as the grease was indeed very bad.

Individual Performances.

As usual the Levis machines performed conspicuously. E. J. Bastock (2½ Levis) climbed the hills mentioned splendidly, as did Edwards on a 2¼ h.p. model, and R. E. Pugh, but R. Urwin (2½ Levis), after successfully ascending the Wyche and Birdlip, got into a gulley on Rising Sun, and could not recover his speed. G. Kuhn as usual made good ascents. He toured up Birdlip and reserved plenty of power with which to accelerate on the top bend. Some of the machines were slightly under-powered for their weight. The development of the true lightweight is bound up in its weight, and this lightweight trial demonstrated the value of light weight, for the machines that are the most successful at hill-climbing were lighter than others which were unduly handicapped by heavy frame construction.

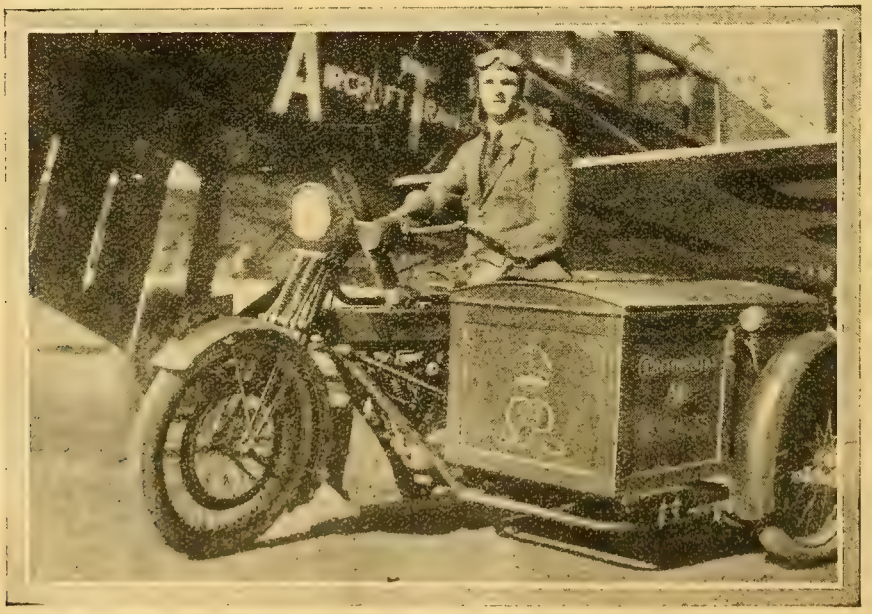
On the Old Wyche and on Rising Sun H. C. Jennens (2¼ James) was forced to run beside his machine, not because his engine lacked the power which had carried others up with ease, but because it was asked to do more. V. Williams and F. Povey, on similar machines, repeated Jennens's performance.

J. C. Walker (2½ Edmund-Jap) climbed the three hills in good style, but the riders of the two Sun V.T.S. machines were not so fortunate. J. W. Parkes broke a chain on the Wyche, was good on Birdlip, but had to use his feet on Rising Sun. F. C. Parkes, similarly mounted, paddled on the first and last mentioned, but made a splendid ascent of Birdlip.

The little Velocette machines were splendid with G. Denley and Eric Williams in the saddles. They created a very good impression on all the hills, which they climbed with ease.

B. Kershaw, on the smallest of the Verus models, also performed well, but G. Smith (2¼ Clyno) had to run beside his mount on the Wyche, and made a steady ascent of Birdlip. The younger Haden (who ran so steadily in the T.T.) had to paddle on the Wyche, made a clean ascent of Birdlip, and was exceptionally good on Rising Sun.

To summarise the trial, one may say that for all but such severe acclivities as the Old Wyche and Rising Sun, all the lightweights in the trial proved themselves capable, and that too heavy construction was responsible for most of the failures on the hills mentioned.



A MAIL TENDER. Considering the economy of the modern sidecar, it is surprising that more are not used for rural mail service. Before the war there were many in use, and above is depicted a Royal Enfield used as a tender between the G.P.O. and the Croydon Aerodrome, carrying mails for despatch by aerial post.

ANOTHER SCOTTISH TRIAL.

FOLLOWING upon the success of the Scottish Six Days Trial, the organisers — the Edinburgh and District Motor Club, Ltd.—have decided to hold a two days Highland Trial, which might be described as a Scottish Six Days in condensed form. This trial is to be held September 18th to the 20th—the Scottish autumn holiday. On Saturday, the 18th, the competitors will leave Edinburgh and proceed *via* Stirling, Amulree, Kenmore, Killin, Crianlarich, Arrochar, Inveraray, Cladich, Dalmally, Taynuilt, Connel to Oban, approximately 190 miles. Sunday is to be spent in the last-named beautiful Highland resort, the competitors thus obtaining a day of rest.

The return route on Monday will be as follows: Oban, Connel, Ballachulish, Glencoe, Tyndrum, Crianlarich, Lochearnhead, Callander, Stirling to Edinburgh.

It is fully expected that a large number of riders who took part in the Scottish Six Days will participate in this event, which possesses unique and sporting attractions, and which, we understand, will become an annual trial. Further particulars can be obtained from G. Graham Davidson, Hon. Trials Secretary, Edinburgh and District Motor Club, Ltd., 6, Castle Terrace, Edinburgh

Owing to the numerous breakages of axles, etc., police are now stationed daily at each end of the Sevenoaks Road at Bromley Common warning motorists to slow down owing to the bad state of the road. It is said the Council cannot obtain stone for repair owing to transport difficulty. The bad stretch extends from the "Crown" public house to the junction of the Westerham Road. To avoid Bromley Common, motor cyclists should travel *via* Hayes Lane, Hayes Common, cross the Westerham Road and rejoin Sevenoaks Road at Farnborough.

CURRENT CHAT

Times to Light Lamps.

July 29th	... ...	9.22 p.m.
,, 31st	... ...	9.19 ,,
Aug. 2nd	... ...	9.16 ,,
,, 4th	... ...	9.12 ,,

Tandem Miniature.

The tandem seater scooter is the latest development of the miniature machine.

Flat Twins interest A.C.U. Royal Patron.

H.R.H. the Duke of York recently visited the A.B.C. works. It will be recalled that His Royal Highness rides a Douglas.

French Design.

As will be seen from the article appearing on pages 122 to 124, the French motor cycle industry has been very busy since the Armistice. Unconventionality without any suggestion of freakishness appears to be the keynote of French design.

Police Sidecars in Paris.

It has been decided that the Paris traffic police shall be provided with twelve motor cycles and sidecars. The use to which these will be put is not to chase speedsters, for Paris has never known a definite speed limit, but to maintain a general control over traffic and to be made use of for very rapid transportation.

Martin Motor Cycles.

Mr Harry Martin, who is one of the oldest of British motor cycle racing men, is about to recommence the manufacture of Martin motor cycles, and will specialise in the production of 750 c.c. twin-cylinder speed models with M.A.G. engines and 1,000 c.c. machines fitted to sidecars. The offices of the new company, which are under the direction of Capt. Sir A. J. Millar, Bart., are 60, Cheval Road, Brompton Road, London, S.W.1. The new Martin Works are to be in London.

An A.A. Filling Station in the North.

The Automobile Association is extending its benzole filling station activities still further afield, and the latest depot to be opened is situated in West Yorkshire at Bramham cross-roads, on the Leeds-York and Great North Roads. The opening took place at 3 p.m. on the 21st inst., and was largely attended by representatives of the benzole industry, the A.A, and the motor traders in Yorkshire. Amongst the first four motorists to obtain replenishments from the benzole tank installation were A. Jenkins (Triumph) and N. O. Vinter (Scott).

The Price of Petrol.

Petrol has gone up to 40 cents (approximately 2s.) per gallon in the U.S.A. Does this pre-shadow another rise in this country?

Found.

A set of motor cyclist's overalls were recently picked up by Mr. T. A. Thompson, Bank House, Burtonwood, Newton-le-Willows, Lancs., between Earlestown and St. Helen's Junction.

New Vulcanising Process.

The rubber industry was founded in Manchester by Macintosh in 1825. A lecturer in chemistry—Mr. Peachey—of the Manchester School of Technology has now discovered a method of cold vulcanisation by means of two gases.

Club Race at Brooklands.

A race for members of the Public School M.C.C. will be held at Brooklands in connection with the meeting on August 18th. The race will be open for all classes of machines. A cup will be given to the winner and prizes for second and third men; in addition, club prizes which shall carry with them the club class championship will be given to the fastest in each class.

Special Features.

MOTOR CYCLE DESIGN IN FRANCE.
WEEK-END EVENTS.
AUSTRALIAN MOTOR CYCLES.

A New Fuel.

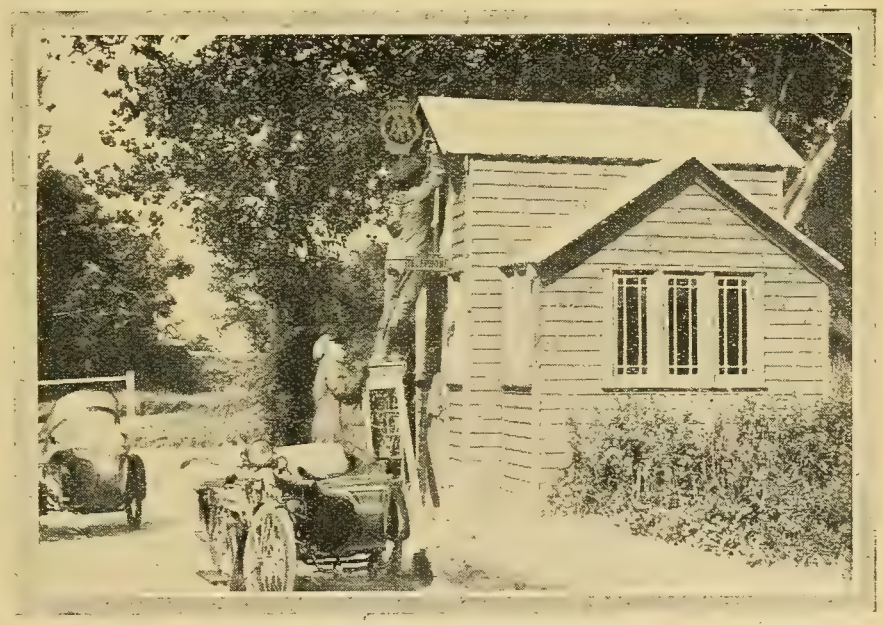
The latest attempt to produce a new motor fuel has been made by a resident of South Africa; it is to be called Acetol.

The 1920 Grand Prix Circuit du Mans.

Thirty-one entrants have been received for the motor cycle class, and twenty-two for the Cycle Car Grand Prix Race to be held near Le Mans on August 28th, making fifty-three entries in all.

Provisional Results of Lakeland Trial.

The following riders completed the course of the recent Cumberland County M.C.C. One Day Reliability Trial without loss of marks: E. Williams (3½ Sunbeam), R. E. Darnton (7-9 Indian), J. A. Newman (3½ Sunbeam), W. G. Harrison (3½ Sunbeam), J. W. Wills (2¾ Verus), I. H. Dickson (7 F.N.), S. Bell (3 A.B.C.), R. L. Williamson (3½ Norton), T. C. de la Hay (3½ Sunbeam), G. W. Wilkin (2¾ Wilkin), and S. Parker (8 Royal Enfield sc.).



THIRD A.A. ROADSIDE BENZOLE FILLING STATION. A road guide is seen fixing up the sign on the filling station, which was recently opened at the Bramham cross roads (Leeds-York and Great North Roads), a busy spot in Yorkshire.

A TEAM TRIAL IN LANCASHIRE.

Twenty Teams, representing Eleven Clubs, compete for the Blake Challenge Cup.

ALTHOUGH the district in which they are situated presents anything but ideal conditions for the enjoyment of a motor cycle, the clubmen embraced in the North-Western Centre of the A.C.U. are none the less keen.

In consequence of this keenness, eighty riders (pure amateurs for the most part) faced the starter last week-end in the Town Hall Square, Bolton, each anxious to uphold the standing of his club. The event holds the distinction of being the first separate inter-club team trial organised by an A.C.U. "centre."

At Rivington Pike.

The route from Bolton led towards the foothills of the Pennines and the first, and as it proved the most severe hill of the day was climbed about six miles from the start. Although the gradient of Rivington Pike does not appear to be very severe, it is deceptive, and quite a number of even high-powered machines failed before reaching the first hairpin of the three at the top. The chief troubles appeared to be due to nervousness on the part of the riders when they approached the roughly paved cross-gulleys or the hairpin corners, and there was also great dissimilarity in the manner in which machines of identical specification were handled. Thus E. Foster's Scott was knocking badly on the first hairpin, while N. S. Walsh on a similar model came up quite easily. R. Lock's 3½ h.p. Coventry-Eagle had ample power, but the rider himself appeared to be nervous. P. Dalton (4 Triumph) and S. Parker (3½ Wilkin sc.) made very steady ascents, as did N. Houlding on a 3 h.p. Cleveland. One or two sportsmen started out on single gears, and of these G. Brill (4 Triumph) came up at great speed, picking his way round the hairpins. E. F. Ganton on a 3½ h.p. Duzmo was not successful, however, the last hairpin proving too much for his one gear. Amongst others who made nice climbs were J. Butterworth (5-6 James sc.), H. R. Caldwell (8 Martinsyde sc.), W. Greenaway (4¼ L.M.C.), and J. Collinson (6 Ariel sc.).

Beyond Rivington some wild moorland scenery was passed, and then a variety of roads (pot-holes, *pavé* and excellent Tarmac) were traversed through Whalley and Bolton-by-Bowland to the lunch stop at Whitewell. Each team of four (two solos and two sidecars) had to complete the course absolutely non-stop, with the exception of the observed hill, where a stop entailed the loss of five marks.

Three Hairpins.

From Whitewell, which is one of the beauty spots of the North-East Lancashire uplands, an exceedingly stiff test had been devised. The observed hill commenced as soon as the riders crossed the starting line, and although the gradient was not abnormal, a succession of three acute hairpin bends, taken before the engines had chance to warm up, was very trying.

The first man away, W. Richards (3½ James), made an excellent climb, as did W. R. Eadington (3½ Sunbeam sc.); the latter's lady passenger is an adept at cornering, and leaned out in the style which used to be known as "Weatherilting." The 5-6 h.p. James sidecar was again exceptionally good, and G. Ormerod, who was driving quite an old 5-6 h.p. A.J.S. sidecar, made a splendid ascent. Amongst the solo riders R. S. Jackson (4 Triumph) calls for special comment, while B. Caldwell (3½ Norton), after taking the corners steadily, accelerated at a great pace up the hill—his machine was very noisy, however. T. G. Pearn (3½ N.U.T.) made a smooth climb, and M. Booth (5-6 Indian) and S. A. Marks (7-9 Indian sc.) both did well. After leaving the top of the observed hill a rough and grassy descent of great steepness was taken. It was one of the kind of hills at the foot of which one expects a watersplash, but, fortunately, the coast was clear. No more serious hills were encountered on the forty-five miles run home, but many miles of greasy lanes were traversed. The fine weather of the morning had changed to a steady downpour, and everyone who finished was damped in everything but spirit.

The trial was a great success in every way, the course was well arrowed, and the arrangements generally reflect great credit on the organising secretary. Future competitions should be well supported.

W. Howarth (5-6 Indian sc.) following an official Morgan near the top of Rivington Pike.

A Team Trial in Lancashire.—

The following is a list of the teams that started; an asterisk marks those who retired:

WARRINGTON M.C.—TEAM 1: R. S. Jackson (4 Triumph), B. Caldwell (3½ Norton), J. Roberts (6 A.J.S. sc.), and *J. B. Terras (6 Bradbury sc.). TEAM 2: T. G. Pearn (3½ N.U.T), H Aldred (4 Triumph), H. Wragg (8 Sunbeam sc.). and J. Massey (8 Royal Ruby sc.).

EAST LANCS. M.C.C.—N. Houlding (3 Cleveland), C. Pilling (3½ Norton), B. Houlding (4 Norton sc.), and S. A. Marks (7-9 Indian sc.).

STALYBRIDGE AND DISTRICT M.C.C.—*G. E. Watts (3½ Ariel), *A. Watts (7-9 American X), *A. Green (7-9 American X sc.), and L. Mercer (6 British Excelsior sc.).

N. CHESHIRE M.C.—M. Booth (5-6 Indian), R. Lock (3½ Coventry Eagle), W. R. Eadington (3½ Sunbeam sc.), and *O. Jessop (4 Triumph sc.).

BURNLEY AND DISTRICT M.C.—TEAM 1: *E. Rigg (2¾ New Imperial), *J. W. Windall (2¾ New Imperial), *H. Pool (6 Enfield sc.), and *E. Pool (4¼ B.S.A. sc.). TEAM 2: *J. Swindlehurst (3½ Bradbury), *J. B. Walton (2½ Connaught), J. Collinson (6 Ariel sc.), and *W. Nutter (6 Bradbury sc.). TEAM 3: W. Greenaway (4¼ L.M.C.), *H. Holden (2¾ Aurora), J. Hartley (8 Ruby sc.), and P. Duckworth (8 Dot sc.).

BURY AND DISTRICT M.C.—TEAM 1: M. Parkinson (3½ Rudge), J. W. Glover (3½ Sunbeam), J. Whittaker (4 Triumph sc.), and G. Ormerod (6 A.J.S. sc.). TEAM 2: C. Lord (3½ Sunbeam), N. S. Walsh (3¾ Scott), W. Howarth (5-6 Indian sc.), and *J. L. Houghton (5-7 Dalton sc.). TEAM 3: P. Dalton (4 Triumph), H. Compton (3½ Sunbeam), J. Knowles (4 Triumph sc.), and O. Entwhistle (3½ Sunbeam sc.).

BOLTON AND DISTRICT M.C.C.—TEAM 1: W. Richards (3½ James), C. Guthrie (3½ Norton), *H. Jackson (8 Matchless sc.), and C. Scowcroft (8 Enfield sc.). TEAM 2: L. Hargreaves (4 Harley), J. Hardy (4 Norton), J. Cottam (6 A.J.S. sc.), and P. Vickers (8 Matchless). TEAM 3: J. Dunning (4 Douglas), A. Roberts (2¾ Bown-Villiers), M. Brown (10 Merrall-Brown), and A. Horrocks (10 Morgan).

MANCHESTER M.C.—TEAM 1: E. F. Ganton (3½ Duzmo), E. Bottomley (7-9 Harley), T. E. Williams (6 Bradbury sc.), and *E. Gill (6 Bradbury sc.). TEAM 2: *J. S. Clayton (4 Harley-Davidson), H. Clayton (3½ Marlow), G. Calf (8-10 Henderson), and G. Cowley, junr. (6 A.J.S. sc.). TEAM 3: E. Foster (3¾ Scott), G. Brill (3½ Triumph), *O. E. Carter (3½ A.B.C. sc.), and *J. W. Clayton (8 Morgan).

J.B. CLUB (Liverpool).—TEAM 1: N. E. Williams (3½ Beardmore-Precision), H. T. Williams (7-9 American X), *S. Parker (3½ Wilkin sc.), and J. N. Green (6 Martinsyde sc.). TEAM 2: R. R. Bromley (4 Triumph), *N. Dean (3½ Wilkin), C. Harper (4 Triumph sc.), and H. R. Caldwell (6 Martinsyde sc.).

WIDNES M.C.—*H. Hodgson (3½ Rudge), W. Cook (4 Triumph), A. J. Bailey (4 Norton sc.), and J. H. Sandland (8 Morgan).

A.C.U. NOTES AND NEWS.

Next Year's T.T. Class for 250 c.c. Machines retained. Hills in the Six Days Trial. Entries to be Limited.

Next Year's T.T.

AFTER careful consideration of all the lessons to be learnt from this year's Motor Cycle Tourist Trophy Races, not only as regards the "improvement of the breed," but also the question of safety and the debatable point as to whether a machine should be obliged to finish under its own power, the Competitions Committee of the Auto-Cycle Union has unanimously recommended that a Junior and Senior T.T. Race be held in the early summer of 1921 over the same course and under the same conditions as this year. The total number of motor cycles that will be accepted for next year's races will be limited to one hundred in each of the two races, and applications for entry may be made forthwith. It is proposed that in the Junior Race there shall again be a class for 250 c.c. machines, as proved so successful last June.

Six Days Trial. Special Prizes to be Awarded.

The Auto-Cycle Union desires to notify intending competitors in the forthcoming Six Days Reliability Trial that a number of special prizes have now been offered in connection with this event. A prize will be awarded in each class for the best performance on formula for the hill-climb up Holme Moss. A team prize is offered for the best performance by a team of three private owners riding the same make of machine, another team prize for the best performance by a team of three trade riders on the same make of machine and a third team prize for the best performance by an amateur team of three private owners nominated by an affiliated club and consisting of riders of one three-wheeler and two solo motor cycles. Finally, a special prize is offered by Messrs. C. W. Smith (Darlington), Ltd., for the best performance by a member of the North-Eastern Automobile Association. These special awards will, no doubt, add considerably to the general interest in this classic reliability trial.

Whitewell Inn, a pretty rendezvous in north-east Lancashire. The lunch stop in the North-western Centre (A.C.U.) inter-club team trial

Principal Hills.

The principal hills in the trial will be Rosedale Bank, near Rosedale Abbey, Boltby, Park Rash, Whiteshaw Moss, and Buttertubs Pass.

First List of Entries.

W. A. Fell-Smith (8 Blackburne sc.).
A. S. Guthrie (3½ Sunbeam).
L. G. Bachelier (8 Blackburne sc.).
D. F. & M. Engineering Co.—
F. J. Price (2¼ Diamond).
H. W. Merrill, jr. (3 A.B.C.).
G. Packman (8 Matchless sc.).
R. H. Baxter (2¼ Radco).
New Rover Cycle Co.—
W. Brandish, jr. (5 Rover).
D. H. Noble (5 Rover).
G. Featherstonhaugh (3½ Rover).
A. Wilkes (3½ Rover).
R. C. Winn (3 A.B.C.).
E. A. Edwards (3½ Nut-Jap).
D. A. Atkin (5 Rover).
G. S. Astley (5 Rover).
G. L. White (5 Rover).
New Imperial Cycles, Ltd. (three entries).
John Marston, Ltd.—
G. Dance (3½ Sunbeam).
F. C. Townshend (3½ Sunbeam).
T. G. de la Hay (3½ Sunbeam).
J. Joynson (5 Coventry Victor sc.).
F. J. Ellis (7 Matchless sc.).
G. D. Hardee (7 Matchless sc.).
C. Moser (4 Triumph).
W. McLelland (4 Norton).
D. L. Gregg (3½ Sunbeam).
W. Westwood (4 Triumph).
A. G. Ashley (6 L.M.C.).
James Cycle Co.—
G. A. Strange (3½ James).
G. E. Stobart (7 James sc.).
J. F. Lidstone (2¼ James).
R. E. Darnton (7-9 Indian).
Triumph Cycle Co.—
F. G. Edmond (4 Triumph sc.).
H. Green (4 Triumph sc.).
T. J. Shemans (4 Triumph).
Sopwith Aviation Co.—
—— (A.B.C. sc.).
—— (A.B.C. sc.).
—— (A.B.C.).

ACROBATICS ON A FREAK HILL.

AFTER the recent strenuous Cumberland one day trial, arguments arose as to the possibility of making a clean ascent of the famous Blea Tarn Pass. The competitors had descended this hill in the course of the event, and on the morning following a party of enthusiasts journeyed to the Pass.

A wonderful ascent was made by G. Dance (3½ Sunbeam), who rode in his well-known style, and took the hill very fast on second gear. Eric Williams made an equally good climb, though not so fast; de la Hay, Newman, and Barnard, all riding Sunbeams, also made light of the hill. J. Westwood Wills put up a remarkably fine performance in view of the fact that he was riding a low-powered machine (2¾ h.p. Verus-Blackburne).

This climb is essentially a solo performance, but nevertheless S. Parker (8 Enfield sc.) made a clean ascent, but a Morgan suffered from wheel slip. After all had made successful climbs, these sportsmen again ascended, this time carrying pillion passengers, whilst G. Dance returned down the hill standing on his saddle, and great excitement prevailed amongst the spectators when he commenced and actually made a clean ascent in this fashion. While exceedingly spectacular, this form of riding is not to be recommended for amateurs.

CLUB NEWS.

Worcester and District M.C.C.

On August 7th, a one day reliability trial will be held over a strenuous 115 mile course. Two cups and several gold, silver and bronze medals will be awarded.

Gorseinon and District M.C.C.

A rough course of one and a half miles on the Mount Hill, Gowerton, was selected for the recent club hill-climb. Three classes were run off, and the large crowd of spectators showed great interest in the proceedings. Results: Class 1, lightweights, D. Jones (2¾ Juno); Class 2, unlimited solo, R. Thomas (7-9 Harley-Davidson); Class 3, unlimited sidecars, W. Firth (6 Enfield sc.).

North London M.C.C.

The eighty-mile reliability trial for the Maybury Trophy (value 25 guineas), presented by the H.C. Motor Co., of Gt. Portland Street, W.1, will take place on August 2nd, over a strenuous course in Bucks., starting at 1 p.m. from Amersham. Brakes of competitors' machines will be officially inspected prior to the start, as several very steep descents will have to be negotiated.

Sheffield and South Yorks M.C. and L.C.C.

Recently this club held a reliability trial for the Nixon Trophy, over a rough forty-eight mile course, starting from the Bell Hagg Inn, Sheffield. The weather was anything but favourable, and no competitor succeeded in finishing with a clean sheet. Results: First, A. Blake (Morgan); second, F. W. James (6 Williamson sc.); third, P. Moon (3½ Rudge).

Doncaster M.C.C.

Despite the rain which fell persistently all the morning, a large number of members and friends assembled at the club headquarters for the run to Roche Abbey, on the occasion of the gymkhana recently held by the above club. A varied programme was arranged, including a horse-power judging test for ladies, which proved very amusing.

Sutton M.C.C.

A keenly contested hill-climb at Newlands Corner between the Sutton Horsham clubs was run off on the 18th inst. The results were as follow:

275 c.c. Class.—Quick (2½ Sun), 1m. 1⅘s.; Long (2¼ Levis), 1m. 10s.
350 c.c. Class.—Pritchard (2¾ New Imperial), 56⅘s.; Holmes (2¾ Douglas), 1m. 4s.
500 c.c. Class.—Knight (3 A.B.C.), 38⅘s.; Turner (3 A.B.C.), 43⅘s.
700 c.c. Class.—Dawborn (4 Triumph), 50s.; Engle (4 Douglas), 58⅘s.
Sidecar Class.—Goodridge (8 New Imperial sc.), 1m. 2s.; Coe (4 Triumph sc.), 1m. 9s.
Fastest Time of Day.—Knight (3 A.B.C.), 38⅘s.

West Fife M.C.

The recent hill-climb held at Cleish (Kinross-shire) attracted thirty entries in the various classes, and, although marred to some extent by rain which fell fairly heavily during the evening, the event was carried through very successfully. A crowd of several hundred spectators witnessed the ascents from various points of vantage. Results.

350 c.c. Class.—W. Blair, jun. (2¾ Douglas).
600 c.c. Class.—A. Brown (3½ Norton).
Unlimited Class.—A. Brown (3½ Norton).
Unlimited Sidecars.—C. Cordoser (7-9 Harley-Davidson).

Coventry and Warwickshire M.C.

The hill-climb to be organised by this club will take place on September 4th. The venue will be Stile Cop.

The Northern M.C.

It has been decided that in future premier awards of cups and trophies will be made only for amateur performances. Machines entering for competitions must be ridden without any previous alteration of sprockets, etc.

Newcastle and District M.C.

The club has been compelled by circumstances to abandon its intention to run the 200 guinea Travers Trophy for a hill-climb during the present year. Messrs. Travers have agreed that the trophy shall be utilised for a club reliability trial this summer, and it is hoped that next year the trophy will be available for an open hill-climb.

Amersham, Chesham, and District M.C.C.

Two events were recently held by this club—a hill-climb on Mafels Hill and a short petrol consumption trial, the results of which were as follow:

Hill-climb.—350 c.c Class: 1, H. Robinson (2¾ Douglas), 18s.; 2, Freme (2¾ Douglas); 3, A. Howard (2¾ Douglas). 500 c.c. Class: 1, G. A. E. Ward (3½ Rudge), 17⅘s.; 2, J. Murfey (3½ Triumph); 3, W. H. T. Ward (3½ Rudge). Unlimited Class: 1, V. K. Goodwin (4 Triumph), 15⅘s.; 2, G. A. E. Ward (3½ Rudge); 3, J. Murfey (3½ Triumph).

Consumption Trial.—1, W. H. T. Ward (3½ Rudge), 188 m.p.g.; 2, H. Robinson (2¾ Douglas), 168 m.p.g.; 3, J. Murfey (3½ Triumph), 160 m.p.g.

Week-end Club Events.

July 30.—Ealing and District M.C.C. London-Holyhead Trial.
July 31.—Cumberland County M.C.C. Social Week-end.
July 31.—Worcester and District M.C.C. Gymkhana.
July 31.—Sheffield and Hallamshire M.C.C. Hill-climb.
July 31.—Dewsbury and District M.C.C. Run to Blubberhouses.
July 31.—Lancaster, Morecambe and District M.C.C. Special Run.
July 31.—Edinburgh and District M.C. Hill-climb.
July 31.—Ilkley M.C. and L.C.C. Social Run and Gymkhana.
July 31.—M.C.C., Ltd. Devon Run.
JULY 31.—DUBLIN AND DISTRICT M.C.C. TWO DAYS OPEN RELIABILITY TRIAL.
July 31.—South Wales Club's Hill-climb.
Aug. 1.—Basingstoke M.C.C. Hill-climb.
Aug. 1.—Loughborough and District M.C.C. Picnic.
Aug. 1.—Dewsbury and District M.C.C. Run to Buxton.
Aug. 1.—Warrington M.C. Team Trial, Matlock.
Aug. 1.—Stalybridge and District M.C. Captain's Cup Competition.
Aug. 1.—Reading and District M.C. and L.C.C. Run to Hindhead.
Aug. 1.—Bedford and District M.C. and L.C.C. Reliability Trial.
Aug. 1.—N.M.C.F.U. (Portsmouth). Run to Midhurst.
Aug. 1-2.—Newcastle and District M.C. Two-day Trial.
Aug. 1-2.—Manchester M.C. Welsh Tour.
Aug. 1-2.—Sutton M.C.C. Week-end Run to Bournemouth.
Aug. 2.—Doncaster and District M.C.C. Reliability Trial.
Aug. 2.—Scarborough M. and M.C.C. Gipsy Meeting.
Aug. 2.—Harrogate and District M.C.C. Club Run.
Aug. 2.—Reading and District M.C. and L.C.C. Run to Brooklands.
Aug. 2.—Exeter M.C. and J.C.C. Gipsy Meet at Dulverton.
Aug. 2.—North Lindsey A.C. Hill-climb.
Aug. 2.—North London M.C.C. Picnic.
Aug. 2.—Rochester, Chatham, and District M.C. Gymkhana.
Aug. 2.—York and District M.C. York-Edinburgh-York Trial.
Aug. 4.—Loughborough and District M.C.C. Run to Rothley.

Birkenhead M.C.C.

Motor cyclists in Birkenhead and the surrounding districts who are interested in the formation of this club should communicate with Mr. T. Amery, the Oxton Cycle and Motor Works, 1a, Village Road, Oxton.

Stevenage and North Herts M.C. and L.C.C.

A large number of motor cyclists assembled at the first meeting of the new club when the following officers were elected: Captain, Mr. S. Hall; vice-captain, Mr. W. Sworder; and hon. secretary and treasurer, Mr. A. Egan.

Any motorists desirous of becoming members should communicate with the hon. sec. at the Sun Hotel, Stevenage.

Berwick and District M.C.

At a well attended meeting held recently, it was unanimously agreed to form a motor club for Berwick and district. Officials were duly elected, and it was decided to affiliate the club to N.E.A.A. Over forty members have already been enrolled. Mr. Gore, 42, Castlegate, Berwick, is the hon. secretary, to whom all communications should be addressed.

Dewsbury and District M.C.C.

Seven competitors out of sixteen starters finished in the recent 100 mile reliability trial for the Fitton Trophy, over main roads in Upper Wharfedale, Yorkshire.

The order of finishing was as follows: 1st, J. F. Groocock (4 Triumph), winner of Fitton shield; 2nd, H. H. Smith (6 Enfield sc.), awarded the "Pelican" prize; 3rd, A. Oates (4 Triumph); 4th, J. Asquith (3½ P. and M.); 5th R. Halliday (3½ P. and M.); 6th, A. E. Scayill (6 Enfield sc.); and 7th, F. Bray (4 Triumph sc.).

Sheffield and Hallamshire M.C.C.

Recently a large crowd of motorists and others assembled at the Town Hall, Sheffield, at midnight, to see this year's competitors leave on the 316 miles journey to and from Holyhead. Twenty-seven riders started, including five solo, twenty-one sidecars, and one Morgan Runabout. The night was fine but cloudy, and until Chester was reached the journey was made in darkness.

Early breakfast was taken at Northwich at 5.15 a.m., and head lights were no longer necessary. The ride along the sea coast *via* Conway and Bangor was most enjoyable.

The return journey from Holyhead was made in splendid weather, and was much enjoyed. The Anglesea and North Wales coast rides were glorious, and all went well.

At 8 p.m. the first man arrived home, twenty in all completing the course.

The results were as follow:

Passenger Class.—1, A. Blake (10 Morgan), awarded Hutton Shield; 2, G. W. Wilkin (3½ Wilkin); 3, F. Roper (7 Indian).

Solo Class.—1, F. C. Wales (4 Triumph); 2, G. Turner (4 Triumph); 3, D. Kaye (4 Triumph).

The following were awarded bronze medals:

R. Matthews, A. B. Chapman, J. O. Vessey, Kentchner, G. Fletcher, L. Padley, J. Walker, W. L. Angel, F. W. James, J. Beet, R. Stacey, and E. Searle.

O. Stewart won the special prize for the best performance up to 350 c.c.

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THE experience of the designer and the manufacturer of the R. W. SCOUT, Mr. R. Weatherell, in every phase of Motor Cycling, under all and every condition, is beyond doubt very extensive. After experimenting on various types of two-stroke machines for the past 8 years, we are now able to place on the market the most reliable, economical, and most speedy machine ever produced and at a low cost. Severe tests have been made in hill-climbing, etc., and the R. W. SCOUT has proved beyond doubt absolutely perfect in every detail

Price: 60 GUINEAS (Deliveries are from 7 to 14 days)

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ABRIDGED SPECIFICATION:

Engine.—Specially designed 3 h.p. Dalm Engine, **Two stroke.**
Frame.—Specially designed for strength and giving comfortable riding position.
Petrol Consumption during tests has proved to be in the region of 120 miles to the gallon, due to special design of the engine.
All Materials used in the construction of this machine are carefully selected, and tested before erecting the machine, and we guarantee a tensile strength of over 15 tons in our Cylinders, Pistons, and Flywheels, workmanship is of the very best, and all parts are interchangeable.

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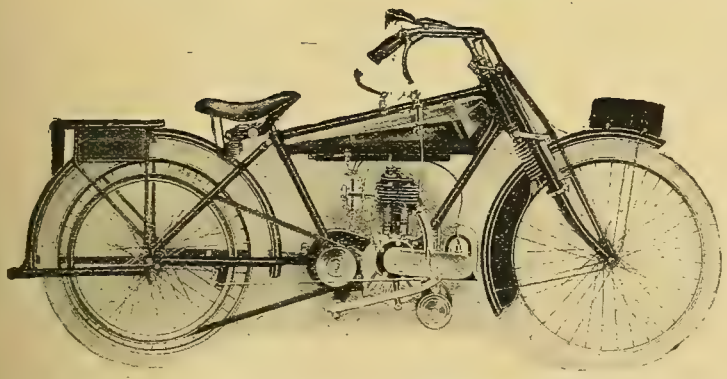
$2\frac{3}{4}$ h.p., Two-speed. 71 Guineas, Plus 5 %



We regret that owing to prevailing conditions we were compelled to make a further advance in price of 5 per cent., commencing on June 1st, last.

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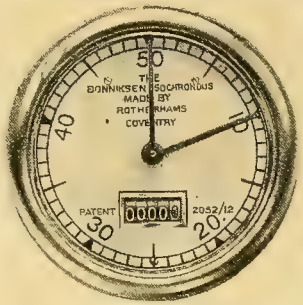

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£5 10 0 each. £5 15 0 each.

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These Prices are subject to an increase of 5% as from the 1st May.

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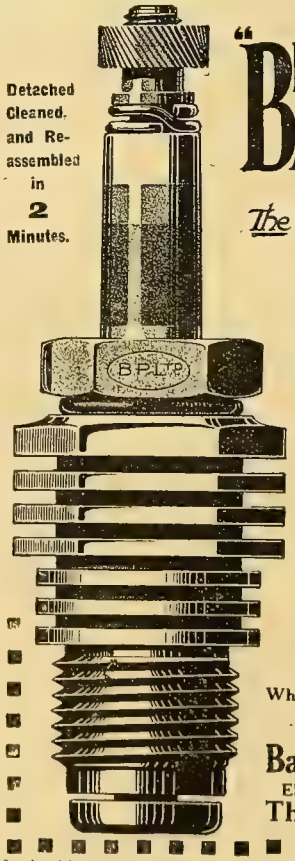

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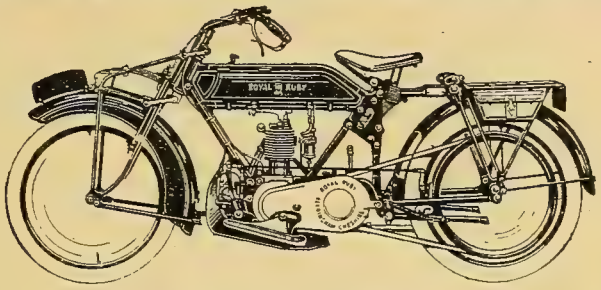

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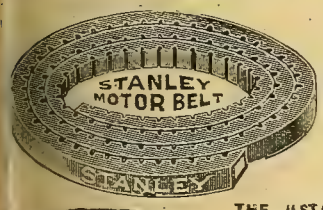

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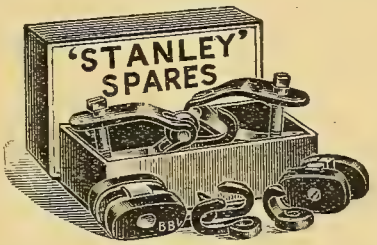

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1920 Alldays Allon, unused, K.S., clutch, 2-speed; £85.—Thornton, Springfield House, Reigate. [8154

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ALLON, 2¾h.p., 1920, perfect condition throughout, lamps, horn, legshields; £68/10.—42, Danecroft Rd., Herne Hill, S.E.24. [7943

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ALLON, late 1919, 2¾h.p., 2-speed, clutch, kick start, horn, etc., mileage 300, like new; £73.—Tucker, 4, Marlborough Rd., Brynmill, Swansea. [7427

ALLON 1916 2¾h.p., 2-speed, hand clutch, Dunlops, lamps, horn, speedometer, splendid condition; 48.—176, Walmer Rd., North Kensington. [7879

1919 Allon, single-speed, all accessories, mileage 2,500; £50.—The Napier Garage, Forest New Rd., South Woodford. 'Phone: Woodford 360. [8092

ALLON, late 1918, 2¾h.p., 2-speed, hand clutch, kick start, lamp, generator, horn, leg-shields, tools, tyres A1, new condition; £67/10.—88, Connaught Rd., Reading. [6986

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ARIEL Combination, 6h.p., recently overhauled, splendid condition, fast; trial; £110.—Sutton, Bagshot, Surrey. [6988

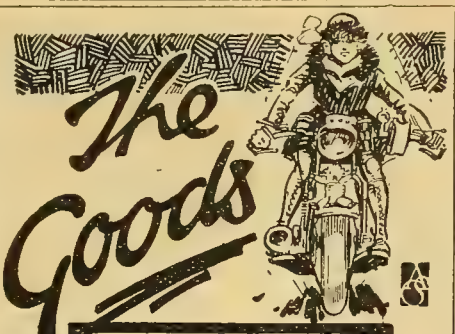
ARIEL 1920 6-7h.p. Combination, splendid order, all on; £155.—94, Clockhouse Rd., Beckenham (after-s). [7460

ARIEL 1920 6h.p. Combination, little used, seen near London; first £155.—Box 293, c/o *The Motor Cycle.* [X7339

ARCH 1920 Ariel 3½h.p., 3-speed, Lucas lamps, as new; near Hertford; £110.—Box 6,497, c/o *Motor Cycle.* [7630

20 6-7h.p. Ariel Combination, low mileage; £20 under list.—68, High Lane, Chorlton-cum-Hardy, Manchester. [7725

ARIEL 3½h.p. Combination, 3-speed, clutch, and kick start; £75.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [8340



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HARLEY-DAVIDSON, 7-9 h.p., magneto £184 11
BLACKBURNE, 8 h.p. twin, standard model, solo £170 0
ENFIELD, 2¼ h.p., 2-speed £73 10
LEA-FRANCIS, 3½ h.p. twin, M.A.G. engine £130 6
NEW IMPERIAL, 6 h.p., twin J.A.P., 3-speed £147 0
DIAMOND, 2¼ h.p. Villiers, 2-speed, clutch, kick-start £84 3
FRANCIS-BARNETT, 2¾ h.p. J.A.P., 2-speed, clutch, kick-start £84 0
RUBY, 2¾ h.p. J.A.P., 3-speed, kick-start, spring frame £120 0
VERUS, 2-stroke, single-speed £60 0
VERUS, 2¾ h.p., Blackburne engine £110 5
VERUS, 4 h.p., Blackburne engine £126 0
P.V., spring frame, 2¾ h.p., 2-speed, slightly soiled (less 10%) £73 15
METRO-TYLER, 2¼ h.p., 2-speed, slightly soiled (less 10%) £69 18
METRO-TYLER, 1920, new model . £95 18
PORTLAND, 2¾ h.p., 2-speed £60 0
CLYNO, 2¼ h.p., 2-speed, clutch.... £75 0

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ROVER, 3½ h.p., 3-speed, complete with Sidecar £203 0

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NEW IMPERIAL, 2½ h.p. J.A.P., 2-speed £70 0
RUDGE-MULTI, 1916, 3½ h.p., clutch, and pedal starter £63 0
ENFIELD, 2¼ h.p., all chain drive, all accessories £69 0

SIDECAR COMBINATIONS.

B.S.A., 1912 model, 2-speed Millford Sidecar £68 0
DOUGLAS, 1914 model, 3½ h.p., 2-sp., kick-start, Bosch magneto £110 0
NEW IMPERIAL, 8 h.p. J.A.P., engine, 3-speed W.D. model, complete with Sidecar £145 0
ROVER, 6 h.p., J.A.P. engine, 3-speed, all-chain drive, complete with Sidecar £145 0

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MAUDE'S MOTOR MART

MOTOR CYCLES FOR SALE.

Ariel.

ARIEL, all models, early deliveries; all parts stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [7414

1920 Ariel 3½h.p. Combination, lamps, Cowey, etc., small mileage; £140.—374, Grove Green Rd., Leytonstone. [8415

ARIEL 3½h.p., late 1919, lamps, mechanical horn, puncture proof tube, new back cover, spare inner tube; £100.—2, Carlton Bank, Harpenden. [7356

3½h.p. Ariel, fixed engine, C.A.V. mag., tyres, and enamel in good condition; cheap £25; room wanted.—Nash, 19, Earlsmead Rd., Tottenham. [7461

1919 (Aug.) Ariel Combination, lamps, Klaxon, tools, etc., perfect condition, done about 900 miles; £130.—R. Scott, St. John's College, Cambridge. [8205

1920 Ariel Combination, 6-7h.p., horn, lamps, tools, apron, and extras, in perfect order, any trial; £180, or offers; must sell. — Beaumont, Beast Market, Huddersfield. [7938

1917 6-7h.p. Ariel Coachbuilt Combination, all lamps, mechanical horn, speedometer, spares, in perfect condition; £125; lower power wanted—20, Derby Rd., Croydon. [8326

ARIEL Countershaft Models, solo or sidecar, in stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., N.W.1 ('Phone: 5476 Museum). [4006

1919 (Sept.) 6-7h.p. Ariel Combination, fast and reliable, small mileage, horn, luggage carrier, spares, insurance; £185; Stockport district.—Box 290, c/o *The Motor Cycle.* [7698

ARIEL 3½h.p., 1920, 3-speed, countershaft, kick-starter, decompressor, lamps, horn, tools, complete, carefully run in, sale deposit system; £115.—Porter, Hadleigh, Essex. [7159

ARIEL (Late 1919) 6-7h.p. Combination, luxurious sidecar, 3 lamps, horn, tools, speedometer, luggage grid, low mileage; trial by appointment; £180, or near offer.—Moy, Beach Hotel, Frinton-on-Sea. [8316

ARIEL 3½h.p., 3-speed countershaft, the ideal single-cyl. sidecar machine; immediate delivery can now be given, with or without sidecar, £115; demonstration with pleasure.—Meeten Motors, Dorking. [8309

ALLEN-BENNETT Motor Co.—1914 Ariel 3½h.p., semi-T.T. model, splendid condition, very carefully used; £48; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [6002

Arno

3½h.p. Arno, clutch, new tyres, B. and B. lamp, etc., ride away; £32, near offer.—31, Ashbourne Rd., Gorringe Park, Mitcham. [7656

A.S.L.

A.S.L. Precision, 4h.p., Grado gear, Bosch, B. and B., Dunlop belt, good tyres, P. and H. lamps, horn, powerful, mechanically perfect, splendid running order, trial; £46.—Campbell, Jacktrees Rd., Cleator Moor, Cumberland. [7551

Auto-Wheels.

AUTO-WHEEL, Wall, in good condition; £10, no offers.—Lucey, Haslemere, Surrey. [8631

AUTO-WHEEL, fitted to No. 21 Triumph cycle; £20.—George Wray, Engineer, Southport. [8009

WALL Auto-Wheel, mechanically perfect; £11/11.—Lewis, 153, Nottingham St., Sheffield. [7946

AUTO-WHEEL complete, in excellent running order.—Northern Motors, 42, North Audley St., W.1. [6987

AUTO-WHEEL, perfect condition; ready to ride away; £12/10.—Owen, 19, Battersea Rise, S.W. [7338

AUTO-WHEEL, Model de Luxe, excellent condition, attached gent's cycle; 20 gns.—47, Approach Rd., Raynes Park. [8061

AUTO Wheel, 1920 Model de Luxe, in stock; immediate delivery, £27/10.—Wilkins, Simpson, opposite Olympia, London. [7418

WALL Auto-Wheel, purchased less than 3 months ago, hardly used; sell for £15; returning abroad.—Denne, 63, Rock Av., Gillingham, Kent. [7074

AUTO-WHEEL, beautiful condition, fitted new tyre and tube, magneto control, tools, fitted to 24in. Raleigh cycle; £17/10.—14, Estcourt St., Devizes. [8264

AUTO-WHEELS, £27/10 cash, or £8/5 deposit and £2 monthly; 80 page illustrated list post free.—M.Y. Dept., The Metropolitan Machinists' Co., Ltd., 243, Bishopsgate, E.C.2. [9729

Avon.

AVON 2h.p. Lightweight, perfect order, good little tourer; £35.—Harris, 70, Park Place, Clapham. [8149

AVON Lightweight, 2h.p., excellent order, reliable, new tyres, etc.; snip. £28.—85, Church Rd., Willesden. [8148

AVON 3½h.p., single speed, belt drive, and light coachbuilt sidecar, fast sporty lot, reliable climber; sacrifice, £48; bought car.—Chemical Co., 3, Nicholson Rd., Addiscombe. [8150

MOTOR CYCLES FOR SALE.

Bat.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. Bat, new, 1920 model; £160. [8592

B.A.T., New Model 4, 6h.p., in stock; £160.—Clark, 7, Exhibition Rd., South Kensington. [8365

BAT 6h.p. Solo, immediate delivery from stock; list price.—Cranmore, Potters Bar. 'Phone: 40. [7819

BAT Model 4, 6h.p.; £160.—Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes. [7386

BAT.—Immediate delivery 6h.p. countershaft 3-speed model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X7291

IMMEDIATE Delivery 6h.p. Bat, solo or combination; list price £160.—One Tree Motocycle Co., Huddersfield. [X7408

1920 6h.p. Bat, 3-speed, etc.; list price, £160.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. 7614

1920 Bat Combination in Stock, 6h.p.; solo £160, combination £204.—A.S.C., 60, Mortimer St., W.1. Tel.: Museum 6626. [7067

BAT 1920 6h.p., with Henderson Elite sidecar, just delivered, very smart; £180; Birmingham.—Box 6,525, c/o *The Motor Cycle*. [8450

BAT-J.A.P. 8-10h.p. o.h.v. Brooklands Model, excellent condition, new tyres, belt, saddle; £65.—194, Belham High Rd. (Any time.) [7604

£50.—Bat-Jap Combination, 8h.p., 2-speed, clutch, kick starter, chain drive, in good condition.—7, Pleasant Rd., Southend-on-Sea. [7283

BAT-J.A.P. 6h.p., 1913, single gear, Bosch, B. and B., splendid condition, Dunlop heavy tyres; £50.—42a, Victoria Rd., Aldershot. [7950

SALE, Bat 6h.p. combination, Canoelet coachbuilt sidecar, clutch, equipped; £60.—8a, Blue Ball Yard, St. James's St., Piccadilly, W. [7885

1920 6h.p. Sporting Model Bat, with mauve and grey Montgomery sidecar, electric lamps, horn; £175.—Ken Barker, Sawston, Cambridge. [8241

BAT-J.A.P., 4h.p., 2-speed, thoroughly overhauled, excellent condition, new belt; £43, first cheque secures.—Colley, High St., Pembroke Dock. [7782

8h.p. Bat-Jap Combination, 2-speed, free engine, good condition, tyres good, lamps, horn; 60 gns.—Wheeler, Baker, Mitcham Rd., W. Croydon. [7358

6h.p. Bat Combination, new May, F.R.S. lamps, Stewart horn, Easting screen, spare chain; £205.—Dumas, 78, Castle Foregate, Shrewsbury. [X7278

1920 6h.p. Bat, twin-cyl., clutch and kick starter, not used, as delivered; list price, £160.—Apply, R.A.B., The Shrubbery, Basingstoke. [7221

BAT-J.A.P. Combination, 6-8h.p., clutch model Enfield chassis, coachbuilt sidecar, in good condition; £75.—A. Read, 274, Baker St., Enfield. [8028

BAT-J.A.P. 6h.p., solo or combination, at list price, in stock.—W. H. Grimes and Co., 18, Bruton Place, New Bond St., W.1. 'Phone: Mayfair 4792. [6597

BAT 6h.p., 2-speed, disc wheels, long exhaust, complete with lamps, etc., a good sporting 'bus; £75.—Hewin's Garages, Ltd., the Real Service Firm, Totnes. [7383

6h.p. Bat-Jap, 2-speed gear box, Bosch mag., new tyres, in top-hole condition, long exhaust, fast and sporty machine; bargain, £78.—Foster, Greyhound, Ardingly, Sussex. [7071

BAT-J.A.P. Combination, 7-9h.p., about 1914, Bosch mag., spring frame, all-chain, countershaft gear, 2-speed clutch; will give any trial; £85.—Pert, 6, York Sq., Stepney, E.14. [7947

BAT-J.A.P. 8h.p. Twin-cyl., Bosch mag., 3-speed gear, coachbuilt sidecar, wind screen, electric light (accumulator); £85, bargain; stamp.—Moore, 45, Hadham Rd., Bishop's Stortford, Herts. [7603

BAT-J.A.P. 1915 8h.p. C.B. Combination, 3-speed countershaft, just re-enamelled and plated, unusually smart, all new equipment; £135.—181, Clapham Rd., S.W. [8409

BAT-J.A.P., 1913, 6h.p., 2-speed, N.S.U. gear, Bosch mag., horn, Lucas lamp, new covers, stored during war, splendid condition; price £75.—Morris, Carisbrooke, Lavender Rd., Enfield, Middlesex. [7920

1920 6h.p. Bat, Model 4, Montgomery sidecar, all grey, Triplex wind screen, luggage grid, Cowey trip, 3 lamps (electric), 6 volt accumulator, aluminium discs, horn, exceptionally smart; trial locally; £190, complete.—Dawe, 41, High St., Barnstaple. [7740

Beardmore

1920 Beardmore-Precision, just arrived; first £95.—Sloane's Garage, Dumfries, Scotland. [7452

BEARDMORE-PRECISIONS; delivery 7 days; £95.—Grandex, 138, Gray's Inn Rd., W.C. [1216

BEARDMORE Precision, brand new, unridden, registered, bought in combination; £94. 10, Ambleside Rd., Grove Park, S.E.12. [8101

1920 Beardmore-Precision, new; delivery from stock; price £95, plus carriage.—George Bates, 4, Pasture St., Grimsby. [7354

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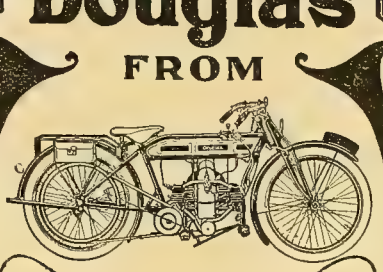

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BEAUMONT 2-stroke, 2-speed, free engine, kic starter, run 250 miles; £75.—Dean's Garag Carnforth. [X723

Blackburne.

BLACKBURN Engine Beaumont, 2-speed, free e gine, kick starter, delivery from stock; £99/1 —Dean's Garage, Carnforth. [X723

WAUCHOPE'S, 9, Shoe Lane, London, for twi 8h.p. Blackburnes and 4h.p. solos, with or with sidecars; particulars on application. [859

BLACKBURNE 4h.p., 1920 model, complete wit F.R.S. electric lighting, horn, and speedometer small mileage; £120.—Petersen, London Hospital, E [711

1920 4h.p. Blackburne, Burman gear box, complet with Cowey horn, speedometer, P. and H. lam set, in first-class order; £120.—Rootes, Ltd., Mai stone. [798

1920 Blackburne 4h.p. Combination, ridden 50 miles, just overhauled, better than new, lamps horn, accessories, spare tyre, etc.; £155.—176, Glou cester Terrace, Paddington, W.2. [766

1920 4h.p. Blackburne, brand new, in stock; lis price; also 8h.p. combination, list price, new —J. Smith and Co., 16, Hampstead Rd., London N.W.1. [848

ALLEN-BENNETT Motor Co.—Blackburne 8h.p twin and Henderson Elite sidecar; £215; cash exchange, or extended payments.—9-10-11, Royal Par ade, London Rd., West Croydon. 'Phone: Croydo 2450. [528

BLACKBURNE 1920 4h.p. Solo or Combination also 8h.p. solo model; delivery from stock at lis prices.—The Layton Garages, London Rd., Bicester or 90, High St., Oxford. 'Phone: 35 Bicester Grams: Integrity, Bicester. [848

Bradbury

BRADBURY 6h.p. Twin, 1915, sound; £85.—Lam bert's, Thetford. [722

1920 Bradbury 4h.p. Solo; £120, or near offer.— Apply, Marshall, Square, Retford. [8088

1913 T.T. Bradbury, adjustable pulley, lamps, etc.; £38.—Young, Market Place, Andover. [8008

BRADBURY.—Order now to avoid disappointment.— The Walsall Garage. Wolverhampton St., Walsall. [5762

BRADBURY 4h.p., N.S.U. gear, wicker sidecar, first-class going order; trial; £40.—Crosby, Evesham. [7298

1920 4h.p. Bradbury Combination, 3-speed, counter-shaft, in stock; £155. Bradbeer Bros., Minehead. [7939

1920 4¼h.p. Bradbury, Grindley sidecar; list price. —Central Works, Market St., Hebden Bridge. [8400

1920 Bradbury 6h.p., sidecar and accessories; £205. —Halifax Motor Exchange, Union St. South, Halifax. [7582

BRADBURY 4h.p. Combination, 3-speed, free engine, perfect; £50.—534, Fulham Rd., S.W.6. Basement. [7909

NEW 6h.p. Bradbury and Henderson Elite Sidecar with Screen; £205.—J. Hebden and Son, 149, St James' St., Burnley. [801

1915½ 6h.p. Bradbury Combination, coachbuil carrier seat, hood, wind screen, etc.; £115.—Arden 39, Bushey Hill Rd., London, S.E.5. [764

BRADBURY 1920 4h.p. model, just delivered, 2 speeds, kick-starter, with Millford skiff sidecar £124/5.—Eagles and Co., 275, High St., Acton, W.3 [X735

BRADBURY 4¼h.p., 2 speeds, black and gold speedometer, everything on, take sidecar, good condition; £55; after 6 o'clock.—Billinghay, Totten ham Lane, Hornsey, near Fire Station. [745

6h.p. Bradbury Combination, 3-speed, kick start, d tachable wheel, enamel and plating like new, ver smart turnout, climb anywhere; £140, or nearest.— Cheadle St., off Louisa St., Higher Openshaw, Man chester. [80

BRADBURY 4¼h.p. Combination, 2 speeds, kic start, good condition, new Amac corburette spares, including sidecar chassis, less mudguard an tyre, and Senspray carburetter; the lot £46.—A. Clark Oak Lodge, Mathews Green, Wokingham, Berks. [72

Brough.

3½h.p. Brough, 2-speed, splendid order; £60.—2 Crystal Palace Rd., East Dulwich. [83

BARGAIN, Brough, 1916, all new parts guarantee £105; particulars.—Rectory, Castlegate, Thirsk [69

1920 Brough, 500 miles, brand new Dinky sidec £182.—Redston, 19, St. Nicholas St., Coventry. [X69

BROUGH 1916 3½h.p., S.A. 3-speed, K.S., hal clutch, excellent condition; £68.—20, St. Georg St., Canterbury. [7

1915 Brough 3½h.p., 2-speed, lovely condition, v fast; £77.—Minchin Motor Mart, 39, Penrh Rd., Kingston-on-Thames. [80

BROUGH 5-6h.p., 1920, with discs, Cowey horn speedometer, lamps; bargain for quick sale, £1 —Pater, Motor Agent, Bedford. [7

MOTOR CYCLES FOR SALE.

Connaught.

ONNAUGHT, immediate deliveries.—Popplewell's, Woodbridge Rd., Ipswich. [5722

ONNAUGHT 2-speed, new condition; £52.—Anderton, 21, Bolton St., Blackpool. [8421

ONNAUGHT, 2-speed, 1914, good running, stored war; buying mailcart; £28.—Edenmore, King rles Rd., Surbiton. [7787

ONNAUGHT 1916 2½h.p. 2-stroke, good condition, overhauled, equipped; 35 gns.—5, Addison Holland Park, W.11. [8155

ONNAUGHT 1917 2¾h.p. 2-stroke, new belt, excellent condition; £50, or nearest offer.—Burton, Garibaldi Rd., Redhill. [8087

ONNAUGHT 2¾h.p., 2-stroke, single speed £62, 2 speeds £75; brand new, for immediate delivery.—ington, Garage, Evesham. [X7220

NNAUGHT, 1920, delivered March, fitted with aluminium footboards, Klaxon horn (cost £67); offer.—A. Wood, 48, High St., Windsor. [7242

NNAUGHT Motor Cycles.—2½h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. vans, 83-91, John Bright St., Birmingham. [0252

h.p. 2-speed Connaught, 2in. heavy Dunlop tyres, splendid condition, little used, 1915, Jones ometer, many spares; £40, no offers.—Smith, w Cottage, Potters Bar. [8513

Coulson.

20 Coulson B 2¾h.p., 2 speeds, a flyer, condition as new; £85.—103a, High St., Wandsworth. [8526

TLSON-B, Blackburne 2¾h.p., spring frame, new out shop-soiled; special price £90.—Tew, Peters- [7755

JLSON B 2¼h.p., Blackburne engine, in stock, new; 95 gns.—Clark, 7, Exhibition Rd., South ngton. [8367

'0 2¾h.p. Coulson-B., small mileage; nearest 90 gns.; owner buying combination.—Alton, Trim- Garage, Co. Durham. (D) [8000

TLSON U., 1920, May, spring frame, under 100 iles, tools, horn, spare plug; bargain £61.—12. rst Park, Stamford Hill, N.16. [7674

V 2¾h.p. Coulson B, 2-speed, spring frame, 95 ns., with clutch and kick-starter, 105 gns.—J. and Son, 149, St. James' St., Burnley. [8011

Coulson-B 4h.p., 3-speed Sturmey-Archer, kick tarter model, immediate delivery.—Clapham d, 27, Stockwell St., Greenwich, or 'phone Green- 51. [6840

Coulson-B 4h.p., with 3-speed clutch and kick arter, spring frame, etc.; 118 gns., or on easy its 4% extra.—Harrods, Ltd., 118, Brompton ondon. [6980

Coulson-B 2¾ and 4h.p. Models in stock, 2-speed ar, spring frame, Blackburne engine; at manu- s' list prices; easy payments 4% extra.—Harrods 18, Brompton Rd., London. [6979

Coulson-Blackburne 2¾h.p., 2-speed, spring rame, fully equipped, lamps, horn, speedometer, £90.—Bunting, 18, Atherton Rd., Forest Gate, [7817

Sale, late 1919 2¾h.p. Coulson B., Albion 2- eed, mechanically sound and excellent condi- 285, offers.—Apply by letter to Capt. Evelyn Weasenham House, Swaffham, Norfolk. [7272

N-BENNETT Motor Co.—Coulson B 4h.p., ackburne engine, 2-speed, spring frame; ; cash, exchange, or extended payments.—9-10, al Parade, London Rd., West Croydon. 'Phone: 2450. [5289

N-BENNETT Motor Co.—Coulson B 2¾h.p., ackburne engine, 2-speed, spring frame; ; cash, exchange, or extended payments.—9- Royal Parade, London Rd., West Croydon. Croydon 2450. [5290

N-BENNETT Motor Co.—Coulson B 4h.p., ackburne engine, 3-speed, clutch, and K.S.; ; cash, exchange, or extended payments.—9- Royal Parade, London Rd., West Croydon. Croydon 2450. [5291

N-BENNETT Motor Co.—Coulson B 2¾h.p., ckburne engine, 2-speed, clutch, and K.S.; cash, exchange, or extended payments.—9- toyal Parade, London Rd., West Croydon. Croydon 2450. [5292

SON B, 1920, 2¾h.p. Blackburne engine, 2- ed, spring frame, only used for a few miles, ought combination; list price £99/15; will 285 for quick sale.—Seen at Elce and Co., ishopsgate Av., Camomile St., E.C.3. [0065

Coventry Eagle.

TRY EAGLE 1920, 2¾h.p. Villiers, single d.—D.R.'s, 20, Parade, Leamington Spa. [8626

TRY EAGLE, 2¾h.p. Villiers, splendid con- on and running order; £39.—7, Laurel Grove, E.20. (after 6). [7680

TRY EAGLE 2½h.p., practically new, 2- ce, 2-speed, Dunlops, good lamps, horn, tools, ; £58.—E. C. Tolson, Dosthill House, Tam- offs. [X7375

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DIAMOND-J.A.P., 2½ h.p., 2-speed . **£82 10**
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INVICTA-J.A.P., 2¾ h.p., 2-speed, clutch, and kick-starter ..... **85 gns.**
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NEW IMPERIAL-J.A.P., 2¾ h.p., 2-speed ..... **77 gns.**
NEW IMPERIAL-J.A.P., 2¾ h.p., 2-speed, clutch, and kick-starter **85 gns.**
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ROVER, 3½ h.p., 3-speed, all-chain drive **£149 16**
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SCOTT 3½ h.p. Combination **£185 0**
VERUS - BLACKBURNE, 2¾ h.p., 2-speed, clutch, and kick-starter **105 gns.**

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W.D. **ROVER** Combination, 5-6 h.p. **£145 0**
(This machine has J.A.P. engine, 3-speed countershaft gear box, clutch, kick-starter, and all-chain drive, and finished "Service" green.)

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DE DION 2¾h.p., mag., spring forks, Advance adjustable pulley, tyres, belt, good, low, ride away; £18.—Spencer, Potter St., Bishop's Stortford. [8025

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DE LUXE 2¾h.p., 2-speed, clutch, K.S., mileage 300; £55.—1, Ashgrove Rd., Bromley, Kent. [8026

EARLY Delivery 1920 De Luxe 2-stroke, C.A.V. mag., pan saddle, beautiful machine, £48, with Albion 2-speed gear £7/10 extra. Full specification and illustration sent if desired. Take sidecar anywhere. Agents required.—Motorities, 191, Sweetman St., Wolverhampton. [8444

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1917 2½h.p. Despatch Rider, Precision engine, with lamps, tools, Klaxon, accessories; £40, or nearest offer.—Beard, Fruiterer, Llandrindod Wells. [8622

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1919 Diamond 2-stroke; £47.—12, Bridge St., Cambridge. [7434

1919 2-stroke Diamond, in good condition; £35.—Bounds, 223, High Rd., Kilburn, N.W. [7591

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266

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DIAMOND-VILLIERS 2-stroke, 2-speed, lamps, horn; £48.—Thomas, 20, Blessington Rd., S.E.13. [7479

2¾h.p. Diamond-Jap, in perfect order, 1920 model; price reasonable.—D. R. M. Petley, The Nest, Torquay. [7301

DIAMOND, 2¾h.p. J.A.P., 1916, Enfield 2-speed, lamps, horn, good tyres and belt, perfect running order; £55.—Barker, 19, Rookfield Av., Muswell Hill, N.10. [7299

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DOUGLAS 4h.p. 1917, top-hole combination; £95. 141, Merton Rd., Wimbledon. [8508a

1915 Douglas, 2¾h.p., 2-speed, good condition; £50.—Gifford, Overton, Hants. [8269

1919 4h.p. Douglas Combination, lamps; £130.—Dorn, 291, Iffley Rd., Oxford. [7912

1916 2¾h.p. Douglas, 2-speed; £70; Thursdays 2-4. 43, Coleraine Rd., Blackheath. [7704

DOUGLAS 2¾h.p. 1916, very fast; £60; exchanges. 141, Merton Rd., Wimbledon. [8508

WAUCHOPE'S, 9, Shoe Lane, London.—New Douglas 1920 Combinations from stock; £170. [8594

DOUGLAS 2¾h.p., Bosch, 1912, overhauled; £28.—769, Harrow Rd., Willesden, N.W. [6964

2¾h.p. 1916 Douglas, perfect condition; £65.—Maker, 106, Stockwell Park Rd., Brixton. [7034

DOUGLAS 1911, only wants seeing; £28.—Saunders, 67, Inverene Rd., Charlton, S.E. [8139

2¾h.p. Douglas, 1911, in running order; £26.—P. G. Cray, 38, Station Rd., Hendon, N.W. [7014

1919 4h.p. Douglas Combination, lamps, etc.; £155.—Sickelmore, 10, Ford St., Bow, E. [7893

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DOUGLAS 2¾h.p., clutch model, in stock; list price.—Longman, Fisherton, Salisbury. [7565

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DOUGLAS, 2¾h.p., 1915, going cheap; offers; after 6.—11, Avenue Gardens, Acton, W.3. [8537

2¾h.p. 2-speed 1913 Douglas, splendid condition; £45.—615, King's Rd., Fulham, London. [7808

DOUGLAS, new and second-hand, 50 in stock.—Popplewell's, Woodbridge Rd., Ipswich. [5723

1914 Douglas 2¾h.p., 2-speed, accessories; £49.—E., Woodcote, Stafford Rd., Wallington. [7282

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DOUGLAS 1916 2¾h.p., 2-speed, absolutely as new; £55.—Side door, 36, High St., Hampstead. [7017

DOUGLAS, 1916, condition as new; sacrifice, £55 lowest.—202, Munster Rd., Fulham, S.W.6. [7275

BRIGHTON, Hove and district Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS 1916, buffer forks, makers' colours, good condition; £60.—26, Auckland Hill, West Norwood. [7194

1919 4h.p. Douglas, condition and appearance as new; 78 gns.—24, Park Rd., Harlesden, N.W.10. [7340

1920 New 4h.p. Douglas Combination; £170.—Halifax Motor Exchange, Union St. South, Halifax. [7581

1919 4h.p. Douglas Combination, 3-speeds, clutch, K.S.; £110.—Pope, 9, Pepys Rd., New Cross. [7376

DOUGLAS 2¾h.p., Bosch, Amac, perfect order; £23.—8, Shalmar Rd., Acton (near G.W.R.). [8089

DOUGLAS 4h.p., 3 speeds, clutch, few parts missing; £55.—Hole, 129, Park Lane, Wallington. [8227

DOUGLAS 4h.p. Combination, late 1918, as new; 91 gns.—Acacia, Centre Av., Acton (side door). [8546

1916 Douglas 2¾h.p., lamps and hooter, in good condition; £55.—Hare, 13, Loates Lane, Watford. [8431

3¾h.p. Douglas, 1916 model, brand new engine, re-plated, good tyres; £65.—8, Craven Rd., Ealing. [7745

DOUGLAS, 2¾h.p., 1915, bought new in crate last year; £56; all accessories.—179, Brixton Rd., S.W.9. [5960

1916 Douglas 2¾h.p., splendid condition, very fast, 2-speed, accessories; £65.—Gray's Garage, Watford. [8436

DOUGLAS.—Immediate delivery, 1920 4h.p. combination.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X7292

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DOUGLAS 4h.p. Combination, 1920; list price; immediate delivery.—Morriss, 139, Finchley Rd., N.W.3. [7421

DOUGLAS 1914 2¾h.p., 2-speed model, excellent condition throughout.—Parker's, Bradshawgate, Bolton. X7279

NEW 1920 4h.p. Douglas Combination in stock; £170.—Bounds, Garage, 223, High Rd., Kilburn, N.W. [7593

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DOUGLAS 2¾h.p., 2-speed, new condition; £60, bargain.—Clark, 7, Exhibition Rd., South Kensington. [8369

DOUGLAS 2¾h.p., W.D., reconditioned, makers' colours, 2 left only; £60 each.—181, Clapham Rd., S.W. [8408

1918 4h.p. Douglas Combination, electric lighting set, splendid condition; £125.—33, Laud St., Croydon. [8168

DOUGLAS 4h.p. 1918 Combination, just completely overhauled; £160.—Thorpe, Cross in Hand, Sussex. [7769

1917 Douglas 2¾h.p., 2-speed, by shields, lamps, horn, just overhauled; £50 or offer.—7, St. Church Hill, London, N. [7096

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1918 Douglas 4h.p. Combination, like new; £15 [down], easy payments.—Eton, 260, Balham High R[d], S.W.12. [73

1920 4h.p. Douglas Combination, new, in stock [at] list price; exchanges.—2, Nightingale Rd., Lo[wer] Clapton. [82

1920 4h.p. Douglas Combination, nearly as n[ew] £145.—Charles Noxham and Co., 52, Torw[ood] St., Torquay. X7[1]

4h.p. Douglas Combination, 1920, perfect conditi[on] run 2,000 miles; £150.—Wicks, 115, Banb[ury] Rd., Oxford. [7

DOUGLAS 1917 2¾h.p., perfect, good as new, [with] lamps, horn, etc.; £55.—Woodbine Cottage, [Fle]et, Surrey. [7

1911 Douglas, in good condition, thorough runn[ing] order; any trial; £32/10.—H.S., 52, Christchu[rch] St., Ipswich. [X6

DOUGLAS 1916 2¾h.p., 2-speed, only used a [few] times; £62.—Lambert, Gooseyard, St. John [St.], Angel, E.C. [79

1918 Douglas Combination, lamps, screen, etc., [ex]cellent condition; £110. — 101, Upper [St.], Islington, N.1. [78

1916 Douglas 2¾h.p., 2 speeds, makers' colo[urs], condition as new; £65.—15, Queen's Terr[ace], Thames Ditton. [70

1915 2¾h.p. Douglas Engine, complete with [Bo]sch, carburetter; £18.—S. Fenn, Church [St.], Brightlingsea. [7

DOUGLAS, 4h.p., 1918, 3 speeds, clutch, kick st[art], in splendid condition; £70.—G., 63, Solon [Rd.], Brixton, S.W.2. [80

1919 Douglas 2¾h.p., 2-speed, beautiful and pe[rfect] machine, low mileage; £72.—60, Wallingford [Av.], N. Kensington. [84

1920 4h.p. Douglas Combination, P. and H. lat[est], small mileage; £163. — Wright, Lion Hol[el], Uttoxeter, Staffs. [80

DOUGLAS, 1918, 2¾h.p., 2-speed (unused), [with] lamp, complete; £70.—Write, J.M., 46, Cl[ub] St., London, W. [99

DOUGLAS Combination, 1918, makers' co[lours], clutch, kick, mechanically perfect; £76—14, [Ca]Parade, Brixton. [81

1920 2¾h.p. Douglas, 500 miles, lamps, horn, [cost] £107; no offers, no dealers.—Barson, 52, [Ha]way Rd., Leicester. [86

£58; 1916 Douglas 2¾h.p., replated and enam[elled] makers' colours; another, £50.—374, Grove [Gr]Rd., Leytonstone. [88

DOUGLAS, 2¾h.p., 1915, splendid condition, [with] exhaust, lamps, etc., sporty machine; £65.—[14] Laud St., Croydon. [90

1919 4h.p. Douglas Combination, standard co[lours], splendid condition; £98.—63, Solon [Rd.], Brixton. Exchange. [85

4h.p. Douglas Combination, makers' colours, spl[en]condition; £110.—Graham, 27, Wandle Rd., [Wa]worth Common, S.W. [7

DOUGLAS 1916 2¾h.p. 2-speed, makers' co[lours], splendid condition; £53.—103, Thurlow [Park] Rd., West Dulwich. [85

1920 Douglas Combination, lamps, Klaxon, insur[ance], perfect condition; 160 gns.—Aldridge, 13, Ve[rdun] Rd., Balham, S.W. [93

DOUGLAS 1918 4h.p. Combination, thoro[ughly] overhauled, but wants repainting; £100.—[Ke]ling, Star Yard, Barnet. [7

1915 Douglas, like new, £75; 1913 Douglas [com]overhauled, £55.—68, High Lane, Ch[ee]cum-Hardy, Manchester. [7

DOUGLAS 2¾h.p., new C.A.V. mag., Bink[er], tyres, ride away; £22 10; no offers.—81, P[ark] Rd., Perry Hill, Catford. [7

DOUGLAS 1914 5h.p. Combination, lamps, [hor]and spares; £90.—Padd 2423. 89, Abb[ey] St. John's Wood, N.W.8. [85

3¾h.p. Douglas, 2-speed, makers' colours, foot [ch]perfect condition; £65, or offer.—The [Ga]Hotel Garage, Eltham, S.E. [9

1916 2¾h.p. Dougla., makers' colours, alumi[nium] footboards, splendid condition; £58.—72 [Ha]ridge Rd., Earl's Court, S.W. [8

DOUGLAS 1916 2¾h.p., makers' colours [and] forks, splendid condition; £53.—30, [Ma]Palace Park Rd., Sydenham. [82

1918 4h.p. Douglas Combination, absolute [new] condition, any time after 6.—3, Mo[rley] Rd., Church End, Finchley. [85

4h.p. Douglas Combination, 1918, brand new [en]excellent condition; £130.—3, Lexham Mew[s], Lexham Gardens, Earl's Court.

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Douglas.

£90; Douglas 4h.p. and coach sidecar, 3 speeds, kick starter, appearance and condition as new.—63a, High St., Wandsworth. [8527

1920 Douglas Combination, 800 miles, Cowey, hood, screen, fully equipped, delivered May; £175.—21, Rectory Rd., N.16. [7329

1917 4h.p. Douglas, 3-speed, clutch, kick-starter, perfect order, overhauled; £80; new sidecar £22.—Nightingale Rd., Lower Clapton. [8383

4h.p. Douglas Combination, 1918, electric lamps, horn, perfect, ready for any distance; £110.—2, Green Lanes, Finsbury Park. [7775

1919 Douglas 4h.p. Solo, 3-speed, clutch, K.S., brand new condition, small mileage; £90, or near; after 7-82, Church Rd., Mitcham, S.W. [7234

DOUGLAS, 2¾h.p., 1916, perfect running order, P H lighting set; £50.—Moon, Chessington, Surbiton. 'Phone: 1111 Kingston. [7040

DOUGLAS 2¾h.p., 1916, condition throughout like new, tyres unpunctured; 68 gns., real bargain.—Cowley, High St., Farnborough, Kent. [7492

DOUGLAS 1915 2¾h.p., 2 speeds, nice little mount, £52 10; 1 1914 2¾h.p., 2 speeds, £47 10.—Dale, 129, Park Lane, Wallington. [8226

1915 Douglas 2¾h.p., 2-speed, Bosch, lamps, Klaxon, maker's colours, recently overhauled; best offer over £45.—99, Tollington Park, N.4. [8174

LATE 1919 2¾h.p. Douglas, lamps, horn, speedometer, splendid running order; £80.—Apply, Lt. Clarke, R.N., Trinity Hall, Cambridge. [7264

DOUGLAS 2¾h.p., 2-speed, 1914, new P. and H. lamp set and tyres, speedometer, splendid condition; 60 gns.—195, Tulse Hill, S.W. [8182

DOUGLAS 4h.p., genuine 1919 combination, lamps, horn, speedometer, splendid condition; £125.—Barrossa Terrace, Church St., Chelsea. [7370

DOUGLAS, 2¾h.p., 1912, 2-speed, footboards, excellent condition, accessories; £40.—57, Grosvenor Park Rd., Hoe St., Walthamstow. [7941

DOUGLAS 4h.p. Combination, 3-speed, clutch, and kick start, in good condition; £90.—59, Palfrey Pl., Dorset Rd., Clapham Rd., S.W.8. [8342

DOUGLAS 2¾h.p., 1916, W.D., rebuilt by makers, perfect condition, all accessories; £60.—Write 14, Holbein House, Sloane Sq., S.W. [6985

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DOUGLAS 1915, stored during war, makers' colours, Bosch, Binks, new extra heavy Dunlops, splendid condition; £65.—Brunswick House, Maidstone. [7502

DOUGLAS 4h.p. Combination, engine No. 6377, will drive 50 miles to genuine purchaser; cash needed; Ilkworth £120.—272, Green St., Forest Gate. [7611

DOUGLAS 2¾h.p., 1916, 2-speed, P. and H. 127 head lamps, accessories, spares, fast, reliable; trial; £52.—3, Forest Lane, Stratford, E.15. [7514

Douglas Combination, 1916, in perfect mechanical condition, in regular use; bargain, £100; car.—Engineer, Fountain Hospital, Tooting. [6702

4h.p. Douglas, 1916, completely overhauled and guaranteed, mechanically perfect, re-enamelled colours; £65.—3, Courtlands Av., Lee, S.E.12. [7243

8 2¾h.p. Douglas, W.D. model, overhauled and re-enamelled, buffer forks; ride 20 miles to see; £55.—Beaulieu, Avenue Rd., St. Albans. [8456

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4h.p. Douglas, late 1919, perfect condition, many accessories; can be seen and tried, Cambridge; £90.—Wills, Sidney Sussex College, Cambridge. [7334

DOUGLAS 1915 2-speed, lamps, 2 generators, discs, horn, pillion, excellent condition; £58, 8, Attenlay Rd., Ivydale Rd., Nunhead, S.E.15. [8071

DOUGLAS, 1917, 53 gns.; 1915 ditto, 52 gns.; 1915 ditto, 42 gns.—Garage, 5, Eglon Mews, Rd., Primrose Hill (near Chalk Farm Tube). [8021

DOUGLAS 4h.p., 1913, just had £20 spent on it, new tyres, T.T. bars; £54.—Rolls and Little Cadogan Place, Belgrave Sq., S.W.1. Vic. [6991

DOUGLAS 2¾h.p., 1914, grey, hand clutch, kick start, footboards, lamps, tools, horn, running order; Home Farm, Wokingham, Berks. (Appointment [7187

Douglas Solo, 1919, delivered 1920, 3 speeds, Bosch, speedometer, spares, run 1,500 miles; Murgatroyd, Hague Bar, Strines, near Stockport. [7248

DOUGLAS 1916 2¾h.p., 3-speed clutch, Model W., splendid condition and appearance, all accessories tyres; £65.—Dakin, Hatherton Lodge, Cradley. [8359

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DOUGLAS 4h.p. Combination, 1916, 3-speed, kick start, guaranteed good running order, take 3 anywhere; £80, no offers.—251, Rye Lane, Peckham, S.E. [7933

DOUGLAS Lightweight Combination, 2¾h.p., 2-speed, splendid condition, Watsonian sidecar, lamps, horn, tools; £65.—97, Nightingale Rd., Wood Green, N. [6675

1918 Douglas Combination, re-enamelled, 3 new heavy Dunlops and tubes, 3 lamps, Spurton, overhauled, excellent condition; £125.—F. Parsons, Meopham, Kent. [7291

4h.p. Douglas, solo, delivered February, 1920, Lucas horn, lamps, fast, as new, engine perfect; £125, or near offer.—Phillips, Park View, Kew Rd., Richmond, Surrey. [7476

1918 2¾h.p. W.D. Douglas, engine No. 36734, Bosch mag., makers' colours, very fast, practically unused; £65; after 6.30.—Warner, 55, Drewstead Rd., Streatham Hill. [7206

DOUGLAS 4h.p. Combination, 1920 model, used 6 weeks, completely equipped; £165.—Recommended by Vivian Hardie and Lane, Ltd., 24, Woodstock St., London, W.1. [7201

4h.p. Douglas Combination, 1917-18, perfect, lamps, apron, Klaxon, new, only needs seeing; £85, no offers.—6, Tottenham Terrace, White Hart Lane, Tottenham, N.17. [8093

DOUGLAS 2¾h.p., 2-speed, Cowey horn, speedometer, P. and H. lighting set, all necessary accessories; £65.—Chesshire's Garage, Hockley Heath, Birmingham. [8224

DOUGLAS 1918, not a war model, very little used, and in perfect condition, guaranteed; 65 gns.—Longman Bros, 337, Uxbridge Rd., Acton. Tel.: 1578 Chiswick. [6528

DOUGLAS 2¾h.p., not W.D., 2-speed, clutch, kick-starter, Bosch, original enamel, perfect condition, new Dunlop, Palmer cord; £70.—141, Park Rd., Crouch End. [8561

1919 4h.p. Douglas Combination, complete with lamps, Easting wind screen, exceptional condition; £135.—J. Smith and Co., 16, Hampstead Rd., London, N.W.1. [8482

DOUGLAS 1920 2¾h.p., brand new, Model W20, 3-speed, clutch and kick starter; immediate delivery; at makers' price.—Wilkins, Simpson, opposite Olympia, London. [7414

DOUGLAS 4h.p. Combination, 1917-18, lamps, mechanical horn, new coachwork, sidecar excellent condition; price £125.—Hunt, 221, High St., Camden Town, N.W.1. [7036

LATE 1918 4h.p. Douglas Combination, Lucas lighting, Lucas horn, mirror, etc., outfit as new throughout; £108/10.—436, Whitehorse Rd., Thornton Heath, S.E. [8169

1917 Douglas, 2¾h.p., 2-speed, all accessories, tools, spares, speedometer, Klaxon, fast, guaranteed perfect throughout.—Write, Thomas, 66, Saltoun Rd., Brixton. [7932

1919 (Oct.) 4h.p. Douglas Combination, electric lighting, speedometer, horn, luggage grid, tools, perfect condition; £160.—217, Bishopsgate, E.C.1. 'Phone: London Wall 4857. [6974

DOUGLASES, 2¾h.p., 1916, 1917, and 1918, splendid condition, all accessories, makers' colours, latest buffer forks; bargains, £52.—73, New Park Rd., Brixton Hill, S.W.2. [8064

DOUGLASES 2¾h.p. always in stock at competitive prices, open till 7 p.m. week days, 5 p.m. Saturdays.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0151

ROBERT BAMFORD.—I generally own, and always know of the best 2¾h.p. Douglases in London. Every machine specially selected and tested. See under Consulting Engineers. [2127

DOUGLAS Combination, 1918, 3-speed, K.S., in good condition, with new sidecar and tyres, little mileage, the lot as new; bargain, £110.—262, Blackhorse Lane, Walthamstow. [7190

1920 (June) 4h.p. Douglas Combination, mileage 300, lamps, horn, leg shields, perfect condition; trial; £170; reason for selling.—Glenwood, 170, Broom Rd., Hampton Wick [7562

4h.p. 1918 Douglas, plated, enamelled as new, tyres, belt, lamps, etc., all new, and new No. 2 Montgomery sidecar; £105, snip.—Banister and Botten, 341, Upper St., London, N.1. [8516

DOUGLAS 1916 2¾h.p., makers' colours, in perfect condition, complete with lamps, horn, tools, etc.; 59 gns.; after 5.30.—80, Lawrie Park Rd., Sydenham. 'Phone: Sydenham 1476. [7011

DOUGLAS 2¾h.p., 1919-20, condition as new, not W.D., lamps, aluminium discs, all accessories; bargain, £80.—37, Streatham Place, Brixton Hill, S.W.2. 'Phone: Streatham 40. [8063

1916 2¾h.p. Douglas, overhauled, re-enamelled and plated, complete with lamps and horn, tyres nearly new; £65, or near offer.—Ash Lodge, Junction Rd., Brentwood, Essex. [2109

NEW Douglas Combination, 4h.p., to makers' specification at list price, including carriage from works; easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [6982

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DOUGLAS 1919 4h.p. Combination, 3-speed, kick start, lamps, generator, and horn, splendid condition throughout; any trial; bargain, £110; seen any time.—60a, Kirkdale, Sydenham. [8543

1919 4h.p. Douglas Combination, complete with Easting screen, electric light, tyres Dunlop, nearly new, all tools, etc., perfect condition; £135.—4, Station Buildings, Woodside, S.E.25. [8331

4h.p. 1919 Douglas Combination, excellent condition, £120 lowest; 2¾h.p. Douglas, 2-speed, fast machine, £45; exchanges.—Minchin Motor Mart, 39, Penrhyn Rd., Kingston-on-Thames. [8083

2¾h.p. Douglas, W.D., uncrated November, 1919, engine No. 38486, low mileage, lamps, horn, tools, spares, splendid condition; £70.—Garaged Clayton Garage, Hermitage Lane, Childs Hill, N.W.2. [7499

4h.p. Douglas, 1918, saxe blue sidecar, refinished, reupholstered, lamps, Lucas horn, etc., re-enamelled, replated, fine lot; £110; seen before 7 p.m.—Railway Arch Garage, Denmark Rd., Camberwell. [7870

2¾h.p. Douglas, 1914, 2-speed, new tyres, been overhauled, lamps, Klaxon, footboards, long exhaust, splendid condition; £55.—Warner, Gothland Bencombe Rd., Purley. Tel.: Purley 245. [X7319

1919 Douglas Combination, splendid condition, lamps, horn, hood, screen, speedometer, 2 new Dunlops, just overhauled; best offer over £140; inspection and trial.—Greig, Highlands, Lampton, Hounslow. [7090

VERY Smart Douglas Turnout, torpedo sidecar, aluminium discs, electric lighting, Cowey horn, long exhaust, late model, condition as new, spares; £175, offer.—11, The Promenade, Seven Kings, Essex. [7150

4h.p. Douglas W.D. Combination, October (1916), lamps, brand new back cover, Wood-Milne, first-class running order; £85; owner going abroad; trial run, etc.—Apply after six, 31, Conyers Rd., Streatham. [8564

NEW 4h.p. Douglas Combination, £170, ex-works; 1920 4h.p. Douglas combination, as new, lamps, horn, screen, Tan-Sad, insurance, motor suit; £185.—J. Hebden and Son, 149, St. James' St., Burnley. [8013

DOUGLAS 2¾h.p., 1919, 3-speeds, hand clutch, kick starter, under tray, leg shields, lamps, horn, spares, as new, very fast, owner bought combination; bargain, £90.—Emms, 29, City Arcades, Birmingham. [7637

1919 Douglas 2¾h.p., 2-speed, complete with Klaxon, Tan-Sad seat, P. and H. lamps, footboards, tool kit, mileage very low, condition perfect; any inspection; appointment; £85.—29, Haslemere Av., West Ealing. [7346

DOUGLAS 1919 (July) 4h.p. Combination, excellent condition, running perfectly, electric lighting, horn, spares, tools, extra tyre, tubes, chain, belt; £150.—Col. Rogers, 48, Queensboro' Terrace, Bayswater, London. [7072

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DOUGLAS 1920 4h.p. Combination, just delivered, complete with lamps, horn, speedometer, pump, sidecar cover, and all accessories, never ridden, London best offer by return secures.—Box 6,501, c/o *The Motor Cycle*. [7697

ALLEN-BENNETT Motor Co.—1919 Douglas 2¾h.p., 2-speed, all lamps, horn, etc., splendid condition; £78; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [6008

£65 for quick sale.—1913 racing Douglas 2¾h.p., 2-speed, all 1920 new parts in engine, new cylinders and pistons, tyres like new, repainted, discs; reason for selling owing to ill-health; bargain.—Barlow, 20, Whitehall St., Shrewsbury, Salop. [7174

F.O.C.H. have a late 1919 4h.p. Douglas combination, latest clutch, fully equipped, small mileage.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7533

1919 (Nov.) 2¾h.p. Douglas, 2-speed, mileage 1,200, Watford speedometer, Lucas lighting set, Klaxon horn, Tan-Sad, long exhaust, full equipment, insurance, perfect condition; 80 gns.—'Phone (after 7 p.m.) 4278 Padd, or write V. Russell, 42, Lancaster Gate, W. [7651

DOUGLAS 2¾h.p., 1915, splendid condition, plating and enamel like new, new Dunlops, new Lucas and generator, all accessories; £63, or exchange for late combination of good make with cash; write or call.—Hull, 274, Amhurst Rd., Stoke Newington, N.16. [7880

4h.p. Douglases, 1918-19, 3-speed, K.S., clutch, W.D. models, running order, £65 solo, £75 combination. I have 30 of these machines, so come early and have your pick. Also 20 2¾h.p. Douglases, 1916-17, price £45 each, running.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [7501

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DOUGLAS 4h.p. Combination, 1919, new Douglas sidecar with storm apron, etc., new P. and H. lamp set, new Klaxon, pump, tools, and toolbags, engine perfect, enamelling and plating like new, very smart turnout, delivery within thirty miles; price £115.—Dowell High Rd., Byfleet, Surrey. [7161

1914-15 Douglas 2¾h.p., 2 speeds, Dunlop tyres, condition next to new, only wants seeing; also 1914 Premier 2¾h.p., Grado gear, condition beautiful, Bosch mag., B.B. carburetter, Dunlops, long exhaust; offers for both; money needed.—62, Lower Kennington Lane, London, E.C. [7306

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DOUGLASES.—Book your machine with us now to save disappointment. We guarantee these machines to be as new in all respects; the frames have a highly finished gloss obtained only by good enamel and stoved. 1916 engines, tanks makers' colours, too bags, new tyres, and a full guarantee to replace any defective parts found, provided the trouble is not caused by bad driving. Let us send you a full specification trade supplied; price £80. Terms, £10 deposit with order, remainder when machine is ready for delivery.—R. L. Motor Co., Offices, 36, Frogmore St., Works Boar's Head Yard, College Green, Bristol. All communications to the offices. [021

Edmund

EDMUND 2¾h.p., spring frame, 3 models; you simply float.—Gonslay, Fallowfield. [693

1920 New Edmund 2½h.p., 2-speed, spring frame £92/8.—Halifax Motor Exchange, Union St. South Halifax. [75

EDMUND.—The lightweight with the laminated spring frame 2¾h.p. Jap model, £92/8; 2-stroke model, £86/10; both fitted with Enfield 2-speed gear.—P. J. Evans, 83-91, John Bright St., Birmingham. [02

Elswick.

ELSWICK 2¾h.p., almost new, perfect order £58.—Osmans, 231, Leigh Rd., Leigh-on-Sea. 'Phone: 81. [72

Enfield.

WAUCHOPE'S, 9, Shoe Lane, London.—3h.p. Enfield 2-speed Model; £60. [85

1920 Enfield 2-stroke, 2-speed, in stock; £73/10. Vine and Lee, Portslade, Sussex. [82

1920 6h.p. Enfield Combination, unused; offers.—Queen's Rd., Kingston Hill, S.W. [80

ENFIELD 2¼h.p. 2-stroke, 2-speed, in stock; list price.—Longman, Fisherton, Salisbury. [75

ENFIELD Combination, 1916, H. and S., 6h.p. £135.—F.F., 73, First Av., Walthamstow. [7

ENFIELD 1920 2-stroke; owner having bought combination.—Apply Lyons, Spitalfields Market, [69

ENFIELD 1914 Combination, fully equipped, ready for tour; £110.—85, Church Rd., Willesden [8

1915 Enfield 2-speed, 2-stroke, good condition, accessories; £45.—Wood, 11, Hillcrest Rd., Ac [7

1913-14 Enfield 6h.p. Combination, splendid condition; £110.—69, Cambridge Rd., Kilburn, N.W. [6

ENFIELD 1920 2-strokes, 2-speed, in stock; immediate delivery.—Owen, 19, Battersea Rise, S.W. [79

ENFIELD, 6h.p., with box body sidecar, fine condition, £115.—Popplewell's, Woodbridge Rd., Ipswich. [4

ROYAL ENFIELD 2-strokes, prompt delivery from stock; no delay.—Cranmore, Potters Bar. 'Phone: 40.

3h.p. Enfield, just overhauled, enamelled and plated all on, privately owned; £65.—Abbott, Victoria Rd., Surbiton

ENFIELD. Immediate delivery 2¼h.p. 2-speed model.—Parker's, Bradshawgate, Bolton. 1348. [X

ENFIELD 6h.p. 1913 Combination, W. sidecar; £5.—Apply after 6 p.m., 19, Victoria Rd., Walthamstow.

3h.p. Mag. Enfield Twin, good condition, electric lighting; £45, and ride away.—68a, Margaret St., W.1.

1919 Royal Enfield Combination, 8h.p., nearly new, 160 gns.—Taylor, Tobacconist, 314, High Rd., Kilburn.

MOTOR CYCLES FOR SALE.

Enfield.

16 3h.p. Twin Enfield, 2-speed, K.S., lamps, horn, excellent condition; £75.—12, Elmore Rd., Shef- [X7344

5; Enfield 3h.p. twin, 2 speeds, kick starter, chain drive, go anywhere.—103a, High St., Wands- [8528

AUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 2¼h.p. Royal Enfield, new 1920, 2-stroke; 10. [8577

15 (late) 3h.p. Enfield, with light sidecar, lamps, horn; £55, or separate.—Ken Barker, ton. [8242

YAL Enfield, twin, 2-speed, speedometer, lamps, new tyres; £45.—Mr. Harrison, Glan-y-Mor, Flint, Wales. [7163

FIELD Lightweight 1920 2-stroke 2-speed; list price; immediate delivery.—Morriss, 139, Finchley N.W.3. [7420

o. Enfield Combination, in thorough good running condition throughout.—Robbins' Garage, hurch. [8020

FIELD Combination, 6h.p.; a bargain, £79/15; ready to drive away.—Wilkins, Simpson, opposite pia, London. [7409

FIELD 6h.p. Combination, excellent order throughout; £100; complete.—Fogwill, 161, Tar- Rd., Worthing. [8129

FIELD 1916 2-stroke, 2-speed, chain drive; £50. —Smith's, 86, Chalk Farm Rd. (oposite Chalk Tube Station). [0231

FIELD 3h.p., 2-speed, K.S., free, all on, spares, perfect condition, little used; what offers?—Spink, anby, E. Yorks. [7239

UNDELLS, Engineers, Faversham.—Enfield, 915, 3h.p., 2-speed, kick starter, accessories; 'Phone: 155. [8402

FIELD Combination, late model, fully equipped, with Tan-Sad, splendid condition; £135.—151, Rd., Mile End. [7776

IELD 1914 6h.p. Combination, splendid condition throughout; any trial; £125.—810, Romford lanor Park, Essex. [7945

IELD 1920 8h.p. Combination, just delivered, stock.—D. J. Shepherd and Co., Enfield High- el.: Waltham X31. [7077

) Enfield (May) 2-stroke, 2-speed, 2¼h.p., per- ect, mileage negligible; £69/15. — Patmore, rk Lane, Leeds. [8170

Enfield Combination, lamps, horn, speedometer, perfect condition; £160.—Edwards and Co., 50, ton Rd., S.W.7. [7529

3h.p. Enfield, 2-speed, kick start, lamps, generator, in excellent condition; £60.—158, Nor- d., West Norwood, S.E.27. [8305

ELD 1920 2-stroke, brand new; just arrived; makers' price; immediate delivery.—Wilkins, , opposite Olympia, London. [7411

DES'.—1919 lightweight 2-speed Enfield, Pal- r tyres, Klaxon horn, Cowey, 2 lamps; £69.— , 100, Gt. Portland St., W.1. [8377

Enfield Combination, 8h.p., perfect, electric nd gas lighting, screen, spares; £175.—Lockett, use, Church St., Warrington. [8301

ELD Combination, 1914, just overhauled, and perfect condition; £110.—Hewin's Garages, e Real Service Firm, Taunton. [7392

ELD 3h.p. 1915 Twin, 2-speed, clutch, K.S., r tyres, lamps, Klaxon, tools, perfect condition; b: High St., East Finchley, N.2. [7683

ELD Combination, 6h.p., 1920, magdyno lighting, just run in, 100 mile trial, pleasure,; list offer.—54, Maygrove Rd., N.W.6. [7689

ELD 1918 2¼h.p., 2-speed, condition as new, e used, lamps, and accessories, been stored; £65.—195, Longley Rd., Tooting. [7153

ELD Combination, 1918, perfect order, Easting en, lamps, tools, ready for long tour; £150.— , Exhibition Rd., South Kensington. [8370

1920 Enfield 3h.p. Twin, 2-speed, kick start, as lamps, Cowey speedometer, horn, etc., perlition; £95.—Clay, Llanisher, Chepstow. [7088

1920 Royal Enfield, 2¼h.p., 2-stroke; price 3/10; delivery from stock.—D. J. Shepherd Enfield Highway. Waltham Cross 31. [0242

Royal Enfield Combination, 8h.p., dynamo hting, Cameo, etc., just returned from Devon- r; £160.—374, Grove Green Rd., Leytonstone. [8419

LD Combination, 1915, 3h.p., fully equipped, lition excellent, stored 1915-1919; nearest gns.—113, Cornwall Rd., Brixton Hill. [7692

LD Combination, 1920, 6h.p., magdyno ng, immediate delivery brand new, unridden; rite appointment, Lockyer, 12, Bath St., City [7678

LD Combination, late 1914, 6h.p., lamps, xon, hood, speedometer, stored during war, dition; £115.—2, Thirsk Rd., South Nor- [7768

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ENFIELD 3h.p. Twin, 1916, 2 speeds, clutch, lamps, horn, perfect, any trial, new mag.; £60; exchange for Rudge Multi.—Parsons, Newall St., Abertillery. [8333

1920 Enfield 3h.p. Twin, 2-speed, kick start, clutch, engine No. G3660, condition as new; owner buying combination; £78.—J.S.T., Russell House, Liskeard, Cornwall. [7739

1917 Enfield Combination, 6h.p., very excellent condition, light car tyres, Lucas lamps, horn, etc.; £140.—3, Cluny Mews, Warwick Rd., Earl's Court, S.W. [8221

ENFIELD Combination, 1917, 8h.p., dynamo lighting set, recently overhauled, Bosch mag., Cape hood; £150.—10, The Avenue, Acocks Green, Nr. Birmingham. [8125

ENFIELD Combination, 1919, 6h.p., perfect running order and condition, Lucas lamps, tools, etc., complete; real bargain, £150.—Rowntree, Alcester, Warwickshire. [8122

1920 8h.p. Royal Enfield Combination, in tip-top order, Magdyno lighting, had little running, plenty spares; price £210 cash.—Palfrey, Wood St., Wollaston, Stourbridge. [X7393

ENFIELD Combination, 1916, complete, wind screen, and hood to sidecar, good condition; £130.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [7391

3h.p. Enfield Combination, 1915, K.S., 2-speed, electric light, canoe-shaped C.B. sidecar, etc., good condition; £71, or separate.—3, Bloomfield Rd., Bromley, Kent. [8623

ROYAL ENFIELD 1920 8h.p. Combination, delivered July 17th, Lucas Magdyno lighting, horn, wind screen, hood, luggage grid, tools; £240.—Brewery, Cranbrook, Kent. [7256

6h.p. Enfield Combination, believed 1913 or 1914, running order, tyres as new; bargain, best offer over £85, or exchange lightweight.—Box 286, c/o *The Motor Cycle.* [X7322

ENFIELD Combination, 1916, 6h.p., hood (sided), screen, Klaxon, speedometer, 3 lamps, tools, all spares, perfect condition; £140, near offer.—Topley, 3, Alford Rd., Erith. [7225

1915 6h.p. Enfield Combination, electric lighting, perfect condition, new spare Dunlop extra heavy tyre; £145; trial by appointment; Sussex.—Box 6,432, c/o *The Motor Cycle.* [8652

1917 6h.p. Enfield Combination, screen, speedometer, etc.; £125.—Clifford Wilson Manufacturing Co., 70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. [6603

ROYAL Enfield 6h.p. Combination, 1918 machine, 1920 sidecar, mudshields, hood, screen, lamps, horn, luggage grid; £200, or nearest offer; must sell.—Norman, Winton Sq., Basingstoke. [7233

1920 8h.p. Royal Enfield Combination, dynamo lighting, Cowey speedometer, Cameo screen, Stewart horn, Tan-Sad, mirror, spares; £210.—Bisset, 129-130, High St., Cheltenham. [8056

1914 Enfield Combination, 6h.p., in excellent running condition, speedometer, lamps, tools, spares; £85 for quick sale.—21, Leinster Terrace, Lancaster Gate, W.2. Tel.: 7233 Padd. [8203

1917 Royal Enfield 3h.p. Twin, K.S., 2 speeds, all chain, new tyres, excellent condition, fast and powerful, any trial 2 up; £65, or exchange sidecar machine.—56, Cherry St., Warwick. [X7347

1914 Enfield 6h.p. Combination, in excellent running order lamps, speedometer, and spares; £85 for quick sale.—21, Leinster Terrace, Lancaster Gate, W.2. 'Phone: 7233 Paddington. [8472

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ENFIELD 1920 6h.p. Combination, electric light, perfect condition; any trial; owner going abroad; price £180, no offers.—Apply, Mr. Storey, Storey, Douglas and Co., Ltd., 17, Hanover Sq., W.1. [7080

1920 8h.p. Enfield Combination, just delivered, unregistered standard model, £190; also 1917 6h.p. Enfield combination, like new; £135.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [7827

ENFIELD Combination, 6h.p., screen, apron, all lamps, mechanical horn, pillion seat, luggage grid, perfect condition throughout, fit for long tour; £95.—26, Bryanstone Rd., Crouch End, N.8. [8235

ENFIELD 1916 8h.p. Combination, Lucas dynamo lighting set, coachbuilt sidecar, Easting wind screen, 650×65 Dunlop tyres, guaranteed perfect condition; £130.—The Premier Motor Co., Aston Rd., Birmingham. [7363

6h.p. 1916 Royal Enfield Combination, Lucas lamps and horn, Cowey speedometer, engine No. 55077, condition perfect, appearance as new, tools and spares; £135. — Fleming, 36, Edward Rd., Freemantle, Southampton. [7877

ROYAL Enfield 1914 Combination, 6h.p., speedometer, new lamps, Klaxon, luggage grid, screen, 2 spare tyres, new Dunlops, fully equipped, very little used, in beautiful condition; £135.—Crowe, Fern Cottage, Acle, Norfolk. [7765

MOTOR CYCLES FOR SALE.

Enfield.

FOR Sale, 1917 8h.p. Twin Royal Enfield Combination, dynamo lighting and horn, screen, speedometer, all accessories, the whole in splendid condition, excellent tourist's outfit; £165.—Apply, P. Wheatley, 34, St. Barnabas Rd., Cambridge. [7610

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ENFIELD 1920 2-stroke 2-speed Lightweight, standard type, sold new by ourselves 3 weeks since, small mileage, had genuine careful use; cost 70 gns., offered at £66.—The Layton Garages, London Rd., Bicester, or 90, High St., Oxford. 'Phone: 35 Bicester. 'Grams: Integrity, Bicester. [8488

Excelsior.

EXCELSIOR 2½h.p. 2-stroke, 2-speed, in stock; list price.—Longman, Fisherton, Salisbury. [7567

1920 2½h.p. British Excelsior, complete with lamps and horn; £60.—Rootes, Ltd., Maidstone. [7988

EXCELSIOR 4½h.p. Combination, 3-speed; any trial; £70.—Cunningham, 29, Montpelier Vale, Blackheath. [7155

3½h.p. T.T. Excelsior, Bosch, B. and B., adjustable pulley; £34; seen after 6.—3, Rayleigh Rd., S.W.19. [7192

1919 British Excelsior, 2-stroke, 2-speed, clutch and kick start, perfect; £60.—12, Bridge St., Cambridge. [7438

EXCELSIOR 2¾h.p., J.A.P., 2-speed, £78; Villiers 2-speed, £67.—Clark, 7, Exhibition Rd., South Kensington. [8371

AMERICAN Excelsior, new 1920 combination, Millford sidecar; £186.—George Wray, Engineer, Southport. [8010

EXCELSIOR 2-speed 2-stroke, brand new, only run 20 miles; £62; approval anywhere. — Allen, Barnwell, Peterboro'. [7481

EXCELSIOR-J.A.P. 2¾h.p., clutch and kick start, from stock; £85.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [7387

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1915 4½h.p. Excelsior Coachbuilt Combination, 3-speed, countershaft, all-chain drive; £75; exchange.—79, Upton Lane, Forest Gate. [7559

AMERICAN Excelsior, 7.9h.p., clutch, Bosch, little used, Henderson C.B. sidecar, new June, 1919; sacrifice £105.—70, Abbotts Rd., Southall. [5361

AMERICAN Excelsior 1916 7-9h.p. Combination, hood, screen, lamps, tools, take 4 up on middle gear anywhere; £110, no offers.—440, Fore St., Lower Edmonton. [7268

1920 American Excelsior, 7-9h.p., electric model, speedometer, new condition, £135; with 1920 Swan sport sidecar, £170.—L. Avery, Wheatley, near Oxford. [7733

BRITISH Excelsior, 2¾h.p., 2-speed, clutch, all-chain drive, practically new condition, fast, will take two anywhere; nearest £60.—Chivers, Hillside, Fleet, Hants. [7865

AMERICAN Excelsior, 1920, 7-9h.p., electrically equipped, hardly used, absolutely perfect condition; £150.—Stamps, 33, Speedwell Rd., Edgbaston, Birmingham. [7764

ALLEN-BENNETT Motor Co.—Excelsior 2¾h.p. 2-stroke, 2-speed; £67; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5306

ALLEN-BENNETT Motor Co.—Excelsior, 2¾h.p. J.A.P., 2-speed; £78; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5307

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EXCELSIOR, British, 4h.p. Jap, late 1917, used only once July 1919, Sturmey-Archer, countershaft, Millard sidecar, P. and H. Lamps, Lucas horn, new Dunlop back, excellent condition, £110 7, Coldharbour Place, Camberwell after 6.30. [7457

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18 Harley Davidson, solo, overhauled, enamelled, and plated; £125, or near offer.—H. Eilis, 17, s Rd., Sunbury-on-Thames. [8166

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RLEY, 1915, fast, silent, high compression, lawless condition, unused 3 years, new Dunlops, horn; £95.—97, Angell Rd., Brixton. [8216

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HARLEY-DAVIDSON Combination, late 1916, 7-9h.p., luxurious sidecar, bulbous back, luggage grid, 3 lamps, Low generator, spares, perfect order; £150.—Alexandra House, Temple St., Sidmouth. [7724

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1920 Harley-Davidson, electric model, with sidecar, wind screen, speedometer, lamps, etc., not done 2,000 miles, perfect running order; nearest offer to £210; owner deceased.—Write, W. Hollis Briggs, Mackworth House, near Derby. [7252

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HARLEY-DAVIDSON, 1917, overhauled by makers, new Rennoc sidecar, wind screen, all spares, lamps, horn, Low generator, insurance policy, re-enamelled, retyred; £155.—FitzGerald, 23, Queen's Gate Gardens, South Kensington. [8091

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1920 New Henderson, 4-cyl.; £168.—Taylor, 83, Halifax Rd., Todmorden. [X7377

1920 Henderson 4-cyl. Solo Model, dynamo lighting, absolutely new; £195.—43, Langley Rd., Tooting, S.W.17. [7042

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HENDERSON, 1920, Model Z2, 10h.p., 4-cyl., 3-speed, fitted with special Canoelet bulbous-back sidecar, enamelled to match; one only for immediate delivery; £215.—The Premier Motor Co., Aston Rd., Birmingham. [5818

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HUMBER 1913 2h.p., Bosch, Dunlops, good condition, appearance; £30, lowest.—Hedges, 54, Lawford Rd., Rugby. [X6951

HUMBER 1915 3½h.p., 3-speed, K.S., lamps, speedometer, horn, etc., perfect, any test; £62. 181, Clapham Rd., S.W. [8410

1914 Humber Lightweight, Eisemann, B. and B., new tyres, perfect order guaranteed; £32.—Rivers, Bootmaker, Newbury. [8119

HUMBER Combination, 6h.p., W.C., 3 speeds, Millford sidecar, complete with lamps, horn.—Schofield and Preston, Garage, Nantwich [X7380

1919 4½h.p. Humber Combination, 3-speed, etc., Lucas lamps and horn, very good condition all round; £140. 2, Eastbank St., Southport [7618

HUMBER, 2¾h.p., Grade gear, good lamps, light, fast machine, good condition, £29.—Cooper, 7, Hamilton Mews, St. John Wood Rd., N.W. [X7335

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Humber

HUMBER 3½h.p., Bosch, B. and B., footboa just overhauled and enamelled, perfect condit £45.—Whitehouse, 8, Christopher Terrace, Stafford. [7

HUMBER 1920 4½h.p. Flat Twin Combination Stock, makers' price, plus carriage.—D. Shepherd and Co., Enfield Highway. Tel.: Walt X31. [7

3½h.p. Humber, 1912, and coachbuilt sidecar, Ro 2 speed gear and wheel (new), tyres, tubes, belt o wheels new; £65.—Pyner, 75, Godinton Rd., Ashf Kent. [7

3½h.p. Humber T.T., single-gear, footboards, s condition, engine rebushed and overhauled, repainted, lamps and mechanical horn; £45.—27, ton Rd., London, S.E.18. [7

HUMBER, 1916, 6h.p., water-cooled, 3-sp clutch, C.S., C.B. sidecar, 3 lamps, horn, spe ometer, perfect running order; £105.—Randall, Church Rd., Barnes. [8

HUMBER and Mills-Fulford Corvette, 3½h.p. t 3-speed, electric lighting set, Stewart speedom mileage 3,570, new last October; £130.—White, lands, Longstanton, Cambs. [7

HUMBER Combination, 1913, 2-speeds, clu handle start, good tyres, accessories, fast, reli excellent condition, perfect running order through bargain, 43 gns.—102, Hamilton Rd., Wimble S.W.19. [7

1920 3½h.p. Humber, delivered late May, flat 3-speed, countershaft, clutch, chain drive, accessories, mileage negligible, owner just re delivery of car; nearest offer to list price.—Ma 16, Salisbury Rd., Leicester. [8

HUMBER 3½h.p., 1911, Roc gear, handle Bosch mag., will take sidecar, speedon hooter, tools, excellent condition, almost new guaranteed running order; £35.—Osmans, 231, Rd., Leigh-on-Sea. 'Phone: 81.

1918 Late Humber 6hp. W.C. Combination, anteed perfect, complete with electric Millford sidecar, hood and curtains, screen, all tools, spares, single-lever carburetter, and trial price £165 nett.—4, Station Buildings, Woo S.E.25.

1914 3½h.p. Humber, engine and gears thor overhauled, rebushed and new roller throughout, new belt, tyres, Tan-Sad, shields, tools, and horn, guaranteed perfect; £65; after trial.—Roy, 72, Doggett Rd., Catford, S.E.6.

3½h.p. Humber, chain drive, new piston ring 2 necting rod bearings, timing gear rebushed, new U.H. mag., new carrier, adjustable type pattern bars, complete for assembling with sidecar, complete absolutely ash frame for body. 8 serviceable 26×2½ tyres, 2 inner tube lot £20.—9, Stoke Rd., Guildford.

Indian.

NEW Indian Scouts, from stock.—Lambert's, ford.

1919 Powerplus Indian, guaranteed; £115.— Ltd., Maidstone.

7-9h.p. Indian Combination, 1915, in fair con £100.—Preston, Garage, Ellesmere.

£90.—1915 Indian combination, splendid c 15, Mervan Rd., Effra Rd., Brixton.

INDIAN Combination, 1914, 7-9h.p., 2-speed, mag.; £95.—97, High St., North Finchley.

1919 7-9h.p. Indian, electric model, Henders sidecar; £175.—12, Bridge St., Cambridge.

NEW Powerplus Indian, 7-9h.p., less acc £125.—Jones, "Hurst Nook," St. Anne's

INDIAN 1914 7-9h.p., clutch, speedometer, 70 m.p.h.; 65 gns.—141, Merton Rd., Wim

7-9h.p. Indian Combination, just overhaul feet; offers by letter.—Walker, 313, Gree N.4.

1920 Indian Powerplus Combination, dynam ing throughout; £200.—Graham, Whitl Coventry.

1920 Indian Combination, dynamo lighting, equipment; what offers?—Sherrard, St. College, Cambridge.

WAUCHOPE'S, 9, Shoe Lane, London.—191 combination, 100 gns.; also a 192 Indian, second-hand.

7-9h.p. Indian Combination, 2 speeds, clut proof Bosch, good running order; £ Fingringhoe, Colchester.

1916 Powerplus Indian, 7-9h.p., 3-speed, sporting sidecar, perfect; £125.—Bl Westbourne Grove, W.11.

INDIAN Scout, delivery guaranteed any hou Last Jan.; any offer accepted.—Letters, 59, Minnie St., Cardiff.

INDIAN Combination, ready for holidays, n needed, 7-9h.p.; £95; no swank.—72, M West Hampstead, N.W.6.

7-9h.p. Indian, 1915 road racer model, clut did condition; £75, no offers.—Bowman, bourne Av., West Ealing.

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Indian.

OR Sale, two solo 7-9h.p. Powerplus electrically-equipped Indians, brand new 1920 models; list e £181/14.—Below.

OR Sale, two 7-9h.p. Powerplus Indian combinations, electrically equipped, brand new 1920 models; list e £223/14.—King and Harper, Bridge St., Cam-ge. [7597

DIAN 7-9h.p. Combination, 2-speed, F.E., K.S., in sound mechanical order; any trial; £85.—53, Rus-Rd., South Tottenham. [8514

DIAN, 7-9h.p., clutch model, single speed, Bosch, Binks carburetter, good tyres, in fine condition; .—43, Oxford Rd., Ealing. [7478

DIAN and Sidecar, 7-9h.p., small mileage, as new; £165 bargain.—Indian, 69, Bavent Rd., Coldhar-Lane, Camberwell, S.E. [7124

DIAN Combination (1914), 7-9h.p., 2-speed, clutch model, spring frame, hood, screen; £75, or near.—Brooke Rd., Walthamstow. [7443

DIAN T.T. 7-9h.p., 2-speed, clutch, sporting side-car, lamps, horn, etc.; bargain, £80; before 8, or .—358, Old Kent Rd., S.E. [7185

DIAN 7-9h.p., 2-speed, family sidecar, hood, screen, lamps, horn, in splendid condition, smart; -41, Suffield Rd., S. Tottenham. [7851

15 Indian, clutch model, and torpedo sidecar; best offer secures, or exchange, privately owned.—ooste, Lock Mead, Maidenhead. [7793

20 Indian Powerplus Combination, dynamo light-ing, mileage 900, everything perfect; £220.—man, Draper, Market St., Watford. [7509

IAN Combination, 7-9h.p., clutch, and 2-speed ear box, spring frame, in good running order; -A. Read, 274, Baker St., Enfield. [8027

0 Indian Powerplus Combination, hood, wind screen, little mileage, as good as new, all acces-£190.—'Phone: Hampstead 7822. [8571

.p. Indian Combination, 1916, thoroughly over-auled, enamelled and plated as new; £125.—r, 134, Bracebridge St., Nuneaton. [5319

0 (New) Powerplus Indian Combination, dynamo lighting, 3 lamps, speedometer, electric horn, g screen; £225.—London Wall 3046. [7257

AN Combination 7-9h.p., 2-speed, clutch, new decar de luxe, all accessories, free insurance, per-20 gns.—139, South Park Drive, Ilford. [7003

7-9h.p. Indian Combination, dynamo lighting, etc.; cost £227, accept £210; only ridden 50 bought car.—30, Talbot St., Burnley. [X6663

AN 5h.p. Twin, 3-speed, just thoroughly over-uled; £85.—Newnham Motor Co., 223, Ham-th Rd., W.6. 'Phone: Hammersmith 80. [8613

AN 5-6h.p., clutch model, thoroughly over-uled and re-enamelled; any trial; £40, no offers. 73, Loughborough Park, Brixton, S.W.9. [7220

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Indian Combination, late 1919, electric light-, 2 hooters, spare inner tube and tools; price Apply, 93, Pembroke Crescent, Hove, Sussex. [7144

N 7-9h.p., 1915, engine, 3-speed gear, mag., es, transmission new, clutch, K.S., spring frame, ine condition; £85.—19, Micheldever Rd., Lee, [7350

. Indian C.B. Combination, as new, absolutely fect, all accessories, electric lights, any trial; or nearest offer; after 6.—78, Gordon Rd., [5740

N Combination, kick start, 2-speed, excellent dition, new chains, tubes, will ride 200 miles haser; 70 gns.—12, Hengrove Rd., Knowle, [7558

N Combination, 1916, 3-speed, clutch, K.S., trically equipped, splendid condition, usual es; £125.—39, Palewell Park, East Sheen, [8123

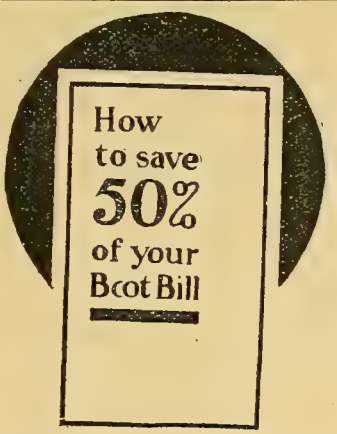
5-5h.p. Indian, 3-speed, clutch, kick starter, wan sporting sidecar, lamps, hooter, spares, condition; £95.—63, Solon Rd., Brixton, e. [8256

N Combination, 7-9h.p., 1919 Montgomery de sidecar, lamps, Klaxon horn, speedometer, 125; little used.—Parker, Chemist, Hertford ntry. [X7329

Indian, 1917, 2-speed, clutch, kick start, con-on external and internal as new, original tyres, d 70 m.p.h.; £90; 361, Green Lanes, Har-N. [8512

N Combination, 5-6h.p., engine No. 13036, 116, 2-speed, complete with all spares, ready sacrifice £60 for immediate sale. Cam-strict.—Box 6,493, c/o *The Motor Cycle.* [7626

N Combination, 7-9h.p., 2-speed, clutch, spring e, underslung coachbuilt sidecar, Easting nd accessories, good running order; £95, or .—Llanfair, Sutton Rd., Erdington, Birming-[X7391



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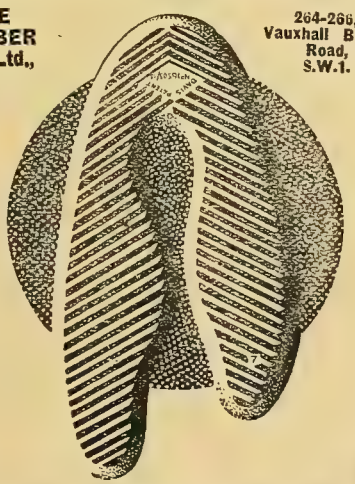

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INDIAN Combination, 1916, 7-9h.p. Powerplus, spring frame, speedometer, lamp, kick start, 3-speed, clutch; best offer.—74, St. James' Rd., Ber-mondsey, S.E. [8246

1915 7h.p. Clutch Indian, Indian sidecar, guaranteed running order; first cheque £59 secures; agree purchaser send cheque "Motor Cycle."—Box 6,411, c/o *The Motor Cycle.* [7031

7-9h.p. Indian Combination, 1915, 2-speed, clutch, spring frame, handle starter, lamps, horn, in splendid condition; £95, or offer.—Poynter, 55, Land-seer Rd., Holloway, N. [7639

INDIAN 7-9h.p. Powerplus Combination, delivered Feb., 1920, electric light, all accessories; can be seen and tried by appointment.—Offers to 28, Wood-ford Rd., Watford. [7962

INDIAN, 1920, spring frame, K.S., lamps, horn, accessories, and insurance, perfect order, has run 150 miles; bargain, £140; after 6 p.m.—15, Nelson Terrace, City Rd., N.1. [8236

INDIAN.—For early delivery of the famous power-plus motor cycles and sidecar combinations with electrical equipment write to P. J. Evans, 83-91, John Bright St., Birmingham. [0173

INDIAN 1915 7-9h.p. Spares; Frames, rear forks, clutch parts, engine parts, domes, footboards, kick start and all parts; after 5 o'clock.—Indian, 45, Hand-croft Rd., West Croydon, Surrey. [8060

7-9h.p. Indian and Torpedo Sidecar 2-speed, Binks, disc wheels, 3 lamps, tyres very good, a very smart outfit, any trial; £75.—Learned, Greenbank, Monument Gardens, Weybridge. [7836

INDIAN Combination, 1915, 3-speed, purchased new 1918, 7-9h.p., new tyres and chains, rebushed, lamps, horn, and speedometer, mileage about 5,000; £110.—Ilsley, Harston, Cambridge. [7899

INDIAN 1920 Powerplus Combination, dynamo lighting set, mileage about 2,000, in beautiful condition, ready to go anywhere; £160 gns.—'Phone: 1024.—Julian, 84 Broad St., Reading. [5637

NOVEMBER, 1919, big Indian combination, Easting wind screen, speedometer, every accessory, hardly used, guaranteed equal new, genuine, any examination; £200.—Vicar, Whaplode Drove, Wisbech. [7038

1914 Indian 3½h.p., spring frame, 2-speed, clutch, lamps, horn, tyres and chains good, with cane torpedo sidecar, just overhauled £19, good condition; £65.—Fisher, Walton, Burton-on-Trent. [7060

1915-16 Indian, 7h.p., 3-speed, clutch, kick starter, Indian sidecar, guaranteed good running order; first cheque secures, £69; agree send cheque "Motor Cycle."—Box 6,410, c/o *The Motor Cycle.* [7030

INDIAN 7-9h.p., C.B. sidecar, electric lamps, electric horn, tyres as new, 2-speed countershaft gear, speedometer, and spares; £120, or near offer.—F. Hil-dreth, 137, Portobello Rd., Notting Hill. [6952

INDIAN Combination, 7-9h.p., 3 speeds, kick start, hand and foot clutch, Binks, Easting wind screen, electric lamps and horn, everything in perfect condition.—Kennell, Norton Cuckney, Mansfield. [8047

1914 Indian Combination, 7-9h.p., 2-speed, clutch, kick start, electric lamps, spares, stored 3 years, in splendid condition; exchange lower power or sell; £95.—Frank Marshall, Hagg, Spilsby. [8405

1915 Indian Combination, 3 speeds, clutch, kick starter, disc wheels, B. and B. carburetter, just been overhauled, first-class coadition; will ride 30 miles for inspection; best offers over £115.—Moody, Penley, Ellesmere, Salop. [7143

DE LUXE Indian Combination, 7-9h.p., 2-speed and clutch, spring frame, electrically equipped, good tyres, 1 brand new John Bull, machine thoroughly overhauled; £120, or reasonable offer.—Bann, Edles-ton Rd., Crewe. [3341

ALLEN-BENNETT Motor Co.—1915 7-9h.p. Indian, 2-speed, spring frame, splendid condition through-out; £88; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [6010

INDIAN 1916 Combination, Swan sidecar, sporting mount, 6h.p., 3 speeds and clutch, kick start, disc wheels, P. and H. lamps, Ford mechanical horn, all in good order; too fast for owner; must be sold; £110.—H. Carter, 104, Moor St., Birmingham. [7175

INDIAN 1919 Combination, brand new, coachbuilt bulbous back sidecar, spring frame, Powerplus, £165; several 1918-19 Powerplus models, many new tyres, makers' colours, guaranteed mechanically per-fect. £125.-3, Courtlands Av., Lee, S.E.12. [7842

F.O.C.H. have several Indian combinations, 1920 downwards, dynamo lighting, excellent order.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7536

INDIAN 7-9h.p. Combination, late 1915, 3-speed, clutch, K.S., also portable shed 12ft.×8ft., 9ft. high, floor included; 100 gns., or nearest offer; will separate; combination seen at 110, Fulham Palace Rd.; shed at 400, Fulham Palace Rd. [7203

1919 7-9h.p. Indian Combination, dynamo lighting, all accessories condition good, new Hendersen Elite sidecar with screen, etc.; £200, or reasonable offer; owner bought car; view appointment.—Apply, E.R., 5, Devonshire Rd. Liverpool. [8222

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ALLEN-BENNETT Motor Co.—1919 reconstructed Indian 7-9h.p. Powerplus, spring frame, thoroughly overhauled, re-enamelled and plated; £125; cash, exchange, or extended payments.—9-10-11, Royal Parade, London Rd., West Croydon. 'Phone: Croydon 2450. [5998

1920 Indian Combination for sale, done 300 miles, electric lighting (3 lamps), electric horn, speedometer, foot and hand clutch, discs on all three wheels, leg-guards, Easting wind screen, insured; what offers —Write or apply, Bossutt, 79, High St., Southampton. [7086

INDIAN 7-9h.p. genuine (not army) 1915 combination, 3-speed, electric lighting and horn, speedometer, luggage grid, all in top-hole condition, owner bought late model, any trial to genuine prospective purchaser; £120.—Seen at 60a, Kirkdale, Sydenham. [8540

1916 5-6h.p. Indian, purchased 1917, 3-speed, stored 18 months, sporting Canoelet, new Easter, Easting, excellent condition, Tan-Sad, speedometer, mechanical horn; P.C. brings full particulars; £130; exchange Monocar (late).—Luckett, Electricity Works, Banbury. [8095

INDIAN 5-6h.p. Combination, 1916, clutch, 3-speed, Millford sidecar, wind screen, new hood, with side valances, electric lights with switch, new Goodyear tyres on cycle, overhauled, re-enamelled and plated, unscratched, equal to new; £145.—Fox, 11, Dickens St., Peterborough. [8215

1920 (May) Powerplus Indian Combination, electrically equipped model, complete lamps, electric horn, speedometer, tools, tyres unpunctured, luxurious Indian sidecar, ample luggage capacity, cost £230, owner buying car; £220, or near offer.—148, Earlsdon Av., Coventry. [X7472

INDIAN Powerplus Combination, issued new January 2nd, 1920, complete with usual electrical equipment and speedometer, very good condition, sidecar new last month; price £170.—The Layton Garages, London Rd., Bicester, and at 90, High St., Oxford. 'Phone: 35 Bicester. T.A.: Integrity, Bicester. [8496

INDIAN 1920 Powerplus, solo or combination.—The Layton Garages, official representatives of the Hendee Co., can always give delivery at list price, and guarantee to put on rail by first train after receipt of remittance.—The Layton Garages, London Rd., Bicester, or 90, High St., Oxford. 'Phone: 35 Bicester. 'Grams: Integrity, Bicester. [8500

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IVY.—The Walsall Garage, Walsall, can supply at early dates. [5763

IVY 2-speed 2-stroke in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern, [6186

1920 Ivy, 2-speed model, just delivered; £70, ex works.—The Napier Garage, Ivy Agents, Forest New Rd., South Woodford. 'Phone: Woodford 360. [8093

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G Henly and Co., London and District Agents, 91, Gt Portland St., W.1. Mayfair 4084. [0022

IVY, all-purpose model, 1920, Albion 2-speed gear, used under 100 miles, and in condition as new, will carry the usual guarantee as supplied with a new machine; list price £70, offered at £60/10.—The Layton Garages, London Rd., Bicester, and at 90, High St. Oxford. 'Phone: 35 Bicester. T.A.: Integrity, Bicester. [8493

Ixion.

IXION 2¾h.p. 2-stroke, new; list price.—Pater, Motor Agent, Bedford. [7971

James.

THE Walsall Garage, Walsall, for good deliveries of all James models [5764

1920 James 6h.p. Combination at list price, plus carriage.—Taylor's Garage, Falmouth. [0249

JAMES 1916 Combination, perfect condition, complete, lamps and horn; any trial; bargain, £115.

JAMES 4¼h.p. Combination, 1916, fully equipped; any trial; £110.—33, Temple Rd., Windsor. [7608

1920 6h.p. James de Luxe Combination, first-class order; £145.—Box 6,405, c/o *The Motor Cycle*. [7025

JAMES 1919 2-stroke, complete with lamps and horn, perfect order throughout; £60.—Tew, Petersfield. [7756

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¼h.p. James 2-stroke, new 1920 model; £75 [8586

JAMES 1914 4¼h.p., 3-speed clutch, all accessories; £48 splendid machine.—35, Frognore Rd., Holloway, N.7. [7352

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JAMES, 4¼h.p., 1916, 3-speed, tandem sideca thorough order; £100. — Girling, Bungalo Wrentham, Suffolk. [74

1919 4¼h.p. James Combination, horn, lamps, Eas ing, speedometer; £130.—Hutchins, Foste School, Sherborne. [79

JAMES 1920 5-6h.p. Combination, dynamo lightir new throughout; £189, or nearest offer.—Hucc cote Lodge, Gloucester. [78

JAMES Coachbuilt Combination, gears, clutch, K very good condition and appearance; £90.— Harehills Lane, Leeds. [77

4¼h.p. James, in perfect condition, 3-speed count shaft gear, clutch, wind screen, lamps; offers.— Lathom Rd., East Ham, E.6. [70

JAMES 1920 3½h.p. Twin, Binks, only ridden miles, complete with lamps, horn; £140.—B 6,417, c/o *The Motor Cycle*. [70

1920 James 5-6h.p. Combination, just arriv £190; 1920 James 2-stroke, 2-speed, £75 Vine and Lee, Portslade, Sussex. [82

JAMES 4¼h.p. Combination, countershaft; £90, near offer.—12, Jessops Rd., opposite Turnh Green 'Bus Garage, London, W.4. [69

JAMES 1918 6h.p. Combination de Luxe, Luc Watford, Easting, pillion, little used, perfe £140, offers.—Vicar, Comberton, Cambridge. [74

£160, or best offer till Sunday secures 4¼h.p. Jam de luxe combination, just delivered, cost £1 ridden 120 miles.—224a, Clapham Rd., London. [88

NEW 1920 5-6h.p. James Combination, in sto makers' price plus carriage.—D. J. Shepherd a Co., Enfield Highway. Tel.: Waltham Cross 31. [49

TWIN James 3½h.p., late 1915, perfect runn order, excellent condition, lamp, horn; £75, nearest offer.—257, Brockley Rd., S.E. (Evenings.) [8

JAMES 3½h.p. Twin, 1920, very small milea speedometer; £125.—Newnham Motor Co., 2 Hammersmith Rd., W.6. 'Phone: Hammersmith 8 [8

3½h.p. Twin James, 1917, 3-speed, kick start, splen condition throughout, Lucas horn, lamps, toc £70, no offers.—Moss, Esplanade, Fleetwood, Lancs. [8

45 GNS.; 1917-18 2¼h.p. James 2-stroke Lig weight, 2 speeds, new tyres, all accessories, first-class condition.—81, Little Ealing Lane, Eali [7

4¼h.p. James C.B. Combination, 1915, 3-speed, chain, Dunlops, in perfect running order condition; £110.—Edwards, Longbredy Rectory, L chester. [8

5-6h.p. James Combination, used about 500 m indistinguishable from new, complete with lamps, privately owned; £165.—27, Sidmouth Devizes. [8

NEW 1920 James 4¼h.p. 3-speed Combination, £1 2¼h.p. 2-speed lightweight, £75; now in stock immediate delivery.—The Premier Motor Co., A Rd., Birmingham. [5

JAMES Combination, 4¼h.p., 3-speed, kick st clutch, chain drive, coachbuilt sidecar, lar horn, complete, ride away; £90.—206a, Green La Finsbury Park, N.4. [7

1919 James 4¼h.p. Combination, lamps, h speedometer, etc., mileage 2,000; £145.— Napier Garage, Forest New Rd., South Woodf 'Phone: Woodford 360. [8

JAMES Combination, 1915-16, 4¼h.p., 3-speed box, all accessories, valves, chains, spare t cover wind screen, apron, etc.; £95; can be seen 7 p.m.—Scott, 6, Lysons Rd., Aldershot. [1

1916 James Combination, in splendid order, cylinder and valves just fitted, lamps, speedom horn, tyres nearly new all round, 2 spare valves chain, pump, etc.; £110.—64, Chapel St., Dalt Furness, Lancs. [X

J.A.P.

BARGAIN.—J.A.P. twin, Bosch, 2-speed, good take sidecar; £35.—Withers, 4, College Cheshunt.

J.A.P. 8-10h.p. overhead valve Racing Combina 2-speed, replated and enamelled Indian Bramble underslung sidecar, disc wheels, 70 tyres, exceptionally smart and sporty outfit; a £95.—158, Norwood Rd., West Norwood, S.E.27.

J.E.S.

J.E.S. Cycle Attachment, complete; £14.— Bolton House, Southowram, Halifax.

J.E.S. Motorcyclette, recently overhauled; s bargain, £16.—Apply, Postmaster, Shiregreen.

SALE, J.E.S., attached to a new Starley cycle been overhauled; first £16 secures.—G. Bra 57, Derby Crescent, Leeds.

J.E.S. Motor Cycle, specially built, lamps, pum chanical horn, Whittle belt; £30; owner abroad.—Aitken, 14, Gordon Rd., Aldershot.

MOTOR CYCLES FOR SALE.

J.H.

UCHOPE'S, 9, Shoe Lane, London, E.C.4.—7-9h.p. J.H. Combination, 1915, M.A.G. engine, ershaft Sturmey-Archer gear, all-chain drive: [8584

Kerry.

.p. Kerry, frame, forks, mudguards, stand, Dixie, B. and B. and controls, all working order; £8, in.—Cavill, Down Hall, Harlow, Essex. [8157

RRY, 2¾h.p., B.B. carburetter, spring forks, almost new tyres and tubes, new belt, new y, perfect, a really good serviceable machine; 14, Estcourt St., Devizes. [8265

Lagonda.

Lagonda, rebored, new piston, free engine, Bosch ng.: ride away; £25.—8e, Peabody Estate, Rod- l., Walworth. [7193

Lea-Francis.

3½h.p. Lea-Francis, M.A.G.; £130.—J. Hebden nd Son, 149, St. James' St., Burnley. [8015

FRANCIS, brand new, M.A.G. engine, in stock; 130.—Rhosha Motor Garage, Romford. Tel.: 95. [9721

Lea-Francis, M.A.G. engine; list price.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [3618

FRANCIS in stock, new, list price £130.—lark, 7, Exhibition Rd., South Kensington. [8362

Sale, 1920 model 3½h.p. Lea Francis, M.A.G. gine; £130.—King and Harper, Bridge St., Cam- [7598

FRANCIS 1914 Twin, 2-speed, K.S., in new ndition; £70, or nearest offer.—Flint, Queen's Berkhamsted. [7954

FRANCIS, M.A.G., delivered this week, un- lden, unregistered; £125, plus carriage.—Box c/o *The Motor Cycle*. [7208

CHOPE'S, 9, Shoe Lane, London.—3h.p. brand new Lea and Francis, 1920 model, M.A.G. en- 130; delivery from stock. [8599

RANCIS 3½h.p. J.A.P., 1914, 2-speed clutch, sch, new Binks; 52 gns.; trial; seen any time. and, The Den, Laleham, Middlesex. [8069

Lea-Francis Combination, all lamps, Klaxon, Casting wind screen, fully insured, first-class n; £150.—90, Lewin Rd., Streatham. [8463

RANCIS, 1920.—Place your name on our iting list for delivery of these aristocratic —A. J. Sproston, Ltd., 193, Gt. Portland St., [0099

RANCIS 3½h.p. Twin, M.A.G. engine, 1920 del, equipped; £130.—Newnham Motor Co., mmersmith Rd., W.6. 'Phone: Hammer-). [8610

RANCIS 1917 3½h.p., 2-speed and clutch, ntly overhauled and renovated, fitted with w 1920 3h.p. engine, J.A.P.—Parker's, Brad- Bolton. [X7287

Levis.

Levis 2-strokes, £60, from stock.—Lambert's, tford. [

evis, 2¼h.p., in new condition; £48.—Gifford, erton, Hants. [8270

immediate delivery.—Popplewell's, Wood- lge Rd., Ipswich [5726

Motor Cycle, just delivered; £60.—Central age, Lord St., Southport. [7963

1916, mileage 900, perfect; £46/10.—Box 1, c/o *The Motor Cycle*. [8295

1914, 2-speed, new tyres, overhauled; £45.—Jerningham Rd., New Cross. [7646

2-stroke, new, lamps, horn, accessories; £75. on, 260, Balham High Rd., S.W.12. [7344

Popular Models in Stock; £60.—A. J. Young Co., Ltd., Heath Garage, Newmarket 'Phone: [4012

2¼h.p. 1917, lamps, accessories, good condi- bargain, £38.—2, Fern Cottages, Shirley, [8425

evis, good condition, lamps, etc.; £46.—ply, Mr. A. Clack, Teddington, near Strat- on. [7245

1916, splendid condition, discs, lamps, fast, climber; £40.—Phillips, 258, Commercial ham, S.E. [8245

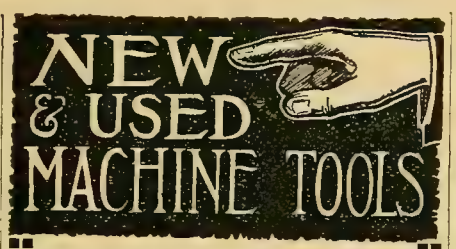
evis Combination, new, lamp, horn, pump, oards, very fast; £52.—E. Gray, Risby, Edmunds. [7047

Popular, 1920, perfect condition, mileage 200; owner forbidden to ride; £55.—49, , Clapham Common. [7666

evis 2¼h.p., excellent condition, lamps, me- ical horn, etc.; £40; evenings after 7.—1, Rd., Catford, S.E. [7650

2¼h.p., 1918, splendid condition, just over- d; bargain, £45.—Osmans, 231, Leigh Rd., ea. 'Phone: 81. [7214

920, not done 200 miles, unscratched, speci- fitted puncturepproof tubes, horn, pneumatic .—Clarke, 15, South St., Louth. [8280



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MOTOR CYCLES FOR SALE.

Levis.

LEVIS Popular Late 1919 2¼h.p., splendid condition, lamps, horn, etc.; £50; after 6 o'clock.—Wallace, 33, Chester St., Kennington Rd., S.E. [7326

LEVIS 2½h.p., engine just overhauled, re-enamelled, College Shield, lamps, horn, footboards, new spare belt; £38.—322, Shobnall St., Burton-on-Trent. [X7425

LEVIS.—We strongly recommend, and can supply early, this famous 2-stroke.—District agents, The Walsall Garage, Wolverhampton St., Walsall. 'Phone: 444 [5765

LEVIS, the master 2-stroke, for early delivery of the new 1920 2¼h.p. popular model; £60; place your order direct with the Premier Motor Co., Aston Rd., Birmingham. [5820

1920 Levis Popular, very carefully run in, Miller lamp set, Klaxon, W.S.R. jet, cyclometer, tools, pump, all in new condition; £60, or exchange, with cash, for late sidecar machine, in perfect mechanical condition.—168, Risley Av., Bruce Grove. [8317

Lincoln-Elk.

3½h.p. Lincoln-Elk, Bosch, Druids, variable jet; £23.—434, Fulham Rd., London. [7948

3h.p. Lincoln-Elk, single, re-enamelled and overhauled, tyres fair condition; any trial; £32.—Lodge, Unwin St., Penistone. [7084

LINCOLN-ELK 3h.p., Philipson pulley, Druids, 2 lamps, 2 generators, brand new condition; £38.—63, Solon Rd., Brixton. Exchange. [8257

1912-13 Lincoln-Elk 3½h.p., Grado, 1919 B. and B., just rebushed, absolutely sound, accessories, Dunlops as new; £38, or close offer.—King, Ford School, Shrewsbury. [X7190

3½h.p. Lincoln-Elk, 1914, Bosch, B. and B., thoroughly overhauled, rebushed, and enamelled, £40; also C.B. sidecar, £10.—J. Turner, 58, Alderbrook Rd., Balham, London. [8209

L.M.C.

6h.p. L.M.C. Combination; £178; immediate delivery.—Maudes' Motor Mart, 100, Paris St., Exeter. [7488

L.M.C. 4½h.p. Combination, Watsonian, hood, screen, lunch, oil and petrol lockers, full equipment; £130; seen evenings.—Gardner, 33, East Dulwich Rd., S.E. [7852

L.M.C. 1920 6h.p. 3-speed Combination, used twice only, owner changing for Colonial model for overseas use, cost £183, condition as new, and full guarantee given as with a new machine; price £152/10.—The Layton Garages, London Rd., Bicester, and at 90, High St., Oxford. 'Phone: 35 Bicester. T.A.: Integrity, Bicester. [8491

Martinsyde.

6h.p. Martinsyde Combination; £170; immediate delivery.—Maudes' Motor Mart, 100, Paris St., Exeter. [7486

1920 Martinsyde Combination, electric lighting, hood, screen, a beautiful combination; 170 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7588

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford; also Cornwall and Devonshire, for Martinsyde-Newman combination, £170; deliveries now being effected; sub-agents appointed.—Maudes' Motor Mart, 100, Gt. Portland St., W.1, and Paris St., Exeter. [6618

Matchless

MATCHLESS-J.A.P. 3½h.p., Bosch, B. and B., running order; trial; £28.—Allen, 60, Charlton Rd., S.E.7. [6134

CROW Bros., Guildford, West Surrey agents for this first-class outfit. Matchless in name and quality. [3175

6h.p. Matchless, sidecar; any trial; in good condition; £55.—Seen, 57, Stonhouse St., Clapham, S.W.4. [7981

MATCHLESS Combination, 7-9h.p., 1915, £140.—Padd. 2423. 89, Abbey Rd., St. John's Wood, N.W.8. [8554

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—7-9h.p. Matchless combination, 1914, M.A.G.; £137/10. [8578

MATCHLESS-J.A.P. Combination, 6h.p., climb anything, fine turnout; £85.—3, Taylor's Lane, Sydenham. [X7274

MATCHLESS Combination, 6h.p., 3-speed gear, Bosch mag., in thorough running order; £70.—Sims, Longfield, Kent. [8247

MATCHLESS Mag. 1915 Dynamo Lighting Combination, just re-enamelled; 130 gns.—Longman Bros., 17, Bond St., Ealing. [8511

MATCHLESS Model H, indistinguishable from new, Lucas lighting, horn; £225.—Clark, 7, Exhibition Rd., South Kensington. [8364

£45; Matchless 3½h.p. J.A.P., 1914 racing machine, unused since 1914.—8a, Blue Ball Yard, St. James's St., Piccadilly, W. [7383

MATCHLESS 1920 Model H, fully equipped, run 300 miles; £210.—Before 1 o'clock Thursday, any time Friday, Saturday.—136, Lambeth Walk, S.E. [7926

MOTOR CYCLES FOR SALE.

Matchless.

1920 Matchless Combination, M.A.G. engine, complete, all Lucas lamps, horn, unridden; £228.—Box 6,407, c/o *The Motor Cycle*. [7027

IN Stock, new Matchless, M.A.G. engine, Magdyno, rear-drive speedometer; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [7528

BRAND New (July 9th, 1920) Matchless 8h.p. Combination, M.A.G. engine, Magdyno lighting; list price.—85, Read's Rd., Blackpool. [8318

6h.p. Matchless-Jap Coachbuilt Combination 2-speed, kick-start, thoroughly overhauled, new B.B. carburetter; £85.—Court, Bracknell, Berks. [7164

MATCHLESS-M.A.G. Combination, 1916, dynamo lighting, excellent condition; £150.—3, Cluny Mews, Warwick Rd., Earl's Court, S.W. [8217

MATCHLESS Model H, M.A.G., Lucas Magdyno, latest type, just delivered; makers' list price.—Prior, Replingham Rd., Southfields, S.W.18. [7957

1920 Model H Matchless, dynamo lighting, hood, leg guards, horn, etc., perfect; £225, cash or exchanges.—2, Nightingale Rd., Lower Clapton. [8386

1920 Matchless Combination, M.A.G. engine, complete Lucas lamps, unridden, cost £220; accept cost price.—Box 6,511, c/o *The Motor Cycle*. [8285

MATCHLESS Model H (April), M.A.G. engine, Lucas dynamo lighting, hood, screen, speedometer, leg-shield, etc.; £220.—93, Manor Park, Lee, S.E. [7784

MATCHLESS, 1919 model, complete with spare wheel, only run about 2,000 miles.—Major Smith, attached Royal Irish Regt., Tidworth. £180. [8457

1920 Matchless, Model H, Lucas Magdyno, hood, screen, leg shields, etc., perfect condition; £235.—87, Lauriston Rd., South Hackney, E.9. [8080

MATCHLESS 8h.p. Combination, 2-speed, recently overhauled, splendid running order.—Wylde, 29, Fox Lane, Palmer's Green. Write appointment. [7111

MATCHLESS 1920 Model H Combination, M.A.G. engine, dynamo lighting, speedometer, new last month; £230.—29, St. Leonards St., Bromley-by-Bow. [8073

MATCHLESS Model H Combination; in stock for immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8604

MATCHLESS Combination, 1920 (May), M.A.G. engine, Lucas acetylene lighting, many extras, absolutely as new; £205.—294, Kennington Park Rd., S.E.11. [8334

1919 Matchless Victory Model 8h.p. Combination, spare wheel, lamps, horn, tools, etc., fine condition.—Broomhead, Yorkshire Main Colliery, Doncaster. [7373

MATCHLESS Combination, latest model, fitted regardless of cost, luxurious outfit; £235, or near offer.—Beale, Glengarry, Portchester Rd., Bournemouth. [7549

1917 Matchless Combination, spare wheel, dynamo lighting set, M.A.C. engine, splendid condition; £165.—Eton, 260, Balham High Rd. 'Phone: Streatham 352. [7046

MATCHLESS Victory Model, perfect condition throughout, spare wheel, new tyres, all on, ready to go anywhere; 140 gns.—123, Gray's Inn Rd., London, W.C. [7599

1920 Model H Matchless, M.A.G. engine, rear drive speedometer, hood, Lucas lamps, horn, perfect condition; £220.—Edwards and Co., 50, Harrington Rd., S.W.7. [7527

1914 C.B. Matchless Combination, thoroughly overhauled, re-enamelled and plated by makers, as new; what offers?—26, Harrington Sq., N.W. 'Phone: Museum 532. [8537

1919 Matchless Combination, completely equipped, 2 new tyres, just overhauled, powerful, silent, owner purchased 1920 model; £165; letters.—4, Napier Rd., Wembley. [8126

MATCHLESS latest Model H Spring Frame Combination, Lucas Magdyno, spare wheel and tyre, luggage grid, only done few hundred miles.—Parker's, Bradshawgate, Bolton. [X7281

MATCHLESS Combination, 8h.p., late 1919, Model H, hood, screen, electric light, spare wheel, etc.; a reliable outfit; £180.—Sparks, Upfolds Farm, Holmbury St. Mary. [8164

MATCHLESS 1920 Model H Combination, mileage about 500, hood, screen, Lucas lamps, horn, speedometer; £225.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0066

1913 Matchless Combination, 2-speed, Klaxon, speedometer, etc.; £80; entertain exchange lightweight and cash.—After 6, Tucker, 28, The Grove, Camberwell, London, S.E. [7925

MATCHLESS 1920 Model H, spring frame, earliest deliveries at list price from the city agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

1920 Matchless, spring frame, M.A.G. engine, spare wheel, Lucas horn, legshields, rear driven speedometer, just delivered; obliged sell; £220 quick sale.—W., c/o Cripps Garage, Sidcup. [7509

1920 Model H Matchless Combination, magdyno lighting, 8h.p. Jap engine, hood, screen speedometer, new condition; £210, bargain. 626, Lea Bridge Rd., Leyton 'Phone: Walthamstow 800. [7850

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26×2¼ Wood-Milne extra heavy Keygrip	52/-	62/-
26×2¼ Pedley heavy 3-rib	54/6	70/-
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26×2½ Skew heavy rubber non-skid	57/-	68/6
26×2½ Skew round non-skid	50/3	62/6
26×3 for 2½ Skew heavy non-skid	62/6	78/6
26×2½ Clincher de Luxe heavy non-skid	50/-	78/-
26×3 for 2½ Dunlop extra heavy	57/6	77/3
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For American Rims.		
28×2½ Kempshall heavy non-skid	46/-	80/9
28×2½ Hutchinson Passenger	45/-	80/9
28×2½ Kempshall anti-skid	41/-	68/3
28×2½ Hutchinson heavy rub. stud.	41/-	69/6
28 × 3		
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28×3 Avon 3-ribbed	65/-	90/6
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28×3 Wood-Milne extra heavy	55/-	76/-
28×3 Dunlop extra heavy non-skid	57/6	87/6
28×3 Clincher de Luxe extra heavy	54/-	80/-
28×3 Palmer Cord heavy	55/-	78/9
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650×65 Avon 3-rib	62/-	70/-
650×65 extra heavy rubber studded	59/-	71/-
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Matchless.

MATCHLESS 1919 Combination, fully equipp practically new, speedometer, mirror, Volex e tric lighting, gas lamps, unused; best offer secure Brand, 24, Sandbourne Rd., Brockley, S.E. [8

MATCHLESS New Spring Frame Model.—Ea delivery at list price. Demonstration model view. Replacements for Matchless models of all da in stock.—Tassell, 1a, Bloomfield Rd., Plumstead, S [9

MATCHLESS Model H, dynamo lighting, bra new, in stock, immediate delivery, list pri second-hand ditto, but with D.A. Lucas lighti £205.—Arthur G. Daw, 114, Brixton Hill, S.W.2. [8

MATCHLESS 8h.p. J.A.P. Coachbuilt Combinati 2 speeds, kick start, engine just overhauled, oversize tyres, new lighting set, hood, screen, spa tools, perfect; genuine bargain, £115.—257, Beckenh Rd., Beckenham. [7

MATCHLESS-M.A.G. Combination, wind scre luggage grid, trunk pillion seat, Palmer co 3 Lucas sets, used twice, Watford speedometer, en outfit, exceptional condition; £150.—Reed, 160, Ha field Rd., Wimbledon. [8

1920 Matchless H Combination, special engine, Lu dynamo lighting, horn, spare wheel, Watt mileage 950, new condition, mechanically perfect, to purchaser; £220, or accept solo part.—Wolver Horseley Fields, Wolverhampton. [X7

1920 Matchless Combination, brand new, unre tered, Lucas Magdyno lighting, Lucas h hood, leg shields, sidecar step, immediate delivery, waiting, makers' list price; £247.—Rhosho Motor Bank Mews, Romford. Tel.: 95. Matchless agent [8

ALLEN-BENNETT Motor Co.—1920 Model Matchless, M.A.G. engine, run under 500 m unscratched, and indistinguishable from new, la horn, speedometer; £225; cash, exchange, or exte payments.—9-10-11, Royal Parade, London Rd., Croydon. 'Phone: Croydon 2450. [5

MATCHLESS Combination, 7-9h.p. M.A.G. eng 3-speeds, kick-starter, enclosed chain drive, h Cameo screen, extra child's seat in front, dise wh Lucas lamps, Watford speedometer, clock, mirror, h Tan-Sad, luggage carrier, etc., in perfect order, wants seeing; a bargain £150.—2, Nightingale Lower Clapton. [8

MATCHLESS 8B Combination, 1915, chassis C3 M.A.G. engine, good condition, mechani sound, acetylene lighting, and speedometer, hood, screen, dashboard, petrol and luggage carriers to car, full tools, spares, privately owned; £150 c apply evenings (except Sunday) after 6.—Boyes, Lodge, Bessels Green, Sevenoaks. [7

MATCHLESS Combination.—Book your orders f Ross, 86, High Rd., Lee, S.E., for 1920 sp frame 8h.p. Matchless combination. A model a on view at above address. Deliveries guaran strictly as per order received. Retail price as ruling time of delivery. A large assortment of second-h motor cycles of all makes always in stock. [

Maxim.

MAXIM-JAP., 3½h.p. J.A.P., Bowden 2-s countershaft, kick starter, new tyres, trip s ometer, lamps, etc., thorough running order, £45.—Hudson, 14, Conway Rd., Plumstead. [

Metro.

1920 2½h.p. Model S Metro-Tyler; immediate livery.—Rootes, Ltd., Maidstone. [

METRO-TYLER, 2-speed, splendid order; £ 146, Waller Rd., New Cross. [

METRO-TYLER, 2-speed, clutch, K.S.; £76; n Light Car Hiring Co., Nelson, Lancs. [

METRO-TYLER 2-stroke, 2-speed; bargain, after 6 evening.—29, Conder St., Stepney. [

1920 Metro-Tyler, single speed, new belt and 800 miles; £55.—O. Whate, Dunham-on-T Newark.

METRO-TYLER, 1919 (Dec.), 2-speed, plate haust, lamps, etc.; £60.—Richards, High Marlborough.

1920 2½h.p. Metro-Tyler, 2-speed; list price, £ R. Bamber and Co., Ltd., 2, Eastbank Southport. Tel.: 607.

1920 2½h.p. Metro-Tyler, S type; list price, £ R. Bamber and Co., Ltd., 2, Eastbank Southport. Tel.: 607.

METRO 2¾h.p. 2-stroke, single speed, lamps, footboards, condition perfect; £44.— House, Elvaston Lane, Alvaston, Derby. (D)

METRO-TYLER 1917 2-stroke, 2-speed, 2½h.p hauled by makers 1920 (receipts shown), all series; ride away; £45.—4, Bridport Rd., Hoxton After 7 p.m.

AUGUST Holidays.—1919 Metro-Tyler, single just been overhauled by reliable firm, lamps, horn, pump, disc wheels, long exhaust; £6 plete.—Thompson, Glendale, Clarendon Rd., Cheshire.

1919 Metro-Tyler, disc wheels, long exhaust, 55 gns.; also 1915-1916 2¾h.p. Douglas, just overhauled and re-enamelled, £65, or near 7, Victoria Grove Mews, Ossington St., Notti Gate.

MOTOR CYCLES FOR SALE.

Minerva

2; 3½h.p. Minerva, mag., spring forks, perfect.—31, Camrose St., Plumstead. [8133

p. Minerva, good running order; £25; after 6 p.m. —Gothic Villa, Middle Lane, Hornsey. [8192

NERVA 3½h.p., mag., spring forks, wants timing or sell separate; £17; offer.—Daniels, sfield Rd., Midhurst. [7977

NERVA 2¾h.p., Berling waterproof magneto, B. and B. carburetter, fully equipped, good run-order; £25, or offer.—178, Iverson Rd., West pstead. [7839

Monarch.

NARCH, 2¾h.p. Villiers, 1920, single speed, lamps, horn, like new; £50.—Franck, 15, Craster Rd., on Hill. [7104

Moto-Reve

p. Moto-Reve; £28, or exchange higher power. —Daffern, Jun., Hawkesbury, Foleshill, Coventry. [X6943

TO-REVE 2½h.p., Bosch, M.R. carburetter, new Dunlop belt, good tyres, good climber, splendid ng order, trial; £34.—Campbell, Jacktrees Rd., r Moor, Cumberland. [7552

Motosacoche.

TOSACOCHE 2½h.p., late model, nice condition, new belt, tyre; £25.—67, Wantage Rd., Reading. [X7379

TOSACOCHE Lightweight, mag., B. and B., Druids, jockey pulley, new tyres, good running £18.—Gates, Cemetery Rd., St. Ives, Hunts. [7513

TOSACOCHE 1914, M.A.G. 3½h.p. twin, De Lissa valves, 2-speed, K.S., clutch, £22 overhaul, ian featherweight coach sidecar, everything on, on absolutely as new; £85, close offer.—Ellis, 40, minster Rd., Croydon. [7545

New Hudson.

New Hudson T.T. 2¾h.p., 2-stroke, unused; £70.—'Phone: Hampstead 7822 [8573

4 3½h.p. New Hudson, 3 speeds, splendid condition; £52.—H. Wright, Arlesey, Beds. [7122

p. New Hudson, 3-speed and clutch, in first-class ondition; £45.—85, Dalberg Rd., Brixton, S.W.2. [7662

HUDSON, 1914, J.A.P., 2-speed, clutch; ride ay; £35.—110, Mill Lane, West Hampstead. [7199

New Hudson 2-stroke, 2-speed, in stock; £75. —'Phone 1024.—Julian, 34, Broad St., Reading. [5633

HUDSON 2-stroke Lightweight, perfect condi-on; £35.—Marks, 121, Acton Lane, Chiswick. [7596

HUDSON.—Immediate delivery 2¼h.p. 2-stroke; del.—Parker's, Bradshawgate, Bolton. Tel.: [X7289

HUDSON 2¾h.p., 3-peed hub, clutch, new es; £47.—Green, 4, Keats Grove, Hampstead. [7464

Sale, 4h.p. New Hudson combination with all essories, just overhauled; £85.—Hollins, The Mayfield, Sussex. [7156

New Hudson, 3-speed, clutch, B.B., Bosch, ood tyres and belt, lamps, etc.—Taylor, Brook-ick Works, Bolton. [8058

New Hudson 2-stroke, P. and H., Cowey horn, d accessories, not ridden 500 miles; £70, or trong, Gouville House, Eastbourne. [7942

HUDSON Combination, 8h.p. J.A.P., 3-speed. tch, kick start, good condition, splendid run-fers.—Smith, Police Station, Epping. [7763

1920 2¼h.p. New Hudson 2-speed Light-ght, in stock; price £75.—D. J. Shepherd and field Highway. Tel.: Waltham Cross 31. [4996

HUDSON Combination, all black, 6h.p., Bosch, eed, kick-starter, clutch, splendid condition: tees, Mydroilyn, Felinfach, Cardiganshire. [X6955

HUDSON, 2¾h.p. J.A.P., 3-speed, clutch, full essories, thoroughly overhauled, splendid con-£35.—E.W., 69, Gladstone Av., East Ham. [7707

HUDSON Combination, 4h.p. Colonial Model, eed, clutch, Binks, Bosch, lamps, etc.; £65, seen after 7 or 2 Saturdays.—66, Hornsey [7676

UDSON Big Six Combination, 3-speed, kick-, clutch, lamps, wind screen, hood, speedo-c., owner buying car; £85, after 3 p.m.— olborn Stadium, Holborn. [7687

New Imperial.

h.p. Imperial-Jap, 140 gns., in stock.—Lam-s, Thetford. [7227

ew Imperial, 2-speed, new, in stock; 77 gns. Rose's Garage, Uxbridge. [8161

Bros., Guildford—New Imperial-Jap agents and rt repairers since 1914. [2066

ew Imperial-Jap Lightweights, immediate de-ery; list price.—Kemp's Gaage, Louth, Linco. [X7254

ew Imperial-Jap, 2-speed, in stock; 77 gns. one: 1024.—Julian, 34, Broad St., Reading. [5640

FOR THE HOLIDAYS.

We can give you just the mount you want for the ideal holiday, and when you want it—NOW.
If your favourite is not in the list below, send us your requirements, or call and inspect the stock at our showrooms.

1920 Models.	New Stock.
QUADRANT Combination	£145 0
TRIUMPH, 4 h.p., complete with Montgomery Sidecar, Easting screen, Miller's head, sidecar, and rear lamps, bulb horn, Bonniksen speedometer	£173 10
NEW IMPERIAL, 8-h.p., 3-speed, kick-start, all-chain drive, Canoelet Model MM.4 Sidecar	£190 0
ZENITH, 8 h.p., Model H, clutch, and kick-start	£162 0
Grindlay de Luxe Model Sidecar, fitted	£33 extra.
HUMBER, 4½ h.p., flat twin, 3-speed, kick-start, all-chain drive, Grindlay de Luxe Sidecar	£179 10
ARIEL 3½ h.p. Combination	£154 0
COVENTRY ACME-J.A.P. 8 h.p. Combination, detachable spare wheel	£213 15
HAZLEWOOD-J.A.P. 6 h.p. Combination	£214 12
QUADRANT Combination	£145 0
ROYAL RUBY, 3 h.p., spring frame	£109 14
CLYNO, lightweight, 2-speed	£75 0
CALTHORPE-J.A.P., 2-speed	£74 11
CALTHORPE, 2-stroke, 2-speed	£71 8
HOBART-J.A.P., 2-speed, kick-start	£90 0
CONNAUGHT, 2-stroke, Sturmey 2-sp., kick-start	£80 0
CONNAUGHT, 2-stroke, single gear	£63 10
ALLDAYS ALLON, 2-speed, kick-start	£85 0
OMEGA-J.A.P., 2-speed, kick-start	£83 0
IVY, all-purpose, 2-speed	£75 0
SCOTT Combination	£185 0

(Subject to being unsold.)

SIDECARS IN STOCK.

(With fittings for any make of Motor Cycle.)

Grindlay. **Canoelet.**
Montgomery. **Mills-Fulford.**

THE COVENTRY MOTOR MART LTD
"Coventrys Largest Motor Agents"
LONDON ROAD
COVENTRY
TELEGRAMS—SELECTION, COVENTRY
50

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL-J.A.P. 6h.p., Fullford sidecar, Cameo screen, done 890, perfect; £155.—Dixon, Bicester. [8320

NEW IMPERIAL, 2-speed, late model, good running order and condition; 48 gns.—325, Essex Rd., Islington. [8536

1920 New Imperial, 2¾h.p., 2-speed, complete; £75, or nearest; seen Saturdays.—Jarvis, South Cerney, Cirencester. [X7295

2¾h.p. New Imperial, 2 speeds, owner going away, must sell; offers.—Woodcliffe, Chislehurst, Kent (nr. station). [8231

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2½h.p. New Imperial, new, 1920 model, immediate delivery; £89/5. [8579

1917 New Imperial 2-stroke, 2-speed, and accessories, in good condition; £53.—Bounds, 223, High Rd., Kilburn, N.W. [7592

1919 W.D. 8h.p. New Imperial Combination, lamps, horn, wind screen, all in perfect order; £155.—12, Bridge St., Cambridge. [7436

1917 2¾h.p. New Imperial-Jap, countershaft, 2-speed, good running order; £52/10.—Harper, 34, Belgrave Gate, Leicester. [7806

NEW IMPERIAL 2¾h.p., 1917, 2-speed, all accessories, splendid condition; £57.—Apply, 17, King's Rd., Edmonton, N.18. [7863

NEW IMPERIAL Machines for immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8607

MAUDES'.—2½h.p. New Imperial, 2 speeds Dunlop tyres, Saxon forks, excellent condition; £66.—Maudes', 100, Gt. Portland St., W.1. [8378

1919 New Imperial-Jap 2¼h.p. 2-speed, lamps, mechanical horn, any trial, genuine; £70.—Evans, 33, Salop St., Bridgnorth. [8128

NEW Imperial-Jap, 2¾h.p., 2-speed, lamps, B. and B., E.I.C., and Kempshalls as new; £50.—Blanshard, 45, Fenton St., St. Helens. [7468

SALE, New Imperial 2¾h.p., 1920, 2-speed, lighting set, accessories, done about 400 miles; £70.—Bishop, 35, Princes Rd., Wimbledon. [7125

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, kick starter, lamps, speedometer, hooter, all in good condition; £55.—Hare, 13, Loates Lane, Watford. [8432

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, lamps, accessories, practically unscratched, equal new; £59.—2, Fern Cottages, Shirley, Croydon. [8426

1920 New Imperial, 8h.p., Montgomery sidecar, luggage carrier, Klaxon, handsome turnout, new May; £165.—The Poplars, Durkar, near Wakefield. [8353

NEW IMPERIAL 2½h.p., 2 speeds, brand new B. and B., engine first-class order, new belt, good tyres, tubes, lamps, horn; £50.—Cunnell, Saddlebow Rd., Lynn. [7349

NEW IMPERIAL, 6h.p., 1920 model, with Sunbeam sidecar, complete; £167/10.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [8609

6-8h.p. New Imperial-Jap, 1920 Montgomery sidecar, 3-speed, enclosed chains, 28×3 Dunlops, lamps, grid, spares, practically new; £170; exchange car.—Cowper's House, Huntingdon. [X6647

1920 New Imperial 6h.p. Combination, electric lighting, all accessories, beautiful turnout; 185 gns.; exchange for Morgan; after 6 p.m.—Burdett, 15, Waldemar Av., Ealing, W.13. [8153

SPORTING 2½h.p. New Imperial-Jap, late 1915, stored 3 years, semi-T.T., long exhaust, lamps, Klaxon, new mag., re-enamelled red and overhauled; any trial; £49 secures.—Favell, Hatfield, Doncaster. [7073

1920 New Imperial Combination, with large bulbous back sidecar, 28×3 wheels, heavy Dunlops, delivered 2 weeks; accept £175, or near offer; owner bought car; list price £188; latest model.—3, Central Rd., Blackpool. [X7399

NEW IMPERIAL Combination, 8h.p. J.A.P., 3-speed, kick start, handle-bar control clutch, 28in.×3in. Dunlops, totally enclosed chains, magnificent royal blue bulbous back double locker sidecar, luggage carrier, unscratched, perfect condition, any trial; accept £150; list price £188.—78, Park Rd., Rugby. [X7349

New Ryder

1919 New Ryder 2¾h.p. 2-stroke, perfect condition; £40.—Lloyd, 366, Ivydale Rd., Nunhead, S.E. [7897

1918 2¾h.p. New Ryder, Villiers engine, lamps, horn, speedometer, T.T. bars, perfect condition; £45.—Ash Lodge, Junction Rd., Brentwood, Essex. [8110

Norton.

NEW 3½h.p. T.T. Norton; £98, ex-works.—J. Hebden and Son, 149, St. James' St., Burnley. [8016

1920 Norton Combination, almost new; £175, lowest.—Lathbury, 167, Maldon Rd., Colchester. [7602

4h.p. Norton, completely overhauled, in perfect order; £45.—A. Stephen, Market Terrace, Strichen. [7425

1920 Norton, new, T.T., Philipson pulley; £110.—Chesshire's Garage, Hockley Heath, Birmingham. [8223

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B45

MOTOR CYCLES FOR SALE.

Norton.

1920 T.T. Norton, new June, complete with lamps, horn, and tools; 105 gns. — Hargrave, Jun., Wath, Ripon. [X7480

NORTON 1920 Big Four Sporting Model Special Combination; trial or examination.—Parker's Bradshawgate, Bolton. [X7280

NORTON Big Four, Oct., 1919, Lucas lamps, horn, etc., excellent condition; £120.—Coverdale, Caius College, Cambridge. [7279

1916 Norton Big 4, Sturmey-Archer 3-speed countershaft, kick start, all accessories; £85.—18, Holbrook Av., Rugby. [7271

4 h.p. Norton, 3 speeds, kick start, new tyres, speedometer, electric lights, sporting sidecar; £95.—84, Greenside Rd., Croydon. [8135

1920 Norton Big Four Combination, mileage under 100, splendid outfit; £190, or offers; Midlands.—Box 288, c/o *The Motor Cycle*. [X7404

1916 T.T. Norton, Philipson, lamps, horn, splendid 'bus, makes big twins look like two-strokes; £89.—32, High St., Reigate. [7903

1920 Norton Big Four, Gloria sidecar, Easting, P. and H. lamps, Klaxon, 500 miles, perfect, as new; offers.—2, London Rd., Faversham. [7110

1919 T.T. Norton, Philipson, recently overhauled by makers, complete with accessories and spares; £90.—113, Grove Lane, Handsworth, Birmingham. (D) [7735

1919 B.R.S. Norton, speedometer, lamps, horn, knee grips, drip feed, etc., B. and B. variable jet; £110.—H. W. Pomfret, Thornfield, Garstang Rd., Preston. [7539

NORTON 3½h.p., 1914, Philipson 1919, new belt, spare, lamps, etc., stored 2 years, overhauled, tuned to perfection; £50.—Wilson, 415, Seaside, Eastbourne. [7285

1920 Big Four Norton, T.T. bars, knee grips, footrests, Lucas lamps and horn, low mileage, condition perfect; 135 gns. Lancashire district.—Box 188, c/o *The Motor Cycle*. [X6035

1916 3½h.p. T.T. Norton, Philipson pulley, just thoroughly overhauled, perfect condition, very fast machine, specially tuned, lamps, horn, etc.; £100, no offers.—Riach, Charlcombe Grange, Bath. [7587

NORTON Big Four 1919 Combination De Luxe, Easting wind screen, speedometer, dynamo lighting, Lucas horn, College mudshields; £195; selling as bought car.—On view, Victor Horsman, 7, Mount Pleasant, Liverpool. [X7343

1919 (late Oct.) 3½h.p. T.T. Norton, 3-speed countershaft, hand controlled clutch, complete with Henderson sporting sidecar, lamps, horn, etc., tyres and appearance equal to new, mileage 780; any trial; £137/10.—H. Fridlington, Kexby, York. [7290

NORTON 1920 3½h.p. I.O.M., 3-speed Sturmey-Archer, racing gears, all-chain, actual machine that finished 8th in 1920 T.T., perfect tune and condition, exceptionally fast, ideal sporting mount; best offer.—Smith, Oakfield, Ashton-on-Mersey, Cheshire [7398

1916 Big 4 Norton De Luxe Combination, splendid condition, chain-cum-belt drive, small mileage, been stored 3 years, complete with all lamps, Stewart speedometer and horn, wind screen, spare tube, and other accessories; best offer over £120 secures; owner buying car.—Davies, Eccleshall, Staffs. [7075

N.S.U.

N.S.U. 3½h.p., complete, fully equipped, £27.—42, Princes Rd., Holland Park, W. [7959

N.S.U., 2¾h.p. engine, plates, silencer, handle-bars, rear hub, speedometer, and cable, C.A.V., magnets and base new, S.A. hub, gear clutch parts, rear lamp, Smith speedometer instrument; the lot £7.—27, Flaxton Rd., Plumstead, S.E.18. [7832

N.U.T.

3½h.p. N.U.T., electric; immediate delivery.—Rootes, Ltd., Maidstone. [7994

N.U.T. Motor Cycles from Stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214). [4009

1920 N.U.T., electric lighting; immediate delivery; £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [7485

N.U.T. J.A.P. 3½h.p. Twin T.T., 1914, lamps, fast; what offers, or exchange higher power.—29, Selkirk Rd., Tooting, S.W.17. [7840

N.U.T. 1920 3½h.p. Twin, delivery from stock at list price; £165.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

N.U.T.—We are sole wholesale and retail agents for Staffordshire, and can supply these famous machines for early delivery.—Walsall Garage, Walsall. Tel.: 444. [5766

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery. Write or 'phone for particulars.—Tel.: Yeovil 114. [6023

SHROPSHIRE.—N.U.T. sole agents for the county; demonstration model in stock. Orders booked in strict rotation for early deliveries.—James Garages, Church Stretton. [7693

THE MOTOR CYCLE

Insurance Policy

This space will be occupied week by week with copies of actual letters received from Policy holders who have had occasion to make claims. Full names and addresses will be supplied to any bona-fide enquirers.

Gentlemen,

I beg to acknowledge receipt of your favour of the 10th inst., and to express to you my sincere thanks for the very prompt and satisfactory settlement effected by you of the claim against me in respect of recent accident. I shall have much pleasure in recommending your Company to my motor-cycling friends.

Regretting that you should have had to meet a claim on a Policy so recently issued, and again thanking you for your attention,

Yours faithfully,

The only SAFE TEST of insurance is

CLAIMS.

The AUTOCAR FIRE and ACCIDENT INSURANCE COMPANY, LIMITED,

Incorporating The Autocar Insurance Department, Established 1904.

Head Office:

20, TUDOR St., LONDON, E.C.4.

Branches: BIRMINGHAM—Guildhall Buildings, Navigation St. MANCHESTER—199, Deansgate. LEEDS—Calvert's Chambers, 8, Commercial St. NEWCASTLE—Atlas Chambers, Westgate Rd. CARDIFF—15, High St. GLASGOW—137, West Regent St.

MOTOR CYCLES FOR SALE.

N.U.T.

N.U.T. 5-6h.p. J.A.P., S.A., 3-speed, clutch, lamp speedometer, complete; £85.—Bickell and Sc Garage and Motor Engineers, 247-251, Archway R Highgate, N.6. 'Phone: Hornsey 1090. [0:

1920 (mid-June) N.U.T., Lucas dynamo lighti extra electric horn, absolutely spotless, as n an opportunity to obtain one of these magnific machines below list price without waiting; £16: R., 53, Eastern Rd., Romford. [8

O.K.

O.K. Union 2¾h.p.; 48 gns.—Mitchell's Gara Carshalton. [8

NEW O.K. Unions, 48 gns., from stock.—Lambe Thetford. [7

O.K. Union, immediate deliveries.—Popplewe Woodbridge Rd., Ipswich. [5

1920 O.K. Unions, 2¾h.p., immediate delivery f stock; £50/8.—Kemp's Garage, Louth. [X7

O.K. Union Models in stock at makers' price; £5 —Eagles and Co., 275, High St., Acton, W.3 [X7

O.K.-UNION 1920 2-stroke; list price; immedi delivery.—Morriss, 139, Finchley Rd., N.W.3 [7

O.K. Union, 1920, 2-stroke, under 50 miles, peri £47/10.—10, Grena Gardens, Richmond, Su [7

O.K., 1916, 2-speed, lamps, horn, pump, as n £46, or offer.—Carter, 5, Bloomfield Rd., Br ley, Kent. [8

1920 O.K. Junior, Villiers engine in stock; gns.—'Phone: 1024.—Julian, 84, Broad Reading. [5

O.K. Villiers, new, 2-stroke, fine value; £50/ Dudley-Davis Motor Exchange, 103a, High Wandsworth. [6

O.K. Union, instant deliveries from stock; 48 —Hewin's Garages, Ltd., the Real Service F Taunton and Totnes. [7

O.K. Junior, the 48 gn. marvel.—Early delive from the Birmingham agents, Frank Whitwo Ltd., 139, New St., Birmingham. [X7

1915 O.K. 2½h.p., 2-speed countershaft, lamps, h nearly new Dunlops, just overhauled, in condition; £37.—14, Kildoran Rd., Brixton, S.W. [7

O.K. Juniors from Stock; 48 gns.—A. J. Young Co., Ltd., Heath Garage, Newmarket ('Ph 214), and 75, Albany St., Regent's Park, N.W.1 ('Ph Museum 5476). [0

O.K. Junior, 48 gns., actually in stock; demonstration with pleasure; don't pay ridiculous pri buy the lightweight with a reputation behind Meeten Motors, Dorking. [

ALLEN-BENNETT Motor Co.—O.K Villiers, si speed, 2-stroke; £50/8; cash, exchange, ot tended payments.—9-10-11, Royal Parade, Lo Rd., West Croydon. 'Phone: Croydon 2450. [0

ALLEN-BENNETT Motor Co.—O.K. Villiers 2¾ 2-speed, best value on the market; £65; exchange, or extended payments.—9-10-11, Royal ade, London Rd., West Croydon. 'Phone: Cro 2450. [0

ALLEN-BENNETT Motor Co.—1916 O.K., Vi 2-speed, exceptionally fine condition; £48; exchange, or extended payments.—9-10-11, Royal ade, London Rd., West Croydon. 'Phone: Cro 2450. [0

Omega

NEW Omega-Jap's, 71 gns., from stock.—Lam Thetford.

1920 Omega 2-speed Model; list price Bridge St., Cambridge.

OMEGA 2¾h.p. Model C, from stock; 79 gns.— ton, Garage, Ellesmere.

OMEGA, J.A.P. 2¾h.p., 2-speed; £76.—H Garages, Ltd., the Real Service Firm, Tau

2¾h.p. Omega-Jap, 2-speed, ridden under 500 lamps, etc.; £68.—Brooks, 23, Malpas Rd., port, Mon.

OMEGA-J.A.P., 2-speed and model de luxe; and 79 gns. respectively; early deliveries.— and Son, 29, Station St., Lewes.

1920 Omega-Jap 2¾h.p., 2-speed, complete, f cessories and lamps, new condition.—Bra and Day, Nelson Works, King St., Longton, St

1920 2¾h.p. Omega-Jap, brand new, 2 speeds, starter and clutch, disc wheels, very smart, ing; in stock at list price £86/10.—Walbro Moto Works, Saffron Walden, Essex. 'Phone: 45. [

P. and M.

P. and M. Combination, 1913, as new, very fast —41, Ashford Rd., Cricklewood.

P. and M., 1918, perfect condition, original e £68.—Andrew, 2, Madrid Rd., Barnes.

P. and M., late model, in splendid condition; The County Garage, Gerrards Cross, Bucks.

BRIGHTON, Hove and district P. and M. a Turpin's, 22 and 29, Preston Rd., Brig

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

Advertising and Publishing Offices: 20, Tudor St., London, E.C.4. *Editorial Offices:* Hertford St., Coventry.
Telegrams: "Cyclist, Fleet, London" *Telephone:* 2818 City 9 lines. *Telegrams:* "Motocycle, Coventry," *Telephone:* 10 Coventry (5 lines).
Northern Offices: 199, Deansgate, Manchester. *Midland Branch Offices:* Guildhall Bldgs., Navigation St., B'ham.
Telegrams: "Iliffe, Manchester." *Telephone:* 8970 and 8971 City. *Telegrams:* "Autopress, Birmingham." *Telephone:* 2273 Midland.
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COLONIAL AND FOREIGN AGENTS
UNITED STATES—The International News Agency, New York. CANADA—Toronto News Co., Ltd., Toronto; Montreal News Co., Ltd., Montreal; Winnipeg News Co., Winnipeg; British Columbia News Co., Vancouver; Gordon & Gotch, Ltd., 132, Bay Street, Toronto.
AUSTRALIA—Gordon & Gotch, Ltd., Melbourne (Victoria), Sydney (N.S.W.), Brisbane (Queensland), Adelaide (S.A.), Perth (W.A.), and Launceston (Tasmania).
NEW ZEALAND—Gordon & Gotch, Ltd., Wellington, Auckland, Christchurch, and Dunedin. INDIA—A. H. Wheeler & Co., Bombay, Allahabad, and Calcutta.
SOUTH AFRICA—Central News Agency, Ltd. PARIS—Smith's English Library, 248 Rue Rivoli.

The International Six Days Trial.

THE general lack of support of the International Six Days Trial just completed is a matter for regret. The apathy of the French trade is partly responsible, and no doubt the unfortunate ending of the Paris-Nice event has had some influence upon the withholding of British support. As secretary of the Federation of International Motor Cycle Clubs, the Secretary of the A.C.U. might have done more to exploit the Trial had not the Tourist Trophy Race taken precedence.

When we regret the lack of support on the part of British manufacturers, it is not only the national aspect we have in mind. After all, the A.C.U. Six Days Trial and the Tourist Trophy Race are international events, and they receive very little support from makers outside this country. Our chief concern is that manufacturers have neglected to avail themselves of an opportunity to test their products under conditions impossible to obtain in any other event convenient to our shores, and very few British designers have the slightest conception of the nature of the country in which the Trial has been held. British motor cycles are not intended for British motor cyclists only; they are needed by overseas riders, some of whom live thousands of feet above sea level in hot countries.

The F.I.C.M. has an important duty to perform. It has to encourage international competitions. Friendly contests between the nations are most desirable, and, if properly run, encourage good feeling and a friendly rivalry which cement the good friendship of the past.

It seems desirable that the Manufacturers' Union should meet the Auto-Cycle Union and discuss the matter of these international trials, as the trade seems to have a very hazy idea as to which to support.

The Anglo-Dutch Trial of this week is an excellent example of the successful international contest, in which connection it is of interest to British manufacturers to know that the majority of the Dutch competitors will be mounted on American machines. The performances of the machines of two great exporting nations no doubt will be carefully watched by the motor cyclists of a country which imports most of its motor cycles. This is an aspect affecting all manufacturers who have designs upon Continental and overseas markets.

Sunday Competitions Again.

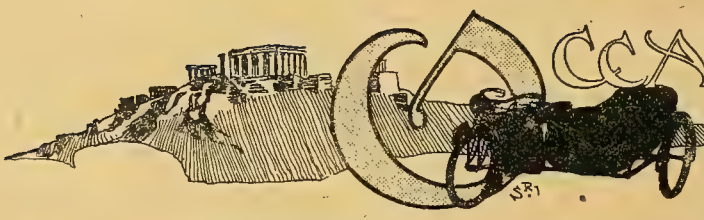
IT has been freely stated by some that the time for reliability trials is past, and that, following the history of cars, motor cycle trials will become gradually fewer in number until they cease to exist, except as sporting club events. On the other hand, trials are actually multiplying in number to such an extent that, not only is every Saturday replete with fixtures, but there is an overflow to Sundays.

The attitude of this journal towards Sunday trials is too well known to need any further explanation, but it is perhaps as well to remind organising secretaries that, though social runs in comparatively small bodies are popular with club members, and do nothing but good if reasonably conducted, the passage of large numbers of motor cyclists, especially through quiet villages, is apt to disturb the peace of the inhabitants, and thus becomes a cause of ill-feeling towards motor cyclists in general.

Numbered machines and riders merely aggravate the case, since they advertise the fact that a certain number of persons propose to enjoy their day's sport regardless of the feelings and susceptibilities of the general public.

We would especially remind motor cyclists, whether competitors or otherwise, of the necessity of riding quietly through villages during Church hours, or at such times as the community are on their way to church, for it is largely due to inconsiderate driving at such times that a certain amount of prejudice still exists in many parts of the country.

An index to the advertisements in this issue will be found on the page facing the back cover.



OCCASIONAL COMMENTS

BY "IXION"

Rustproof Dopes.

MR. BROOKER kindly replies that his anti-rust dope (boiled linseed oil diluted with petrol) is practically irremovable; neither petrol nor benzole will shift it. On the other hand, it is all but invisible. I have also received a sample bottle of stuff bearing the ominous name "Corrosine," which appears to be something of a misnomer; for when I doped a small bolt, specially selected because its coat of nickel was about the poorest I have ever struck, and left the bolt out on the lawn all night, it turned up merry and bright next morning; formerly this plating turned bright orange if I rode through a sea fret. [*Note.*—"Corrosine" is good stuff; made by Thomas Howes, Ltd., Union Works, Smethwick].

About Weight.

I HAVE never met "Kuklos" in the flesh, but I have read him long enough to know that he is no longer a boy, and that he enjoys a push-bicycle as well as a motor cycle. In some recent notes in the *Daily News* he talks about weight. He grew aweary of balancing a couple of hundredweights whilst wheeling it about, and promised himself something lighter for 1920. Procuring catalogues, he found a discreet absence of any notes about weight in the various specifications, with two exceptions, viz., the O.K.-Union (145 lb.) and the Rudge Multi (roadster 214 lb., T.T. model 188 lb.). In denouncing the immense weight of the average modern solo machine, "Kuklos" speaks for a very large public, whose custom the trade will be scheming to obtain as soon as supply has overtaken demand. I am in the mood to endorse his remarks, seeing that recently, in the endeavour to extricate my touring machine from a loose box which it shared with three push-bicycles, I nosedived over the saddle and marked my proboscis severely on the knob of the gear lever, just as the motor and myself crushed the three push-bicycles into a heap of spillikins. It follows that I perused with cold hauteur a letter to hand next morning imploring me to press for a British four-cylinder with shaft drive, four-speed gear, dynamo lighting, and electric starting.

An Unreported Race.

FROM time to time quite illegal and interesting races are organised by local riders, generally as the result of a bet. The hair of the B.M.C.R.C. would doubtless stand on end at the idea of starting a Sunbeam, a Scott, and two ex-W.D. Douglases level *sans* handicap; and the A.C.U. would certainly take punitive measures if it had official cognisance of such an event on the public roads. Nevertheless, such things occur. The prime necessities are to find a safe, straight, piece of road—since the quartet must be started abreast, seeing that Mr. Ebblewhite cannot be engaged for such jobs; and to divert all the local constables by Sinn Fein tactics. Field glasses will show when the road is clear, and if the oddly-assorted machines are all elderly and in private ownership a good finish is quite likely to result. It is a great pity we cannot rig up such events on Brooklands, but the clever man, the shamateur, and the camouflaged trader would ruin them.

On Single Gears.

MODESTY and pathos are equally blended in a letter to hand from an officer who has splashed part of his gratuity on a 1911 Triumph. It is geared 4.2/3.1, carries two heavy suitcases and an A1 fighting man, and will not climb steep hills. Is he a bad driver, or is he asking his mount to do too much? That is the query. Obviously, he is expecting a great deal too much. It is perfectly true that in 1911 or thereabouts experts like Frank Hulbert and the late Ivan Hart-Davies scrambled up all the more famous test hills on sister machines. But their mounts were stripped, and the adjustable pulley was generally screwed pretty well down. In the Six Days Trials of that era most of us ascended various steep hills in heavy marching order; but the routes were carefully planned to dodge anything approaching a freak hill, and our invariable procedure was to take a long cooler at the foot, screw out the pulleys, fit small section belts, change the oil in the crank case, etc., etc. On the top of these precautions some of us failed, and others improved their calf measurement considerably. It is perhaps worth adding that about the year 1911 the trade went rather too far in the direction of high compression ratios, and that a washer under the cylinder of engines of that date sometimes has a marked effect.

A Suggestion for the Six Days.

ONE of my correspondents considers that the A.C.U. hardly proposes to make sufficient use of Brooklands in the Six Days Trial, and suggests that every machine should do five laps for speed marks, and immediately afterwards do a slow climb up the test hill, any conks to disqualify it from receiving any marks in the double test. This sounds suspiciously like our old friend the "C.D.T." in another form. In fact, it is hardly as good as Secretary Loughborough's original notion, which compelled the riders to do both a slow and a fast climb, so that they could not fit abnormal gears. The suggestion is also open to the old objection that it puts too high a premium on skilled driving. On the other hand, the competitions committee might consider part of the idea, to wit, the "conk test." If the machines immediately after the speed test already arranged were sent up the test hill under a speed limit which was just not low enough to call for acrobatic balancing, the climb might show up those engines which distort. I take it this was one of the ideas behind the "C.D.T." in 1919, and it further tested acceleration, which the tests here outlined would not do.

The "Colmore" Trial.

MR. PASKELL'S ferocious suggestions for an ideal reliability trial will arouse keen interest. There is not the least doubt that, in principle, his notion is superior to current events, which depend for their severity on freak hills and freak surfaces, testing the rider more than is strictly fair to the machine. On the other hand, there are obvious flaws in his rough draft. A twenty minutes' margin without penalty in every hour is absurd, unless tyre repairs were in his mind, and these irrelevant stoppages would be better dealt with in another way, *e.g.*, shortening the course to permit of continuous observation, or limiting the entry to sidecar machines. Again, the imposition of an absolute engine non-top needs careful managing. On the one hand, it demands a perfect lubrication system and a well-screened carburetter. But a fouled plug or a bit of dust in the jet is more pardonable matter than a loose mudguard; yet, under the draft, it would apparently entail a heavier penalty. Amateur owners will welcome the trial if it substitutes a really thorough test of the machine for the more usual combination of a medium test for the machine with a searching test of riding skill.

TOURING IN LANCASHIRE.

Even the manufacturing districts of the cotton county have their beauty spots. This is a scene on Rivington Pike, only six miles out of Bolton.

One-gallon Cans.

I DON'T want to ride a subject to death, but the "won't split a can" policy is becoming so common that it is a real nuisance to motor cyclists. I have alluded to it before, and I have no reason to suppose that any association of traders or any petrol distributers have come to an agreement about it. It is easily justified from a vendor's standpoint. The profit on selling a little petrol is not enormous in any case. When the vendor has to detail a boy, spend some time in measuring out the fuel, and, finally, lose money by reason of short measure in the can, he naturally objects to splitting a can; very few of his motor cycling customers have other and more profitable transactions with him. From our point of view, the policy of refusing to split cans is an abominable nuisance. It can only be met in four ways, namely:

(1.) By standardising 2½ gallon tanks.

(2.) By carrying a spare can on the carrier.

(3.) By the petrol companies marketing one-gallon cans in the interests of motor cyclists.

(4.) Bulk fuel storage by garages, with pavement standpipes.

We are quite numerous enough to make our power felt if this nuisance increases. If we show that we will stand no nonsense, the policy will probably die a natural death. Of the four counter measures tabulated above, the big tank or the one-gallon can are both quite feasible. For the moment it is only necessary that the A.C.U. should convince the powers that be that we are not going to be trifled with. Then we can wait and see how matters shape. The secret of the whole business is that, however carefully the petrol companies can their petrol, losses occur by leakage and evaporation.

To quote an extreme instance: My garage now contains a can purchased twelve months ago. It is still sealed, but it doesn't contain much over one gallon, presumably due to evaporation past a perished washer. I do not pretend that the average retailer keeps a can twelve months in stock; it is only by sheer carelessness that I have done so. But a leakage of only a pint per can is serious when it extends to hundreds or thousands of cans per annum.

MOTOR CYCLE CAMPING WITH A LIGHTWEIGHT.

Touring with the Minimum Expense in Accommodation and Travel.

WHEN you have an urgent appointment and 'bus after 'bus comes by with the notice "Full up!" it is annoying, to say the least of it. And when every morning you eagerly open your letters to find the scrawl of various landladies at your old holiday haunts saying "I'm very sorry, but we're full up till October," you begin to get desperate.

Yet the man who has crossed the "donkey's bridge" of cleaning his own engine may be as independent of landladies as he is of railwaymen, as the following will show.

My wife and I intended to have a walking tour in the Lake District, but, as the weather seemed to have broken, we changed our minds at the last minute, and determined to try a motor cycle camping tour down the East Coast. The little machine is a 2¾ h.p. New Imperial Jap, and, to the "general public" it would seem quite impossible to get house and home, bed and bedding, stove and china pantry, to say nothing of change of clothes and priceless sundries, all aboard such a lightweight, still leaving room for the comrade on the carrier. However, it can be done, as the illustration shows.

The Problem of Luggage Accommodation.

With a full load up, we had a stiff proposition in crossing the Pennines, but, starting from Penrith and taking the Appleby-Brough route, we climbed beautifully, chanting praise to the north-westerly wind that urged us onward. Once on the rugged heights of the moorland the world lay at our feet, and the rest was child's play.

Running through Barnard Castle and Darlington, we struck the sea at Redcar, touring south through Saltburn, Sandsend, Whitby, Robin Hood's Bay, Scarborough, Filey, Flamborough, and Bridlington. We stayed where we liked, and as long as we liked—fancy free!

The camping places were quite varied. Sometimes they were on the far stretching moors, by some little stream that ran through the peat and heather; sometimes on some perilous ledge of a cliff with just room enough for pegging out, and the waves breaking on the rocks below. After being forbidden to pitch within sight of the sea these war years, we were a little desperate and took risks. Near Runswick Bay, we pitched on just such a ledge though half a gale was blowing from the north-east. It increased to a gale by 10.30 p.m., catching the little tent and shaking it like a terrier does a rat. It seemed probable that there might be a limit to the staying powers of the light-bamboo poles, delicately shaped to fit into a walking stick! Well—there was! But we had fairly asked for it. The people at Runswick Bay Hotel had not gone to bed, so our luck still held. Next day, at Whitby, we discovered an umbrella maker, master of his craft and with quite a pre-war pleasure in his work, and he quickly mended the broken limb.

That was our only misfortune, and quite worth the fun of it. The machine never required more than a little finger during the whole tour. It *did* require that, for the spring holding the contact-breaker rocker must have got a bit of sand underneath, for it worked off and consequently caused misfiring.

One night we camped in a depression in the moor that completely screened us from the road. After packing, I started the engine and commenced to ride up the rabbit track that led out of it, when suddenly, over a gorse bush, I saw the most astonished tourist's face I have ever seen. Whether the man thought I came out of the earth or had ridden cross-country over the moors from Scarborough, I could not say!

The greater part of our time was spent at a camp above a stony beach, where the white cliffs that ran out to Flamborough Head start up from Filey Bay. We were disappointed to find we had just missed the famous egg-collecting along Bempton cliffs, the season having closed the previous day. Thousands upon thousands of the guillemots were perched on the chalky ledges, with here and there the brilliant red beak and feet of the sea parrot.

Open Scenes on Moor and Coast.

The homeward journey was made inland to the main York and Darlington road, *via* Sherburn, Pickering, and Helmsley. The road from Helmsley through Ampleforth to avoid Sutton Bank was simply appalling—deep ruts filled with water and the rest slime.

Practical readers will want some idea of the weight which it is necessary to carry for a trip of this kind. Much, of course, depends upon character, and the rest on sense. The man who cannot travel without a trouser-stretcher had better give it up. The only

Motor Cycle Camping with a Lightweight.—

way is to get all you think you will need on the table and start weighing it with the kitchen scales seriatim. When brought down to the irreducible minimum, sleep on it, and next day go through the same process with what is left. After the trip, you will find that a third of the things have never been used, and the one thing essential to comfort was left at home. It is the same story as to what spares to carry for the machine. We have all been through that! The following weights of my own outfit will be, at any rate, a guide, though I may as well confess that my first camp required two heavy boxes! Here, then, are my weights at present, which will seem ridiculously light to some and unnecessarily heavy to others:

Tent 2 lb.
Aluminium pegs 2 oz.
Rubber ground sheet 12 oz.
Ground blanket 1 lb.
Eiderdown sleeping bag 4 lb.
Baby Primus stove 1 lb. 8 oz. (a pocket Primus would be better).

Camping on the lonely moors of Yorkshire.

Paraffin for the Primus I carried in my auxiliary tank. The sleeping bag was rolled up in the ground sheet and carried in a hold-all on the handle-bars. The rest went into a brown canvas motor cycle pannier that fell on either side of the carrier As the weather was very cold and wet, we also slung on a knapsack. A white canvas shoulder satchel was useful for provisions. The poles were fitted within one another in the final form of a walking stick and strapped along the tank. A part of an old ground sheet served to cover the machine when camping in the open away from houses. If near a farm, they will supply milk, butter, and eggs, and find cover for the motor cycle. The concern for one's welfare is most amusing.

It is to Mr. T. H. Holding, who was the founder of the C.T.C., that I am indebted for the light equipment, in which he has specialised. He still carries on at 7, Maddox St., W. My only bond is that of gratitude for many a good holiday at home and abroad.

For lovers of the wild, this is an ideal way of spending a holiday. Many a glorious bay and moorland stream lies unknown to the company promoters. And to many with limited purse and sporting taste, there is the value of its cheapness. One pound will go as far as five in real pleasure and fresh and vivid memory.

To keep the sport on a decent footing, it is necessary to remember that the true camper will never leave a trace of his sojourn save the blackened ring of his camp fire.

F. CHENHALLS WILLIAMS.

THE PICNIC: NOT THE LEAST ENJOYABLE FEATURE OF THE WEEK-END RUN.

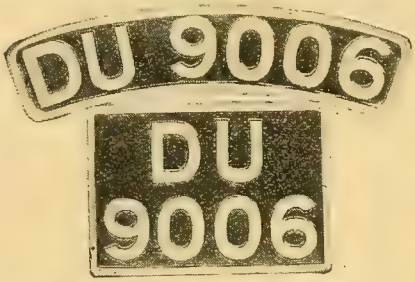
No family sidecar is complete without a picnic basket, which provides one of the greatest pleasures of summer time rides in the country.

NEW ACCESSORIES.

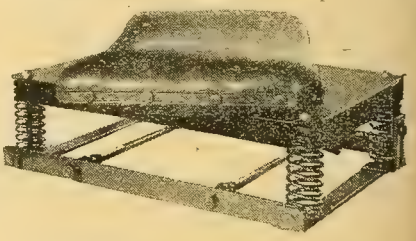
IT is well known that every purchaser of a motor cycle is a potential buyer of accessories; hence the number of new articles which are introduced every week. The selection illustrated this week is of quite a useful character; in fact, most fitments now introduced are of a more serious nature than those which were sold before the war. They are the outcome of experience on the part of riders who have found a need for something to meet their requirements and are usually produced for the market on the assumption that the need for an article experienced by one man has been experienced by others.

Very rare is it that a would-be manufacturer of accessories thinks out what he shall make in order to enter the market—rather is it a question of what he shall make first.

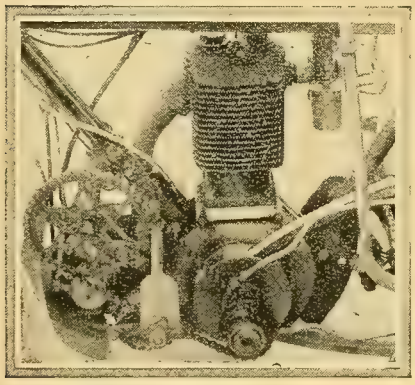
The Apax plug cleaner, made by the Aircraft Improvements Co., 10, Coleman Street, E.C.2. The device consists of an aluminium case which contains a number of fine steel wires, which clean the plug points when the case is shaken.



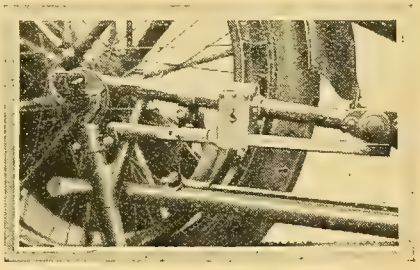
Cast aluminium number plates, a speciality of the Atlas Engineering Co., Hill St., Coventry.



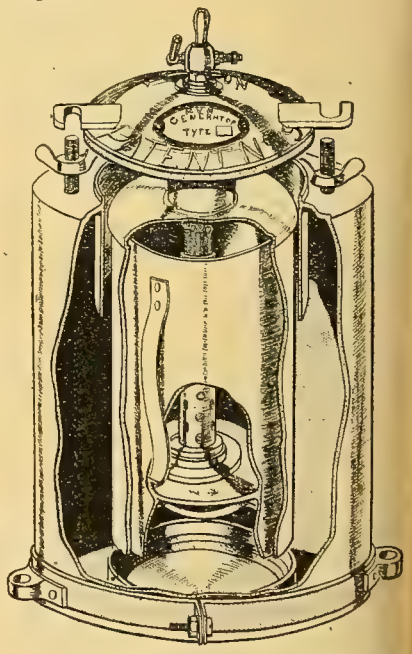
Briswing pillion seat, made by C. Bryant, Bridge Street, St. Ives, Huntingdonshire. The upholstered seat is mounted centrally, and may be moved round to any desired angle



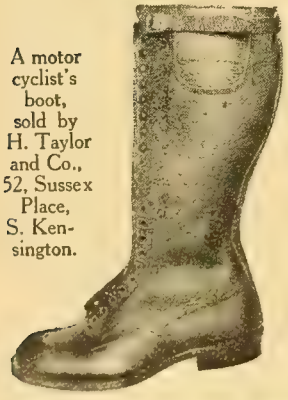
A starter for Zenith motor cycles manufactured by A. and E. Lower, Seven Sisters Road, S. Tottenham



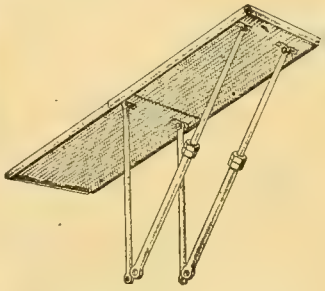
The "Leavesafe" motor cycle lock, made by H. Sinclair, 5, Crescnet Grove, Clapham, S.W.



A wick-feed generator manufactured by the A.V.A. Generator Co., 75, East Road, Stratford, E.15. The motor cycle size takes ½lb. of carbide, and provides five hours lighting with a ⅜ cubic feet head lamp and a ⅛ c.f. rear lamp The price is £2



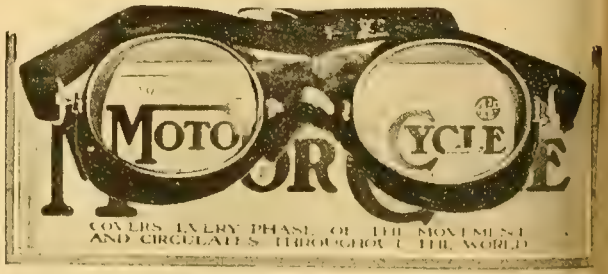
A motor cyclist's boot, sold by H. Taylor and Co., 52, Sussex Place, S. Kensington.



An extensible carrier, patented by Mr E Seed, 8, St. Osburg's Road Coventry.

Motor cyclists' "S.O.S.," marketed by the North End Garage, Full Street, Derby.

The Democrat spirit stove, with saucepan, burner, spirit, and holder. It can be packed away in a box 4½ × 4½ × 4in. It is made by Marris's, Ltd., Cumberland Street, Birmingham



For motor cyclists who wear glasses. Goggles fitted with lenses a speciality of F. Wilson, 28, Church Road, Upper Norwood, London, S.E.

IDEAS: Useful and Ingenious.

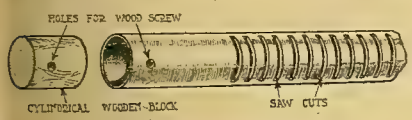
Removing Water from Petrol.

QUESTIONS asking advice on how to remove water from the tank are of recurring frequency; therefore the following method, which I invariably use, may be of service. Obtain a medical syringe of any description, and add sufficient rubber tubing to the business end of it to reach the bottom of the tank. Lift the front wheel slightly, thus allowing the water to collect where it can be seen from the filler cap hole. Place the rubber tube over the bead of water, and withdraw the plunger sufficiently to suck the water into the tube. A tank can be cleared in a few minutes with a minimum loss of petrol.—G.T.

Method of removing water from tank.

A Silencing Tip.

A TIP for silencing the engine is clearly shown in the drawing, and can, of course, be applied to almost any machine. It is very effective, and does not appear to cause back pressure.

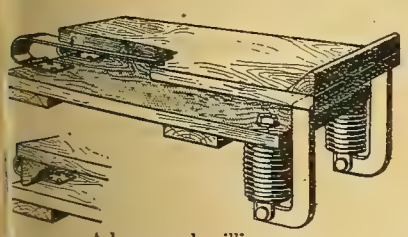


A simple silencing arrangement.

For competitions the plug can be removed in a few seconds, and absolute freedom of exit thus reinstated.—H.M.B.

An Inexpensive Pillion Seat.

TO those motor cyclists who desire to make a neat and comfortable pillion seat without going to any great expense, the design illustrated on this

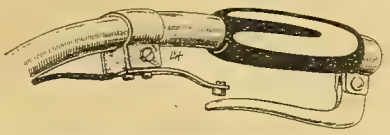


A home-made pillion seat.

age and costing well under ten shillings, ould be of interest. It consists of two eces of 1in. board hinged at the front ordinary gate hinges curved over, as own, and sprung at the back by two ddle springs carried on a simple acket. The lower board is, of course, ed rigidly to the carrier.—C.H.

A Magneto Cut-out.

AN easily-made magneto switch, which is actuated by the exhaust lifter lever, is shown in the accompanying illustration. Most exhaust controls have sufficient "play" to allow a certain

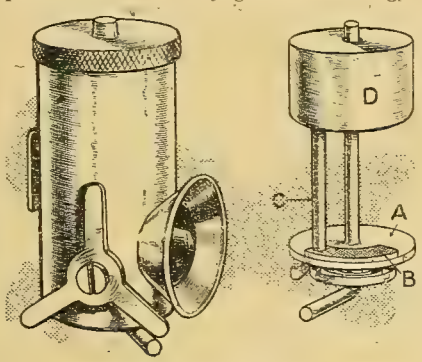


Combined valve lifter and magneto switch.

amount of movement of the lever before the valve is actually raised off its seat; this movement is utilised to "earth" the low-tension current by adjusting the metal strip close to the tip of the inverted lever.—E.G.

A "Mechanical" Rear Light.

A CORRESPONDENT has recently protected a rear lighting device which is a compromise between the ordinary lamp and the red reflector. It consists of a cylindrical metal body provided with a ruby glass, containing a



A mechanical tail lamp which emits a series of flashes in place of a light.

simple form of mechanism operated by the spokes of the rear wheel, whereby a series of sparks are made by friction between a partially rotable disc A on which is mounted a file B and a flint rod C, which is kept in contact with the file by reason of the weight D.

Rear Lamp Attachment.

THE law requires that the rear light of any motor vehicle shall be on the off side, with the result that in the case of motor cycles it is invariably fixed to the rear carrier or number plate. In this position it is subject to excessive vibration and jolting—unless the carrier is well sprung—which is the main cause of lamp failures.

Sidecar attachment for rear lamps.

In the case of sidecar outfits the sprung body of the sidecar would undoubtedly be the best position for fixing the lamp if one did not run the risk of the police taking exception; a reader, however, has overcome this difficulty by an arrangement which he has protected and which is illustrated herewith.

It will be seen that a neat bracket is mounted on the sidecar body and forms a clamp for a long rod to the end of which is fixed the tail lamp, allowing the latter to overhang the motor cycle carrier, thus complying with the law. When not in use the lamp can be pushed up close to the sidecar body.—B.E.

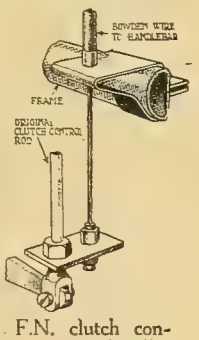
Fixing a Gudgeon Pin.

IT often happens when a cylinder is sent to be rebored and a new piston fitted that no provision is made in the latter for securing the gudgeon pin. This presents no difficulty in the case of an ordinary piston where copper buttons can be used, but in the case of a deeply waisted design the problem of retaining the gudgeon pin in position is more difficult. A method which has proved satisfactory is the use of a length of brass rod which fits the hollow gudgeon pin nicely and protrudes about ¾in. at each end. The ends are split with a fine saw and made soft, so that when the piston and gudgeon pin are assembled, the ends can be turned down as shown, thus preventing the gudgeon pin working out.—C.M.

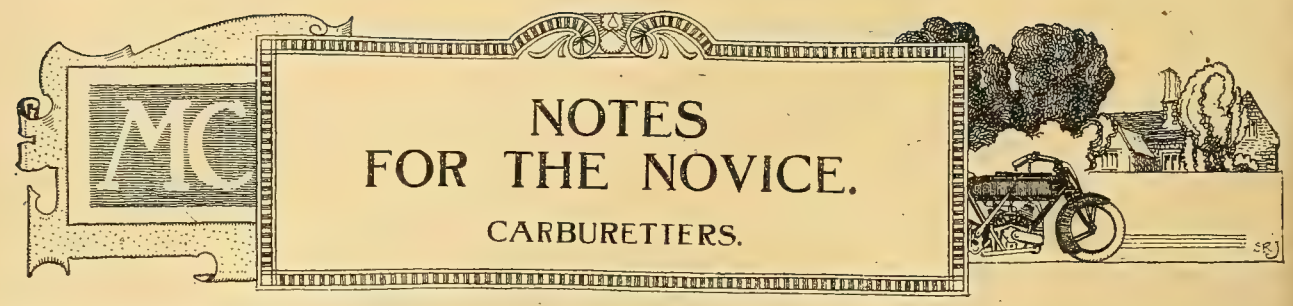
A simple method of fixing the gudgeon pin.

Handle-bar Controlled Clutch on F.N.

OWNERS of 2¼ h.p. two-speed F.N. motor cycles, who probably find the present position of the clutch lever does not allow of easy manipulation in traffic, will be interested in an easy method of making the clutch controllable from the handle-bar by ordinary Bowden mechanism, without interfering with the combined clutch and gear control in any way. As will be seen from the illustration, a suitable clip is fitted to the bottom frame member and supports the cable sheath, while the end of the cable is conveniently fixed to the bottom of the clutch operating rod.—R.C.W.



F.N. clutch converted to handle-bar control.



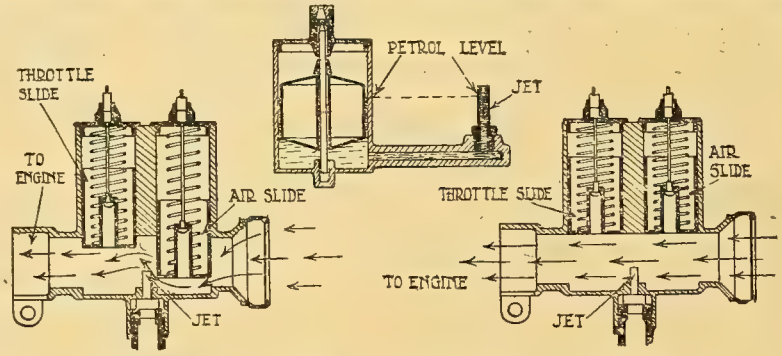
NOTES FOR THE NOVICE.

CARBURETTERS.

IT is almost impossible to exaggerate the importance of correct carburation; therefore, the vital part which the carburetter plays on a modern motor cycle can easily be realised. The carburetters at present in use are mainly of three kinds: automatic, semi-automatic, and hand-controlled.

The first-named has but one lever, and, by means of its internal construction, it aims at giving a perfect mixture at all speeds and throttle openings—that is to say, the single lever controls both the supply of gas to the engine and the supply of air to the carburetter, so far as may be, at the same time. There are, however, many difficulties to be overcome in attaining this object, and some of these will be touched upon later.

The semi-automatic carburetter has two levers, but for general use only one of them is required after a start has been made. The air lever is closed, or nearly closed, for starting purposes when the engine is cold; it is then fully opened, and so left for all ordinary speeds. In some carburetters it is desirable to close the air lever slightly when the throttle is opened wide for hill-climbing purposes, and also for town riding and bad corners. This is because the throttle barrel also controls the admission of air to some extent, though not so completely as in the case of the automatic carburetter, and for the particular circumstances just mentioned the air is sometimes in excess of what is required. Very often in the semi-automatic type of carburetter the jet orifice is enlarged as the throttle opens. This is done by means of a taper needle, which is attached to the throttle barrel, and projects into the jet. Then, again, some jets are varied by means of a similar needle operated by a screw above or below them.



What happens in the carburetter. (Left) When the throttle is open and the air lever is closed a heavy suction is concentrated on the jet. (Right) The air slide open.

Sensitive Air Adjustments.

What I have termed the hand-controlled carburetter differs from the semi-automatic, in that it is much more sensitive to the position of the air lever. This cannot be fully opened for the greater part of the running, but must be constantly manipulated as the speed or throttle opening may require, and consequently much more skill and experience are needed to obtain satisfactory results from carburetters of this type, but when skilfully used they give excellent consumption—perhaps better than any other type—ample speed, and good pulling power for hill-climbing. It is, however, much easier to upset the mixture and so stop the engine at a critical moment when a sensitive carburetter is in use.

Semi-automatic Carburetters.

The latest Senspray carburetter has a device which can be set in three different positions to render the carburetter automatic, semi-automatic, or sensitive, the last named giving the best consumption, and the first being simplest to use. The two-lever Amac, B. and B., B.S.A., and Triumph carburetters are excellent examples of the semi-automatic type. The B. and B. Universal with adjustable jet is an example of the hand-controlled type, and gave very good results in skilled hands, so long as it was not allowed to flood, when it became most erratic. The Claudel-Hobson, single lever Amac, and several American carburetters may be mentioned as automatic carburetters, which leave but little to be desired, and the Eta is a design which seems to promise great things, for it is constructed on the principle of scientific calculation, but I have not yet had any personal experience of it. The R.C.F. is another carburetter controlled by one lever only. This has three jets, which when the throttle is closed are entirely outside the spraying chamber, but as the throttle opens they are in turn subjected to a rush of air, which draws petrol from them and carries it into the carburetter, and so to the engine. This carburetter is economical, and can be tuned to give high speed and power.

I do not for a moment suggest that the carburetters just mentioned by any means exhaust the list of efficient instruments of the various classes, for there are many more which could be added. I have, however, referred principally to those with which I am personally familiar, and these include the majority of the most popular instruments of to-day, as a glance over any large assembly of machines will show.

Notes for the Novice.—

The simplest form of carburetter is a jet placed in a pipe (the racing Binks is an example of this); but such a carburetter being designed expressly for racing will be satisfactory only at certain speeds, where only the highest possible revs. are desired, but not for general purposes. There is a touring model Binks for the latter service.

The Construction of a Carburetter.

Unfortunately the problem of making a satisfactory automatic carburetter is much more involved than this. It is necessary to construct an instrument which will in the first place give a perfect mixture at all throttle openings, and in the second place give a perfect mixture at all speeds. In addition to these desiderata, some adjustments for temperature which requires only occasional settings and for a change of fuel are necessary. It is possible that the same adjustment might be employed for both these purposes, though it is probably better to control for temperature and atmospheric conditions on the air as in the latest Everest or Claudel-Hobson, and for a change of fuel by means of a variable jet. If the adjustment necessitates taking the carburetter down and wasting the fuel it contains it is likely to be neglected. Adjustable jets are generally controlled by needles, and I strongly advise that the taper of the needle be not too blunt, in which case a small movement of the needle makes a considerable difference to the petrol orifice, and consequently the correct setting may be very easily lost and not so easily recovered. It should always be possible to go back to the original setting with exactness. The W.S.R. adjustable jet is a very useful fitment, but I should prefer a finer taper to the needle.

J.H.W.

Flat Twins and Sparking Plugs.

The Question of Over-oiling and Overheating. Some Peculiar Experiences.

I AM inclined to think that nearly all the trouble experienced with present-day flat twins has its root in faulty oiling systems. Years ago, with a water-cooled Scott, I experienced plug troubles identical to those that harass flat twin experimentalists to-day, and those troubles certainly were not due to overheating, since the plugs screwed into the water jacket. Nor were they due to excessive revs, for they occurred when progressing moderately on a 3 to 1 gear.

I am not overlooking the fact that it is the central electrode which overheats, and that therefore the temperature of the plug base does not play a very important part; nor am I forgetting that, even with my 3 to 1 gear, the plug points of the two-stroke were subjected to as much heat as they would be on a four-stroke geared 6 to 1; I am merely relying on the fact that we purposely used plugs the points of which were calculated to become incandescent, for only by this means could we ensure against the troubles accruing from an imperfect system of lubrication. What I mean is that the overheating does not matter much so long as the lubricating system be perfect.

Scott Experiences.

One or two experiences go to back that belief. What is it? In the first place, we had two recognised ways of abolishing for ever all suggestions of plug trouble with the Scott engine. The first was to cease oiling it—or rather to cut the oil supply down to the merest sniff, and use the best oil procurable. Owing to the roller big ends and the water cooling no damage ensued. Having reached a very satisfactory point of economy, we were able to use almost any type of plug that would fit the cylinder, whereas previously we were confined practically to one make of the platinum wire point variety, which burnt itself clean of oil.

Another way to remove one's plug troubles was to scrap the original Scott automatic oiling system, whereby the cylinder with the better compression got the lion's share of lubricant, and employ a double drip feed which gave both cylinders a like amount.

Yet one more experience that goes to support the theory set forth concerns a certain little hot-stuff car of world-wide reputation, though a certain shadow of doubt may exist as to its exact nationality. During a long night journey engine troubles developed, and were finally traced to the sparking plugs, whereupon we stopped at a garage for renewals. Here the only plugs we could obtain were the very cheapest productions of the States. They had long crooked wire points which projected well into the cylinder. However, we bought four at about a shilling each, equipped ourselves with adapters to suit, and sallied forth into the night.

Hey presto! Never before had the engine pulled as it pulled during the remaining six leagues home. There was positively no holding it, and the trip evolved itself into a glorious blind, so that we turned in feeling that we had made something by way of a discovery.

Next morning, however, the engine refused to start, and examination showed that the plug points had absolutely fused away, and were hanging in little globules, thus affording sparking gaps of about ¼in.

Lubrication and Compression Ratio.

By the foregoing I do not wish to infer that incandescent plug points are a feature to be encouraged. Overheating of the points is undesirable, but is not so common a cause of plug trouble as imperfect lubrication. Given a high compression high speed engine, plug troubles are to be expected, first because much more strain is thrown upon the plugs, secondly because they are exposed to greater heat, and thirdly because the heat and the high compression together are the ideal conditions for pre-ignition of the charge. If imperfect lubrication is added we apply an irritant to an already sore point, and the band begins to play. Moreover, if the lubricating system is bad we are compelled to use plugs that are apt to cause pre-ignition, for if cool running plugs are used one can never get anywhere owing to oiling up.

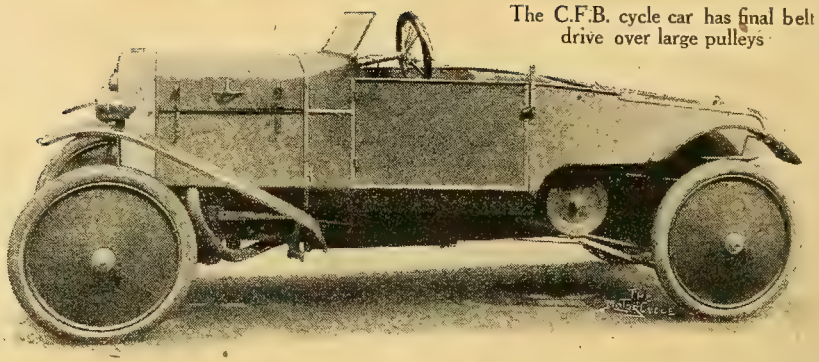
Therefore the first step to be taken in removing our plug troubles is to perfect our oiling system, and in this the flat twin presents difficulties. One is inclined to think that splash feed will never prove wholly satisfactory for this type of engine.

CHINOOK.

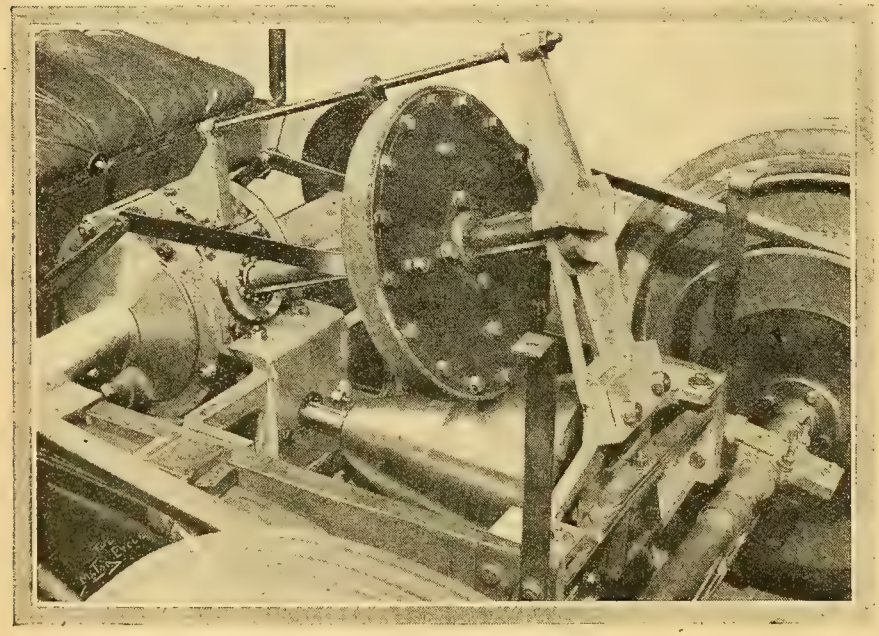
TWO NEW CYCLE CARS.

Friction Transmission and Air-cooled V Twin Engines favoured by Makers of Light Four-wheelers.

TWO new cycle cars have recently been introduced to the British market for those who desire the protection afforded by a car at a price approximating to that of a motor cycle and sidecar. The first of these has many novel features including a friction transmission which utilises a cone in place of the more usual disc. This is the C.F.B. cycle car manufactured by the C.F.B. Car Syndicate, Ltd., 51, Church Road, Upper Norwood, S.E.19.



The C.F.B. cycle car has final belt drive over large pulleys



Novel friction transmission system on the C.F.B. cycle car.

The friction unit is located at the rear of the chassis and is driven by a long propeller-shaft provided, at either extremity, with a Hardy pattern steel plate universal joint. The length of and the consequent whip in the shaft necessitates an additional bearing which is housed in the centre cross member. As may be seen from the illustration, the friction disc is mounted on a splined shaft rotating in ball bearings held, at the rear, in an aluminium bracket and, at the front, in the bevel box casting.

A very ingenious drive is incorporated in the box whereby an indefinite number of gear ratios can be obtained, both forward and reverse, controllable from a lever in a recess in the back cushion. A small constant mesh bevel pinion is fixed to the end of the splined shaft and engages with two crown wheels mounted on a countershaft to which 10in. diameter belt pulleys are attached. These crown wheels are free to rotate on the shaft until engaged by a central sliding dog which, meshing with a corresponding dog on one or the other crown wheel, provides forward and reverse speeds respectively. The gear change is effected from a centrally disposed gear lever, whilst the disc is raised from the cone by two cranked levers connected to the "clutch" pedal. Contact with the cone is enforced by a laminated spring laterally located at the rear of the chassis.

The engine fitted is an 8 h.p. Novelette—a French-made V twin specially designed for cycle car work. It may be remembered that this power unit has been previously described in *The Motor Cycle*. It is provided with two fans mounted in the front of the cylinders; it has a bore and stroke of 85 mm. and 95 mm. respectively.

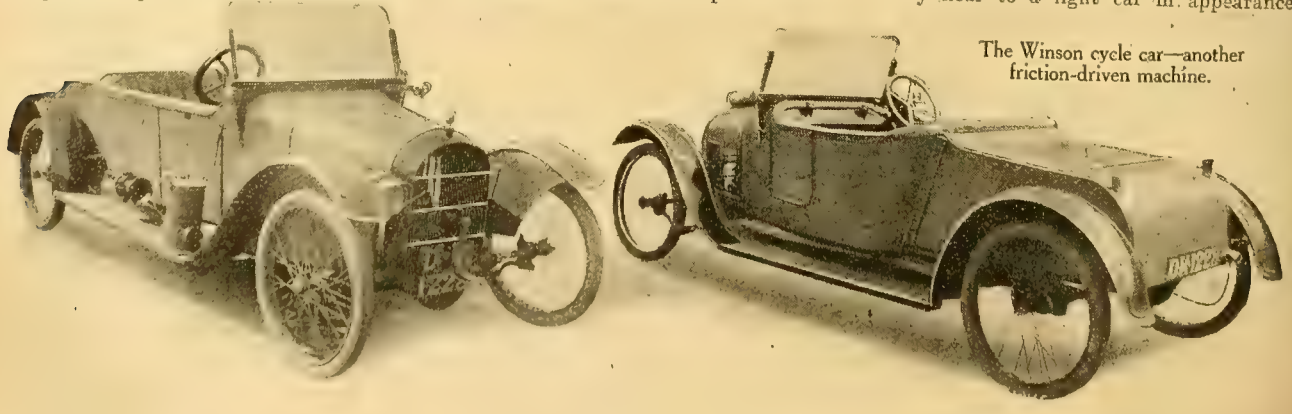
Adequate seating accommodation is provided for two persons, and the full cantilever front and rear springs provide an extremely comfortable vehicle.

The Winson Cycle Car.

The second vehicle illustrated is the production of J. Winn, of 86, Reform Street, Rochdale, who for some time has been known in connection with all-metal sidecars and motor bodywork generally.

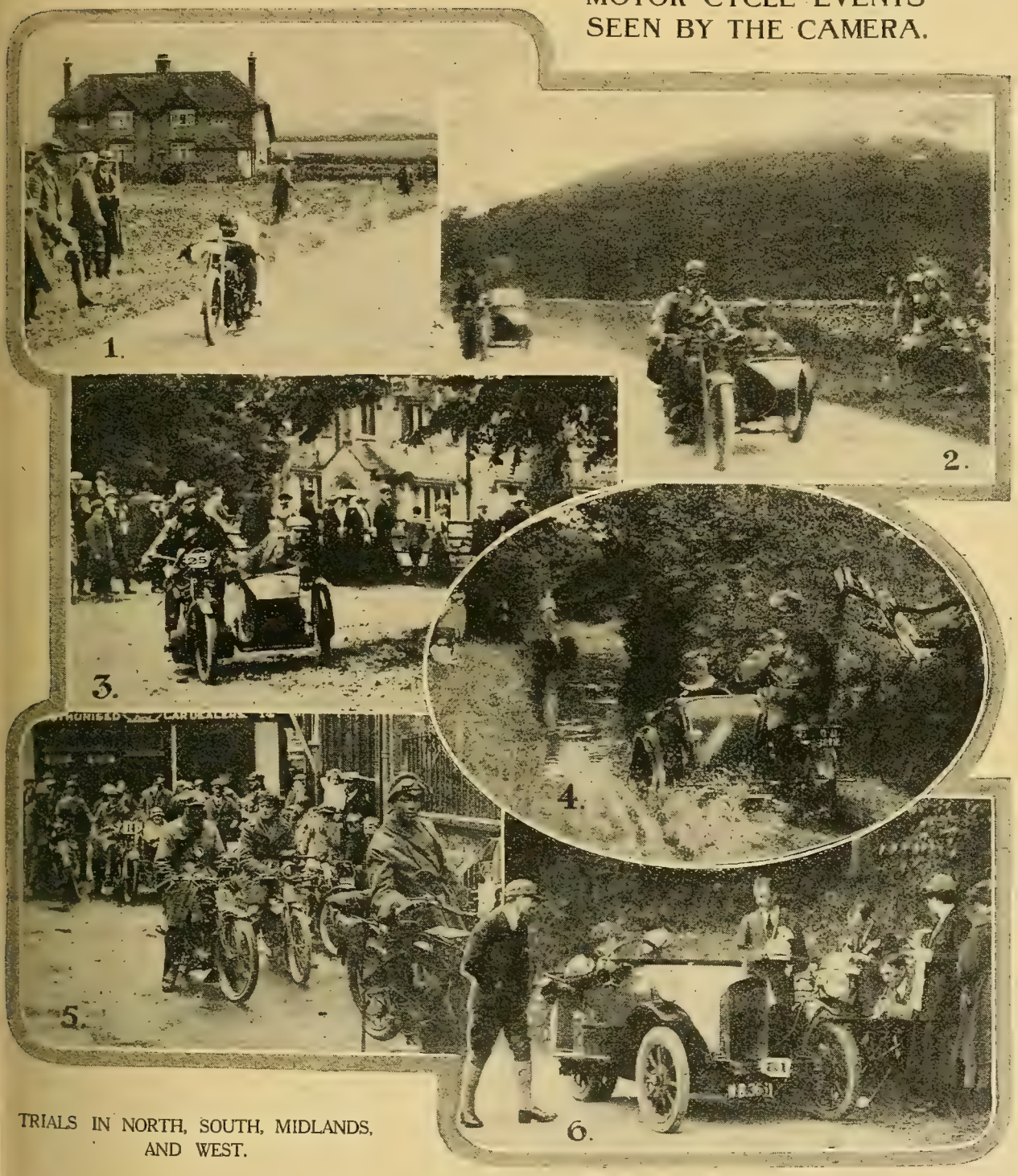
It has a more or less conventional specification, embodying an air-cooled Precision or Blackburne engine, friction transmission and final drive by silent chain to live back axle. The steering is by chain and cable, and the suspension by coil springs.

Having a wheelbase of 8ft. 6in. and a track of 3ft. 10in., the vehicle comes very near to a light car in appearance.



The Winson cycle car—another friction-driven machine.

MOTOR CYCLE EVENTS SEEN BY THE CAMERA.



TRIALS IN NORTH, SOUTH, MIDLANDS, AND WEST.

(1) A lightweight at speed. E. B. Ware (2¾ Matchless-Jap) crossing the starting line at Luton Hoo. (2) Two Harley-Davidson riders in the Sheffield and Hallamshire run to Holyhead and back. (3) C. Scowcroft (8 Enfield sc.) on a hairpin bend at Whitewell in the first North-western Centre (A.C.U.) inter-club trial. (4) Some watersplash! Fifty yards of deep water being traversed by a Triumph sidecar in a Coventry and Warwickshire M.C.C. event. (5) At Chepstow, where the Worcester M.C.C. met the competitors in the recent Birmingham M.C.C. lightweight trial. (6) Merrall Brown on his 10 h.p. three-wheeler checking in at Whitewell in the North-western (A.C.U.) inter-team trial.

AN UNTAPPED MARKET.

A plea for a popular-priced motor cycle of about 4 h.p. Views as to the best design to reduce costs to permit the production of a low-priced machine.

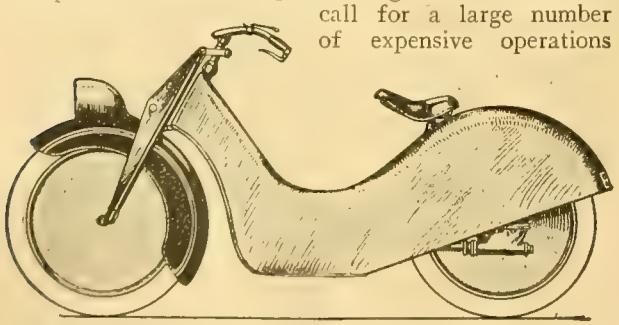
IN these days of soaring prices, it seems hopelessly out of place to even visualise a 4 h.p. motor cycle selling at such a figure as to be within the reach of that enormous section of the public which every week scans with longing eyes the "For Sale" columns of *The Motor Cycle*, and, after a careful search for a moderate priced mount, reluctantly gives up the idea of becoming an owner. There is an ever-increasing number of prospective motor cyclists who are unable to afford, say, £100 for a 3½ or 4 h.p. machine, and who, on the other hand, will not consider a more moderately priced scooter or small two-stroke as an alternative. The manufacturer who catered for this class would be assured of such an output as to make it a commercial proposition to undertake the necessary heavy outlay necessitated by organising for mass production.

The motor cycle is now quite recognised as a sound, reliable, and pleasant means of travel, and is becoming more popular every day among those who have the means to purchase machines. There is thus every excuse for adopting an optimistic outlook as to the future of the industry.

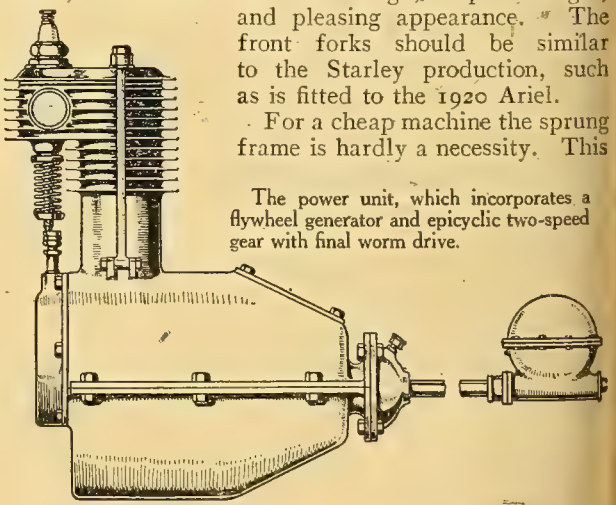
The figures given on this page are of considerable educational value to manufacturers, and the 1928 total is entirely governed by the attitude they adopt in the next two or three years. While admitting that the cost of raw materials is very high, the writer contends that cost of labour is the predominating feature in the prime cost of the motor cycle of to-day, and therefore a machine designed with a view to reducing the number of manufacturing operations and quantity of components could be sold at a figure far below that asked at the present time. It is the aim of this article to endeavour to describe a machine which would lend itself to the necessary curtailment of expenditure of labour.

Expensive Tubular Frames.

The modern diamond frame consists of a miscellaneous collection of expensive lugs and tubes which call for a large number of expensive operations before they can be built up into a complete frame, added to which bad workmanship or material in any one of these components may easily cause a failure of the whole structure. The major portion of the labour called for in a frame of tubular construction could be eliminated by the adoption of the pressed steel type, which also can be so designed as to form petrol and oil tanks, tool box, etc., thus further cutting down the cost of production. The makers of the Beardmore-Precision are to be congratulated upon their departure from the strictly conventional, and are undoubtedly progressing in the right direction. A pressed steel frame, following those produced by the Pullin and D.F.M. Co., which totally enclose the power unit and at the same time present a wonderfully clean exterior, is, in the opinion of the writer, the ideal frame. The initial cost of the dies necessary for producing this form of frame is admittedly high, but the demand for a popular-priced motor cycle of this type would more than justify the outlay. The modern wheels, which usually consist of a huge number of small parts, such as nipples, spokes, and washers, could be replaced by pressed steel wheels, such as the new Sankey disc wheel, which is of excellent design, ample strength, and pleasing appearance. The front forks should be similar to the Starley production, such as is fitted to the 1920 Ariel.



A totally unconventional design of pleasing appearance, which may be hosed down without ill-effects.

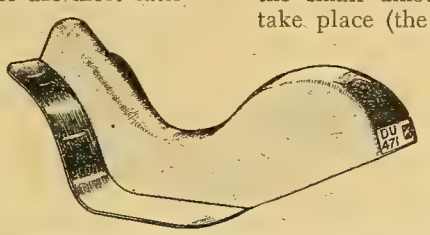


The power unit, which incorporates a flywheel generator and epicyclic two-speed gear with final worm drive.

For a cheap machine the sprung frame is hardly a necessity. This statement will no doubt raise a "hornet's nest" around the writer's head, but the fact remains that for years riders have been quite content to use rigid frames, and even to-day the majority of motor cyclists are bestriding the simpler type. Provided the tyres are on the large side, 28in. wheels are fitted, and the wheelbase is fairly long, the road shocks are not excessive. Without a doubt spring frames are delightful, but it is far better actually to own an unsprung 'bus one can afford than merely long for a more expensive and luxurious mount.

An Untapped Market.—

It is essential, for an engine which is to be inexpensive, that the design be as simple as possible and the number of parts minimised. It should be capable of retaining its pristine "tune" for long periods without attention, and should therefore not be of the ultra-efficient, small capacity type. An engine on the following lines would appear to be suitable for the machine in view: A fairly low compression unit of about 600 c.c., with detachable head and *really large* plain bearings throughout. The latter are most satisfactory *if the area is sufficient* (hence the italics). They also have the advantage of being much quieter than ball or roller bearings. The unit should include a flywheel generator (for ignition and lighting), and a two-speed epicyclic gear after the Ford pattern—the whole to be mounted across the frame in the same manner as the lightweight F.N. The cylinder barrel, top half of the crank case, flywheel, and gear casing should be cast integral, and the corresponding bottom half pressed from sheet steel.



Combined leg shields and footboards, ensuring cleanliness of the rider

Lubrication.

The oiling system of a plain bearing is most important, and to obtain the best results, true forced lubrication (as opposed to mechanical lubrication) should be used. This, however, entails considerable manufacturing expense, which, in the present instance, is undesirable; therefore, a system of modified splash lubrication on the following lines could advantageously be adopted. An ordinary meshed gear wheel pump, fitted in the sump and discharging into a trough of generous dimensions into which the big end scoop dipped, would give excellent results provided the various oilways were correctly cut and disposed. The walls of the cylinder could be adequately oiled by means of holes drilled in the walls of the piston, and a scraper ring might be fitted to the latter.

The Sankey disc wheel, which is dished, so that the hub and rim centre lines coincide

Transmission.

After many years of trouble with the accepted forms of drive, the writer is astonished that the claims of the shaft drive have not received more consideration. In the case of the suggested machine at present under discussion, the fact that the engine is set across the frame immediately fits it for this system. An inexpensive shock absorber, such as is fitted to many of our sidecar machines, could be fitted; this could also be made to act as a universal joint to compensate for the small amount of deviation in line which might take place (the frame being unsprung).

Controls, Accessories, and Finish.

Twist grip controls and single-lever carburetter, which relieve one of the necessity of continuous "tap twiddling" and of removing one's hands from the bars, should be incorporated, while the gears could be foot-controlled. Electric lamps and horn should be supplied from the flywheel generator, the lamps so constructed as to present a clean exterior with no dirt-accumulating propensities. The whole machine must be rustproof-treated, in the same efficient manner as the Lea-Francis, so that hosing down after a dirty run would have no ill-effects.

Possible or Otherwise?

It is well known that a certain American car was produced at a ridiculously low figure before the war, yet the company responsible for its production is by no means in danger of becoming bankrupt. The contention of the writer is that it *is* possible to design a motor cycle which can be sold at a low figure if produced in sufficient quantities. British manufacturers to-day have more orders than they can cope with, but this will not be the case when the present demand for high-priced machines is satisfied. The firm, or combination of firms, which tackles the problem of producing a cheap machine will reap its reward. REKOL.

NEAR DALNACARDOCH. To tour the Highlands is the ambition of every keen motor cyclist. Once he has been he never forgets the experience, for it is brought home to him with force that there is no need for Britishers to go out of their own country for fine scenery.

WHY NOT A MONOCARETTE ?

A Miniature Four-wheeler of the Simplest Possible Type.

JOHN CITIZEN has always wanted a little vehicle for running about—one which he can step into and go to the office without need of donning overalls.

The requirements for a machine to meet this demand are not out of reason, and should include (1) speed up to, say, 35 m.p.h., (2) hill-climbing ability for main road hills, (3) a single-seated body with provision for carrying an extra passenger when required, and (4) any unit which will give the necessary power with a minimum attention and at a moderate cost.

The writer, like many other enthusiastic amateur cycle car builders, has worked out plans for the "ideal machine," but, unlike others, has concentrated on a monocar with the lowest possible horse-power. The following is a brief description of this machine :

ENGINE.—Air-cooled, 69×73 mm., 273 c.c., 2½ h.p., single-cylinder overhead valves.

FRAME.—Either wood reinforced with steel flitch plates or steel tubular.

WHEELS.—Detachable 24×2in. wire wheels

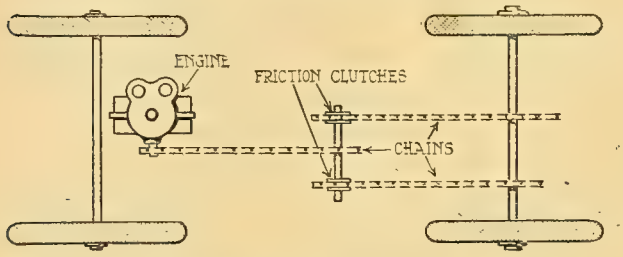


Fig. 1.—A simple two-speed friction clutch transmission

AXLES.—Straight tubular.

STEERING.—Central pivot wire and bobbin steering, operated by wheel.

SUSPENSION.—Single coil front spring, double coil or quarter-elliptic rear springs.

WHEELBASE.—About 5ft.

TRACK.—2ft. to 2ft. 6in.

BODY.—Built with wire, wood framing, and canvas.

In this brief description it will be seen that any mention of type of transmission employed or position of engine has been studiously avoided, the reason being that the choice of transmission is so wide. The following types of transmission and engine positions, however, will be found suitable for this machine :

(1.) From an engine situated in front, a chain drives a countershaft on which are two friction clutches, thence by two chain wheels carrying chains to the back axle, thereby giving a two-speed clutch gear.

(2.) Drive first taken through gear box and clutch, attached to engine situated at rear, thence by single chain to back axle.

(3.) The engine, which is over the back axle, drives a friction disc mounted on a countershaft. A chain from the latter drives the back axle.

If the engine is placed at the rear, particular care must be taken with the cooling arrangements. If, however, the top of the engine is totally enclosed except for air shutters at the rear, by a large removable cover and a big air scoop attached under the car so that a constant blast of cool air is directed on to the cylinder, the cooling should be efficiently performed.

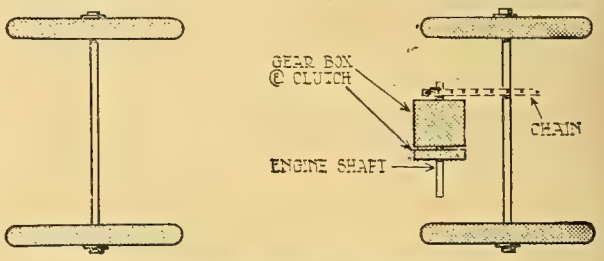


Fig. 2.—Transmission by gear box and chain.

Undoubtedly the machine—which can be called a "monocarette" on account of its small size—would suit the average person for runabout purposes. Carefully thought out, its weight would be in the neighbourhood of 150 lb. The comfort of such a machine would be undeniable. The body, with the aid of a storm apron, would keep its occupant entirely free from rain, while the mudguarding would be better than that on motor cycles, as there is more room for wide spacious guards on a four than on a two-wheeled vehicle. Provision for a second passenger would depend upon the position of the engine. If the latter were situated at the front, outspreading bars, with a dickey seat attached, could be clipped to the frame.

Now as to the price of the vehicle. With the ordinary methods of selling, it should be as cheap as many of the small lightweights.

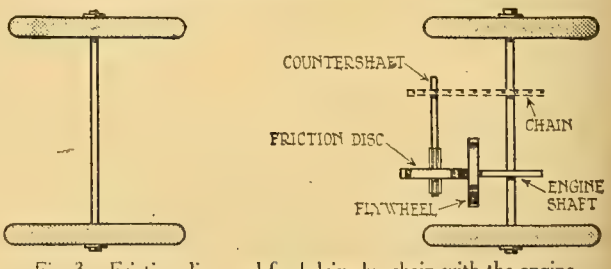
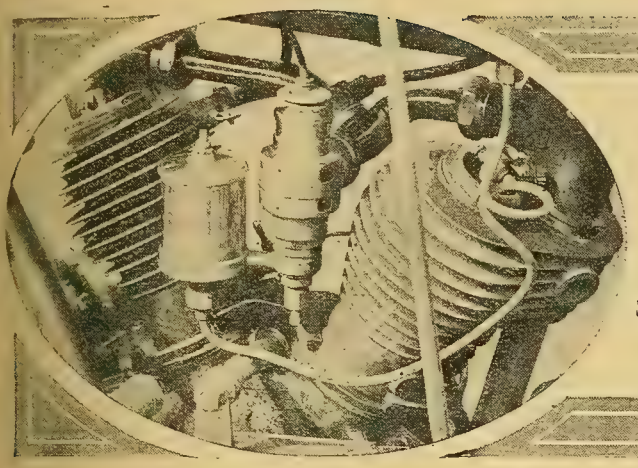


Fig. 3.—Friction discs and final drive by chain with the engine at the rear.

The monocarette should be able to carry—judging by motor cycle practice—including driver, over two hundredweight. After deducting 70 lb. for the driver, a boy, say, of fourteen years, we find that the vehicle should be able to carry a 150 lb. of goods. This would be the ideal weight for small grocers, chemists, confectioners, etc., who at present employ a cycle or tricycle carrier.

L.F.

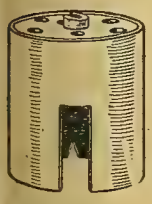


THE SINGLE LEVER CARBURETTER.

100 m.p.g. with a 3 h.p. Twin.

Some Tests and Experiments made with the Y Model Amac.

SOME little while ago—to be exact, on October 30th last—we described in detail the latest models of the Amac carburetter. Since the middle of December we have been making constant and careful tests with one of these instruments, viz., the Y model with vertical mixing chamber and horizontal outlet, on a 3 h.p. twin Enfield, and we may say at once with most satisfactory results.

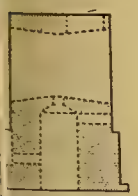


Throttle slide with slot seen from the rear.

We first fitted the carburetter exactly as sent out, and, though it started easily and ran well at first, we soon found that when the engine was warm the mixture was far too rich, and sooted plugs were the result. A smaller jet and lower petrol level effected a considerable improvement, but rendered starting more difficult and slow running a little less steady. We then fitted a choke tube having a smaller hole connecting the sprayer with the venturi. This had the effect of reducing the air for slow running on the pilot orifice, and gave even greater power when the throttle was fully opened.

Testing Out Adjustments.

This hole was bored out with a No. 41 drill, which gives a diameter of .096in., the pilot hole and air hole to the rear being of slightly less diameter. We have found by experiment that the orifices in the choke or adapter are of considerable importance, for we have obtained almost similar results from the several different throttle slides, of which examples are shown in the accompanying sketches.

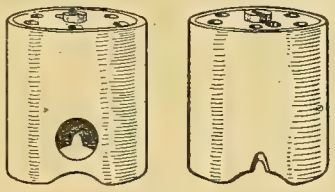


Section of choke tube, showing the petrol and air orifices.

For experimental purposes we fitted a small handle to the top air control, and cut the series of air holes into one continuous slot. This enabled us to arrive more quickly at our conclusions, but is unnecessary for general use, for we do not find that the position of the control requires to be altered while driving. It is perhaps desirable to warn riders against fitting too large a jet. We found that this might be considerably smaller than when a two-lever Amac was used; and a No. 23 (.023in.) gives very good results on our machine with the standard choke. Some riders are apt to increase the jet size with a view to obtaining more power, but unless the air can be correspondingly increased, this will not have the desired effect—rather the reverse—and plugs will suffer from a thick deposit of soot.

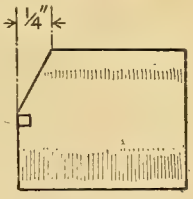
Sweetness of Running.

With a suitable adapter and jet, the Amac will give a good mixture at all throttle openings and all speeds. Probably the position of the pilot hole has the effect of equalising the suction of the main hole into the venturi upon the sprayer, thus preventing the mixture from becoming unduly rich as the speed rises. In practice the acceleration is excellent, slow running all that can be desired, and speed and power very good. The engine seems to settle down to its work as the throttle opens, as if it liked it, and with an entire absence of that feeling of labouring which is so objectionable to the sensitive driver.



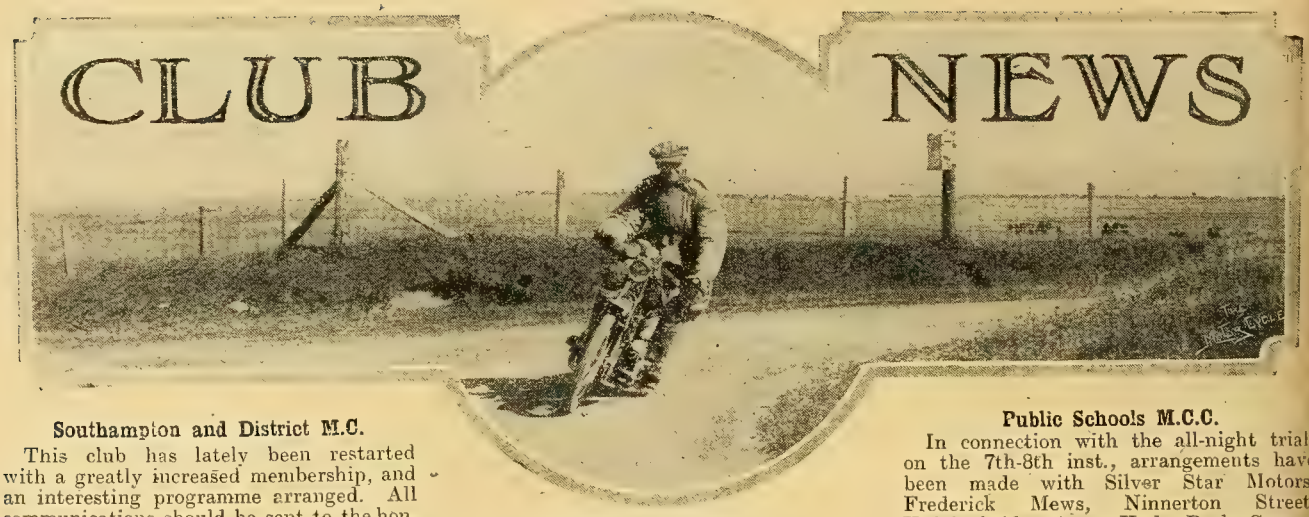
Back and front of the throttle slide.

Several tests showed that our machine fitted with the automatic Amac was slightly faster than a similar mount with a two-lever carburetter of the same make, but the chief improvement lies in the pleasant running rather than in the speed and power. In the matter of consumption we find that the automatic instrument is not quite so economical as the two-lever, but the difference is small, and the consumption is about 100 m.p.g.; and the fact that we have ascended a hill upwards of half a mile in length, having a rough surface and moderate gradient, at a speed approximately 40 m.p.h., shows that there is little fault to be found with the power that can be obtained when desired.



Side view of throttle backed off instead of cut out. This has proved most satisfactory.

CLUB NEWS



Southampton and District M.C.

This club has lately been restarted with a greatly increased membership, and an interesting programme arranged. All communications should be sent to the hon. sec., Mr. E. C. Prince, "Kenilworth," 90, Gordon Avenue, Southampton.

Stockport M.C.

The results of the recent hill-climb held at Axe Edge, Buxton, were as follow: Class 1 (500 c.c. solo)—1, T. Simister (Norton), 1m. 18⅘s.; 2, E. Abram (A.B.C.), 1m. 21⅕s.; 3, H. Swindeles (A.B.C.), 1m. 28⅖s. Class 2 (sidecars)—1, T. Simister (Norton sc.), 1m. 54s.; 2, R. W. Peel (Excelsior sc.), 2m. 42⅖s.; 3, J. Hulme (Indian sc.), 2m. 47⅘s.

North Notts M.C.C.

A new club has recently been formed in North Notts, under the name of the North Notts M.C.C. Two teams of this club will compete in the open speed trials at Chatsworth Park on Saturday. A char-à-banc will run from Worksop for the event. The hon. sec. of the new club is Mr. W. Pitchford, Westlands, Creswell, Notts.

Pyle and District M.C.

A very interesting circuit reliability trial was recently held under the auspices of the above club. The circuit, which was about ten miles, and included some stiff hills, had to be covered twice, the second time in the reverse direction. It was keenly contested, and no watches or speedometers were allowed. Results: 1, W. Bowden (4 h.p. New Hudson); 2, A. T. Bennet (4½ h.p. B.S.A. sc.); 3, G. Anderson (4 h.p. Triumph).

Essex M.C.

The annual twenty-four hour reliability trial organised by this well-known club will take place on September 10th next.

This event, which is confined to members, has hitherto been known as "The London-to York and Back Run." This year it will be held over a new course, which will prove more formidable, and certainly far more interesting, than the old route.

Intending competitors who are not already members should apply for membership at once. Full particulars of the trial can be obtained shortly from the organisers, Mr. F. A. Applebee and Mr. E. A. Colliver, 203, Great Portland Street, London W.1

Future Events.

Aug 7.—B.M.C.R.C. Racing at Brooklands.
Aug. 7.—Worcester and District M.C.C. One Day Reliability Trial.
Aug. 7.—Loughborough and District M.C.C. Speed Trials.
Aug. 7.—Public Schools M.C.C. Night Reliability Trial.
AUG. 7.—EAST MIDLAND CENTRE A.C.U. OPEN SPEED TRIALS.
Aug. 7.—Edinburgh and District M.C. Meet at Callander.
Aug. 7.—Eastern Valley M.C.C. Competition.
Aug. 7.—Essex M.C. Gymkhana.
Aug. 7.—Westmorland M.C.C. Obstacle Race.
Aug. 7.—Helensburgh M.C.C. Hill-climb.
Aug. 7.—North Lindsey A.C. Run to Chatsworth Park.
Aug. 7.—Dewsbury and District M.C.C. Run to North Sarah's.
Aug. 8.—Southampton and District M.C. Run to Bognor.
Aug. 8.—Liverpool M.C. Gipsy Meet, Monsal Dale.
Aug. 8.—Public Schools M.C.C. "Crocks" Hill-climb.
Aug. 8.—Reading and District M.C. and L.C.C. Run to Hog's Back.
Aug. 8.—Exeter M.C. and J.C.C. Run to Dartmeet.
Aug. 8.—N.M.C.F.U. (Portsmouth). Run to Liphook.
Aug. 8.—Goldthorpe and Thurnscoe M.C.C. Run to Garrowby.
Aug. 8.—Fleet and District M.C.C. Run to Lee-on-Solent.
Aug. 8.—Dewsbury and District M.C.C. Run to Bridlington.
Aug. 9.—Loughborough and District M.C.C. Seven-day Tour.
Aug. 11.—Southampton and District M.C. Run to Alresford.
Aug. 12.—Doncaster and District M.C.C. Run to Worksop.
Aug. 12.—Cumberland County M.C.C. Surprise Hill-climb.
Aug. 12.—Eastern Valley M.C.C. Run to Llangorse Lake.
Aug. 12.—Bedford and District M.C. and L.C.C. Club Run.
Aug. 14.—North London M.C.C. Hill-climb.
Aug. 14.—Wolverhampton M.C.C. Eric Williams Shield Hill-climb.
Aug. 14.—Westmorland M.C.C. All-night Run.
Aug. 14.—Southend and District A.C. Gymkhana.
Aug. 14.—N.M.C.F.U. (Wolverhampton). Picnic.
Aug. 14.—Edinburgh and District M.C. Run to Carfraemill.
Aug. 14.—Harrogate and District M.C.C. Hill-climb.
Aug. 14.—Exeter M.C. and J.C.C. Reliability Trial.
Aug. 14.—Birmingham M.C.C. Hill-climb.
Aug. 14.—Dublin and District M.C.C. 100 Mile Handicap.
Aug. 14.—Sheffield and Hallamshire M.C.C. J. Thompson Cup.
AUG. 14.—WELSH EASTERN GROUP M.C.C.'s OPEN HILL-CLIMB.
Aug. 14 North Lindsey A.C. Run to Ashbourne and Dovedale.
Aug. 14-16. Oxford M.C. Week-end Run to Ludlow.
Aug. 15.—Falkirk and District M.C.C. Club Run.

Cambridge University M.C.C.

It is hoped to obtain the necessary permission from Lady Ludlow to hold a series of speed trials in Luton Hoo Park in the near future.

Public Schools M.C.C.

In connection with the all-night trials on the 7th-8th inst., arrangements have been made with Silver Star Motors, Frederick Mews, Ninnerton Street, Knightsbridge (near Hyde Park Corner) for garaging members' machines at a fixed charge of 1s., and the supply of petrol, oil, etc., up to 11.30 p.m.

Huddersfield M.C.C.

Arrangements are being made to hold a reliability trial of about eighty miles on August 15th. Local clubs are invited to take part, and their support will materially help to make the event a success. Full particulars may be obtained from the hon. sec., Mr. F. Dyson, Allen Dene, Netherton, near Huddersfield.

West Birmingham M.C.C.

This newly-formed club recently held a reliability trial to Hereford and back. Starting from the King's Head, Edgbaston, the course lay *via* Bromsgrove, Droitwich, Worcester, Old Wyche, British Camp to Hereford (lunch stop), the return journey being made over the Clee Hills—a total distance of 120 miles. There were twenty-nine starters, all of whom finished the course, though there were several failures on the Old Wyche.

Coventry and Warwickshire M.C.

The results of the recent half-day sporting trial, which included several water-splashes, are as follow: Solo class.—1, Meakin (4 Triumph). Sidecars.—1, S. Wright (4½ Humber sc.).

Local motor cyclists wishing to enter the club hill-climb at Stile Kop on September 4th should get into communication with the hon. secretary, Mr. F. Spencer, Priory Street, Coventry, respecting joining the club.

Warrington M.C.

Recently this North-west club held a trial over a sporting course through North Wales, including Chester, Rossett, Northop, Holywell and Llanarmon. Only six out of the original number of competitors who left Warrington checked in at the finish. Results: Winner of Blake Cup, S. Doward (7-9 Indian) who, although he failed on one of the observed hills, kept much better time than the rest of the competitors; sidecar prize, J. Roberts (6 A.J.S. sc.). Other competitors to finish were F. Parker (7 Ariel sc.), H. Aldred (4 Triumph), R. Caldwell (3½ Norton), W. Hollowell (3 Norton).

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

113 M.P.G. WITH A SCOTT.

Sir,—Many Scott riders will be much interested in "Not Infallible's" remarkable consumption figures.

I was not aware that the Degory carburetter was made in motor cycle sizes, and I shall be glad to receive further information from your correspondent; particularly as to how his machine behaves in starting from cold and running light. Also if he is troubled with the peculiar pre-ignition trouble which sometimes occurs on these machines when running with a weak mixture.

The address of the manufacturers of the Degory carburetter would also be acceptable information. 75 M.P.G.

New Moston.

[The makers of the Degory carburetter are the Degory No-jet Carburetter Co., 93, Moore Park Road, Fulham, S.W.6. —ED.]

RULE OF THE ROAD.

Sir,—Having received a police summons some months ago for driving on the wrong side of the road in College Green, Dublin, and having been fined 10s. for that offence, I was rather surprised to see "the law" recently allow a car to commit the same offence in the same place without stopping it or taking its number.

On the occasion on which I broke the law the official on point duty was standing on the extreme left so that I did not notice him, and so my offence was a pure mistake.

The car I mention, however, passed in the other direction and as Robert was therefore standing on its extreme right one may be able to gauge the extent to which that car broke the law in passing on his right. There is a strong contrast between this case and mine and its subsequent treatment by the police, and while the complaint is, in a sense, comparatively unimportant, it goes to show that the guardians of the law sometimes break the law themselves, and that very often it appears there is one law for one individual and quite a different one for another.

I may add it was the same official who summoned me for my offence and let the car mentioned go by unheeded.

ONLY OFFENCE.

LACK OF FINISH.

Sir,—"Disappointed," I am afraid, is only one out of many sufferers, with regard to his experience with a so-called aristocratic motor cycle. I, too, paid umpteen pounds for a V twin fitted with an engine of reputable make, and although I have had no serious trouble with the engine, the details of the machine seem to be lacking that finish which is so loudly claimed by the firm in question. The back stand will not clear the chain case, and has consequently rubbed through it, whilst the controls and kick starter have caused me much annoyance and unparliamentary language. Of course, one refrains from doing so ungentlemanly an action as giving names; but when a good price (no mean thing these days) is paid for a machine, one expects good results.

CHARGE ENGINEER.

Lancs.

Sir,—Having noticed some letters from time to time in *The Motor Cycle* with regard to the finish of new machines, I thought my experience might be interesting.

In February last I bought a 1920 2¾ h.p. two-speed Diamond. The machine was quite ready for the road when taken out of its crate, while the finish and workmanship were beautiful. I have since covered over 2,000 miles, chiefly on business, in all winds and weathers, over some of the roughest and most hilly parts of Devonshire, and have had no trouble at all worth mentioning.

I might add that I have no connection whatever with the makers of the Diamond nor with the motor trade.

In conclusion, I should like to thank you, Mr. Editor, for the hours of interesting and instructive reading I get out of *The Motor Cycle*, which is invaluable to a novice like myself.

WEST-COUNTRYMAN.

Exeter.

SPARKING PLUGS IN TWO-STROKES.

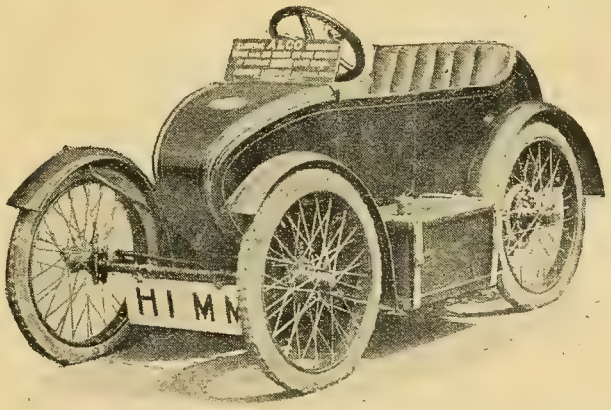
Sir,—Letters constantly appear in your columns complaining of poor service of sparking plugs in two-strokes, and what is referred to as the two-stroke clang, and, as I have neither of these troubles apparent in my two-stroke, I am rather interested in the cause.

My machine is a 2¼ h.p. Royal Enfield, and, in view of the solid workmanship about the engine, I should feel inclined to think that possibly some makers invite the objectionable clang by cutting matters too fine in an endeavour to secure thorough cooling. The Enfield has very deep fins, and I have never yet been able to dry it up.

As to the plugs, I have the original one still running after a very considerable mileage, and I think I can suggest a probable cause of riders' trouble with plugs. The usual advice given to riders as to timing the two-stroke is—points breaking with ignition fully retarded and piston at top dead centre. This is correct enough, but the trouble arises through the bulk of small two-strokes being fitted with *fixed* ignition, and I fancy many of them adopt the above timing. For everyday running I prefer to time on full advance, and set my ignition as follows: Points breaking (ignition if variable fully advanced), piston ¼in. before top dead centre. If top dead centre is marked on the flywheel, the above position may be attained by moving the flywheel in the reverse direction about 1¼in.

I trust the above may be of use to someone, and should like to hear other experienced riders' opinion on it.

J. STUART WHITE.



A British-made electric monocar manufactured by A. Lyon and Co., Victoria Street, S.W., and which runs thirty miles on one charge at an average speed of 10 m.p.h. It is intended for the use of ladies for shopping purposes, and also for invalids and cripples.

COURTESY.

Sir,—On Sunday morning, July 4th, at three o'clock, I was returning from the South Coast on a club night trial, when I came across two riders on a Harley-Davidson outfit who were stranded for the want of a tyre valve seating. I had a spare one with me, and had the pleasure of fixing them up and probably saving them a long walk and longer wait. They took my name and address, but have not had the decency to replace the spare. On Saturday, July 10th, I lent a plug to the rider of a Triumph outfit, and he has treated me in the same unsportsmanlike way.

It seems to me that the genuine motor cyclist, who keeps his machine in decent order and very seldom requires to make roadside adjustments, carries his spares for the benefit of these riders, who take their chance of a breakdown, knowing that they will be able to "sponge" on someone or other. DISGUSTED.

Purley.

ON THE ROAD.

Sir,—In touring about the country one sees some very astounding attempts at motor car and motor cycle driving. But for the seriousness of the matter, I think it is really amusing to witness some of the various "stunts" which are attempted in driving round dangerous corners. One comes across a large number of so-called motorists, who are apparently quite new at the game, and unfortunately possess only a very small knowledge of the rules and courtesy of the high road.

When one witnesses a motor car or sidecar outfit being driven round a difficult left-hand bend (without sounding the horn at all) at speed (after previously passing a danger sign), and consequently swerving on to the right-hand side of the road, one wonders, first of all, if the driver has any brains at all, and, secondly, how he can reasonably expect to avoid an accident, in the event of his meeting another vehicle coming in the opposite direction just round the corner. The deliberate manner in which these "experts" ignore the danger signs referring to dangerous cross roads, and simply dash helter-skelter over the crossing, is really astounding.

The following points of advice, which I have taken from the very excellent article by Mr. Max Pemberton in a daily paper, should, I think, be of great service to motorists generally, and particularly to the above-mentioned "amateur experts":

1. At a cross road do not regard the blowing of your horn as the whole duty of man or woman. If you blow and carry on, the other man may do the same. The coroner will interview the survivor.

2. Have your argument as to which was the main and which the side road before, and not after, the accident. Dogmatism is no compensation for a fractured skull.

3. Never overtake another vehicle upon a corner round which you cannot see. There are easier roads to suicide.

4. Remember, if you are coming from a byway into a main road, that if you have to turn to the left you will be going with the stream of traffic (provided you keep on your own side); if to the right, you are cutting dead across it, and must be prepared to stop in a yard.

5. Do not try to show off. The man who drives within a foot of danger may also be within a foot of the grave. In this case a mile is better than a miss.

6. Directly you begin to race with another car on the high road you are in danger. Go to Brooklands if you want to test the efficiency of your engine.

7. A good driver is one with a wide outlook. He sees the child who is about to run across the road. The other fellow sees nothing but the road ahead of him.

8. Having taken a decision, stick to it. The man who hesitates is lost. Remember that the other driver may be watching your movements, and depending upon them.

9. Never in a narrow road overtake and try to pass another car until the driver is aware of your presence. Men lie under tombstones who have done this thing.

10. Remember that courtesy was once a great tradition of the high road. We should seek to maintain its splendid story.

11. Finally, drive as you expect the other man to do. There will then be no need to appeal to the insurance companies. HAROLD E. HILL.

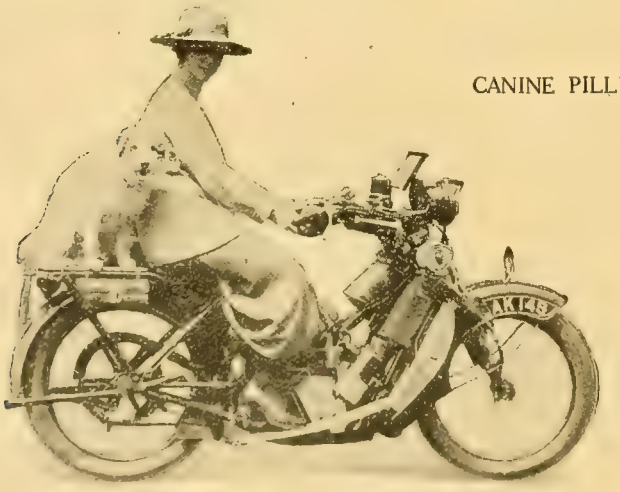
CANVAS BELT.

Sir,—I think perhaps the following tip may be useful to some of your readers. I use my 7-9 h.p. Rudge Multwin and sidecar for business purposes, and consequently have to face all weathers. At first I experienced belt slip in wet weather, but have now entirely overcome this by using a belt from which the rubber has been worn away from the sides and by cutting away the rubber from the underneath side until it is quite level and smooth. My contention is that the slipping is caused by the wet holding in the grooves on the bottom of the belt, and when it passes over the engine pulley the wet is forced out of these grooves and causes the slipping. It is only a matter of a couple of minutes to change your belt.

I have been running this outfit since May last, and have to undertake some long journeys and not once has it failed me. ALLWEATHER.

Birmingham.

CANINE PILLION PASSENGERS.



The motoring dog is as much a reality as the motoring child, and the intelligence of the canine pet in connection with motor cycles is sometimes almost uncanny. For example, it can distinguish the engine note of its master's machine from others which may be in the vicinity. Above are depicted a lady and her pet on a Scott, and a Clitheroe rider, Mr. G. A. Earle, who regularly travels with his dog on the carrier.

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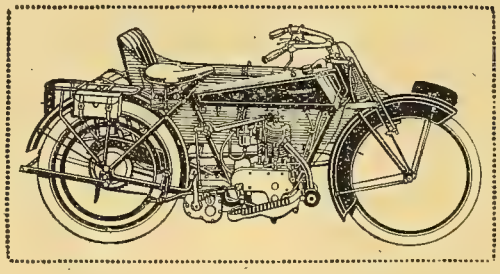

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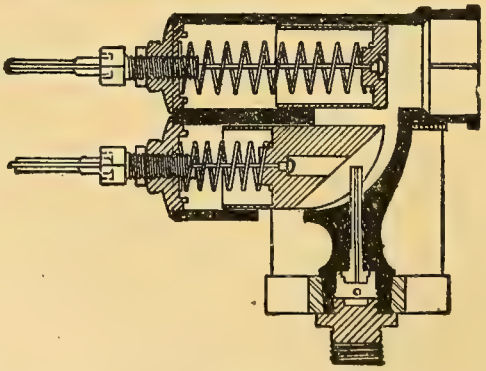

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SCOOTERS.

Sir,—From public remarks that I heard after the scooter race at Fallowfield, it was evident that this class of machine is not quite understood as regards general efficiency, and has not up to now been given the publicity it deserves. When one considers that the race was run in a downpour of rain, with the track three inches under water in places, it proves that these machines are not built for fair weather riding only; also every machine that started finished. So much for speed. I was asked several times if scooters could be relied upon to do journeys of fifty miles or so. This distance has already been covered by that excellent little machine, the Whippet, and I think that it is due to the interested members of the motor cycling community, both present and future, that some performance figures based on *weight and horse-power* should be available.

I would be very pleased to meet any owners of scooters, both private and trade, with the idea that suggestions could be made with the hope of forming a reliability trial.

J. D. TIMMINS,
MINATUR AUTO SCOOTERS.

TRANSPORT DELAYS.

Sir,—I would like to bring before your readers an example of post-war delay to goods on the railway which, I believe, has been sent up to the Ministry of Transport as a test case.

On May 24th, owing to ignition trouble, and being pressed for time, I was compelled to leave my motor cycle at Biggar—180 miles from my destination—to be forwarded on per goods train.

It left Biggar on May 28th for Earlestown (Lancs.). On June 7th having no word of it, I sent in a claim to Earlestown—the claim was declined, as no advice had been received.

During the next ten days the railway company were asked whether they had received the advice, or whether they had traced the machine. They answered in the negative, the excuse for the delay being the damage on the line at Barton, although I knew that normal service had been resumed on that line by the 3rd June.

On June 17th, I learnt that the machine had left the Caledonian at Carlisle on June 5th. I then thought of the A.A., and wrote off to their Manchester office without further delay.

Thanks to their efforts, the cycle turned up eventually six days later.

E. J. BORRON.

SEASIDE MANNERS.

Sir,—The remarks of one of your correspondents *apropos* the disgusting behaviour of some motor cyclists at fashionable seaside resorts are as deplorable as they are true. I have just returned from Southport, where exists a similar state of affairs to those at Eastbourne. Southport lends itself admirably to any display of the nature indicated—a fact which is appreciated. At this admirable place the knut seems to spend his leisure—very considerable leisure, too—in "lapping" Lord Street and the Promenade in a praiseworthy conscientious manner. He leaves behind him a "powerful" noise, smell, and impression, although it must be admitted that sighs of envy and surreptitious glances of admiration follow his retreating brilliance as well. Such futility and ostentation are incomprehensible when one recollects that fine stretches of "speed" sand are available on the foreshore most mornings before breakfast. Most of the "regular" machines are indifferently driven, and are obviously not intended for serious work; indeed, I often saw an ancient Triumph stripped of mudguards, etc.!

Perhaps the most effective (?) performance I witnessed—it left me faint, almost—was that of a *blasé* youth who drove his two-stroke along Lord Street sitting *side-saddle* (greatly unconcerned), the while his admiring friends, with their hog-'buses, congregated in a group and effectually blocked part of the roadway. This was, however, eclipsed by a flapper of few summers and less scruples, who repeated the performance, riding through a denser crowd, the following evening! There was a policeman on point duty less than one hundred yards away who probably saw the above incidents.

Apparently this conduct can go on with impunity, while *normal* motor cyclists get fined for incorrect numbers, etc. It makes one feel inclined to go back to the push-bicycle.

Newcastle-on-Tyne. NORTON.

CARBURATION.

Sir,—Mr. S. T. Williams, in his letter on "Carburation" in your issue of July 15th, seems to lose sight of the inherent properties of the internal combustion engine. To obtain power from such an engine one must obtain "revs." Referring to a 4 h.p. engine, to develop its 4 h.p. at a certain number of revolutions, he remarks: "But suppose the full 4 h.p. (or as near as possible thereto) is wanted at a much less engine speed. . . ." No possible combination of tap-twiddling will do this, and, if it did, heaven help the transmission.

I maintain that the two-lever carburetter is more foolproof than the single lever. The vast majority of riders imagine that to get maximum acceleration one must bang open the throttle fully like a steam engine. On most two-lever carburetters this is mercifully counteracted by the air slide, which acts as a throttle, and is an unsatisfactory expedient. A well designed and properly adjusted single-lever carburetter, skilfully opened up, will give the engine the exact quantity of correct mixture that it can consume in its maximum acceleration.

I have recently fitted an Amac single-lever carburetter to my 1914 6 h.p. Enfield, and the increase in power, acceleration, and slow running is equal to and better than many 1920 machines of many makes with various carburetters. When crawling in traffic I always run on low gear. My machine has two gears only. Thumping an engine over on high gear with a rich mixture is not skill; it is ignorance. The petrol consumption is about the same as before, but is really improved, considering the increased speed up hills, which abound in my district. A single-lever carburetter requires a good deal more careful tuning than the two-lever, and this is why the two-lever still finds many supporters; but, once in tune it remains so, if the same spirit is used and the engine kept in proper trim. The adjustment for atmospheric conditions is simple, and more certain than guessing at it with an air lever.

T. R. DRUITT.

MYSTERIOUS NOISES.

Sir,—The article, "Mysterious Noises," in your issue of July 15th, reminds me of an amusing experience I had some time ago.

I was driving an ambulance (Studebaker 6), and went to a Welsh seaside resort to bring an invalid lady back to Liverpool. The car ran A1 till starting on the homeward journey with the patient, nurse and luggage in the ambulance. Immediately on starting the car a decided squeak was noticed which ceased as soon as the car was stopped for examination; nothing however could be found amiss, so the car was restarted, when the squeak immediately started again. Another stop was made for a further inspection but without result, but on starting again the nurse opened the front of the ambulance, and I noticed a fox terrier dog sitting on the bed in the ambulance who did not like the motion of the car and showed it in his canine way by making a noise like a hot bearing.

LEONARD F. S. SINGTON.

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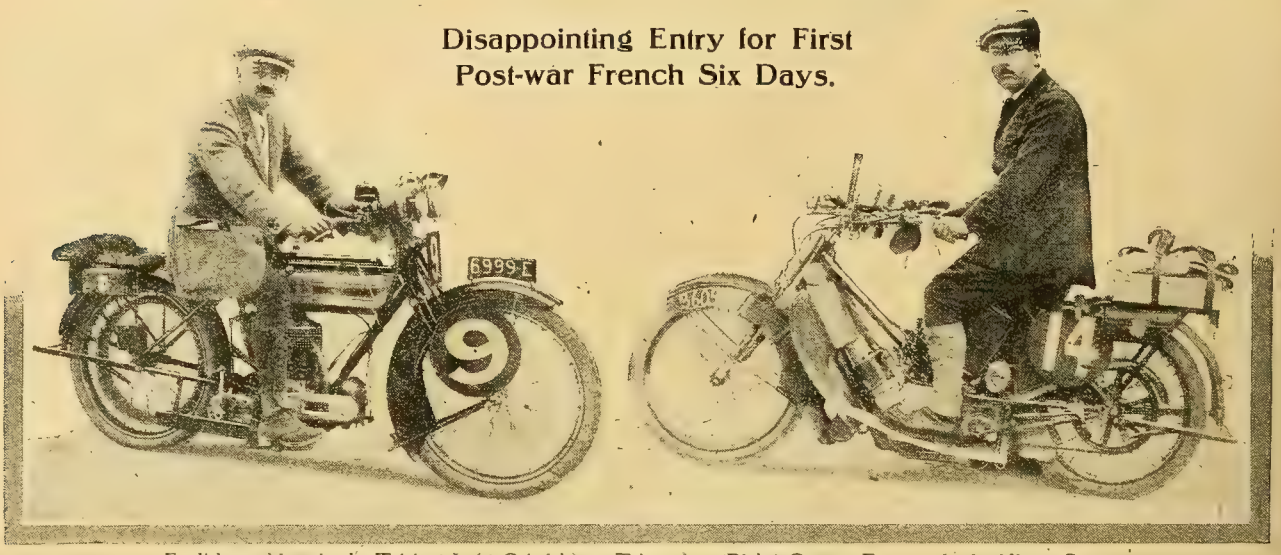
B23

The International Six Days Trials in France.

Disappointing Entry for First Post-war French Six Days.



English machines in the Trial. (Left) Gabriel on a Triumph. (Right) Graeme Fenton who is riding a Scott.

IT was most disappointing to the Union Moto Cycliste de France that their first post war Six Days Trials in the French Alps attracted so few entries. Only fifteen competitors started on the 25th ult., several entrants failing to reach Grenoble for various reasons. Bad luck seems to have pursued the organisers this year and every sportsman will no doubt sympathise with them. First of all, the unsatisfactory ending of the Paris-Nice Trial, which was declared null and void owing to the breakdown in the checking organisation, seriously affected the number of possible entries from England, although the Paris-Nice event was not organised by the same body. Then, having secured an entry of twenty-two, only fifteen started. M. Mahieu who was entered on a Rudge, had an accident which ended fatally. A Gillet rider—Sermens—was prevented from starting by illness. Lucas (Zenith), Barron (Harley-Davidson), and H. O. Wood (Scott) did not cross the Channel. Then the Magnat-Debon, a French machine, was absent, and Gold (Wolf), an English competitor, although in France, arrived late at Grenoble.

By July 24th most of the competitors had arrived, and those who knew the roads were of the unanimous opinion that no touring competition previously held would prove so strenuous. They prophesied that all the Six Days Trial men would be penalised and that certain sections of the road could not be covered at the average speed imposed without the risk of smashing the machines.

The regulations provided that the organisers had the right to add certain tests, notably hill climbs, consequently the Union Motor Cyclists de France decided to include Laffrey hill in the second portion of the first day's route.

The weighing operations were in charge of M. Longuemare, Vice-president of the Union Moto Cycliste de France, while M. René de Knyff—that grand old sportsman whose name has been associated with every important race and trial held in France since the beginning of motoring—arrived from Paris by motor cycle. He is President of the Union Moto Cycliste de France.

Competitors started at seven o'clock from the enclosure for the hill-climb at Vizille. There was a control at Corps where the riders had a thirty minutes interval.

The competitors were sent away in the following order on the first day :

SOLO MACHINES.

Graeme Fenton (Scott).
Bernard (Indian).
Yenné (A.B.C.).
Detruche (A.B.C.).
Barthélemy (Scott).
Naas (A.B.C.).
André (Motosacoche).
Borgotti (A.B.C.).
Gabriel (Triumph).
Morand (Condor).
Rolly (Motosacoche).
Pinney (Triumph).

SIDECARS AND CYCLE CARS.

Gex (Motosacoche).
Gallien (Benoist-Gonin).
Sandford (Morgan).

The course was divided into six sections of 45, 42, 39, 42, 35, and 40 kilometres respectively: Grenoble (start), Seyssinet, St. Ninier, Pont de la Goule Noire (45 kil.), control; La Balme de Rencurel, Pont-en-Royans, Saint-Jean-en-Royans, Leoncel (88 kil.), control; La Vacherie, Plan de Baix, Blacons, Saillans

Le Pond-d'Auris—On the course of the International Six Days Trial. One of the attractions of the Trial is the magnificent scenery through which the course passes.

Borgotti (A.B.C.) in the heart of the French Alps.

(127 kil.), lunch; Pontaix, Chamaloc, col due Rousset (169 kil.), control; tunnel of 630 metres, Rousset, St.-Martin-en-Verons, St.-Julien-en-Noire (204 kil.), control; Les Jarrants, Sassenage, Grenoble (244 kil.), finish.

THE SECOND DAY.

On the 27th ult., the Laffrey hill-climb, taken in the course of the trial, took place in rainy weather. The results in the various classes were as follow:

350 c.c. CLASS.

		m.	s.
1.	Morand (Condor)	12	55

500 c.c. CLASS.

		m.	s.
1.	Borgotti (A.B.C.)	8	3
2.	Yenné (A.B.C.)	8	23
3.	Rolly (Motosacoche)	8	41
	Gabriel (Triumph)	8	5⅗
	Detruche (A.B.C.)	9	3⅗
	Naas (A.B.C.)	11	9
	Robert (Motosacoche)	13	12⅘

750 c.c. CLASS.

1.	Pinney (Triumph)	10	5⅘
2.	Barthélémy (Scott)	11	4⅘
3.	Graeme Fenton (Scott)	13	38⅘

1,000 c.c. CLASS.

1.	Bernard (Indian)	6	49⅘

1,000 c.c. CLASS.—SIDECARS.

1.	Gex (Motosacoche)	11	17⅕

1,100 c.c. CLASS.—CYCLE CARS.

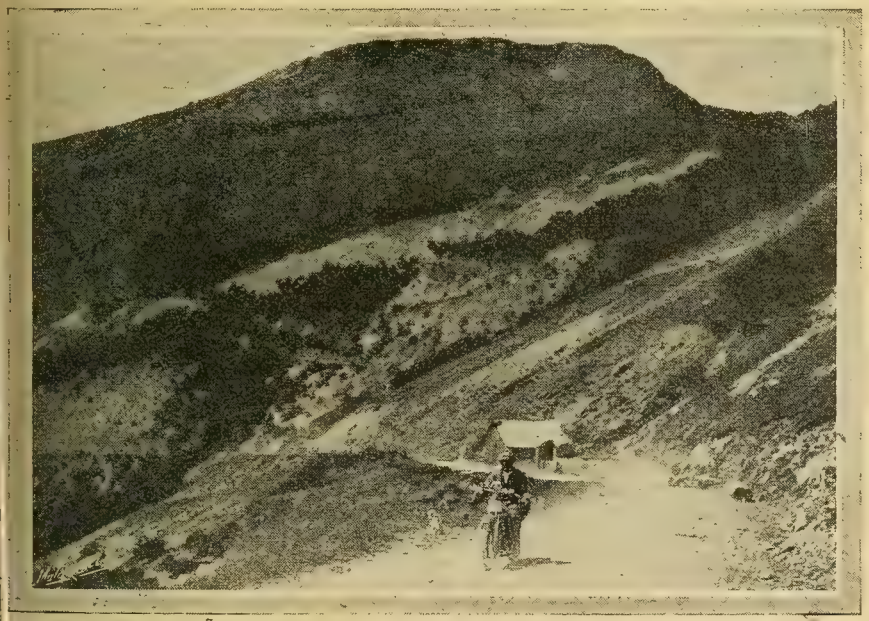
1.	Sandford (Morgan)	11	7⅘

The best time was made by Bernard (Indian), who won the Vizille Cup. The record for this hill-climb was established by Guiguet, on a 350 c.c. machine, in 1914; time 5 min. 36 sec. It will be noted that this time was not beaten, but it appears that Guiguet rode a racing machine while those entered for the Six Days Trials were naturally touring models.

The second stage of the trial appears to have been less difficult than the first stage, from the point of view, at any rate, of the steepness of the hills and the nature of the road surface, nevertheless there were more penalties on the second day than on the first. Tyre troubles are beginning to show themselves, but the machines stood up well. The day's run began with the timed hill-climb, the results of which we have just given. The competitors then continued as far as Corps, where the second start was made on the hill test. It seems, however, that there was a misunderstanding, as several competitors turned up late at Vizille, thereby running the risk of penalisation. Detruche (A.B.C.) hurt himself in the previous day's run after a fall caused by a dog, and lost three marks. He also suffered several punctures, and broke his saddle. Yenné, riding a similar machine, lost his way, and had two punctures—one in the front and one in the back wheel—and lost nine marks. Graeme Fenton (Scott), unfortunately, had to retire also, through a fall caused by riding in a cloud of dust which hid a corner. His machine was seriously damaged, but he managed to patch up his mount, and arrived in time at the next control, when a side-slip finally put him out of the running.

There were now thirteen competitors in the trial, and eleven who had probably lost no marks. Further particulars of this event will be given in our next issue.

Bernard (Indian) re-starting from an Alpine village.



Andre (Motosacoche) climbing one of the long but splendidly graded hills in the trial.

A.C.U. SIX DAYS TRIAL.

Routes and Entries for this Year's Big Event in the North-eastern District of England, to be held from Monday, Aug. 23rd, to Saturday, 28th, Inclusive.

ON the point of the number of entries, the success of this year's A.C.U. Six Days Trial is assured. We are able to give this week a list of 120 entries received by the Auto Cycle Union.

As has already been stated, Darlington will be the centre for the first four days, the fifth day's route being a run from the North to the Midlands. The competitors will stop at Coleshill, Kenilworth, Warwick or Leamington, according to their numbers, and on the sixth day will ride to Brooklands for speed and brake tests and final examination.

On this and the following page we are able to give maps and particulars of the first five days routes.

The names of the observed hills will not be published, but the following are the principal hills to be climbed: Rosedale, Abbey Bank, Boltby, White Shaw Moss, Buttertubs Pass, and Park Rash.

MONDAY, AUGUST 23RD. 161½ MILES.

Schedule Time of Leader.		Mileage. Intermediate.	Total.
a.m.			
8.0	Darlington	—	—
8.12	Croft	4	4
8.30	Great Smeaton	6	10
8.52½	Northallerton	7½	17½
9.18	Bedale	8½	26
9.37	Masham	6¼	32¼
9.52	Kirkby Malzeard	5	37¼
10.19	Pateley Bridge	9	46¼
10.42	Blubberhouses	7¾	54
11.5	Otley	7½	61½
11.18	Guiseley	4½	66
11.41	Bingley	7¾	73¾
12.15	Ilkley	11¼	85
(1h. 15m. lunch interval at the Middleton House.)			
p.m.			
1.30	Ilkley	—	—
1.49½	Bolton Abbey	6½	6½
2.26	Grassington	11½	18¼
2.43½	Kettlewell	6¼	24½
3.26	Carlton	10¾	35¼
3.44	West Witton	5¾	41
3.59	Thoralby	5	46
4.15½	Redmire	5½	51½
4.50	Richmond	11½	63
5.4	Middleton Tyas	5	68
5.20	Croft	5	73
5.31	Darlington (Victoria Road)	3½	76½

Some of the best Yorkshire Dale scenery is traversed, and much hill-climbing will be done on both morning and afternoon routes.

TUESDAY, AUGUST 24TH. 165½ MILES.

Schedule Time of Leader.		Mileage. Intermediate.	Total.
a.m.			
8.0	Darlington (ex Skinner Gate)	—	—
8.17	Barton	5¼	5¼
9.9	Reeth	17¾	23
10.11	Feetham	17	40
11.31	Hawes	21½	61½
12.16½	Dent	14	78½
12.59½	Ingleton	11	89½
(Lunch at Ingleborough Hotel, 1h. 30½m.).			
p.m.			
2.30	Ingleton	—	—
2.41	Clapham	4½	4½
3.0½	Stainforth	6½	11¼
3.5½	Langcliffe	1¾	13
3.44	Arncliffe	9¼	22¾
4.1	Kettlewell	5½	28¼
4.11½	Buckden	3¾	32
4.37½	Stalling Busk	7	39
4.46½	Bainbridge	3	42
4.51½	Askrigg	1½	43½
5.13	Redmire	7½	51
5.18	Richmond	11½	62½
6.3½	Middleton Tyas	5½	67½
6.18½	Croft	4½	72½
6.29	Darlington (Victoria Road)	3½	76

Total for two days, 327 miles.

WEDNESDAY, AUGUST 25TH. 134½ MILES.

Schedule Time of Leader		Mileage. Intermediate.	Total.
a.m.			
8.0	Darlington (Haughton Road)	—	—
8.16	Long Newton	5½	5½
8.29½	Stockton-on-Tees	4½	9¾
8.32	Thornaby-on-Tees	1	10¾
9.18	Guisborough	15½	26
9.46	Castleton	9¼	35¼
10.28½	Hulton-le-Hole	14¼	49½
10.37½	Kirby Moorside	3	52½
10.46½	Lawton	3	55½
10.55	Helmsley	2¾	58¼
11.22	Kilburn	9	67¼
11.35	Bagby	4½	71¾
11.45	Thirsk	3¼	75
(Lunch at Three Tuns Hotel, 1h. 45m.)			
p.m.			
1.30	Thirsk	—	—
1.40	Felixkirk	3¼	3¼
1.46½	Boltby	2¼	5½
2.4½	Hornby	4½	10
2.48½	Swainby	11	21
2.58½	Carlton	3½	24½
3.28½	Ingleby Greenhow	10	34½
3.43	Stokesley	4½	39
4.4	Craythorne	7	46
4.7	Yarm	4½	50½
4.44	Darlington (Park Gate)	9½	59½

Total for three days, 461½ miles.

On Tuesday the chief feature of the morning's run will be the climbing of White Shaw Moss; this hill caused a "strike" in the 1913 Trials, and the performances of the 1920 machines and riders will be watched with interest.

The afternoon route will provide some rough going over elementary roads. Wednesday's route breaks country new to trials riders, who will find some stiff gradients amongst the Hambleton and Cleveland Hills.

THURSDAY, AUGUST 26TH. 160½ MILES.

Schedule of Time of Leader.		Mileage. Intermediate.	Total
a.m.			
8.0	Darlington (ex Bond Gate)	—	—
8.33	Slaindrop	11	11
9.3	Egglestone	10	21
9.10½	Mickleton	2½	23½
9.54½	Brough	14½	38¼
10.7½	Kirkby Stephen	4¼	42½
10.15	Soulby	2½	45
10.51	Crosby Ravensworth	12	57
11.3	Shap	4	61
11.27	Clifton	8	69
11.36	Penrith	3	72
(Lunch interval, 1h. 24m.)			
p.m.			
1.0	Penrith	—	—
1.14½	Langworthy	4½	4½
1.27	Melmerby	4½	9
1.58½	Alston	10½	19½
2.13	Nenthead	4½	24¼
2.41	St. John's Chapel	9½	33¾
2.52½	Westgate	3½	37½
3.7½	Bolts Burn	5	42½
4.13	Wolsingham	18½	61
4.23½	Tow Law	3½	64½
4.37	Crook	4½	69
4.53½	Bishop Auckland	5½	74½
5.36	Darlington (Bond Gate)	14	88½

Total for four days, 622 miles.)

First day's route, 161½ miles.

FRIDAY, AUGUST 27TH. 200¼ MILES.

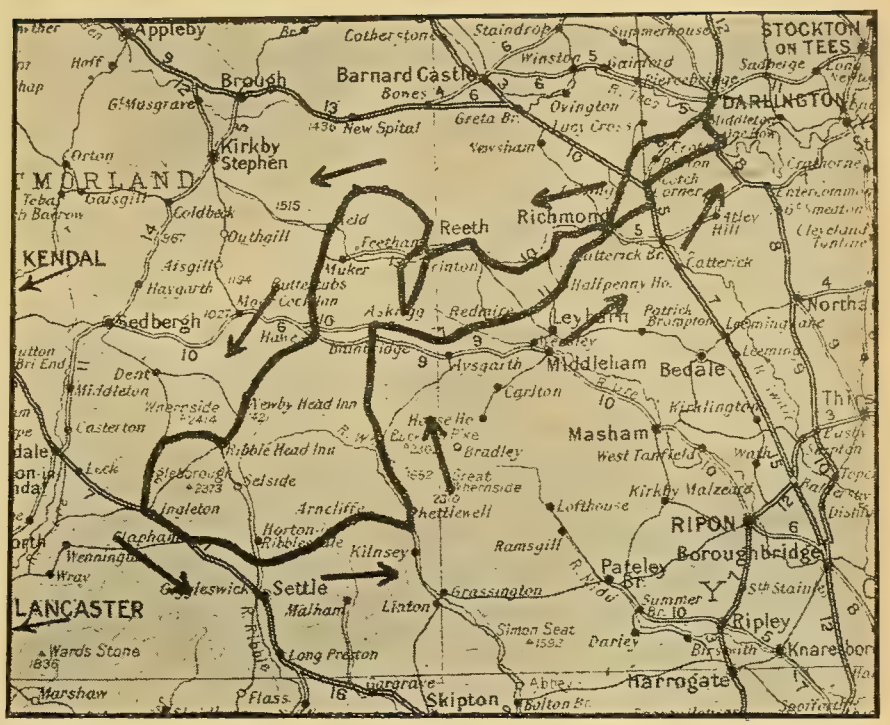
Schedule Time of Leader.		Mileage. Intermediate.	Total.
a.m.			
8.0	Darlington (ex Skinner Gate)	—	—
8.17½	Barton	5¾	5¾
8.37½	Catterick Bridge	6½	12¼
8.57	Hunton	6¾	19
9.17½	Middleham	6¼	25¼
9.31½	Carlton	4¾	30¼
10.3	Kettlewell	10¾	41
10.21½	Threshfield	6¼	47¼
10.50½	Bolton Abbey	9¼	56½
11.7½	Ilkley	5¾	62¼
12.9	Brighouse	20¾	83
12.22½	Huddersfield	4¼	87½
	(Lunch interval, 1h. 7½m.)		
p.m.			
1.30	Huddersfield	—	—
1.57	Bottom of Timed Hill-climb	9	9
2.28½	Glossop	10½	19½
3.11½	Buxton	14¼	33¾
4.13	Ashbourne	20½	54¼
4.43	Sudbury	10	64¼
5.10	Yoxall	9	73¼
5.30	Lichfield	6¾	80
6.16	Coleshill	15½	95½
6.28½	Stonebridge	4	99½
6.55½	Kenilworth	9	108½
7.9	Warwick or Leamington	4½	113
	Total for five days, 822½ miles.		

THE LAST DAY.

Schedule Time of Leader.		Mileage. Intermediate.	Total.
a.m.			
8.0	Coleshill	—	—
8.12	Stonebridge	4	4
8.39	Kenilworth	9	13
8.52½	Warwick or Leamington	4½	17½
9.52	Banbury	19½	37¼
11.0	Oxford	22½	59¾
p.m.			
12.9	Henley-on-Thames	23¼	83
12.35	Maidenhead	8¾	91¾
12.55	Windsor	6½	98¼
1.13	Staines	6	104¼
1.22	Chertsey	3	107¼
2.40½	Brooklands Motor Course	6¼	113½
	Total mileage, 918½.		

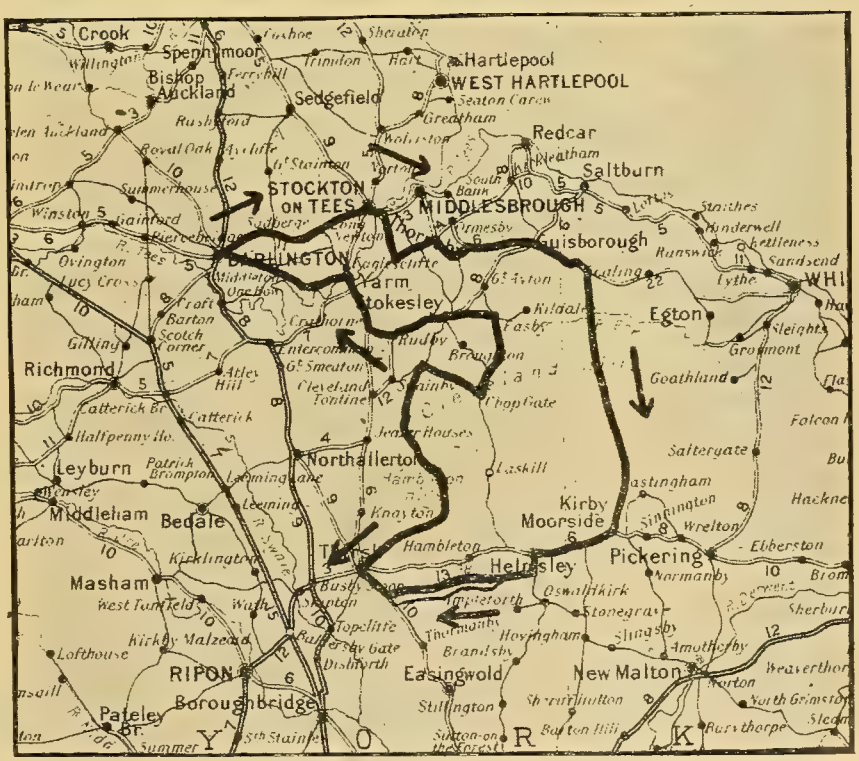
Official List of Entries.

Humphries and Dawes, Ltd. (O.K. Junior):
W. L. Handley.
P. Pike.
N. M. Hall.
Veloce, Ltd. (Velocette):
G. Denley.
E. F. Goodman.
S. Jones.
Enfield Cycle Co., Ltd.:
H. L. Hanks.
W. E. Smith.
D. S. Alexander.
Reg. H. Baxter (Radco).
Butterfields, Ltd. (Levis):
F. W. Applebee.
G. Kuhn.
F. Porter.
New Imperial Cycle Co.:
J. A. Newman.
L. Horton.
L. Tonks.
B. Bladder.
D.F. and M. Eng. Co. (Diamond):
F. J. Price.
R. B. Clark (2¾ Blackburne).
Hoskison Motors, Ltd.:
H. R. Guest.
D. L. Greig (3½ Sunbeam).
E. A. Edwards (3½ J.A.P.)
R. C. Winn (3 A.B.C.).
A. Wilkes (3½ Rover).
H. W. Merrill, jun. (3 A.B.C.).
A. S. Guthrie (3½ Sunbeam).
N.U.T. Motor Co. (N.U.T.):
D. C. Thompson.
D. Robb.
F. J. Fieldhouse.
Phelon and Moore (P. and M.):
G. M. Townsend.
H. M. Batten.
F. W. Longman:
F. A. Longman (3½ Ariel).
Triumph Cycle Co., Ltd.:
G. J. Shemans.
H. Green.
F. G. Edmond.
W. H. Owen (Indian Scout).
A. Colcombe (Indian Scout).
D. Read and Co. (Ready):
D. Read.
R. M. Knowles (3½ Norton).
Mrs. O. M. Knowles (3½ Norton).
Sopwith Aviation Co. (A.B.C.):
K. Robinson.
G. W. Lush.
E. E. Palmer.
James Cycle Co., Ltd.:
J. F. Lidstone (2¼ James).
G. A. Strange (3½ James).
G. E. Stobart (7 James sc.).

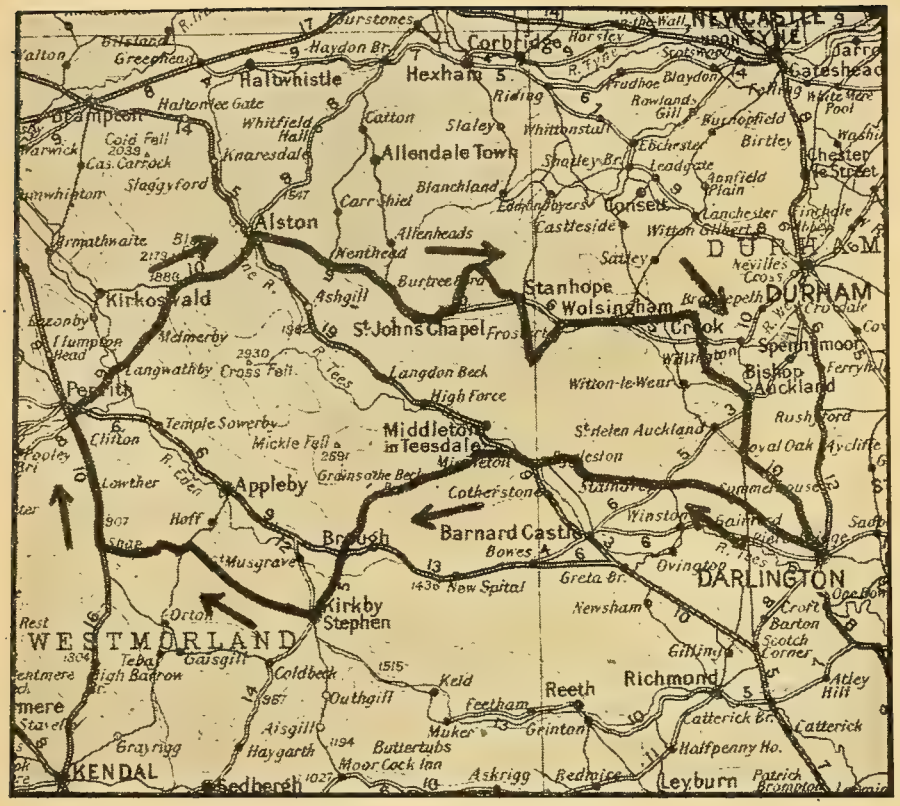


Second day's route, 165½ miles.

N. Rycroft (4 Triumph).
John Marston, Ltd. (Sunbeam):
T. C. de la Hay.
F. C. Townshend.
G. Dance.
New Rover Cycle Co.:
G. Featherstonhaugh.
D. Brandish.
D. H. Noble.
R. W. Duke (4 Triumph).
E. Cross (4 Triumph)
B. Alan Hill (3¾ Scott).
W. Westwood (4 Triumph).
G. L. White (5 J.A.P.)
E. S. Astley (5 J.A.P.).
D. A. Atkin (5 J.A.P.).
C. Moser (4 Triumph).
P. H. Hall (4 Blackburne).



Third day's route, 134½ miles.



Fourth day's route, 160½ miles.

Fifth day's route.

G. W. White (4 Norton).
W. Edwards (4¼ B.S.A.).
A. J. Stevens, Ltd. (A.J.S.):
Cyril Williams.
H. R. Davies.
Eric Williams.
O. Wade.
R. E. Darnton (7-9 Indian).
S. Sawer (4 Norton).
W. McLellan (4 Norton).
J. Johnson (5-7 Coventry Victor).
W. J. Montgomery (5-7 Montgomery).
R. W. Bywaters (6 A.J.S.).
G. Nott (7 Matchless-M.A.G.).
C. R. Collier (7 Matchless-M.A.G.).
F. J. Watson (6 Ariel).
T. J. Ross (7 M.A.G.).
H. E. Ashley (6 L.M.C.).
G. W. Harden (7 M.A.G.).
F. J. Ellis (7 M.A.G.).
G. Packman (8 Matchless).
L. G. Bachelor (8 Blackburne).
W. A. Fell-Smith (8 Blackburne).
H. P. D. Motor Co.:
J. H. Phee (8 Dot).
Morgan Motor Co.:
Three machines.
T. Charlesworth (8 Zenith).
Scott Motor Cycle Co., Ltd.:
C. P. Wood.
H. Longmuir.
G. Hill.
W. L. Guy.
B.S.A. Cycles, Ltd.:
L. L. Scidey.
F. Turvey.
H. F. Edwards.
W. G. Harrison.
H. E. Baker, Ltd.
Harry Green.
A. G. Cox.
M. A. Bliss.
Clyno Eng. Co., Ltd.:
A. S. Knight.
C. Freeman.
Hugh Greeves.
Hurley Davidson Motor Co.:
J. A. Sullivan.
D. A. Davidson.
G. Grinton.
Humbert, Ltd.
S. Wright.
Zenith Motors:
H. Jepson.
L. C. Gilson.
Beaumont Motors, Leeds, Ltd.:
N. A. Woodley.
Dunford and Elliott, Ltd.:
Two machines.
W. J. Lake (2¾ A.J.S.).
J. Cooper (6 A.J.S.).
Gilston M.C. Depot:
M. C. Davies.
Barnet Gold (2¾ Wolf).
W. J. Chambers (4¼ B.S.A.).
A. L. Cranch (5 Rover).
H. Patterson (4 Triumph).
Capt. R. Locke (3½ Coventry Eagle).

LIGHTWEIGHT TRIAL RESULTS.

THE official results of the recent Birmingham M.C.C. lightweight trial to Chepstow and back show that no fewer than six competitors lost no marks, and therefore tie for the premier award. These were: E. J. Bastock (2½ Levis), R. E. Pugh (2½ Levis), J. C. Walker (2½ Edmund-Jap), A. R. Edwards (2½ Levis), Eric Williams (2½ Velocette), and G. Kuhn (2½ Levis). These ties will be decided in a later event. The best amateur performance was made by E. J. Bastock; and the silver medallists were G. Denley (2½ Velocette), W. R. Urwin (2½ Levis), and B. Kershaw (2¼ Verus).

In the touring trial for larger machines run concurrently with the lightweight event the following secured the chief awards in their respected classes:

L. Paynter (3½ Norton), W. A. Eggington (4 Sunbeam), R. A. Fawcett (4¼ B.S.A.), and H. H. Peters (4 Triumph) tied, W. T. Woodcock (3½ Ariel sc.), A. H. Edwards (4¼ James sc.), and B. Bladder (8 New Imperial sc.).

Best Amateur Performance: A. H. Edwards (4¼ James sc.).

In addition there were no fewer than thirteen silver medal winners.

LONDON TO HOLYHEAD.

Holiday Event for the Maude's Challenge Shield, organised by the Ealing and District M.C.C., proved to be a hard Trial.

THE Ealing and District M.C.C. held their first London-Holyhead Trial on 31st July and 1st August, starting from Cranford Bridge. Unfortunately the trial attracted only sixteen entries, of which number only one (W. J. Phillips, 10 h.p. Deemster light car) failed to start. The course proved to be a very severe one indeed, including as it did the crossing of Machynlleth and the ascent of Bwlch-y-Groes. The former was taken in the opposite direction to that of the English Six Days in 1919, and Bwlch-y-Groes took its usual toll of gold medals. The first competitor was despatched by Dr. Low at midnight, and the course followed the Bath Road to Reading, and thence through Faringdon and Gloucester to Hereford, where one hour and fifteen minutes were allowed for breakfast. At this point the first check was held, and most of the competitors arrived to time. Here S. A. Lees (2¾ h.p. Priory), arrived late, having suffered trouble with slipped magneto timing, and decided to retire. The next point of interest was just beyond Rhayader, where the first observed hill was found, and on the summit of which the secret check was instituted, which is only to be used to decide the winner of the shield in case of a tie. The hill did not present many difficulties, and several competitors were caught considerably early.

From here we rode in company with H. Welsh (2¾ Priory) and J. Harrison (3 Calthorpe), both of whom had great difficulty with slipping belt after the many watersplashes encountered.

A Difficult Descent.

Conditions now stiffened considerably, for after climbing up to Van Mines via Stay-a-Little, an old English six days friend, the mountain was descended on the Machynlleth side. The surface was appalling, being composed of large slabs of rock, water gulleys running across the road at various angles, and two cart ruts several inches deep.

Lunch was arranged at Bala, but Bwlch-y-Groes had to be climbed *en route*. Clean ascents were made by W. G. Bower (5-6 Rover), D. D. Tilt (4 Triumph), A. G. Battley (4 Triumph), Mrs. O. M. Knowles (3½ Norton), George Nott (8 Matchless sc.), and Rex G. Mundy (10 G.N. light car).

Here there were no observed hills or checks until Holyhead was reached, where F. T. Bidlake timed in the ten survivors. The awards will be decided on the basis of climbing all observed hills, adherence to schedule, and, if a tie should result, the secret check will be resorted to—but only in the event of a tie. The following finished within their respective time limits:

F. S. Spouse (10 T.B. cycle car).
W. G. Boyer (5-6 Rover).
D. D. Tilt (4 Triumph).
A. G. Battley (4 Triumph).
P. Cunningham (3½ P. and M.).
Mrs. O. M. Knowles (3½ Norton).
Capt. R. M. Knowles (3½ Norton).
George Nott (8 Matchless sc.).
T. J. Ross (8 Matchless sc.).
Rex G. Mundy (10 G.N. cycle car).

A remarkable performance was put up by Mrs. Knowles, who, although she had an accident near Festiniog, damaging her handle-bars, controls, and tank, managed to finish within her time limit.

It is proposed that a permit be asked for from the Auto-Cycle Union for this event to be made open next year. If this is done, it is to be hoped that the trial will be better supported, as it undoubtedly deserves to be with such a sporting course.

We were truly sorry for F. T. Bidlake, whom Longman took over the worst part of the course in his sidecar, and endeavoured to arrow the route in addition to arriving at each check before the first competitor. It speaks well for his 3½ Ariel that it accomplished what it did.

ENGLAND v. HOLLAND.

Next Saturday's International Motor Cycle Trial from Maastricht (South Holland) to Amsterdam. Third of the Series.

INSTITUTED in 1912, the third Anglo-Dutch trial is to be held in Holland on Saturday, the 7th inst. Eighteen British and a similar number of Dutch riders, each team composed of nine amateurs and nine trade representatives, will compete over a course divided into three sections and extending from Maastricht, on the Belgian-Dutch border, to Amsterdam. A mass of checking stations have been arranged on the course of approximately 150 miles, and regularity in running is to settle the final destination of the "N. M. V. Beker," presented by Messrs. J. Ferwerda and A. Citroën in 1912. Controls have been arranged at Zeuls and Utrecht, besides secret checking stations. The start is at 7 a.m.

The Anglo-Dutch trial is a growingly popular event. Its origin is interesting. In 1911 a pary of keen Dutch motor cyclists journeyed to the Isle of Man to witness the T.T. Races of that year. On their return, an invitation was extended to *The Motor Cycle* to organise a team to compete against an equal number of Dutch motor cyclists, which suggestion we readily acted upon, and a representative team duly arrived in Holland full of confidence in success. But Dame Fortune decided that a German magneto should be deranged on one British mount, and as a result the rider retired and lost the maximum number of marks for his team at successive controls. Holland thus won deservedly.

The following year, a Dutch team visited England, Oxford being the starting and finishing point of the trial, organised by the A.C.U. Hills are almost non-existent in Holland, and when the Dutchmen saw—and felt—Kop, near Princes Risboro', they fell off like shelling peas. England thus won comfortably in 1913. The war upset the return trip to Holland in 1914, which was to settle the ultimate winners of the Trophy, and next Saturday's contest represents the postponed event.

A strong British team crossed over to Antwerp from Harwich on Tuesday evening last, and were due at Maastricht, South Holland, to-day (Thursday). The Dutch folk are extremely hospitable, and an interesting programme in commemoration of the visit had been mapped out. There was to be a reception by the Maastricht Council this evening at a dinner to the international riders.

In the trial on Saturday the Dutchmen will mostly ride American-made machines. The British riders are, of course, to a man astride British mounts.

The 1920 British team selected is as follows:

UNDER 500 C.C.—*Private Owners:* T. Rutherford (3½ Sunbeam), Geoffrey Smith (3½ Sunbeam), Lt. Glen Kidston, R.N. (3½ Sunbeam), and E. A. Edwards (reserve) (3½ N.U.T.). *Trade:* W. B. Gibb (2¾ Douglas), H. Gibson (2½ Clyno), and J. A. Newman (3½ Sunbeam).

OVER 500 C.C. SOLO. *Private Owners:* D. H. Noble (5-6 Rover), F. A. Hardy (5-6 Zenith), F. Dover (4 Triumph), and G. W. G. Codd (reserve) (10 Reading-Standard). *Trade:* Kaye Don (6 Zenith), L. Newey (6 Ariel), and G. W. Moffatt (4 Douglas).

SIDECARS.—*Private Owners:* G. H. Boynton (5-6 James sc.), C. Crossthwaite (5-6 James sc.), W. A. Fell-Smith (8 Blackburne sc.), and S. Bannon (reserve) (7-9 Harley-Davidson sc.) *Trade:* C. R. Collier (8 Matchless sc.), H. A. Collier (8 Matchless sc.), W. Pratt (6 A.J.S. sc.), E. B. Ware (reserve) (8 Matchless sc.), and H. F. S. Morgan reserve) (8 Morgan).

BROOKLANDS AUGUST MEETING.

TAKEN as a whole the August Brooklands meeting was a success in spite of the weather, though, obviously, a great number of visitors must have been kept at home by the series of annoying showers. Small cars had the second race, which was the third light car short handicap, to themselves, and E. B. Ware's red Morgan won a fine race, covering the five and threequarter miles at a speed of 68.5 m.p.h., well ahead of the field.

Unfortunately, Frazer Nash's famous G.N. suffered from a bad side-slip while just behind Bedford's Hillman as both cars were entering the railway straight. The G.N. turned round completely, then crashed into the foliage and through the fence on the railway side. Nash, by a miracle, escaped with minor injuries, though the car turned upside down.

The second light car long handicap was won by Ware (Morgan) at 69.5 m.p.h. Hawkes (Morgan) won the cycle car short handicap at 64 m.p.h.

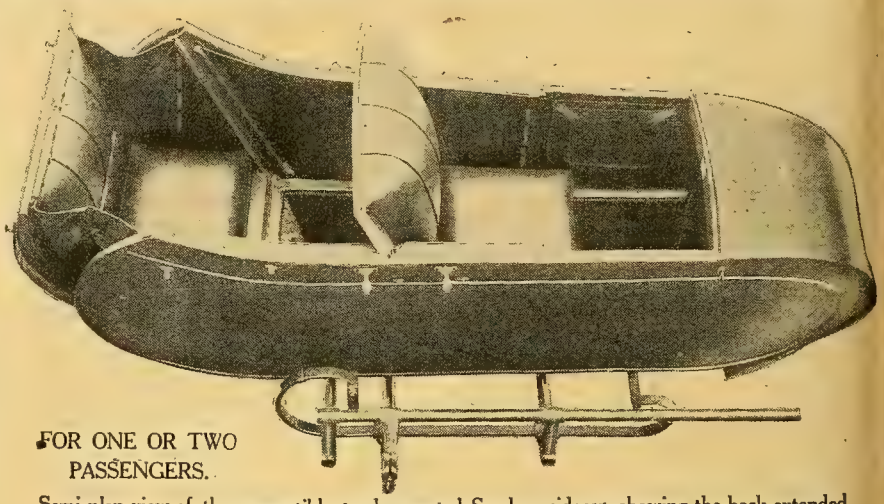
NEW IDEAS IN SIDECAR DESIGN.

A Convertible Tandem Seater—an Australian Design. Sporting and Touring Types.

THE popularity of the sidecar increases day by day, and as a result new models are constantly being introduced to meet the demand. Compared with the pre-war product, the sidecar of to-day is a vastly improved article, and this is a point which should be borne in mind when prices of the two periods are compared.

Illustrated on this and the following page are new sidecars to suit the various requirements of different drivers, from the owner of a sporting machine to the one who wishes to accommodate his family.

The first machine illustrated is a convertible tandem seater, produced by the Sandham Engineering Co., 336, Gray's Inn Road, London, W.C.1, and seems to have overcome a number of difficulties. As may be seen from the plan view of the sidecar, additional length is afforded in the body by extending the rear back rest. A pit is arranged for this passenger's feet. The side pieces which limit the angle of the rear back rest are reinforced by a strip of stout leather running through the centre.

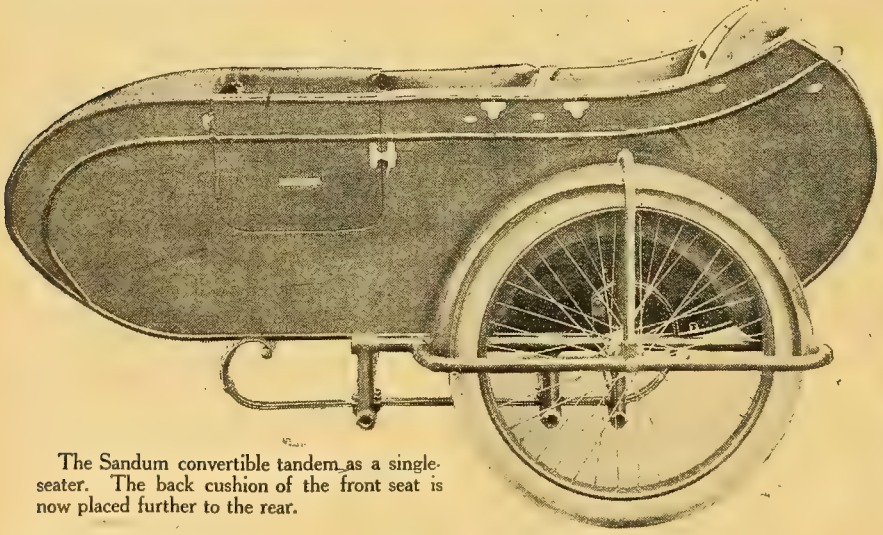


FOR ONE OR TWO PASSENGERS.

Semi-plan view of the convertible tandem-seated Sandum sidecar, showing the back extended for the accommodation of a second passenger.

dash over the nose show consideration for the passenger's limbs. A change of position is rendered possible by a movable seat, the semi-reclining position favoured by some passengers being possible, but is left a matter of choice. The makers say that it is neither a flying camp bed nor a portable lounge chair, rather is it a compromise between the two, and, therefore, likely to have a wider appeal.

The price of this attachment is £22.



The Sandum convertible tandem as a single-seater. The back cushion of the front seat is now placed further to the rear.

When it is required to carry one passenger only, a very neat method is used for converting the body into a single-seater. The rear seat is placed on end, and rests against the rear back rest, which latter falls forward and follows the contour of the rear of the body. The front back rest, which is held in two grooves, is removed and placed in similar slots at the rear, whilst the front seat slides back an equivalent distance. The change can be made in a few minutes.

This model is to be handled in London by Dunhills, Ltd., 359-361, Euston Road, London, N.W.1.

A sporting type sidecar—but not so "sporting" as to be uncomfortable—is the Stanford Classic, manufactured by the Stanford Sidecar Co., of Sampson Road North, Birmingham. It is as wide and as well-upholstered as the average tourist model, and as strongly constructed. The angle of the footboard and the raised

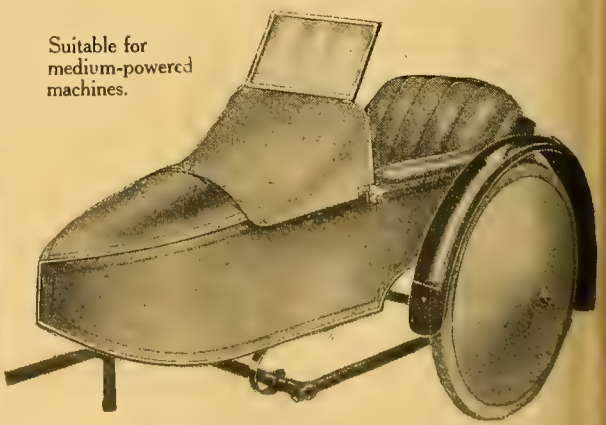
Rear view of the Rock sidecar.

Adjustable screen and apron £2 10s. and aluminium disc for wheel £2 extra.

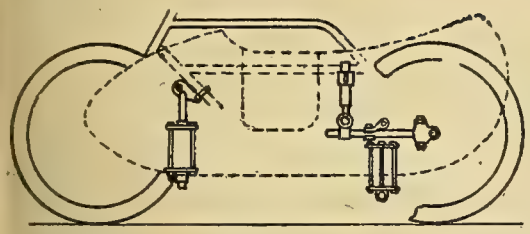
Another model made by this firm is a tourist model, more or less on con-

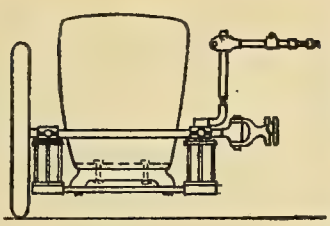
The rear locker of the Stanford semi-sporting model.

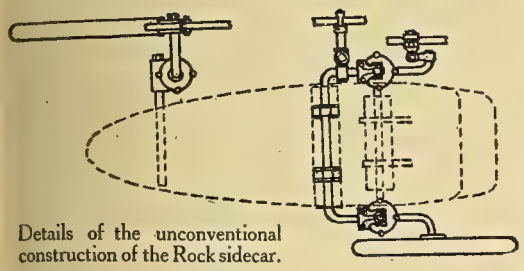
Suitable for medium-powered machines.



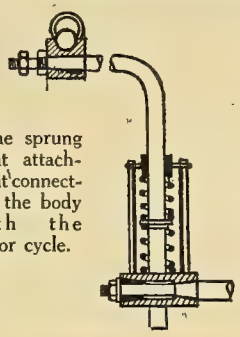
The Stanford "classic" semi-sporting sidecar.







Details of the unconventional construction of the Rock sidecar.



The sprung front attachment connecting the body with the motor cycle.

ventional lines—well-made and finished, and at a reasonable price, viz., £26 10s. Both these sidecars are also made in metal for overseas.

The Rock Sidecar.

In our issue for July 29th, we gave particulars of Australian produced motor cycles. Apropos the entrance of the Antipodes into the manufacturing field, we recently had a call from Mr. J. W. Underwood, managing director of the Underwood Patent Sidecar Pty., Ltd., of Melbourne, Australia. This gentleman gave us particulars of the Rock sidecar which embodies the company's patents. The chief features are in the design of the chassis and the springing, both of which are distinctly unconventional. The main weight of the sidecar at the rear is taken by a U-shaped steel bar attached flexibly to the chain stays at the top of the saddle tube, the body being bolted to a bar insulated from the U-shaped member by means either of coil springs or a transverse semi-elliptic spring, the front of the body being suspended in a similar fashion.

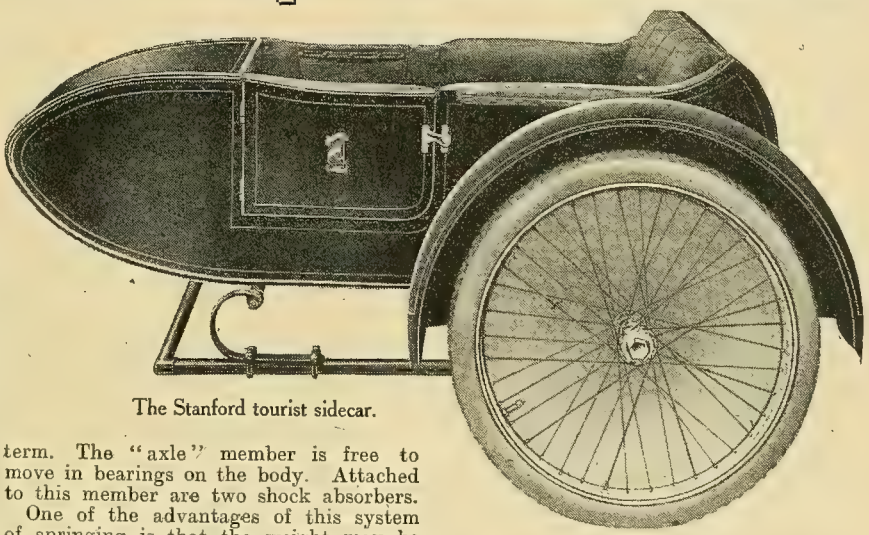
It may be said that the Rock sidecar has no frame in the usual sense of the term. The "axle" member is free to move in bearings on the body. Attached to this member are two shock absorbers.

One of the advantages of this system of springing is that the weight may be adjusted by slackening two bolts and nuts which shorten or increase the leverage on the arm. The total weight of the chassis is about 50 lb., and it can be attached either to a light machine or a heavy twin.

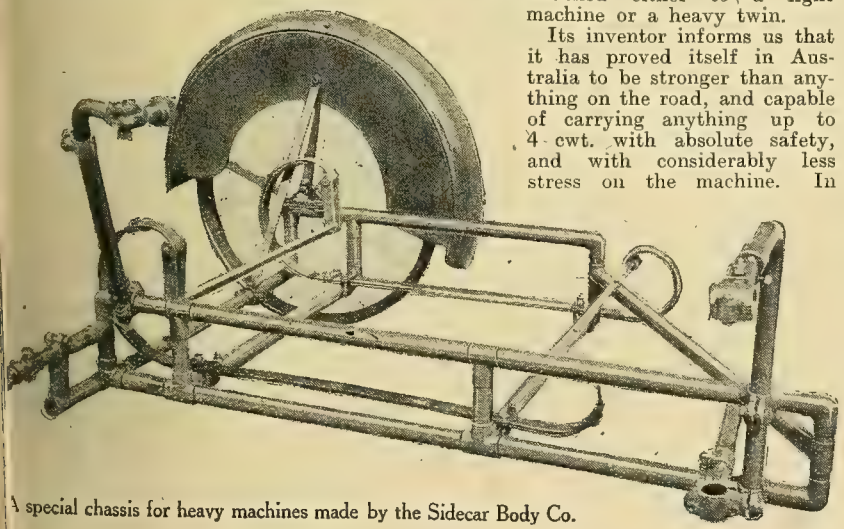
Its inventor informs us that it has proved itself in Australia to be stronger than anything on the road, and capable of carrying anything up to 4 cwt. with absolute safety, and with considerably less stress on the machine. In his design, Mr. Underwood has endeavoured to do away with rigidity as far as possible, to allow plenty of vertical movement with no horizontal movement. His firm has turned out as many as 1,000 sidecars per annum in Australia, and hopes very shortly to introduce the Rock on the English market.

Mr. Underwood's design certainly is not the first attempt to provide a non-rigid construction, but it appears to have greater possibilities than the majority of such devices we have inspected. We hope later to try the device.

Mr. Underwood's present address is 30, Dunsford Road, Bearwood Road, Bearwood, Birmingham.



The Stanford tourist sidecar.



A special chassis for heavy machines made by the Sidecar Body Co.

A Chassis for Four-cylinder Henderson Machines.

We recently inspected a sidecar chassis which has been specially constructed for attachment to Henderson motor cycles, and will shortly be placed on the market, equipped with a special body by the Sidecar Body Co., 23, Upper Clapton Road, London, E.5. Exceptionally sturdy construction and the capability to withstand the violent road shocks to which it is submitted when attached to a heavy four-cylinder machine are two of its principal features.

The chassis is made of 12 gauge steel tubing throughout, and the lugs are machined from the solid.

As clearly shown in the illustration, in addition to the three cross members, a diagonal tube, linking up the front ends of the twin longitudinal members, is introduced.

Four vertical supports bridge the off-side members, and of the four-joint attachment, the shape of the upper tube at the rear is such that easy access can be made to the left-hand kick-starter.

As the lower lug on the Henderson rear forks is not in line with the wheel axle, the lower sidecar lug is lowered in order to keep the chassis horizontal, and yet retain the alignment of the sidecar and motor cycle wheels. The body is suspended on a front and rear bracket, which latter are attached to two long C springs. A special two-seater body will also be fitted, the price of which will be in the vicinity of £35.

CURRENT CHAT

Times to Light Lamps.

Aug.	5th	... ...	9.11 p.m.
,,	7th	... ...	9.8 ,,
,,	9th	... ...	9.4 ,,
,,	11th	... ...	9.0 ,,

Taxation of Sidecars.

Thanks to pressure exerted by the Motor Legislation Committee through Sir W. Joynson-Hicks. The £4 sidecar tax has been amended. We forecasted this in last week's issue. The amendment provides that in cases where the cycle does not exceed 200 lb. in weight unladen the total duty will be £2 10s. only.

A.C.U. Six Days Trial.

The amount of hotel accommodation at Darlington is somewhat limited, and with a view to assisting the competitors, etc., the Darlington Bicycle and Motor Club are getting up a list of available beds. If any of the competitors wish any assistance in this direction, they should communicate with the hon. secretary, Mr. T. W. Watson, Central Chambers, Darlington.

In the Cumberland Trial.

At the conclusion of the recent Cumberland County M.C.C. Trial it was generally thought that the team of three Richardson cars was the only one to complete the course, but this supposition proved to be incorrect. The idea arose no doubt from the fact that these cars composed the only manufacturers' team to finish. The team prize was taken by the Worcester and District M.C.C., the riders in which were all mounted on Sunbeams.

Motor Cycle Enthusiasm at Newcastle.

There are now three motor clubs with headquarters at Newcastle-upon-Tyne. The aggregate membership of the three is well over 400. The Newcastle Motor Club, started in 1906, has been quiescent during and since the war, but was resuscitated at a meeting held recently, when an Advisory Committee was appointed to consider steps to revive the club.

At the present moment, the only club affiliated through the N.E.A.A. with the A.C.U. is the Newcastle and District M.C.C., which was started the same night in 1906 as the Newcastle Motor Club. The former club last month held a most successful trial for the White Cross Trophy, for which there were fifty-four competitors. It is one of the most progressive organisations in the North, having a paid up membership of over 200, the majority of whom are amateurs. The third Newcastle body, the Northern M.C., is of comparatively recent origin.

Next Year's T.T. Races—First Entries Received.

The Auto Cycle Union is already dealing with the preliminary organisation of next year's Tourist Trophy Races, to be held over the same course as was used this June. In this connection the Union makes the interesting announcement that the first entry for the 1921 Senior T.T. has already been received; this consists of three Norton motor cycles which the makers have put forward as a team in the 350 c.c. class. A Norton machine finished second in this year's Senior Race, and this make only missed winning the team prize by a matter of seconds, no team actually qualifying. It may be safely assumed that the present holders of the Tourist Trophies, the makers of the A.J.S. and Sunbeam motor cycles, will exercise their right to defend their titles to the Blue Ribands of the motor cycle world next year.

Special Features.

CAMPING WITH A LIGHTWEIGHT
AN UNTAPPED MARKET.
A.C.U. SIX DAYS ROUTES.

Lancashire Team Trial Results.

The North-Western Centre A.C.U. event resulted in a victory for the Warrington M.C.C. No. 2 Team, who thus secure the Blake Trophy and gold medals. Bury and District M.C. No. 3 Team secure second place and receive silver medals. In order, the placing of the other clubs is as follows: Bolton No. 1, Manchester No. 2, Bolton No. 2, Bury No. 2, E. Lancs., Warrington No. 1, Burnley No. 3, Bolton No. 3, J.B. (Liverpool) No. 1, J.B. (Liverpool) No. 2, N. Cheshire, Widnes, Burnley No. 2, Stalybridge, Manchester No. 3, Manchester No. 1, Burnley No. 1, and Bury No. 1.

SIX DAYS TRIAL IN THE FRENCH ALPS.
Competitors enjoying the view at Pont de la Goule Noire.

Surplus.

45,000 surplus military pedal cycles have been sold by the Government which may account for the falling off in demand for new bicycles which agents seem to think foreshadows a decline in the demand for lightweight motor cycles.

The White City.

The Executive of the "Great White City" announce the first of a series of exhibitions of national importance to be held at the Exhibition Buildings, Shepherd's Bush, during the winter months of this and succeeding years. A part of the car show will be held here this year.

The Ruling Body in Belgium.

Up to this year motor cycling in Belgium has been under the care of the Belgian Royal Automobile Club, but now the affairs and welfare of Belgian motor cyclists have been delegated to the Federation of Belgian Motor Cyclists by the R.A.C.B. The first active work of the new body was to attend the F.I.C.M. Conference in Paris on August 3rd, and then to meet the delegates of England and France. One of the most important items on the agenda was the settling of the international classification rules.

American Opinion.

Since America produced two spring frame machines, one of her motor cycle journals appears to think that U.S.A. has a monopoly in brains so far as spring frames are concerned. The following is culled from a recent paragraph: "Over in the land of Johnny Bull the riders are tortured with about 700 varieties of spring frame. Every British trade paper has photos of new types, each one worse than its predecessor. The one ambition of the designers seems to be to depart entirely from the conventional leaf springs which have proved so successful."

Second-hand Prices.

No appreciable change in the prices of second-hand machines has been apparent during the past few weeks, though the number of 1920 models coming into this market is steadily increasing. The list given below shows the highest and lowest prices asked by advertisers, and enables readers to keep in touch with current second-hand prices generally.

	Highest and Lowest.
A.B.C., 3 h.p., 4-speed, 1920	£132–£155
A.J.S., 6 h.p., sidecar, 1919-20	£175–£245
,, 6 h.p., sidecar, 1916-18	£100–£145
Alldays-Allon, 2-stroke, 1916-18	£48–£65
Ariel, 6-7 h.p., sidecar, 1919-20	£155–£185
B.S.A., 4½ h.p., 3-speed, sidecar, 1916-18	£105–£119
,, 4½ h.p., 3-speed, sidecar, 1919-20	£125–£155
Calthorpe-Jap, 2¾ h.p., 2-speed, 1915-16	£40–£46
Clyno, 5-6 h.p., 3-speed, sidecar, 1914-16	£80–£135
,, 2-stroke, lightweight, 1919-20	£55–£75
Coulson-B., 2¾ h.p., 2-speed, 1919-20	£85–£105
Diamond-Jap, 2¾ h.p., 2-speed, 1916	£50–£60
Douglas, 2¾ h.p., 2-speed, 1914-16	£50–£65
Douglas, 4 h.p., 3-speed, 1916-18	£91–£125
Enfield, 6 h.p., sidecar, 1916-18	£125–£145
Harley-Davidson, 7-9 h.p., sidecar, 1919-20	£180–£220
Indian, 7-9 h.p., Powerplus, sidecar, 1919-20	£165–£210
Levis, 2-stroke, Popular, 1919-20	£50–£60
Matchless, Model H, 1920	£205–£235
New Imperial-Jap, 2¾ h.p., 2-speed, 1916-17	£50–£59
Norton Big 4 sc., 1919-20	£190-195
Norton, 3½ h.p., T.T., Philipson, 1919-20	£90–£105
P. and M., 3½ h.p., 2-speed, 1917-19	£68–£78
Rover, 3½ h.p., 3-speed, sidecar, 1919-20	£145–£181
,, 5-6 h.p., 3-speed, sidecar, 1920	£170–£220
Rudge, 3½ h.p., I.O.M., 1919-20	£90–£119
Scott, 3½ h.p., 2-speed, 1919-20	£95–£138
Sunbeam, 3½ h.p., 3-speed, 1919-20	£135–£170
Triumph, 4 h.p., 3-speed, 1918-19	£78–£96
,, Junior, 2-stroke, 1919-20	£65–£80

A Road Conference.

A conference to consider the development of roads throughout the Empire is being arranged by the Imperial Road Transport Council, to take place at Olympia from October 18th to 21st. The hon. secretary of the conference is Mr. Horace Wyatt, Imperial Transport Council, R.A.C., S.W.1.

Irish End-to-end Abandoned.

The Ulster Centre of the Motor Cycle Union of Ireland has definitely decided to abandon the End-to-end trial which was originally fixed for last month and postponed to a date in September. In substitution thereof it is proposed to hold an open two-day trial on September 8th and 9th, starting and finishing each day at Belfast. The first day's run will be through the Mourne Mountains in Co. Down, and the second day through the Co. Antrim, principally along the line of hills verging on the coast, with a special flexibility test at Iscar Hill, near Fair Head. It is hoped that a number of English entries will be attracted for this event.

Welsh Open Hill-climb.

The open hill-climb of the Welsh Eastern Group of Motor Cycling Clubs, to be held under A.C.U. open competition rules, will be held at Govilon Hill, near Abergavenny, on the 14th inst.

Ten open and five members classes comprise the programme, and awards will be made on time only, competitors being timed electrically. The classes are as follow: Class 1.—Scooters (open). Class 2.—Solo machines up to 275 c.c. (members'). Class 3.—Solo machines up to 275 c.c. (open). Class 4.—Solo machines up to 350 c.c. (members'). Class 5.—Solo machines up to 350 c.c. (open). Class 6.—Solo machines up to 500 c.c. (members'). Class 7.—Solo machines up to 500 c.c. (open). Class 8.—Solo machines up to 750 c.c. (members'). Class 9.—Solo machines up to 750 c.c. (open). Class 10.—Solo machines, unlimited (members'). Class 11. — Solo machines, unlimited (open). Class 12.—Sidecar machines to 500 c.c. (open). Class 13.—Sidecar machines to 750 c.c. (open). Class 14.—Passenger machines, unlimited (including three-wheel cycle cars) (open). Class 15.—Light cars up to 1,500 c.c. (open).

New Registration Index Letters.

In addition to the distingushing index letters D, KN, and KT, assigned to the County Council of Kent, KE has now been added. The letters XE, XF, and XH have also been assigned to the county of London. These make a total of twenty-seven different index marks for this district.

The Chatsworth Speed Trials.

The inter-club team event in the open speed trials at Chatsworth Park on Saturday next is arousing more than usual interest owing to the larger area thrown open to the competing clubs. The open classes are receiving the support of many well-known riders, G. Dance and other riders in this year's T.T. having entered. Being held at the end of a holiday week in a popular touring centre, the event will undoubtedly draw a large number of visitors. Club runs from the neighbouring towns are being arranged, and no admission fee is being made for entrance to the park. In the team event affiliated clubs from the counties of Derby, Leicester, Lincoln, Nottingham, and York are competing for the East Midland Centre Challenge Cup, which, for the clubman at least, will be the event of the day.

Lifting the sidecar wheel at speed—a demonstration of skill, nerve, and the strength of the machine. The Norton, with Henderson sidecar, depicted above, is driven by A. Fisher, of Sheffield, who was a D.R. during the war

A CAREFULLY DESIGNED TWO-STROKE.

Some Details of an Interesting Machine.

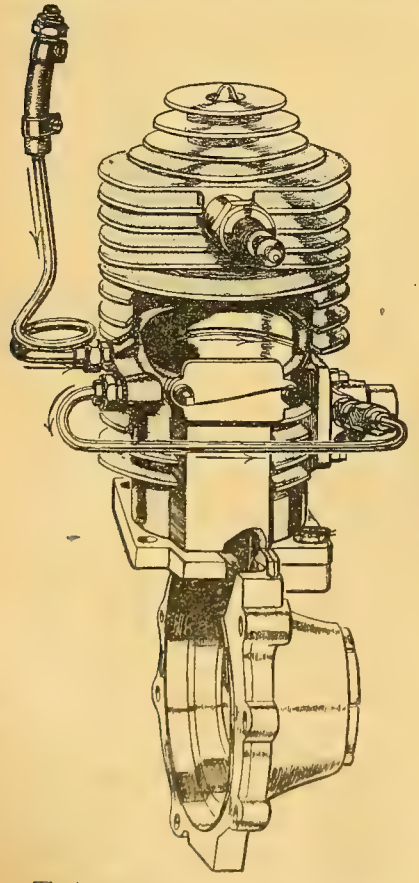
WE know of few motor cycles fitted with two-stroke engines in which more careful design has been incorporated than in the 2½ h.p. S. type Metro-Tyler. Unlike many two-stroke lightweights, the Metro-Tyler has been most carefully thought out in every detail. The machine was described in our issue for November 20th, 1919, but a few further remarks on its construction will not be out of place.

The engine and gear box are built up to form a single unit, the engine, magneto, and gear box being carried between two side plates, and entirely enclosed. The engine is naturally placed in front, next comes the magneto, and at the extreme rear the gear box. Both magneto and gear box are fastened in slotted holes so that movement is allowed for chain adjustment. The aluminium case, which encloses these three main parts, adds greatly to the appearance of the machine.

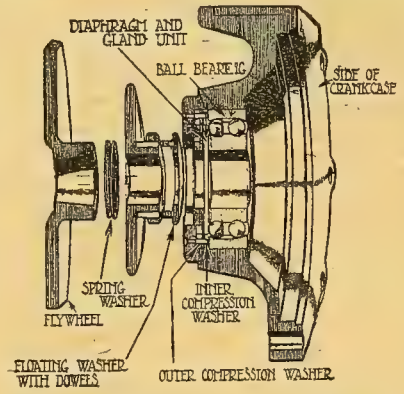
Two-speed Gear.

Of the ordinary two-speed dog clutch pattern, the gear box has a main shaft running on double ball bearings on the pulley side and single ball bearings on the chain side, while the lay-shaft runs on plain bearings.

To show how carefully details have been studied, we may mention that there is



The lubrication system. Arrows indicate the path of the oil.



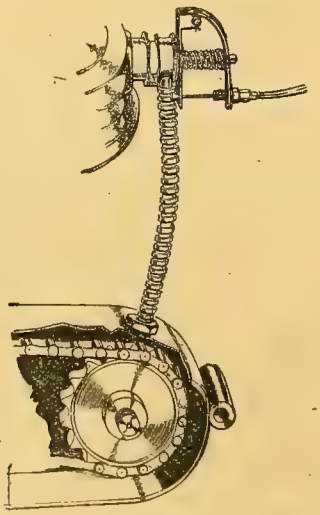
The compression retaining bearing and gland of the S type Metro-Tyler.

not a nut, on the machine but which is secured adequately, either by means of a spring washer, a split pin, or by wiring the nuts so that they cannot move.

By boring the cylinders right through to the head and by machining the exterior as well as the interior, a perfectly smooth finish is secured in order to assist cooling. Bolted to the head is a series of three aluminium cooling fins which assist in the radiation of the heat.

Crank Case Compression.

So far as internal parts of the engine are concerned it is worthy of note that a roller bearing connecting rod is fitted. Special care has been taken to render the main bearings compression tight, and this is effected by means of two fibre washers and a steel diaphragm pressing



A flexible pipe conveys the release gas to the chain case to lubricate the chain by oil vapour.

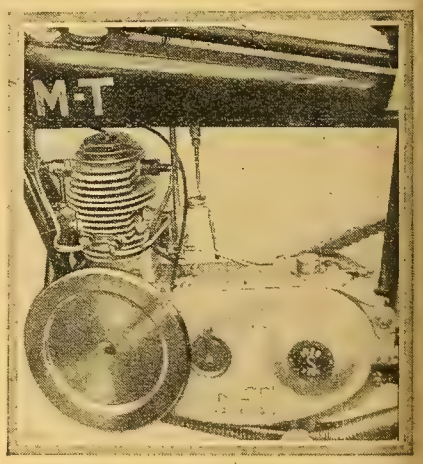
against a washer held by pins to the engine sprocket. By this means all danger of leakage is obviated.

Lubrication is effected through a drip feed provided with an auxiliary pump, the engine receiving the oil through crank case suction. There are two unions on the flywheel side of the engine. Through one the oil enters, and is carried *via* spiral grooves in the cylinder, out at the other union, and round to the induction pipe, through which it is drawn into the crank case, thus adequately lubricating the connecting rod and main bearings, the spiral grooves serving, of course, to keep the piston and gudgeon pin continuously supplied with oil.

Novel Exhaust Release.

It has been customary in the past in the design of some two-stroke engines to bring the gas from the release valve into the exhaust pipe, but in the case of the Metro-Tyler it is introduced into the unit cover so that oil spray from the cylinder is brought on to the magneto chain. Die castings are employed wherever possible, resulting in cheapness of manufacture and in an exceptionally neat and well finished appearance.

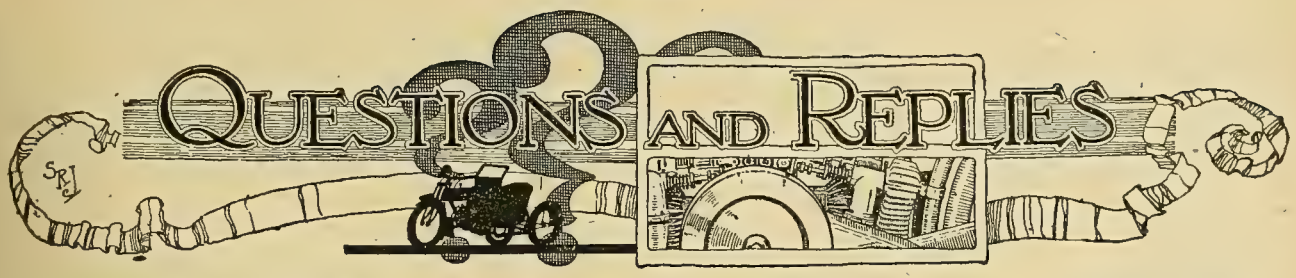
A point not often observed by motor cycle manufacturers is that of placing the date and type of the machine, and also



The Metro-Tyler method of enclosing crank case, magneto, and gear box.

the unit number, on the unit case, in a conspicuous position; so that the purchaser of a second-hand Metro-Tyler can make no mistake as to the date of manufacture.

The frame is also of great interest, as no lugs are used with the exception of the tank brackets, where brazing is employed, all joints being acetylene welded. All back members, namely, the back fork and chain stays, have exactly the same contour on each side, so that the manufacture of these is considerably simplified. The chain stays are bored with two holes, one of these taking the mudguard support, while the rearward holes take the spindle for the foot brake on one side and the silencer bracket on the other. The toolbag is of triangular shape at the rear of the carrier. It is of metal, and is fitted with a spring-held cover, while the rearmost side is of the correct dimensions and so serves as a number plate.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Fitting Large Tyres.

If there is no danger from skidding more easily or blowing off, should I be doing right in ordering 26in. × 2½in. or even 26in. × 2¾in. (if made) for my wheels which are made to take 26in. × 2¼in. covers? Will it be necessary to replace the inner tubes with larger at the same time?—C.O.F.

The largest tyre you can fit to the 26in. × 2¼in. rim is 26in. × 2½in. for 2¼in. A 26in. × 2¾in. cover will also fit satisfactorily, but an ordinary 26in. × 2½in. is unsuitable. Tubes of the same size as the covers are advisable.

Single-handed Control.

Will you kindly suggest the best way of altering the controls of a New Imperial-Jap with kick-starter and handle-bar clutch for a person with an artificial left-hand (from the wrist). I was thinking of putting the clutch on the right-hand side and making the gear change foot-operated. How can I make a pedal with stops for high, low, and neutral gears? Any suggestion will oblige.—R.C.H.

We would suggest that an easier alteration to make would be a foot control arrangement for the clutch operation. The gears could then be changed by the right hand, or you might even fix up foot operation for the exhaust valve lifter, and use this when changing gear.

Cork Clutch Trouble.

I shall be glad of your advice on the following: I have a 1914 twin Rex with three-speed gear and clutch of A.J.S. pattern. Should the corks be dressed? I cannot get my clutch to come out freely: I cannot get into low from free cleanly, but only with a deal of noise: the same applies to getting from low to second—from second to high is not so bad. Coming down seems all right. The wheels in the gear box are perfect. I am of opinion that this is due to the clutch, but I want your expert opinion before making a move, as I am not expert.—G.C.

Possibly the difficulty with the clutch is due to the operating cable having stretched, you should take up the adjustment provided. It would also be advisable to dismantle the clutch itself, and find out whether the clutch plates slide freely on the shaft, as they may be binding. The cork inserts do not require any dressing.

Limited Maximum Speed.

I shall be extremely obliged if you will kindly give me a little of your expert advice on the following matters: (1.) I have had considerable difficulty in starting my machine of late. The platinum points are slightly worn, but in spite of this there is practically always a good spark at the plug. I have taken the carburetter down, but cannot find anything wrong with it. Some time ago I got a spare jet (size 28) and closed it up slightly and put it in the carburetter, in place of the original 28 jet. The machine at that time (about January last) appeared to run just as well, so I have used that jet ever since. I have not at any time altered the float level. (2.) The machine appears to run quite well up to about 30 m.p.h., but I have noticed once or twice that above this speed it slows up. The machine will get up to 35 or 40 m.p.h. all right, but after running at this speed for about 100 yards or so, commences to slow up (and eventually starts knocking) as though it were going up a steep hill. After declutching and throttling down to about 15 or 20 m.p.h. it will go away as well as ever. The engine was decarbonised on 23rd May, and since then has done about 400 miles.—H.H.B.

From the symptoms you have described we should imagine that the mixture is on the weak side, due to your having closed up the orifice in the jet, and possibly also owing to a too low petrol level. We should recommend that you verify the petrol level (it should be $\frac{3}{32}$nds from the top of the jet when the carburetter is held in a level position). You might also carefully true up the platinum points of the contact breaker, and also replace your sparking plug by one with a large and substantial central electrode. Possibly your present plug electrode becomes semi-incandescent at high speeds, which would naturally cause pre-ignition and consequent knocking. A slight restriction of the jet orifice caused by dirt in the petrol would probably account for the trouble.

A Backfire.

My motor cycle is a 7-9 h.p. Indian with kick-starter in front of the engine on the left hand side. The kick-starter consists of a crank and chain wheel which works a sprocket wheel on the projecting engine-shaft. Quite recently I had the kick-starter repaired, and, in testing the first time, I was most fortunate in not having my left foot smashed. After priming the engine I gave the starter a good kick. The engine fired but worked in the opposite way to which it should, for it brought the kick-starter crank swiftly back and forcibly down, it striking the projecting engine sprocket, thus preventing it from revolving. The kick-starter chain then broke under the engine pressure. Had it not been for the engine sprocket preventing the starter crank from revolving my left foot would certainly have been smashed on the footboard by the terrific force of the starter crank. Would you kindly inform me why the engine worked in the contrary direction?—PUZZLED.

The reason your engine started in the opposite direction was because it backfired due to the magneto being timed too much in advance. If you have a variable magneto, retard it slightly when starting.

A fleet of Auto-gliders used in connection with a hospital collection in Birmingham.

An Old Engine.

I am experimenting to obtain the very best results from an old 5-6 h.p. twin Rex engine, and should be obliged if you would tell me the formula to get correct balance and smooth running.—S.M.W.

Generally speaking, you may take it for granted that the manufacturers have already balanced the reciprocating parts quite satisfactorily, and little, if any, improvement can be made in this direction, unless, of course, new pistons of different weight from the original ones have been fitted. "Motor Cycles and How to Manage Them" contains some useful hints and tips on tune and its maintenance, and also on many points which would be invaluable to you in connection with the work which you are at present undertaking.

A Dry Clutch.

I have a 2¾ h.p. New Imperial (1919) motor cycle, and would be pleased to have your advice on the following matter: Recently the clutch has been hard to operate, and squeaks slightly when in free engine position. It is a plate clutch with cork insets. Does it require oiling, and, if so, what kind of oil? I have read through the makers' booklet, but find no mention of oiling the clutch, so will be greatly obliged if you will answer this query.—C.H.C.

This type of clutch does not require oil, as it is designed to run in a dry condition. We should recommend you to dismantle it when you find that there is a slight binding occasioned in a portion of the clutch operating gear. You should experience no difficulty in taking it down or reassembling, as these clutches are quite simple.

Unbalanced Parts.

Having had a new piston and big and little end bushes fitted to my 3½ h.p. Arno, I find that at speeds about 15 m.p.h. (or coasting down a hill, or when just slowing down) the engine begins to bump badly. I can stop it for a time by lifting the exhaust valve a trifle; also I find that the big end bush is worn out after about 200 miles running. If you will advise me what to do I shall be greatly obliged.—A.C.

The fact that your new piston is heavier than the one originally fitted will throw the engine out of balance and cause vibration. It will be necessary to have your moving parts rebalanced. If you drive with your exhaust valve lifted slightly you will speedily have trouble, as both the valve and the seating will become badly burned. The big end bush was probably badly fitted, or the oil may be of unsuitable grade if the bush has worn out in 200 miles. We should recommend that you go to a reputable repairer and ask him to examine your engine, as there is undoubtedly something radically wrong with it. Without personal examination we are unable to give you any further help.

EXPERIENCES WANTED.

"J.C." (Manchester).—Any method of clearing celluloid windscreen which has become yellow through exposure.

"J.S." (Newcastle-on-Tyne). General opinions of four-cylinder Henderson.

IMPORTANT DATES.

Thurs., Aug. 5th, to Mon., Aug. 9th—
Anglo-Dutch Trial in Holland.

Sat., Aug. 7th—
East Midland Centre A.C.U. Open Speed Trials at Chatsworth Park.

Sat., Aug. 7th—
S.A.C.U. Inter-club Meet at Callander.

Wed., Aug. 18th—
South Wales Club's Open Speed Championship on Penchine Sands.

Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.

Sat., Sept. 4th—
Scottish Speed Championships at St. Andrews.

Scott Trial in Yorkshire.

Nov. 29th Dec. 4th—
Olympia Motor Cycle Show.

RECOMMENDED ROUTE.

CHELSEA TO SALCOMBE.—J.E.S.

Chelsea, Richmond, Kingston, Staines, Egham, Bagshot, Hartley Row, Hook, Basingstoke, Overton, Whitchurch, Andover, Salisbury, Wilton, Compton, Shaftesbury, East Stour, Sherborne, Yeovil, Ilminster, Chard, Yarcombe, Honiton, Exeter, Chudleigh, Newton Abbot, Totnes, Halwell, Kingsbridge, West Alvington, Marlborough, Salcombe.

Dick Turpin up to date. An official at a recent carnival at Hampstead uses his motor cycle to marshal the procession

A Tan Sad Stool.

The Tan Sad Works are now manufacturing an office stool on the lines of their well-known pillion seat. It should appeal to business men, shopkeepers, etc.

The Price of Platinum.

Jebron contacts have long been known to our readers as being practically indestructible and highly suitable for the contact breakers of magnetos. Mr. J. E. Brown, 36, Hermit Road, Plumstead, London, S.E., informs us that he is now able to reduce the price of his contact points, which will continue to be of the same quality as before.

New Enfield Repair Works.

Riders of Enfield motor cycles who live in London and the south will be glad to learn that the makers of these machines have acquired extensive repair shops at the rear of their showrooms (48, Holborn Viaduct, London, E.C.1). All classes of repairs will be dealt with, and the equipment is such that the staff are capable of handling forty overhauls a week.

A Production Record?

In some directions, at any rate, output is rapidly mounting up; for instance, in the last two weeks the production of O.K. Juniors has risen from 175 machines to 200, and even this figure does not reach the limit of the firm's productivity. Perhaps the comfortable and convenient equipment and the pleasant situation of Messrs. Humphries and Dawes model works at Hall Green on the borders of Birmingham has much to do with the happy state of the workpeople, whose efforts achieved this splendid result.

An Interesting Catalogue.

A very pleasant half hour may be spent in perusing the 1920 catalogue which is now obtainable from Messrs. Brown Brothers, Ltd., Great Eastern Street, London, E.C.2. It contains illustrations and prices of almost everything which the motorist or motor cyclist is likely to require, and includes not only accessories for the machine but component parts, such as frames, and also fittings and tools for the workshop. The miniature edition of this catalogue will be sent free to readers who apply for it.

Service Depots for Scott Riders.

A useful little booklet has just been issued by the Scott Motor Cycle Co., Ltd., which contains a list of Scott agents throughout the British Isles. At all these depots Scott owners on tour will be able to obtain spares and repair service. A map is included on which the names of all towns having these special agents are underlined in red. This is a scheme which other manufacturers might well adopt, as it is decidedly helpful to the rider who is away from home and in need of some essential spare.

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½ h.p. **ALLON**, 2-stroke, 2-speed, clutch, and kick-starter	£85 0
3½ h.p. **ARIEL**, countershaft 3-speed gear, kick-starter, and coachbuilt Sidecar	£152 10
6-7 h.p. **ARIEL**, countershaft 3-speed gear, kick-starter, chain drive	£145 0
2¾ h.p. **BLACKBURNE**, 2-speed, clutch, and kick-starter, chain drive	—
4 h.p. **BLACKBURNE**, 3-speed, clutch, and kick-starter, chain drive	£135 0
8 h.p. **BLACKBURNE**, 3-speed, clutch and kick-starter	£180 0
8 h.p. **BLACKBURNE** Sidecar Combination, 3-speed, clutch, and kick-starter, detachable wheels, chain drive, spare wheel	—
6-7 h.p. **B.S.A.**, Model A, 3-speed countershaft gear, chain drive	£150 0
2¾ h.p. **CALTHORPE**, J.A.P. engine, 2-speed	£78 5 6
2¾ h.p. **CALTHORPE**, 2-stroke, 2-speed	£74 19 6
2¼ h.p. **CEDOS**, 2-stroke, 2-speed	£73 10
2¼ h.p. **COVENTRY-EAGLE**, 2-stroke, single-speed	£72 9
2½ h.p. **COVENTRY-EAGLE**, 2-stroke, 2-speed, and kick-starter	£84 0
3½ h.p. **COVENTRY-EAGLE**, Sturmey-Archer 3-speed gear	£117 12
2¾ h.p. **COVENTRY-EAGLE**, J.A.P., 2-speed, clutch, and kick-starter	£90 6
2¼ h.p. **CLYNO**, lightweight, 2-stroke, 2-speed	£75 0
2¾ h.p. **DIAMOND-J.A.P.**, Enfield 2-speed gear	—
2½ h.p. **DIAMOND**, 2-stroke, single-speed	£62 3
2½ h.p. **DIAMOND**, 2-stroke, 2-speed	£81 3
2½ h.p. **IMPERIAL-J.A.P.**, 2-speed, clutch, and kick-starter	£89 5
2¾ h.p. **INVICTA-J.A.P.**, 2-speed	£89 5
2¼ h.p. **INVICTA**, 2-stroke, single-speed	£71 8
2½ h.p. **INVICTA**, 2-stroke, 2-speed	£84 0
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2½ h.p. **LEVIS**, Popular, 2-stroke	£60 0
2¾ h.p. **O.K.-UNION**	£50 8
3½ h.p. **RUDGE-MULTI**, T.T. model	£110 5
3½ h.p. **SCOTT**, 2-stroke, 2-speed	£140 0
3½ h.p. **SCOTT** 2-stroke 2-speed Sidecar Combination	£185 0
2½ h.p. Junior **TRIUMPH**, 2-stroke, 2-speed	£75 0
2¾ h.p. **WOOLER**, twin engine, variable gear	£102 0
4-5 h.p. **ZENITH**, Model C, twin-cylinder, Gradua gear	£123 0

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8 h.p. **IMPERIAL**, twin cylinder, J.A.P. engine, countershaft 3-speed gear, kick-starter	£147 0
8 h.p. **IMPERIAL**, as above, with coachbuilt Sidecar	£186 18
6 h.p. **IMPERIAL**, twin cylinder, J.A.P. engine, countershaft 3 speed gear, kick-starter	£147 0
7 h.p. **INDIAN** Powerplus, twin engine, cradle spring frame, kick-starter, 3-speed, with electrical equipment, and speedometer	£181 14
7 h.p. **INDIAN**, Powerplus, as above, with Indian coachbuilt Sidecar	£223 14
4 h.p. **INDIAN** (Scout), twin engine, rigid frame, 3-speed kick-starter, and clutch	£140 0
4 h.p. **INDIAN** (Scout), as above, with Indian coachbuilt Sidecar	£180 0
8 h.p. **MATCHLESS** Combination, Model H, J.A.P. engine, spring forks, countershaft 3-speed gear, silent chain drive, patent quick detachable wheels, including spare wheel, 3in. tyres on all four wheels, kick-starter	£205 0
6 h.p. **MARTINSYDE-NEWMAN** Combination, twin engine	£170 0
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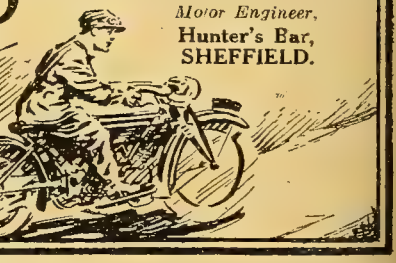

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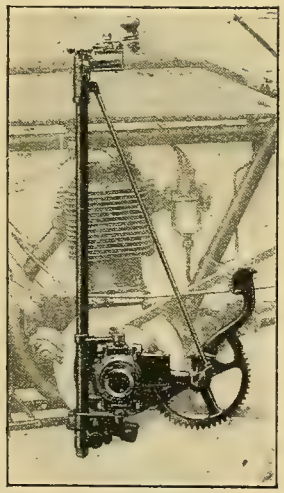

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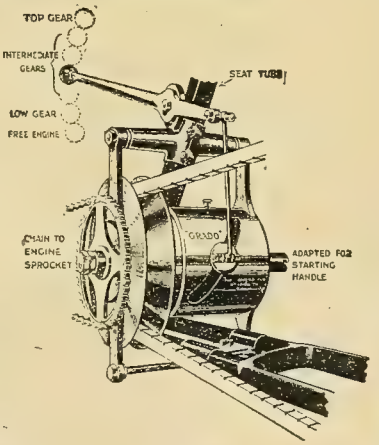

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A simple two-speed gear that takes up the drive and gives speed transition so gently as to be imperceptible.

Two powerful brakes, one foot operated and acting upon a brake drum of large diameter fixed to the countershaft, and the other, hand-operated, acting similarly on the front wheel—either of which will stop the machine.

A smart, business-like all-weather all-black finish, and neat appearance, due to the absence of redundant struts and dirt-collecting corners.

A stream-line two gallon fuel tank, which with the wide mudguards forms an integral part of the frame.

Ample mudguarding for machine and rider.

The neat arrangement of all controls (including change speed lever) on the handle-bars.

These are a few of the features which make the Beardmore-Precision a machine for utility—for business or for pleasure.

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ALL MOTOR TRADERS in Lancashire and Cheshire who desire to fix up an Agency for 1921 which will not only provide a good seller but enhance your reputation with the motor cyclists in your district write for particulars to A Dept, 110, Bold Street, Liverpool.

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With Road Maps of England & Wales, Scotland, and the London District

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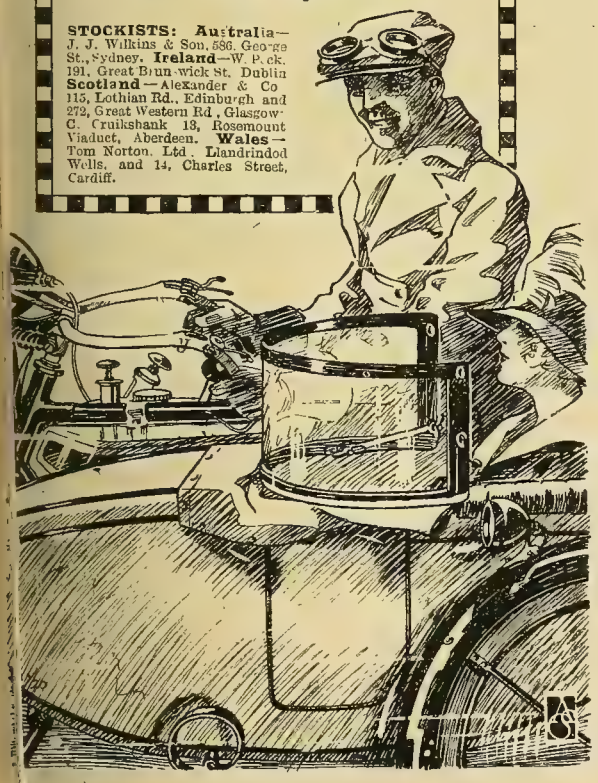

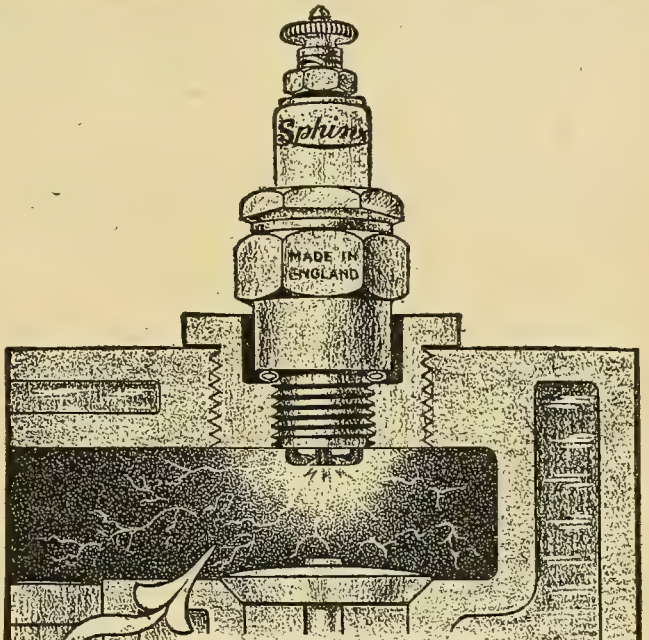

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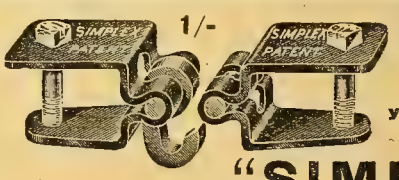

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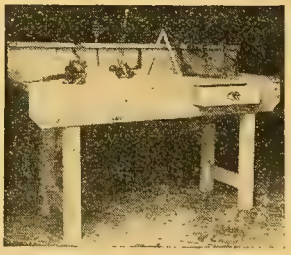

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Parallel vice, 2½in. jaw, 15/6 extra.

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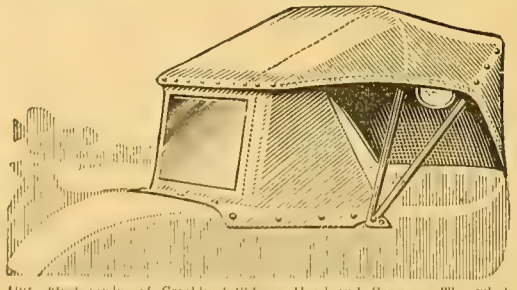

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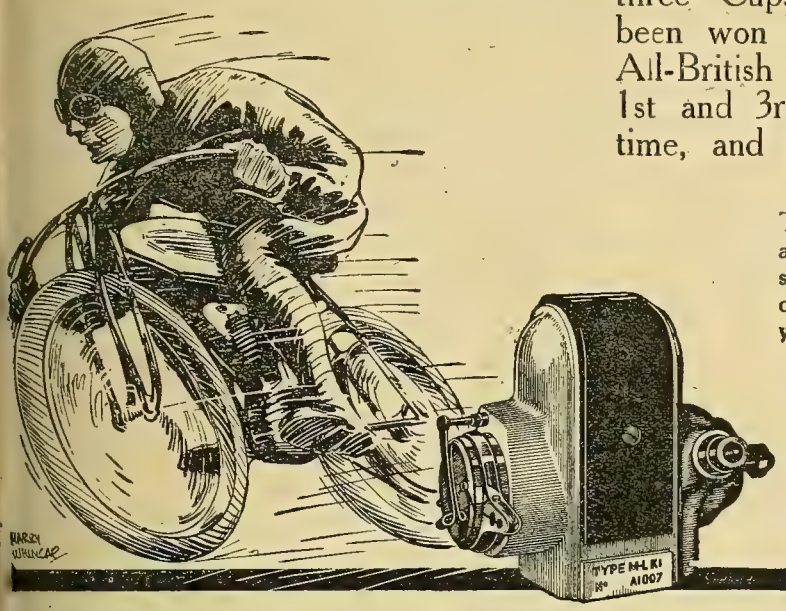

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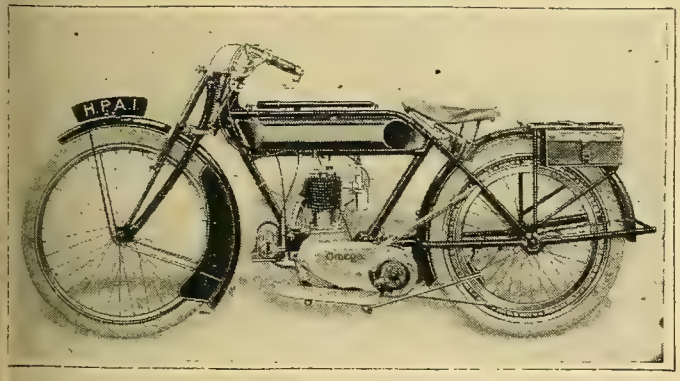

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combination and accessories, **£190,** or £95 down and eleven payments of £9 18s. 8d.

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CALTHORPE JAP
2¾ h.p., **£78 5s. 6d.,** or £22 down and eleven payments of £5 18s. 4d.

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£140, or £39 down and eleven payments of £10 12s. 3d.

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£75 cash, or £21 down and eleven payments of £5 13s.

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For convenience of advertisers, letters may be l to numbers at "The Motor Cycle" Office. s is desired, the sum of 6d. to defray the cost of ou and to cover postage on replies must be added dvertisement charge, which must include the 000, c/o "The Motor Cycle." Only the number in the advertisement. All replies should be No. 000, c/o "Motor Cycle," 20, Tudor Street, *eplies to Box Number advertisements containing should be sent by registered post, but in all such advisable to make use of the Deposit System.*

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rs who reply to advertisements and receive no their enquiries are requested to regard the an indication that the goods advertised have en disposed of. Advertisers often receive so uiries that it is quite impossible to reply to y post.

MOTOR CYCLES FOR SALE.

A.B.C.

Motor Cycle, just delivered; £150.—Central ge, Southport. [X7849

Bros., Guildford, can offer early deliveries of C. No premiums accepted. [8569

A.B.C., 400 miles, trip speedometer; £155.— rrester. Narborough, Leicester. [8865

brand new; £145 for quick sale; owner ht car.—Box 6,713, c/o *The Motor Cycle.* [9301

new A.B.C. 1920, complete with kick start, t price, £150.—Tilleys, 31, South St., Dor- [8752

1919

HARLEY-DAVIDSON,

7-9 h.p., special purchase,

£120

Great Bargain—Sidecar to suit in Stock.

NEW MACHINES IN STOCK.

1920	**ARIEL** and Ariel Sidecar, 3½ h.p.	£152 10
1920	**DOUGLAS** Combination, 4 h.p. ..	£170 0
1920	**SCOTT,** solo	£140 0
1920	**ROVER,** T.T.	£149 10
1920	**HARLEY,** sports model, and access.	£164 9
1920	**DIAMOND-J.A.P.,** 2-speed, rare model	86 gns.
1920	**JAMES** No. 6 Combination, 4¼ h.p.	£170 0
1920	**DIAMOND,** K.-starter, hand-clutch, 2½ h.p.	£84 3
1920	**LEA-FRANCIS,** 3½ h.p.	£130 0
1920	**CLYNO,** hand-clutch, 2¾ h.p.	£75 0
1920	**O.K.-JUNIOR,** 2-speed, 2¾ h.p. ...	£65 0
1920	**O.K.-JUNIOR,** 2½ h.p.	£50 8
1920	**JAMES,** 5-6 h.p.	£215 0
1920	**ROVER** Combination, 5-6 h.p. ..	£235 0
1920	**CALTHORPE-J.A.P.,** 2¾ h.p. .	£78 5 6
1920	**CALTHORPE,** 2-stroke, 2¾ h.p. ..	£74 19 4
1920	**NEW IMPERIAL,** hand-clutch, kick-starter, 2¾ h.p.	£89 5
1920	**NEW HUDSON,** 2¾ h.p.	£75 0
1920	**ALLDAYS ALLON,** hand-clutch, kick-starter, 2¾ h.p.	£85 0
1920	**BLACKBURNE,** 4 h.p.	£135 0
1920	**ARIEL,** solo	£115 0
1920	**RUDGE,** I.O.M.	£110 5
1920	**RUDGE,** I.O.M., pedal starter ..	£110 5
1920	**LEVIS**	£60 0
1920	**JAMES** Lightweight	£75 0
1920	**A.B.C.**	£150 0
1920	**HARLEY-DAVIDSON,** elec., and and Sidecar	£249 0
1920	**DIAMOND,** single-speed	£65 0
1920	**NEW IMPERIAL,** 8 h.p., and sporting Swan Sidecar	—

NEARLY NEW.

1920	**JAMES,** lightweight	£63 0
1920	**NEW IMPERIAL,** lightweight, kick-starter, clutch	£72 10
1920	**COVENTRY-EAGLE,** hand-clutch, kick-starter	£85 0
1920	**QUADRANT** 4½ h.p. Combination and accessories	£135 0
1919 (Dec.)	**A.J.S.** Combination, lamps, and horn	£85 0
1914	**TRIUMPH,** 3-speed hub	£65 0
	W.D. **DOUGLAS,** lamps, horn, tool-bag	72 gns.
	CANOELET Sidecar, touring model (new)	£34 0
	ENFIELD Sidecar, new W.D.	£35 0
	SUNBEAM Sidecar, new W.D. ..	£45 0

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151, High St., Walthamstow

'Phone: Walthamstow 169.
'Grams: "Cyclotomo, 'Phone, London."

50, High Rd., Wood Green, N.22.

'Phone: Hornsey 1956.

387, Euston Rd., N.W.1.

'Phone: Museum 4978

MOTOR CYCLES FOR SALE.

A.B.C.

IN Stock for Immediate Delivery New 1920 A.B.C. 3h.p. Twin; £150.—Salvage and Sons, Fleet St., Swindon, Wilts. [9318

A.B.C. 1920 Latest Model, just delivered, unused; list price for quick sale.—King, Rendella, Oxford Rd., Birkdale, Southport. [9205

A.B.C., years ahead in design.—Early deliveries from the Birmingham agents, Frank Whitworth, Ltd., 139, New St., Birmingham. [X7363

A.B.C. Motor Cycle, 3h.p. twin engine, 4-speed, very powerful, in stock, brand new; £150.—Birch's Garage, Walsall. 'Phone: 315. [8678

DELIVERY of the A.B.C. Motor Cycle from stock. Distributers for the county of Lincoln.—The Spalding Motor Co., Ltd., Pinchbeck St., Spalding. 'Phone: 144. T.A.: Service. [0015

CLIFFORD WILSON Manufacturing Co.—New A.B.C., dynamo lighting model, in stock; list price, £173/7.—70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. [6604

A.B.C., done 50 miles only, fitted with Lucas dynamo lighting set and electric horn, with insurance policy; £170; no offers considered; bought car. J. Jones, 19, Santley St., Brixton, S.W. [8645

Abingdon.

ABINGDON C.B. Combination, 6h.p., Armstrong Mark VI. hub; £70.—H. Williams, High St., Eccleshall, Staffs. [X7807

3½h.p. Abingdon, Bosch, 2-speed, clutch, lamps, good condition, ride away; £38; after 7.—12, Elphinstone Rd., Walthamstow. [9192

Acme.

1920 New 8h.p. Acme-Jap Combination, spare wheel; £213/15.—Halifax Motor Exchange, Union St. South, Halifax. [9142

ACME 1920 8h.p. Combination, J.A.P. engine, coachbuilt sidecar with patent cantilever springing, Ward and Goldstone electric lighting equipment, interchangeable wheels, spare wheel and tyre, only used for few demonstration runs, condition as new; £210.—The Premier Motor Co., Aston Rd., Birmingham. [7367

A.J.S.

1920 A.J.S. Combination, ex works; list.—Sam Robbins, Ltd., Nuneaton. [X7592

A.J.S. Combination, brand new; £220.—Norman Whitehouse, Cheslyn Hay, Staffs. [X7595

1920 A.J.S. Combination, just delivered; £250.—Box 6,665, c/o *The Motor Cycle.* [8901

CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premiums. [9955

A.J.S. Combination, 1920, brand new, in stock.—Clifford Motories, Eastwood, Notts. [8717

BRIGHTON, Hove and district A.J.S. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0202

A.J.S. 1919 Combination, screen, full equipment, first-class condition, spare wheel; £220.—Frank Eele, Thame. [9207

1920 A.J.S. Combination, brand new, unregistered; 215 gns.—Poulton, Westhagley, Stourbridge, Worcester. [8730

A.J.S. 1920 Combination, unregistered, brand new; £230; Nottingham district.—Box 340, c/o *The Motor Cycle.* [8719

LATE 1919 A.J.S. Combination, fully equipped, many spares, absolutely perfect condition; nearest £210.—Readett, Hand Lane, Leigh, Lancs. [8948

A.J.S. Specialists, The Walsall Garage, Wolverhampton St., Walsall (Tel.: 444), can give favourable deliveries of these grand combinations. [5760

A.J.S. 1915 4h.p., 3-speed, with large B.S.A. sidecar, complete, thorough mechanical order; nearest to £135.—Poynton, 21, Bore St., Lichfield. [X7147

1916 6h.p. A.J.S. Combination, interchangeable wheels, splendid running order; £140; first cheque secures.—Taylor's Garage, Falmouth. [0239

1915 2¾h.p. A.J.S., 2-speed, clutch, and kick start, lamps, horn, speedometer; £75, or near offer.—Nunn, Farmer and Co., 73, Union St., Torquay. [8714

A.J.S. 6h.p. Combination, Nov., 1919, 500 miles, hood, screen spare wheel (unused), Lucas lamps, horn, as new; best offer.—Collier, County Hall, Cardiff. [9172

NEW A.J.S. 1920 Combination for immediate delivery from stock, £210; also 6h.p. 1918 A.J.S. combination, £165.—Wauchope's, 9, Shoe Lane, London. [9205

1919¾ A.J.S. Combination, 6h.p., nearly new condition, complete with hood, wind screen, spare wheel, Tan-Sad seat, lamps; £218.—Chemist, 5, Darlington St., Wigan. [8742

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [9624

MOTOR CYCLES FOR SALE.

A.J.S.

1920 A.J.S. Combination, new, fitted hood, screen, spare wheel, 3 Lucas lamps and 3 generators; £245; exchanges considered.—2, Nightingale Rd., Lower Clapton. [9238

A.J.S. 1919 (O.t.) Combination, hood, lamps, tools, several spares, excellent condition, tyres unpunctured, spare wheel unused; £215.—W., 47, Hamilton Terrace, N.W.8. Padd. 819. [8725

1919 (late) 6h.p. A.J.S. Combination, 3in. unused Dunlop, spare wheel, apron, mirror, etc., perfect condition, engine guaranteed; any trial; £198.—Glenside, Goldsworth, Woking, Surrey. [9133

LATE 1917 A.J.S. Combination, spare wheel, hood, wind screen, lamps, and tools complete, perfect condition, stored 1918 till July, 1919, very little used; £170.—Thornicroft, Nottington, Dorchester. [8839

£190.—A.J.S. combination, new September, 1919, 1920 sidecar, finished green, little used, interchangeable wheels, spare unused, hood, Lucas lamps, horn, etc., magnificent condition; buying car.—Wynter, Beechley, Wrexham. [X7876

F.O.C.H. have a second-hand A.J.S., fully equipped, spare wheel; a bargain.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8957

A.J.S. High-class Combination, electric lighting set, 3 lamps, hood, screen, spare wheel, everything in new condition, unscratched, black and gold; any examination, any trial; nearest £190 secures.—R. Willoughby, 370, Newhampton Rd. W., Wolverhampton. [X7585

TWIN-CYL. A.J.S. Combination, 1916 model, with de luxe sidecar, in perfect running condition, with new gears, new Dunlop Magnum covers and tubes, spare wheel, new set of electric lighting with 2 accumulators, each 4 volts 80 amps., and all accessories; £200.—Reply to E.G.B., 530, Dialstone Lane, Stockport. [6711

Alecto.

ALECTO 3½h.p. 2-stroke Motor Cycles, 6 machines for August delivery; trade enquiries invited for Durham and Northumberland.—Kenneth A. Beadnall, Lorne Terrace, Brotton. [8857

Alldays.

1919 Allon 2¾h.p., 2 speeds, clutch, lamps, horn, and tool kit, mileage 500; £65, or offers.—Bottomley, Westholme, Mossley. [8666

ALLON Alldays 2¾h.p., 2-speed, new tyre and belt, lamps, perfect order; £40.—300, Holdenhurst Rd., Bournemouth. [9132

ALLDAYS-ALLON.—Immediate delivery 2¾h.p., 2-speed, hand-controlled clutch.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X7869

ALLON 1920, brand new, 2-stroke, 2-speed and clutch, kick-starter, just arrived; immediate delivery at makers' price, £85.—Wilkins, Simpson, opposite Olympia, London. [9187

ALLEN-BENNETT Motor Co.—Alldays Allon 2¾h.p., 2-speed clutch and kick starter, brand new: £85, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9344

ALLEN-BENNETT Motor Co.—Allon 2¾h.p. 2-stroke 2-speed, clutch, and kick starter, brand new; £85, or half down and 12 monthly instalments. —9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9368

Ariel.

ARIEL, brand new, 3½h.p. combination in stock separate if required.—Moss, Wem. [X6651

CYRIL WILLIAMS, for early delivery of Ariels - Chapel Ash Depot, Wolverhampton [2267

£35.—Ariel, 3½h.p., Bosch, B. and B., all on, single gear, mechanically perfect; any trial.—Sparkes, Hermitage, Berks. [9090

ARIEL, all models, early deliveries; all parts stocked. —F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [7414

ARIEL 1917 3½h.p. Combination, perfect condition, fast, lamps, horn, speedometer; £110.—Jefferys', Motor Depot, Dorchester. [9277

IN Stock for Immediate Delivery New 1920 Ariel Combination, 3½h.p.; £152/10.—Salvage and Sons, Fleet St., Swindon, Wilts. [9319

1915 Ariel Combination, 3½h.p., 3-speed, clutch, kick starter, lamps, horn, speedometer, mirror, in good condition; £70.—Dakin, 19, Weech Rd., West Hampstead. [9095

ARIEL Countershaft Models, solo or sidecar, in stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket (Phone: 214), and 75, Albany St., N.W.1. (Phone: 5476 Museum). [4008

ALLEN-BENNETT Motor Co.—1914 Ariel, 3½h.p., semi T.T. model, splendid condition throughout; £45, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9392

Auto Wheels.

AUTO-WHEEL, £10; with 3-speed cycle, £16.—124, Stondon Park, Forest Hill, S.E. [9057

AUTO WHEEL, in perfect condition.—Northern Motors, 42, North Audley St., W. [8211

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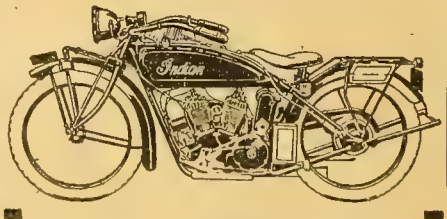

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MOTOR CYCLES FOR SALE.

Auto-Wheels.

WALL Auto-Wheel, in excellent condition thro... out; 10 gns.—60a, Kirkdale, Sydenham, Lo... After 6 p.m

AUTO Wheel, 1920 Model de Luxe, in stock ... mediate delivery, £27/10.—Wilkins, Sim... opposite Olympia, London.

1914 De Luxe Auto-Wheel, done about 1,000 ... just overhauled, splendid condition; £12.—As... Roman Rd., Weymouth. (D) [X...

SIMPLEX Unit, 1½h.p., 2-stroke, fitted to gent's ... Will-o'-the-Wisp bicycle, complete with el... lamps, carrier, bell, etc., quite new, ridden once ... Owner, 74 years old, cannot ride it.—Owner, c/o H... bridge, 133, Sloane St., London, S.W.1. [X...

Bat.

BAT Model 4, 6h.p.; £160.—Hewin's Garages, ... the Real Service Firm. Taunton and Totn...

BAT.—Immediate delivery 6h.p. countershaft 3-... model.—Parker's, Bradshawgate, Bolton. ... 1348. [X...

1920 Bat, sidecar, mag., splendid condition, b... fully sprung; seen any time; what offers?—... Place, Haverhill, Suffolk.

BAT-J.A.P. 8-10h.p., clutch, kick start, 3-speed, ... excellent, Watford speedometer; £90, quick s... 14, Tweedale St., Rochdale.

1920 Bat Combination in stock; 6h.p. solo, ... combination, £204.—Tel.: 6626 Muse... A.S.C., 60, Mortimer St., W.1.

BAT-J.A.P. 4h.p. Combination, splendid condi... Bosch mag., speedometer, etc.; £75, or o... Haywards, 537, Holloway Rd., N.

6h.p. Bat Combination, new May, F.R.S. l... Stewart horn, Easting screen, spare chain; ... —Dumas, 78, Castle Foregate, Shrewsbury. [...

BAT 6h.p., 2-speed, disc wheels, long exhaust, ... plete with lamps, etc., a good sporting 'bus; ... —Hewin's Garages, Ltd., the Real Service ... Totnes.

BAT-J.A.P. Twin 6h.p. Combination, C.B., ... B.B. carburetter, gear box, E.T.C., all-chain ... in splendid order; £90; London district.—Box ... c/o *The Motor Cycle.*

NEW 1920 Bat, Model No. 4, 6h.p., 3-speed ... chain drive, for immediate delivery, fitted ... Montgomery sidecar; £190.—The Premier Moto... Aston Rd., Birmingham.

6-8h.p. Bat-Jap, 2-speed, clutch, Bosch, ... frame, lamps, Phœnix coachbuilt sidecar, ... new tyres; £89; trial; exchange considered.—... Fern View, Rodbourne Green, Swindon.

BAT-J.A.P. Combination, 1920, 6h.p., Swan ... car, speedometer, F.R.S. lamp set, full ... sories, only done a few miles; £170.—W. H. G... and Co., 18, Bruton Place, Bond St., W.1.

BRAND New 6h.p. Spring Frame Bat, 3-... countershaft gear, kick starter and clutch ... chain drive model; £160, solo; or can be fitted ... any make of sidecar to order.—Wauchope's, 9, ... Lane, London.

Beardmore

BEARDMORE-PRECISIONS; delivery 7 days ... —Grandex, 138, Gray's Inn Rd., W.C.

BEARDMORE-PRECISION; deliveries from ... £95.—Hewin's Garages, Ltd., the real servic... Taunton.

Beaumont.

BEAUMONT 2-stroke, 2-speed, free engine, ... starter, run 250 miles; £75.—Dean's ... Carnforth.

BLACKBURN Engine Beaumont, 2-speed, f... gine, kick starter, delivery from stock; £... —Dean's Garage, Carnforth.

Blackburne.

1920 4h.p. Blackburne, ridden 250 miles, ne... dition; £125.—J. Selfe, 11, Frome Rd., ... ford-on-Avon, Wilts.

ALLEN-BENNETT Motor Co.—Blackburne 4... speed clutch and kick starter, brand new; ... half down and 12 monthly instalments.—9-10-11, ... Parade, West Croydon. 'Phone: Croydon 2450.

ALLEN-BENNETT Motor Co.—Pax, 2¾h.p. ... burne engine, 2-speed, brand new; £96 ... half down and 12 monthly instalments.—9-10-11, ... Parade, West Croydon. 'Phone: Croydon 2450.

ALLEN-BENNETT Motor Co.—Blackburne 8h.p. ... with Henderson Elite sidecar, brand new; ... or half down and 12 monthly instalments. ... Royal Parade, West Croydon. 'Phone: Croydon ...

ALLEN-BENNETT Motor Co.—Blackburne 8h.p. ... 3-speed clutch and kick starter, brand new ... or half down and 12 monthly instalments.—... Royal Parade, West Croydon. 'Phone: Croydon ...

1920 8h.p. Blackburne Combination, complete ... original Blackburne sidecar, spare whe... mileage about 2,000, special heavy Palmer ... lamps, horn speedometer, hood, screen, tool ... recently overhauled by makers; price £240.— ... seen at London Motors, 61, Holborn Viaduct.

MOTOR CYCLES FOR SALE.

Bradbury

RADBURY.—Order now to avoid disappointment.—The Walsall Garage, Wolverhampton St., Walsall. [5762

RADBURY 4h.p. Combination, 2-speed, just overhauled; £40.—Ruckers, Peterhouse, Cambridge. [8970

1h.p. Bradbury Coachbuilt Combination, 3-speed 4 and clutch, Bosch mag., new tyres, any trial; 5; owner having car.—Welford, Preston Bissett, ckingham. [8879

RADBURY 4h.p. Combination, 3 speeds, clutch, kick start, variable jet, etc.; £68.—33, Deronda , Herne Hill. [9210

RADBURY (1920) 4h.p., 3-speed, clutch, chain drive, condition as new, ridden barely 100 miles; er purchased car; price £105.—Holcroft, 77, Colre Row, Birmingham. [8949

Brough.

ROUGH, in stock, not done 50 miles.—W. H. Grimes and Co., 18, Bruton Place, Bond St., t. Mayfair 4792. [9232

LLEN-BENNETT Motor Co.—1914 Brough 6h.p. V twin, thoroughly overhauled, very fast; £50, or f down and 12 monthly instalments.—9-10-11, Royal ade, West Croydon. 'Phone: Croydon 2450 . [9393

Brown.

ROWN 6-8h.p. Twin, wicker S.C., Bosch mag., B.B. carburetter, Dunlop car tyres, very powerful, exat condition, privately owned; £45.—Victory Motor age, 184, Tulse Hill, West Norwood, S.W.2. [9211

B.S.A.

.S.A.—The Walsall Garage, Walsall, booking orders for all models; rotation deliveries. [5761

18 B.S.A., 3-speed, perfect order, little used; £95, or near offer.—Alwyn, Lyminge, Kent. [8653

.S.A., 1919, late, lamps, speedometer, perfect condition; £100.—Rice, Oxley, Shrewsbury. [X7743a

20 B.S.A. Model H in stock; £110; with Empire sidecar; £142.—Taylor's Garage, Wednesbury. [8739

2.—T.T. B.S.A., 1913, good order and appearance.—R.E., 1, Springfield Cottage, Blacknest Rd., Sundale. [9222

14 B.S.A. Combination, 3-speed, clutch, K.S.; any trial; £75.—Lewis, 31, Windmill St., esend. [8991

S.A. Combination, Dunlops, Cameo, Miller, Tan-Sad, excellent condition; £116.—Smith, 229, yvale Rd., Bournville. [X7579

S.A. (Model K.) and sidecar, August, 1919, excellent condition; owner buying car; £125.—Drake, tten's Garage, Oxford. [6947

19 B.S.A. and Coachbuilt Sidecar, lamps, horn, speedometer, in perfect condition; £105.—J. E. s, Ltd., The Triangle, Aldershot. [8796

20 B.S.A. Combination, little used, in splendid condition, fully equipped, all-chain drive; offers.—olson and Sons, Brewery, Maidenhead. [X7875

3.A. Combination, excellent condition, complete with wind screen, and all accessories, also some s; £130.—Lt.-Col. Marjoribanks, Glen Lea, Hind-, Haslemere. 'Phone: Grayshott 16. [9333

.A. 1919 Combination, 4¼h.p., 3-speed, electric lighting, Easting screen, new condition; £145.—12, Cricklewood Lane, London, N.W.2. [8774

15 4¼h.p. B.S.A. Combination, just overhauled, speedometer, wind screen, lamps, and horn; best £100.—Grisdale, 50, Greengate St., Barrow-in-Fur-(D) [8674

.A. 1913 3½h.p., engine No. 3782, Bosch mag., just overhauled, new mudguards, a good honest ma-; £40, no offers.—J. D. V. Holmes, East Hanney, age. [8684

19 B.S.A. 4¼h.p., 3-speed, as new, unscratched, very fast, mudshields, muffs, large head lamp; , or near offer.—Atlas Works, Lozells St., Birham. [X7810

.A.—Early deliveries of all models, B.S.A. replacements, sidecars, screens, hoods, etc., always ck.—County Cycle and Motor Co., 307, 314, Broad Birmingham. [4080

.A. 1920 Model H Combination, brand new, B.S.A. sidecar, chain drive, Magdyno lighting, diate delivery at makers' price, £178.—Wilkins, on, opposite Olympia, London. [9186

W 1920 4¼h.p. B.S.A. Combination, fitted with B.S.A. No. 2 sidecar, brand new combination, all-drive model; £152; immediate delivery from stock. chope's, 9, Shoe Lane, Fleet St., London. [9260

.A. 1920 Model K Combination, hood, screen, luggage grid; Lucas lamps (sidecar and tail), horn, kson speedometer, very small mileage, practically £165.—Elce and Co., 15-16, Bishopsgate Av mile St., E.C.3. [0068

.A. 4¼h.p., late 1917, chain-cum-belt, 3-speed countershaft, new tyres, lamps, mechanical horn, verything in perfect condition; coachbuilt sidecar, g wind screen, all guaranteed in running order; ffer over £100.—8, Bridge St., Belper, Derby. [8682

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SOLO.

HARLEY-DAVIDSON, 7-9 h.p., electric £192 17
HARLEY-DAVIDSON, 7-9 h.p., magneto £184 11
BLACKBURNE, 8 h.p.twin, standard model, solo £170 0
ENFIELD, 2¼ h.p., 2-speed £73 10
LEA-FRANCIS, 3½ h.p. twin, M.A.G. engine £130 6
NEW IMPERIAL, 6 h.p., twin J.A.P., 3-speed £147 0
DIAMOND, 2¼ h.p. Villiers, 2-speed, clutch, kick-start £84 3
FRANCIS-BARNETT, 2¾ h.p. J.A.P., 2-speed, clutch, kick-start £84 0
RUBY, 2¾ h.p. J.A.P., 3-speed, kick-start, spring frame £120 0
VERUS, 2-stroke, single-speed £60 0
VERUS, 2¾ h.p., Blackburne engine £110 5
VERUS, 4 h.p., Blackburne engine £126 0
P.V., spring frame, 2¾ h.p., 2-speed, slightly soiled (less 10%) £78 15
METRO-TYLER, 2¼ h.p., 2-speed, slightly soiled (less 10%) £69 18
METRO-TYLER, 1920, new model . £95 18
PORTLAND, 2¾ h.p., 2-speed £60 0
CLYNO, 2¼ h.p., 2-speed, clutch.... £75 0

SIDECAR COMBINATIONS.

QUADRANT, 4 h.p., complete with Sidecar £145 0
ROVER, 3½ h.p., 3-speed, complete with Sidecar £203 0

Actually in stock at time of going to Press.

SECOND-HAND MODELS.

SOLO.

DOUGLAS, 2¾ h.p., W.D. model, 2-speed, with re-enamelled tank £63 0
NEW IMPERIAL, 2½ h.p J.A.P., 2-speed £70 0
RUDGE-MULTI, 1916, 3½ h.p., clutch, and pedal starter £63 0
ENFIELD, 2¼ h.p., all chain drive, all accessories £63 0

SIDECAR COMBINATIONS.

B.S.A., 1912 model, 2-speed Millford Sidecar £63 0
DOUGLAS, 1914 model, 3½ h.p., 2-sp., kick-start, Bosch magneto £11 0
NEW IMPERIAL, 8 h.p. J.A.P., engine, 3-speed W.D. model, complete with Sidecar £145 0
ROVER, 6 h.p., J.A.P. engine, 3-speed, all-chain drive, complete with Sidecar £145 0

HARLEY-DAVIDSON.

1918 and 1919 W.D. 7-9 h.p. twin, magneto, kick-start, 3-speed gear, clutch, standard models. Guaranteed in sound running order.
Solo £110
Combination £145

Trade supplied.

DEFERRED PAYMENTS.—A third purchase price on delivery of machine, the balance spread over a period of eight months 7½% extra

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100, GREAT PORTLAND ST. LONDON, W.1. TELEGRAMS: ABDICATE, WESDO, LONDON. TELEPHONE: MAYFAIR 332. MUSEUM 357.

100, PARIS STREET, EXETER. TELEGRAMS: COMBUSTION, EXETER. TELEPHONE: EXETER 933.

MAUDE'S MOTOR MART

MOTOR CYCLES FOR SALE.

B.S.A.

19 16 B.S.A. Coachbuilt Combination, 4¼h.p., 3-speed, countershaft, lamps, mechanical horn, apron, luggage carrier, detachable wheels, etc., new belt, tyres, spares, excellent condition; trial; £115; after 8 o'clock or week-ends.—Trefusis, Headstone Lane, Pinner. [8740

B.S.A. Combination, No. 2 sidecar, new Sept., 1919, hood, screen, sprung luggage grid, Volex electric lamps, Lucas horn, tools, quantity spares, in excellent condition, very carefully driven, taking delivery Matchless; £150.—Burns, 28, Poppleton Rd., Leytonstone, E.11. [8939

ALLEN-BENNETT Motor Co.—1917 B.S.A. 4¼h.p., 3-speed, clutch, and kick starter, all-chain drive, and brand new Ramco coachbuilt sidecar, all lamps and horn, splendid; £145, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9387

ALLEN-BENNETT Motor Co. — B.S.A., 1917-18 models, 4¼h.p., reconstructed ex-Government machine, thoroughly overhauled and guaranteed by us to be in sound mechanical condition throughout, 3-speed, clutch, and K.S., service green, Triumph finish; £90, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9395

Calcott.

2 3/4 h.p. Calcott, 1914, Precision, Bosch, new tyres, lamps, spare belt, tube, 2 up anywhere; £33 bargain.—39, Victoria St., New Bilton, Rugby. [8867

Calthorpe

19 19 Calthorpe-Jap 2-speed; £52/10.—Taylor's Garage, Wesnesbury. [8736

CALTHORPE, new, 2¾h.p. J.A.P. 2-speed model in stock.—Moss, Wem. [X6658

19 17 Calthorpe 2¾h.p., 2 speeds, Dunlops, Druids; £40; appointment.—Capt. Collins, Sunbury. [9121

CALTHORPE 2-stroke, 1920; £30.—H. E. Woodman, 11, Brook Green Rd., Hammersmith Broadway. [8846

MAY (1920) 2¾h.p. Calthorpe-Jap, 2-speed, too heavy (leg disability); exchange good baby 2-stroke.—111, Winchester Rd., Basingstoke. [8640

19 20 Calthorpe 2-stroke, 2-speed, 2¾h.p., new June last, only ridden few times, tools and lamps, complete; any trial; 63 gns.—Willison, 31, Lansdowne St., Leamington. [X7815

CALTHORPE, 1920, J.A.P., Enfield 2-speed, brand new; just arrived; at makers' price; immediate delivery; £78/5/6. — Wilkins, Simpson, opposite Olympia, London. [9183

CALTHORPE Motor Cycles, wholesale and retail agents for the county of Devon, all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St Torquay. [0201

CALTHORPE-J.A.P. 2¾h.p., 2-speed model, also Hobart-Jap 2¾h.p., 2-speed, clutch and kick start, both new; nearest offer list price secures.—Gray, 7, Craven St., Melton Mowbray. [X7586

CALTHORPE Motor Cycles.—2¾h.p. Jap model, £78/5; two-stroke model, £75; both fitted with Enfield 2-speed gear; delivery from stock.—P. J. Evans, 83-91, John Bright St., Birmingham. [0174

ALLEN-BENNETT Motor Co.—Calthorpe-Jap, 2¾h.p., Enfield 2-speed, brand new; £74/11, plus 5%, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9361

ALLEN-BENNETT Motor Co.—Calthorpe, 2¾h.p. 2-stroke, Enfield 2-speed, brand new; £71/8, plus 5%, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9362

Campion.

CAMPION-J.A.P. 6h.p. C.B. Combination, 3-speed countershaft, engine just rebushed throughout, lamps, spares; owner buying lower power; £140.—Reed Sawmills, Weston Birt, Glos. [8855

19 15 Campion-Jap Combination, 4h.p., excellent condition, Sturmey-Archer gear box, 3-speed, clutch, kick start; £75, or exchange lightweight and cash.—35, High St., Dartford. [9107

19 20 Campion-Jap Combination, 6-8h.p. special engine, all-chain, Sturmey, h.c. clutch, Cowey horn, speedometer, Cameo, Tan-Sad, all lamps, appearance as new, in perfect order; £180.—Hempshall, Rednile, Notts. [8776

Cedos.

CEDOS.—Immediate delivery, 2¼h.p. 2-stroke model —Parker's, Bradshawgate, Bolton. Tel.: 1348 [X7860

CEDOS. gent's model; 70 gns.; delivery from stock —Hewin's Garages, Ltd., the Real Service Firm Taunton and Totnes. [9154

CEDOS, daintiest featherweight made.—Early deliveries from the Birmingham agents, Frank Whitworth, Ltd., 139, New St., Birmingham. [X7366

Chater-Lea.

CHATER-LEA 8h.p. Twin All-chain C.B. Outfit, overhauled, re-enamelled, new tyres; bargain, £80. —Baths Garage, Wandsworth. [9004

MOTOR CYCLES FOR SALE.

Chater-Lea-Jap.

CHATER-LEA-J.A.P., 8-10h.p., racing model, lamps, horn, and accessories, 1915 model, built to specification, absolutely perfect; £70, or near offer.—Martin, Hermitage, Berks. [9091

£48; Chater-Lea-Jap Combination, 6h.p., 2-speed gear box, clutch, handle starter, chain drive, Bosch, Lukin automatic carburetter, speedometer, Klaxon, tyres almost new, footboards, Best and Lloyd lubricator, accessories, tools, excellent; exchange lightweight.—63, Solon Rd., Brixton. [9040

Chater-Lea-Precision.

6h.p. Chater-Lea-Precision Combination, 3-speed clutch and K.S., just overhauled, guaranteed; nearest £90.—Monk, School House, Lovel Rd., Winkfield, Windsor. [8670

Clyno.

CLYNO Lightweight in stock.—The Castle Motor Co., Ltd., Kidderminster. [8701

1920 Clyno 2-speed, mileage 100; £65.—Taylor's Garage, Wednesbury. [8738

CLYNO Lightweight in stock; £75.—Rhosha Motor Co., Bank Mews, Romford. [2162

CLYNO 8h.p. Combination, 1921 demonstrator model now in stock; £250.—Tom Norton, Ltd., Llandrindod Wells. [9298

CROW Bros., Guildford, West Surrey Clyno agents, have large contracts for 8h.p. combinations and 2¾h.p. lightweights. [3172

CLYNO.—Sole Bristol and District Agents. Lightweight models in stock.—S. J. Fair, 201, and 203, Cheltenham Rd., Bristol. [X7406

2¾h.p. Clyno 2-stroke, 2-speed clutch, about 500 miles, perfect condition, like new; trial; offers.—A. Hobson, Old Hall, Coole Pilate, Nantwich. [8790

1920 2¼h.p. Clyno 2-strokes, new, fitted with clutch and 2-speed gear; £75.—Wauchope's, 9, Shoe Lane, London. 'Phone: Holborn 5777. [9266

CLYNO 1920 2-stroke, 2-speed and clutch; £75; brand new; actually in stock at makers' price.—Wilkins, Simpson, opposite Olympia, London. [9181

CLYNO Lightweight in stock. Orders booked in rotation. Clyno combination orders booked in rotation.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [6185

CLYNO 1912 2-speed Combination, coachbuilt sidecar, lamps, horn, etc., needs slight overhaul; £70 secures; Romford, Essex.—Box 6,674, c/o *The Motor Cycle.* [9000

5-6h.p. 3-speed K.S. Clynos, 1916, just overhauled and enamelled, £65; usual price £100. Come and give your eyes a treat.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [9085

CLYNO Combination, 3-speed, kick start, chain drive, 4 interchangeable wheels, 120 gns.; or exchange lower power, cash adjustment.—57, Kenbury St., Coldharbour Lane, Camberwell. [9057

1920 New Clyno Lightweights, in stock, for immediate delivery; £75; the go anywhere machine; call and inspect.—Kays, 8, Bond St., Ealing Broadway. 'Phone: 1827 Ealing. [7827

ALLEN-BENNETT Motor Co.—Clyno 2¼h.p. 2-stroke, 2-speed, clutch, brand new; £75, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9363

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd. Wolverhampton. Tel.: 1160. [2459

CLYNO 1916 Combination, 3-speed, kick start, 4 detachable wheels, 3 lamps, horn, spares, recently re-enamelled, overhauled, fine condition; 115 gns.—9, Coleman St., New North Rd., N. [9295

CLYNO Combination, 6h.p., 3-speed, K.S., interchangeable wheels, lamps, car generator, horn, pillion, accessories, fully insured; bargain, £110, or nearest offer.—101, Long Lane, East Finchley, N.2. [8894

CLYNO Combination, 1914, total mileage under 5,000, 3-speed countershaft just overhauled by makers, condition guaranteed, spare wheel, new tyres, speedometer, battery lighting, large sprung luggage grid; bargain, £130.—Miller, 32, Sydenham Rd., Cotham, Bristol. [X7808

ALLEN-BENNETT Motor Co.—1918 Clyno 6h.p. combination, just been thoroughly overhauled, re-enamelled and plated, fitted with new sidecar body, finish blue; £145, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9385

Connaught

1915 Connaught 2¾h.p., 2-stroke, running order, accessories; £45, near offer; evenings after 7.—21, Drappers Rd., Bermondsey, S.E. [8986

CONNAUGHT, 1920, delivered March, fitted with aluminium footboards, Klaxon horn (cost £67); best offer. A. Wood, 48, High St., Windsor. [7242

CONNAUGHT Motor Cycles.—2¼h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. J. Evans, 83-91, John Bright St., Birmingham. [0252

Coulson

COULSON U, 2¾h.p. 2-stroke, 1920, as new, specially sprung frame, Dunlop heavy tyres, mileage 500; £60. 90, Margravine Garden, Barons Court, W.6. [8876

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NEW Coulson-B 4h.p., with 3-speed clutch and ki starter, spring frame, etc.; 118 gns., or on ea payments 4% extra.—Harrods, Ltd., 118, Brompt Rd., London. [88

NEW Coulson-B 2¾ and 4h.p. Models in stock, 2-spe gear, spring frame, Blackburne engine; at ma facturers' list prices; easy payments 4% extra.—Harro Ltd., 118, Brompton Rd., London. [88

ALLEN-BENNETT Motor Co.—Coulson B. 4h.p., speed sports model, brand new; £110/5, or h down and 12 monthly instalments.—9-10-11, Royal P ade, West Croydon. 'Phone: Croydon 2450. [93

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ALLEN-BENNETT Motor Co.—Coventry Eagle h.p. single speed, Villiers engine, brand n £67/1, or half down and 12 monthly instalment 9-10-11, Royal Parade, West Croydon. 'Phone: Cr don 2450. [93

Danum.

DANUM 4h.p. Motor Cycles, 3 machines for Aug delivery; send for full particulars; trade enqui invited.—Kenneth A. Beadnall, Lorne Terrace, Bur [8

Diamond

DIAMOND, brand new, J.A.P. and 2-stroke mo in stock.—Moss, Wem. [X6

1919 Diamond 2-speed 2-stroke, mileage 3 £52/10.—Taylor's Garage, Wednesbury. [8

CYRIL WILLIAMS, for early delivery of all mo Diamonds.—Chapel Ash, Wolverhampton. [2

1919 Diamond 2¼h.p. 2-stroke, footboards, lam accessories; £53.—66, Wood Green Wednesbur [9

2¾h.p. Diamond-Jap, in perfect order, 1920 mo price reasonable.—D. R. M. Petley, The Nest, quay. [8

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DOUGLAS 2¾h.p., clutch model, in stock; price.—Longman, Fisherton, Salisbury. [7

DOUGLAS 4h.p. Combinations from stock; £1 Tom Norton, Ltd., Llandrindod Wells. [9

2¾h.p. Douglas, single, Bosch, Druids, Palmers; —Particulars, Chesnuts, Over, Cambs. [

£54.—Douglas 2¼h.p., 1916, 2-speed model, first condition.—81, Little Ealing Lane, Ealing. [9

DOUGLAS 2¾h.p., 1916, 2-speed, and in new dition; £70.—Tilleys, 31, South St., Dorche [7

4h.p. Douglas, overhauled; any trial evenings after £85 secures.—64, Claremont Rd., Leytonsto [8

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DOUGLAS Combination, 4h.p., 1919, 3-speed, kick start, as new; £120; side door.—32, Brixton Rd., [8993

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EGGIE 4h.p., Dec. 18, as new; any trial; best offer over £80; owner starving!—22, Buller Rd., Thornton Heath. [9130

1920 Brand New Douglas Combination; list price, £170; my price, £160.—West, Bladon, Woodstock, Oxon. [9016

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4h.p. Douglas, 1916, 2-speed, just overhauled, perfect, lamps, etc.; £68/10.—Reeves, The Knoll, [9053

19 August 4h.p. Douglas Combination, splendid condition, fully equipped; £160.—Heald, 74, Bargate St., Grimsby. [9046

DOUGLAS 1915 2¾h.p., 2-speed, makers' colours, splendid condition; 50 gns.—30, Crystal Palace Rd., Sydenham. [9071

DOUGLAS 2¾h.p., just thoroughly overhauled, illness cause of sale, lamps, tools; £28.—1, Lochaline [8942

DOUGLAS 2¾h.p., tyres, belt, etc., in good condition, a running order; £27/10, offers.—Pat, 119, Clonmore St., Southfields, S.W.18. [8680

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4 Douglas Combination, 1918, replated and enamelled makers' colours, brand new sidecar, tyres as new perfect; £120.—26a, Tulse Hill, S.W. [8804

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DOUGLAS 1912 2¾h.p., 2-speed, engine just overhauled at cost of £12, all accessories; £45, or nearest.—Crawley, 18, West Rd., Saffron Walden, Essex. [8690

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DOUGLAS 2¾h.p., 1916, Klaxon, new lamps, tyres, belt, machine recently overhauled, splendid condition; £67/10.—Hurst, 57, Leicester Rd., Bedworth. [X7846

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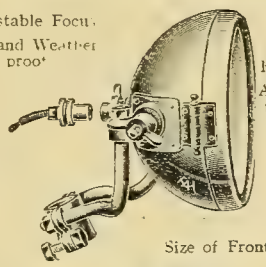

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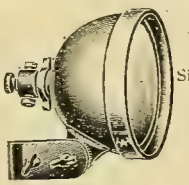

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DOUGLAS Combination, 1920 4h.p., fully equipped, just taken delivery; doctor's orders not ride; what offers? Seen any time.—Spearman, 526, Holloway Rd., N.7. [X7823

DOUGLAS 2¾h.p., 2-speed, 1916, perfect condition, all accessories, fully insured, ride away; 60 gns.; offers.—232, Elmhurst Mansions, off Manor St., Clapham. [9060

DOUGLAS 1915 2¾h.p., 2-speed, aluminium footboards, 1919 pistons, just overhauled, fast; 50 gns., bargain. 'Phone: 926 Reading.—Hoyle, 10, Duke St., Reading. [8931

DOUGLAS 1920 4h.p. Combination, brand new; just arrived; immediate delivery; at makers' price, £170.—Wilkins, Simpson, opposite Olympia, London. [9185

3½h.p. Douglas, Aug., 1914, C.B. sidecar, 2-speed, kick-start, clutch, Bosch, Amac, speedometer, horn; nearest £100.—Chaplin, 2, Bay View Rd., Colwyn Bay. [8950

1917 Douglas 2¾h.p., buffer forks, heavy Dunlops, makers' colours, indistinguishable from new, complete, minus power unit; 29 gns.—Dawson, 34, Ampthill Rd., Bedford. [8904

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1915 Douglas 4h.p., with Sunbeam sidecar, as new, just overhauled, new gears, C.A.V. mag., just overhauled by makers, will climb anything; £125.—Gardner, Carter St., Uttoxeter. [8955

BRAND New 1920 4h.p. Douglas Combination, £170; also 2¾h.p. new 1920 3-speed models, £100; trade supplied.—Wanchope's, 9, Shoe Lane, Fleet St., London. 'Phone: Holborn 5777. [9262

DOUGLAS 4h.p. Combination, 1920 (June), practically unridden, aluminium discs, lamps, horn, luggage carrier, fully insured, lovely outfit; £175, or near offer.—160, Franciscan Rd., Tooting. [8642

4h.p. Douglas Combination, 1918, replated and enamelled makers' colours, brand new sidecar, hood, apron, screen, and lamps, never used; £132.—22, Effra Mansions, Crownstone Rd., Brixton. [8805

T.T. 4h.p. Douglas and Sporting Millford Sidecar, 3-speed, clutch, K.S., disc wheels, long exhaust, electric and acetylene lighting, fast and powerful; £120.—51, Bargary Rd., Catford, S.E.6. [9224

1920 Douglas Combination, done less than 200 miles, horn, spare chain, belt, valve, etc.; £170, or near offer; seen any time by appointment.—Watson, Glebe House, Whitton Rd., Twickenham. [8877

FOR Sale, Douglas combination, 4h.p., 1919 model, Lucas lamps and horn, perfect condition, about 800 miles, ride away; £140; inspection after 4 p.m. Saturday.—Write Faure, 41, Holland Rd., Kensington. [8983

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DOUGLAS 4h.p. and Coachbuilt Sidecar, 2 speeds, free engine, kick starter, new belt, perfect order, good condition, accessories, seen and tried any time; bargain, £78.—77, Salmons Lane, facing Stepney Station. [9033

4h.p. Douglas Combination, small mileage, late 1919, looks and runs as well as new, electric lighting, hood and screen, all tools and spares, about £30 of extras included in price, £150.—Box 6,635, c/o *The Motor Cycle*. [8710

1919 Douglas Combination, 4h.p., 3-speed, clutch, kick start, etc., engine perfect, new Douglas sidecar, new P. and H. lamp set, Lucas horn, pump, tool kit, the whole as new; £115.—Dowell, High Rd., Byfleet, Surrey. [9094

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Douglas.

DOUGLAS, 2¾h.p., 1916 model, No. 26752, 3-speed gear, F.R.S. lamp and generator, Jones speedometer, Stewart mechanical horn, good tyres; £65.—George England, Ltd., 11, Curzon, St., Mayfair, W.1. 'Phone: Mayfair 2191. [0264

ALLEN-BENNETT Motor Co.—1919 Douglas 2¾h.p., lamp, horn, etc., splendid condition throughout, semi T.T. bars; £80, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9382

1920 4h.p. Douglas Combination, variable jet Amac (75 m.p.g.), Auster Triplex wind screen, horn, speedometer, tool kit, coverall, and accident insurance, mileage 900, guaranteed perfect; cost £185, best offer.—9, Prospect Vale, Fairfield, Liverpool. [8771

DOUGLAS Late 1918 Combination; £110; 4h.p., 3-speed, clutch, kick start, all on, new lamps, generators and horn, in excellent condition throughout, tyres perfect, really good lot; would take any trial.—60a, Kirkdale, Sydenham, London. [9292

4h.p. Douglases, 3-speed, K.S., 1918-19. These are just demobbed and want a good home, solo £65, combination £75; 2¾h.p. Douglases, 1916, just overhauled, £45. Come early to avoid disappointment.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [9086

F.O.C.H. have a 1919 Douglas Latest Clutch 4h.p. Combination, fully equipped, wind screen; a bargain.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8958

ALLEN-BENNETT Motor Co.—Douglas, 1916 models, 2¾h.p., reconstructed ex-Government machines, thoroughly overhauled and guaranteed by us to be in sound mechanical condition throughout, 2-speed, re-enamelled, and plated in our own workshops, makers' colours; £70.

DOUGLAS, 1916 models, as above, but repainted makers' colours; £65.

DOUGLAS 1917-18 Combinations, 4h.p., 3-speed, clutch, and K.S., makers' colours; £120, with new sidecar body £5 extra, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9397

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Edmund

EDMUND 2¾h.p., spring frame, 3 models; you simply float.—Gonslay, Fallowfield. [6933

1920 New Edmund 2½h.p., 2-speed, spring frame; £92/8.—Halifax Motor Exchange, Union St. South, Halifax. [9141

EDMUND.—The lightweight with the laminated spring frame 2¾h.p. Jap model, £92/8; 2-stroke model, £86/10; both fitted with Enfield 2-speed gear —P. J. Evans, 83-91, John Bright St., Birmingham. [025]

Enfield.

ENFIELD, brand new, 2-stroke model in stock; makers' price.—Moss, Wem. [X6654

ENFIELD 2¼h.p. 2-stroke, 2-speed, in stock; list price.—Longman, Fisherton, Salisbury. [7566

ROYAL ENFIELD 2¾h.p. Twin, Bosch mag., good condition; £45.—51, Congleton Rd., Biddulph Staffs. [8860

ENFIELD.—Immediate delivery 2¼h.p. 2-speed model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X7858

ENFIELD 2¾h.p. Twin, Bosch mag., new tyres, tubes and chains, first-class condition; £50.—Howes Bray, Berkshire. [8902

ENFIELD Combination, 6h.p.; a bargain, £79/15; ready to drive away.—Wilkins, Simpson, opposite Olympia, London. [9180

ENFIELD 3h.p. 2-speed, condition new, accessories, etc., any trial; 60 gns.—279, Romford Rd., Forest gate, E.7. [8932

IN Stock for Immediate Delivery New 1920 Enfield, 2-stroke, 2-speed; £68.—Salvage and Sons, Fleet St., Swindon, Wilts. [9326

1919 Enfield Combination, 6h.p., new tyres, new condition, speedometer, Bosch mag.; £165.—76, Honley Rd., Catford. [8695

ENFIELD 1916 2-stroke, 2-speed, chain drive; £50. —Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0231

1920 3h.p. Enfield Combination, new, and unregistered; £190.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [8977

ENFIELD Combination, 6h.p., completely overhauled, good condition, lamps and horn; £90, or offer.—326, Coldharbour Lane, Brixton. [8724

1920 Enfield Combination, hood, screen, lamps, horn, splendid condition, any trial; £190.—Goodman, 18, Vilett St., Swindon. [9114

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CLYNO, lightweight, 2-speed	£75 0
CALTHORPE-J.A.P., 2-speed	£74 11
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HOBART-J.A.P., 2-speed, kick-start	£90 0
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MAUDES'.—1919 lightweight 2-speed Enfield; P. mer tyres, Klaxon horn, Cowey, 2 lamps; £69 Maudes', 100, Gt. Portland St., W.1. [92

1920 2¼h.p. Enfield, as new, speedometer, Klaxc with all accessories; £85; can be seen any day H.B., 9, Inchmery Rd., Catford, S.E. [90

£55.—Royal Enfield 3½h.p. twin, chain-driven, 19 model, 2-speed, mechanically perfect, appearan as new.—Rogers, Jeweller, Whithorn. [91

ENFIELD Combination, 1917-18, new from age Jan., 1919, perfect condition, new tyres; pr £145.—Lloyd, North End, Aberystwyth. [88

ENFIELD Combination, 1914, just overhauled a in perfect condition; £110.—Hewin's Garag Ltd., The Real Service Firm, Taunton. [91

ENFIELD 1920 2-stroke, brand new; just arrive at makers' price; immediate delivery; £73/10; Wilkins, Simpson, opposite Olympia, London. [91

1918 Enfield Combination, 8h.p., engine No. 6149 all in really new condition and very smar £135.—30, Crystal Palace Park Rd., Sydenham. [90

NEW 1920 Royal Enfield, 2¼h.p., 2-stroke; pr £73/10; delivery from stock.—D. J. Slephe and Co., Enfield Highway, Waltham Cross 31. [02

ENFIELD Twin Lightweight, about 1911 or 19 in perfect running order, nearly new Dunlop tyr bargain, £24.—Beecher, 472, Archway Rd., London, N [87

ROYAL ENFIELD 2¾h.p., 2-speed, in splendid c dition, 1914 model, £42; also Peugeot car, 6h. £35, or nearest.—Howard, c/o 14, St. Mary's Hill, Sta ford. [87

6h.p. Enfield Combination, 1917, excellent conditi all accessories, including lamps, wind screen, lu gage grid, tools, apron, etc.—Dunlop, 41, West Cumbe land St., Glasgow. [87

ENFIELD 2-stroke, 2-speed, March, 1920; lamps, u used, 2 generators, horn, Binks, insured, mileag 350, perfect condition; 65 gns.—Capt. Rice, Ivy Hou Sutton-on-Sea Lincs. [90

ENFIELD 1920 Combination, 8h.p., brand new, M dyno lighting, just arrived from works; immedi delivery at makers' price, £202/2.—Wilkins, Simps opposite Olympia, London. [9

1919 Enfield Combination, 6h.p., lamps, Easti screen, D.A. lighting, child's seat, 3in. tyr spares, perfect condition; £170; London district Box 6,705, c/o *The Motor Cycle.* [92

6h.p. Enfield Late 1915 Combination, electric lig ing, with all accessories, complete, in first-cl condition; subject to inspection; £138, lowest.—J. McGill, 55, Frostoms Rd., Workington. [89

1915 8h.p. Enfield Combination, just thorough overhauled, rebushed, and many new parts, splendid order; full particulars by post or any tria £145.—Anderson, Bentham, Nr. Lancaster. [89

LATE Enfield 3h.p. Twin, 2-speed, kick start, late Amac, new Dunlop, all accessories, mechanica perfect, like new; trial, photo; 60 gns.; exchange sm Zenith preferred, or 2¾h.p. Douglas.—Stonehurst Far Lingfield. [89

ENFIELD 1916 8h.p. Combination, Lucas dynam lighting set, coachbuilt sidecar, Easting wi screen, 650×65 Dunlop tyres, guaranteed perfect c dition; £130.—The Premier Motor Co., Aston R Birmingham. [73

1917 Enfield Combination, 6h.p., in first-class c dition, little used, fitted 3 lamps, generato Klaxon, speedometer, watch, new tyres, hood, scre spares; £140, or nearest.—Cobbold, Clifton Mou Summerhill Rd., Dartford. [91

ROYAL ENFIELD 8h.p. Magdyno Combination, livered March, 1920, Lucas electric lighti Smith speedometer, Easting wind screen, mirr Klaxon, luxurious turnout; £210.—484, Manches Rd. East, Little Hulton, Nr. Bolton. [8

1916 6h.p. Royal Enfield Combination, fine conditi wind screen, apron, hood, horn, speedometer acetylene lamps, spare covers and tubes, and tradesm float to fix on sidecar chassis; £175, a real bargain Collinge, Plumber, Duke Bar, Burnley, Lancashire [X7

ROYAL ENFIELD 6h.p. Combination, late 19 perfect condition, any expert examination, c plete with Lucas lighting set, mechanical horn, E ing screen, tools, and pump, all as new; would c sider part exchange for good solo mount, but must late sporting model.—Write, T. D. Jackson, 4, Lock St., Birches Head, Hanley, Stoke-on-Trent. [9

Excelsior.

EXCELSIOR 2¼h.p. 2-stroke, 2-speed, in stock; price.—Longman, Fisherton, Salisbury. [7

8h.p. Excelsior Combination, electric model, perf £130.—H.J., 595, High Rd., Tottenham, N. [8

EXCELSIOR Combinations, ready to drive awa W. F. Grimes and Co., 18, Bruton Place, B St., W.1. [9

1920 Model American Excelsior, dynamo light in perfect order; £140.—J. E. Lawes, The Triangle, Aldershot. [8

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Excelsior.

BRITISH Excelsior Combination, 8h.p., spare wheel, latest, magnificent mount; list price —Clifford Motories, Eastwood, Notts. [8718

EXCELSIOR 4h.p., a.o.i.v., fixed gear, very low position, spring forks, lamps, new Dunlop, fast; £26; offers.—88, Southbridge Rd., Croydon. [8647

1915 British Excelsior 5-6h.p. Single Combination, 3-speed countershaft, all chain, Klaxon, speedometer, 3 lamps, wind screen; any trial; £120.—Hodges, Belmont, Surrey. [9054

1920 British Excelsior Combination, 8h.p. J.A.P., 4 interchangeable wheels, firm's own Model de Luxe sidecar, patent wind screen, finest combination on road; £225.—Box 6,664, c/o *The Motor Cycle*. [8900

ALLEN-BENNETT Motor Co.—Excelsior 2¾h.p. 2-stroke, 2-speed, brand new; £67, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9367

ALLEN-BENNETT Motor Co.—Excelsior, 2¾h.p. J.A.P., 2-speed, brand new; £78, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9366

7h.p. British Excelsior Combination, done 400 miles, J.A.P. engine, Lucas lamps and horn, Easting wind screen, 28×3 interchangeable wheels, like new; cost over £175.—Davies, Glantowy, Nantgaredig, Carmarthenshire. [7133

AMERICAN Excelsior 1920 Special Demonstration Model, 9-11h.p., 3-speed, clutch, kick-start; this machine has been driven only by R. D. Varty, and is fitted with Swan sporting sidecar, 4-point attachment, complete with P. and H. lamps, mechanical horn, Bonksen speedometer, Tan-Sad pillion seat, perfect throughout, better than new; any trial given; fully insured until next May for £225; accept £200; part exchange entertained.—R. D. Varty, Thundersley, Rayleigh, Essex. [9174

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In Stock for Immediate Delivery New 1920 Francis Barnett 2¾h.p. Jap; £90.—Salvage and Sons, Fleet St., Swindon, Wilts. [9323

NEW Francis-Barnett 2¾h.p. J.A.P., 2-speed, clutch and kick starter, in stock at manufacturers' list prices; easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [8828

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GOUGH 3h.p. 2-stroke Motor Cycle, Villiers engine, Burman 2-speed gear, clutch and kick-starter, 6 machines for immediate delivery at works; trade enquiries invited for Yorkshire.—Kenneth A. Beadnall, Manchester Terrace, Brotton. [8856

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1919 Harley-Davidson 7-9h.p., splendid condition; £125.—Heady, 44, Alma Rd., Carshalton, Surrey. [9073

HARLEY-DAVIDSON.—Immediate delivery 4h.p. model.—Parker's, Bradshawgate, Bolton. Tel.: 3. [X7865

1916 Harley 7-9h.p., mag. model, 3-speed, clutch, many spares, sidecar, screen; £130.—Blake, 216, Westbourne Grove, W.11. [6427

HARLEY-DAVIDSON, 1918, 7-9h.p., £105: 1919 £110.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0232

1918 Harley-Davidson Solo, 7-9h.p., appearance new, complete with lamps, generator; £120.—Jones, Tudhoe Colliery, Spennymoor. [9034

LMORE Depôt for 1920 Harley-Davidsons, all models in stock; also sidecars, ready for the days.—31, Colmore Row, Birmingham. [X7795

HARLEY-DAVIDSON 7-9h.p. Combination, disc wheels, electric lamps and horn; late 1917, grand condition; £175.—43, Cleveland Rd., Ilford. (After 6.) [8711

HARLEY-DAVIDSON.—Immediate delivery 7-9h.p. standard model, with Mills-Fulford or Henderson cars.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X7863

1920 4h.p. Harley, ridden only 100 miles, electric lighting, Klaxon, speedometer; best offer over £1 —Gables, Monkham's Drive, Woodford Green. [8659

HARLEY-DAVIDSONS, 1919 and 1918 models, in good running order, from £95; new sidecars to same, £55.—Owen, 59, Scholefield Rd., Holloway. [X7871

HARLEY-DAVIDSON, 1919, 3 speeds, clutch, K.S., Bosch, lamps, horn, excellent condition; £115.—8, Edmund's Terrace, North Gate, Regent's Park. [8669

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1920 (June) 7-9h.p. Harley-Davidson and sidecar, electric model, speedometer, electric lamps and horn, as new, mileage 500; £235.—Box 6,636, c/o *The Motor Cycle*. [8756

1916 Harley Combination, 3-speed clutch, lamps, Tan-Sad, special engine, Easting, dickey, etc.; any trial; £130, or exchange sporting 2-seater car.—76, Western Rd., Southall. [8910

ALLEN-BENNETT Motor Co.—Harley-Davidson 5h.p. sports model, flat twin, brand new; £164/9/10, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9341

1915 7-9h.p. 3-speed Harley-Davidson and Sidecar, re-enamelled, replated, 3 lamps, Klaxon, Watford speedometer, dropped bars, perfect throughout; £110.—Roddick, 31, York Rd., Birkdale, Lancs. [6458

HARLEY-DAVIDSONS, 1918 and 1919, solos and combinations, as new; £118 and £145; engines overhauled £5; all spares in stock.—Futurist Garage, Harley Specialist, Poplar Rd., Bearwood, Birmingham. [X7799

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HARLEY-DAVIDSON 7-9h.p. 1916, speedometer, double-seater sidecar, sidecar hood, screen, spare tyre, lamps, tool kit, etc., splendid condition; best offer over £125 secures.—Hardyman, Westland Foundry, Yeovil. [8967

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HAZLEWOOD Combination; £110; exchange solo.—Box 6,696, c/o *The Motor Cycle*. [9031

IN Stock for Immediate Delivery new 1920 Hazlewood Combination; £204.—Salvage and Sons, Fleet St., Swindon, Wilts. [9316

HAZLEWOOD 1920 5-6h.p. Combination in stock, new; accept £175; S.W. England.—Apply, Box 6,706, c/o *The Motor Cycle*. [9276

1920 Hazlewood Combination, 5-6h.p. J.A.P. engine, 3-speed countershaft, chain-cum-belt, little used; £190, or nearest offer.—Moore, Dentist, Tewkesbury. [8788

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch and kick starter, at manufacturers' current list price, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [8825

H.B.

H.B. Blackburne, new, 2¾h.p. 2-speed model, just arrived.—Moss, Wem. [X6656

ALLEN-BENNETT Motor Co.—H.B., 2¾h.p. Blackburne engine, 2-speed, clutch and kick starter, brand new; £99/15, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9356

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HENDERSON, 1920, Model Z2, 10h.p., 4-cyl., 3-speed, Canoelet bulbous back sidecar, Ward and Goldstone electric lighting equipment, leg shields, Stewart mechanical horn, mileage 200, carries makers' full guarantee; £225.—The Premier Motor Co., Aston Rd., Birmingham. [7364

Hobart.

1920 Hobart-Jap 2¾h.p., Sturmey 2-speed, kick, excellent condition, accessories; £85.—Martin, 23, Westbourne Rd., West Kirby, Cheshire [9119

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MOTOR CYCLES FOR SALE.

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ALLEN-BENNETT Motor Co.—1917 Humber 3½h.p. flat twin, 3-speed, clutch, and kick starter, thoroughly overhauled; £78, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9386

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INDIAN 7-9h.p., clutch model; best offer, or exchange good Triumph.—309, Roman Rd., Bow. [8847

1914 Indian 2-speed Clutch Combination, new tyres; £95.—84, Earl St., Edgware Rd., N.W.8. [8875

7-9h.p. Indian Solo, 2-speed, clutch model, brand new; £100.—Spring Hotel, Ewell. 'Phone: Epsom 614. [8697

INDIAN 1915 Clutch Model, fine condition, 7-9h.p.; £55.—Apply, D., 119, Alderney St., Victoria, London. [9193

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7-9h.p. 1919 Indian and Swan Sporting Sidecar; £175; latest improvements.—Wauchope's, 9, Shoe Lane, London. [9255

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7h.p. Indian, 3-speed, clutch, K.S., discs, Lucas lamps, all round new condition; 100 gns., snip.—Matthews, 81, Little Ealing Lane, Ealing. [8911

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1915 Indian, clutch model, and torpedo sidecar; best offer secures, or exchange, privately owned.—Ye Rooste, Lock Mead, Maidenhead. [7793

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1919 Indian 7-9h.p. Powerplus Combination, 3-speed, kick start, in very fine condition; any trial; £155.—Whitaker, 17, Brighton Rd., Rhyl. [9166

INDIAN 5-6h.p., free engine, fast, good condition; £60, or nearest offer; seen after 6 p.m.—5, Willer Terrace, Nuthurst Rd., New Moston, Failsworth. [8763

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1920 Indian 7-9h.p. Combination, new April, mileage 1,100, perfect condition, Easting screen, luggage grid, dynamo lighting, electric horn, all tools, spare chain, fully insured till April, 1921; 200 gns., or near offer.—Box 6,641, c/o *The Motor Cycle*. [8761

ALLEN-BENNETT Motor Co.—1919 Indian 7-9h.p. combination, splendid condition throughout, very small mileage, electrically equipped, as new; £185, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9378

INDIAN Combination, 84E630, 1914, 7-9h.p., 2-speed, K.S., clutch, spring frame, coach body, stored 5 years, mileage 1,500 only, thoroughly overhauled, plating as new, guaranteed perfect throughout, any trial, owner disabled; £85.—Westfield, Henlow, Bedfordshire. [9101

FOR Sale, Indian and sidecar, 1914 machine, unused during war, sidecar new this year, tyres new, clutch, electric lighting, speedometer, Klaxon, splendid condition; test if required; bona-fide reasons; £152, or offers.—Apply, Tate, Cliffe Court, Seaton Carew, West Hartlepool. [9302

ALLEN-BENNETT Motor Co.—Indian, 1919 models 7-9h.p., Reconstructed ex-Government machines thoroughly overhauled and guaranteed by us to be in sound mechanical condition throughout, Powerplus, spring frame, re-enamelled, and plated, new condition; £125, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9398

Invicta

IN Stock for Immediate Delivery, New 1920 Invicta 2¾h.p. Jap, Sturmey gear, 2-speed K.S. hand clutch; £88.—Salvage and Sons, Fleet St., Swindon, Wilts. [9324

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Ivy.

IVY.—The Walsall Garage, Walsall, can supply early dates. [5764

IVY 2-speed 2-stroke in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [6184

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. C. Henly and Co., London and District Agents, 91, Great Portland St., W.1. Mayfair 4084. [7022

James.

THE Walsall Garage, Walsall, for good deliveries of all James models. [5764

1920 James 6h.p. Combination at list price, plus carriage.—Taylor's Garage, Falmouth. [0244

1920 James Combination, 5-6h.p., in stock; list price.—Reyre and Williams, Sun St., Hitchin. 'Phone 165. [8899

IN Stock for Immediate Delivery New 1920 James 2-stroke; £75.—Salvage and Sons, Fleet St., Swindon, Wilts. [9324

IN Stock for Immediate Delivery, new 1920 James Twin, 3½h.p.; £135.—Salvage and Sons, Fleet St., Swindon, Wilts. [9324

JAMES 1920 Lightweight, 2-stroke, 2-speed, unscratched; £65; exchange or deferred payments.—Bunting's Motors, Wealdstone. [9077

JAMES 1917 3½h.p. Twin, 3-speed, clutch, lamps etc., just overhauled, new parts fitted; £80, new.—J.H., College Farm, Southwater, Sussex. [8977

JAMES 1920 5-6h.p. De Luxe Combination, complete with leg shields, lamps, horn, speedometer, etc., new condition throughout; £200.—R. D. Varty, Thundersley, Essex. [9177

ALLEN-BENNETT Motor Co.—James 5-6h.p. combination, brand new; £190, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9377

1914 4¼h.p. James Combination, Bosch, B. and B. 3-speed gear box, chain transmission, nearly new Dunlops, lamps, speedometer, just overhauled; £95.—Middleton, Askern, Doncaster. [8877

1918 James Combination, 5-6h.p., 3 speeds, hand and foot clutch, kick start, Easting screen, luggage grid, speedometer, low mileage, chic condition; £140.—Arthur Belcher, Wantage, Berks. [9077

JAMES 1920 (May) 5-6h.p. Combination, luggage grid, Watford speedometer, three 1920 Lucas lamps, Klaxon, spare valve, spare new cover and tube; fast and economical outfit; £200.—James, 9, Westfield Rd., Watford. [9077

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ALLEN-BENNETT Motor Co.—1919 James 5-6h.p. twin and James Canoelet sidecar, all lamps, horn, etc., splendid condition throughout, very fast and powerful; £145, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9376

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ALLEN-BENNETT Motor Co.—1920 James 4½h.p. combination, electrically equipped, all lamps, horn, speedometer, run under 200 miles, unscratched, and indistinguishable from new in every respect; £185, or half down and 12 monthly instalments.—9-10-11, Royal Parade, West Croydon. 'Phone: Croydon 2450. [9375

J.A.P

J.A.P. 4½h.p., late model, very fast, well fitted up; £38.—77, Acre Lane, S.W.2. [9083

J.H.

3½h.p. J.H., 1915, M.A.G. engine, 3-speed, clutch and kick start, countershaft gears, fitted with undering sidecar; £115.—Wauchope's, 9, Shoe Lane, Fleet St., London. [9268

L.A.C.

3-8h.p. L.A.C. Twin, canoe sidecar, Bosch, N.S.U., just overhauled; bargain, 50 gns.; after 6 p.m.—Fire Station, Mile End Rd., E.1. [8891

Lea-Francis.

6h.p. Lea and Francis, new 1920 model; £130.—Wauchope's, 9, Shoe Lane, London. [9268

LEA-FRANCIS, 1920, done 500, indistinguishable from new, speedometer, horn; £125.—Rice, Oxon, Shrewsbury. [X7743

LEA-FRANCIS 3½h.p. Twin, chain drive, clutch, kick starter, disc wheels, lamps, very sporty machine; £5.—Tucker, Highbridge, Som. [X7877

LEA-FRANCIS, 1920, brand new, in stock, tank slightly damaged in transit; what offers?—Rhosha Motor Co., Bank Mews, Romford. Tel.: 95. [9315

1919 Lea-Francis, Lucas lamps, horn, speedometer, spare cover, valves, etc., insurance, perfect condition, £110.—Box 329, c/o *The Motor Cycle*. [8798

LEA-FRANCIS.—Immediate delivery twin-cyl., 2-speed, hand-controlled clutch, M.A.G. engine.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X7866

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic models.—A. J. Sproston, Ltd., 193, Gt. Portland St., W. 1. [0099

LEA-FRANCIS, famous 3½h.p. twin M.A.G. engine, 2-speed, in stock at makers' list price; £130.—Hall and Co., 15-16, Bishopsgate Av., Camomile St., E.C. [0065

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price for cash, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [9399

LEA-FRANCIS 1917 3½h.p., 2-speed and clutch, recently overhauled and renovated, fitted with brand new 1920 3½h.p. J.A.P. engine.—Parker's, Bradshawgate, Bolton. [X7857

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Levis.

LEVIS 2½h.p., new condition; £49; after 6.—55, Bullspond Rd., Islington, N.1. [8974

LEVIS, September, 1919, fast, powerful, 150 m.p.g.; £50.—Dean, Colne Rd., Brierfield, Lancs. [9168

1920 Popular Levis, done 1,400 miles, perfect condition; £50.—Routh, Longparish, Hants. [8661

LEVIS Popular, overhauled by makers; £40, nearest offer.—Longhurst, Middle Rd., Leatherhead. [8729

LEVIS Popular Models in Stock; £60.—A. J. Young and Co., Ltd., Heath Garage, Newmarket 'Phone: [4012

MEX G. MUNDY.—Levis 1915 Popular Model, just overhauled, new cylinder and piston fitted, tools, £37/10 or near offer.—1, Duke St., Richmond. [9010

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1917 Levis 2½h.p., 2-speed, all-chain drive, recently overhauled completely, and guaranteed perfect, lamps, horn, tools, etc.; will ride any reasonable distance to purchaser; price £55.—Storrar, Ltd., Netherayon. [9288

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MATCHLESS Combination, July, 1920, Magdyno, screen, horn, 4 interchangeable wheels, speedometer 600 miles; £245; owner gone abroad.—26, Aldersmead Rd., Beckenham. [8890

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MATCHLESS 1920 Model H, Magdyno, mileage recorder, lamps, horn, spare wheel and tyre, screen, tools, done under 500 miles, perfect; £240.—Taylor, 365, Croydon Rd., Caterham Valley. [8842

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MATCHLESS New Spring Frame Model.—Early delivery at list price. Demonstration model on view. Replacements for Matchless models of all dates in stock.—Tassell, 1a, Bloomfield Rd., Plumstead, S.E. [9411

MATCHLESS Combinations. Model H, 1920, two for sale, one Lucas gas lighting, one dynamo lighting, as brand new, recently delivered; reasonable prices.—Evans' Garage, Seven Kings, Essex 'Phone: Ilford 253. [8691

MATCHLESS Combination.—Book your orders with Ross, 86, High Rd., Lee, S.E., for 1920 spring frame 8h.p. Matchless combination. A model always on view at above address. Deliveries guaranteed strictly as per order received. Retail price as ruling at time of delivery. A large assortment of second-hand motor cycles of all makes always in stock. [5242

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Minerva.

MINERVA 2¾h.p., new tyres, belt, Douglas bars, spring forks, Dixie, Amac, low, m.o.i.v.; £28/10; ride away.—Norden, Newport, Essex. [9226

2¾h.p. Minerva Motor Cycle, good tyres, new belt, just overhauled; £28, or exchange for light 2-stroke.—22, Little Park Gardens, Enfield, Middlesex. [8914

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NEW HUDSON 2-stroke, splendid running condition; £45.—45, Canon St., Shrewsbury. [X7825

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6h.p. New Hudson Combination, 3-speed, kick start; £75.—Stewart, 42, Kimberely Gardens, Harringay, N. London. [8831

6h.p. 1919 New Hudson Combination, beautiful outfit, practically as new; only £135.—Miss Bygott, Wem, Salop. [9023

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NEW HUDSON Combination, 6h.p., late 1915, countershaft, 3-speed clutch, all new tyres, absolutely sound condition, genuine bargain; £95.—22, Burgess St., Leominster, Herefordshire. [9027

NEW HUDSON 1919 4h.p. and New Hudson sidecar, with lamps, horn, tools and spares, mileage about £2,500, privately owned and quite sound; £130.—Exeter Motor Cycle Co., 28, Tavistock Rd., Plymouth. [8852

NEW HUDSON 1914 4h.p., C.B. combination, 3-speed, clutch, Bosch, B. and B., lamps, horn, luggage grid, etc., good condition, ride away; 68 gns. lowest; appointment.—21, Leadale Rd., Stamford Hill, N.16. [8980

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NEW IMPERIAL-J.A.P. 2¾h.p., 1916, 2-speed, lamps; £45.—Tom Tregoning, Gulval, Penzance. [8797

1919 New Imperial Combination, 8h.p., fast, powerful, complete; £135.—Wilson, Sunnyside, Pershore. [9113

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2¾h.p. New Imperial-Jap 2-speed, Bosch mag., lamps and horn, perfect condition; £42.—J. Chambers, Preston Bissett, Buckingham. [8878

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N.U.T. 5-6h.p. J.A.P., S.A., 3-speed, clutch, lamps, speedometer, complete; £85.—Bickell and Sons, Garage and Motor-Engineers, 247-251, Archway Rd., Highgate, N.6. 'Phone: Hornsey 1090. [0255

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O.K. 4-stroke, 2 speeds, perfect order, like new; £35.—Hichens, The Club, St. Ives, Cornwall. [8779

2¼h.p. O.K. Junior, 4-stroke, 2-speed; £35, or near offer.—Elliott, Ivy Cotage, Rookham, Surrey. [8650

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O.K. Junior, 1915, 4-stroke, 2-speed, o.h.i.v., new carburetter, very good condition; 40 gns.—19, High St., Whitechapel, E.1. [9088

O.K. Junior, the 48 gn. marvel.—Early deliveries from the Birmingham agents, Frank Whitworth, Ltd., 139, New St., Birmingham. [X7567

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Performance and Price.

THE present-day big reliability trials are run with little regard to the comparative values of competing machines. The attitude of judges and the public generally is that of letting the best machine win, and perhaps insufficient attention is paid to the relative cost of the various machines matched against each other.

Obviously, if two machines are entered side by side and secure "golds" in, say, the English Six Days, the inference is that they are of equal merit, and the public may think no more of the matter so long as the system of judging takes no account of the comparative price of those two machines. If, however, we learn that the manufacturer of the "A" machine sells his product for £110, while the maker of the "B" asks £150, there is a strong temptation to regard the former as a more meritorious performance, inasmuch that the machine is one appealing to a wider circle and is evidently produced with an eye on that greater public on the patronage of which depends the future of the motor cycle movement.

In the present stage of mechanical development, there is no reason at all why a machine cannot be built (regardless of price) successfully to negotiate anything a trials committee cares to organise; to build a motor cycle at a moderate price with the same powers of performance is a problem tied up with future progress.

It would seem that, as the A.C.U. has already done much to raise the technical standard of the annual Six Days Trials, it might well extend its purview to this essentially technical matter of cost. Many makers of the cheaper lightweights are deterred from entering such events by the consideration that their machines will be compared, in the public eye at any rate, with machines costing twice as much; and they feel that their performances, on a comparative basis, are somewhat overshadowed.

Of course, it may be argued that the ruling body would be exceeding its scope if it placed any embargo on the maximum price of machines or awarded marks according to their varying cost; a price ruling would also have an effect on design which might tend towards crudity. This, however, should not carry much weight, as at the present time all machines must conform more or less to certain main lines of specification already laid down and generally accepted.

Two-stroke Development.

ALTHOUGH the two-stroke principle is of about the same age as the Otto cycle, its progress in the motor cycle world is of comparatively recent growth. After ten years' four-stroke development, the Scott engine more or less burst upon the public as a revelation, but it was not until some time later that the Levis and Connaught air-cooled engines showed the latent possibilities of the type; indeed, it may be said that these were the forerunners of a new trend of design.

Latter-day progress has accepted the air-cooled two-stroke as a type well worthy of the concentration of much designing ability and manufacturing organisaton. The result of this effort is now beginning to show itself. A two-stroke engine has propelled a machine round the T.T. course of 188 miles at an average speed of 38.1 m.p.h.; another has made twenty-five consecutive non-stop climbs of the famous Old Wyche at Malvern (one of the steepest test hills in Great Britain); whilst the latest reports tell us of yet another machine of the same type which has averaged 41.71 m.p.h. for twelve hours on Brooklands, thus creating new records, and, incidentally, being the first two-stroke to achieve a success of this nature.

All these performances have been accomplished on air-cooled engines of less than 350 c.c. capacity; and, in view of such results, there can be no doubt that this type of engine is now fully entering into its own.

An index to the advertisements in this issue will be found on the page facing the back cover.

A Knee Apron.

I FIND I was in error in stating that nobody has marketed an apron designed to stretch back practically horizontally from the steering head and protect the rider's knees in rainy weather. Such a fitting has long been an optional extra on the College legshield. Its fore edge is secured to the vertical shield, and its rear edge is hooked to the rider's coat or belt when he is mounted, and also serves to keep the saddle dry when the owner dismounts in wet weather.

The New Claudel Carburetter.

ALTOGETHER I have owned three Claudel-Hobson carburetters on motor cycle engines, and have been uniformly enamoured with the simple control and gee-whizz acceleration which they afford. The latest pattern is adorned with a stub lever about an inch long, inscribed with three arrows pointing in divers directions, and distinguished by the respective legends, "Start," "Run," and "Weak." I have not yet had time to dismantle the gadget and investigate its innards; I dislike stripping strange carburetters without a drawing, ever since I tore the jet of a hush-hush carburetter in half on a lonely moor by such an error in tactics. But this stub lever appears to be the goods. It gives a push start in one yard from cold on current petrol. When started, the engine sulks till you shift the lever to "Run." Should you accidentally move it too far with a clumsy gloved hand, so that it reaches the "Weak" position, you will get a pop-back for sure. This is a move in the right direction. Too many designers provide the same mixture for starting with a cold engine, and for running a hot engine slowly. Which is absurd.

Motor Bicycle v. Railway.

THE other week a correspondent gave the running expenses of a motor bicycle at 2.6d. per mile as contrasted with 3d. a mile on the railway. There is surely more in it than these figures suggest. In the days when railways were railways, I accompanied an End-to-end aspirant, a follower or two, and several motor bicycles per train from London to Wick. The Parliamentary penny per mile was the least considerable item of our expenses. There was getting to the London terminus—with our baggage. There was light literature to beguile the tedium of the train—one omnivorous brain merchant in the party almost cleared a bookstall. There was tobacco. Baskets of food. Visits to the restaurant car. Tips to various officials. Finally, our lightened pockets shovelled out the last of their small change at Wick. By contrast, a motor cycle takes you from door to door. You cannot read in the saddle. You cannot smoke; you light a pipe when you start up, the first mile burns up the baccy by forced draught, and you chew the cool mouthpiece on the cheap till the next stop. There is nobody to tip. Surely, the incidental expenses of railway travel are far heavier than those of motor cycling? I am never so extravagant on a petty scale as when my evil angel compels me to put in a long day on the train.

A Peculiar Trouble.

WHEN a motor cycle is in a waggish mood, it can be almost as whimsical as a woman, and I have just heard of a particularly elfish machine, which puzzled an experienced rider for days. The engine was in perfect mechanical order, the ignition was superb, the jet was in action on aviation spirit, all controls were operating, and yet the behaviour of the machine was eccentric to a degree. Sometimes the engine would start at the first kick; sometimes it took nearly an hour to get it going when its reluctance would suddenly cease without apparent rhyme or reason. Once started, its subsequent behaviour was equally erratic. One day it would be as obedient as de la Hay's Sunbeam when supertuned for a stunt. Then without warning it would go completely crazy, slow down when it should have accelerated, accelerated when it should have slowed down, or even stop altogether and refuse to restart. Occasionally a fit of misfiring would intervene, and continue for various periods. These symptoms became a regular nightmare. The solution was ridiculously simple at the finish, and I will publish it in our next issue after amateur physicians have had time to prepare a diagnosis.

Riders as Designers.

IF the publicity manager of any firm is seeking for a new way of spending money, he might do worse than offer a set of prizes for the best suggestions from his customers for improving the machine which it is his business to push. Concerns differ enormously in the fashion in which they accept criticism and ideas. A letter before me tells how the writer forwarded a list of desirable improvements to his maker, and received in reply a letter reminiscent of those which Government Departments are such adepts in composing; it might be paraphrased as "our experts know all about everything." At the next Olympia, the firm in question printed eight new talking points on their folders, and five of them coincided with my correspondent's suggestions. Here and there one meets a firm which is positively dishonest. A friend of mine put about 8 m.p.h. on to his T.T. model some years ago by a gadget which was not patentable. He disclosed it to the makers under pledge of secrecy, was thoroughly pooh-poohed, and found the gadget on their next season's model in due course. Personally, I have been more fortunate. When any of my suggestions have been sound, they have often been adopted. A customers' suggestion competition would be money well spent.

"ROADS" TO BE ENCOUNTERED IN THE 1920 SIX DAYS TRIAL.

A.C.U. Six Days Event in the North-eastern Counties. Monday, Aug. 23rd, to Saturday, Aug. 28th.

(Top) A scene on Stake Fell. This road will be traversed on Tuesday afternoon.

(Bottom) Near Semmerwater—a typical stretch of road in Wensleydale. This district will be touched on Monday, Tuesday, and Friday.

THERE are over 120 entries in the most important reliability trial of 1920, and many innovations in the running of the event will be made.

Much of the country to be covered is unfamiliar to the habitual trials-rider, and some very sporting hills are included. The last two days involve a run from Darlington to the South of England, for a final speed test on Brooklands.

A full list of entries, maps of the routes, and timetable appeared in our last week's issue.

M. Jules Neher, chairman of the F.I.C.M. meeting held in Paris last week. He is managing director of the Motosacoche Co., Geneva.

INTERNATIONAL SIX DAYS TO BE IN SWITZERLAND NEXT YEAR.

Representatives of the World's Motor Cyclists meet in Paris. Important Decisions. Short Distance Records to be the mean of Two Runs in Opposite Directions.

AN international Six Days Trial in Switzerland is to be held in August next year. This was decided at the congress of the International Federation of Motor Cycle Clubs held last week in Paris. Another important decision was that from January 1st next year certain short distance records shall be the mean of two runs in opposite directions.

The International Federation of Motor Cycle Clubs exists for the purpose not only of organising competitions, but for making rules governing these competitions and attempts at record, so that all motor cycle events in countries belonging to the Federation may be properly run and all records claimed correctly established.

At the present moment most European countries are represented on the F.I.C.M., and these are Great Britain, France, Holland, Italy, Belgium, Switzerland, the United States, Norway, and Sweden. The last two countries joined at the meeting held in Paris on the 3rd inst. All the national motor cycle clubs must be recognised by the leading national automobile club. Now, motor cyclists are probably more active in Spain than in many other European countries, but owing to the failure of Spanish motor cyclists to establish a truly representative motor cycle club or union recognised by the Royal Automobile Club of Spain, the joining of that country to the Federation is still in abeyance.

The Next International Trial in Switzerland

An important decision come to at the meeting was that of holding the 1921 International Six Days Trial in Switzerland. No happier choice could have been made, as Switzerland is the playground of Europe: it provides ample opportunities for testing the machines to an extent quite impossible in this country. British manufacturers will get the fullest possible benefits from entering owing to the number and various nationalities visiting the country, and the event will be organised by that most active and efficient body, the Swiss Motor Cycle Union. The trial is to take place during the first fortnight of August.

The proceedings opened at 10.30 in the morning, when a sub-committee met to revise the classification rules. Several important alterations were made, which, of course, will be adopted by the Auto Cycle Union, and new rules were drawn up governing the recognition of records.

There were present M. Jules Neher (president of the Swiss Motor Cycle Union) in the chair, Messrs. Graeme Fenton (France), G. A. de Ro (Belgium), E. M. P. Boileau (Great Britain) (by special invitation), and T. W. Loughborough (secretary of the F.I.C.M.).

Various suggestions were made by the different countries interested. Belgium, for instance, aimed at abolishing the 250 c.c. class, and grouping all machines up to 350 c.c. in Class 1, making Class 2 up to 600 c.c., and Class 3 up to 1,000 c.c.

France was content to leave things as at present, but a valuable idea, which was finally adopted, emanated from Switzerland as regards silencers. So far as Great Britain was concerned the A.C.U. put forward numerous suggested alterations. Among these it was proposed that the rule stating that in Division 2 (motor bicycles with sidecars), all vehicles must be fitted with a clutch or other free engine device.

Division 3.—Cycle cars with clutch or other free engine device and change speed gears should be abolished. As it was thought that since it was obvious that at this stage of the motor cycle industry these fittings were indispensable, the rules were, therefore, unnecessary. When, however, the matter came before the sub-committee, it was at once pointed out that if freak vehicles are to be eliminated the rules must stand: as in France the absence of these regulations would result in the entering of monstrosities designed only for special events.

This shows how necessary it is that such regulations should be drawn up so as to suit all countries, and gives an idea of the work carried out by the F.I.C.M. So far as the rules governing the classification of motor cycles in open competitions are concerned, the following are the principal alterations, the first of which comes under the definition of a motor bicycle. It now reads:

"A motor bicycle is defined as a vehicle comprising a frame, two wheels, and a suitable engine. Motor vehicles with more than two wheels, and weighing, without oil, fuel, or water, less than 350 kilos., are included in the term 'motor cycle.' Thus the weight is increased by fifty kilos = 100.2 lb."

Considerable alterations have been made so far as the classes are concerned as regards minimum weights and size of tyres.

DIVISION I.—MOTOR BICYCLES.

Class	C C	Min. Weight, without Oil or Fuel, in Kilos		Min. Size of Tyres. Cover and Tube Separate and Detachable.	
		Now.	Formerly.	Now.	Formerly.
				mm.	mm.
A.	250	60	40	50	45
B.	350	75	50	55	50
C.	500	85	60	60	55
D.	750	100	70	65	60
E.	1,000	120	80	75	65

DIVISION II.—MOTOR BICYCLES WITH SIDECARS.

Classes F (350 c.c.) and G (500 c.c.) have been abolished, and are substituted by

Class.	C.C.	Min. Weight, without Oil or Fuel, in Kilos.		Min. Size of Tyres. Cover and Tube Separate and Detachable.	
		Now.	Formerly.	Now.	Formerly.
				mm.	mm.
F.	600	125	110 (750c.c. class)	65	60
G.	1,000	160	120	75	65.

DIVISION III.—CYCLE CARS. (All three or four-wheeled motor vehicles other than motor bicycles with sidecars, carrying one or two persons, and of maximum weight without fuel, oil, or water, of *406*, instead of 300, kilogs.) Class J (750 c.c.) has been abolished.

Class.	C.C.	Min. Weight, without Oil or Fuel, in Kilos.		Min. Size of Tyres. Cover and Tube Separate and Detachable.	
		Now.	Formerly.	Now.	Formerly.
				mm.	mm.
I.	1,100	250	175	75	60

Article 7 now reads as follows (the additions are in italics): "All vehicles in Division II. must be constructed to carry two persons. Both seats must be occupied in *all open races, open reliability trials, attempts on records, and other open competitions.* The minimum weight of any driver or passenger carried by either a motor bicycle or any other class of vehicle is uniformly fixed at 60 kilogs. This weight *must* be made up, if necessary, by ballast."

EQUIPMENT ARTICLE 8.

DIVISION I.—For all *open road races over one mile*, motor bicycles must be equipped as follows:
Two brakes working independently.
(One toolbag—deleted.)
Efficient mudguards, projecting beyond the tyre at least 10 mm. each side, etc., etc.
One saddle (or seat—deleted).
One stand.
One efficient silencer: the use of a free exhaust is permitted in speed trials *only*. The following rule was proposed by the Swiss M.C. Union and adopted: "*The silencer consisting of pipes with or without expansion chamber must have a volume of the exhaust piping from the cylinder flange to the outlet of the pipe at least one-fifth of the total of the piston area of the engine.*"
The exhaust gases must not be so directed as to raise the dust.
Uncovered exhaust ports in the cylinder walls are forbidden.
In reliability trials the motor bicycles engaged must be genuine touring machines equipped accordingly.
In addition to the above equipment, they must also be furnished with one carrier, *to be capable of carrying not less than 50 kilogs.* (about 1 cwt.); one or more fuel tanks of a minimum total capacity of 5 litres; one or more oil tanks of a minimum total capacity of 1 litre; *one front wheel stand.*
DIVISIONS 2 and 3.—For all *open road races exceeding one mile* motor bicycles with either three or four wheels must be equipped as above, except as regards stands.
In the case of motor bicycles with three or four wheels, the stand may be substituted by a jack.
ARTICLE 10.—In road races under one mile, and all races on tracks, the classification rules must be adhered to. As regards equipment, machines must be fitted with two independent brakes. The governing body of the sport in each country is authorised to make its own regulations as regards these events.

These rules are binding upon all promoters of motor cycle competitions as from the first day of January, 1921.

International Six Days to be in Switzerland.

With regard to the rules governing the making of records, it was proposed by Switzerland that all kilometre and mile records up to *five kilometres or three miles* should be accomplished in both directions, the mean speed of both attempts to be the official result of the trial; both attempts to be run inside one hour, *during which the machines must not be altered in any way.* This applies to all record trials on the road, Brooklands, or any other tracks.

Rules for Record Attempts.

Great Britain (The Auto Cycle Union) proposed :

1. That the following distances or periods only be recognised for world's records: Flying start, 1 km. and 1 mile (Record to be the mean of the two times taken to traverse the specified distance, once in each direction of the same course; attempts to be made within a period of ten minutes from the start to finish of the second run), 5 km., and 5 miles; standing start, 10 km., 10 miles, 50 km., 50 miles, 100 km., 100 miles, 200 km., 200 miles, 1, 2, 3, 4, 5, 6, 12, and 24 hours.
2. All attempts at world's records must be made on a motor cycle having an engine the cylinder capacity of which must not exceed the maximum capacity permissible under the rules of the International Federation. *All publicity with regard to records must state the class in which the record was made.*

These rules, with the amendments and alterations in italics, were subsequently passed at the meeting of the congress.

At the conclusion of the sub-committee those present at the congress were invited to lunch by the Automobile Club of France, where the meetings were held. The affair was a very informal one, but a short speech welcoming the delegates was made by the chairman, M. René de Knyff, who had just returned from having followed the Grenoble trial on a 3½ h.p. Douglas. Naturally, he deplored the meagre entry, but stated that he was well aware of the difficulties with which manufacturers had to contend.

A Representative Gathering.

The congress proper met at 3 p.m. There were present M. René de Knyff (president of the French Motor Cycle Union) in the chair, Messrs. G. Longuemare (France), Ch. Fourreau (secretary of the U.M.F.), Jules Neher (Switzerland), Graeme Fenton (France), G. de Ro, M. Fagard, and A. Michant (Belgium), E. M. P. Boileau (England), and T. W. Loughborough (secretary of the F.I.C.M.). These attended unofficially and without the right to vote : O. L. de Lissa (England) and Signor Enrico Peila (Italy). Messages of regret at not being able to attend were received from the Hon. Sir Arthur Stanley, G.B.E., M.V.O., M.P., and from various delegates who could not be present. Mr. W. H. Wells (U.S.A.) could not attend, having arrived in London without his passport, while the Italian representative wired that he had missed the connection at a junction *en route*. Representatives from Holland who were expected did not turn up.

International Trial Results.

The chief business transacted at the meeting has already been dealt with, and it only remains to say that the proposals as regards the rules put forward by the sub-committee were adopted. In the course of the proceedings, which were held under the chairmanship of M. R. de Knyff, M. Longuemare, a vice-president of the Federation, announced briefly the results of the Six Days Trials at Grenoble. Of fifteen starters twelve had finished, and of these eight had lost no marks. The special prize offered by the Touring Club de France had been won by Gex (Motosacoche), and the Swiss team had won the International Cup.

In reply, M. Neher said he felt deeply honoured at the confidence placed by the meeting in the Swiss Motor Cycle Union in deciding to hold next year's international trial in Switzerland, and thanked the promoters of this year's trial for its splendid organisation. It had been a difficult one for the competitors, who had suffered intense cold on the higher passes, and had had frequent difficulties as regards carburation.

Automatic Timing Devices.

Following on M. Neher's report of the morning's sub-committee meeting came a long discussion on the proposal made by the representatives of France that automatic timing be considered for recording attempts at records. In Switzerland competitors are timed by the machine touching a cord which actuates the watch. The Chairman inferred that this method was not so accurate as that by General Sir Capel Holden's apparatus used by the B.A.R.C. and the A.C.F. The proposal, however, was finally accepted after it had been agreed to employ watches with $\frac{1}{10}$ sec. divisions. The proceedings terminated at 6 p.m.

The December Congress in Brussels.

The next meeting of the Federation is to be held in Brussels during the second fortnight in December, the time the Brussels Automobile Show will be held.

A POPULAR INTERNATIONAL TRIAL.

The contest, between amateur and trade teams of England *v.* Holland, was run off last week (see page 197). Above are depicted some members of the English team at Harwich, *en route* for the Continent.

THE DEGORY "NO-JET" CARBURETTER.

A Single Lever Instrument of Extremely Simple Construction.

THE Degory carburetter, like many excellent inventions, is delightfully simple. It is correctly called the "No-jet" carburetter, as there is certainly no jet proper. The petrol flows through a channel, the entrance of which is some distance from the bottom of the float chamber, so that it cannot be obstructed by foreign matter, not excluding water, and enters a ring in which there are two holes—one in the centre leading to the main petrol supply and a small one at the side leading to the bypass. The main flow of petrol passes round the ring surrounding the exterior of the choke tube, and in this ring are numerous small holes arranged radially through which the petrol issues in a fine stream, and becomes vapour before entering the inlet pipe.

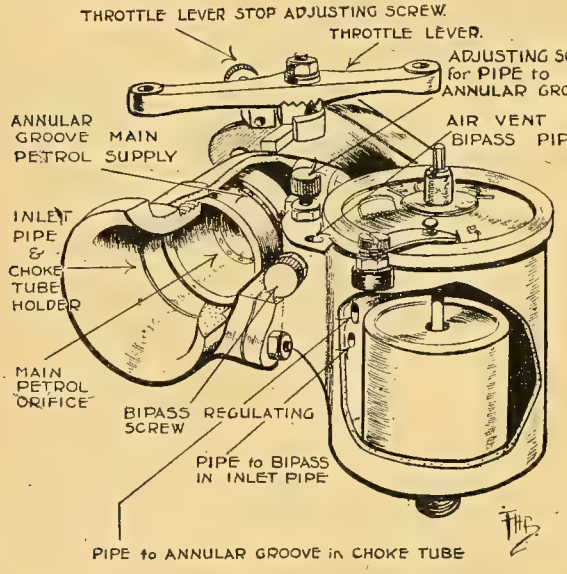
When starting with the throttle very slightly open the suction of the engine draws a small quantity of air very rapidly between the throttle and the channel leading to a bypass, the entrance to which is in the float chamber and situated above the main fuel supply. A further supply of air enters an orifice between the float chamber and the vaporising portion of the carburetter, and a perfect mixture is formed at the point where the air enters. The result is that a very small quantity of mixture is admitted, which allows the engine just to turn over.

Providing for Pick-up.

The air current passing through the choke tube is not sufficiently strong to create a vacuum in the chamber round the choke tube, but a certain amount of fuel is accumulated there, and when the throttle is gradually opened the suction in the bypass channel ceases, but increases automatically in the choke tube owing to the increased velocity of the air entering. Owing to the collection of petrol in the chamber round the choke tube when the throttle is partially closed a certain amount of reserve is formed so that when a sudden acceleration is required there is plenty of petrol available to meet the demand.

There are two adjusting screws, one of which regulates the main supply of fuel, and is clearly seen in the illustration; while the other, situated at the back of the carburetter and not visible in the diagram, regulates the size of the air passage leading to the bypass, and, consequently, the flow of fuel as well.

The construction of the carburetter is extremely simple. There are no moving parts or valves other than the throttle. The main air intake is through the funnel which secures the choke tube. The float chamber is held on to the vaporising portion of the carburetter by means of four equally spaced bolts, allowing the position of the float chamber to be easily changed and the carburetter instantly converted from a vertical to a horizontal one.


THROTTLE LEVER STOP ADJUSTING SCREW.
THROTTLE LEVER.
ADJUSTING SCREW for PIPE to ANNULAR GROOVE.
AIR VENT IN BYPASS PIPE
ANNULAR GROOVE MAIN PETROL SUPPLY
INLET PIPE & CHOKE TUBE HOLDER
MAIN PETROL ORIFICE
BYPASS REGULATING SCREW
PIPE to BYPASS IN INLET PIPE
PIPE to ANNULAR GROOVE in CHOKE TUBE

The Degory "No-jet" carburetter in section.

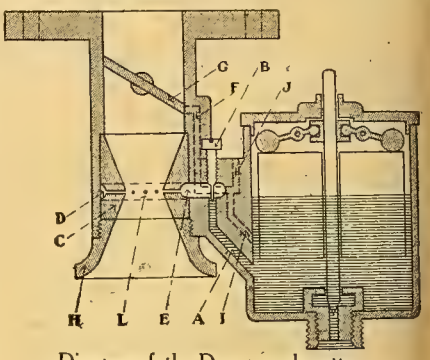


Diagram of the Degory carburetter:

A. Channel bringing fuel to the lower part of vacuum chamber E
B. Regulating screw
C. Choke tube
D. Circular channel of choke tube
E. Vacuum chamber
F. Communication channel for low speed
G. Butterfly throttle
H. Funnel of fixation of choke tube
I. Fuel channel for low speed
J. Air channel for low speed
L. Holes of the choke tube

At present the carburetter is not very well known to motor-cyclists, but Mr. A. E. Willis succeeded in winning the one-mile and six-mile standing start races at St. Andrews, using this carburetter on a Douglas. So far as its use on a car is concerned, it has done extremely well, especially in an R.A.C. observed test in November, 1919, when most excellent results were obtained as regards both economy and efficiency.

We are now fitting a Degory No-jet carburetter to a motor bicycle, and hope to announce the results of its working in the near future.

The Degory carburetter is made by Messrs. Degory No-jet Carburetter Co., 93, Moore Park Road, Fulham, London, S.W.6.

50,000 TYRES A DAY.

A LUNCHEON was held at the Holborn Restaurant on July 26th with the object of introducing Mr. E. R. Preston, the new managing director of the Goodyear Tyre and Rubber Co. of Great Britain, Ltd., to the principal members of the motor press. The chair was taken by Mr. H. B. Levin, who called upon Mr. Preston to give a short account of the history of the Goodyear Co.

Mr. Preston began by complimenting the British papers on the sound lines in which they were conducted. He had recently had a motor tour in Great Britain, and had found the scenery to be full of variety and most attractive, and as regards our roads, he said they were "mighty good," however much we complained about them. He had lately been in Berlin, and found there how much pneumatic tyres were appreciated when they could not be had. The Germans had had an unparalleled opportunity of trying rubber substitutes, and found none of them satisfactory, in spite of their having been numerous contraptions introduced. The Goodyear Tyre Co. was started in 1898 at Akron, Ohio, and carried on the manufacture of carriage and bicycle tyres. Nine years ago, when he joined the company, the output of tyres was 2,000 per day, now it was 35,000, and he hoped that it would shortly be 50,000. They opened their Canadian branch in 1910, and in 1912 a branch was started in Great Britain, followed by branches in Glasgow, Bristol, and Belfast. They were now growing their own cotton, had their own fabric factory, and had bought their own coal mine, so that they can be never again short of material or coal, while they had their own rubber plantations in the East.

A few words were also spoken by Mr. Sidney Oxon and by Mr. Lucien King, the publicity manager of the Goodyear Co., who said he had come to learn English methods of advertising. The essentials of good advertising were, he told those present, to create interest, to call attention, and to tell the truth. Thanks on behalf of the press were proposed by Mr. H. C. Lafone of *The Autocar*.

A NEW NATIONAL ASSOCIATION

At a recent meeting of the Portsmouth and Hampshire Cycle and Motor Cycle Trades Association it was decided to change the name to the National Association of Cycle and Motor Cycle Traders, permission from the Board of Trade being asked to increase the membership by a further five hundred

Times to Light Lamps.

Aug.	12th	8.59 p.m.
,,	14th	8.55 ,,
,,	16th	8.50 ,,
,,	18th	8.47 ,,

Noisy Motor Cycles.

Our readers are warned that it is possible the Metropolitan police may take active steps in the very near future with regard to exceedingly noisy motor cycles. It should be borne in mind that the Metropolitan Police area is very extensive; for example, the northernmost boundary is Potter's Bar, and the southernmost Epsom. Much of it is in open country.

A Scottish Open Hill-climb.

The following classes will be run in the open hill-climb to be held at Lewinsdale Hill, Lanarkshire, on Saturday. Class 1 350 c.c., Class 2 600 c.c., Class 3 unlimited, Class 4 sidecars 600 c.c., Class 5 sidecars unlimited. This event is organised by the Western M.C.C., Glasgow, and will be held under the open competition rules of the Scottish A.C.U. Entries closed yesterday.

350 C.C. Machines.

The 350 c.c. Sunbeams have already been proved to be almost as fast as those of the 500 c.c. type, and the 350 c.c. A.J.S. in the Isle of Man demonstrated that another Wolverhampton machine would be a serious rival to that just mentioned. Only recently, H. R. Davies, riding one of the T.T. A.J.S. mounts, made fastest time of the day on Stile Cop, his time being 45⅘s., which is probably a record for the hill. Next year's Junior T.T., with a representative entry of these two Wolverhampton machines, should be interesting, while it is said that a Norton team will be competing in the Junior event.

The A.A. in Coventry.

The latest move of the A.A. is the opening of an office at 23, Hertford Street, Coventry, under the management of Mr. W. H. Stonier. Mr. Stonier is well-known in Coventry, having for many years been associated in an editorial capacity with sister publications of *The Motor Cycle*. During the greater part of the war he was in charge of the A.A.'s Birmingham branch at Central House, New Street.

Amongst Midland motorists Mr. Stonier has many friends, and, under his management, the Coventry office should speedily become an important branch of the A.A.

In Canada.

In Winnipeg, Canada, the authorities have a way of their own of dealing with those who exceed the speed limit. For the first offence, a fine is imposed; the second, a fine and the machine is impounded for a month; third offence, the offender is locked up for a month. Lastly, it is said, the culprit is to be incarcerated in a lunatic asylum. Already, we are informed, several cars have been confiscated.

The Sporting Constable.

At a North country trial recently, a local competitor told us that while doing a little unofficial speed trial in excess of 60 m.p.h., he was observed by a constable who waited until he stopped and then approached him. The rider had already commenced to produce his licence, when the policeman said, with evident interest, "Do you know, sir, that's the fastest motor cycle I've ever seen—*what make* is it?"

Lakeland Trial Awards.

The following is a complete list of the awards made in the Cumberland County M.C.C. open reliability trial, which took place last month:

Alan Trophy, gold medal, and first-class certificate: J. E. Greenwood (3½ Sunbeam sc.).

Cumberland County Trophy, gold medal, and first-class certificate: W. G. Harrison (3½ Sunbeam).

Carr Cup, gold medal, and first-class certificate: H. J. Birch (8 Le Zèbre light car).

Barron Trophy, gold medal, and first-class certificate: S. Parker (8 Royal Enfield sc.)

Best performance on a machine of 251 c.c. to 350 c.c. (special prize and first-class certificate): G. W. Wilkin (2¾ Wilkin).

Best performance on a machine of 351 c.c. to 500 c.c. (special prize): J. E. Greenwood (3½ Sunbeam sc.).

Best performance on a machine of 501 c.c. to 750 c.c. (special prize and first-class certificate): I. H. Dickson (7 F.N.).

Best performance on a machine over 750 c.c., excluding light cars (special prize and first-class certificate): R. E. Darnton (7-9 Indian).

Best performance in light car class (special prize): H. J. Birch (8 Le Zèbre).

Best amateur (pair of R.O.M. tyres value £10): R. L. Williamson (3½ Norton).

Second amateur (Matchless Cup): R. E. Darnton (7-9 Indian).

Gold medals and first-class certificates: T. C. de la Hay (3½ Sunbeam), E. Williams (3½ Sunbeam), J. A. Newman (3½ Sunbeam), J. W. Mills (2¾ Verus), S. Bell (3 A.B.C.), and G. Townsend (3½ P. and M.).

Silver medals and second-class certificates: J. J. A. Dias (3½ P. and M.), J. Wallace Moffat (4 Verus), T. J. Stordy (2 A.J.S.), G. G. Barnard (3½ Sunbeam), W. Westwood (4 Triumph), B. Hill (3¾ Scott), Wilfred Marley (3½ Lea-Francis), A. Ferris Morton (4 Harley-Davidson), W. Kantlehner (3½ Wilkin sc.), B. Jeffreys (4 Norton sc.), and T. B. Westmorland (7-9 Harley-Davidson sc.).

Bronze medals and third-class certificates: F. O. Huntrods (3½ Ariel), W. T. Tiffen (4¼ B.S.A.), D. Robb (3½ N.U.T.), F. Fieldhouse (3½ N.U.T.), A. E. Pape (4 Triumph sc.), J. H. Tiffen (8 Matchless sc.), B. S. Tatham (7-9 Harley-Davidson sc.), J. L. R. Jenson (7-9 Harley-Davidson sc.), H. M. H. Deeley (4 Triumph), and R. W. Loughton (3½ N.U.T.).

Winners of team prize: Worcester Motor Cycle Club "B" Team: T. C. de la Hay (3½ Sunbeam), E. Williams (3½ Sunbeam), and J. A. Newman (3½ Sunbeam).

Special Features.

ENGLAND v. HOLLAND.
INTERNATIONAL SIX DAYS TRIAL.
NOTES FOR THE NOVICE.

Taxation.

An amendment of the Finance Bill so far as it concerns motorists is that the new taxes will be confined to vehicles using "public" roads, and not extended, as was apparently the intention of the Government draftsman, to the mere "keeping" of a motor vehicle.

I.A.E. Programme.

The first meeting of the Institution of Automobile Engineers for the 1920-21 session will be held on Wednesday, October 13th, and subsequent meetings will be on the second Wednesday in each month up to May 11th, 1921. Birmingham meetings will be held on October 28th and December 30th, 1920, and February 24th and April 28th, 1921; the London graduates' section on the second Thursday in each month; Birmingham graduates on the third Wednesday in each month; and the Coventry graduates on September 28th, November 2nd, 17th, and 30th, December 14th, 1920, and January 4th and 18th, February 1st and 15th, March 1st, 13th and 15th, and April 5th, 1921.

Taxes in France.

As the result of the campaign which has been opened in France against the new sidecar and cycle car taxes, it is more than probable that a special annual tax of £4 per machine will be applied. It will be remembered that in the past the motor cyclist paid an annual tax of twelve francs, and when a sidecar was attached an additional tax of twelve francs had to be met. Under the new law, which seriously threatened the existence of the whole motor cycle movement, sidecars were to be considered as motor cars, which have to bear a minimum tax, a horse-power tax, a circulation tax, and several other smaller taxes, the total for the smallest powered machine amounting to about £18.

Parliament has now recognised that this is unjust, and the latest arrangement, which undoubtedly will become law, is that sidecar machines shall pay an annual tax of £4. The same treatment will be accorded to cycle cars which, up to the present, have sometimes been treated as motor cycles and sometimes as motor cars. The definition of a cycle car is a machine of not more than 1,100 c.c., and with a maximum weight of 770 lb.

P 2

NEWCASTLE CLUB'S TWO DAYS TRIAL.

TWO days borrowed from a normal summer, and sandwiched between a series of the sloppy days we have experienced during 1920, graced the Newcastle and District Motor Club's reliability trial on the first two days in August. The roads were good, the slight showers keeping the dust down, and the conditions throughout were delightful from a motorist's point of view.

The outward journey was *via* Hexham and Alston, direct to Penrith for lunch, including three controls; thence by a circular run of fifty-nine miles, through Keswick and Grasmere, Ambleside, and Kirkstone, and back to Penrith for the night. The evening was devoted to sociability, and as the majority of the sidecars carried lady passengers, a very pleasant time was spent.

The following day's run included Appleby, Brough, Middleton-in-Teesdale, Stanhope, and Alston. The Killhope Hill was observed. The road from Middleton was grassgrown and loose, and much time was lost at Stanhope in consequence.

After lunch the return journey was commenced from Penrith at 2.30, *via* Carlisle, Greenhead, and Chollerford.

The awards were as follow: C. Armstrong (7-9 Harley-Davidson sc.), Special Trophy and Collier Cup; A. S. C. Broadway (8 Matchless sc.), special prize and gold medal, error 5s. Gold medals: W. Crompton (4 Triumph), error 11s.; O. Birse (8 Rex sc.), error 14s. Silver medals: W. H. Lindin-Travers (4 Blackburne), error 18s.; F. Fieldhouse (3½ N.U.T.), error 53s.

YORK-EDINBURGH-YORK.

FIFTY competitors took part in the second annual York-Edinburgh-York reliability trial, organised by prominent Yorkshire clubs, held on August Bank Holiday. Starting from York Minster at 12.1 a.m., competitors followed the coast route, and were due back at midnight, the run taking exactly twenty-four hours. The weather was ideal, and everyone thoroughly enjoyed the run, only ten competitors failing to complete the distance. Very praiseworthy performances were put up by the two lady competitors, Miss S. F. Wilson (2¼ Velocette) and Miss E. Dent (2¾ Douglas), who both completed the course and gained special awards. Awards:

SOLO.—Solid silver cup (presented by Mr. R. A. Bonner, Stanningley), for best time: Guy Jeffreys (3½ Norton); total time error 3m. 12s. Cups were also awarded for not more than 15m. early or late at any check: W. Atkinson (4 Triumph), R. Almond (4 Triumph), H. D. Woodcock (3½ Rudge Multi), Maj. G. Jefferson (4 Triumph), G. A. Reed (3¾ Scott), T. V. S. Twentyman (3¾ Scott), H. Taylor (3¾ Scott), G. Eastwood (4 Triumph), A. C. de Pledge (4 Triumph), Miss S. F. Wilson (2¼ Velocette), J. S. Wilson (8 Zenith), A. Roberts (4 Verus-Blackburne), C. E. Turner, A. F. Morton (4 Norton), H. V. Walker (4 Indian Scout), G. Dawson (3½ Rudge Multi), W. V. Wright-Hull (4 Norton), and C. Sidney (3 A.B.C.). Special gold brooches (given by Mr. F. E. Wasling) were presented to Miss S. F. Wilson and Miss E. Dent, both of whom completed the journey, Miss Dent being also awarded a club silver badge brooch. Silver medals were awarded for not being more than half an hour behind scheduled time to W. Moss, J. F. Barnes, M. Sedgwick, and W. Padgett; bronze medals, W. R. Grantham and J. H. Holmes.

SIDECARS.—Special silver cup (presented by Palmer Tyre, Ltd.): T. C. Bullas (3½ P. and M.). Cups also awarded to B. Jeffreys (4 Norton), T. B. Westmoreland (7-9 Harley-Davidson), H. C. Anderson (6 Sunbeam), E. Wasling (3¾ Scott), and E. Hawkes (4 Douglas).

LIGHT CARS AND CYCLE CARS (Air-cooled).—Special silver cup (presented by Mr. Rowland Winn, Leeds): A. Clark (9 Richardson). Silver medal to C. E. Richardson (9 Richardson).

CYCLE CAR (Water-cooled).—Cup: W. Marriott (10 Morgan).

TWO-DAY TRIAL IN IRELAND.

IF only on account of the very fine scenery on the shores of Bantry Bay, it is surprising that the Dublin Club's 1920 two-day trial to Glengarriff did not attract more than twenty starters. The unsettled state of the country undoubtedly was responsible, and, we are told, some of the competitors were far from easy in their minds.

The two days' run covered a distance of approximately 450 miles, and the length of the journey and the nature of the roads traversed made it a trying test, despite the absence of any very severe hills. Eighteen of the starters reached Glengarriff on Saturday evening, but many of them were already without hope of awards. N. Lepler (Indian sc.) broke his sidecar axle in crossing Knockmealdown mountain. He was the only one to fail on this hill. J. Adair (4¼ B.S.A. sc.) damaged his sidecar wheel later on, but rebuilt it and continued. G. Smith (4 Norton sc.) was an early retirer, and E. Adair (3½ Premier sc.) was not seen after Cashel.

The eighteen arrivals at the turning point left for the return journey on the Monday morning, travelling *via* Kenmare, Killarney, and Limerick to Dublin. The following finished the course:

R. P. Hurse (4½ B.S.A.)
J. Browne (2¾ Douglas)
M. McAllister (6 A.J.S. sc.)
R. Humphreys (2¼ Velocette)
A. Carton (4 Indian)
N. Lepler (7-9 Indian sc.)
D. Allen (4 Norton)
T. E. Greene (3½ Douglas)
J. McEntaggart (7-9 Indian)
Hon. R. Massey (7-9 Harley-Davidson sc.)
J. Adair (4¼ B.S.A. sc.)
J. Doyle (3 A.B.C.)
P. McGrath (2¼ Velocette)

International Six Days Trial in France.

Twelve Competitors Complete the Alpine Course. Eight Lose no Marks. Switzerland takes the Team Prize.

AS recorded in last week's issue the starters in this year's International Six Days Trial totalled only fifteen. Such a small number revealed apathy on the part of manufacturers who, it is obvious, do not fully appreciate the importance of the event. In some quarters we have found that the trial has been confused with purely national events, whereas, although held in France and organised by a French club, the trial is the only one specially organised as an international contest to encourage competition among motor cyclists of various nationalities.

We gave some details in last week's issue of the first two days of the trial and the hill-climb on Laffrey Hill on the second day, in which Bernard (Indian) made fastest time *i.é.*, 6 min. 49⅗ sec.

The Results.

Of the twelve survivors who finished the course, eight had clean sheets. These were as follow:

350 C.C. CLASS.—Morand (Condor).
500 C.C. CLASS.—Naas (A.B.C.), Robert (Motosacoche), Rolly (Motosacoche), and Gabriel (Triumph).
750 C.C. CLASS.—Pinney (Triumph) and Bernard (Indian).
SIDECARS.—Gex (Motosacoche).

Switzerland, with its Motosacoche entry, takes the team prize. Below is given a list of those competitors who finished but lost marks:

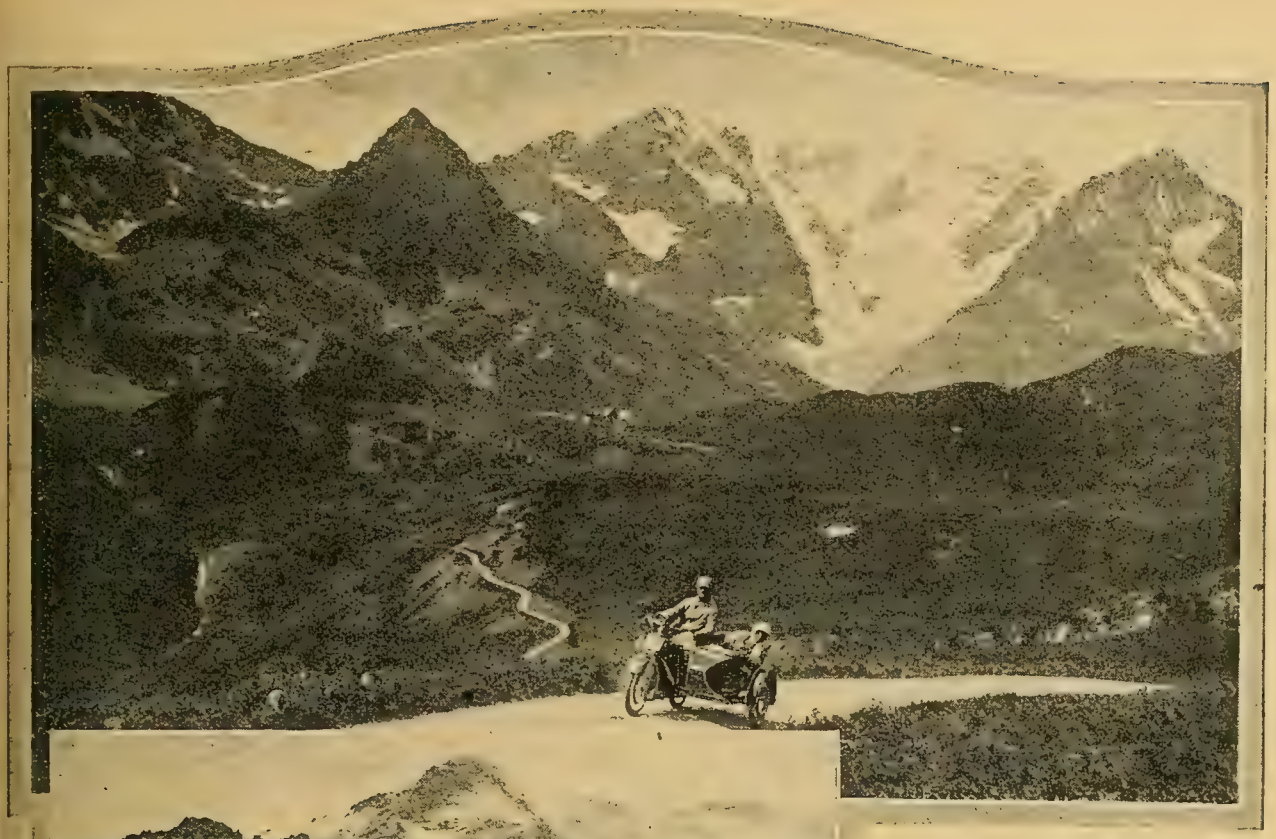
	Marks.
Detruche (A.B.C.)	67
Borgotti (A.B.C.)	44
Barthélémy (Scott)	31
Sandford (Morgan)	55

The first day's run in the mountains around Grenoble caused the elimination of only one rider, Gallien, on a Benoist-Gonin sidecar, thus robbing France of one of its members in the team competition. This day's run was rather difficult, for on four distinct occasions the competitors had to climb to altitudes of more than 3,000 feet, the highest point touched being the Col du Rousset at 4,297 feet above sea level. The road generally was of a chalky nature, and it frequently happened that the riders went into the dangerous bends in a cloud of dust. On one such occasion Graeme Fenton, the Franco-British rider, was brought down heavily with his Scott, but despite a damaged gear was able to continue and finish the stage without the loss of points.

The second day's stage—which comprised climbs over Col Bayard, 4,117 feet above sea level, and Col de la Croix Haute, 3,857 feet above sea level—was not as difficult as the initial stage, for it comprised well-made, hard, Alpine roads, with long but fairly easy gradients. The stage, however, was fatal to three competitors. Greame Fenton skidded and fell, and after his accident of the previous day was unable to repair his machine; consequently the Scott team was reduced to one member. Yenné, of the A.B.C. team, missed his way, and had several punctures, which lost him nine points. The A.B.C. team was not lucky, for another of its members, Detruche, was delayed by punctures, broke his saddle, and finally came in with a loss of three points.

The third day's trials completed the ill-luck of the A.B.C. team, for Yenné had to retire with magneto trouble, but afterwards joined in and continued unofficially, and his companion Detruche lost eight more points for late arrival. The great difficulty of the day was the climb to the top of Col de la Porte, 4,429 feet above sea level; this was followed in the afternoon by a climb over the Col de Plainpalais, 3,870 feet above sea level. In addition to these climbs, the morning stage was rendered very difficult by reason of rain, which made the roads slippery and dangerous.

The *pièce de résistance* was reserved for the last day in the Alps, when the competitors had to climb to the top of Galibier, 8,392 feet above sea level, with



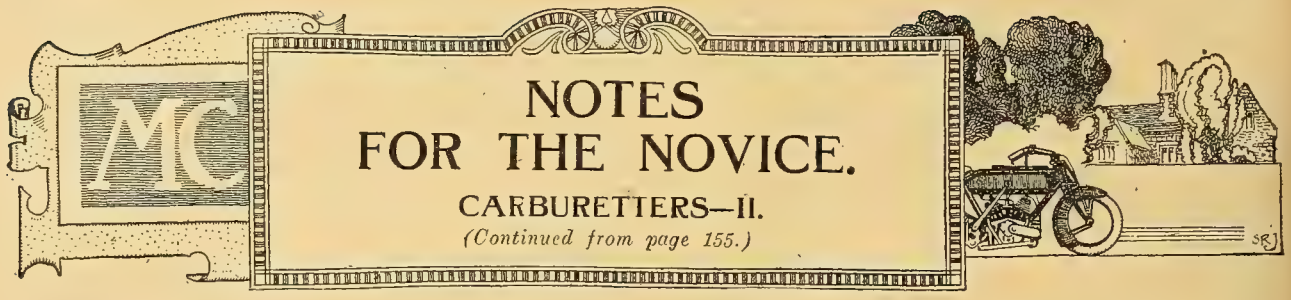
SCENES ON THE INTERNATIONAL SIX DAYS TRIAL.

(Top) A magnificent mountain panorama at one of the highest points of the course. Gex (Motosacoche), one of the winning team, at the Col de Galibier.

(Bottom) A control in the shadow of a towering peak on the Col de Galibier.

the Lautaret Pass at over 6,500 thrown in as an additional morsel on the way up. Lunch was taken at St. Michel de Maurienne, and during the afternoon a very difficult task was set the competitors with the four tunnels, Col de la Croix de Fer, and Col du Glandon. The roads, unlike those of the morning, were exceedingly rough, winding, and narrow, and any delay by reason of punctures was practically impossible to make up. In the run down from the Col de la Croix de Fer, Borgotti, who up to then had remained with Naas as clean score members of the A.B.C. team, punctured four times.

After the four days in the Alps the machines were placed on exhibition at Grenoble, thus giving the riders an opportunity of resting for a day before taking the two-stage trip to Paris *via* Macon and Nevers. Only three competitors had been eliminated, and three others had incurred loss of marks. As there were fifteen starters there thus remained nine clean-score competitors for the final two stages from Grenoble to Paris of 104 and 110 miles respectively.



NOTES FOR THE NOVICE.

CARBURETTERS—II.

(Continued from page 155.)

SOME little while ago there was a certain amount of controversy on the respective advantages of admitting the fuel to the float chamber at the top or bottom. Both are quite satisfactory if properly carried out, but I remember that at the time the arguments used in favour of top-feed had upon me an effect opposite to that which was intended. For instance, in the matter of moving parts it was pointed out that top-feed removed the necessity for toggles and joints which are subject to wear. True! but so does the bottom feed with the inverted needle. Then again when referring to the ease with which the needle can be removed, comparison was made with the inverted needle type, to get which the carburetter must be detached, oblivious of the fact that, where toggles or levers are used, the needle can be withdrawn with the cover. It is of course seldom necessary to remove the needle of any type, as a slight twist will generally get rid of any bit of grit which is preventing it from closing properly.

My own experience suggests that the top feed is less liable to flooding from the cause just mentioned, as any grit will naturally fall to the bottom of the float chamber, but that it is more likely to be stopped up by dirt coming through from the tank. I have experienced this with a top-feed, but never on the older pattern, the reason being that any dirt would tend to fall away from the valve and remain in the petrol pipe (see sketches). This is not very vital, as the obstruction is easily removed, but it may cause a stoppage on the road, more especially with a new machine, or when a fine gauze filter is not used when filling the tank. On the other hand, I have never yet known my present carburetter, a Claudel-Hobson with a top feed, to flood.

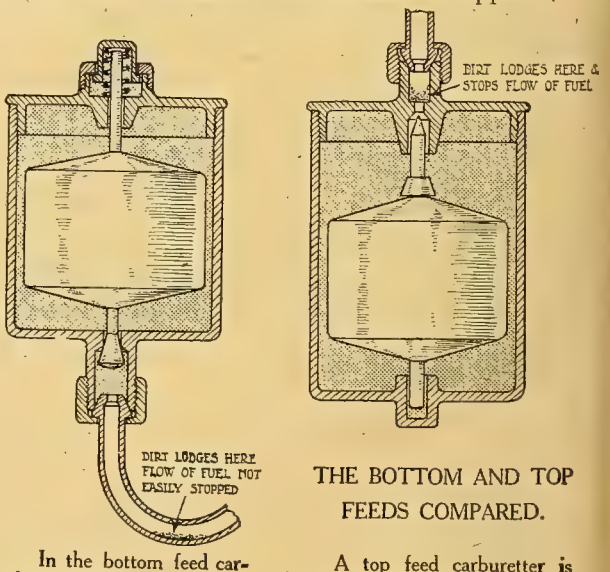
Warming Devices.

Because all evaporation causes coldness, the carburetter and inlet pipes become very cold unless some means is taken to warm them. In many single-cylinder motor cycle engines there is practically no inlet pipe, the carburetter being attached to a stub pipe close to the cylinder itself, and thus the whole is warmed directly by conduction of heat from the cylinder. Now a long inlet pipe is no disadvantage—rather the reverse, since it gives more time for the vaporisation of the fuel—unless it is so cold that it causes the vaporised petrol to condense upon its walls; but it makes it more necessary to have some warming device fitted, either a pipe which takes the air from some warm spot, say from a muff around the exhaust pipe, or better still a chamber surrounding the inlet pipe itself warmed by the exhaust gas, some of which is made to pass through it instead of directly through the silencer to the open air.

This is a great aid to the proper vaporisation and mixing of the gas, which should, so far as possible, be delivered to the engine as a dry homogeneous gas, rather than as tiny globules of moisture suspended in air. This tends both to economy and to steady running, and is more necessary in the case of an automatic carburetter than when a hand-controlled instrument is in use, since it renders the carburation less susceptible to changes of temperature.

Effect of Long Induction Pipe.

It is also more than ever necessary when a long inlet pipe, exposed to the draught caused by the movement of the machine, is fitted. The temperature of such a pipe, although it will of course be exactly equal to that of the surrounding atmosphere when the engine is started, will quickly drop owing to the fact already mentioned, that vaporisation causes a reduction of heat unless additional heat be supplied to it



THE BOTTOM AND TOP FEEDS COMPARED.

In the bottom feed carburetter stoppages in the pipe are not frequent.

A top feed carburetter is more easily choked by foreign matter.

from the exhaust, or in the case of a water-cooled engine from the radiator. This is very well carried out in the 1920 A.B.C., where a pipe about half an inch in diameter takes the hot gas to a chamber surrounding the inlet pipe where it branches off to each cylinder.

With the Capac carburetter can be supplied a flexible pipe which fits over the air intake of the carburetter and draws its supply of extra air from a muff surrounding the exhaust pipe. This is fitted with a door by which the amount of hot air can be varied as required by circumstances.

J.H.W.

Matlock and District M.C.C.

It is proposed to revive the Matlock and District Club. Any Matlock rider interested may obtain particulars from the hon. sec. of the E.M. Centre, A.C.U., Mr. J. Simmonds, 10, Cranmer Street, Nottingham.

Suffolk M.C.

The results of the gymkhana held on August Bank Holiday at Shrublands Park were as follow: Scooter race: 1, E. T. Elliott (Mobile Pup); 2, Mrs. Elliott (A.B.C.). Scooter obstacle race: Mrs. Elliott (A.B.C.). V.C. race: 1, E. T. Elliott (Metro Tyler); 2, D. Goldsmith (4 Harley). Coat and waistcoat race: 1, E. T. Elliott (Metro Tyler); 2, D. Goldsmith (4 Harley).

West Birmingham M.C.C.

The results of the recent reliability trial to Hereford and back were as follow: Under 500 c.c.: 1, S. Sprang (2¾ Douglas); 2, W. C. Shelton (2¾ Douglas). Over 500 c.c.: 1, E. F. Cope (7.9 Indian); 2, W. G. Deague (4 Triumph). Best performance of the day: H. L. Cranmore (3¾ Scott sc). Best passenger performance: H. B. Hartland (10 Morgan M.A.G.).

Liverpool M.C.

The Liverpool motor cycle traders recently organised a reliability trial for the Liverpool Motor Club, entries being confined to private owners. The course was a short sporting one of thirty-one miles in North Wales, and proved to be too severe for a number of riders. Of thirty-four starters only fourteen finished. The winners were: 1, E. A. Eastwood (American X); 2, R. R. Bromley (Triumph); 3, N. C. Sclater (Norton); , B. Caldwell (Norton).

Macclesfield M.C.

A reliability trial was recently held under the auspices of the Macclesfield Motor Club. Starting at the junction of Congleton Road and Moss Lane the course lay along the Leek Road to Bosley, up the Dumbers to Clewlow Cross, Allgraves, Burbage, Axe Edge, Upperhulme, Ruston, Bosley, Marton, Siddington, Broken Cross, and back to the starting point, a distance of fifty miles. The results were as follow: First prize and Birchenough challenge cup, . Leech (4 Douglas sc.); 2 and 3 (draw), . N. Drybrough (6 A.J.S. sc.) and G. W. owe (3½ A.B.C.); 4, H. Seel (4 Sunbeam). est sidecar single performance, W. Whitaker (3½ B.S.A. sc.). Fixed gear award, . Yates (3½ Triumph). Best lightweight erformance under 300 c.c., G. R. Wellgs (2¼ Dot). Consolation prize, J. R. ylde (2½ F.N.).

Stockport M.C.

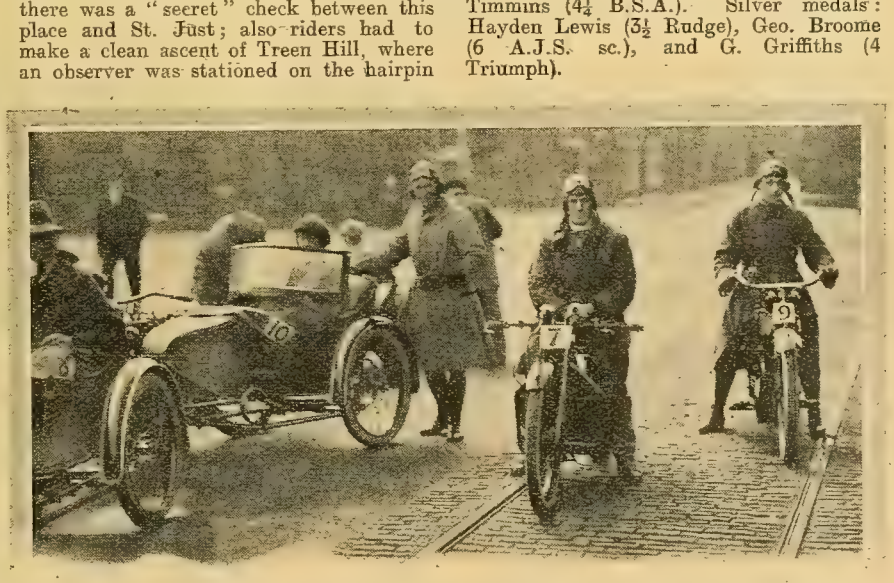
Recently this club held a non-stop inter-club run in conjunction with the Denton club. Each club was represented by three solos and three sidecars as follow: Stockport team: Solo—H. J. Scale (Scale), E. Abram (A.B.C.), B. Wallen (A.B.C.). Sidecar—H. Marsden (Matchless sc), F. Mottershead (Rover sc.), and J. Hulme (Indian sc.). Denton team: Solo—F. Cheetham (A.B.C.), W. Hall and A. Hoyle (Triumph). Sidecars—J. Walker, H. Clayton, F. Bingen, all on Triumphs. Starting from Kerridge the course lay *via* Macclesfield, Axe Edge, to Burbage, Cat and Fiddle, Macclesfield Forest.—Each team started with 600 marks, and the result was a win for the Stockport club by one and a half points; the winners lost thirty-three and a half points as against the thirty-five points dropped by the Denton club.

Penzance and District M.C.C.

The second reliability trial, held under the auspices of the above club took place recently, starting from Penzance Station at 6.15 p.m. There were sixteen entrants, and the course was a particularly trying one, being to St. Ives, and thence *via* the North Coast Road to Land's End (Sennen), returning *via* Treen Hill and St. Buryan to the "First and Last," Penzance, a distance of about forty miles. Competitors were checked at St. Ives, and there was a "secret" check between this place and St. Just; also riders had to make a clean ascent of Treen Hill, where an observer was stationed on the hairpin bend. The first prize (gold medal) was gained by S. Phillips, who made a very consistent performance with his Tamplin cycle car. He was run very closely by H. R. Wilcox and N. Trudgeon, the latter putting up a fine and praiseworthy effort on a single-geared machine of only 2½ h.p. The following members qualified for silver medals by obtaining over 85% of marks: H. R. Wilcox (2¼ Royal Enfield), F. L. Jeffrey (4 Triumph), W. H. Lawley (2½ Sun-Villiers), E. H. Thomas (3½ Rover), L. M. Chapman (2¾ Allon), W. Penberthy (4 Triumph sc.), R. J. Tregoning (4 Triumph), S. B. Haddon (2¼ New Hudson), and N. Trudgeon (2½ Royal Ruby).

Blaenavon M.C.C.

A successful reliability trial was held recently over a course of eighty-four miles. The route lay through Builth *via* Talgarth, over the mountain roads, to Brecon, thence to Llangynidr, over the Llangynidr Mountain to Beaufort, Clydach Valley, and back over Fiddler's Elbow to Blaenavon. The special award for the best performance was gained by B. R. Evans (8 Matchless), who completed the course non-stop with a total time error of only thirty seconds. Only eight of the twenty competitors finished the course. Results.—Gold medals: B. R. Evans (8 Matchless sc.), Gwyn Thomas (6 Juno-Jap), D. Lewis (2¾ Calthorpe), and W. T. Timmins (4¼ B.S.A.). Silver medals: Hayden Lewis (3½ Rudge), Geo. Broome (6 A.J.S. sc.), and G. Griffiths (4 Triumph).



A hilly route *via* Penrith and Carlisle was selected by the Newcastle and District M.C. for their recent Two-day Reliability Trial, a report of which appears on page 185. The photograph depicts competitors about to start for Penrith.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

APPRECIATION.

Sir,—May I trespass on the hospitality of your columns in the hope that my letter may meet the eyes of one, if not all, of those friendly motor cyclists who so kindly came to my aid on a recent Sunday, when my car overturned on Sawley Hill. Their ready and efficient help, so willingly given, did much to help me and my three passengers, two of whom were underneath the car, and I am anxious to convey to them all my warmest thanks, and to assure them that their action will always be remembered with the greatest gratitude and appreciation. H. TREVOR WANKLY.

MYSTERIOUS NOISES.

Sir,—I think that the following curious incident which occurred during a recent night run might interest you.

Hearing a slight rattle which I suspected to be a bolt in the foot brake pedal, I looked down, and, after ascertaining the source, noticed a tiny spark at the edge of the engine pulley.

I think it must have been the belt fastener touching the pulley every revolution. It ceased on decelerating and restarted on accelerating.

The solution of the incident is very simple, but was rather mysterious at first. I think that this might be interesting to your readers. J. BOORER.

Sir,—I note with interest your correspondent's article on mysterious noises in this week's *Motor Cycle*. I am also one of the sufferers of an aggravating tinkle somewhere down in the region of the engine, when the latter is just running light or taking up a load. I have had the engine taken down and examined. Everything was passed O.K. No loose bearings or faulty rings—in fact, everything perfect. The machine pulls splendidly, and has never given any trouble, and yet the wretched noise mars an otherwise perfect machine. I may add that I am a very careful rider, and nobody could take more care in trying to eliminate troubles within one's power.

Perhaps some other readers will offer some solution to this mystery. PUZZLE.

Carnforth, Lancs.

ROADSIDE COURTESY.

Sir,—Several letters have appeared in your columns recently concerning the courtesy shown by motor cyclists to those in trouble on the road. If your valuable space permits, I would like to place on record the courtesy, or something more, shown to me only just recently.

I was cycling home from Skegness and had a bad smash some ten miles from Boston, which rendered my machine quite useless and myself nearly so. Within a minute or so of my "noticing things" I had two offers of assistance. Two gentlemen with an already overloaded outfit offered to convey me to Boston, while another offered me the use of his sidecar for the matter of a sixty-odd mile run to Nottingham. I chose the latter course, with a view to better railway connection.

Not only was I taken to Nottingham, but my good Samaritan insisted on bearing the expense of a meal *en route*, and on arrival at the city went some considerable distance out of his way to see me safely into the railway station. Should this meet the eye of my benefactor (whose name unfortunately I do not know), I would like him to know that I reached home without difficulty; also that a badly sprained wrist and sundry lacerations are the sum total of my injuries. G.H.

Kettering.

M.M.G.S.

Sir,—Knowing the interest you have always taken in the affairs of the old M.M.G.S., or, as they are now termed, the M.G.C.(M.), I shall be greatly obliged if you will give publicity to this letter in your columns.

I find that I have lost touch with a good many old Army friends since demobilisation, and should be very glad to hear from old members of the 23rd Battery M.M.G.S., the 1st A.M.B., or the Light Car Patrols (Egypt).

Could not some sort of address exchange bureau be organised for the benefit of ex-members of this corps, so that members could get into touch again with old friends?

The opinions of your readers on this subject would be interesting, and possibly some scheme could be arranged.

ARTHUR M. PHILLIPSON,
Late No. 1868, M.M.G.S.

SCOTTISH ROADS.

Sir,—Having just returned from a 2,000 mile tour to the north-west of Scotland and back, a few notes may prove useful to your readers.

The Great North Road is good except for a few bad patches, until Yorkshire is reached. From the Yorkshire border to Alnwick it is pot-holed and bumpy. From Alnwick we cut across by Wooler and Coldstream to Melrose—a good road for these days. From Melrose to Edinburgh there is an excellent road through Lauder. Edinburgh to Stirling begins well, but falls off after Falkirk. From Stirling round Loch Earn to Crieff is very poor, owing to char-à-banc traffic, and it is the same at Crieff, Amulree, Dunkeld, Pitlochry, and Loch Rannoch. Pitlochry to Inverness is very fair on the whole for a Highland road, but round Inverness the roads are painful riding. Inverness, Gairloch, Ullapool, Lochinver, and Lairg had vile roads and perfect scenery, but one has to stop to enjoy it. Four sidecar springs broke under the strain, and were replaced by the blacksmiths at Pitlochry and Lochinver very well and cheaply. Anyone in a similar plight could not fall into better hands.

The homeward journey was down the east coast by Nairn, Banff, and Aberdeen over much improved roads. At Aberdeen the engine was taken down and decarbonised. The chain cases and magneto had to be removed, and the engine dropped out of the frame. The whole job only caused a day's delay, and was very well done by the Arcade Motor Co., of Diamond Street, whom I can heartily recommend. The result was a no-trouble run home, following the coast to Burntisland, then Edinburgh to Moffat *via* Peebles—another excellent road—and so on to Preston over very good roads. Preston, Warrington, and Chester were bad, but the rest of the run by Birmingham, Stratford, Stow, Burford, Oxford, Henley, and Windsor was quite good. The machine was a 1919 Matchless, and ran perfectly.

East Putney. PA 3345.

144 M.P.G.

Sir,—Regarding the reliability of two-stroke lightweights for every-day travelling, and economical cost of running, perhaps it may interest your readers to know that since April 12th up to the present time, I have travelled daily (Sundays excepted) between Hayfield and Oldham, a distance of eighteen miles each way, five miles of which are over roads in very bad condition. The district is very hilly, and I frequently have to take parts of the stiffest hills on low gear. My mount is a 1919 2¼ Velocette, with Amac carburetter, and I keep a very careful account of all expenses in connection with the journeys.

Including slow travelling through Oldham and Ashton and on rough roads, the journey takes me from an hour to an hour and a quarter each way, and my petrol consumption from April 12th to the present time averages 144 miles per gallon. I have had no mechanical breakdown at all, and since fitting heavy tyres have had no tyre trouble.

I have no interest in the Veloce Company, but in my case the two-stroke lightweight is proving itself most reliable.

THOS. H. WHEELDON.

DUST RAISING.

Sir,—As a regular reader of *The Motor Cycle* for some years, I am always interested in the page devoted to "Letters to the Editor." I have occasionally noticed that correspondents who reply to letters published are not always as courteous as they might be, and would like to make a plea for a little restraint by these motor cyclists.

The example which caught my eye was "Old 'Un's" reply to "Hugh" *re* "Dust Raising." Was it really necessary for him to bring in his remarks about "road manners," "decent people," and "hogs"? There seemed to me to be too much "implied" in that letter for it to be in good taste.

The fact that "Hugh" wrote to *The Motor Cycle* for advice showed his good faith (however much his query may have surprised some of us), and he was entitled to a courteous reply.

D.H.D.

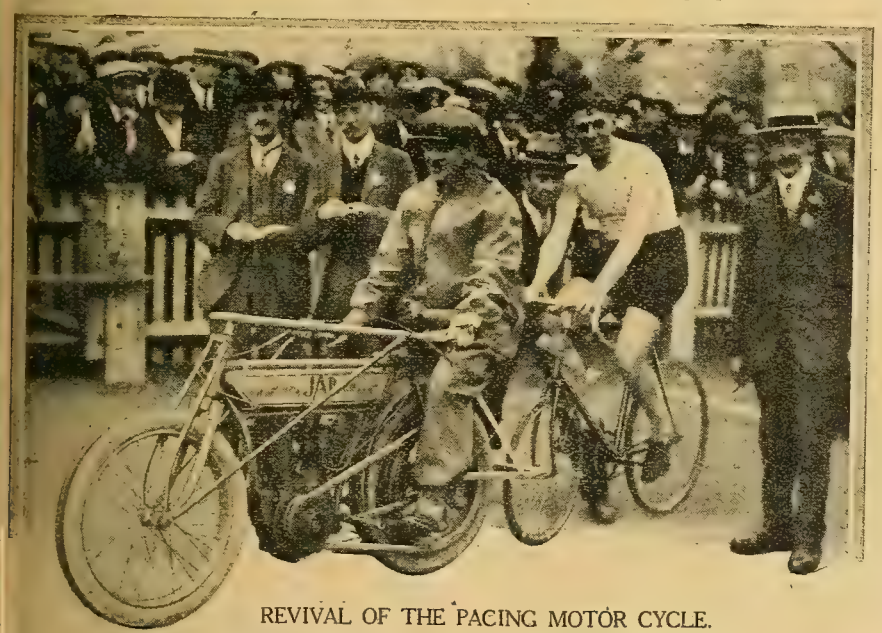
Sir,—I think it quite time "Hugh" had a tutor to teach him the rules and manners of the road.

Whoever heard of anybody going for "an easy comfortable ride," and making it "uncomfortable" for other people, *especially ladies?*

If they were travelling too slowly for "Hugh," it would be up to him to keep his "'bus" accelerated until he had passed them sufficiently to clear them of his dust, or else keep behind (in their dust if he likes).

He is either inexperienced, or else a road hog. The former will certainly cure himself while the latter is hopeless.

Bristol. AE 1167.



REVIVAL OF THE PACING MOTOR CYCLE.

Leon Meredith, an old path racer, after breaking the five miles motor-paced record at the Paddington Recreation Ground. The motor cycle was specially built for pacing purposes.

FOUR-CYLINDER MOTOR CYCLES.

Sir,—I believe Mr. J. Stonehouse, in his letter in *The Motor Cycle* of July 8th, expresses the requirements of a very large section of the British motor cycling public, *i.e.*, the requirement for a British four-cylinder machine. It is unnecessary to point out the obvious advantages of this type; these have many times been dealt with in your columns. It does, however, seem necessary to impress on the British manufacturer that a ready sale awaits a machine of this type, constructed on sound engineering lines. Four-cylinder motor cycle development has hitherto been left to the Americans, and to the famous F.N. Co. Is it not now time that Britain took a hand, and secured both the home and the colonial market which undoubtedly exists for these machines?

S. LATOUR HORDLE.

SPARE CHAINS AND TUBES.

Sir,—"Ixion" asks for suggestions how to carry spare chains and tubes.

I have found that the spare front chain of my Triumph can be carried along with the spare tube in the new aluminium non-chafe tube carrier which was conspicuous on many of the machines in the Scottish Six Days Trial.

The chain should be wrapped in greaseproof paper if oily and wound round the spindle of the carrier, a disc of cardboard being interposed between it and the tube.

There is plenty of room in the tube carrier for both, but of course a full length driving chain could not be stowed away in this way.

The method is ideal on a chain-cum-belt machine.

C. E. PLOWMAN.

THE THREE-WHEELED RUNABOUT.

Sir,—As a convinced believer in the three-wheeler I read with much pleasure your editorial in *The Motor Cycle* of July 29th. Towards the end of last year there was a small boom in three-wheelers, but, like many other booms, it seems to have been short lived. Scarcely half a dozen have survived, and even of these, with the exception of the Morgan, very few are as yet seen on the road.

You say truly that the three-wheeler is a "simple and inexpensive proposition." Unless it is this it has no reason to exist. It has its limitations. If you want "a car of distinction"—something that looks like a Rolls-Royce, but isn't—you will not get a three-wheeler. I do not admit that on purely æsthetic grounds the three-wheeler is inferior in appearance to the light car. It really looks as well, but no one can say that it looks the same. One cannot swank about "my little car"; which, as I gather, is what a good many people wish to do—though one may swank a bit on the road when the other fellow's "little car" is left behind. One cannot pile luxuries and complications on the three-wheeler, or it loses its simplicity and lightness and in consequence its speed, reliability and economy. The over-developed three-wheeler is a monstrosity. Moreover, the three-wheeler must make its way by *proved* merit. Light cars have found (and possibly may still find) patrons on account of their appearance, or even their advertisement. But it will not be so with the three-wheeler. It is true that at Olympia last year anything on wheels found purchasers. Agents and public were out to buy all that they could get. That will not be the case this year. It seems, therefore, strange that, with the exception of the Morgan, three-wheelers have been conspicuous by their absence, or at any rate by their rarity, at public competitions. One hopes that the great opportunity of the A.C.U. Six Days will not be lost, and that every self-respecting three-wheeled runabout will be represented. If such opportunities of proving their merits are neglected, the untried cycle cars have no chance of competing for public favour with the well tried sidecar combinations.

H. GEORGE MORGAN.

HOTELS.

Sir,—Last week while travelling through Doncaster with my daughter we called at the Reindeer Hotel for a meal, after which my daughter visited the bathroom for a wash.

When we reached Chatham my daughter discovered she had left her wrist watch behind in the bathroom. We did not know the name of the hotel at the time, so communicated with the police, giving description of hotel, with the result that in two days we received the watch by registered post (together with a courteous letter) from the manager of the hotel.

I think these facts should be a good recommendation to any motorists visiting Doncaster to use this hotel, where, I can assure them, they will receive every attention, as we did, and at a moderate price. C. S. COLLINS.

CHAIN DRIVE ON SPRING FRAME MACHINES.

Sir,—"Ixion's" comments on the fitting of chain drives on spring frame motor cycles, in your issue of July 22nd, were most opportune. A manufacturer apparently sets out to produce a spring frame mechanism which does not absolutely infringe a competitor's design, and then decides to connect his driving wheel to his countershaft by means of a chain, forgetting that a chain drive is just as important a piece of mechanism as the spring frame.

As "Ixion" so clearly points out, owing to the centre of the countershaft sprocket not being coincident with the centre of the pivot of the rear springing, a variable tension is thrown on the chain during the movement of the spring frame. He does not, however, point out what I consider to be the most serious objection to this general arrangement, and that is, that at the maximum movement of the spring frame the chain can become so slack that it will mount the teeth of the back wheel and strain itself or break. In one case that recently came to my notice the vertical movement in the chain varied from .5in. to 2.75in., according to the relative positions of the sprung and unsprung portions of the bicycle.

It must be remembered that the very conditions that bring the spring frame into action (*i.e.*, road shocks) also set up a corresponding period of vibration in the chain, which causes a slack chain to whip violently, and is liable to damage described above.

The ideal arrangement would, of course, be a spring frame, with the centre of pivot of spring coincident with the countershaft sprocket spindle, and, to my mind, the maker who first of all introduces this arrangement will reap the benefit to be derived from introducing an efficient spring-frame design to the motor cycle public. T.

Altrincham.

BLEA TARN PASS.

Sir,—With reference to your short report regarding the excursion to Blea Tarn Pass by several well-known competitors the day following the date of the open trial held in the Lake District recently by the Cumberland County M.C.C., I think it only right that you should acquaint your readers with the following facts.

I have no desire to depreciate in the slightest degree the climbs of this formidable pass made by G. Dance, T. de la Hay, G. Wilkin, S. Parker, etc., but in view of these fine performances it might be difficult for an outsider to understand why the Trials Committee of the club decided, after careful consideration, to omit the climbing of this hill from their recent trial.

Several visits by members of the Trials Committee were made to this hill, and on every occasion we were there the surface was in an appalling condition. It was well nigh impossible for a solo machine to make a perfectly clean ascent. We have plenty of members of our club who climbed this pass, but, owing to the appalling surface, caused by the loose shingle, these riders had to use their feet to steady their machines on the way up. We were never able to get sidecars up with passengers sitting in a normal position in the sidecar, but with a passenger sitting on the carrier it was managed once or twice.

Our committee reluctantly came to the conclusion that to include this hill in the trial would cause a tremendous amount of complaining through being baulked.

We in this district are perfectly aware that the nature of our mountain roads is such that heavy rain has a binding effect on their surfaces, but never in our wildest dreams did we imagine that Blea Tarn Pass could be in such a passable state as it was during the week-end of our trial. The condition was entirely brought about by the perfect deluge of rain we had had for several days previously.

The surprise was on a par with the one we experienced at the small quantity of water coming down the watersplash at Longlands ford. W. B. ANDERSON,

Hon. Treasurer Cumberland County M.C.C.

CLUB FOR EX-OFFICERS.

Sir,—I think the suggestion of "Blip Switch" with reference to a club for ex-R.A.F. officers very good; but why reserved for officers? There are many ex-R.A.F. men who possess motor cycles but would be barred from the club simply because they were not officers.

During the war an officer was certainly considered in a different class from the rest, but the distinction was only for the purpose of discipline, and I hope "Blip Switch" is not of the type that still considers himself beyond the reach of the man that served in the ranks. Surely this class distinction is ended.

I should like to see the motor cyclists one body ready to help each other at any time whether they were officers or otherwise.

I hope "Blip Switch" will reconsider his suggestion, and make the club open to all who served with the R.A.F.

WALTER L. LORD.

PRICES.

Sir,—It is with pleasure we note and endorse the remarks of your correspondent "Big Single" in your issue of the 29th ult. relative to the sterling value contained in the present-day Quadrant products. It is certainly a fact that there is no combination on the market to-day, embodying the same or similar specification, listed at a price within a £10 note of the Quadrant price. We believe we are correct in stating that the Quadrant works are available for inspection by anyone interested, and a half-day spent there will at once explain why the Quadrant is cheaper.

Your correspondent is somewhat in error in referring to the present Quadrant Co. as having been reconstructed so recently as 1914. It was in 1911 that the present proprietors acquired the Quadrant and built the new works. Mr. T. Silver (the designer and works manager) and a large proportion of the *personnel* have been engaged in the manufacture of Quadrant motor cycles since 1900.

We have in our possession an 1887 pamphlet, illustrating the Quadrant of that day, this being the Quadrant No. 8 large pilot wheel tricycle, with chain drive and spring forks—surely an anticipation of present-day requirements. Since those days the Quadrant has played its part in three wars, was the first machine to cross Africa, had its works utilised as an aeroplane and mobile workshop engine factory during the last war, and now, in the thirty-fourth year of its existence, is becoming famous as the motor cycle "By appointment to the new poor."

THE CLIFFORD WILSON MFG. CO.
C. WILSON.

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Testing Alignment.

? I should like your advice on the following point. I suspect the back wheel of my outfit to be out of truth in the forks, but owing to the build of the machine it is impossible to set up a straight edge, and the chain adjusters are no guide. Looking towards the front of the machine, if the tyre showed more wear on the left side of the tread, would that indicate that the front of the wheel was setting to the right or the left of the true centre line?—B.R.C.

The usual method of testing wheel alignment is to stretch a cord across the lower part of the wheels from the front to the back of the machine. This should touch the rims or be equidistant from them at the four points of circumferences over which it passes. Uneven wear of the tyres is not an exact guide, but it gives some indication that the alignment is not absolutely correct.

Breakage of Overhead Valves.

? I am the owner of a single-cylinder 4 h.p. Rex-Jap motor cycle, overhead valves, 90 × 77½ mm., and recently I broke the exhaust valve (J.S.N.-J.A.P.), thus damaging the piston beyond repair. Will you please let me know: (1.) If anything can be fitted to prevent such valve breakages? (2.) Would it suit if I get one made from tungsten steel at 25s.? Would this be unbreakable? (3.) How would drilling the valve right through, and fitting a Bowden inner cable with nipple flush at each end, answer in case of breakage? (4.) I am anticipating fitting an aluminium piston, probably a Ricardo. In this case, should I have to rebalance the engine, and would there be any advantage in fitting one? (5.) Will you please give me correct timing for this engine in the simplest form?—H.L.M.

(1.) It is possible to fit valve cages by screwing small L-shaped lugs into the cylinder head so as to catch the valves if they drop. (2.) You should have no trouble with your exhaust valves if they are made of stainless steel or tungsten alloy of about 18%. (3.) Drilling the valve and fitting a Bowden cable might work satisfactorily as a safety device, but it will probably infringe on the Buckingham patent, which consists of a spoke let into a hollow valve stem. In this patent the valve head is arranged so that it drops on to a projecting ledge of the cylinder, and thus, even if the valve breaks, it is unable to get on to the top of the piston, since the spoke acts as a guide. (4.) If you use a "Ricardo" piston, which will be considerably lighter than your present cast iron piston, the engine must be rebalanced to get good results. The use of such a light piston will probably give you somewhat higher speed, and will reduce the wear on the big end to a certain extent, owing to lighter reciprocating parts. (5.) With regard to the valve timing of the engine, you would be safe in arranging that the exhaust valve closes dead on top, or a fraction after top dead centre. This, of course, will give you correct setting for the valve inlet, which is operated by the same cam.

Removing Scott Crankshaft.

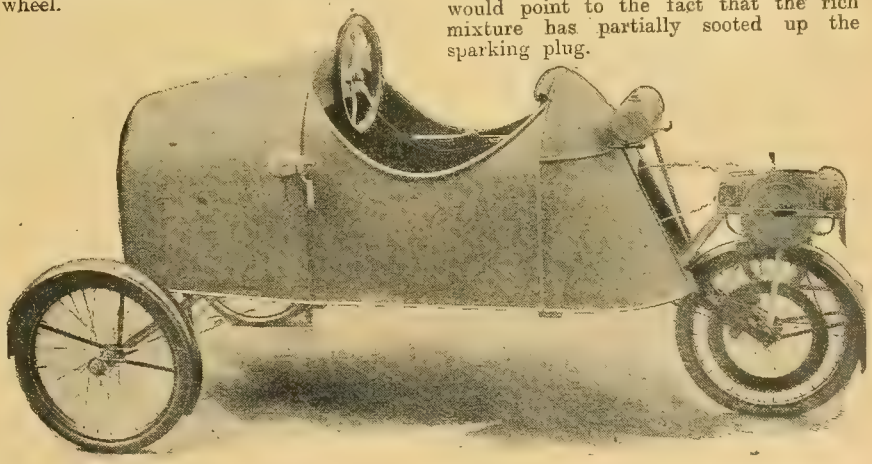
? I have a 1911 3¾ h.p. Scott machine, and I wish to take the engine down in order to have the crank case welded. I have taken out the crankshaft bolt, but cannot move the cranks; would you give me the correct way to take these off, and which side first?—F.J.D.

To dismantle the crankshaft and flywheel assembly of the Scott engine, proceed as follows: Remove the left hand lock nut of the central bolt and then unscrew the bolt itself five or six turns. One or two sharp blows on the head of this bolt should now drive out the right hand crankshaft, when the bolt is completely unscrewed and the crank removed. The left hand crank is knocked out from the right hand side, using a steel bar which is passed through the centre of the flywheel.

Over-rich Mixture.

? Will you kindly give me your advice upon the following trouble concerning my two-stroke? The engine is a 1920 2¾ h.p. T.D.C., B. and B. carburetter using benzole. The machine will run very well at speeds up to about 15 m.p.h., but if I open the throttle above this speed, a series of loud explosions occurs and flames come from the silencer. The trouble ceases as soon as the throttle is closed as before. I have tried a Lodge standard, an Aero plug, and also a single point of good make. The carburetter is clean, and the jets I have tried were 27, 28, 30. The lubrication is by drip feed, and although I have varied the setting the result is the same. Furthermore, although the machine will run and start easily from cold, if I stop for half an hour or so, it is impossible to get more than about half a dozen explosions from it upon restarting.—H.C.

Your trouble appears to be connected with carburation, and might be explained by the following: After a certain throttle opening, the mixture becomes too rich, and is incapable of ignition by means of the spark in the ordinary way. This charge is expelled into the silencer and would possibly be ignited by the following charge, provided that this was fired by the spark. We should suggest that you reduce the size of the jet and lower the petrol level. The fact that the machine is sluggish in starting, after being run, would point to the fact that the rich mixture has partially sooted up the sparking plug.



The 2 h.p. Cambro monocar, manufactured by the Central Aircraft Co., 179, High Road, Kilburn, N.W.6. It has a Johnson motor wheel engine unit (flat twin two-stroke) and 20in. wheels. The price of the vehicle is 79 guineas.

Slight Blow-back.

(1.) My machine is a two-stroke two-speed Radco. The cap covering the air intake is always full of oil, which blows back through the carburetter. Can this be remedied? (2.) The engine makes a very loud exhaust, so I have fitted a round tin drilled with holes in the silencer. Will this damage the engine?—W.L.

(1.) Provided the machine runs satisfactorily, we should not advise you to make any alteration with a view to preventing the slight amount of blow-back through the carburetter; this defect is usually caused by the mixture being too weak or by the ignition being unduly retarded. (2.) The baffle which you have fitted in the silencer will not damage the engine in any way.

Mysterious Lack of Power.

I have a motor cycle fitted with a 2½ h.p. J.A.P. engine, and as I seem to obtain by no means satisfactory results I am approaching you for your kind help in tracing the trouble. Internally, the engine seems in perfect order; externally, there is nothing to be desired, except that the crank case gets oily. All bearings work freely, without the slightest up and down play in either the big or little end bearings, or worn rings—in fact, as I have already said, all bearings seem in new condition. Compression is really very good, and there are no brown marks on the piston rings to denote blowing past of compressed gases. Valves and ignition are all timed correctly, and there is no carbon deposit in the cylinder or on the piston, as I have cleaned all this off, and yet I still get the same trouble. The machine is fitted with an Amac two-lever carburetter and a No. 27 jet. When I took the machine out for a trial run after the overhaul recently I found not the slightest difference in the power of it, and although I obtained a fairish speed it failed on a hill on top gear (4¾ to 1), but managed to crawl up on low gear (9½ to 1). The cylinder was very hot—in fact, it was "glowing," so to speak, and the crank case was also very hot. Compression was still quite good even with the engine warm, and it cannot be through under-oiling, as when I overhauled I flushed all bearings with paraffin oil, then with lubricating oil, drained this, and then gave a liberal supply of fresh oil. When running, the drip feed was set to empty the pump in about eight miles, and at the foot of the hill I gave it a full pump and set the drip faster. The trouble cannot be due to over-oiling, as suggested by smoky exhaust. The valve springs are quite strong enough, so I really cannot make out why this machine, with my light weight (8½ st.), should fail on a small hill. There is quite a powerful spark at the plug.—P.E.T.

From your description, the engine appears to be in perfect order, and it is therefore almost impossible to suggest a cause for its poor performance on hills without actually inspecting it. Possibly the exhaust valve tappet clearance is too great, thus causing early closing of the valve. The spark may possibly be advanced too far, or the sparking plug may be defective, causing pre-ignition. Try the effect of a slightly larger jet, say, 28 or 29. We presume, of course, that you have eliminated such obvious causes of the trouble as a binding rear brake, tight wheel bearing, etc., and have satisfied yourself that there is no undue friction arising from the gear box.

EXPERIENCES WANTED.

"W.E.B." (Holloway).—Eta carburetter on 4¼ h.p. single with sidecar. Starting, slow running, power, and economy.

IMPORTANT DATES.

Wed., Aug. 18th—
South Wales Club's Open Speed Championship on Penchine Sands.

Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.

Sat., Sept. 4th—
Scottish Speed Championships at St. Andrews.
Scott Trial in Yorkshire.

Nov. 29th Dec. 4th—
Olympia Motor Cycle Show.

RECOMMENDED ROUTE.

BRADFORD TO CARLISLE.—S.W.

Bradford, Menston, Burley, Ilkley, Skipton, Settle, Ingleton, Kendal, Shap, Penrith, Carlisle.

DERBY TO SCARBOROUGH.—ANTI-RAILWAY.

Derby, Ripley, Chesterfield, Sheffield, Rotherham, Doncaster, Selby, York, Malton, Scarborough.

NEWPORT TO TORQUAY.—E.I.

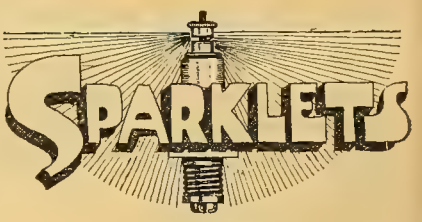
Newport, Usk, Monmouth, Coleford, Little Dean, Westbury, Gloucester, Frocester, Stone, Alveston, Almondsbury, Bristol, Redhill, Sidcot, Highbridge, Pawlett, Bridgwater, Taunton, Wellington, Willand, Cullompton, Exeter, Alphington, Chudleigh, Newton Abbot, Torquay. Approximately 110 miles.

PETERBOROUGH TO ILFRACOMBE.—C.W.S.

Peterborough, Yaxley, Stilton, St. Neots, Sandy, Shefford, Hitchin, Luton, St. Albans, Watford, Rickmansworth, Denham, Slough, Maidenhead, Twyford, Reading, Newbury, Hungerford, Marlborough, Calne, Chippenham, Box, Bath, Radstock, Wells, Glastonbury, Bridgwater, Minehead, Lynton, Ilfracombe.

BIRMINGHAM, TORQUAY, ILFRACOMBE, LYNTON, AND WESTON-SUPER-MARE, BIRMINGHAM.—C.W.B.

Birmingham, Alcester, Evesham, Winchcombe, Cheltenham, Leckhampton, Painswick, Stroud, Nailsworth, Bath, Radstock, Shepton Mallet, Ilchester, Ilminster, Chard, Honiton, Exeter, Exminster, Dawlish, Teignmouth, Torquay, Newton Abbot, Bovey Tracy, Moretonhampstead, Okehampton, Hatherleigh, Merton, Torrington, Bideford, Barnstaple, Ilfracombe, Lynton, Countisbury, Porlock, Dunster, Bridgwater, Pawlett, Highbridge, Brent Knoll, Bleadon, Weston-super-Mare, Worle, Congresbury, Bristol, Thornbury, Stone, Gloucester, Tewkesbury, Worcester, Droitwich, Bromsgrove, Birmingham.



New Prices.

The prices of Ariel motor cycles are now as follow: 3½ h.p., £120; 6-7 h.p., £140; sidecar, £37 10s.

Agents Wanted.

The makers of the Beardmore-Precision motor bicycle, Messrs. F. E. Baker, Ltd., King's Norton, near Birmingham, intimate that they are open to receive applications for agencies during the forthcoming season from districts where they are not already fully represented.

Catalogues Received.

The latest catalogue of Messrs. Weatherproofs, Ltd., 10, Lovell's Court, Paternoster Row, London, E.C.2, includes the Wim rubbered motor cycle suit. We have been using one of these during the last six months, and have found it to be quite waterproof in the heaviest of rains.

Surplus Tyres.

Messrs. Leo. Swain and Co. have been appointed sole sales agents for the Slough Trading Co., for the whole of the Government surplus tyres, solid and pneumatic. Enquiries for these tyres should be sent to 237-239, Deansgate, Manchester, or to Leo Swain and Co., tyre sales agents, Slough Depot, Bucks.

An Alteration of Title.

Mr. A. H. Hunt, the vendor of numerous electrical and other accessories which are so popular among motor cyclists, informs us that he has altered the style of his firm, which in future will be known as Messrs. A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, Croydon, Surrey. Mr. A. H. Hunt, together with his son, Mr. Cyril H. Hunt, are joint managing directors.

Assistance.

A 4 h.p. Douglas sidecar, owned by a High Wycombe reader, recently towed for four miles a broken-down Ford car containing the Mayor of that town, weighing seventeen stones, the Mayoress thirteen stones, their daughter eleven stones, and two other persons of twelve and fourteen stones respectively. In addition, there were the motor cyclist and a passenger, making a grand total of eighty-eight and a half stones plus the Ford, and a heavy chain used for towing.

An Advance in Price.

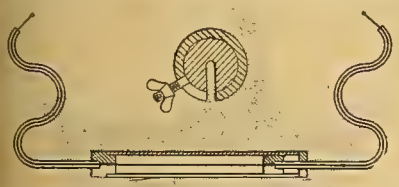
We have been asked to state by the Tamplin Engineering Works, Kingston Road, Staines, that in connection with the necessary advance in price of the Tamplin cycle car, which is now £150 plus 20%, several detailed improvements are being carried out, such as the engine fixing, the rear spring bearer allowing for adjustment of the rear springs, and the exhaust rear tail pipe. Arrangements are also being made to supply these improvements to present owners of the vehicle at cost price.

SOME RECENT PATENTS.

REVIEWED BY B. H. DAVIES.

Latest Details in Design, as revealed by the Patent Files.

MR. and Mrs. Warne have certainly succeeded in inventing a promising adjusting device for Bowden wires, which has the special merit of being finger-operated, and of affording a very large range of settings. The sketch is tolerably self-explanatory. The sheath is cut away amidships, and a short tube is fitted over the internal wire or core, being slotted for the purpose. The tube is fitted with

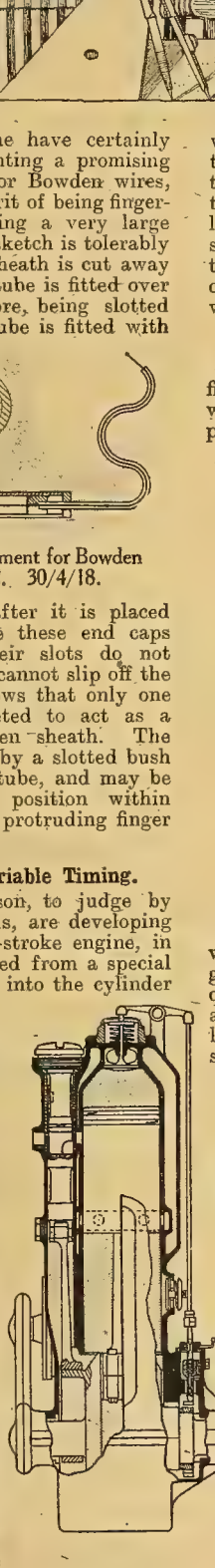


A. and H. Warne's adjustment for Bowden cables. No. 136,912. 30/4/18.

slotted end caps, and after it is placed in position on the core these end caps are turned, so that their slots do not coincide, when the tube cannot slip off the core. The drawing shows that only one of the end caps is socketed to act as a "stop" for the Bowden sheath. The second stop is provided by a slotted bush which slides inside the tube, and may be locked in any desired position within the tube by means of a protruding finger and a wing nut.

Two-stroke with Variable Timing.

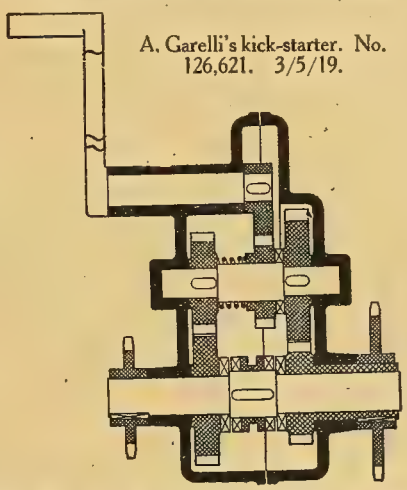
Messrs. Lynn and Fison, to judge by the Patent Office records, are developing an unusual type of two-stroke engine, in which the fuel is supplied from a special compressor and injected into the cylinder late in the upward stroke of the piston, thus allowing the crank case to be utilised for compressing a scavenging charge of air. It would appear that during their experiments some difficulty has been encountered in obtaining a good mixture, since a proportion of the air used for scavenging mingles with the injected charge of fuel. They have surmounted this detail in rather an ingenious fashion. An overhead poppet valve is used for the exhaust, as shown in the sketch. Its tappet is made in two portions, screwed together; the upper part is squared, and passes through a square hole in a plate which is rotated by a control linked to the throttle. As the throttle is closed, the tappet or push-rod is lengthened, so that the exhaust valve is held open longer, and a larger proportion of the scavenging charge of air escapes from the cylinder. In other words, the patent consists of a valve gear with a timing which can be varied from the saddle.



G. W. Lynn and F. J. Fison's two-stroke engine. No. 136,879. 19/12/18.

A Compact Kick-starter.

Signor Garelli, of Milan, offers a modification of that type of kick starter in which the toothed quadrant actuates a pinion loosely mounted between the gear

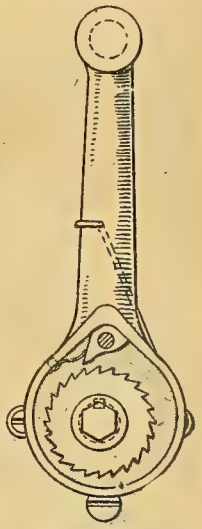


A. Garelli's kick-starter. No. 126,621. 3/5/19.

wheels on the secondary shaft of the gear box. As shown, the spindle of this quadrant is parallel to the gearshafts, and the helical teeth on the side of the loose pinion engage helical teeth on the side of a secondary gear wheel.

Simplifying the Starter.

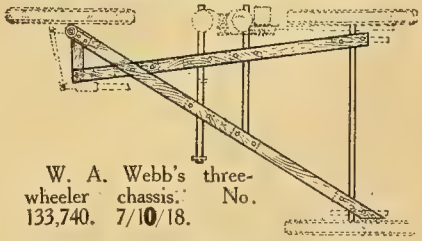
Mr. T. L. Williams has protected a very neat ratchet device for use on kick or handle engine starters. The drawing is practically self-explanatory. A ratchet wheel is concentrically mounted on the shaft which it is desired to rotate. This ratchet lies within a circular recess formed in the end of the kick lever, but this recess is eccentric in relation to the shaft. The pawl is mounted inside the recess, and, as shown, is clear of the ratchet in the idle position, and is also cleared if a back fire occurs. A useful device where overall width is a consideration.



T. L. Williams's kick-starter ratchet. No. 134,990. 4/12/18.

Three-wheeler Construction.

I thought it was impossible to devise anything new in the layout of a three-wheeler frame. We have had the one-wheel-astern and the one-wheel-ahead type, and the sidecar. But I do not remember having seen anything like Mr. Webb's proposals before. They are, of course, tantamount to a sidecar in general

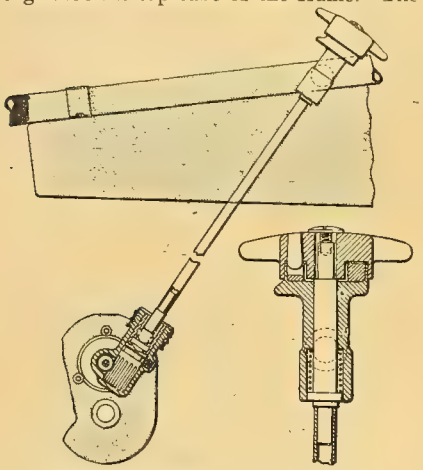


W. A. Webb's three-wheeler chassis. No. 133,740. 7/10/18.

effect, but the departures are by no means without interest. The chassis is far less lobsided, and the cross stresses are reduced. Moreover, side-by-side seating is obviously suggested, and a wooden frame is a cheap possibility. As the plan view makes clear, the front wheel is not mounted in forks, but on a stub axle on motor car lines, and is operated by a gear and wheel. Mr. Webb has tackled the sidecar afresh, as a distinct proposition, ignoring its evolution from a bicycle and a detachable fitting. It is true he suggests as an alternative that his chassis might be run broad end foremost, but the other notion appeals more.

A Neat Gear Control.

The next patent covers the very neat gear control fitted to the Velocette two-stroke. For those readers who have not seen it, I should explain that the sliding dog clutch of the gear box is fitted at one end with a circular rack, which is operated by a pinion on the lower end of the straight gear control rod. The "handle end" of this control rod is a disc with a "detent" or tooth on its underside; this tooth engages with the notches of a ring-shaped quadrant formed in the bracket protruding from the top tube of the frame. The

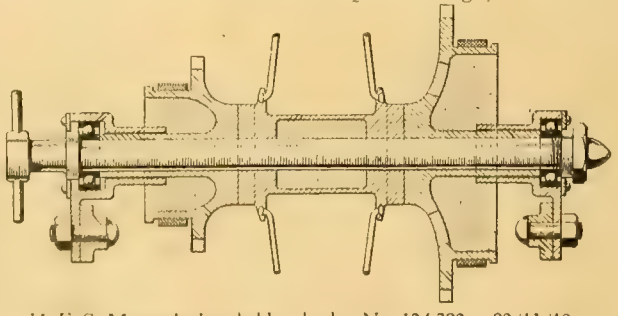


Veloce, Ltd., and P. J. Goodman's gear control. No. 137,186. 20/3/19.

gear control rod is coupled to the gear box by a universal joint which is telescopic and embodies a spring. The whole device is extremely simple, practical, and cheap to make.

Detachable Wheel for Morgans.

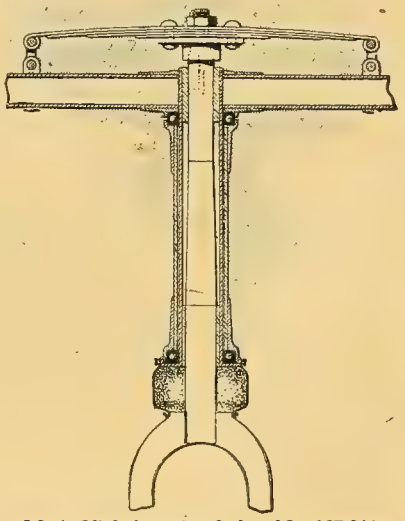
From Mr. H. F. S. Morgan's latest patent, I presume that his famous runabout will in due course be equipped with a detachable rear wheel. Cages in the rear forks contain ball bearings, mounted in housings which terminate in tubular sleeves, projecting inwards. Similar sleeves of smaller diameter project outwards from the two chain sprockets, so that these sleeves support the sprockets when the knockout axle is withdrawn. The drop-out rear wheel just fills the space between the two sprockets. The drive passes from the wheel to the sprockets as follows: On the inner face of each sprocket is a rectangular groove, machined across a diameter, and chamfered for easy engagement. A rib or dog of the same shape is machined on each end of the wheel hub. The knock-out spindle is threaded through the assembly and suitably locked. If the axle is freed and withdrawn the wheel can be slid out, leaving the sprockets *in situ*. To replace, the driving dogs are registered, the wheel inserted, the dogs turned into the horizontal position to take the weight of the wheel, and finally the axle is threaded back and the nut secured.



H. F. S. Morgan's detachable wheel. No. 134,390. 28/11/18.

Simplified Fork Springing.

A decidedly interesting spring fork is shown; the idea is M. Violet's, and it is given prominence in acknowledgment of its novel simplicity. It is a telescopic fork and the telescopic actions and re-

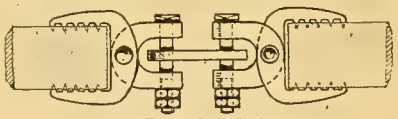


M. A. Violet's spring fork. No. 127,811. 1/6/18.

actions produced by shocks are damped by a pack of leaf springs affixed to the handle-bar by link work at each end. The central rod or sliding member of the fork may be square or polygonal, though this is not essential. A lubricator is fitted at the top, and a leather concertina device is fitted beneath the steering head to exclude dirt. I should much like to try this fork on the road.

A Dutch Belt Fastener.

I hate to show any want of sympathy towards inventors, but I do not love belt-fasteners as a class, and I like Mr. J.

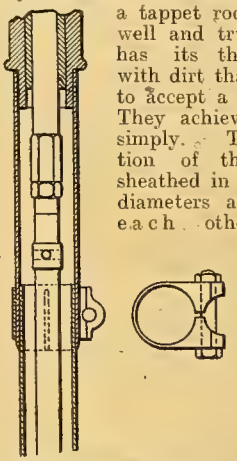


J. J. B. Bouvy's belt fastener. No. 133,925 28/1/19.

J. B. Bouvy's less than most. When a belt fastener is behaving itself it is out of mind. Our business relationships with them are always strafes; so no motor cyclist can do justice to their merits. Mr. Bouvy has conceived an intense hatred of punches, knives, and boring tools, which, in his opinion, weaken the belt so that it pulls through, and has to be shortened. Consequently, he eliminates the usual fastener bolts, and substitutes the fearsome saw-toothed pincers shown in the sketch. Of course, I have not tried this fastener; but in all respect, I suggest that Mr. Stanley and the Forward people might nurse the Dutch market, seeing that Mr. Bouvy hails from Dordrecht.

Enclosed Tappet Rods.

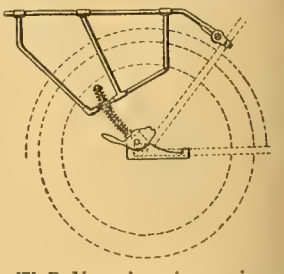
Humphries and Dawes, in conjunction with Mr. C. H. Sims, are out to protect us from the rage which arises when we try to secure a delicate adjustment of a tappet rod, which is either well and truly rusted up, or has its threads so choked with dirt that we are tempted to accept a makeshift setting. They achieve this ideal very simply. The business portion of the adjustment is sheathed in two tubes of such diameters as to slide within each other. Adjustment complete, the tubes are set to cover the parts, and a spring clamp is bolted round them at the point where they overlap. At the present moment I own two tappets similar to those shown in the drawing, but minus any sheathing. When they were new, it was a job to shift them as they rusted home; I always needed a good pair of gaspliers to hold the pushrod, and a well-fitting open-ended spanner to grasp the tiny nut. After 10,000 miles the adjustment ceased to hold, because the screwing action over threads containing road grit abraded the pitch. Mr. Sims probably owns a sister engine, and has allowed it to stimulate his brain.



Humphries and Dawes and C. H. Sims's valve gear. No. 136,386. 20/2/19.

Springing the Carrier.

It is unquestionably both difficult to design a good spring frame, and expensive to manufacture one. Sundry designers have already endeavoured to outflank these twin problems by improving the suspension of a saddle on a rigid frame. Mr. W. P. Young completes their coward's castle by devising a most taking



W. P. Young's spring carrier.

spring carrier, which must certainly be advertised as the "Flapper's Joy." The sketch is self-explanatory, save that I must draw attention to the cam plate beneath the springs. This enables the insulation to be adjusted for successive inamoratas.

ENGLAND v HOLLAND INTERNATIONAL RELIABILITY TRIAL

HOLLAND WINS THE THIRD ANGLO-DUTCH COMPETITION.

Trophy known as the "N. M. V. Beker," now the Property of the Country of its Origin.

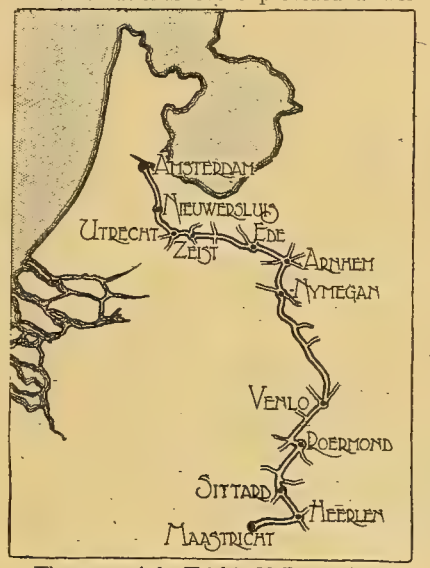
LAST Saturday the fates decided that the thrice run trial for the "N.M.V. Beker" should be a win for the sporting Dutchmen. Thus the cup becomes the property of the country of its origin.

The Dutch team won by 46 marks, losing a total of 234 against the 281 lost by the English team. Debited to Holland's team there were four stops, while all the British team, except one, made non-stop runs. The unfortunate Englishman was H. Colver (Matchless), who rode in the place of C. R. Collier, and who lost 135 marks.

Only two competitors had entirely clean sheets, England and Holland sharing in this honour: J. A. Newman (Sunbeam) being the English rider, and J. H. P. Jansen (7-9 Harley-Davidson), the fortunate Dutchman.

The Deciding Contest.

It was a happy band of motor cyclists that crossed from Harwich to Antwerp on Tuesday of last week. Their ultimate destination was Maastricht, the starting point of the third International Trial, England v. Holland. Additional interest was vested in the event by reason of the fact that both Holland and England held one share in the cup presented by Messrs. Ferwerda and Citroën in 1912, and success in the event rejuvenated since the war settled the final destination of the trophy. So many trials having been arranged in England during 1920, and the F.I.C.M. Grenoble Six Days Trial having failed to attract a representative British industry, this International event provided a welcome change from the ordinary run of contests. On the way to the mouth of the Scheldt, a Marconigram was despatched from the s.s. *Antwerp*, conveying greetings to the Dutch Club from the British riders aboard. It was a curious coincidence that, travelling by the same boat, was the team of British pedal cyclists selected to represent the home country in the Olympic International events at Antwerp. A photograph was taken by *The Motor Cycle* operator of the group of cyclists and motor cyclists on the upper deck.

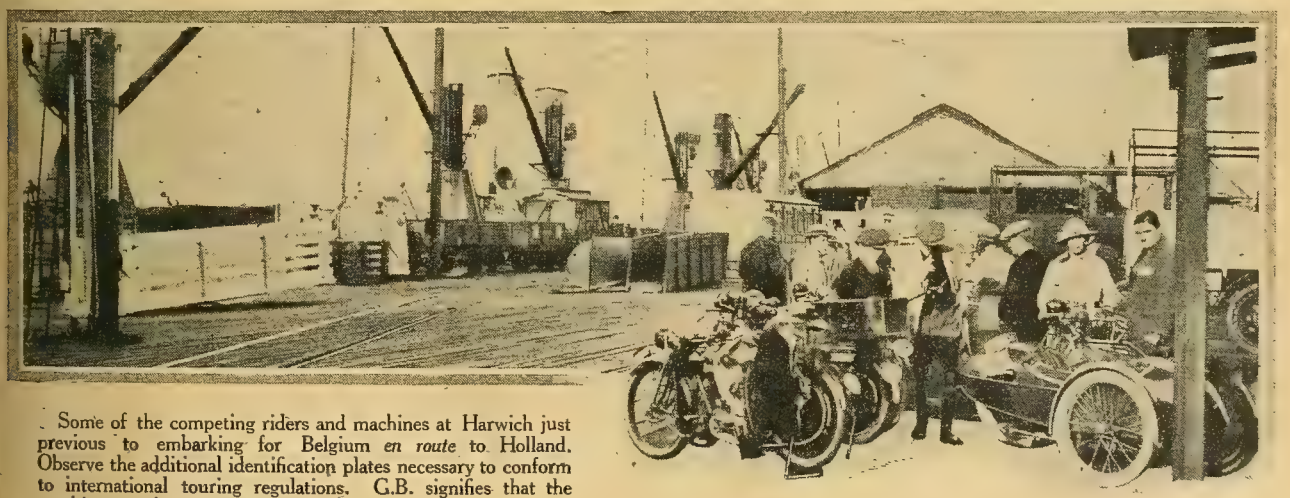


The route of the Trial in Holland, which took place last Saturday.

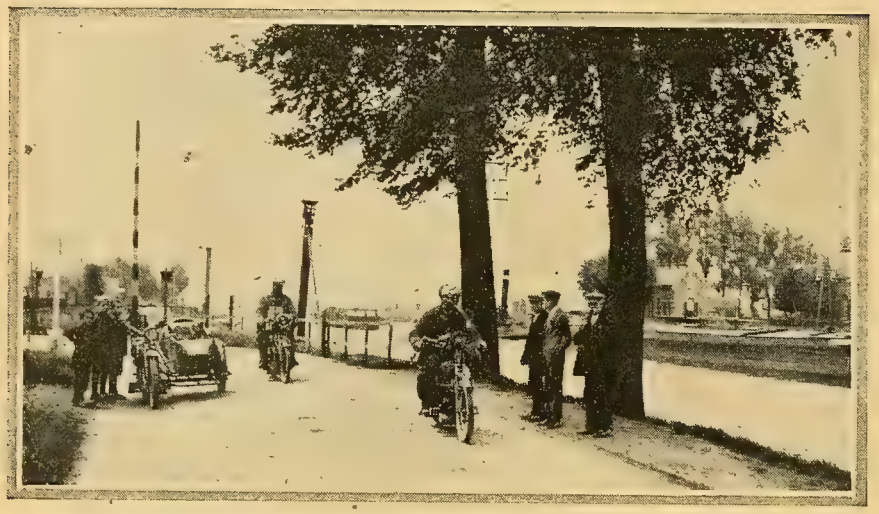
Arriving at Antwerp after a good crossing, the machines were disembarked by rope slings what time the riders stood by with anxious eyes. Customs formalities took some considerable time, no assistance being rendered by the A.C.U. either here or at Harwich, which was the subject of much bitter comment. So much time was lost that the idea of continuing that afternoon over the Belgian border was abandoned, and the night was, therefore, spent in Antwerp.

A Sporting Dutchman.

Next day proved wet, yet not sufficiently to deter the sporting Dutch motor cyclist J. H. Neninhys from riding his N.U.T. machine to Antwerp in order to pilot the Britishers across Belgium. This good sportsman's action was greatly appreciated, and at 11 a.m., rain still falling fast, he led the way *via* Malines and Louvain. Quite naturally, the many traces of war proved a source of interest to the riders. Active work is in pro-



Some of the competing riders and machines at Harwich just previous to embarking for Belgium *en route* to Holland. Observe the additional identification plates necessary to conform to international touring regulations. G.B. signifies that the machines are from Great Britain.



English and Dutch riders by the Canal, Maarsen. E. A. Edwards (3½ N.U.T.) and L. J. van Haren (2¼ Douglas), incidentally both reserve riders.

Near Utrecht. G. Smith (3½ Sunbeam), who, with L. Hunse (4 Wanderer), led their fellow competitors.

Near Ginkel Two British machines in opposing teams—a 3½ N.U.T. and a Douglas

gress in restoration—in fact, a genuine impression of activity was left upon the minds of the riders. The roads, however, were so bad that comparatively little attention could be paid to the scenery; it was bump, bump all the time over stone setts, only one short stretch of macadam road being encountered. Through St. Trond and Tongres the riders journeyed to Vise and, extraordinarily enough, passed, without knowing it, the Belgian frontier station. The officials are usually most wary, and how everybody passed through to the Dutch *douane* is beyond comprehension. Here no delay was experienced, but the sidecar drivers had to return to the Belgian frontier to get their papers signed, so that a reclaim could correctly be lodged for the £20 deposit paid. Arrived at Maastricht, the members of the Nederlands Club were met in force, and, clad in their dust begrimed clothes, the riders were forthwith led to the ancient Town Hall for the official reception accorded by the burgomaster, Mr. Chas. von Oppen. His private room was packed to overflowing as he welcomed first in Dutch and then in English the sixty or seventy riders and officials congregated. This honour was greatly appreciated, and the thanks of the British riders were conveyed by Mr. Geoffrey Smith, Editor of *The Motor Cycle*, who had been previously elected the captain of the British team.

Excellent Arrangements.

Then followed the second demonstration of the wonderful organisation notable throughout the trial by the Royal Dutch Motor Cyclists' Union. A book of tickets was handed to each rider, showing hotel arranged, price, all meals, garage, etc., with tear-out slips which themselves acted as an itinerary of the arrangements. Moreover, every bill had been paid in advance, the total amount shown on the front—averaging about forty gulden—being shown on the cover, which amount was refunded *via* the Auto Cycle Union to the Royal Dutch M.C.U. Then followed the first of a series of dinners in real Dutch style.

The Grabal Garage was full to overflowing on Friday, the Dutch riders for the most part having American machines, the British riders being mounted on all British mounts of a variety of makes, with the exception of one reserve.

After a preliminary look round the machines after their short yet shaky trip from Antwerp, a move was made to Valkenburg, in the Province of Limburg, where lunch was taken, M. Nic Jannink (the sporting president), E. J. Maas (the treasurer), and Mr. L. G. Zegers Veeckens (the secretary) being present. Mr. Zegers Veeckens proved a very cheery soul and an indefatigable worker, and earned the warmest praise from the competitors. From one o'clock till after four the lunch was in progress, and a jovial affair it proved. Very tired, the riders then visited caves for which Valkenburg is famous. Walking for nearly half a mile underground amidst rocks the Britishers enjoyed a weird and novel experience in the pitch black grotto. The long line was headed by a brass band and men carrying lanterns, and the procession—not by any means a silent one!—will long be recalled by those of the party.

En route to Holland. Pavé at Malines, Belgium.

Supper timed for 6.30 was abandoned by the Britishers, who were incapable of another repast. Consequently, they wended their way back to the garage at Maastricht, replenished the tanks, and affixed the number plates, each set of which were handed over in a neat cardboard box, together with route and control cards.

Extraordinary keenness was shown by both Dutch and British riders, nothing was left to chance. Hunse had the valves of his Wanderer out for cleaning, and nearly all cleaned out the carburetters and examined the plugs. Crosswaithe (James sc.) found a damaged washer in his gear box, and had another made at the official garage Grabal. At the last moment the British team elected H. P. Lucas (8 Zenith), a reserve man, to fill the vacant position in Class B. By 9 p.m. all machines were in garage complete with number-plates ready for the start on the morrow, sundry details on the extraordinarily complete route card having been explained.

A Non-stop Trial.

The total course measured 292.9 kilometres, divided into three sections, and the speeds varied from thirty to thirty-five kilometres per hour (18¾ and 22 m.p.h.) for the various sizes of engines. It was a non-stop event throughout, though provision was, of course, made for possible delays at railway crossings.

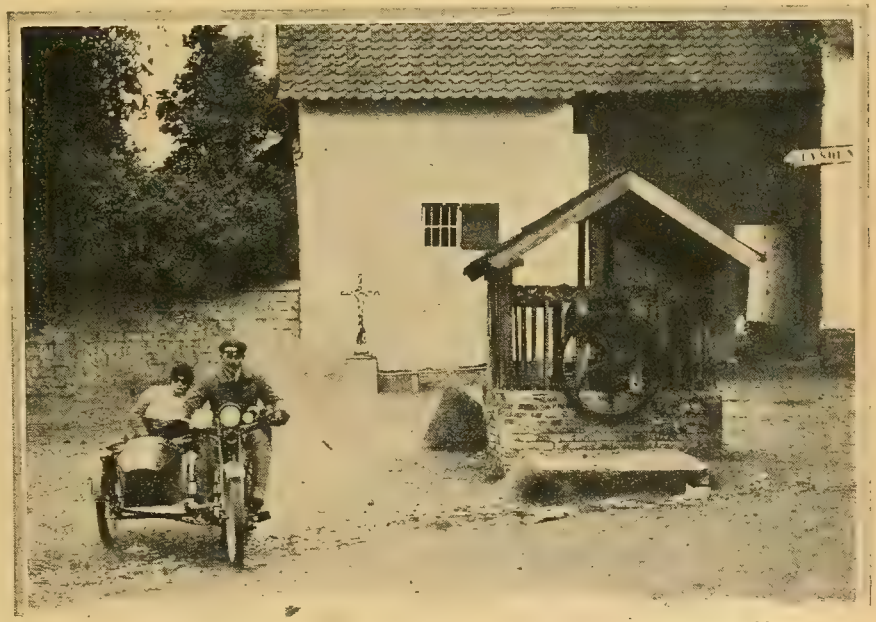
At the very outset on Saturday, the 7th inst., an opportunity of losing marks was provided, for sixty seconds were allowed each rider in which to get his engine running.

At the start at 6.30 a.m. some confusion was caused by the absence of watch cases; they arrived but five minutes prior to the start. All got away well in favourable weather, and commenced with a curious course to the south-west of Maastricht. Very tricky the bends proved, and arrows were not too plentiful. It was too early for the villagers, who assisted later to point the way. Ellis (Matchless sc.) went off the route, and was nearly up to the German frontier before he discovered his mistake. Lt. Kidstone (Sunbeam) found that his watch gained time, and soon he overhauled the leaders, G. Smith (Sunbeam), England, and Hunse (Wanderer), Holland.

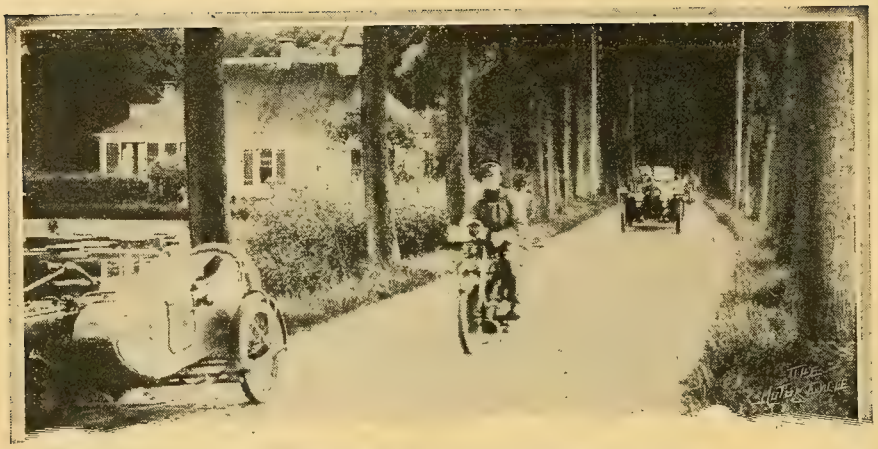
Early Troubles.

Another Matchless rider was unfortunate, for Colver, who took C. R. Collier's place in the team, broke a chain. But the Dutch team's ranks were also being thinned, one suffering a puncture and another plug trouble. Through remarkably picturesque scenery the route twisted first this way and then that, but always over passably good macadam roads, much to the competitors' glee. In one town rejoicing in the name of Sittard, some very bad *pavé* was crossed, but macadam roads were again the order. As the procession proceeded, official cars, which seemed to be legion, would speed past with open exhausts ready for the secret checks. There were no fewer than seven of these, besides three stated controls, and herein, we think, the Dutch club made a mistake, for secret checks place far too great a factor on the reliability of the watch instead of the reliability of the machine. After such a long distance the run positively became a bore due to a constant eye on the watch, and the difficulty in deciding where one actually was. Railway crossings caused temporary halts, perhaps naturally, as they are so numerous in the Netherlands. The first stage ended at Veuls (111 kilometres), and most reported non-stops to this point. The remarkably regular running of Gibb (Douglas), Newman (Sunbeam), Hugh Gibson (Clyno), and Don (Zenith) was interesting to observe. No more careful quartette could be imagined.

The second stage was to St. Anna (fifty-nine kilom), a pretty stretch of country



H. Fels (7-9 Harley-Davidson), one of the Dutch amateur riders, in Grondveldt.



J. A. Newman (Sunbeam) in the vicinity of Amsterdam.

which, however, could not be enjoyed to the full. At St. Anna the ferry was used to cross the water, and due to this and another ferry over a tributary of the Rhine, coupled with railway crossings, it had been arranged that the run to Arnhem should not be timed.

The third, last, and prettiest section of this enjoyable and sporting trial was from Arnhem to Amsterdam (111.9 kiloms). The Dutch riders rode magnificently. It was noticeable how dexterously they handled their British and American mounts. A Beardmore-Precision, a Metro-Tyler, a Cedos, and a James formed a quartette of most reliable British machines in the Dutch team, checking at each control most regularly. Two or three Douglas riders also kept splendidly to time, and generally it can be stated that reliability was the outstanding feature, marks lost being due to being early or late at controls. Dutchmen consider it a double sin to be a minute too early, so penalised riders two marks for every minute early, and only one for every miuute late.

In Utrecht crowds as usual on these occasions lined the streets. Todd (Reading-Standard), a reserve British rider, took a toss on one of the many acute bends.

The Final Section.

Delightfully picturesque Dutch scenery was enjoyed about Nieuwersluis—where the road crossed and recrossed when it did not run actually beside the Merwede Canal. There were occasional hold ups while sailing barges and steamers passed through the swing bridges. A goodly concourse of interested people gathered at the Stadium to witness the finish, most of the riders receiving an ovation as they clocked in as regularly as clockwork. At the conclusion of the run no one could forecast the result, for the complicated series of checks entailed much work for the willing Dutch officials.

The British team which competed, was composed of the following riders :

AMATEURS.—G. Smith (3½ Sunbeam), Lt. G. P. Glen Kidston, R.N. (3½ Sunbeam), E. A. Edwards (3½ N.U.T.), F. A. Hardy (5 Zenith), F. Dover (4 Triumph), H. P. Lucas (8 Zenith), H. Boynton (5-6 James sc.), C. Crossthwaite (5-6 James sc.), F. J. Ellis (8 Matchless sc.), and S. Barron (7-9 Harley-Davidson sc.).

TRADE RIDERS.—W. B. Gibb (2¾ Douglas), J. A. Newman (3½ Sunbeam), Hugh Gibson (2½ Clyno), Kaye Don (6 Zenith), L. Newey (6 Ariel), P. W. Moffatt (4 Douglas), W. Pratt (6 Matchless sc.), H. V. Colver (8 Matchless sc.), E. B. Ware (8 Matchless sc.), and J. W. G. Todd (8 Reading Standard)

H. Gibson (2½ Clyno) near Zeist.

The machines used by the Dutch team and its reserves included four Douglas, two James, nine Harley-Davidson, three Indian, two Simplex, and one each Wanderer, Bianchi, Sarolea, Henderson, Royal Enfield, Metro-Tyler, Blackburne, Cedos, Excelsior, and Martinsyde.

CURRENT CHAT (Continued from p. 185)

The Degory Carburetter.

Readers have manifested a keen interest in the Degory carburetter with which a reader recently claimed a petrol consumption of 113 m.p.h. on a Scott. In this week's issue (page 184) we are able to give details to this no-jet instrument.

Motor Cycle Detectives.

Announcements have appeared in various journals concerning the recent decision to employ motor cycles in the detective branch of the Metropolitan Police.

We recently had an interview with one of the heads of the detective branch, who gave us a certain amount of information concerning this new departure, which is a further sign of the appreciation by the Government of the work which can be performed by motor cycles.

The machines employed are 4 h.p. Triumphs, and are reconstructed Army models equipped with comfortable sidecars. They are to be used in the Metropolitan police area, a district which extends over a far greater tract of country than most people imagine, having an average radius of fifteen miles.

These sidecar outfits will be extremely useful in taking detective officers to outlying districts, and will enable them to reach quickly the scene of any crime which may have been committed, and to facilitate the superintendence of those working under them.

Naturally, it would be unwise to deal in detail with the nature of the work these officers have to perform, so we give but a sketchy outline of their duties. The officers who are taking up the driving of these motor cycles are being instructed by the Public Carriage Department under Superintendent Bassom, who informs us that some are already becoming quite proficient, but, naturally, the time taken to learn properly varies considerably with each man. The men are instructed in theory as well as in practice, and are given a considerable amount of instruction in driving in London traffic. Superintendent Bassom informs us that the men are exceptionally enthusiastic.

The Late Captain M. A. J. Orde, R.A.F.

It is with very deep regret that we have to announce the death of Captain Michael A. J. Orde, eldest son of Sir Julian Orde, secretary of the Royal Automobile Club, who was killed while flying at Netheravon on the 5th inst.

His loss will be greatly felt by those who knew him. He was of a popular and generous disposition, and an exceptionally charming fellow. We extend our heartfelt sympathies to Sir Julian and Lady Orde in their irrevocable loss.

London to Holyhead Trial Results.

The awards for the Ealing Club's successful holiday event to Holyhead have now been announced. Maude's fifty guinea challenge shield, replica of same and gold medal, Rex G. Mundy (10 h.p. G.N.). Gold medals.—D. D. Tilt (4 Triumph), W. G. Boyer (5-6 Rover), A. G. Battley (4 Triumph), G. Nott (8 Matchless sc.), Mrs. Knowles (3½ Norton), P. Cunningham (3½ P. and M.). Silver medals: F. S. Spouse (10 T.B. cycle car), R. M. Knowles (3½ Norton), and T. J. Ross (8 Matchless sc.).

A BATTLE OF SPLIT SECONDS.

Duel between 350 c.c. and 500 c.c. Machines at Chatsworth Park.

NEVER before was such a scene witnessed in the historic park of Chatsworth as occurred last Saturday. In this sylvan setting, midst the oaks and elms, and to the music of the River Derwent, was held the open speed trials organised by the East Midland and Yorkshire Clubs. The meeting was most opportune, for hundreds of holiday-makers in the district took advantage of the afternoon's sport. At one period of the day there were 5,000 spectators present, and hundreds of motor vehicles of all descriptions, from baby two-strokes to Rolls-Royce cars, parked thickly near to the course. One adverse comment has to be made, and it may as well be made at the outset. The programme was inordinately lengthy. Eight solid hours of speed events are more than sufficient to tire the keenest enthusiast. It was satisfactory for the clubs to obtain an entry of 450, but if it desirable to attract so many entrants, why not start the trial earlier in the day? As it was, the last event on the programme took place close on 9 p.m.

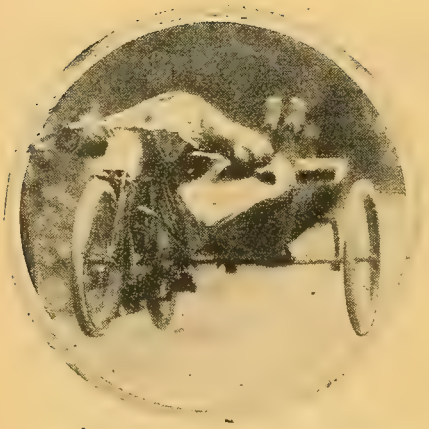
Wolverhampton Rivalry.

After a few events had taken place, it was obvious that the feature of the day was to be the tussle between A.J.S. and Sunbeam machines, class after class affording the public some fine duels between H. R. Davies and G. Dance. In Class 4, for sidecars from standing start, possibly H. R. Davies was seen at his best. Few thought that Geo. Grinton's time on the 7-9 h.p. Harley would be equalled, but immediately after the big sidecar had hurtled down the course Davies brought along his little 2¾ A.J.S. and sidecar in exactly the same time of 37⅘s., a fine performance that was applauded by the spectators and freely commented upon by many people.

Later in the afternoon Davies broke a valve, which unfortunately put him out of the running for subsequent events. But another A.J.S. rider, G. S. Boston, immediately showed what his little machine could do solo, and proved just as formidable in the solo classes as Davies had in the sidecar events. Of the Norton entrants V. Horsman made the best time, being only two-fifths of a second behind Dance (3½ Sunbeam), who attained officially the best time of the day. This was an extremely good performance, for, as is well known, Norton racing engines do not vary fundamentally from standard speed models.

As the afternoon progressed there was speculation as to whether Boston's figures would be improved. He had obtained 27⅕s. in two classes, and it was not until Class 19 was reached that Dance equalled that time. Of all the classes this one revealed the best riding,

A scene at the finishing point. G. S. Boston, with his A.J.S. sidecar, in Class 6.



A study of H. R. Davies, who made good speeds with his A.J.S. sidecar.

for Boston once more covered the course in 27⅕s., making three times in all. Horsman in ⅖s. more.

By the time the last class was reached these times had not been bettered, and as a final wind up to the long drawn out afternoon, Dance and Boston rode for the fastest time of the day. There was almost a hush at the finishing tape when Boston's machine was seen streaking down the course, and the general comment was as he flashed by that he had bettered his time of 27⅕s., but to the general disappointment a hitch had occurred in the telephone department, and his time had not been taken, thus necessitating another run down for him. A hum in the distance denoted that Dance had started on his 3½ h.p. Sunbeam, and in a few seconds he flashed by, just equalling the old times of Boston and himself—27⅕s.

"Fastest" Time of the Day.

Now would the little A.J.S. beat it? Opinion was divided, and incidentally a little problem also created in some people's mind. Must the "fastest time of the day" actually be so, in fact. If Boston failed to beat his own record of 27⅕s., would Dance obtain "fastest time of the day" with his 27⅖s? This was soon decided, for 27⅖s. was recorded for Boston a few seconds after he had flashed by. Dance, in consequence, obtained fastest time of the day, though his time had been equalled on three occasions by Boston. There need be no questioning the right or wrong of the case, however, for the last "event" to decide the tie for "fastest time," and the best time in this last duel was the deciding factor, anomalous as it may appear. The following are the results (length of course half a mile):

CLASS 1.—OPEN. SIDECARS UNDER 350 C.C. Standing Start.

		Time.
1.	George Dance (2¾ Sunbeam)	39⅘s.
2.	G. S. Boston (2¾ A.J.S.)	40⅖s.
3.	H. R. Davies (2¼ A.J.S.)	45⅗s.

CLASS 2.—MEMBERS. SIDECARS UNDER 600 C.C. Standing Start.

1.	H. R. Davies (2¼ A.J.S.)	39⅘s.
2.	V. Horsman (3½ Norton)	40⅕s.
3.	G. Dance (2¾ Sunbeam)	40⅗s.

CLASS 3.—OPEN. SIDECARS UNDER 750 C.C. Standing Start.

1.	H. R. Davies (2¼ A.J.S.)	38⅕s.
*	G. S. Boston (2¾ A.J.S.)	40⅖s.
*	G. Dance (2¾ Sunbeam)	40⅖s.

* Equal, 2nd place.

CLASS 4.—OPEN. SIDECARS, UNLIMITED C.C. Standing Start.

*	Geo. Grinton (7-9 Harley-Davidson)	37⅘s.
*	H. R. Davies (2¾ A.J.S.)	37⅘s.
3.	Geo. Stobart (5-6 James)	39⅖s.

* Equal for 1st place.

CLASS 5.—OPEN. SIDECARS UNDER 350 C.C. Flying Start.

1.	G. S. Boston (2¾ A.J.S.)	33⅕s.
2.	G. Dance (2¾ Sunbeam)	34⅖s.
3.	G. Cowley, senr. (2¾ A.J.S.)	47⅖s.

CLASS 6.—MEMBERS. SIDECARS UNDER 600 C.C. Flying Start.

1.	H. R. Davies (2¾ A.J.S.)	32⅘s.
2.	G. Dance (3½ Sunbeam)	33⅕s.
3.	G. S. Boston (2¾ A.J.S.)	33⅖s.

CLASS 7.—OPEN. SIDECARS UNDER 750 C.C. Flying Start.

1.	G. Dance (3½ Sunbeam)	32⅘s.
*	E. W. Walker (3½ Norton)	33⅕s.
*	H. R. Davies (2¾ A.J.S.)	33⅖s.

* Equal for 2nd place.

CLASS 8.—OPEN. SIDECARS, UNLIMITED C.C. Flying Start.

1.	G. Grinton (7-9 Harley-Davidson)	30⅘s.
2.	F. W. Dixon (7-9 Harley-Davidson)	31⅘s.
3.	G. Dance (3½ Sunbeam)	34⅘s.

CLASS 9.—OPEN. SOLO MACHINES UNDER 275 C.C. Standing Start.

1.	F. Porter (2½ Levis)	40⅘s.
2.	Mary C. Jennison (2½ Velocette)	45⅘s.
3.	J. S. Bennett (2½ Metro-Tyler)	50⅘s.

CLASS 10.—OPEN. SOLO MACHINES UNDER 350 C.C. Standing Start.

1.	G. S. Boston (2¾ A.J.S.)	33⅕s.
2.	G. Dance (2¾ Sunbeam)	33⅖s.
3.	F. Porter (2½ Levis)	40⅕s.

CLASS 11.—OPEN. SOLO MACHINES UNDER 500 C.C. Standing Start.

1.	G. S. Boston (2¾ A.J.S.)	32⅖s.
*	V. Horsman (3½ Norton)	33s.
*	G. Dance (2¾ Sunbeam)	33s.

* Equal for 2nd place.

CLASS 12.—MEMBERS. SOLO MACHINES UNDER 600 C.C. Standing Start.

*	G. S. Boston (2¾ A.J.S.)	32⅖s.
*	G. Dance (2¾ Sunbeam)	32⅖s.
2.	V. Horsman (3½ Norton)	33½s

* Equal for 1st place.

CLASS 13.—OPEN. SOLO MACHINES UNDER 750 C.C. Standing Start.

1.	G. Dance (2¾ Sunbeam)	33⅕s.
2.	H. R. Harveyson (3½ Indian)	36s.

CLASS 14.—OPEN. SOLO MACHINES, UNLIMITED C.C. Standing Start.

1.	G. S. Boston (2¾ A.J.S.)	32⅖s.
2.	G. Grinton (7-9 Harley-Davidson)	33⅕s.

CLASS 15.—OPEN. SOLO MACHINES UNDER 275 C.C. Flying Start.

1.	Fred. Porter (2½ Levis)	36⅘s.
2.	Mary C. Jennison (2½ Velocette)	40⅕s.
3.	J. S. Bennett (2½ Metro-Tyler)	42⅕s.

CLASS 16.—OPEN. SOLO MACHINES UNDER 350 C.C. Flying Start.

1.	G. S. Boston (2¾ A.J.S.	27⅕s.
2.	G. Dance (2¾ Sunbeam)	27⅖s.
3.	A. Hodgson (2¾ Douglas)	32⅕s.

CLASS 17.—OPEN. SOLO MACHINES UNDER 500 C.C. Flying Start.

1.	G. S. Boston (2¾ A.J.S.)	27⅕s.
*	V. Horsman (3½ Norton)	27⅖s.
*	G. Dance (3½ Sunbeam)	27⅖s.

* Equal for 2nd place.

CLASS 18.—MEMBERS. SOLO MACHINES UNDER 600 C.C. Flying Start.

1.	G. S. Boston (2¾ A.J.S.)	27⅕s.
*	V. Horsman (3½ Norton)	27⅖s.
*	G. Dance (3½ Sunbeam)	27⅖s.

* Equal for 2nd place.

CLASS 19.—OPEN. SOLO MACHINES UNDER 750 C.C. Flying Start.

1.	G. S. Boston (2¾ A.J.S.)	27⅕s.
*	V. Horsman (3½ Norton)	27⅖s.
*	G. Dance (3½ Sunbeam)	27⅖s.

* Equal for 2nd place.

CLASS 20.—OPEN. SOLO MACHINES, UNLIMITED C.C. Flying Start.

1.	Geo. Grinton (7-9 Harley-Davidson)	27⅖s.
2.	Geo. Dance (3½ Sunbeam)	27⅖s.
3.	H. R. Harveyson (7-9 Indian)	27⅕s.

CLASS 21.—OPEN. THREE-WHEEL RUNABOUTS. Standing Start.

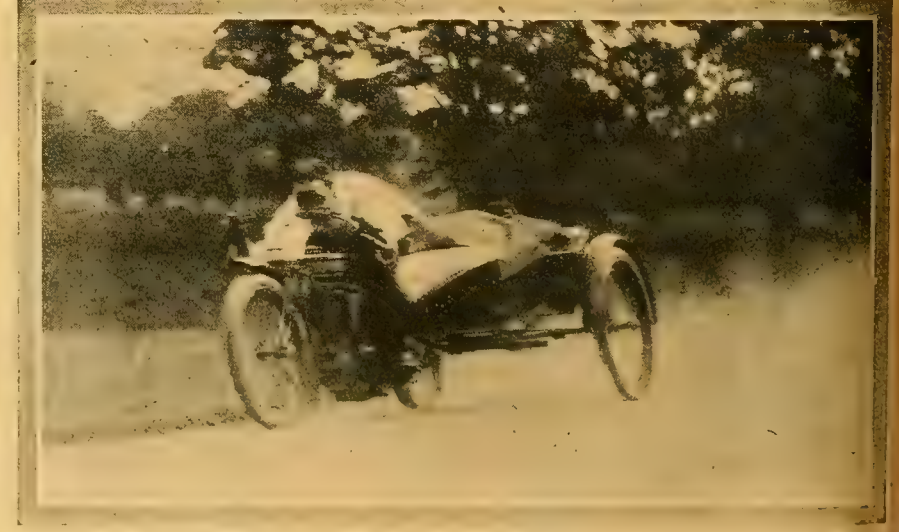
1.	F. W. James (Morgan)	44⅖s.
2.	W. Marriot (Morgan)	50⅘s.

CLASS 22.—OPEN. THREE-WHEEL RUNABOUTS. Flying Start.

1.	F. W. James (Morgan)	40⅘s.
2.	W. Marriot (Morgan)	43⅖s.

THE NEW SIDECAR TAXES.

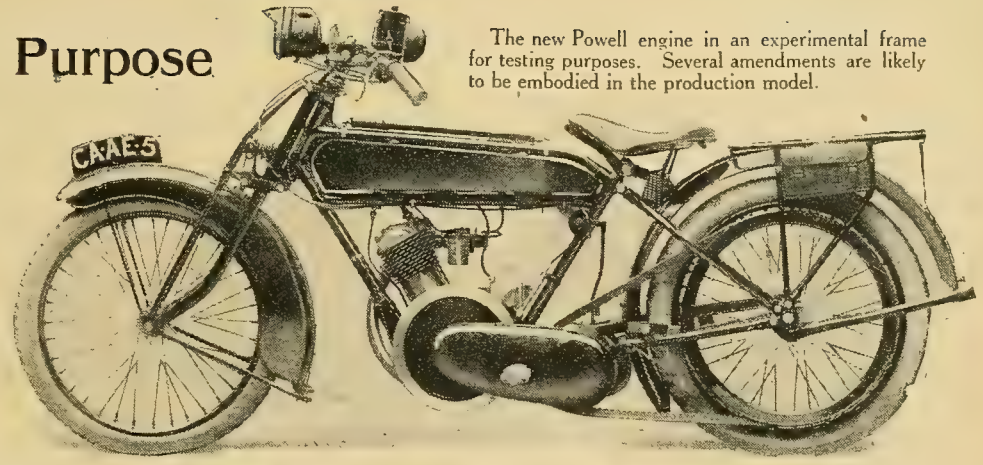
As announced in last week's issue, an amendment has been made in the sidecar taxes for next year. The interests of motor cyclists on the Motor Legislation Committee are represented by the A.C.U. and the Manufacturers' Union. On a recent occasion these two bodies suggested that lightweight sidecar outfits should be taxed £2 10s. This means 30s. for the motor bicycle and £1 for the sidecar. As previously announced, the heavyweight sidecar outfit is taxed £4, that is, £3 for the motor bicycle and £1 for the sidecar.



A Norton at speed. Victor Horsman, who put up very good performances, travelling at over 60 m.p.h.

A New Dual Purpose Machine.

The 4 h.p. Powell with Outside Flywheel.



The new Powell engine in an experimental frame for testing purposes. Several amendments are likely to be embodied in the production model.

FOR some months past we have been in touch with the well-known firm of Powell Bros., Ltd., the Cambrian Iron Works, Wrexham, who have been quietly developing a new line of business which takes the form of a 4 h.p. motor cycle. They are by no means newcomers to the field of internal combustion engines, though it was not until after the war that they decided to enter the lists as producers of a motor cycle.

Having secured as designer Mr. E. A. Burney, whose name is already well known in connection with the Blackburne and Burney machine, it is perhaps hardly surprising to find that the new engine is fitted with a large outside flywheel, but here the resemblance between the two engines ends, for many new and distinctive features are incorporated in the new Powell engine. Mr. Burney, who became a despatch rider in August, 1914, and ended his war-time career in charge of a repair workshop, had many opportunities of studying motor cycles under the hardest possible service, and, naturally, the results of his experience have been embodied in the new design.

The engine has a bore and stroke of 85 mm. and 96.5 mm. respectively (547.8 c.c.), and the cylinder is inclined forward at an angle of 30°. A detachable cylinder head is held down by four long studs, the cylinder itself being separately attached by nuts at the base of these studs.

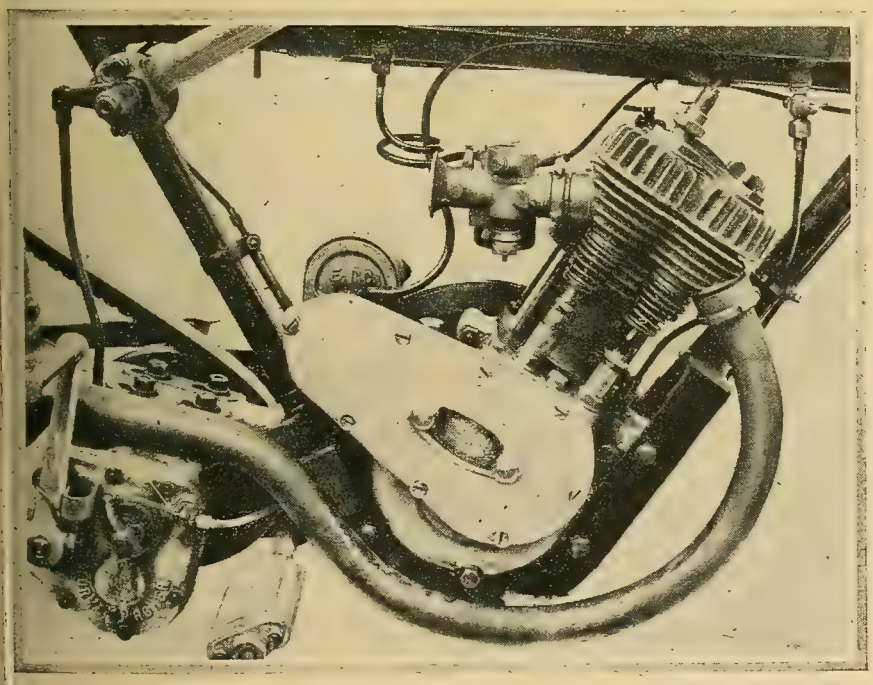
Sprocket Outside the Flywheel.

A one-piece hollow crankshaft is carried in very large Skefko ball bearings on either side, and the flywheel is fixed on to the shaft immediately outside the crank case. By using a short, large diameter hollow shaft torsional oscillation is minimised, and the primary drive is rendered extremely accessible by its position on the outside of the flywheel. A split big end (1⅛in. diameter × 1½in. long) is employed, and the patented method of lubrication for this part is most interesting. The leading face of each crank web is grooved, the groove becoming gradually deeper until it reaches the inside of the hollow crank pin, so that oil is flung into the pin by centrifugal force. It then reaches the bearing *via* a hole drilled radially in the crank pin, and is distributed over the surface by two grooves cut in the crank pin and forming an inclined angle of 60°. These grooves have a maximum depth at the hole and taper away to nothing, while there are no grooves in the bronze bearing. Half-inch diameter hollow adjustable tappets, working in cast iron guides, operate the side-by-side valves, and the arrangement of cam and distribution gear deserves special attention. A single cam controls the lift of both inlet and exhaust valves, while specially formed rockers are relied on to provide the necessary variation in periods. Meshing with the cam wheel is a large bronze intermediate wheel, which in turn drives a steel wheel on the magneto spindle.

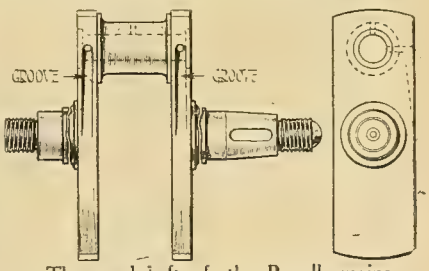
Lubricating the Timing Gear.

The cam and rockers are provided with special means of lubrication, and the intermediate wheel bearing is lubricated by oil thrown off the cam wheel, the gear teeth of the former being narrower by ⅛in. than the latter to facilitate this arrangement. A hardened thrust plate locates the loose gear wheels, and a single cover plate encloses all the timing gear.

It will be gathered from the above that the magneto is carried on the crank case.



Valve side of the engine designed by Mr. E. A. Burney for the Powell motor cycle. Observe the cradle supporting the unit, which permits the engine, complete with magneto and equipment, to be removed from the frame in ten minutes.



The crankshaft of the Powell engine, showing the oil grooves in the webs. There are also oil grooves in the centre of the crank pin from the oil exit, so arranged that a capillary action is produced in addition to that of centrifugal force, combining to make a simple but very efficient lubrication system at the "big end."

A New Dual Purpose Machine.—

A special bracket is, in fact, cast on the base chamber behind the cylinder, and the magneto is held in position by a single large stud.

Two points immediately strike the observer. The engine is remarkably clean as regards oil leakage, and it has no awkward crevices or excrescences to collect mud, every corner being carefully rounded. Probably the disposition and arrangement of the large ball release valve has much to do with the fact that the engine keeps so clean.

Before passing on to the frame and transmission, one other important point must be mentioned. Owing to special construction, it is claimed that the engine unit complete with magneto and carburetter can be removed from the frame in ten minutes. This is largely due to the method of engine fixing, for the unit is carried by plates, permanently fixed to the frame and extending from front to back so as to form in effect a loop frame.

Chain-cum-belt Transmission.

Transmission is by chain and belt through a Sturmey-Archer three-speed gear. The frame has a slightly sloping top tube curved downwards at the rear, and a two-gallon petrol tank is fitted. Oil is pumped to the engine by a plain enclosed oil pump, and the frame details follow standard lines, though only the highest class of fittings are employed.

On the road a curious and desirable combination of effects is noticeable, for the engine combines the slow tick over and excellent pulling powers, which go with a large outside flywheel, with the freedom and "revving" qualities of the more usual inside flywheel type.

A very fair turn of speed is available in spite of the fact that the machine which we handled is the first of its type, and remains unfinished in certain details, having fired for the first time a day or two before our trial.

It is expected that the new machine will be in production in time for the next Olympia Show, and we feel justified in prophesying a rosy future for such an admirably designed motor cycle.

Two-stroke Takes Long Distance Records.

350 c.c. Alecto at Brooklands averages over 41 m.p.h. for Twelve Hours.

AFTER the performances of the simple two-stroke in post-war reliability trials, and its success in winning *The Motor Cycle* trophy in the T.T., it only remained for someone to break records on Brooklands firmly to establish this type of engine for every purpose.

On Tuesday of last week Stanley Gill, riding a 350 c.c. Alecto, broke, among others, the ten, eleven, and twelve hours records in Classes B, C, and E, and the nine-hour record for Class B.

The following are new times and speeds set up by the Alecto, and also the figures of the records broken:

Nine hours.—383 miles 764 yards = 42.60 m.p.h. in Class B, beating F. A. McNab's record of 375 miles 1,668 yards of May 27th.

Ten hours.—421 miles 758 yards = 42.14 m.p.h. in Classes B, C, and E, beating McNab's May record in the first mentioned class, Pullen and Green Rudge record of 1913 41.94 m.p.h. in Classes C and E.

Eleven hours.—459 miles 1,165 yards = 41.78 m.p.h. in Classes B, C, and E, beating McNab's speed by 1.56 m.p.h.

Twelve hours.—500 miles 951 yards = 41.71 m.p.h. in Classes B, C, and E.

400 miles.—9h. 31m. 29⅘s. = 41.99 m.p.h. Class B, previously held by McNab = 41.94 m.p.h.

450 miles.—10h. 46m. 42⅕s. = 41.75 m.p.h. Classes B. and C. Previous record, 11h. 10m. 8⅘s.

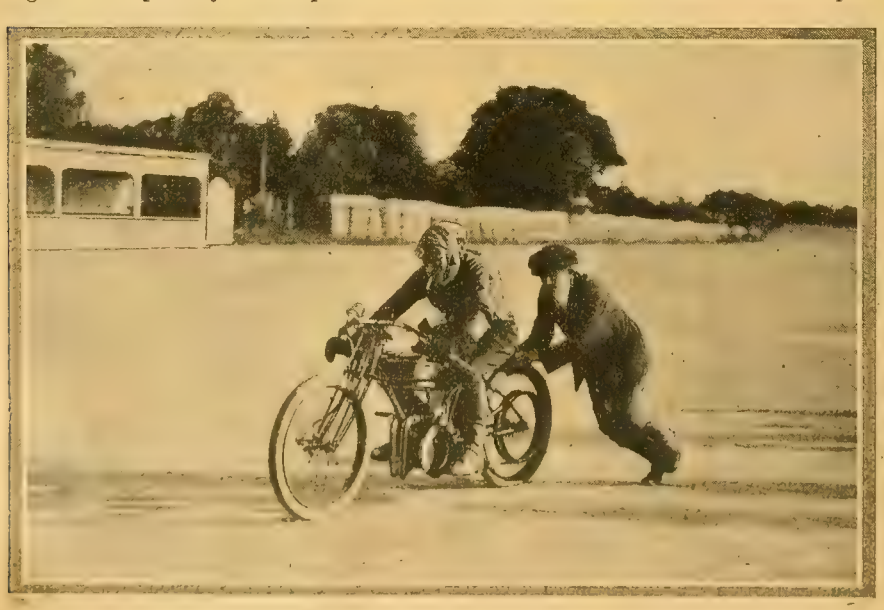
500 miles.—11h. 59m. 15⅘s. = 41.71 m.p.h. Classes B, C, and E.

Classes C and E are for 500 c.c. and 1,000 c.c. machines respectively, so Gill's performance on a single-cylinder air-cooled two-stroke is really remarkable.

The bore and stroke of the Alecto engine are 76 mm. respectively, the capacity being 345 c.c. The equipment of the record-breaking machine included Brooks saddle, Amac carburetter, C.A.V. magneto, Dunlop ¾in. belt, and Lodge plug, while Shell spirit and Castrol oil were used.

Worthy of special mention is the performance of the Hutchinson tyres used on the record-breaking run. The same tyres were used throughout, and one was by no means new. The official timekeeper, Mr. A. V. Ebbewhite, informs us that he has timed every motor cycle record on Brooklands, and he does not recall any similar performance by a pair of tyres.

We congratulate all concerned, especially Stanley Gill as the rider, and Cashmore Bros., the makers of the first two-stroke to secure long-distance records on Brooklands.



Stanley Gill, who, on a 350 c.c. two-stroke Alecto, broke several records on Brooklands last week.

A SCOTTISH TWO DAYS TRIAL.

A VERY excellent idea is to be carried into effect in the forthcoming Scottish Two Days Trial to be held in September next, as already announced in this journal. The D.R. Engineering Company of Dunfermline and Edinburgh have offered a special prize for any team of three riders nominated by an agent. The conditions are as follows:

(1.) The machines need not necessarily be of one make, but must be makes for which the agent holds an agency or sub-agency.

(2.) At least one rider in each team must be nominated by the agent.

(3.) The agent may enter as many teams as he likes.

(4.) No rider may be nominated by more than one agent.

This arrangement, we consider, is a most excellent and original idea, whereby the small country agent will be given an opportunity of distinguishing himself to the same extent as will a larger agent.

Entries for this trial should be sent in as soon as possible to Mr. Graham Davidson, hon. trials secretary, Edinburgh and District Motor Club, Ltd., 6, Castle Terrace, Edinburgh.

No ballot is to be held for riding position, but competitors will be despatched in the order in which their entries are received.

DEATH OF BLACK PRINCE DESIGNER.

We regret to have to report the death last week of Ernest William Cameron, the designer of the Black Prince single plug flat twin and the Black Prince Runabout. The deceased was found dead in a wood near his home at Askern, where, during temporary insanity, he had hanged himself.

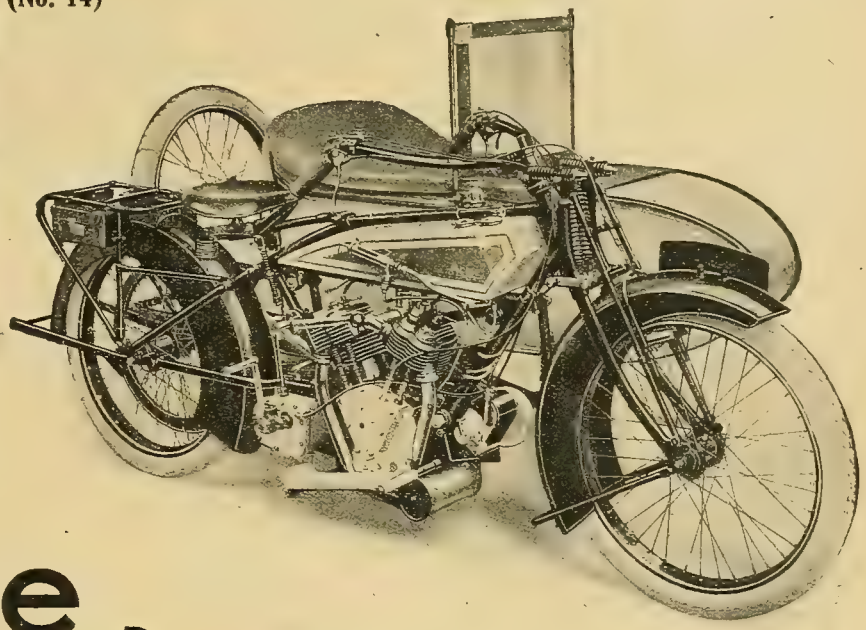
Acmeisms (No. 14)

"Earnestness is ever deeply solemn." (Jane Eyre).

Carry this into your motor cycling world, have you noticed the promises and announcements of many new comers? How often have these promises been kept?
The "Acme" is a new comer, a mount of distinction, a machine to be proud of.
Solemn is my promise and earnest my intention that the "Acme" shall always be to every rider "The Machine of no regrets."

8 h.p. Twin-cylinder.
Three-speed Gear Box.
28" x 3" Detachable Interchangeable Wheels.
Permanent Sidecar connections.
Coach-built Sidecar.
Cantilever Springing, etc.

Price £190-0-0 nett
+ 12½%.
Complete Combination, Spare Wheel included.
(Get a copy of the specification now.)



8 h.p. Twin-cylinder "Acme" Combination.

Acme
MOTOR CYCLES:
THE MACHINE OF NO REGRETS

The Coventry Acme Motor Co., Ltd., Coventry

Would you travel far and wide? Fit a Brooks enjoy the ride.

It is a great feature of a

BROOKS
REGISTERED TRADE MARK

Saddle that it enables the rider to travel greater distances. "It makes life worth motor cycling." Write for a "Brooks Book."

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BLACKBURNE 8 h.p. Twin, 3-speed, clutch and kick-starter	£180 0 0
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RUDGE I.O.M., 3½ h.p. Multi and clutch	£110 5 0
HARLEY-DAVIDSON, 5 h.p. Sports model flat twin	£164 9 10
JAMES 5-6 h.p. Combination	£190 0 0
NEW IMPERIAL 8 h.p. Combination	£186 18 0
ALLDAYS ALLON, 2¾ h.p., 2-speed clutch and kick-starter	£85 0 0
COULSON B, 4 h.p., 3-speed Sports model	£110 5 0
VERUS, 2¾ h.p. Blackburne engine, 2-speed, clutch and kick-starter	£110 5 0
VERUS, 4 h.p. Blackburne 3-speed, clutch and kick-starter	£127 10 0
LEA-FRANCIS, 3½ h.p., 3-speed, clutch and kick-starter, all chain drive	£130 0 0
BLERIOT-WHIPPET, 8 h.p. Blackburne engine, electric lighting, 2-seater body, spare wheel, etc.	£280 0 0
COULSON B, 4 h.p. Blackburne engine, 2-speed, spring frame	£110 5 0
COULSON B, 2¾ h.p. Blackburne engine, 2-speed, spring	£99 15 0
COULSON B, 4 h.p. Blackburne engine, 3-speed, clutch and kick-starter	£127 10 0
COULSON B, 2¾ h.p. Blackburne engine, 2-speed, clutch and kick starter	£110 5 0
VERUS, 2¾ h.p., 2-stroke 2-speed, clutch and kick-starter	£80 0 0
VERUS, 2¾ h.p. 2-stroke, single speed.	£60 0 0
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WOOLER, 2¾ h.p. flat twin, variable gear, touring models	£102 0 0
WOOLER, 2¾ h.p. Flat twin, variable gear, Semi T.T. Model, with footboards	£103 10 0
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CALTHORPE J.A.P., 2¾ h.p., Enfield 2-speed	£74 11 0 plus 5%
CALTHORPE, 2¾ h.p., 2-stroke, Enfield 2-speed	£71 8 0
P.V., 2¾ h.p., Villiers 2-speed, spring frame	£75 0 0 plus 5%
CLYNO, 2½ h.p., 2-stroke, 2-speed, clutch	£75 0 0
DIAMOND 2½ h.p. Sports model	£62 3 0
COVENTRY EAGLE, 2½ h.p., single speed, Villiers engine	£67 1 0
EXCELSIOR, 2¾ h.p J.A.P., 2-speed	£78 0 0
EXCELSIOR, 2¾ h. p., 2-stroke, 2-speed	£67 0 0
PAX, 2¾ h.p., Blackburne engine, 2-speed	£96 12 0

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BRAND NEW 1920 MODELS.

O.K. JUNIOR, 2½ h.p. Union engine, Hutchinson tyres, B. and B. Carburetter, C.A.V. Magneto, very best finish throughout. Finest value on the market. **Cash £50 8 0** or **£16 16 0** down and 12 MONTHLY PAYMENTS OF **£3 3 0.**

DOUGLAS, 1917-8 Combination, 4 h.p., 3-speed, clutch and kick-starter, thoroughly overhauled, repainted makers' colours, **£120 Cash,** or **£60** down and 12 Monthly payments of **£5 15 0.** A new bulbous back sidecar body can be fitted for £5 extra.

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In answering this advertisement it is desirable to mention "The Motor Cycle."

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Alldays.

1920 Alldays Allon, Model de Luxe, 2-speed countershaft, kick starter, hand clutch, mechanical horn, ...ture belt and case, tools, etc., only ridden few times, ...solutely as new; £75.—Allen, School House, Tovil, ...idstone. [1375

2¼h.p. Alldays Allon, late 1920, mileage under 300, ...2 Dunlops unpunctured, as new, Cowey horn, tools ...d outfit, electric light, Tan-Sad; inspection any time ...ur day.—Hardy, S.E. Hospital, New Cross. £75, or ...ighest offer. [9544

American X.

AMERICAN X Combination, 1916, 7-9h.p., 3-speed, dynamo lighting, Watsonian sidecar, bulbous ...ack, 2 lockers, hood, screen, first-class order £120, ...e nearest.—13, Woodstock Rd., Poplar. [1266

AMERICAN X 7-9h.p., dynamo-mag. lighting, electric lamps, extra strong reinforced sidecar, electric horn, late 1917; £140.—Martin, 7, Reynolds Av., ...ithdean, Brighton. Any trial by appointment. [1272

NEW 1920 7-9h.p. American X, 3-speed standard model, hand and foot-controlled clutch, mechanical lubrication, fitted with latest model de luxe bulbous back Millford sidecar; £198; one only in stock for immediate delivery.—The Premier Motor Co., Aston ...., Birmingham. [1637

Ariel.

CYRIL WILLIAMS, for early delivery of Ariels.—... Chapel-Ash Depot, Wolverhampton. [2267

ARIEL Combination, 6h.p., 3-speed countershaft, ...clutch and K.S., as new; £120.—4, The Square, ...rshalton. [1924

1920 3½h.p. Ariel, 3-speed countershaft, just in for immediate delivery.—Wincycle Co., Ltd., 236, ...igh Holborn, W.C.1. [9867

ARIEL, all models, early deliveries; all parts stocked. ...—F. Speakman, Ariel Expert, 7, Rochdale Rd., ...arpurhey, Manchester. [7414

1920 3½h.p. Ariel and Henderson Sidecar, as new; £130, or part exchange 2¾h.p. Douglas.—P. ...ssham, Cirencester. [1592

1h.p. Ariel Combination, in nice running order, 2 variable gear; £47, or near.—Meager Bros., 58, ...epherd's Bush Rd., Hammersmith. [1777

ARIEL 3-speed 3½h.p.; list price; demonstration ... with pleasure; approximate cost with sidecar and ...essories, £150, or solo.—Phone Meeten, 163 Dorking. [1854

ARIEL 6-7h.p. Combination, perfect condition, all ... accessories and extras; £115, or near offer; seen ...appointment.—50, Billington Rd., New Cross, S.E. [1540

WAUCHOPE'S 9, Shoe Lane, London.—Ariels. Delivery from stock of 3 brand new 3½h.p. combinations; exchange arranged.—Wauchope's, 9, Shoe ...ne, London. [2039

ARIEL 3½h.p. Combination, underslung, 3-speed ... clutch, decompressor, horn, lamps, etc., perfect ...ning order; bargain price; Thursday after 7.—73d, ...tesdown Rd., W.9. [X8079

ARIEL 3½h.p. Combination, 3-speed, lamps, horn, speedometer, Bosch, B. and B., decompressor, 3 ... tyres, accessories; trial; £75.—Write Lines, 49, ...fe Rd., Strood, Kent. [1905

ARIEL Countershaft Models, solo or sidecar, in ... stock.—A. J. Young and Co., Ltd., Heath Garage, ...ymarket (Phone: 214), and 75, Albany St., N.W.1 ...hone: 5476 Museum). [1096

1920 3½h.p. Ariel Combination, fast, reliable, condition as new, delivered April, complete, 3 new ...s, 2 generators, owner going abroad; £150.—Capt. ...es, Southfleet, Dorchester. [1110

ARIEL 1920 6-7h.p., and Montgomery sidecar, complete with Lucas head lamp, tail lamp, Cowey ... low mileage, first-class condition throughout; ...rs.—4, Taunton Rd., Bridgwater. [9795

BARGAIN at £107/10.—1920 Ariel, 3-speed ... countershaft model, K.S., lamps, horn, tools, com... condition as new, tyres unpunctured; or will sell ...osit system.—Porter, Hadleigh, Essex. [1032

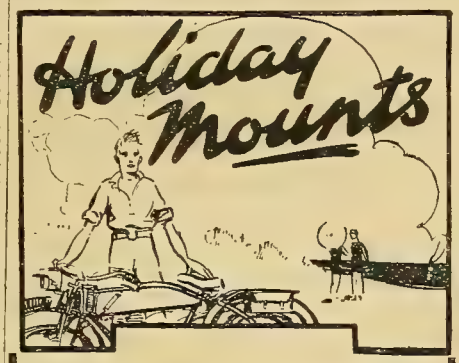
1915 Ariel 3½h.p. Combination, 3-speed countershaft, ... lamps, Klaxon, tyres splendid condition, back ...ld new, all spares, will climb anything; bargain, £86. ...ozier, 68, Owston Rd., Carcroft, Doncaster. [9694

ARIEL 3½h.p. Combination, new December, 3-speed ... countershaft, splendid condition, makers' sidecar, ... 12 volt lighting set, lamps, horn, spares, insurance; ...l trial; £135.—A., 1, Princes Av., Muswell Hill, N. [1718

ARIEL 1919 (Oct.) 3½h.p., coachbuilt sidecar, ... mechanical horn, 3 generators, rear lamp, punc...-proof tubs, spare inner tube, splendid condition; ...05.—Bradley, 2, Carlton Bank, Harpenden, Herts. [X8249

7h.p. Ariel Combination, late 1919, sidecar brand new, lamps, horn, speedometer, new condition ...oughout, only done small mileage; any examination ...rial; owner bought car; £146/10.—Burton, Foundry ...use, London Rd., East Dereham. [1874

1920 (June) 6-7h.p. Ariel and Grindlay sprung ... wheel sidecar de luxe, large P. and H. head ...p, Cowey horn, speedometer, luggage carrier, ...ol tin carrier, Easting wind screen, full length ...on, 2 spare belts, numerous other spares, complete ... kit, mileage under 1,500, take 3 anywhere, climb ...thing; nearest offer to £200.—A. Goodfellow, ...ord Rd., Birkdale, Southport. [X8428



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SOLO.

HARLEY-DAVIDSON, 7-9 h.p., electric £192 17
HARLEY-DAVIDSON, 7-9 h.p., magneto . £184 11
BLACKBURNE, 8 h.p. twin, standard model, solo £170 0
ENFIELD, 2¼ h.p., 2-speed £73 10
LEA-FRANCIS, 3½ h.p. twin, M.A.G. engine £130 6
NEW IMPERIAL, 6 h.p. twin J.A.P., 3-sp. £147 0
DIAMOND, 2¾ h.p. Villiers, 2-speed, clutch, kick-start £84 3
FRANCIS-BARNETT, 2¾ h.p. J.A.P., 2-speed, clutch, kick-start £84 0
RUBY, 2¾ h.p. J.A.P., 3-speed, kick-start, spring frame £120 0
VERUS, 2-stroke, single-speed £60 0
VERUS, 2¾ h.p., Blackburne engine £110 5
VERUS, 4 h.p., Blackburne engine £126 0
P.V., spring frame, 2¾ h.p., 2-speed, slightly soiled (less 10%) £78 15
METRO-TYLER, 2¼ h.p., 2-speed, slightly soiled (less 10%) £69 18
METRO-TYLER, 1920, new model £95 18
PORTLAND, 2¼ h.p., 2 speed £60 0
CLYNO, 2¼ h.p., speed, clutch £75 0

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QUADRANT, 4 h.p., complete with Sidecar £145 0
ROVER, 3½ h.p., 3-speed, complete with Sidecar £208 0
ARIEL, 3½ h.p., chain-cum-belt, 3-speed . £115 0
BLACKBURNE, 8 h.p., twin, standard model £170 0

Actually in stock at time of going to Press.

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DOUGLAS, 2¾ h.p., W.D. model, 2-speed, with re-enameled tank £68 0
NEW IMPERIAL, 2½ h.p. J.A.P., 2-speed £70 0
ENFIELD, 2¼ h.p., all-chain drive, all accessories £69 0

SIDECAR COMBINATIONS.

DOUGLAS, 1914 model, 3½ h.p., 2-sp., kick-start, Bosch magneto £110 0
NEW IMPERIAL, 8 h.p. J.A.P. engine, 3-speed, W.D. model, complete with Sidecar £145 0
ROVER, 6 h.p. J.A.P. engine, 3-speed, all-chain drive, complete with Sidecar .. £145 0

HARLEY-DAVIDSON.

1918 and 1919 W.D., 7-9 h.p. twin, magneto, kick start, 3-speed gear, clutch, standard models. Guaranteed in sound running order.

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Combination £145

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MOTOR CYCLES FOR SALE.

Ariel.

IMMEDIATE Delivery from stock, one only, 3½h.p. Ariel combination, 3-speed clutch, etc.; price £152/10.—Loynds, Garage, Darwen. [9432

Armis.

ARMIS, 1920, brand new, 2¾h.p. J.A.P., 2 speeds, kick start, clutch, straight tube frame, Saxon, Thomson-Bennett, Amac, drip feed, handsome machine; nearest list price secures.—59, Rogers Rd., Birmingham. [1864

Auto-Wheels.

AUTO-WHEEL, in perfect condition.—Northern Motors, 42, North Audley St., W. [9883

AUTO-WHEEL, attached gent's cycle, ride away; £15.—16, St. Winifred's Rd., Teddington. [1735

WALL Auto-wheel, excellent order throughout; £11/11, or nearest offer.—Bennet, 41, Hermitage Gardens, Edinburgh. [9986

AUTO Wheel, 1920 Model de Luxe, in stock; immediate delivery, £27/10.—Wilkins, Simpson, opposite Olympia London. [1027

AUTO-WHEEL, Wall de luxe, only run 50 miles, packed and railed; £12/10.—Oak Lodge, Brook Lane, Salisbury Green, Hants. [9926

AUTO-WHEEL Model de Luxe, condition as new, 120 m.p.g.; mechanical inspection invited; £13; attached gent's cycle, £20.—Abbott, Garthorpe, Goole. [9705

WALL Auto-Wheel, fitted to Chater-Lea tandem, lady-back, 3-speed, Dunlop Magnums, electric lamps, cyclometer, accessories, and spares, equal to new; £35.—159, Trinity Rd., Wandsworth Common. [9591

Bat.

1920 6h.p. Bat, horn, lamps, etc., perfect; £145.—43, St. Matthews St., Ipswich. [1937

1920 Bat, Model 4, new, immediate delivery; £160.—Wright's Garage, Saffron Walden. Tel.: 16. [1505

BAT 6h.p., 3-speed, in stock, new; list, £160.—Clark, 7, Exhibition Rd., South Kensington. [1625

BAT-J.A.P. o.h.v. 5h.p., Binks, 2-speed, K.S.; £65—Oxford House, Southbourne, Bournemouth. [1523

BAT.—Immediate delivery 6h.p. countershaft 3-speed model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8210

BAT-J.A.P. 6h.p. Combination, Canoelet sidecar; £60.—8a, Blue Ball Yard, St. James' St., Piccadilly, W. [9446

BAT Model 4 6h.p., 3-speed; £160; in stock.—Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes. [1054

1920 Bat Combination in Stock, 6h.p.; solo £160, combination £204.—A.S.C., 60, Mortimer St., W.1. Tel.: 6626 Museum. [9930

1920 8h.p. Bat, 3-speed, etc., brand new; list price, £160.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [1118

7-9h.p. Bat-Jap Combination, in good condition, new cylinders, coachbuilt sidecar, requires tuning up; £65, or offer.—274, Baker St., Enfield. [1380

BAT-J.A.P. 1915 8h.p. C.B. Combination, 3-speed countershaft, just re-enamelled and plated, unusually smart, all new equipment; £125.—181, Clapham Rd., S.W. [2056

BAT, 1920, 6h.p., spring frame, 3-speed, chain drive, semi-T.T., only used for a small mileage, guaranteed sound; £150.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0066

NEW 1920 Bat, Model No. 4, 6h.p., 3-speed, all-chain drive, fitted with Montgomery sidecar; £190; immediate delivery from stock. The Premier Motor Co., Aston Rd., Birmingham. [1638

BAT-J.A.P. Combination, 1914, 8h.p., 3-speed countershaft, kick starter, Bosch mag., electric light, coachbuilt sidecar, in splendid condition; £90.—Mattock Motor Co., Mattock Lane, Ealing, W.5. [9586

BAT 8h.p. Combination, September, 1919, 1920 engine, dynamo and acetylene lighting, hood, screen, luggage grid, spares, etc.; £175.—Seen at 9, Eaton Mews South, Victoria. Tel.: Vic. 9294. [1709

BRAND New 6h.p. Spring Frame Bat, 3-speed, countershaft gear, kick starter and clutch, all-chain drive model; £160, solo; or can be fitted with any make of sidecar to order.—Wauchope's, 9, Shoe Lane, London. [2044

Beardmore

BEARDMORE-PRECISIONS; delivery 7 days; £95.—Grandex, 138, Gray's Inn Rd., W.C. [1216

BEARDMORE-PRECISION, slightly soiled; £95 with hooter. Turpin, 29, Preston Rd., Brighton. [0202

BEARDMORE-PRECISION, 1920, ridden 150 miles; £75.—Janes and Adams, 101, High St., E. Finchley. [9752

1920 Beardmore-Precision, absolutely new, unridden; bought car; £85.—Cook, Millfield, Grimsby. [X8316

BEARDMORE-PRECISION; deliveries from stock; £95.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [1060

1920 Beardmore-Precision, not done 100 miles, as new, £95; or with electric lighting (Hunt's) and Cowey horn, £105.—Captain Studd, R.A.F., Worthy Down, Winchester. [9893

MOTOR CYCLES FOR SALE.

Blackburne.

1920 4h.p. Blackburne Combination, small mileage; ride 50 miles to purchaser; snip, £148, complete. —Sheldon, Wheatley, Oxon. [9765

1920 4h.p. Blackburne Combination, F.R.S. lamps, mechanical horn, perfect condition, very small mileage; offers.—4, Taunton Rd., Bridgwater. [9796

BLACKBURNE, 1920 models, delivered from stock. 4h.p. single and 8h.p. twin; list price.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3 [0072

1920 4h.p. Blackburne Combination, Lucas lamps, horn, Easting wind screen, and accessories, insurance policy for 9 months, as new; 140 gns., bargain. —37, Weston Rd., Stafford. [9958

1920 8h.p. Blackburne and Henderson de Luxe sidecar, not 1 month old, as new, complete lamps, horn, etc.; £190; owner got delivery of car.—Fell, Gladstone St., Scarborough. [9999

1920 4h.p. Blackburne Combination, Millford sidecar, electric light (accumulator), leg-shields, spare valves, tyres perfect, done under 1,000 miles, insurance; owner going abroad; £165.—Impey, Steeple Ashton, Trowbridge. [9731

1920 8h.p. Blackburne Combination, complete with original Blackburne sidecar, spare wheel, etc., mileage about 2,000, special heavy Palmer tyres, lamps, horn speedometer, hood, screen, tools, etc., recently overhauled by makers; price £240.—Can be seen at London Motors, 61, Holborn Viaduct, E.C. [9403

Blumfield.

BLOOMFIELD Combination, 5-6h.p., 3-speed, accessories, smart, good condition; £70.—Maida Vale Motor Works, Portsdown Rd., W. [9409

Bown.

1916 2¾h.p. Bown, 2-stroke, Sturmey 3 speeds, clutch, 2½ Dunlop tyres, excellent condition; £63.—Hey, 52, Bradley Hall Rd., Nelson. [X8186

Bradbury

BRADBURY.—Order now to avoid disappointment.—The Walsall Garage, Wolverhampton St., Walsall. [5762

BRADBURY 4h.p. Combination, 1914, 2-speed, kick start, chain drive, clutch; near £60.—Gilyard, 5, North Wing, Bradford. [9949

BRADBURY, 4h.p., 2-speed, N.S.U.; £42/10; cash, credit, exchange.—Service Co., Ltd., 292, High Holborn, W.C.1. [1237

BRADBURY 4¼h.p. 1916 Combination, C.B., K.S., Grade gear, Bosch; £65, or near.—110, Harringay Rd., Harringay, N.15. [1525

BRADBURY Combination, N.S.U. 2-speed, new cylinder, overhauled as new; 55 gns.—249, Selhurst Rd., South Norwood. [9680

IMMEDIATE Delivery from stock, one only, 4h.p. Bradbury combination, 3-speed clutch, etc.; price £160.10.—Loynds, Garage, Darwen. [9437

1920 New 6h.p. Bradbury and Henderson Elite sidecar with screen; £205.—J. Hebden and Son, 149, St. James' St., Burnley. Tel.: 488. [9846

£96.—6h.p. twin Bradbury (A.J.S. engine, countershaft, kick start), C.B. combination, speedometer, hood, lamps; any trial.—Lambert, 1, Pitlake, Croydon. [9571

1914 4h.p. T.T. Bradbury, low, fast, and reliable machine, lamps, horn, and tools, perfect condition; £42.—Box 6,896, c/o *The Motor Cycle*. [2019

Brough.

NEW Model S. 5-6h.p. Brough in stock, at list price. —Markovitz, Tideswell, Buxton. [1015

T.T. 3½h.p. Brough, 2-speed, grand machine; £70.—Minchin Motor Mart, 39, Penrhyn Rd., Kingston-on-Thames. [1349

BROUGH, new 5-6h.p. model in stock; immediate delivery; £140.—Redditch Garages, Ltd., Unicorn Hill, Redditch. [X8323

EARLY delivery of new 1920 model Brough from sole Birmingham agents.—The Premier Motor Co., Aston Rd., Birmingham. [1639

BROUGH 3½h.p., T.T., o.h.v., S.A. 3-speed, K.S., lamp, tools, etc., very fast and economical, good condition; £90.—Write, Dibbs, Rock House, Cromford. [1446

BROUGH 3½h.p. Flat Twin, o.h.v., T.T. model, very fast, original tyres, paint like new, 28 lbs. sidecar if wanted.—Apply, Westwood Morriss, Ltd., 67, Jermyn St., S.W.1. [8481

BROUGH 1916 3½h.p., overhead valves, Sturmey-Archer gear box, 3 speeds, clutch, kick starter, fast, splendid condition; 70 gns.—Loweth, 6, Mount Pleasant Rd., Ealing. [1476

1920 Brough 5h.p. Twin, 3-speed Sturmey-Archer, Brampton buffer, spring forks, R.S.4 type sidecar, electric lighting, splendid order; £140.—Alderton, Hardwick Rd., Reigate. 'Phone: 154. [1165

BROUGH, late model, opposed twin, countershaft Sturmey-Archer 3-speed, K.S., hand clutch, Watsonian sporting sidecar, all accessories, very fast; any trial or examination; £80; seen any time.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E3 155. [1459

Brown.

1915 4½h.p. B.S.A., all-chain, lamps, horn, speedometer; £75. Bland, Red House, Soham. [1835

REYS

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In Stock Ready to Ride away.

4 h.p. **DOUGLAS** Combination	£170 0
2¾ h.p. **DOUGLAS** Model, with clutch	£105 0
2¾ h.p. **DOUGLAS,** without clutch	£100 0

Other New Machines in Stock.

2¾ h.p. **NEW IMPERIAL,** 2-speed	£80 17
2¾ h.p. **NEW IMPERIAL,** with clutch and kick-starter	£89 5
8 h.p. **NEW IMPERIAL** 3-speed Combination	£186 18
3½ h.p. **LEA-FRANCIS,** 2-speed, M.A.G. engine	£130 0
JAMES, 2-speed, 2-stroke	£75 0
OLYMPIC, 2-speed, 2-stroke, with clutch and kick-starter	£80 0
DIAMOND, 2-stroke, single-gear	£56 10
4¼ h.p. **B.S.A.,** 3-speed, all-chain, and Sidecar	£152 0
3½ h.p. **RUDGE-MULTI,** Isle of Man model	£110 5
ALLON, 2-speed, 2-stroke, clutch, and kick-starter	£85 0
8 h.p. **ZENITH,** clutch model (2 weeks)	£162 0
8 h.p. **MATCHLESS** Combination, dynamo lighting	£231 7 6

Second-hand Machines.

SPECIAL OFFER.

1920 4 h.p. **DOUGLAS,** 3-speed, and Sidecar, with head lamps, tail lamp, mechanical horn, and sidecar lamp. As new. Bargain	£163 0
1915 2¾ h.p. 2-speed **DOUGLAS**	£65 0
1916 2¾ h.p. 2-speed **DOUGLAS,** fitted with all lamps and speedometer	£70 0
1917 3-speed 4 h.p. **TRIUMPH,** with all accessories	£100 0
1920 **JAMES,** 2-stroke, 2-speed	£72 0
Victory Model **MATCHLESS** and Sidecar	£160 0

Sidecars in Stock.

CANOELET, for Harley-Davidson	£40 0
CANOELET, for New Imperial	£39 5
CANOELET MINOR, for lightweight	£18 18
B.S.A.	£42 0
MILLS-FULFORD Skiff	£27 15 6

EASY PAYMENTS TAKEN ON ALL MACHINES, AND EXCHANGES ENTERTAINED.

Large Stock of Powell & Hanmer Lamps, and other Accessories.

CAR DEPOT:

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Telephone—Museum 6436.

MOTOR CYCLES FOR SALE.

Brown.

3½ 4h.p. Brown, 3-speed hub, just overhauled, accessories; £38.—349, Church Rd., Leyton, E.10 [1387

BROWN, 1914, 3½h.p., Bosch, enclosed, B. and B., excellent condition, guaranteed, after 6 p.m. £28, or offer.—Merifield, 17, Church Rd., Richmond [177

B.S.A.

B.S.A Combination, 3½h.p., 2-speed, K.S., drive; £65.—Bown, Chithurst, Petersfield. [190

4¼ h.p. B.S.A., complete with lamps, etc.; £85 Pickering, Shrewsbury. [X838

B.S.A.—The Walsall Garage, Walsall, booking orders for all models; rotation deliveries. [576

B.S.A. 1920 Brand New Model H. Combination and twin model in stock.—Moss, Wem. [X834

BROWN 4h.p.; first reasonable offer; seen any time.—56, Sunningfields Rd., Hendon. [104

1920 B.S.A. Model H in stock; £110; with Empire sidecar; £142.—Taylor's Garage, Wednesbury. [873

1917 B.S.A. Combination, all chain; £88; bargain after 6.—20, Treen Av., Hoggers Corner, Barnes [160

1919 B.S.A. Combination, all accessories and spares £130.—Elliott, Glendale, King Charles Rd., Surbiton. [210

B.S.A. Combinations from stock at list prices.—A. J. Young and Co., Ltd., Heath Garage, Newmarket 'Phone: 214. [109

B.S.A. 3-speed 4¼h.p. Coach Combination, speedometer, lamps, horn; £75, or offer.—202, Trinity Rd., S.W.17. [974

B.S.A. 6-7h.p. twin 4¼ solo or combination; list prices; call and inspect.—Paskell's, 45, Gray's Inn Rd., W.C.2. [129

B.S.A., 1920 T.T., perfect, insured, mileage 300; £85 offers.—Breese, Church Croft, Weston Park, Thames Ditton. [990

1920 B.S.A. 4¼h.p. Solo, all chain, mileage 500, lamps, tools, Klaxon; £115.—Bishop, Tuffley Av., Gloucester. [X839

B.S.A. 1915 4¼h.p., countershaft, 3 speeds, kick start, all-chain drive; £80.—Hole, 129, Par Lane, Carshalton. [179

1920 B.S.A., all-chain, Montgomery sidecar, combination new, unregistered; £142.—Box 6,87 c/o *The Motor Cycle*. [183

B.S.A. Combination, 1916, countershaft, chain-cum-belt, speedometer, lamps, etc., perfect; £110. 88, Kew Rd., Richmond. [13

B.S.A. (Model K.) and sidecar, August, 1919, excellent condition; owner buying car; £125.—Drake Wootten's Garage, Oxford. [69

1913 B.S.A., 2-speed, all-chain drive, restoved and overhauled, complete lamps and horn; £80. Jackson Bros., Horsham. [99

1920 B.S.A. 3½h.p., single gear, holder of 4 hour 500 c.c. record; 100 gns.—Edwards and Co., 50, Harrington Rd., S.W.7. [98

B.S.A. 1913. 3½h.p. Clutch Model, Palmer cord, lamps, horn, speedometer, tools, spares; £48. 78, Adelaide Rd., West Ealing. [11

B.S.A. Combination, 1918, new tyres, lamp, horn, tools, etc., splendid order and condition; 100 gns. D. Norris, Talbot, Mere, Wilts. [11

1920 B.S.A., all-chain, Montgomery No. 2 grey B.S.A. sidecar, outfit brand new; £139.—B 6,810, c/o *The Motor Cycle*. [98

1915 B.S.A. Combination, 4¼h.p., 3-speed countershaft K.S., good condition; £105, or offers; trial.—37, Regent St., Rugby. [X80

B.S.A. 1917 4¼h.p. 3-speed Combination, beauty condition; £115; exchange solo machine.—Springbank Rd., Hither Green. [18

B.S.A. 4h.p., 3-speed, all-chain, new frame and bearings, Millford sidecar, 2 new tyres, lamp £100.—Chambers, Faringdon, Berks. [17

B.S.A., excellent condition, coachbuilt sidecar, Lucas lighting and horn, small mileage; bargain, £ —Toms, 111, Hagley Rd., Stourbridge. [1

B.S.A. 1917 4h.p. Combination, 3-speed countershaft B.S.A. sidecar, like new; £90.—1, Havelock Forest Hill, S.E.23. Sydenham 1315. [9

B.S.A. 1920 Model K, just delivered; owner will accept first offer over £110.—Baker, 6, Bedford Place, W.C.1. 'Phone: Gerrard 3801. [2

3½ h.p. B.S.A., 2-speeds, free engine, pedal start Binks carburetter, enamel and plating good £48.—H. Waites, High Ackworth, Pontefract. [1

B.S.A. Combination 4¼h.p., late 1915, all-chain countershaft, new tyres, lamps, horn, etc.; offers.—Rice, 32, Eagle Rd., Guildford, Surrey. [1

1919 4¼h.p. B.S.A. Model K. 3-speed Combination lamps, horn, tools, etc., perfect condition running order; trial; £130.—Horrocks, 51, Seymour Bolton. [9

1917 B.S.A. 3½h.p. T.T., Miller lamps, horn, tools, very fast, any trial; price £65.—Apply Goddard, Hazel Wood, Kingston Rd., Leatherhead Surrey. [1

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COVENTRY EAGLE 2¾h.p., 2-speed, repainted, engine overhauled by makers, new tyres; first cheque for £40 secures.—D. Norris, Talbot, Mere, Wilts. [1149

1920 Coventry Eagle, 2¾h.p. J.A.P., Sturmey-Archer gears, clutch and kick start, not done 200 miles, guaranteed; £75.—Hummel, Pangbourne, Berks. [9531

COVENTRY EAGLE, 1920, 2¾h.p. J.A.P., hand clutch, kick start, S.A. 2-speed, mileage 25, accessories, as new; £85.—Gardner, 53, Atherley Rd., Southampton. [9437

Coventry Record.

4h.p. Coventry Record, Bosch mag., adjustable pulley, good condition and appearance; £25 for quick sale.—Yates, 9, Tudor Rd., Hampton, Middlesex. [1280

Dalm.

1915 3h.p. Dalm, Bowns 2-speed, 2-stroke, pillion seat, lamps, accessories, good condition; £50.—Windmill, 17, Winslow Rd., Fulham, W.6. [9606

De Luxe.

DE LUXE 2¾h.p., mileage 300, perfect condition; £44.—13, Kingskerwell Rd., Newton Abbot. [1720

DE LUXE 2¾h.p., 2-stroke, Druids, Amac, E.I.C., Palmers, lamps and generator; £36.—13, Union St., Smethwick, Birmingham. [2070

NEW 1920 2¾h.p. De Luxe, 2-stroke, 2-speed, Palmer heavy, touring model, take sidecar, tuned by expert; £56.—Lancaster Lodge, Orpington. [9549

Diamond.

DIAMOND, single speed, just delivered; £63.—Barratt, Worcester St., Wolverhampton. [X8034

1919 Diamond 2-speed 2-stroke, mileage 300; £52/10.—Taylor's Garage, Wednesbury. [8737

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266

DIAMOND 1920 Single-speed 2-stroke, demonstration machine, soiled, below list price; 56 gns.—Bedford Garage, Walsall. [9894

DIAMOND, finest finish, best value on market, 2-stroke; £63; in stock.—Clark, 7, Exhibition Rd., South Kensington. [1627

NEW 1920 2½h.p. Diamond, 2-stroke, in stock for immediate delivery; £62.—The Premier Motor Co., Aston Rd., Birmingham. [1640

1919 (May) 2¾h.p. Diamond-Jap, Enfield 2-speed, speedometer, lamps, etc., as new; £68.—Write or call, Swaine, 4, Ripple Villa, Dagenham Dock, Essex. [9660

2½h.p. Diamond, with kick starter, hand-controlled clutch and 2-speed gear, in stock for delivery manufacturers' list price, £84/3.—Davison, Bute St., Luton. [1704

DIAMOND, 2¾h.p. J.A.P., 1919¾, Enfield 2-speed, lamps, Klaxon, tool kit, good tyres and belt, in perfect running order; £72.—R., 1, Whitehall, Ray Park Rd., Maidenhead. [9547

DIAMOND, T.T., Nov., 1919, Villiers 2½h.p. special piston, 2-speed, Amac W.S.R. jet, lamps, horn, and tools complete, perfect condition; £65, or near offer.—Apply, 24, Victoria Rd., Leigh-on-Sea. [2077

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1¼h.p. Douglas Combination; £115.—Pickering, Mardol, Shrewsbury. [X8382

DOUGLAS 1916, all as new; £53/10; cash wanted.—202, Munster Rd., Fulham. [1313

1920 Douglas 20h.p., delivery from stock; list price.—Philpot, Motors, Canterbury. [9733

1912 2¾h.p. Douglas, fast and reliable; £32.—Platts, 602, King's Rd., Fulham, S.W.6. [1178

1918 Douglas 4h.p. 3-speed, K.S., little used; £85.—67, Brighton Rd., Croydon. [9514

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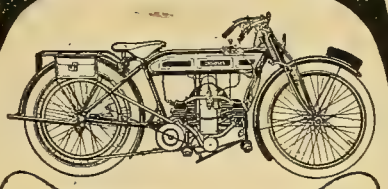

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1920 4h.p. Douglas Combination, little used; first £140.—Walker, Redbourn, Herts. [X8349

1919 Douglas Combination, lamps, etc.; £143.—C/o F. Clower, Nottingham Rd., Ripley. [9430

DOUGLAS 1915 2¾h.p., 2 speeds, good condition; £53.—Wilson, Lambert's Yard, Leeds. [1077

DOUGLAS 1910-11 2¾h.p., Bosch, perfect, ride away; £30.—8, Shalimar Rd., Acton. [9821

4h.p. Douglas, 1919, 3-speed, clutch, K.S., perfect; £85.—82, Church Rd., Mitcham, S.W. [1661

DOUGLAS 2¾h.p., 1914, thoroughly overhauled, new tyres; £40.—H., 25, Alma Sq., N.W.8. [1137

1915 2¾h.p. Douglas, excellent condition; trial; £48.—97, Charlmont Rd., Tooting, S.W. [1312

OFFERS.—1919 4h.p. Douglas Combination, standard colours, perfect.—63, Solon Rd., Brixton. [1820

1917 2¾h.p. Douglas, 2-speed, privately owned; £65, no offers.—26, Knotts Lane, Colne, Lancs. [X8360

DOUGLAS, 1920, 2¾h.p., 3-speed, with clutch and kick starter; £105, in stock.—Robinson's.—Below.

DOUGLAS 1920 4h.p. Combination, £170; Douglas, solo, £130; in stock.—Robinson's. Below.

DOUGLAS, 1920, 2¾h.p., 3-speed, without clutch, £100; in stock.—Robinson's. Below.

DOUGLAS, Douglas, Douglas. For prompt deliveries of 1920 models and all spare parts, write, 'phone, or wire, Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [1332

DOUGLAS, 1916, in good condition; £68.—Apply, 189b, Lower Clapton, E.5. [2096

DOUGLAS 2¾h.p., in perfect running condition; bargain, £28.—Mole, Church St., Ropley, Hants. [1371

4h.p. Douglas, 1918, with sidecar, in first-class condition; 80 gns.—36, High St., Hampstead. [2086

LATE Model Douglas Combination makers' colours; £95.—Pope, 9, Pepys Rd., New Cross, S.E. [9941

BRIGHTON, Hove and district Douglas agents.—Turpin's, 22 and 28, Preston Rd., Brighton. [0201

DOUGLAS 2¾h.p., 1916, perfect condition; £55.—Lea 13, Willoughby Rd., Hampstead, N.W.3 [1012

2¾h.p. 1916 2-speed Douglas, ready to ride away; £47/10.—5, Station Rd., Edgware, Middlesex. [X8322

1918 Douglas Combination, just overhauled; £95.—Master, 10, Willes Terrace, Leamington Spa. [1775

DOUGLAS 4h.p., 1918, new condition, no reasonable offer refused.—63, Knatchbull Rd., Camberwell. [1812

DOUGLAS Combination, 1917, all accessories; £110, or offer.—48, Goring Rd., Bowes Park, N.11. [2101

1916 Douglas 2¾h.p., 2 speeds, excellent condition; £58.—172, Greenvale Rd., Well Hall, S.E.9. [1517

1919 2¾h.p. Douglas, lamps, Cowey, nearly new, £70; 1920 4h.p., new, £130.—114, Brixton Hill. [1926

1912 2-speed Douglas, dismantled, sell complete or parts; offers.—11, Temple Rd., Cricklewood. [1691

1916 Douglas 2¾h.p., 2-speed, overhauled, renovated; any trial allowed; £50.—Dowell, High Rd., Byfleet. [1721

1916 Douglas 2¾h.p., good condition, tyres, lamps; 57 gns.—228, St. Paul's Rd., Highbury, London, N.1. [9583

DOUGLAS 1913 2¾h.p., 2 speeds, clutch, good condition; £40.—322, Canterbury St., Gillingham, Kent [9560

DOUGLAS 2¾h.p., nearly new, not done 100 miles, lamps, horn, etc.; £75.—68, Grenfell Rd., Maidenhead. [X8368

2¾h.p. Douglas, 1913, good condition; £29.—Blackburn, Fell View, Halton Lea Gate, Lambley, Carlisle. [1328

DOUGLAS 1911 Cycle and Engine Parts, 7 days, cash, approval.—35, Clifford St., C.-on-M., Manchester. [9489

£25.—Douglas, Bosch, Druids, tyres good, overhauled; ride away; bargain.—R. Hadley, Ipswich Rd., Colchester. [9434

SPECIAL Finish and Tuned.—Brand new 4h.p Douglas combination; list price.—Durose, Foston Derby. [9884

1920 Douglas Combination, list price, in stock; exchanges.—2, Nightingale Rd., Lower Clapton, N.E. [1971

DOUGLAS.—Immediate delivery, 1920 4h.p. combination.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8211

DOUGLAS.—Immediate delivery 2¾h.p., 3-speed and clutch.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8215

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DOUGLAS 2¾h.p., single gear, overhauled, new tyres, lamp; £28; after 6.30. Cox, 161, Rye Lane, Peckham. [9672

DOUGLAS 1914 2¾h.p., 2-speed model, excellent condition throughout.—Parker's, Bradshawgate, Bolton. [X8200

1915 Douglas 2¾h.p., 3-speed, kick, clutch, excellent condition, lamps; £65. Evenings.—1065, London Rd., Derby. [9567

1918 Douglas, 2¾h.p., 2-speed, as new, very fast; 62 gns.—144, Ladbroke Grove, North Kensington, W. [1471

DOUGLAS 2¾h.p., 1916, 2-speed, lamps, horn, makers' colours; £53.—36, St. Thomas Rd., Hackney. [1919

DOUGLAS 2¾h.p., 3-speed Colonial model, 1915, new condition; £75.—Elva Lodge, Castle Hill, Maidenhead. [1681

DOUGLAS 4h.p. Combination, 1920, list price, immediate delivery.—Morriss, 139, Finchley Rd., N.W.3. [1969

DOUGLAS 2¾h.p., W.D., reconditioned, makers' colours, 2 left only; £60 each.—181, Clapham Rd., S.W. [2057

DOUGLAS 2¾h.p., late 1919, lamps, horn, all accessories, perfect; £70.—36, Pelham St., South Kensington, S.W. [9679

DOUGLAS 2¾h.p., 1915, 2 speeds, £45; one 1914 2¾h.p., 2 speeds, £42/10.—Hole, 129, Park Lane, Carshalton. [1796

1915 Douglas 2¾h.p., clutch, lamps, etc., makers' colours; bargain, £50; offer.—120, Sutherland Rd., Croydon. [9745

1914 2¾h.p. Douglas, overhauled, enamelled, plated July, perfect mechanical condition.—Symes, 36, Park St., Bath. [9580

2¾h.p. Douglas, 1916, mechanically perfect, re-enamelled makers' colours; £60.—3, Courtlands Av., Lee, S.E.12. [9759

1918 Douglas 4h.p., makers' colours, just overhauled, condition as new; £75.—45, Venner Rd., Sydenham. [9749

DOUGLAS 1916 2¾h.p., 2-speed, makers' colours, splendid conditoin; £53.—30, Crystal Palace Park Rd., Sydenham. [1949

DOUGLAS, Bosch, new tyres, running order; first £21.—M. Jennings, 14, Windmill Row, Kennington Rd., S.E.11. [1370

DOUGLAS, 2¾h.p., 2-speed, W.D.; £62/10; cash, credit, exchange.—Service Co., Ltd., 292, High Holborn, W.C.1. [1229

DOUGLAS 1914 2¾h.p., 2-speed model, excellent condition throughout; £48/10.—Allen, Spital Rd., Maldon, Essex. [1679

4h.p. Douglas Combination, late 1918, electric lighting, speedometer, etc.; £125, or near offer.—33, Laud St., Croydon. [1680

2¾h.p. Douglas, 1916, 2-speed, just overhauled, perfect, lamps, etc.; £68/10.—Reeves, The Knoll, Rudgwick, Sussex. [1608

1918 4h.p. Douglas Combination, blue sidecar, splendid condition; trial; £105.—30, Crystal Palace Park Rd., Sydenham. [1948

DOUGLAS, 2 speeds, engine recently overhauled, new crankshaft and cylinders; £50.—Macpherson, Royal Bank, Forres. [1536

1920 4h.p. Douglas Combination, Cowey horn and speedometer; going abroad; £160.—F. Jephson, Halfway, Hersham. [1285

DOUGLAS 4h.p. Combination, 1918, perfect condition, all accessories, any trial; £115.—M., 72, Alma Rd., Windsor. [9465

2¾h.p. Douglas, engine 18845, 2-speed, splendid order, lamps; £55; London.—Box 6,870, c/o *The Motor Cycle*. [1830

DOUGLAS, 1915, £45; 1917 ditto, £49/10.—Garage, 5, Eglon Mews, Berkley Rd., Primrose Hill (near Chalk Farm Tube). [1898

DOUGLAS 1915 4h.p. Combination, splendid condition; £98.—Padd. 2423.—89, Abbey Rd., St. John's Wood, N.W. [1965

£24.—About 1911 2¾h.p. Douglas, single speed, Dunlop tyres, belt, just overhauled; bargain.—King, Eglove Farm, Oxford. [X8306

DOUGLAS 1914 2¾h.p.; T.T., nice condition; £50.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0269

1916 2¾h.p. 2-speed Douglas, electric light, horn, pump, and tools, very fast and reliable; £58.—50, Manor Park Rd., N.W. [1757

1920 4h.p. Douglas Combination, as new, P. and H. lamps, Stewart horn; £160.—Wright, Lion Hotel, Uttoxeter Staffs. [1404

DOUGLAS, 2¾h.p., 2-speed, 1915, lamps, horn, and tools, splendid condition; £60.—Davidson, 16, Elm Grove, Wimbledon. [1344

1917 Douglas 4h.p., clutch, kick starter, 3 speeds, perfect order; sacrifice at £80. 2, Nightingale Rd., Lower Clapton, N.E. [1972

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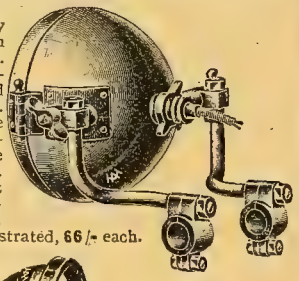

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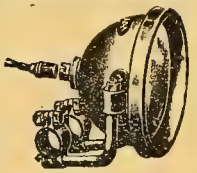

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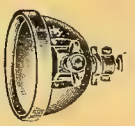

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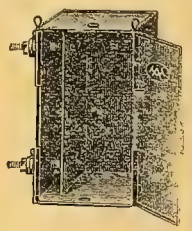

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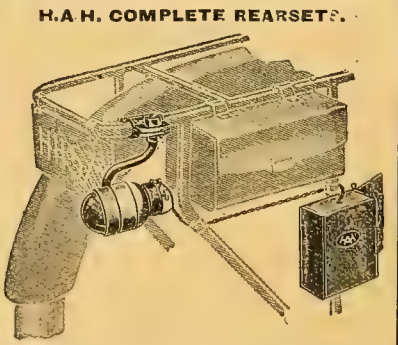

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1916 Douglas 2¾h.p., has been well looked after, looks really nice; £65.—Alderton, Hardwick Rd., Reigate. 'Phone: 154. [1166

DOUGLAS, 1916, in perfect order, 2-speed, fast, new tyres; £55.—H. Renben Harveyson, 87, Station Rd., Church End, Finchley, N. [9550

DOUGLAS 2¾h.p., 2-speed, uncrated 1918, new condition; £58; just completed Devonshire tour.—12, Stanger Rd., South Norwood. [1658

DOUGLAS, special bargain, 1915, excellent order, new tyres, Douglas colours; £45.—Clark, 7, Exhibition Rd., South Kensington. [1634

DOUGLAS 2¾h.p. 1914 2-speed, excellent condition, lamps, spares; £50; after 6.30 p.m.—Morris, 42, Wellington Rd., Charlton, S.E.7. [9502

DOUGLAS 2¾h.p., single-speed, countershaft, Bosch mag., footboards, in good condition throughout; £32.—18, Wherstead Rd., Ipswich. [1952

DOUGLAS, overhauled by makers, new tyres (Dunlops), splendid condition; £40, or near offer.—Skilton, 63, St. Mary's Rd., Reigate. [8907

1919 4h.p. Douglas Combination, perfect, 3 lamps, Klaxon, speedometer; sacrifice £120, best over.—, 29, Lea Bridge Rd., Clapton, E.5. [9922

4h.p. Douglas Combination, 1917, makers' colours, royal blue sidecar, equal new; £100, cash wanted.—Adams, 120, Sutherland Rd., Croydon. [9744

WAKEFIELD.—2¾h.p. Douglas, 2-speed, re-enamelled, overhauled, fast, guaranteed perfect; £60.—Parkers, Woodcock St., Sandal, Wakefield. [9438

4h.p. Douglas Combination, late model, electric lighting, tyres nearly new, all in excellent condition; £110.—Apply, Townshend, 22, Walbrook, E.C. [9971

4h.p. Douglas Combination, 3-speed, clutch, kick start, lamps, etc., excellent condition, insurance; £120, or near offer.—4, New Rd., Seven Kings. [1282

1919 4h.p. Douglas Combination, all spares, etc., any trial; £135 lowest; privately owned; seen after 6 o'clock.—21, Powis Terrace, Bayswater. [1792

4h.p. Douglas Combination, splendid condition, enamel as new; 105 gns. nearest offer.—Graham, 27, Wandle Rd., Wandsworth Common, S.W. [1593

DOUGLAS, 2¾h.p., 1916, excellent running order; £52/10, or offer; owner taking delivery of combination.—2, Thirsk Rd., South Norwood, S.E. [1698

DOUGLAS 2¾h.p., late 1916, practically new, not reconstructed, exceptionally good engine; 54 gns.—Acacia, Centre Av., Acton, W. (Side door.) [1995

DOUGLAS 2¾h.p., 1920 (April), Klaxon horn, Lucas head and rear lamps, complete set tools, absolutely perfect; £109.—Palmer, 181, Snaregate St., Dover. [9977

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DOUGLAS 4h.p. Combination, engine No. 6377, will drive 50 miles to genuine purchaser; cash needed; £88, worth £120.—272, Green St., Forest Gate. [7611

1914 2¾h.p. Douglas, lamps, speedometer, Tan-Sad, horn, etc., new Capac carburetter, engine just overhauled, perfect; £60.—52, Pelham Rd., Gravesend. [1417

1920 4h.p. Douglas Combination, 2 months old, fitted with lamps, horn, wind screen, and all tools; £170. A.S.C., 60, Mortimer St. W.1. Tel.: 6626 Museum. [9935

DOUGLAS, 2-speed, new Dunlops and belt, large lamp set, horn, etc., ride away; £30 to save storage.—Marks, 121, Acton Lane, Chiswick, W.4. [9995

DOUGLAS Combination, not W.D., Sept., 1919, enamel, plating, engine guaranteed perfect, spares, lamps; £130.—Hopkinson, 39, Park Rd., Preston. [9457

2¾h.p. Douglas, 1916, 2-speed, thoroughly overhauled, re-enamelled, new tyres, belt, equal new; £62.—89, Oak Lane, Bradford. Tel.: 2190. [1758

1919 Douglas 4h.p. Combination, enamelled, nickel-plated, and as new, with best lamps, mechanical horn, etc.; £155.—Douglas, 60, Castle St., Trowbridge. [X8261

4h.p. Douglas Solo, 1919, delivered 1920, 3 speeds, clutch, speedometer, spares, run 1,500 miles; £100.—Murgatroyd, Hagut Bar, Stines, near Stockport. [9992

1920 (April) Douglas Combination, with telescopic wind screen and luggage carrier, perfect condition; £160; owner going abroad.—Waite, 24, Bracken Av., Balham. [9682

DOUGLAS 1920 4h.p. Combination, brand new; just arrived; immediate delivery; at makers' price, £170.—Wilkins, Simpson, opposite Olympia, London. [1024

1915-16 2¾h.p. Douglases, re-enamelled and plated, makers' colour tanks, perfect order, trial given; prices £55 to £65.—Ash Lodge, Junction Rd., Brentwood, Essex. [1391

MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD 1920 Combination, 8h.p., brand new, Magdyno lighting, just arrived from works; immediate delivery at makers' price, £202/2.—Wilkins, Simpson, opposite Olympia, London. [1028

3h.p. Enfield 1913-14 2-speed, Bosch, Amac, tyres, cycle, and mechanical parts good condition; £40 or near offer; after 7 or 3 Saturday.—Broyd, 11, St. Albans Rd., Woodford Green. [X8374

1917 3h.p. Twin Enfield, 1920 Canoelet Minor sidecar, lamps, horn, speedometer, in perfect condition; owner bought car; £80, or offer.—711, Manchester Rd., Castleton, Lancs. [1075

1920 Enfield 8h.p. Combination, Lucas Magdyno, complete with horn, tools, wind screen, etc.; 210 gns.—Apply, Mr. Stephens, Vine Products Co., Oil Mill Lane, Kingston-on-Thames. [1050

ENFIELD 1918 2¾h.p., 2-speed, 2-stroke, lamps, generator, horn, tools, all-chain drive, original enamel practically unscratched, perfect; £57/10.—4a, Petersham Rd., Richmond, Surrey. [9537

NEW 2¾h.p. Royal Enefield 2-stroke Models, 2-speed models, for immediate delivery from stock, low built, and ideal machine for traffic; £73/10 each.—Wauchope's, 9, Shoe Lane, London. [2026

1916-17 3h.p. Twin Royal Enfield, M.A.G. engine, 2-speed, kick start, almost new; £75, or exchange T.T. Norton; cash adjustment either way.—R. Gray, 8, Low Rd., Balby, Doncaster. [1264

ENFIELD Combination, 8h.p., 1917-18 Colonial models, overhauled, replated, re-enamelled, all lamps, horn, like new; £150; cash, credit, exchange.—Service Co., Ltd., 292, High Holborn, W.C.1. [1247

1916 Enfield Combination, in good condition, new cylinder, piston, and valves fitted recently, and gears overhauled by makers, sidecar repainted and lined; £125.—Apply, A. Driffill, Jun., Cliffe, Selby. [X8045

1920 Enfield Combination, 6h.p., absolutely new, speedometer, Easting screen, gas cylinder lighting, all lamps, horn, spares, etc., seen any time or trial; £190.—16, Randolph Mews, Portsdown Rd., W.2. [2093

1915 Enfield-Motosacoche, 3½h.p. M.A.G. twin engine, De Lissa valves, Enfield 2-speed, speedometer, lamps, horn, etc.; £40; Middleton light coachbuilt sidecar optional, £12; after 7.—14, Hertert St., Watford. [1565

ENFIELD Combination, 1916 (late), 6h.p., Easting, Tan-Sad, lamps, new tyres; this combination is in perfect condition, only been used week-ends; any reasonable trial; £125, or near offer.—Gee, 454, Bordesley Green, Birmingham. [1406

1917 Enfield Combination, believed 8h.p., dynamo lighting and electric horn, speedometer, screen, luggage grid, all accessories, and in splendid condition; must sell, £145, no offers, a genuine bargain.—H. Wheatley, 34, St. Barnabas Rd., Cambridge. [1525

Excelsior.

1919 Excelsior 2½h.p., 2-stroke, 2-speed, accessories.—32, Nelville Rd., Fazakerley, Liverpool. [1192

1918 British Excelsior, 2-stroke, fully equipped; £38, or offer.—64, Church St., Edgware Rd., W. [2100

1920 Excelsior 2-stroke, 2-speed, new, just delivered; list price.—Wright's Garage, Saffron Walden. [1499

EXCELSIOR, 2-speed, J.A.P., £78; 2-stroke, £67; in stock new.—Clark, 7, Exhibition Rd., South Kensington. [1628

Exp. British Excelsior Combination, new 6 weeks ago, mileage 500, J.A.P. engine; £170, or near offer.—14, Davenport Rd., Derby. [1478

1915 Excelsior-Peco, 2-speed, clutch, chains, canoe sidecar; £60; ample power, good appearance.—Bent Cottage, Hockley, Essex. [1660

1913 Excelsior 3½h.p., clutch, B. and B. (mag., horn, belt, Millar lamps, all new), adjustable pulley, tires unpunctured, perfect running order; bargain, £40.—Wootton, Ansty, Coventry. [9728

NEW 1920 Excelsior Models in Stock for Immediate Delivery; 2½h.p., 2-stroke, 2-speed, £67; 2¾h.p., 2-speed J.A.P. engined 4-stroke, £78.—The Premier Motor Co., Aston Rd., Birmingham. [1641

1920 New Excelsior 2½h.p., 2-speed, 2-stroke, £68; with clutch and kick starter, £75; 2¾h.p. Excelsior-Jap 2-speed, £78; 4½h.p. 3-speed, clutch, kick-starter combination, £160.—J. Hebden and Son, 149, St. James' St., Burnley. Tel.: 488. [9852

Fafnir.

FAFNIR 3h.p., running order, lamps, Bosch mag.; £22/10.—Thompson, Clare, Suffolk. [1438

F.N.

F.N. 1914 6h.p., 2-speed, clutch, electric lighting; £60.—393, High Rd., Chiswick, W.4. [2078

F.N. 4-cyl. Combination, 2-speed, clutch, C.B. sidecar; £60.—50, E. Dulwich Rd., S.E.22. [1684

4-CYL. F.N., good condition, wants timing; £28.—Lowe, 24, Bar Lane, Astley Bridge, Bolton. [1003

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F.N. 4-cyl., 2-speed, clutch, good tyres, speedometer, just tuned; £65, or offers.—103, Back Hamlet, Ipswich. [9911

F.N. 5-6h.p., 4-cyl., 2-speed, new tyres, mechanically sound, climb anything; £40.—Bean, Harlington, Beds. [X8243

F.N., 4-cyl., old pattern, transmission to wheel out of order; best offer over £16.—Box 6,753, c/o *The Motor Cycle.* [9619

F.N., 4 cyls., 5-6h.p., Bosch, shaft drive, lamps, accessories, re-enamelled; £36.—15, Ashvale Rd., Tooting. [1605

F.N. 4-cyl. 7h.p. Motor Cycle, in excellent condition, all accessories; price £95.—Roach, Queen's Rd. Bury St. Edmunds. [9902

F.N., the pioneer 4-cyl.—Early deliveries from the Birmingham agents, Frank Whitworth, Ltd., 139, New St., Birmingham. [X8445

1913 2¼h.p. F.N., 2-speed and clutchshaft drive, in perfect condition; £25.—Birch, 15, Lower North Av., Barnoldswick. [9947

3½h.p. F.N., 2 speeds, 4 cyls., Bosch, B. and B.; £32; exchange 2-stroke.—C. Houlston, 560, King's Rd., Fulham, London. [1163

1914 F.N. 7h.p., mechanical valve model, new pistons, etc., very fast, new condition, all accessories; solo £110, combination £130.—Philpot, Motors, Canterbury. [9734

F.N., 4-cyl., Thomson-Bennett, low-built, royal blue, mechanically perfect, but requires new carburetter; £28/10, no offers or kind suggestions.—45, Quay St., Newport, Wight. [1145

1913-14 4-cyl. F.N. and sidecar, 2-speed, kick starter, clutch, speedometer, lamps, all accessories, heavy Dunlops as new, excellent running order; £68.—Bone, Jeweller, Fakenham. [9714

1914 F.N. 7-9h.p. 4-cyl. Combination, 3-speed, K.S., multiple disc clutch, in new condition and perfect; best offer over £125 secures.—Parker, Kelvin House, Pontypool, Mon. [1591

BRAND New 1920 F.N. 7h.p. 3-speed Combination, shaft drive 4-cyl. engine, coachbuilt sidecar, hood, wind screen; £205, one only in stock for immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [1642

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2¾h.p. Foreward Twin, Bosch, Druids, drop frame, ride away; £28.—151, Kingston Rd., Teddington. [1736

Francis-Barnett.

J. A. STACEY, 12, Ecclesall Rd., Sheffield, can give immediate delivery from stock of 1920 Francis-Barnett 2¾h.p. [1985

NEW Francis-Barnett, 2¾h.p. J.A.P., 2-speed clutch and kick starter; in stock at manufacturers' list price, £88/19, easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [1357

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GRANDEX-PRECISION 3½-4h.p. Combination, 1914, splendid condition; £90, or nearest.—Leader, 53, Calabria Rd., Highbury, N.5. [9414

GRANDEX Motor Cycle, 2¾h.p. Precision engine, just overhauled and enamelled, good tyres and good running order; £35.—W. Whiting, Alfold, Billingshurst, Sussex. [1177

Harley-Davidson.

1915 7-9h.p. Harley-Davidson Combination; £135.

1915 4h.p. Harley-Davidson Combination, sporting sidecar; £100.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [1124

7-9h.p. Harley-Davidson Combination, as new; £160.—Davison, Bute St., Luton. [1703

1918 T.T. Harley, discs, done up, as new, all on; £130.—18, Hestercombe Av., Fulham. [2082

1919 Harley-Davidson 7-9h.p., splendid condition; £120.—Heady, 44, Alma Rd., Carshalton, Surrey. [1911

1915 7-9h.p. Harley Canoelet Combination, perfect; £135.—Harry Fielding, Tobacconist, Hebden Bridge. [X8376

IN Stock, new Harley Model F and Harley sidecar; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [9882

HARLEY-DAVIDSON, 1919, good running order, all on; £105.—Broomfield, 322, Whitehorse Rd., Croydon. [9611

HARLEY Combination, 1915, new tyres, perfect condition; £105.—5, Tankerville Rd., Streatham, S.W. [1376

HARLEY-DAVIDSON.—All models in stock, new; list price.—Clark, 7, Exhibition Rd., South Kensington. [1629

HARLEY Combinations (two), absolutely like new; any trial; £190.—Warne's, 46, Churchfield Rd., Acton, W.3. [9651

HARLEY-DAVIDSON 7-9h.p. Combination, 1915; £110.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [1588

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY-DAVIDSON Combination, 1916, screen, lamps, spares, little used.—25, Gatefield Rd., Abbeydale, Sheffield. [9594

1919 Harley, recently imported, splendid condition, electric model; what offers?—Stubbs, 41, Adelaide Rd. Chichester. [9940

HARLEY-DAVIDSON.—Immediate delivery 4h.p. 3 speeds and clutch model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8213

HARLEY-DAVIDSON Combination, 1916, screen, lamps, spares, little used.—25, Gatefield Rd., Abbeydale, Sheffield. [9792

1919 Harley-Davidson, perfect order, ready to ride away; bargain, £105.—Post Office, 324, Whitehorse Rd., Croydon. [1215

HARLEY-DAVIDSON 1918 7-9h.p., ride away; £95. —Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0271

1920 Harley, Model F, and Harley sidecar, new, in stock; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [1956

HARLEY 1918 7-9h.p. Combination, perfect; offers, or exchange lower power and cash.—26, Barrington Rd., Brixton, S.W. [1962

J. A. STACEY, 12, Ecclesall Rd., Sheffield, can give immediate delivery from stock of 1920 Harley-Davidsons, all models. [1986

HARLEY Combination, 7-9h.p., 1915, mag. model, lamps, horn; £100, or exchange 4h.p. combination. —103a, High St., Wandsworth. [2110

1920 Flat Twin Harley, Sandum sporting sidecar, hardly used, lamps, etc.; a gift at £145.—Harley, 7, Orleans Rd., N.19. [9478

1920 Harley-Davidson and special sidecar, 7-9h.p., electric model, mileage 300, speedometer; bargain, £205.—Walker, Redbourn, Herts. [X8346

LATE 1919 Harley 7-9h.p., new bulbous sidecar, apron, locker, unscratched, lamps, etc.; £162.—39, Chatsworth Av., Merton, S.W. [9927

HARLEYS, 1918 £95, 1919 £100, in thorough going order, all on; bargain; only 15 left.—Briggs and Sons, 1, Wellesley Parade, Croydon. [1214

HARLEYS, running order, good condition; 1918, £95; 1919, £100; bargains.—Briggs and Sons, 1, Wellesley Parade, W. Croydon. [9525

1917 Harley-Davidson Combination, 7-9h.p., electrically equipped, wind screen; £150.—Horsfield, 38, Federation St., Barnoldswick, Yorks. [1487

1915 7-9h.p. Harley Combination, luxurious turnout, in new condition throughout, extra fast one; sacrifice £120.—Else, Dimple, Matlock. [X8337

HARLEY-DAVIDSON 1915 Combination, overhauled, discs, excellent condition throughout; £148.—Monro, Bannockburn, New Barnet. [1573

HARLEY-DAVIDSONS, 1919 and 1918 models, good appearance, and in perfect running order; from £95.—Owen, 59, Scholefield Rd., Holloway. [X8369

HARLEY-DAVIDSON, 1915, magneto model, or exchange 1920 Matchless and cash.—Barter, 47, Broomfield Av., Palmer's Green. Avenue 7769. [7316

HARLEY-DAVIDSON.—Immediate delivery 7-9h.p. standard model, with Mills-Fulford or Henderson sidecars.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8212

HARLEY-DAVIDSON 7-9h.p., 1919, appearance equal to new, with large roomy coachbuilt sidecar; any trial; £165.—Owen, 95, High Rd., East Finchley. [X8370

HARLEY-DAVIDSON Late 1918 Combination, all tyres nearly new, grand condition; £125, or any offer; trial.—W., 45, West Sq., St. George's Rd., S.E.11. [2104

HARLEY-DAVIDSON 1918 7-9h.p., 3 speeds, clutch, etc., just overhauled, mechanically perfect; after 6 p.m.; £105.—17, Cranmore Way, Muswell Hill, W. [1467

HARLEY Combination, 1915-16, renovated, brand new, overhauled by makers; £135, offers, or exchange lower power.—304, Fulham Rd., S.W.10. 'Phone: Kensington 2372. [1043

1919 Harley Combination, electric model, 1920 sidecar, perfect condition, smart outfit, fast, spare tyre, owner going away; accept £190, near offer.—Hunt, Ashcroft, Cirencester. [1455

HARLEY-DAVIDSON, 1918, with nearly new C.B. sidecar, new tyres, D.A. lighting, very smart outfit, in perfect condition; £135.—181, Clapham Rd., S.W. Brixton 2984. [2058

HARLEY-DAVIDSON 1920 Combination, in stock for immediate delivery, nett price £248; also flat twin model.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0068

1920 Harley Combination, electric, specially built chassis, £85 sidecar, discs, speedometer, watch, etc.; cost £285, offers over £225.—Aviemore, Monkhams Drive, Woodford. [1381

FOR Sale, 7-9h.p. 1920 Harley-Davidson, with well sprung Swan sidecar, complete with usual accessories, and almost new condition.—Blakey, 20, St. Bede's Terrace, Sunderland. [1902

1918 Harley-Davidson 7-9h.p. Combination, K.S., new Dunlops, lamps, horn, hood, perfect condition, buying car; £155, or near offer.—113, Camberwell New Rd., S.E.5. [2099

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1920 Harley 7-9h.p. Magneto Model, run 2,000 miles, large luxurious Dunhill sidecar, whole in perfect condition, fully equipped; 200 gns; bought car. —Birch, Cotmore, Thame. [9789

HARLEY-DAVIDSON, 1918, mag. model, 3-speed, good condition, accessories; £100; exchange 8h.p. Blackburne, cash adjustment.—Hood, 32, Fulham Palace Rd,. Hammersmith. [1818

1919 Harley-Davidson Combination, 7-9h.p., little used and good as new, both mechanically and in appearance, lamps, spares; £180; London district.—Box 6,791, c/o *The Motor Cycle.* [9771

HARLEY-DAVIDSON 1918 7-9h.p. Solo, enamelled and plated, discs, new tyres, lamps and horn, perfect running order, and some power; £117.—261, Mitcham Lane, Streatham. [1451

HARLEY-DAVIDSON 1920 4h.p. Model, complete with Swan sporting sidecar, electric lighting, mechanically perfect and quite indistinguishable from new. —Parker's, Bradshawgate, Bolton. [X8206

HARLEY-DAVIDSON and Sidecar, 1920 electric model, fully equipped; owner abroad since March; mileage under 1,000, insurance transferred; £230.—Barnett, 2, Cholmeley Park, Highgate, N.16. [2114

HARLEY-DAVIDSON, 1915, magneto model, separate electric equipment, luxurious 2-seater sidecar to match, tyres as new; any trial, expert examination; £140, bargain.—Deane, Matlock, Bath. [X8014

HARLEY-DAVIDSON, 1920, perfect order, small mileage, large sidecar with large locker, magneto model, speedometer, Klaxon, unscratched; nearest offer to £180.—Robinson, Vicarage, Seaton, Devon. [9435

1920 Harley, practically new, 7-9h.p., Montgomery sidecar, hood and screen, electric lamps, tyres unpunctured; nearest offer to £210.—Apply by appointment, or after 7 p.m., to E., 38, Emmanuel Rd., Balham. [9973

HARLEY-DAVIDSON, 1918, 7-9h.p., completely overhauled, replated and enamelled, finished black with gold lines, exceptionally smart; £125, or close offer.—Noyes, 163, Railway Approach, Shepherd's Bush. [1484

7-9h.p. 1916 Harley Combination, electric lighting and horn, speedometer, bulbous sidecar, hood, screen, luggage grid, mileage 3,000, new condition; sell £115, or exchange lower power.—77, Sussex Rd., Southall, W. [1666

LATE 1917 7-9h.p. Harley-Davidson 3-speed Combination, complete with electric lighting set, Lucas horn, Cowey speedometer, etc., guaranteed perfect condition throughout, not W.D.; accept £125 for quick sale.—Holdsworth, Rothwell Lodge, Kettering. [9969

HARLEY-DAVIDSON, late 1919, 7-9h.p., just insured, overhauled, plated, enamelled black, accessories; £148; with 40 gns. purple and black sidecar, Triplex wind screen, lamps, smart turnout; 185 gns.—33, Londesborough Rd., Stoke Newington, N.16. [9655

1918 Harley Combination, 7-9h.p., 3-speed, kick start, mag. model, electric lighting, mechanical horn, etc., large bulbous back sidecar; price £160, or take late model solo machine part payment, trial arranged.—Ash Lodge, Junction Rd., Brentwood, Essex. [1390

1919 Harley (19 A. 5601), magneto model, special Henderson spring wheel sidecar, Easting, large Millar, very handsome combination, perfect mechanically, and first-class condition, mileage 1,500; £165.—12, Castelnau Mansions, Barnes, S.W. Hammersmith 928. [1191

1920 Harley-Davidson 7-9h.p., with Dinky sporting sidecar, electric model, complete with full kit, also speedomtter and 3 spare tubes, fitted with electric horn, mileage 2,300, in perfect running order; any trial given; very luxurious outfit; price £230, bargain; owner going abroad in following month.—F. Berni, 52, Hanbury Rd., Bargoed, Glam. [1157

1920 7-9h.p. Harley-Davidson, electric model, mileage under 2,000, with specially painted and enamelled Dunhill luxe sidecar and chassis, fitted hood, screen, etc., sidecar in use only 3 weeks; £245, or near offer, or would exchange for good modern cycle car.—Warren Lodge, Kingston Hill, Surrey. 'Phone: Kingston 222. [1574

Hazlewood.

HAZLEWOOD Combination, 6h.p. J.A.P., brand new; list price, £204, or near offer.—Box 6,755, c/o *The Motor Cycle.* [9621

1914 Hazlewood Combination, 5-6h.p., 3-speed, kick starter, lamps, speedometer, good condition, fast; £100 or offer.—Fleming, Estate Office, Wall Hall, Watford. [9889

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch, and kick starter; at manufacturers' current list price, £204/12, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [1354

1920 (March) Hazlewood Combination, 5-6h.p. J.A.P., 3-speed, kick start, clutch, Lucas lamps and horn, fully insured; list £204, accept nearest £160.—E. Hains 51, Bath Rd., Bristol. [1335

HAZLEWOOD-J.A.P., 1915, 6h.p., chain, belt, 3-speed, clutch, K.S., new tyres, new Brooks, recently overhauled, enamelled, new chain, etc., fast, powerful; £80.—Love's Garage, 21, Park Rd., Bromley, Kent. [9638

MOTOR CYCLES FOR SALE.

Henderson.

NEW 1920 4-cyl. Henderson, electric model; £175.—B. Homes, 38, Aboyne Rd., Tooting, S.W. [9683

HENDERSON Combination, cheap, smart lot; must sell; can be seen any time.—2, Mayfair Terrace, Morden Rd., Merton. [9556

HENDERSON 1920 Electric Model and Swan de Luxe sidecar, Eastings, Tan-Sad, as new; £230, or nearest offer.—Cole, 73, Old Chester Rd., Birkenhead. [1033

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HENDERSON 1915 10h.p., sidecar, electric lamps, speedometer, and Klaxon, £140; ditto 1914 10h.p., coachbuilt sidecar, £125; cash, credit, exchange.—Service Co., Ltd., 292, High Holborn, W.C.1. [1244

1920 Sporting Henderson, Swan sidecar, aluminium discs, dynamo lighting, Avro wind screen, electric horn, plated exhaust, best sporting mount, privately owned.—Apply, Coppen Allen, 89, Gt. Portland St., W. Mayfair 5399. [9912

HENDERSON 4-cyl., 2-speed, late 1915, new bulbous tandem seated sidecar, 2 wind screens, new tyres and tubes, Bosch mag., trip speedometer, 3 lamps, horn, petrol carrier, splendid condition, mechanically perfect; ride away; £175.—22, Somers Rd., Walthamstow, E.17. [9674

HENDERSON 10h.p. 1920 Model Z2, with Henderson Elite sidecar to match, Easting wind screen, Sterling leg-shields, Bonniksen, Cowey horn, carrier, fitted extra with complete Tan-Sad equipment, small mileage, in lovely condition to tour anywhere; £220, or near offer.—Talbot, 119, Rutter St., Walsall. [X8032

10h.p. 3-speed 4-cyl. Henderson (late 1919), fitted with Millford sidecar having a G.L. semi-racing body; the combination is in very excellent condition throughout, and is fitted with many extras, including electric light; the machine has been well looked after, and runs beautifully; price £235, or very near offer.—J.H., Ivanhoe, Frith End, near Farnham, Surrey. [9970

Hobart.

HOBART, Villiers 2-stroke, 2-speed, 1915; £45.—153, Manor Rd., West Ham, E.15. [1089

HOBART, single speed, just delivered; £63/15.—Barratt, Worcester St., Wolverhampton. [X8036

HOBART 2¾h.p. 4-stroke, new bushes, lamps, good tyres, new belt; offers.—Pass, 6, Radnor Rd., Weybridge. [1903

1920 Hobart 2¾h.p., 4-stroke J.A.P., new, just delivered; £90.—Wright's Garage, Saffron Walden. Tel.: 16. [1506

OFFERS.—1916 Hobart-Villiers, 2¾h.p., 2-speed, M-L mag., Amac, lamps, accessories, new condition.—63, Solon Rd., Brixton. [1822

1920 2½h.p. Hobart, 2-speed, brand new; list price, £70.—R. Bamber and Co., Ltd., 2, Westbank St., Southport. Tel.: 607. [1121

NEW 2½h.p. Hobart Lightweight 2-speed Models; in stock at manufacturers' list price, £75, 4% extra easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [1359

Humber

1½h.p. Humber, take 2 anywhere, Bosch, B. and B.; £25.—Ward, Red Bank, Chorley. [X8019

LIGHTWEIGHT Humber Motor Cycle, good running order.—Hillyard, Dane End, Ware, Herts. [1521

NEW Trial, 3½h.p. Humber, splendid condition; view after 7 Friday.—183, Portobello Rd., Bayswater. [1301

HUMBER Lightweight, good order and condition, recently overhauled; £29.—90, Queenswood Rd., Forest Hill. [1211

HUMBER Lightweight, tyres good, new belt and piston; owner trying 2-stroke; £25.—Fred Lewis, Tipping Norton. [X8310

HUMBER Combination, 3½h.p., 2-speed, handle start, Bosch mag., running order; £40.—143, Stonville St., Southfields. [1112

HUMBER 1915 3½h.p., 3-speed, K.S., lamps, speedometer, horn, etc., perfect, any test; £62.—81, Clapham Rd., S.W. [2055

10-12h.p. Humber 2-seater, Bosch, Zenith, repainted; £75, or exchange lightweight and side.—1, Othelle St., Liverpool. [1802

1½h.p. Humber 1912 2-speed, handle start, condition as new, stored during war; bargain, £48.—Ellis, Park, View, Sundridge, Sevenoaks. [9748

HUMBER 4h.p. Coachbuilt Combination, 2 speeds, T.T.E.: 55 gns., near offer; trial; wind screen.—3, Victoria Gardens, Notting Hill Gate. [9592

HUMBER Lightweight, excellent running order, good condition, re-enamelled, new Dunlop belt, lamps; £5.—10, Heathfield Rd., Bromley, Kent. [9419

HUMBER 1920 4½h.p. Flat Twin Combination in stock; makers' price, plus carriage.—Shepherd & Co., Enfield Highway. Tel.: Waltham Cross 31. [1882

1½h.p. Humber, 2-speed, Bosch, B. and B., new belt, tyres good, just overhauled, take sidecar anywhere; after 5 p.m.—Douglas Fox, 52, Tankersley, near Barnsley. [9593

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1914 **SUNBEAM,** 6 h.p., and Sidecar, lamps, and horn	£130	0
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5-6h.p. Indian and Sidecar, new lamps, etc.; £60.—1, Osterley St., St. Thomas, Swansea. [9791

BRAND New 1919 Indian Combination, 7-9h.p., unused; £185.—30, Talbot St., Burnley. [X8075

7-9h.p. Indian Solo, 2-speed, clutch model, brand new; £100.—Spring Hotel, Ewell. 'Phone: Epsom 614. [8697

INDIAN 1915 Combination, in excellent running order; sacrifice, £80 gns.—2, Brixton Rd., S.W.9. [1621

1916 7-9h.p. Powerplus Indian Combination, very fast; big snip, 136 gns.—3, Parker Lane, Burnley. [X8074

7-9h.p. Indian, clutch model, perfect order right through; £60.—Payne, 115, Wrotham Rd., Gravesend. [1416

INDIAN Powerplus, 3-speed, clutch, disc, lamps, horn, perfect running order; £95.—6, Holly Mount Hampstead. [9415

INDIAN Combination, 7.9h.p., 1915, H. and F. clutch, speeds, lamps, etc.; £85.—15, Mervan Rd., Brixton, S.W.2. [1218

7-9h.p. 1919 Indian and Swan Sporting Sidecar; £175; latest improvements.—Wauchope's, 9, Shoe Lane, London. [2046

INDIAN 7-9h.p. Combination, electrically equipped, beautiful order; £90.—Park Farm, Stoke Trister, Wincanton, Somerset. [1867

7-9h.p. Indian C.B. Combination, as new, absolutely perfect, accessories, electric lights; any trial; £120, or offers.—78, Gordon Rd., Ealing. [1610

INDIAN Combination, 7-9h.p., 2-speed clutch, kick start, spring frame, excellent condition; £87.—35, Annesley Av., The Hyde, Hendon, N.W.9. [1524

INDIAN Combination, clutch, wind screen, hood, etc.; exceptional bargain, £70.—Minchin Motor Mart, 39, Penrhyn Rd., Kingston-on-Thames. [1350

1920 7-9h.p. Indian Solo, electric lighting, speedometer, only ridden few miles, as new; £170.—Wright's Garage, Saffron Walden. Tel.: 16. [1501

LATE Model Powerplus Indian and Swan sidecar, all electrical equipment with Magdyno; £160.—Browett, Folwell and Co., Ltd., Dover St., Leicester. [9908

1915 Indian, 7-9h.p., 3-speed, K.S., dual clutch, spring frame, indistinguishable from new; £85, offers.—Canleigh, College Slip, Bromley, Kent. [1727

INDIAN 1914 2-speed Combination, spring frame, electric lights, Binks, Splitdorf; any trial; £95, or nearest.—12, Sandall Rd., Kentish Town. [9724

1917 Powerplus Indian, enamel, plating new, long exhaust, every accessory, gold medal hill-climb; £100, bargain.—Grey Court, Thorpe Bay, Essex. [9820

1916 5-6h.p. Indian Coachbuilt Combination, 3-speed, kick start, clutch, wind screen, hood, spares, any trial; £95.—1, Othello St., Liverpool. [9464

1915 7-9h.p. Indian, Milford combination, 3-speed, spring frame, splendid condition; £105, a bargain.—25, Morley Rd., Twickenham, Middlesex. [1656

INDIAN Combination. 7-9h.p., spring frame, 2-speed, clutch, speedometer, lamps, new sidecar, low mileage, smart turnout, good condition; £105.—Guttridge, 36, St. Leonard's Rd., Windsor. [1343

INDIAN 7-9h.p. T.T. Clutch Model, rear driven speedometer, lamp, etc.; £50, bargain; seen any time.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E3 155. [1458

INDIAN 1918-19 Powerplus, new tyres, completely overhauled and re-enamelled, makers' colours, replated, snip; £115.—3, Courtlands Av., Lee, S.E.12. [9761

1915 Indian Combination, spring frame, lamps, horn, etc., overhauled, splendid order; £90.—Grove Cottage, Standish Rd., Hammersmith, W.6. [1409

1916 7-9h.p. Indian, 2-speed, spring frame and torpedo Gloria sidecar, new tyres and accessories; £95.—Aspden, 33, Lower East Av., Barnoldswick. [9946

7-9h.p. Indian Combination, go anywhere, spares, accessories, lamps, horn, tools, Tan-Sad; £95, or nearest.—Carter, Fallowfield, Fairfax Drive, Westcliff-on-Sea. [9987

OFFERS.—1915 5-6h.p. Indian, 3-speed, clutch, kick starter, Swan sporting sidecar, new Dunlops, lamps, accessories, new condition.—63, Solon Rd., Brixton. [1821

1920 Powerplus Indian Combination, dynamo lighting, new Dunlops, mileage 4,000; £200, or near offer; trial run given.—Batchelor, 33, Morland Av., E. Croydon. [9826

£95.—Indian combination, 7-9h.p., clutch, 2-speed, K.S., excellent condition and going order, accessories.—Jones Bridge House, Crescent Rd., Southall, Middlesex. [9928

MOTOR CYCLES FOR SALE.

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1915 Indian Sporting Combination, 5-6h.p., kick start, 3-speed, hand and foot clutch, splendid condition; offers.—51, Townshend Cottages, Townshend Rd., Regent's Park. [9711

INDIAN 7-9h.p. Combination, 3-speed, electric lamps and horn, wind screen, hood, speedometer, spares, A1 condition; £130; seen after 6 p.m.—38, Cavendish Rd., N.W.6. [1284

1920 7-9h.p. Indian Powerplus Combination, dynamo lighting, speedometer, Easting wind screen, mileage 1,000; offers.—Gosling and Son, Mareham-le-Fen, near Boston [X8336

1919 Indian Powerplus, lamps, tools, Bonniksen trip speedometer, Klaxon horn, low mileage; £135; privately owned; no offers.—21, Powis Terrace, Bayswater. [1791

INDIAN Combination, late 1919, sidecar with wind screen, dynamo lighting, electric horn, excellent condition, only ridden 1,000 miles.—Thwaites, Alveston, Stratford-on-Avon. [X8257

INDIAN 1920 Powerplus, delivered Easter, as new, £5 spare parts, insurance policy, wind screen, etc.: £210.—Daily after 6 p.m. at 66, Cleaveland Rd., Ealing. Tel.: 1263 Ealing. [9799

INDIAN 1916 Powerplus Combination, 3-speed, K.S., clutch, electric lights and Klaxon; first 105 gns.; money urgent.—Baigent, Treverbyn, Cambridge Park, Wanstead, N.E. [9686

INDIAN 7-9h.p., mileage guaranteed under 2,500, with bulbous back sidecar, Cowey speedometer, all in excellent condition; £160.—Warne's, 46, Churchfield Rd., Acton, W.3. [9653

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1915 7-9h.p. Indian, clutch model, lamps, Klaxon, new back cover and tube, front tyre good, engine just overhauled, long exhaust and cut-out; £75.—Sargeaunt, Ingatestone, Essex. [X8364

1920 (May) 7-9h.p. Indian Combination, dynamo electric lighting, etc., run 500 miles, perfect; cost £231, accept £210, or best offer.—Lawson, Aqueduct Inn, Bolton Rd., Blackburn. [9703

1914 Indian Coachbuilt Combination, spring frame, 2-speed, kick start, hand and foot clutch, lamps, speedometer, splendid condition; £89, near offer.—61, Kensington Av., East Ham. [1320

INDIAN Combination, 7-9h.p., late 1915, spring frame, K.S., new tyres, new C.B. family sidecar, 2 wind screens, new lamps, splendid outfit; £96.—104, Chobham Rd., Stratford, E.15. [2115

1920 (May) Indian Powerplus Combination, dynamo lighting, speedometer, Easting wind screen, mileage 600, as new; £220, or near offer.—Holmes, Hawthorns, Belmont Rd., Hereford. [1760

5h.p. Indian, 1915, and torpedo coachbuilt sidecar, 3-speed, hand controlled clutch, semi-T.T. bars, lamp, and accessories, just re-enamelled; £100.—Ivydene, Cross St., Farnborough, Hants. [9541

INDIAN-FULFORD Combination, 1919, 7-9h.p., delivered January, 1920, full equipment, hood, screen, luggage carrier; trial; £190.—Major Shipster, Machine Gun School, Seaford, Sussex. [9441

1914 Indian 3½h.p., spring frame, 2-speed, clutch, lamps, horn, tyres and chains good, with cane torpedo sidecar, just overhauled £19, good condition; £60.—Fisher, Walton, Burton-on-Trent. [X8330

1920 Indian 7-9h.p. and Swan Sidecar, only just run in, tyres as new, dynamo lighting, electric horn, speedometer; £170; wind screen, £2.—Seen after August 13th, at 30, Leckford Rd., Oxford. [1934

INDIAN 7-9h.p., 2-speed clutch, electric equipment, spring frame, £85; ditto 7-9h.p., 2-speed and clutch, overhauled, £65; cash, credit, exchange.—Service Co., Ltd., 292, High Holborn, W.C.1. [1242

NOVEMBER, 1919, Indian Powerplus Combination, electrically equipped, Easting wind screen, speedometer, every accessory, hardly used, guaranteed equal new; £185.—Vicar, Whaplode Drove, Wisbech. [9996

1920 Indian Powerplus, Henderson Elite sidecar, special screen, speedometer, electric lamps, horn, all tools, spares; seen London; cost £240, best offer over £200.—Lowe Watson, Leafland, Harrow. [1816

1916 7-9h.p. Indian Combination, sporting Phœnix coachbuilt sidecar, electric lights, Klaxon, tools, etc., in excellent condition; must sell, £120, a bargain.—P. Wheatley, 34, St. Barnabas Rd., Cambridge. [1526

1919 Indian 7-9h.p., electric lighting, speedometer, etc., only ridden 4 months, would be sold solo, or with Mills-Fulford sidecar (1919), privately owned.—Particulars from Reliance Motor Works, St. Cross Rd., Winchester. [9719

INDIAN 1916 5-6h.p. Combination, 3-speed, K.S., new pistons, tyres new condition, disc wheels, 3 lamps, horn Lucas, Jasmine wind screen, very sporty model; £120, bargain.—C. Crossley, Town Bottom, Kirkheaton near Huddersfield. [9596

T.T. Indian 7-9h.p., clutch model, complete with horn, head and tail lamps, spares, rear-driven, 80 m.p.h. speedometer, engine and enamelling in splendid condition; £85.—Howarth, 76, Morris St., Oldham, Lancashire. [2071

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3½ h.p. ARIEL Combination, Magdyno
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F.O.C.H. have several Indian Combinations, 1920 downwards, dynamo lighting, A1 order.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1080

1918 Indian 7-9h.p. Powerplus, 3-speed, K.S., extra large sidecar, child's front detachable seat, hood, wind screen, only used 2 trips, Clacton, imposing turnout, matchless colour, mechanically perfect; £165.—15, Argyle Rd., Tottenham, N.17. [1321

INDIAN 1915 7-9h.p., spring frame, Rennoc sporting torpedo sidecar, wind screen, lamps, horn, speedometer, aluminium discs, tools, indistinguishable from new; 125 gns., near offer considered.—Singleton, 15, Enmore Rd., S. Norwood, S.E.25. [9808

INDIAN Combination, 7-9h.p., spring frame, 3-speed, hand-foot clutch, kick start, aluminium disc, leg shields, lamps, horn, speedometer, Cameo screen, luggage carrier, splendid order; any trial; nearest £130.—36, Claude Rd., Plaistow, E.13. [1342

1916 Indian Combination, 5-6h.p., 3-speed, K.S., enamel unscratched, perfect condition, any examination, de luxe coachbuilt sidecar cost £30, June, receipt shown, unscratched, outfit insured £130; urgent sale, £100 lowest.—14, Willowbridge Rd., Canonbury, N.1. [2073

JUNE, 1920, Big Valve Sporting Model Powerplus Indian Combination, 7-9h.p., and Swan sidecar, perfect condition, as new, electric lighting and speedometer, all spares; reason for selling, too powerful for present owner; price £210.—Greaves, 132, Fellowes Rd., Swiss Cottage, London. [1311

INDIAN, new May, 1920, 7-9h.p., electrically equipped, dynamo, head, tail, sidecar and inspection lamp, 2 aeroplane lamps (one a speedometer, one an ammeter), bike in lovely condition, sidecar perfect, new patent one-man type hood and Easting wind screen, dynamo shield, tyres good, very fast 'bus, special sprockets; any trial; nearest £230; buying car; Derbyshire.—Box 6,763, c/o *The Motor Cycle*. [9629

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J. A. STACEY, 12, Ecclesall Rd., Sheffield, can give immediate delivery from stock of 1920 Invicta 2¾h.p. [1987

NEW Invicta Lightweight, fitted with the famous Villiers 2½h.p. 2-stroke engine, Dunlop heavy Magnum tyres, a thoroughly reliable mount; many other machines in stock; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [1352

Ivy.

IVY.—The Walsall Garage, Walsall, can supply at early dates. [5763

IVY 2-speed 2-stroke in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [6186

TWO 1920 Ivy Motor Cycles at £65 each, in excellent order.—Queensberry Mews, S.W. [9921

1919 Ivy 2-speed 2-stroke, 2½h.p., good condition; £55.—Pearce, Beverstone, near Tetbury, Glos. [1886

3¾h.p. T.T. Ivy-Precision, fully equipped, Klaxon, spares, as new; £58.—18, Emperor's Gate, S.W.7. [9750

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt. Portland St., W.1. Mayfair 4084. [0023

IVY-J.A.P., 4-5h.p., 3-speed S.A., countershaft and clutch, Dec., 1916, speedometer, Klaxon, new large P. and H., just overhauled, very fast, must sell; £80, or near offer.—Write, Nichols, Dunsinnan, Inglemere Rd., Forest Hill. [1581

Ixion.

IXION New 2½h.p. 2-stroke, hand control clutch and kick starter, Sturmey-Archer 2-speed gear; in stock for immediate delivery; price £72.—Redditch Garages, Ltd., Unicorn Hill, Redditch. [X8325

James.

THE Walsall Garage, Walsall, for good deliveries of all James models. [5764

1920 James 2-stroke, 2-speed, new; cheap.—Fisher, 39, Penny St., Lancaster. [1396

1920 5-6h.p. James Combination, as new; £185.—Westlake, Station Rd., Taunton. [1424

1917-18 James 2¼h.p., 2-speed, splendid condition; £44.—81, Little Ealing Lane, Ealing. [1594

1920 James 6h.p. Combination at list price, plus carriage.—Taylor's Garage, Falmouth. [0249

1920 James 3½h.p., solo model, delivery from stock, list price.—Philpot, Motors, Canterbury. [9735

1920 3½h.p. Twin James, mileage 500, fully equipped £125.—Margrave, Mottram, Manchester. [X8040

JAMES 3½h.p. Twin, late 1914, light cane sidecar; £68; after 6 p.m.—235, Felsham Rd., Putney. [1207

1920 James 5-6h.p. Combination; immediate delivery; £192.—334, Shirley Rd., Southampton [1875

MOTOR CYCLES FOR SALE.

James.

1920 4¼h.p. James Combination, equipped, speedometer, etc.; £165.—80, Streatham High Rd., S.W. [1433

1918 James Combination, speedometer, etc.—Drever, 24, The Grove, Finchley. 'Phone: 331. [1755

1¼h.p. James Combination, a bargain, kick start, 3-speed, coachbuilt sidecar; £85.—Pickering, Shrewsbury. [X8383

JAMES 2-stroke, 2-speed, good tyres and condition; great bargain, £48.—Mason's Garage, Letchworth, Herts. [1764

JAMES 6h.p. Combination de Luxe, just delivered; £190; bought car while waiting.—Graham, 6, Filbrook, Salisbury. [2053

1920 6h.p. James de Luxe Combination, mileage 2,500, excellent condition; £135.—Box 6,807, c/o *The Motor Cycle*. [9868

1920 6h.p. James Combination, James de Luxe sidecar, excellent condition; £135.—Box 6,877, c/o *The Motor Cycle*. [1837

JAMES 1920 4¼h.p., 2-speed, 2-stroke, just arrived from makers, unridden; list price £75.—48, Grenville Rd., Hornsey Rise. [9938

STILL Guaranteed, James 4¼h.p. combination, 160 miles, cost £178; best over £150.—Write, P.T., 5, Brayburne Av., S.W.4. [1571

1920 4¼h.p. James Combination, Easting, horn, etc., mileage under 200; seen any time; £155, offer.—20, High St., Rugby. [X8327

JAMES.—Immediate delivery 6h.p. combination, complete with 3 speeds and clutch.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8220

1914 James Combination, good tyres, lamps, sidecar repainted, perfect condition; any trial; £90.—Rise, Lowsonford, Henley-in-Arden. [X8279

JAMES 1920 3½h.p., 3-speed, special machine, new last month, not soiled; 115 gns., cash.—Hallam, Rosedale, Dove Holes, Stockport. [X8017

1920 James Solo, complete, lamps, horn, speedometer, done about 500 miles; £128.—Wright's Garage, Saffron Walden. Tel.: 16. [1503

JAMES 1920 5-6h.p. Combination in stock; makers' price, plus carriage.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [1881

1920 James 5-6h.p. Combination, with hood, screen, and Sparton horn, insured, delivered July; £195.—28, New Rd., Ware, Herts. [9777

JAMES 1916 4¼h.p. C.B. Combination, in perfect order, lamps, horn, wind screen, new tyres, very low mileage; £110, a bargain.—Box 360, c/o *The Motor Cycle*. [X8066

JAMES 3½h.p. 1920 Twin, as new, complete with lamps, horn, Watford speedometer, complete tool set; trial any time; £110, or offers.—E. Melton, Brighton Rd., Sutton, Surrey. [1203

1920 (April) 5-6h.p. James Combination, De Luxe sidecar, Lucas lamps, horn, carefully used, everything equal to new, mileage small; £180.—Tyr Bryn, Cheltherne, Coulsdon, Surrey. [1901

1920 James 2-stroke, new March, fully insured, pillion, second driver, tools, accessories, apartment; £75.—Wilson, McWhirter House, Abbey Rd., St. John's Wood, N.W. [9501

JAMES 1919 4¼h.p. Combination, lamps, horn, speedometer, Tan-Sad, Easting, mechanically perfect, tyres, rear nearly new, front new, car good; £130.—Hutchins, Foster's School, Sherborne. [1676

1920.—James 4¼h.p. combination, 3-speed, K.S., foot clutch, 1917, dynamo model, all chain, Stewart, conditioned makers 1919, handsome outfit, guaranteed.—Southbourne, Victoria Place, Eastbourne. [9523

1914 James 4¼h.p. Big Single, chain drive, 3-speed, Montgomery Canoelet sidecar, speedometer, lamps, bulbs, done 4,389 miles, stored during war, just overhauled; £90.—J. Evans, Ashby Rd., Donisthorpe, Ashby. [9545

1916-17 4¼h.p. James Combination, C.B., chain drive, new tyres, hood, screen, side curtains, speedometer, lamps, tools, spares, child's seat, excellent condition; £100, or near offer.—Davis, 1, Old Bedford Rd., Luton. [1018

JAMES (Sept., 1919) 4¼h.p. Combination, complete with all spares and hood, screen, luggage grid, lamps, etc., under 2,000 miles, perfect condition, ready for long tour; £125 for quick sale.—2, St. John's Wood Pk., N.W.8. [1815

JAMES 1920 (May) 5-6h.p. Combination, luggage grid, Watford speedometer, three 1920 Lucas lamps, Klaxon, spare valve, spare new cover and tube, smart and economical outfit; £200.—James, 9, Westland Rd., Watford. [9049

1920 New James 5-6h.p. Combination, £190; 1919 James 5-6h.p. combination, disc wheels, lamps, horn, screen, luggage carrier, and equal to new, £175.—T. Hebden and Son, 149, St. James' St., Burnley. Tel.: 488. [9853

1916 James 3-speed Combination, 4¼h.p., splendid condition throughout, recently overhauled, all accessories, Easting, pillion, spares, tools, used very little; £120, or offer; evenings after 6.30.—1, Eastern Rd., Brockley, S.E. [9608

CLYNO 2¾ h.p.,

hand clutch, 2-speed,

£75 cash,

or **£21** down and **11** payments of **£5 13s. 0.**

NEW MACHINES IN STOCK.

1920 **ZENITH,** Model G.	£139	0
1920 **B.S.A.,** 6-7 h.p.	£150	0
1920 **ENFIELD** 6 h.p. Combination	£175	0
1920 **ARIEL** and Ariel Sidecar, 3½ h.p.	£152	10
1920 **ARIEL,** solo	£115	0
1920 **DOUGLAS** Combination, 4 h.p.	£170	0
1920 **SCOTT,** solo	£140	0
1920 **ROVER,** T.T.	£149	10
1920 **ROVER** Combination, 5-6 h.p.	£235	0
1920 **HARLEY-DAVIDSON,** sports model, and accessories	£164	9
1920 **HARLEY-DAVIDSON,** electric, and Sidecar	£249	0
1920 **JAMES** No. 6 Combination, 4¼ h.p.	£170	0
1920 **DIAMOND-J.A.P.,** 2-speed	£90	6
1920 **DIAMOND,** single-speed	£65	0
1920 **DIAMOND**	£84	3
1920 **LEA-FRANCIS,** 3½ h.p.	£130	0
1920 **CLYNO,** hand clutch, 2¾ h.p.	£75	0
1920 **O.K.-JUNIOR,** 2-speed, 2¼ h.p.	£65	0
1920 **O.K.-JUNIOR,** 2¾ h.p.	£50	8
1920 **CALTHORPE-J.A.P.,** 2¾ h.p.	£78	5 6
1920 **CALTHORPE,** 2-stroke, 2¾ h.p.	£74	19 4
1920 **NEW IMPERIAL,** 2¾ h.p.	£89	5 0
1920 **NEW IMPERIAL,** 8 h.p., and Sporting Swan Sidecar	£182	5
1920 **NEW HUDSON,** 2¼ h.p.	£75	0
1920 **ALLDAYS ALLON**	£85	0
1920 **BLACKBURNE,** 4 h.p.	£135	0
1920 **RUDGE,** I.O.M.	£110	5
1920 **RUDGE,** I.O.M., pedal starter	£110	5
1920 **LEVIS**	£60	0
1920 **A.B.C.**	£150	0
1920 **B.S.A.** and B.S.A. Sidecar	£152	0

Deferred Terms: Quarter down and 11 instalments.

NEARLY NEW.

1920 **JAMES,** lightweight	£63	0
1920 **QUADRANT** 4¼ h.p. Combination and accessories	£135	0
1920 **COVENTRY - EAGLE,** hand - clutch, kick-starter	£85	0
1920 **RUDGE,** 5-6 h.p., and Rudge Sidecar	£160	0
1920 **DOUGLAS,** 4 h.p., and accessories, ridden 300 miles	£170	0
1920 **P. & M.** Combination	—	
1919 **P. & M.** Combination	£135	0
1919 **A.J.S.** Combination, lamps, and horn	£195	0
1920 **N.U.T.**	—	
1919 **ENFIELD,** 2¼ h.p.	£60	0

Deferred Terms: Half down and 11 instalments.

SECOND-HAND.

HARLEY-DAVIDSON, 7-9 h.p., bargain	£95	0
1916 **B.S.A.,** 4¼ h.p.	£90	0
1917 **LEVIS**	£52	10
WOLF, lightweight	30 gns.	
W.D. **DOUGLAS,** 2¾ h.p., lamps, horn, tools, bag	72 gns.	
W.D. **DOUGLAS,** 2¾ h.p.	65 gns.	
HARLEY-DAVIDSON Sidecar	£49	10

Deferred Terms: Half down and 11 instalments.

LAMB'S,

50, HIGH RD., WOOD GREEN, N.22.

'Phone: Hornsey 1956.

151, HIGH ST., WALTHAMSTOW, E.17.

'Phone: Walthamstow 169.
'Grams: "Cyclotomo, 'Phone, London."

387, EUSTON ROAD, N.W.1.

'Phone: Museum 4978
Telegraphic Address: "Lamocy, Eusroad, London."

MOTOR CYCLES FOR SALE.

James.

F.O.C.H. have a 1919 James 4¼h.p. combination, electric lighting, small mileage, new condition.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1084

1920 (May) 5-6h.p. James Combination, Magdyno lighting set, electric Klaxon, Watford, Easting, leg shields, Terry's pillion seat, Binks; price, including £7/16 insurance up to May, £195; to-day's list price, £243.—'Phone Mr. Jay, 379 Dalston. [1964

1919 James 5-6h.p. Twin Combination, complete with all accessories and Cameo wind screen, little used, appearance and condition faultless; an obvious bargain; owner must sell; accept £130.—View by appointment only at Hubert Turner and Co.'s Garage, 4-5, Crawford Passage, Ray St., Farringdon Rd., E.C.1. [1844

J.A.P.

J.A.P. 6h.p., twin engine, absolutely brand new and unused, 1919 pattern; £37/10.—A. J. Springett, Billericay, Essex. [9923

6h.p. Twin J.A.P. Combination, Mills-Fulford sidecar, enamelled black with gold leaf (like Sunbeam), unscratched, new tyres, first-class mechanical order; worth £100; first cheque £75 secures.—Brading, Totland Bay, I.W. [9787

J.E.S.

J.E.S. Motor Cyclette Auxiliary, condition as new; £20, or offers.—Willis, 19, H. Avenue, Arsenal, Woolwich. [9712

J.H.

8h.p. J.H., 1915, M.A.G. engine, 3-speed, clutch and kick start, countershaft gears, fitted with underslung sidecar; £115.—Wauchope's, 9, Shoe Lane, Fleet St., London. [2042

Kerry

3¼h.p. Kerry, magneto ignition, B. and B., lamps, horn, tools, splendid order; £28.—10, Oatlands Rd., Burgheath, Surrey. [1672

KERRY 2¾h.p., B.B. carburetter, spring forks, almost new tyres, new belt, new battery, a good climber, sound and perfect; £10.—14, Estcourt St., Devizes. [9661

Lea-Francis.

3h.p. Lea and Francis, new 1920 model; £130; exchange arranged. — Wauchope's, 9, Shoe Lane, London. [2033

1920 New Lea-Francis, M.A.G. engine; £130.—J. Hebden and Son, 149, St. James' St., Burnley. Tel.: 488. [9854

LEA-FRANCIS, superb machine, M.A.G. engine, new; £130.—Clark, 7, Exhibition Rd., South Kensington. [1630

J. A. STACEY, 12, Ecclesall Rd., Sheffield, can give immediate delivery from stock of 1920 Lea and Francis 3½h.p. [1988

LEA-FRANCIS.—Immediate delivery twin-cyl., 2-speed, hand-controlled clutch, M.A.G. engine.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8214

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0099

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [1360

LEA-FRANCIS 1917 3½h.p., 2-speed and clutch, recently overhauled and renovated, fitted with brand new 1920 3½h.p. J.A.P. engine.—Parker's, Bradshawgate, Bolton. [X8205

LEA-FRANCIS (Aug., 1919) Combination, perfect, 4h.p. J.A.P., Montgomery 5-point, luggage carrier, Lucas lamps, Binks, Stewart speedometer, nearly new Palmers, just overhauled, worn parts renewed, spares, Dunlop combination, Dunlop heavy, 4 tubes, valves, chains, solo sprocket, Amac; any trial or examination; nearest £140; exchange higher power, cash adjustment.—14a, Emscote Rd., Warwick. [X8354

Levis.

LEVIS, 2¼h.p., 2-speed, 1916; £42.—36, St. Thomas Rd., Hackney. [1917

1915 Levis 2¼h.p., 2-speed model; £48.—P. Brewster, 114, Goldhurst Terrace, N.W.6. [1128

LEVIS 1917 2½h.p., Enfield gear, 600 miles, perfect; bargain, £63.—Box 384, c/o *The Motor Cycle*. [X8371

1915 Levis 2¼h.p., 2-stroke, 2 speeds, speedometer, lamps, horn, etc.; £47/10.—31, Turnpike Lane, Hornsey. [9633

LEVIS Popular Models in Stock; £60.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [1097

NEW 1920 Levis 2½h.p. Popular Model, £60; immediate delivery.—The Premier Motor Co, Aston Rd., Birmingham. [1644

2¼h.p. Levis, 1915, lamps, horn, tools, good condition; £38, or offer.—89, Dymchurch Rd., Hythe, Kent. [1742

LEVIS Popular 2¼h.p., 1916, lamps, horn, new belt and tyre perfect condition; after 6.—198, Oxford Rd., Reading. [1434

LEVIS 2¼h.p., Bosch mag., new tyres, belt, carburetter; bargain, £33.—Petersen, 66, Richmond Rd., Gillingham, Kent. [1155

MOTOR CYCLES FOR SALE.

Levis.

LEVIS 2½h.p., Bosch, excellent condition, Lucas lamps, horn, etc.; after 5.30 p.m.; 40 gns.—122, Oglander Rd., E. Dulwich. [9542

1914 2¼h.p. Levis, in good running order, Bosch, Amac; must sell; £33.—M. Ward, Oak House, Enfield Rd., Southgate, N.14. [9667

1916 Levis 2¾h.p., Bosch, mag., Dunlop tyres, perfect condition; ride away; price £40.—H. Campion, 163, East St., Walworth, S.E. [1287

LEVIS 1920 Popular Model, just arrived from works; immediate delivery at makers' price, £60.—Wilkins, Simpson, opposite Olympia, London. [1029

LEVIS, 1920, low mileage, unscratched, horn, tools, insurance; £52; owner bought combination.—Millington, Potters Hill, Aston, Birmingham. [9811

1915 Levis, 2½h.p., lamps, etc., lovely machine, excellent condition; £38/10.—Minchin Motor Mart, 39, Penrhyn Rd., Kingston-on-Thames. [1346

LEVIS.—We strongly recommend, and can supply early, this famous 2-stroke.—District agents, The Walsall Garage, Wolverhampton St., Walsall. 'Phone: 444 [5765

LEVIS 2½h.p., chain drive, Enfield 2-speed, Stewart speedometer, Klaxon, lamps, just overhauled; £50, or near offer.—Brunner, 4, Broadfield Rd., Folkestone. [1819

F.O.C.H. have a Levis, in fine condition.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1085

HOVE Engineering Works, Davigdor Rd., sole district Levis agents. Delivery from stock, list price. Official repairers to A.A. and M.U., R.A.C., A.C.U., and N.C.U. Established 12 years. [8743

Lincoln-Elk.

3½h.p. Lincoln-Elk, 1912, Bosch, ride away; £18.—20, Treen Av., Hoggers Corner, Barnes. [1602

3½h.p. Lincoln Elk Combination, 2-speed, clutch, kick start, Dunlop heavies, brand new mag.; £55.—151, Kingston Rd., Teddington. [9512

LINCOLN-ELK 3½h.p., 1912, just overhauled, new tyres, accumulator and wiring, £30; also wicker sidecar, £7/10.—Taylor, Beaconsfield, Bridlington. [9965

OFFERS.—1914 Lincoln-Elk, 3h.p., Bosch, enclosed, Philipson pulley, 2 lamps, 2 generators, accessories, new condition.—63, Selon Rd., Brixton. [1823

L.M.C

1920 L.M.C. 6h.p. Combination, twin. Sturmey-Archer 3-speed, coachbuilt S.C., new, beautiful turnout, insured; accept £150 quick sale, cost £176; mileage 100.—George Hotel, Pangbourne. [1863

M.A.G.

1920 M.A.G. Matchless Combination, all Lucas lamps, brand new; £215, cost £220.—Box 6,879, c/o *The Motor Cycle*. [1839

Martinsyde.

MARTINSYDE-NEWMAN 6h.p. Combination, just delivered; list price £170.—Box 6,850, c/o *The Motor Cycle*. [1222

MARTINSYDE-NEWMAN New Combination, Klaxon, numbered plates; £171/10.—D., c/o Hartwell's Garages, Oxford. [1885

6h.p. Martinsyde-Newman Combination, only done a few miles, complete with lamps, horn, hood and screen, perfect as new; £190.—Coates, Glanconway. [X8023

1920 (July 24th) 6h.p. Martinsyde-Newman Combination, electric side and gas lamps, Klaxon, screen, etc., mileage under 100; £180.—Matthews, 49, Sidwell St., Exeter. [1915

1920 Martinsyde-Newman 6h.p. Combination, delivered 31st July, Lucas dynamo lighting, Lucas horn, complete Tan-Sad, perfect condition; £215.—26, Woolhope Rd., Worcester. [1894

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford; also Cornwall and Devonshire, for Martinsyde-Newman combination, £170; deliveries now being effected; sub-agents appointed.—Maudes' Motor Mart, 100, Gt. Portland St., W.1, and Paris St., Exeter. [6618

Massey-Arran.

2¾h.p. Massey-Arran, sports model, with 2-speed, kick starter, hand and foot-controlled clutch, dise wheel, etc., in stock for delivery at manufacturer's list price, £90.—Davison, Bute St., Luton. [1705

Matchless

1920 H Matchless-M.A.G., magdyno, new, immediate delivery; £230.—114, Brixton Hill. [1929

MATCHLESS 1915 M.A.G. Combination, lamps, etc.; £110.—Padd 2423.—89, Abbey Rd., N.W.8. [1846

1920 Matchless Combination, as delivered; £220.—Wright's Garage, Saffron Walden. Tel.: 16. [1504

CROW Bros., Guildford, West Surrey agents to this first-class outfit. Matchless in name and quality [3173

J. A. STACEY, 12, Ecclesall Rd., Sheffield, can give early delivery of Matchless Model H. combination. [1993

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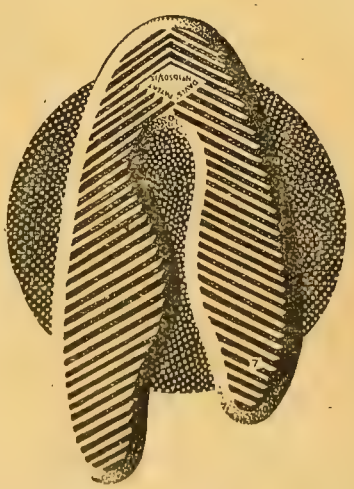

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS Model H., Lucas lamps and horn, immediate delivery, list price.—Dominy and Co., Winchester. [9529

MATCHLESS-J.A.P., new, lamps, spare wheel, hood, tools, horn; £235, or nearest.—83, Montagu St., Kettering. (D) [1141

MATCHLESS Combination, 1920, Model H, brand new; immediate delivery; £205.—Box 6,884, c/o *The Motor Cycle*. [1835

1916 Matchless Combination, Model 8B., M.A.G. engine, condition and appearance perfect.—37, Arlington Rd., Surbiton. [1783

MATCHLESS-M.A.G., 1920, electric, speedometer, horn, unused, at makers' list price.—Box 6,815, c/o *The Motor Cycle*. [9915

1920 Matchless Model H., dynamo, hood, leg shields, perfect; £215; exchanges.—2, Nightingale Rd., Lower Clapton, N.E. [1973

MATCHLESS, Model H, indistinguishable from new, Lucas lamps, horn; offers.—Clark, 7, Exhibition Rd., South Kensington. [1633

MATCHLESS 1915 M.A.G. Combination, re-enamelled, overhauled, perfect order; £120.—324, Whitehorse Rd., Croydon. [9610

IN Stock, new Matchless, M.A.G. engine, Magdyno, rear-drive speedometer; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [9881

MATCHLESS Model H, Magdyno, hood, screen, speedometer, etc., mileage 1,000, guaranteed; £214.—125, High St., Woolwich. [1310

1920 Matchless Model H., Lucas Magdyno, hood, screen, leg-shields, step, etc., perfect; £220.—87, Lauriston Rd., South Hackney, E.9. [9829

1920 Matchless, Model H, Magdyno, speedometer, new, in stock, list price; £236/16/6.—Edwards and Co., 50, Harrington Rd., S.W.7. [1954

1920 Matchless, Model H, Lucas acetylene, hood, screen, mud shields; £198, bargain.—Newton, Butcher, Barlow Rd., Levenshulme. [X8275

MATCHLESS, Model H, magdyno, M.A.G. engine, just delivered; list price; exchanges.—Prior, 40, Replingham Rd., Southfields, S.W.18. [1584

MATCHLESS Model H., 1920, Magdyno, special 2-seater sidecar, electric horn, hood, screen; offers.—11, Richmond Park Rd., East Sheen. [9685

MATCHLESS, 1919, Victory model, interchangeable wheels, fully equipped, splendid condition; any trial.—18, Westmoreland Rd., Bromley, Kent. [1682

MATCHLESS 1920 Model H. Combination, done 300 miles; £200; before 1 o'clock Thursdays, any time Friday, Saturday.—136, Lambeth Walk, S.E. [1041

1920 Matchless Combination, not ridden, not registered, advertiser cannot take delivery, but only wishes to save deposit.—4, Napier Rd., Wembley. [9526

1918 Matchless Combination, 8h.p., 3 speeds, lamps, horn, tools, perfect mechanically, tyres good; cheque £120 secures.—Howell's Garage, Tisbury, Wilts. [X8372

1914 8h.p. Matchless Sporting Combination, with 1920 racing sidecar, perfect, very fast, new tyres, tubes, etc.; £87, or offers.—1, Bradmore Rd., Oxford. [1374

MATCHLESS-M.A.G. Combination, Lucas dynamo lighting and horn, Cowey speedometer, splendid condition; £145.—72, Longridge Rd., Earls Court. [1491

MATCHLESS Combination, 8h.p. M.A.G. engine, Lucas dynamo lighting, perfect in every way; £140.—Longman Bros., 17, Bond St., Ealing. Tel. 689. [1610

MATCHLESS, 8h.p., 1920, spring frame combinations, early delivery, with or without dynamo lighting.—Wauchope's, 9, Shoe Lane, Fleet St., London. [204

1920 Matchless Combination, M.A.G., all Lucas lamps, horn; cost £220, accept £220; not ridden, guaranteed as advertised.—Box 6,811, c/o *The Motor Cycle* [987

MATCHLESS Combination perfect condition, 8h.p., new tyres, all on; £130, or near offer; owner going abroad.—76, Forth Bridge Rd., Clapham Common. [995

MATCHLESS Combination, the very latest model, engine, dynamo lighting, speedometer, leg shields; list price.—Rogers, 106, Fulham Palace Rd., Hammersmith. [130

1920 Model H Matchless, M.A.G. engine, rear-drive speedometer, hood, Lucas lamps, horn, perfect condition; £210.—Edwards and Co., 50, Harrington Rd., S.W.7. [98

1919 Victory Model Matchless Combination, mileage 3,084, new rear tyre, fitted Tan-Sad, lamps, horn, speedometer.—Windle, Manora, Hollington Park, St. Leonards. [17

1920 Matchless Combination, dynamo lighting, M.A.G. engine, new this week, unregistered; list price.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800 [13

MATCHLESS Model H., new May 27th, Lucas Magdyno, rear drive speedometer, sidecar step, all spares, fully guaranteed; £238 or nearest.—Scott, 3, Grange Rd., Ramsgate. [98

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS latest Model H Spring Frame Combination, Lucas Magdyno, spare wheel and tyre, ggage grid, only done few hundred miles.—Parker's, radshawgate, Bolton. [X8201

1920 Matchless, Model H, M.A.G. engine, Lucas lamps, speedometer, horn, hood, mudshields, rfect condition; 205 gns.—Edwards and Co., 50, arrington Rd., S.W.7. [1955

[ATCHLESS, delivery from stock of new spring frame model, equipped to your requirements; placements for Matchless models of all dates.—Tassell, , Bloomfield Rd., Plumstead. [1958

[ATCHLESS Combination, 2-speed, chain drive, all on, beautiful turnout; £120, or exchange lower wer, cash adjustment.—57, Kenbury St., Coldhar- ur Lane, Camberwell, London. [1554

[ATCHLESS Combination, July, 1920, magdyno, screen, horn, 4 interchangeable wheels, speedo- ter, 600 miles; £240, or offer; owner gone abroad.— Aldersmead Rd., Beckenham. [1274

[ATCHLESS, Victory model, perfect condition throughout, spare wheel, new tyres; any trial; gns., nearest offer, must sell.—123, Gray's Inn ., London, W.C. Museum 6103. [1002

[ATCHLESS, 1920, Model H, with D.A. lighting, Lucas lamps, Bonniksen speedometer, run 00 miles, splendid condition, any trial; £200.— son's Garage, Letchworth, Herts. [1763

1920 Matchless Combination, Magdyno, lamps, horn, spare wheel (unused), sidecar step, speedo- ter, mileage 950, as new; £215, accept solo part.— , Horseley Fields, Wolverhampton. [X8363

"ATCHLESS 1920 Model H, Combination, dynamo lighting, speedometer, Easting wind screen, spares, fect running condition, done 500 miles, trial; 5.—Burbrook, Hale Lane, Mill Hill. [9508

"ATCHLESS 1920 Model H., 8h.p. J.A.P. engine, Lucas lighting, speedometer, leg-guards, only done hundred miles; owner buying car; view by appoint- t.—H.S.G., 24, Ossory Rd., S.E.1. [9548

"ATCHLESS 7-9h.p., M.A.G. engine, Lucas lamps, speedometer, coachbuilt sidecar, overhauled and oamelled; £145; cash, credit, exchange.—Service Ltd., 292, High Holborn, W.C.1. [1243

ATCHLESS 1919 Victory Combination, spare wheel, Klaxon, speedometer, acetylene lighting, g seat pillar, tools, etc., excellent condition; £175. umpton, Regent St., Clifton, Bristol. [1910

920 Model H2 Matchless Combination, M.A.G. engine, Lucas Magdyno, electric horn, hood, n, sidecar step, leg shields, rear drive speedometer; 5.—Packman, Grove House, Rochester. [1695

0h.p. Matchless Combination (new 1914), overhead valve J.A.P., multi-gear, sporting sidecar match- disc wheels, Binks carburetter, streamline, exhausts; ns. only.—Cotton, Belleorchard, Ledbury. [1726

20 Matchless H. Combination, as new, negligible mileage, standard equipment, special hood, leg- ls, F.R.S. lighting, Cowey horn, mirror; £205, bar- —A.D., 14, Sheldon Rd., Cricklewood, N.W.2. [9984

\TCHLESS, 1920, Model H, rear drive, speedo- meter, hood, Lucas gas set, legshields, spares, al coachbuilt pillion seat, insurance, owner buy- ar; £215.—32, Morrab Gardens, Water Lane, Kings. [1568

\TCHLESS Combination, 1918 (Sept.), inter- changeable wheels and spare wheel, 3-speed, s, speedometer, horn, tools, perfect; £150.— pson, 25, Davisville Rd., Askew Rd., Shepherd's , London. [1049

\TCHLESS Special, 10h.p. racing J.A.P. engine, specially designed for track work, but converted fast touring machine with variable gear, all ories; £85 or offer.—1, Havelock St., Forest Hill, 3. Sydenham 1315. [9507

20 Matchless Model H Combination, just de- livered, with Lucas Magdyno lighting, Lucas screen, and speedometer; cost £238/19, accept price.—K., 16, Camberwell Rd., London, S.E. Hop 2918 or Sydenham 696. [1537

\TCHLESS Model H Combination, Lucas Mag- dyno, hood, speedometer, special footboards, carburetter. Tan-Sad, back rest to saddle, , as new; owner buying car; £230.—Lindsay, Borough High St., Southwark, S.E.1. [1006

TCHLESS, H model, 1920, Magdyno with elec- tric horn, rear drive, speedometer, watch, s back rest and carrier bag, wind screen and with cover, Amac single and 2-lever carburetters, , splendid machine; £225; Croydon district.— ,843, c/o *The Motor Cycle*. [1169

TCHLESS 7-9h.p. M.A.G. Model 8B. Combina- tion, frame No. C 3152, luxurious sidecar, full nent, spares, tools, speedometer, mechanical horn, condition throughout; sole reason selling, new ne arrived; seen and tried by appointment.—Apply, , Park Lodge, Bessels Green, Sevenoaks. [1569

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METRO-TYLER, like new; £45.—Pickering, Mardol, Shrewsbury. [X8384

1920 2½h.p. Metro-Tyler, S type, brand new; list price, £96.

1920 2½h.p. Metro-Tyler, 2-speed, brand new; list price, £74.—R. Bamber and Co., Ltd., 2, Eastbank St. Southport. Tel. 607. [1120

METRO, late 1919, unscratched, perfect, equipped, discs; £60.—355, Norwich Rd., Ipswich. [1938

METRO-TYLER, 1919 2¾h.p., 2-speed, almost new, lamps horn; £55.—36, St. Thomas Rd., Hackney. [1918

NEW Unregistered Metro-Tyler, 1920, 2 speeds; sacrifice £65.—Cunningham, 37, Eldon Rd., Blackburn. [X8321

1920 Metro-Tyler, 2-stroke, 2-speed, Klaxon, lamps; 60 gns.; appointment.—Lt. Firth, Maresfield Park Camp, Uckfield. [9447

METRO-TYLER (1919), with lamps and horn; £55; cash, credit, exchange.—Service Co., Ltd., 292, High Holborn, W.C.1. [1232

METRO-TYLER Late 1919 2½h.p., 2-speed, long plated exhaust, lamps, horn, in perfect condition, very little mileage; bargain, £62.—30, Pharos St., Fleetwood. [9998

METRO-TYLER, type S, latest model, brand new, 2¾h.p., 2-speed, with enclosed mag. and gear box; £95/18; delivery from stock.—P. J. Evans, 83-91, John Bright St., Birmingham. [0260

METRO-TYLER, 1920, latest S Type, delivered from stock, the super 2-stroke, £95; also the all-red Model A, £74; trade supplied.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

Minerva.

2¾h.p. Minerva, m.o.i.v., magneto, new Amac, fast and reliable; £18.—Platts, 602, King's Rd., Fulham, S.W.6. [1180

MINERVA, 1913, 5-6h.p., Indian sidecar, electric lights, new tyres and belt, running order; £65.—Wilmer, Soothill, Batley, Yorks. [1652

MINERVA 3½h.p., adjustable pulley, new Dunlop tyres, new wheels and belt; what offers over £40?—Roberts, Picturedrome, Rhos, Wrexham. [1042

3½h.p. Minerva, mag., B. and B., spring forks, dropped frame, good condition; £25, offer; between 5 and 8.—21, Windsor Rd., Denmark Hill. [1707

6h.p. Twin Racing Minerva, Bosch, B. and B., just overhauled, splendid condition, trial; £48, or nearest.—Johnson, 206, Newton Rd., Burton-on-Trent. [1576

Moto-Reve

2½h.p. Twin Moto-Reve, mag., Druids, Senspray, ride away; bargain, £19.—151, Kingston Rd., Teddington. [1738

Motosacoche

MOTOSACHOCHE 1½h.p., beautiful condition, reliable; any trial; deposit; after 6; 22 gns.—Atkins, 34, Mallinson Rd., Clapham Junction, S.W.11. [1134

MOTOSACOCHE.—M.A.G. 3½h.p. De Lissa valved Motosacoche, Enfield enclosed gears, kick starter. £53.—50, Harold Rd., nr. Crystal Palace, S.E. After 6. [9500

MOTOSACOCHE 2¾h.p., Bosch, Amac, acetylene lighting set, T.T. bars, sporting mount, condition as new, fully equipped; £36.—16, Crimscott St., Bermondsey, S.E.1. [1299

MOTOSACOCHE, 2½h.p., Bosch, Druids, new tyres, overhauled, new piston and rings fitted, perfect condition; £25, or nearest.—Clarkson, Linden Cottage, Gravel Lane, Wilmslow, Manchester. [X8251

New Comet.

1919 (late) New Comet 2¾h.p., 2-speed Albion gear, E.I.C. mag., good running order; £48; seen any time.—Parson's Garage, Billingshurst, Sussex. [9976

New Hudson.

NEW HUDSON 4h.p., 3-speed, clutch, 1914; £50.—97, Calbourne Rd., Balham, S.W.12. [1441

NEW HUDSON.—Immediate delivery 2¾h.p. 2-stroke, brand new; £75.—Floyd, 127, High St., Staines. [9533

2¾h.p. New Hudson-Jap, 3-speed, clutch, Bosch, Capac; £35.—Thomson, 59, London Rd., Croydon. [1897

4½h.p. New Hudson Coachbuilt Combination, 3-speed, clutch, Bosch; £80.—17, Woodriffe Rd., Leytonstone. [9631

1920 New Hudson 2¾h.p., lamp and horn, not ridden 100 miles; £70.—Floyd, 127, High St., Staines. [9534

NEW HUDSON.—Immediate delivery 2½h.p. 2-stroke model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8208

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1920 New Hudson 2-stroke, 2-speed, in stock; £75.—J. Hebden and Son, 149, St. James' St., Burnley. Tel.: 488. [9855

NEW HUDSON 2 stroke Lightweights, immediate delivery, spares stocked.—New Hudson Depot, 45, Grays Inn Rd., W.C.2. [1298

1914 New Hudson 3½h.p., excellent condition, splendid running order, ideal solo machine; £50.—98, Beauval Rd., Dulwich. [1135

4h.p. New Hudson, J.A.P., 3-speed gear, clutch, Bosch mag.; £48, for quick sale.—Yates, 9, Tudor Rd., Hampton, Middlesex. [1279

NEW HUDSON 2¼h.p., 2-speed, 1917, lamps, horn, tools, etc., splendid condition; £46, offers.—97, Nightingale Rd., Wood Green. [1253

1920 6h.p. New Hudson Combination, electric lighting, speedometer, wind screen, as new; £155, no offer.—Hieatt, 274, Oxford Rd., Reading. [1534

NEW HUDSON 1915 2-stroke, 2½h.p., good condition, new tyres, spare belt and tube, mechanical horn, and tools; £30.—80a, The Chase, Clapham. [1201

NEW HUDSON 2¾h.p., 1914, 3-speed, Bosch mag., lamp, horn; 40 gns., or exchange Triumph, 1919 or 1920, cash adjustment.—Marathon, Oxshott. [941

NEW HUDSON 2¼h.p., 2-speed, complete with lamps and horn, slightly used; £65, easy payments arranged.—Harrods, Ltd., 118, Brompton Rd., London. [1365

NEW HUDSON 3½h.p., 3-speed and clutch, Bosch, engine rebushed, new gears, lamp set, perfect order; £50, or exchange.—Wingfield, King St., Wokingham, Berks. [9578

1914 3½h.p. New Hudson-Jap C.B. Combination, 3-speed, clutch, comfortable sidecar, excellent condition; any trial; approval; £58.—Gibbs, 58, Ashdown Rd., Worthing. [1045

1916 New Hudson 4h.p. Coachbuilt Combination, 3-speed, all accessories, recently overhauled, splendid condition; best offer over £85.—Hawthorn, 10, Clarke St., Scunthorpe, Lincolnshire. [1194

NEW HUDSON 6h.p. 1914 Combination, 3-speed, clutch, and kick start, extremely comfortable sidecar, engine and gears recently overhauled, machine fully equipped; any trial given; £100.—Sibley, 7, Martock, Somerset. [9601

1920 New Hudson Sporting Model, 2-stroke, 2-speed, not run 200 miles, and in condition as new, fitted with Lucas lamps and horn, spare belt and all accessories, ridden by private owner; any trial given; £70, or best offer.—Purden, 13, Aston Rd. North, Birmingham. [9470

NEW HUDSON Combination, late 1916, 4h.p., 3-speed clutch, kick start, lamps, speedometer, etc., stored 2 years, mileage only 3,300, thoroughly overhauled and re-enamelled this season, really reliable; offers over £115.—6, Lawn Crescent, Kew Gardens, Surrey. [9713

24h.p. New Hudson, 1920 model, 2-speed, fitted with Millers lamps back and front, Tan-Sad, pump, tools, horn, aluminium footboards, leg-shields, long exhaust, etc.; only done about 200 miles, perfect; bargain, £69, insured £80.—Collins, 82, Queen's Rd., Nuneaton, Warwickshire. [9416

New Imperial

1920 New Imperial Lightweight, delivery from stock; list price.—Philpot, Motors, Canterbury. [9736

NEW IMPERIAL-J.A.P. 2½h.p., 2-speed, in good condition; £45.—A. Goebbels, Emneth, Wisbech. [9417

NEW IMPERIAL-J.A.P. 1915 Lightweight, 2-speed, like new; £47/10.—88, Kew Rd., Richmond. [1339

IMPERIAL-J.A.P. 1916 3½h.p., Bosch mag., 3-speed, excellent condition throughout; £65.—Wall, Upper Ford, Droitwich. [1904

1916 New Imperial-Jap 2¾h.p., 2-speed, K.S., H.C., insurance; first offer over £50. After 7.—41, Park Crescent, Clapham. [1786

NEW IMPERIAL-J.A.P. 2½h.p., 1915, 2-speed, good condition and running order; £50.—Love, Oakdene, Mortimer, Berks. [9584

NEW IMPERIAL 2¾h.p., 1917, like new, countershaft, 2 speeds; any trial.—Pack Horse Hotel, Egham Hill, Egham, Surrey. [1168

J. A. STACEY, 12, Ecclesall Rd., Sheffield, can give immediate delivery from stock of 1920 New Imperials, 2¾h.p. and 4h.p. [1989

NEW IMPERIAL-J.A.P. 2½h.p., 2 speeds, etc., splendid condition; accept £40 cash.—Allen, 24, Grosvenor Av., East Sheen, S.W.14. [1788

1916 New Imperial-Jap 2¾h.p., 2-speed gear, in good running order, climb anywhere; 40 gns.—Box 6,846, *c/o The Motor Cycle*. [1173

1915 2¾h.p. 2-speed New Imperial, lovely machine; bargain, £42. Minchin Motor Mart, 39, Penrhyn Rd., Kingston-on-Thames. [1348

NEW IMPERIAL 2¾h.p., 2 speeds, new condition; £58 no offers.—W. K.H. Motors, Ltd., Eden St., N.W.1. 'Phone: Museum 1628. [9639

1918 New Imperial-Jap Lady's Model, 2½h.p., 2-speed, kick start, recently overhauled, lamps; £70, or offers.—Ram, Mepal, Ely, Cambs. [1017

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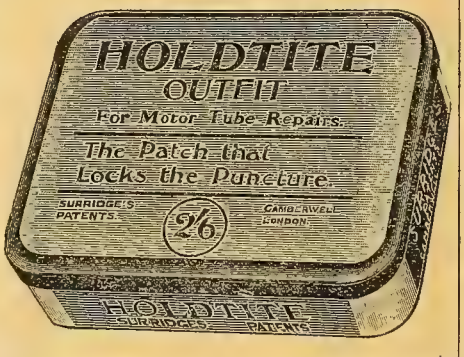

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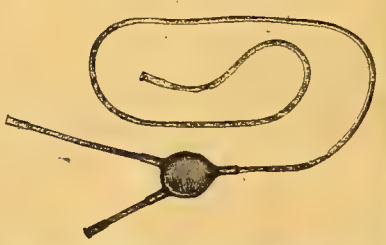

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1919 New Imperial, light tourist, 2 speeds, kick starter and clutch, lamps, horn, tools, etc.; bargain, £55.—Philpot, Motors, Canterbury. [1018

2¾h.p. New Imperial, April, 1920, done under 400 miles, good as new, lighting set, all accessories; £70.—Bishop, 35, Princes Rd., Wimbledon. [1133

1920 New Imperial-Jap, 2¾h.p., 2-speed, kick starter, wide semi-T.T. bars, brand new, unpacked; under list; offers.—Box 6,759, c/o *The Motor Cycle*. [9625

NEW IMPERIAL-J.A.P. 1916 2¾h.p., 2-speed, lamps, horn, speedometer, spare belt, chain, etc.; £50; after 7.—27, Myddleton Rd., Bowes Park, N.22. [9985

1919 Sept., New Imperial 8h.p. J.A.P. Combination, low mileage, electric lighting, all accessories, guaranteed; £140.—Kelham, Nassington, Peterborough. [9491

NEW IMPERIAL (1919), 2¾h.p., J.A.P., 2-speed, clutch, kick-starter, lamps, etc.; £73/10; cash, credit, exchange.—Service Co., Ltd., 292, High Holborn, W.C.1. [1233

BRAND New 2½h.p. 1920 New Imperial-Japs: No. 1, without kick start, £80/17; clutch model with kick start, 2 speeds, £89.—Wauchope's, 9, Shoe Lane, London. [2031

8h.p. New Imperial Combination, to makers' specification; at list price, £186, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [1361

1919 8h.p. New Imperial Combination, semi-T.T., Klaxon, lamps, Dunlop extra heavy, exchange 4h.p., cash; what offers?—Johnson, Tailor, Gabriels Hill, Maidstone, Kent. [1305

2¾h.p. New Imperial Light Tourist, 2-speed, clutch, and kick starter; at manufacturers' list price, £90/4/9, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [1362

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £82/17; with clutch and kick-starter, £89/5.—P. J. Evans, 83-91, John Bright St., Birmingham. [0262

NEW IMPERIAL 2¾h.p., 1915-16, completely overhauled and enamelled, 2-speed, lamps, Stewart, panniers, new back tyre, front unpunctured, accessories; £47.—154, Church St., Newton Heath, Manchester. [9645

1920 New Imperials, new 8h.p. combinations, also light tourist models, during this week; write or call to secure.—Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10, or 'phone: Greenwich 751. [2008

NEW IMPERIAL-J.A.P. 1917 2¾h.p., 2-speed countershaft, semi-T.T. bars, P. and H. lighting, new tyres and belt, accessories, excellent condition; £52.—Richard Deeley, 7, Admiral St., Warrington. [1183

NEW IMPERIAL 2¾h.p. (Oct., 1915), 9629, engine rebushed this year, magneto overhauled by makers, spares, appearance and condition excellent; any examination; £55.—Snell, 2, Hawthorne Rd., Chippenham, Wilts. [1893

1920 (June) 8h.p. New Imperial and Henderson Elite Sidecar to Match, disc wheels, F.R.S. lamp (3 sets), Watford trip, Tan-Sad, Cameo; price £190; list price to-day, £225.—'Phone: Mr. Jay, 379 Dalston. [1963

NEW IMPERIAL-J.A.P., 1920 models, delivered from stock, 2¾h.p. 2-speed model, £80/17; clutch and kick starter model, £89/5; extended terms; trade supplied.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0069

1919 (Sept. 2¾h.p. 2-speed Imperial-Jap, engine No. U1175, semi-T.T. bars, long exhaust, polished aluminium gear box cover, lamps, etc., low mileage, decarbonised once; will sell on sight; £65.—Astley, 17, Gower St., Wolverhampton. [9957

NEW IMPERIAL-J.A.P., 1914, 2¼h.p., 2-speed, engine practically new, new cylinder, valves, bearings, cam, rockers, rings, new Amac carburetter, Bosch mag., new saddle, new head lamp, frame and tank re-enamelled, tyres good, complete with panniers and horn; £45—16, Westover Rd., Wandsworth Common, S.W.18. [9411

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1920 Norton, T.T., complete, lamps, horn, very little used.—Alderton, Hardwick Rd., Reigate. [1107

3½h.p. Sporting Norton, 3-speed, chain drive, brand new, and only ridden 40 miles; offers.—Box 390, *c/o The Motor Cycle*. [X837

J. A. STACEY, 12, Ecclesall Rd., Sheffield, can give immediate delivery from stock of 1920 Big Norton Combination, 4h.p. [1990

BRAND New Nortons, 1920 unused Big 4; 1920 unused T.T., Philipson; 1919 (Nov.) T.T., lamps, horn, £98.—32, High St., Reigate. [952

NORTON, 3½h.p., T.T., late 1916, just re-enamelled, white discs, long plated exhaust, easy 65 m.p.h., £75.—White, Sarbourne Farm, Iver, Bucks. [175

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Norton.

920 Norton Big Four and de luxe sidecar, Easting, D.A. lighting, speedometer, horn, etc., mileage ider 1,000; £200.—Philpot, Motors, Canterbury. [9737

920 4h.p. Norton Sporting Combination, unscratched, perfect, fully equipped; £185; T.T. rton part exchange.—Box 6,886, c/o *The Motor Cycle*. [1939

1h.p. 3-speed Countershaft Norton, 161410, tor-2 pedo sidecar, complete, perfect condition, in-red; £110.—Manor Farm, Little Bookham, Surrey. [9823

ORTON 1915 3½h.p., T.T., Philipson, lamps, horn, fast, splendid condition, stored during war; 0; exchange countershaft machine, Triumph pre-red.—Ireland, 20, Westminster Rd., Coventry. [X8271

ORTON Four, 1920 (June), Henderson Elite side-car with dickey seat for hefty child, Easting een, lamps, spares, fully equipped for tour; £190; ing car.—194, Shortheath Rd., Erdington, Birming-n. [1862

UPER-SPORTING Big 4 Norton Combination, special light sidecar, 3in. exhaust, accessories rything new and perfect condition, about fastest com ation of any h.p. on road; full particulars; £135.—Brook Green, Hammersmith. [9404

920 Norton Big Four Combination, Watsonian R34 sidecar, knee-grips, Klaxon, tyres 650×65 all nd, condition perfect, quite the smartest outfit on road; any trial; owner bought car; £175.—F. R. ddington, Thornton Steward, Bedale, Yorks. [9968

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5h.p. N.S.U. Combination, 2 speeds, good condi-tion, Bosch mag.; £55, or near offer.—B., 13, Glad-ne Rd., Wimbledon. [1814

S.U. 6h.p. Combination, 2 speeds, new condition; £65, no offers.—W.K.B. Motors, Ltd., Eden St., .1. 'Phone: Museum 1628. [9640

p. N.S.U., good running order, mag., Bosch, B. and B. carburetter, Xl-All spring forks; £14.—Pearson, Gate House, Cheylesmore, Coventry. [X8431

5h.p. N.S.U. Coach Combination, 2-speed, free engine, tyres, tubes good, new belt, good order aghout; £45.—Greatwood, 55, Chaucer Rd., Herne London, S.E. [1713

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J.T. 5-6h.p. J.A.P., S.A., 3-speed, clutch, lamps, speedometer, complete; £85.—Bickell and Sons, e and Motor Engineers, 247-251, Archway Rd., gate, N.6. 'Phone: Hornsey 1090. [0255

J.T. 1914 2¾h.p., o.h.v., T.T., lamps, tools, grips, new tyres, tubes, and belt, fast sporting mount, n; £68; after 6.30 p.m.—26, Fairfax Rd., S. stead (Swiss Cottage Station), N.W.6. [9467

J.T., 1916, 3½h.p., o.h.v., T.T., overhauled and re-enamelled grey and red, perfectly sound, many spares, photo; take 2¾h.p. A.J.S. (K.S., d) part exchange.—Foulkes, College, Newport, [1488

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., 4 strokes, 2-speed; £40; cash, credit, exchange. —Service Co., Ltd., 292, High Holborn, W.C.1. 1230

-UNION 1920 2-stroke, list price, immediate delivery.—Morriss, 139, Finchley Rd., N.W.3. [1970

7 O.K.-J.A.P. 2¾h.p., 2-speed, lamps, etc.; £46; good condition.—Blackfriars, St. James's, Bristol. [9665

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OMEGA-J.A.P. 2¾h.p., 2-speed, kick starter, unwrapped; £82.—G. and C. Coy, 127, High St., March, Cambs. [1092

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OMEGA 1920, 2¾h.p. J.A.P., clutch, kick starter, long exhaust, electric lamps complete, Klaxon, spare valve complete, extra lot tools, detachable leg shields, new insurance policy, just overhauled, appearance as new, any examination; £75; no offers.—76, Shoot-up-Hill, Cricklewood, N.W. [9747

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P. and M. Combination, as new, any trial; £110.—4, The Square, Carshalton. [1923

P. and M., 1918, perfect condition, new tyres; £65.—Andrew, 2, Madrid Rd., Barnes. [1789

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FOR Sale, P. and M., 1918, 3½h.p., 2-speed, K.S., excellent condition; £70.—10, Baronsmead Rd., Barnes. [1951

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ADCO, 1917, 2-speed, clutch, kick starter, ride away; £44, offers.—G. Toll, Stevenage, Herts. [941C

17 Radco de Luxe, 2-speed, perfect; £32.—20, Treen Av., Hoggers Corner, Barnes. [1603

16 Radco, good condition, carburetter, Dunlop, footboards, horn; £45.—2, Weston Av., Esher, ey. [1432

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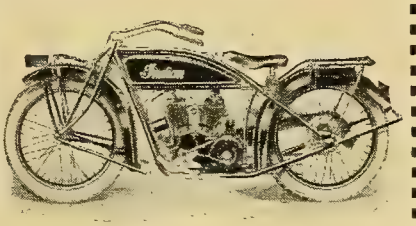

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ROVER, T.T., 1919, Lucas lamps, mechanical horn, Philipson; £85.—Warne's, 46, Churchfield Rd., Acton, W.3. [9649

ROVER Combination, 1914, 3½h.p., 3-speed, clutch, kick starter, fine condition; £65.—5, Oxhey Av., Watford. [1152

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3½h.p. 1914 Rover 3-speed Clutch Model, good condition, all accessories; £50.—C. Warren, Wilburton, Cambs. [9509

ROVER 1914 Coachbuilt Combination, 3½h.p., 3-speed clutch, lamps, tools; £65.—89, Southwark Bridge Rd. Hours 8.30-5.0. [948

ROVER 3½h.p., countershaft, all-chain drive, unused, 7½% below list; owner must sell.—Box 391, c/o *The Motor Cycle.* [1936

1919 Rover Combination, 5-6h.p. J.A.P., splendid condition, grand hill climber; bargain, £160.—Osbaldeston, Pigbeth, Walsall. [9844

1920 5-6h.p. Rover, with Rover bulbous sidecar, in stock at list; exchange Morgan, etc.—2, Nightingale Rd., Lower Clapton, N.E. [1975

ROVER 3½h.p., 3-speed and clutch, 1914, perfect running order, good tyres; bargain at £50.—Granger, Icewell Hill, Newmarket. [1980

5-6h.p. Rover Combination, 1917, 3-speed, chain drive, first-class condition; £140.—Turner's Motor Works, Curzon Rd., Ealing, W.5. [2129

3½h.p. Rover, Bosch, B. and B., 2-speed and clutch, sound condition, tyres excellent; £50, nearest.—Write 91, Hurst Rd., Eastbourne. [9815

1919 (Dec.) Rover 3½h.p., 3-speed, 1920 Canoelet sidecar, combination as new, small mileage; £140.—5, Laurels, Ulverston, Lancs. [X8197

3½h.p. Rover, 3-speed, clutch, all accessories, condition perfect, very smart mount; best offer over £50.—Proctor, 33, Alexandra Rd., Hitchin. [X8010

1916 3½h.p. T.T. Rover, Philipson pulley, equipped, fast, economical, excellent condition; 65 gns.—Loweth, 6, Mount Pleasant Rd., Ealing. [1475

MOTOR CYCLES FOR SALE.

Rover.

1918-19 3½h.p. T.T. Rover, Philipson pulley, excellent condition; £95.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [1123

ROVER, 1920 3½h.p., lamps, tools, only done 400 miles, in splendid condition; £135, or near offer.—Mattock Motor Co., Mattock Lane, Ealing, W.5. [9587

ROVER 5-6h.p. 1920 Combination, horn, speedometer, lamps, etc.; £180; cash, credit, exchange.—Service Co., Ltd., 292, High Holborn, W.C.1. [1238

ROVER, T.T., 1919 (November), all accessories, spare valve, long plated exhaust, fast, and in new condition; £98, or nearest.—20, Mount Pleasant, Redditch. [9428

1915 Rover Combination, 4h.p. wind screen, lamps, tools, etc.; £85; privately owned.—Particulars from Reliance Motor Works, St. Cross Rd., Winchester. [9720

1920 (July) Rover 6h.p. Combination, C.A.V. lighting (accumulator), horn, luggage grid; £225.—Morley, Ranmore, Beverley High Rd., Hull. [X8196

ROVER, 1914, 3½h.p., 3-speed, splendid order, low mileage, speedometer, horn, lamps, tools.—Robinson, Old Hall, Little Budworth, Tarporley, Cheshire. [1392

ROVER, 1914, 3½h.p., 3-speed S.A., nearly new Canoelet sidecar, all lamps, speedometer, good condition; £85.—Palmer's, Albion Place, Wisbech. [1395

1912 Rover 3½h.p., Bosch, B. and B., 3-speed, clutch, perfect order; sell £55, or exchange for Douglas 2¾h.p.; offers.—W. Jarvis, Watermoor, Cirencester. [X8437

ROVER 3½h.p. 3-speed, countershaft, kick starter, new, unridden, perfect; list £150; no reasonable offer refused.—Box 356, c/o *The Motor Cycle*, Leicestershire. [X8043

ROVER, late 1913, C.B. sidecar, storm cape, 3-speed hub, Binks carburetter, battery lighting, speedometer, tools, spares; £65.—Hodgson, 71, Leighton Rd., West Ealing. [1597

ROVER, 1919, 3½h.p., 3-speed, accessories; any trial; £105. Rover, 1914, 3½h.p., 3-speed, perfect order; £70.—1, Norwood Rd., Herne Hill. Phone: Brixton 1964. [1623

ROVER 3½h.p., 1919, T.T., now fitted N.S.U. gear, clutch, Flying Middleton sidecar, usual accessories; trial welcomed; 90 gns.—44, Finchley Rd., Westcliff-on-Sea. [1527

ROVER 3½h.p. 3-speed Hub Combination, coach, new tyres and belt, excellent condition; ride away, any distance; £80.—Norbury, Nurseryman, Market Harborough. [1782

ROVER 1920 5-6h.p. Twin Combination, latest model; delivery from stock at list price, £235; extended terms.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0071

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter and with smart coachbuilt sidecar; £180, or on easy payments 5% extra.—Harrods, 118, Brompton Rd., London. [1364

MAUDES'.—Rover 1918 6h.p. W.D. combination, all-chain, 3-speed, kick starter, Dunlop tyres, 3 lamps and horn, very little used £130.—Maudes', 100, Gt. Portland St., W.1. [2067

ROVER 1920 4h.p., 3-speed and countershaft model, complete with Mills-Fulford Corvette sidecar, done very small mileage, indistinguishable from new.—Parker's, Bradshawgate, Bolton. [X8204

ROVER 1914-15 Combination, 3 speeds, lamps, horn, speedometer, wind screen, hood, enamelling, plating, tyres in good condition; stored 3 years; would separate; £90.—202, Trinity Rd., S.W.17. [9543

1920 5-6h.p. Rover Twin Combination, Milliford Empress sidecar, Cowey horn, P. and H. lamps, only delivered 7 weeks, as new; £206; owner purchasing car.—L. Harriss, 332, Hellingboro' Rd., Northampton. [9421

F.O.C.H. have a 5-6h.p. Rover Combination, small mileage.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1082

ROVER Combination, 5-6h.p., 1920, not done 100 miles, perfect, disc wheels, lamps, wind screen, leg shields, speedometer, hood to sidecar; best offer over £200.—Hewin's Garages, Ltd., the Real Service Firm, Totnes. [1053

ROVER 3½h.p., 3 speeds, all lamps, horn, tools, 3in. Dunlops, new Brooks saddle and belt, dropped frame, 1920 Amac, 100 miles to gallon, guaranteed absolutely faultless; £65, a snip.—2, Nightingale Rd., Lower Clapton, N.E. [1976

ROVER Combination, very late 1918, 6h.p. J.A.P., 3-speed, countershaft, kick start, hand and foot clutch, enclosed chain drive, Easting screen, all lamps, 1 horn, tools, perfect condition; bargain, £150.—Manor Garage, Manor Place, Walworth, S.E. [9763

1919 Rover 5-6h.p., French grey lounge sidecar, all lamps, Cowey, Klaxon, and Cameo wind screen, new last March, mileage under 1,000, enamel and plating like a show model, only wants seeing; offers. C. Boswell, Esq., Iver House, Abbotts Rd., New Barnet, Herts. [2000

ROVER 1914 3½h.p., underslung sidecar, excellent appearance and condition, engine and gears recently overhauled at considerable expense, fast machine, hood, screen, lighting set, new extra heavy Dunlop; £60.—Seen and tried at Clarke's Garage, South St., Romford. [1801

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ASTONISHING VALUE!!!

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Brand New, in perfect condition. Cash refunded if not approved. Delivery guaranteed immediately on receipt of order. Carriage Paid.

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Clincher de Luxe Extra Heavy	47/6
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In response to many requests as to the regular Stocks I hold, particulars are given below:

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Clincher Junior de Luxe	29/6
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Palmer Two-ply	51/9
Palmer Cord	63/9
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24×2	5/6	26×3	6/9
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26×2¼	6/3	650×65	8/-
26×2½	6/6	700×80	8/3
26×2½×2¼	6/9		

New Rubber Thigh Boots

Sizes: 5, 6, 7, 8, 9, 10, 11.

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MOTOR CYCLES FOR SALE.

Rover.

1920 Latest Model 5-6h.p. Rover Combination, mileage 250, new lamps, speedometer; £220.—Collier's Motories, Union St., South Halifax. [1072

1920 Rover 5-6h.p., Grindlay sidecar, hood, screen, 3 lamps, Premier horn, Bonniksen speedometer, spare plugs, valve, etc., insured May, 1921, very carefully used, absolutely perfect; owner buying car; 6 months' private garage accommodation free; £205.—40, Lancaster Rd., Rugby. [8862

LATE 1919 T.T. Rover, engine 7794, H.B.C., Philipson pulley, dynamo electric lighting, long plated exhaust horn, knee grips, actual machine made fastest time of day Colchester Club hill-climb in June, splendid condition throughout, genuine bargain; £85.—Braithwaite, 32, Winchester Rd., Colchester. [9452

Royal Ruby.

1919 Royal Ruby 2¾h.p., electric lighting, Klaxon; £50.—Cline, 57, New Rd., Whitechapel, E. [1800

NEW 1920 Royal Ruby, latest 3h.p. spring frame model; £120.—Clarke and Co., Queen St., Louth. [9490

1916 Royal Ruby 2½h.p., 2-speed, lamps, horn, speedometer, little used; £40.—Philpot, Motors, Canterbury. [9738

ROYAL RUBY 1919 2-stroke, single speed, lamps, etc., little used; £42.—Write Townsend, 30, Malwood Rd., Balham, S.W. [9663

1920 Royal Ruby, 3h.p., 2-speed, spring frame, moderate mileage; £105.—Collier's Motories, Union St., South Halifax. [1071

1919 Royal Ruby 8h.p. J.A.P. Combination, electric side and tail, perfect condition; £180, or offer.—McArthur, Jesus, Cambridge. [9822

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0209

ROYAL RUBY, new 3h.p. spring frame model, immediate delivery from stock; price £120.—Redditch Garages, Ltd., Unicorn Hill, Redditch. [X8324

ROYAL RUBY Late 1919 8h.p. Combination, complete with all accessories and tools, excellent condition; £150.—Jones, 52, Cleveland St., W.1. [1910

1920 New 3h.p. Royal Ruby 2-speed, clutch, and kick starter, spring frame; £120.—J. Hebden and Son, 149, St. James' St., Burnley. Tel.: 488. [9856

1918 Royal Ruby 2¾h.p., 2-stroke, 2 speeds, Amac M.L., discs, lamps, etc., guaranteed perfect; 60 gns., or nearest.—J. Cole, Elms, Minety, Malmesbury. [9481

8h.p. 1919 (Aug.) Royal Ruby Red Combination, J.A.P., 3 speeds, etc., lamps, horn, exceptional engine, special screen, trial; sacrifice, first £145.—Ruby, 7, Orleans Rd., N.19. [9477

ROYAL RUBY 8h.p. and Matchless sidecar, just repainted, Easting, Cowey, Klaxon, all lamps, special outfit spares (cost £10), including unused tyre, mileage 2,500; best offer over £145; Westminster.—Box 6,794, c/o *The Motor Cycle*. [9841

Rudge.

1920 I.O.M. Rudge Multi, unregistered; accept £— under list.—1, Othello St., Liverpool. [1803

RUDGE Multi, ridden 25 miles only, with lamps, etc.; £100.—Pickering, Shrewsbury. [X8386

BRAND New I.O.M. Rudge, accessories; £100.—G. Mabey, 5, Anerley St., Battersea. [9974

NEW 5-6h.p. Rudge Multi, 1920, just arrived; list £120/15.—Holiday, Deddington, Oxon. [1394

RUDGE, 3½h.p., clutch model, good order; £45, or near offer.—22, Bonar Rd., Peckham, S.E. [1764

RUDGE Clutch Model, good condition; nearest £48 must sell.—337, Earlsfield Rd., Earlsfield. [9454

1920 New T.T. Rudge Multi; 105 gns.—J. Hebden and Son, 149, St. James' St., Burnley. Tel. 488. [9857

1915 5-6h.p. Rudge Coachbuilt Combination, complete; nearest £110.—Richards, Aideer, Burry Port. [9967

RUDGE Motor Cycle, clutch, condition as new; offers after 6.—186, Iverson Rd., West Hampstead, N.W.6. [1034

RUDGE Multi, 1914, fast, sporty, overhauled, perfect; £52, or near offer.—Bourne, c/o Daniel, Wickford. [9019

1919 (Aug.) Rudge Multi 3½h.p. and Milliford sidecar, new condition.—Catliff, Stationer, Maidenhead. [1164

3½h.p. Rudge Multi, just overhauled; £48; also C.B. sidecar.—Rudge, 112, Amyand Park Rd., Twickenham. [1735

RUDGE Multi, 1920, T.T., just delivered; list price, £110, or near offer.—Box 6,756, *The Motor Cycle*. [9632

1920 I.O.M. Rudge, clutch, Multi gear, T.T. bars in stock at list; £110/5.—2, Nightingale Rd., Lower Clapton, N.E. [1974

RUDGE, I.O.M. Model, list price; from stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [1100

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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The Six Days Trials.

ON Monday next the most important reliability trial of the year commences at Darlington, and there is every evidence to show that the Auto Cycle Union has spared no pains to make it a series of tests in every way worthy of the support which has been given to it by the British motor cycle industry.

So far as can be judged from the rules and regulations the innovations introduced this year are steps in the right direction. In the first place the limiting of the entry—although this limit has not been reached—is a very wise move on the part of the governing body. As we suggested after the last London-Edinburgh run, there is a danger of very large numbers of competitors ultimately bringing about legislation which might prohibit the holding of trials on the public roads. In addition, 150 competitors—the A.C.U. limit—form an entry quite large enough to require careful handling even by the host of officials at the disposal of the organisers.

The finish of the trial at Brooklands is another suggestion of *The Motor Cycle*, and is one which will be appreciated by the motor cycling public, while Friday's and Saturday's routes, right down the centre of England, provide a very large number of riders with a chance to see the competitors.

Probably the tests at Brooklands will be the most interesting of the series. The performances of the various types and makes of machines in half an hour's high speed run after a week's gruelling work under touring conditions should provide the public and the makers with much useful data.

This year there are several new types of machines in the trial, in addition to new makes of motor cycles on conventional lines. We refer to the 500 c.c. two-strokes in both solo and sidecar classes, and the miniature three-cylinder radial engines, a type which is quite unknown to the majority of motor cyclists.

The courses are certainly severe—more difficult, perhaps, than any preceding Six Days Trials—but increased severity is necessary if the overall efficiency of motor cycles is to be developed. Each year sees greater difficulty in finding a route which will give a machine, in six days, work approximating to that of twelve months' use in the hands of the average owner.

Standardisation of Controls.

EFFORTS have been made at various times to bring about standardisation of motor cycle controls. So far, however, nothing has accrued to the advantage of the user. Probably this may be due to the very comprehensive aims of the engineering standards committees who have studied this and kindred subjects. Recent fatal accidents due to unfamiliarity of the carburetter controls on new or borrowed machines reveal the urgent necessity for carburetter manufacturers, at least, to come to some agreement as to which way the levers shall open.

There is a diversity of opinion as to which is the better way, to open in an outward direction or to operate the opposite way, and supporters of both systems have good arguments in favour of their choice. Which of the two is the better may be open to argument, but it is not such an important point as the desirability for all carburetter levers to operate alike, and as carburetter manufacturers are comparatively small in number, there should be no real difficulty in the trade deciding for one or the other. Which ever way is considered the better by the majority should be adopted by all, and the personal opinions of the minority should be sunk. We invite carburetter manufacturers to state their opinion as to which is the better method. Some time ago the Manufacturers' Union interested itself in the question, and we should like to see the subject revived and a final settlement arrived at in the interests of the motor cycling community.

An index to the advertisements in this issue will be found on the page facing the back cover.

OCCASIONAL COMMENTS

By "IXION"

Some Facts about Weight.

THE present weights of motor cycles have no justfication about them. Like Topsy, they just "growed." The original Morgan Runabout chassis—an 8 h.p. two-seated three-wheeler—scaled no more than 2¼ cwt. The new Grahame-White buckboard—a four-wheeled 4 h.p. two-seater—does not vastly exceed 3 cwt. Both figures are commonly exceeded by current types of two-wheeler. To take an alternative contrast, the single-geared belt-driven T.T. motor bicycle of to-day is not appreciably faster on the level or uphill than the outwardly similar machines manufactured at the time when Jack Marshall last rode in the T.T. The engines of such 1920 models are bigger and of better design than those predecessors to which I refer; and their failure to give a vastly better road performance is chiefly due to the quite unnecessary increase in weight—sometimes amounting to 100 lb. I sometimes fancy it is a great pity that a maximum weight limit is no longer specified in the T.T.

A Peculiar Trouble Explained.

LAST week I described how a machine which appeared to be in perfect order puzzled its owner by a long fit of erratic behaviour. The symptoms (see page 180, in our issue for August 12th) were due to the carburetter. This was of the type in which the sliding control pistons are located in regard to the air and gas passages by a small dowel or lug on the outer piston, fitting in a vertical groove machined in the piston housing. This lug or dowel had sheared, so that the pistons became free to rotate in the carburetter body, and were no longer in register with the air intake and inlet pipe respectively. As a consequence they twisted about in response to any twist on the control wires; the throttle sometimes assumed control of the extra air, sometimes attended to its own duties, and occasionally divided responsibility for both functions with the air piston. The rider should certainly have spotted the mishap fairly quickly, but it is well calculated to perplex a rider for a few minutes. I commend the notion to organisers of breakdown competitions.

The Chain on Tour.

I AM just preparing for a journey of something like 2,000 miles, which will occupy about a fortnight, during which time I shall seldom sleep twice in the same bed. My thinking-cap is pressed hard down on my temples, because I am perforce riding a machine with a naked chain. I know quite well what I ought to do. I should carry a spare chain, swop the two over nightly, rinse the dirty chain in paraffin, lubricate it, and wrap it in a greaseproof paper during its idle day on the carrier. But as I am a lazy man, and my luggage space is too scant to accommodate a spare suit of clothes (or a boiler suit), a pint of liquid soap, and a manicure outfit, I know what I am going to do. I shall take but one chain, plus a few spare links. Each night—when I do not forget—I shall dope the chain with engine oil, without removing it from the sprockets, and—probably—without brushing the dirt off it. Next morning much of the oil will be sprayed over the rear half of the machine during its first 400 yards on the road. What oil remains will play the part of a flypaper towards whatever dust a British summer may permit to rise. When I return home, my chain will be worn out and both my sprockets will be hook-toothed; all of which is an eloquent argument in favour of chain cases, *n'est ce pas?* Yes, I have had some, thank you. But I keep on hoping all the same.

Disconnect the Transmissions.

I HAVE never ridden down the test hill at Brooklands on a brakeless machine. But I rather fancy that Secretary Loughborough is within smelling distance of the first real brake test to which motor cycles have ever been subjected *en masse*. He proposes that the machines shall descend the test hill without stopping, and inside 10 m.p.h. If an experiment shows that a brakeless machine can safely tackle the sudden change from 1 in 8 to dead level at the foot of the hill, it is only necessary to remove all the rear chains and belts to secure a really valid test of the brakes, and a test which would have penalised quite a number of the finishers in the Scottish Trials. Since many front brakes are pure camouflage, and since a week's rough-riding plus a few tumbles often makes a foot brake rather dicky, many of us resort to engine compression and low gears towards the end of a Six Days. The test which I have indicated would prove how the brakes stand the racket, and would certainly impose a few penalties.

Makers, Look to Your Agencies.

THE other week our editorial drew the attention to the need for increased exports if prices at home are ever to fall. About the same time, one or two overseas friends called on me and gave me some appalling details of some of our motor cycle agencies. In some cases they are in the hands of clerks, grocers, native chauffeurs, etc., and that in quite considerable towns. Where such evil exists, the sequence of events appears to have been as follows. The principal garages in a town take up agencies for the British bicycles which they consider to be the best sellers. Other British makers, being unable to secure first-class agents, allot their supplies to almost anybody who asks for them. Thus, only one or two British machines are properly handled or supplied with any "service"; just at present the garages which could

Occasional Comments.—

handle agencies well are often pushing American machines for preference, because they had continuous stocks during the war. No wonder our 'buses are in bad odour in some places, when the sole agent is a clerk without capital, who is earning his living in an office five and a half days per week, ignorant how to tune the machine, possesses neither workshop nor spares, and probably takes little further interest in the deal when he has once pocketed his commission. It would be better not to export isolated machines in this fashion; a good agent and good service are essential to sound dealings in complicated mechanical goods.

Our Roads—and Taxes.

SAID a cute rider to me this week: "I shouldn't really mind paying the new taxes if I were sure they wouldn't waste the cash." When asked to explain, he produced five samples of modern Government methods. The first was a number of tar barrels wasting their sweetness on the heather, because they had been plunked overboard from a high lorry, and were all gaping at the seams. The second was a deep mud-hole bang in the centre of a patch of road which the gang had left as "repaired" on the previous day. The third was a patch of loose stone on a steep hill, which had been ripped open by wheel-pans within forty-eight hours of the departure of the steam-roller. The fourth was a choice mile of pot-holes on a main road which had been reconstructed within the past eight weeks. The fifth was a huge road gang abiding in their tents like Israel, because a sunny day had capriciously turned to rain. In all fairness to the "Government" it should be said that road work at present is in the hands of local councils to whom these examples should be ascribed. Instances one to four obviously supported an indictment of stupidity and waste; but I have nothing to say against roadmen drawing their pay when the weather breaks. Presumably they have wives and children to support, like other people, and rain is what the lawyers call "an act of God." Personally I would as soon have stopped the pay of our artillery during the shell shortage.

BRITISH INTERNATIONAL CYCLISTS AND MOTOR CYCLISTS ABOARD THE S.S. "ANTWERP."

By a curious coincidence the British cyclists selected to represent this country in the Olympic games journeyed to Antwerp by the same boat as the British motor cyclists in the Anglo-Dutch Trial. Here they are grouped together. The cyclists included W. T. Hall, Leon Meredith, C. A. Davey, B. Bragg, W. H. Genders, E. Newell, D. Marsh, H. T. Johnson, W. A. Ormston, J. F. Ditchman, H. H. Lee, Ben Jones, H. N. Crowe, S. Ayres, H. W. Bartleet, A. T. Ryam, A. White, W. G. Stewart, T. G. Lance, T. Harvey, and C. A. Alden.

Impressions of the Dutch Trial.

How Holland won the Third International Trial. A Memorable Week in the Netherlands.

HISTORY repeated itself in the third of the series of International Trials England *v.* Holland. Our first illustrated description of the event in the last issue showed that, whereas England was credited with seventeen out of eighteen non-stop runs, and Holland fourteen out of eighteen possibles, one member of the British team unluckily lost such a big total of marks that Holland scored a second notable success, and thus won outright the "N.M.V. Beker." It has already been observed that the Dutch riders handled their machines with consummate skill, and entered keenly into the contest. Their victory was well deserved, and the British contestants were themselves the first to give three stentorian cheers for the sporting Dutchmen when the result was announced at the memorable dinner on the 8th inst. at the Trianon Restaurant in Amsterdam. With seven secret checks and three open timed controls, there was plenty to keep the competitors busy on a strange course measuring nearly 200 miles. Dutch roads are, unfortunately, not such that one may concentrate on the watch and route card. One has to keep a watchful eye on the road ahead, though for this year's event the road surfaces were for the most part wonderfully good for Holland. But machines were proved to be more reliable than watches this year, for two watches stopped, to the great consternation of those who suffered this remarkable experience. Colver's trouble was a lost washer on his silent chain. He fitted another of brass, but that gave out also, and he had to repeat the repair with one made of steel, but he lost many marks during the process. Ellis went off the route near the German frontier, and was only aware of the fact when advised that he should be getting his "papers" ready. Papers were quite a joke during the trial. Each man carried a perfect sheaf, including passport, international travelling pass, identification cards for Belgium and Holland, hotel lunch and dinner tickets, and a constant password was the query "Have you got your papers?"

Bad luck also befell the Dutch team, for one man, Rijkse, lost 118 marks on account of tyre trouble, the new cover being so stiff that the rider found it almost impossible to replace on the rim after the puncture which stopped him. Why more difficult hills were not included in the Limburg district one cannot say, for the general im-

THE DUTCH TEAM.

AMATEURS.		Marks Lost.
H 2. L. Hunse (4 Wanderer)	Non-stop	4
H 4. B. H. Paine Stricker (2¾ Douglas)	1 stop	16
H 6. W. H. Willensiek (2¾ James)	Non-stop	15
H22. G. Hawinkels (4 Sarolea)	Non-stop	4
H24. J. F. M. Smits (7-9 Harley-D.)	Non-stop	3
H26. C. J. Van Mansum (7-9 Harley-Davidson)	1 stop	10
H42. H. Fels, capt. (7-9 Harley-D. sc.)	Non-stop	1
H44. F. Janssen (7-9 Harley-D. sc.)	Non-stop	0
H46. Jac Rijkse (7-9 Harley-D. sc.)	1 stop	118
Marks Lost, Amateur		171

TRADE RIDERS.		
H12. Jac Brunt (2¾ Douglas)	Non-stop	4
H14. Jac Fonck (2¼ Douglas)	Non-stop	7
H16. F. J. C. Schuver (2½ Metro-T)	Non-stop	10
H32. J. W. Len Dam (7-9 Harley-D.)	Non-stop	3
H34. F. J. Visscher (7-9 Indian)	1 stop	6
H36. G. Hoogeveen (5 Indian)	Non-stop	5
H52. C. Witteveen, jun., capt. (5-6 James sc.)	Non-stop	4
H54. L. Wiels (7-9 Harley-Davidson)	Non-stop	3
H56. P. Nieman (9 Simplex)	Non-stop	11
Marks Lost, Trade		53
Marks Lost, Amateur		171
Total Marks Lost		224

THE BRITISH TEAM.

AMATEURS.		Marks Lost.
E 1. G. Smith, capt. (3¾ Sunbeam)	Non-stop	18
E 3. Lt. G. P. Glen Kidston, R.N. (3½ Sunbeam)	Non-stop	17
E 5. E. A. Edwards (3½ N.U.T.)	Non-stop	9
E21. F. A. Hardy (5 Zenith)	Non-stop	12
E23. F. Dover (4 Triumph)	Non-stop	17
E25. H. P. Lucas (8 Zenith)	Non-stop	11
E41. H. Boynton (5-6 James sc.)	Non-stop	9
E43. C. Crossthwaite (5-6 James sc.)	Non-stop	4
E45. F. J. Ellis (8 Matchless sc.)	Non-stop	26
Marks Lost, Amateur		123

TRADE RIDERS.		
E11. W. B. Gibb (2¾ Douglas)	Non-stop	1
E13. J. A. Newman (3¼ Sunbeam)	Non-stop	10
E15. Hugh Gibson (2¾ Clyno)	Non-stop	3
E31. Kaye Don (6 Zenith)	Non-stop	5
E33. L. Newey (6 Ariel)	Non-stop	1
E35. P. W. Moffatt (1 Douglas)	Non-stop	8
E51. W. Pratt, capt. (8 Matchless sc.)	Non-stop	3
E53. H. V. Colver (8 Matchless sc.)	2 stops	135
E55. E. B. Ware (8 Matchless sc.)	Non-stop	2
Marks Lost, Trade		158
Marks Lost, Amateur		123
Total Marks Lost		281

SCENES IN BELGIUM.

The British riders crossed from Harwich to Antwerp, and passed through the Belgian war zone on their way to Holland.

(1) A group of riders in Louvain; part of the Cathedral in the background.

(2) A scene in Malines, *en route* to Maastricht.

(3) Contrast in modes of transport near the Belgian-Dutch frontier.

pression of the British riders was that the object of starting the trial from Maastricht was to embrace some of the short steep ascents in this picturesque Province of Limburg.

Excellent Organisation.

Of the organisation, congratulations must be extended to our Dutch friends. Everything was splendidly arranged, reflecting great credit upon Mynheer L. G. Zegers Veeckens, the trials secretary, and his fellow committeemen. When the Dutch team visits England next year (a new trophy has already been offered by Mr. A. Citroën), the A.C.U. can at least take some points from the Dutchmen's methods.

The Dutch amateur captain, H. Fels, of The Hague, who rode a Harley-Davidson sidecar, told us he will compete in the Scottish Trials next year, as well as in the Dutch Trial in England. Of course, in Holland, the rule of the road being opposite to our own, "zijspans" (which, being interpreted, means side-

cars) are applied to the right side of the machine. The chassis of the Dutch machines looked frail, yet seemed to stand up all right, though one trials machine had a tube break. Throughout the event, however, reliability of running was the outstanding factor. As we have already intimated, full appreciation of the scenery was not possible, yet Holland provides a delightful touring ground for one acquainted with the roads. The beauty of the low lands, the succession of canals, sometimes really beautiful with yachts in full sail dotted here and

Impressions of the Dutch Trial.—there, the curious swing bridges by which traffic crosses and re-crosses these canals, the quaint costumes and customs of the people, all form a delightful change for the long-distance tourist. From Utrecht to the outskirts of Amsterdam *via* Nieuwersluis, Brambrugge, and Lake Abcoude, first through avenues of trees, now along river banks with charming residences of original design studded about, was quite the prettiest section of the whole route.

Dutch Ferries and Bridges.

The ferry over the river Waal to Lent was a new experience for the Britishers, but there was ample accommodation for quite half the competitors. The pontoon bridge over the Rhine before Arnhem was "broken" to permit the passage of several steamers. Some rather welcomed this unexpected delay in order to enjoy the scene to the full. Others who had breakfasted at 5 a.m. were pining for their two o'clock lunch, in view of the rapid recommencement.

Traffic on the road in Holland observes no rule of road. Ahead you observe a group of cyclists. They hear you, but never move. You repeat the blast on the horn, and they at once spread out on both sides and expect you to pick your way through the centre. Again, a horse and cart is approaching. A motor cycle passes, and the driver of the cart turns with his eyes fixed to the rider, never supposing for an instant that there might be another motor cyclist on earth. Again, you overtake a cart on the wrong side of the road. When within earshot you hoot. Will the driver pull aside? Not a bit of it. He first turns round slowly, just to confirm that the horn definitely has a motor attached to it, and having confirmed his impression, draws slowly, painfully slowly, aside. The kiddies in the streets are not so perky as our own youthful element. They usually wear glum faces, and stare in blank astonishment at the passage of a motor cycle. Railway crossings are very trying. They abound everywhere, and the gates rise vertically. To see one descending just as one is about to cross the railway lines is enough to send a cold shiver down one's back. It is reminiscent of a descending sword. But these are experiences enjoyable and amusing to the observant motor cyclist in the happy frame of mind engendered by the welcome accorded and continuous attention paid by the Dutch club officials. It was their object to give the Britishers a good time, and they succeeded to the limit. Not a man of the English team returned without the greatest respect and appreciation of the sporting Dutchmen. The Amsterdam Stadium was the finishing point, and here competitors' machines were garaged and dinner provided. Meanwhile the Britishers' baggage, conveyed by the Dutch club from Maastricht, was being delivered to the different hotels; this thoughtful service proving a very great convenience to all.

A Full Programme of Social Events.

Sunday saw a recommencement of the social events. In the morning there was a run to Hilversum for lunch by a charming roundabout route. Returning to the Stadium in the afternoon, motor-paced cycle and motor cycles were witnessed on the saucer track. Very exciting they proved, to those who had only read and never actually witnessed racing on these steeply banked tracks.

In the first control near Epen. C. Witteveen, jun. (on a 5-6 h.p. James sidecar) and W. Pratt (8 h.p. Matchless sidecar).

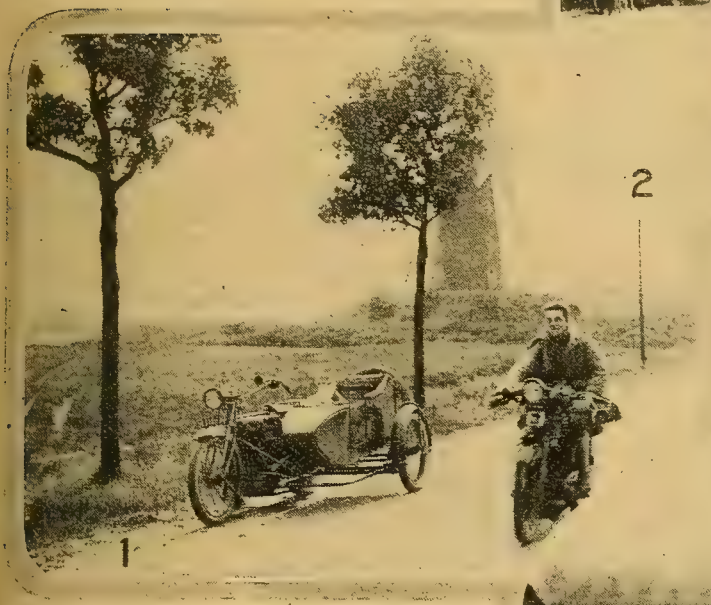
F. J. Ellis and E. B. Ware (8 h.p. Matchless sidecars) passing coal mines near Heerlen. Mr. T. W. Loughborough, secretary of the A.C.U., occupies the second sidecar.

Many daring British riders admitted thorough "wind up" to see the two Dutch riders astride stripped twin American Excelsior mounts flash round and round at over a mile a minute, whilst to see them pass one another on the steep banking was thrilling in the extreme. A motor-paced cycle race of fifty-six laps was another event with a petrol flavour. A huge V twin Laurin and Klement of about 20 h.p. proved naturally more fleet than an Anzani V twin of about 10-12 h.p., and the former pacer succeeded in piloting his man home first in wonderful time.

Floral Tributes.

That evening the official dinner, a really brilliant function, was held at the Trianon Restaurant, presided over by Mr. Nic Jannink. Ever ready to do honour to their British guests, the tables were decorated with the national flags, whilst on the head table was a splendid representation of the Union Jack in beautiful flowers. Welcome assurances of a continuance of the event, a readily accepted invitation to visit England next year, congratulations to the winning team, a new international trophy and

PICTORIAL IMPRESSIONS OF THE ANGLO-DUTCH TRIAL.



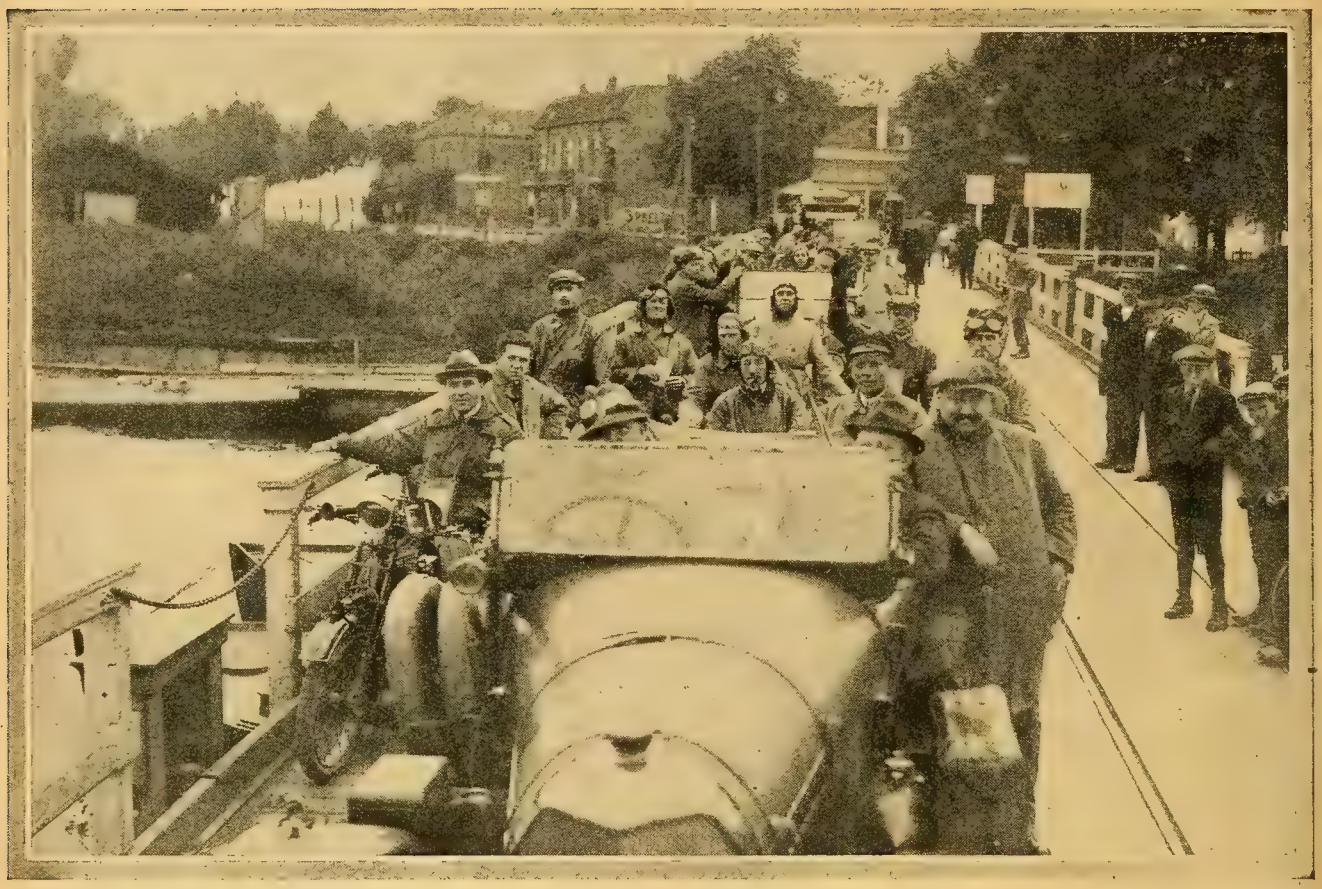
(1) Lt. Glen-Kidstone (Sunbeam) near St. Anna.

(2) W. B. Gibb (Douglas), who lost but one mark, and G. Hoogevean (5 h.p. Indian), near Plasmolen.

(3) A feature of Continental touring is the numerous railway crossings encountered. Here competitors are seen held up at one of these level crossings.

(4) J. A. Newman (Sunbeam) in Ede. To this rider belongs the credit of completing the long course without the loss of a single point.

(5) The course passed through very attractive Dutch scenery, particularly around Utrecht. Observe the paved roads, which were the usual order.



On the pontoon bridge which spans the Rhine near Arnhem. In the foregrouud may be seen Mr. Nic Jannink, president of the Royal Dutch Motor Cycle Union, driving the official car; beside him, Mr. E. J. Maas, secretary; and, standing by the car, Mr. L. J. Zegers Veeckens, secretary of the trial. Competitors are held up behind the official car while the bridge is opened.

further offers of cups for 1920, represented the tenor of the speeches. The speakers included Mr. Jannink, Mr. Zegers Veeckens, Mr. T. W. Loughborough (secretary A.C.U.), Mr. Geoffrey Smith (Editor of *The Motor Cycle*), Mr. Boom (Editor of *Der Auto*), Mr. Maas (secretary Royal Dutch M.C.U.), Messrs. Pratt, Fels, Hardy, Newman, and Boer. The two lady passengers of the British team, Mrs. Boynton and Mrs. Crossthwaite, received handsome bouquets of flowers as well as a souvenir of their visit.

Dykes and Windmills.

Monday witnessed the departure of the British party from Amsterdam. First they were taken through delightful lanes in the Blomendal neighbourhood, and thence to the coast at Zandvoort for lunch. Each party was piloted by Dutch riders acquainted with the roads. At the seaside, lunch was taken at the Kursaal, and many would have preferred to have tarried awhile, but it was not to be, for, keen that the British party should see the dykes and windmills, the procession of a hundred odd riders, headed by Mr. Zegers Veeckens on his 1920 model A.J.S. and sidecar, proceeded to The Hague *via* Noordwijkerhout and Haagsche Schouw (pardon!) The dust cloud raised was almost impenetrable, but it was no use losing the party, for, with names like the two mentioned to enquire for, a solitary Englishman would experience an anxious time! Among the party were a number of Dutch solo riders with ladies on pillion seats. Pillion riding, despite the rough road surfaces, is very popular in Holland, but it is done properly. The seats are sprung, of course, and the lady sits astride with rests for her dainty feet on each side. Immediately in front of the seat is a stout plated rail, by which she may mount gracefully. To see a young couple wearing skull caps aboard a sporting twin bellowing through its stovepipe apology for a silencer, the riders rising and falling in unison by the action of the springs, is a most animating spectacle. A "Tally Ho!" bugle would add quite the final touch to a sporting turnout.

Au Revoir!

A cup of tea near The Hague, provided by the Editors of *Der Auto* and *Auto Leven*, the party continued to the Hook of Holland, where adieu was paid to the hospitable Dutchmen till another year. Aboard the s.s. *St. George* that night a telegram reached the captain of the British team from Mr. Jannink, conveying good wishes to the departing visitors. Thus ended the third and most memorable Anglo-Dutch Trial.

G.S.

OBSERVATIONS IN HOLLAND.

Ask W. B. Gibb if he has yet solved the mystery as to how he lost that solitary mark in the Netherlands!

The four British riders who have competed in all three Dutch trials, viz., F. Dover, W. Pratt, F. A. Hardy, and G. Smith, again succeeded in accomplishing non-stop runs.

The Worcester and Surbiton clubs have already offered cups for next year's event, as well as *The Motor Cycle*.

On one occasion Kaye Don gave a waiter a number of Dutch coins as a tip, thinking he had done him proudly. His amusement was complete on discovering that the value of the tip was about 1½d. They have coins of one-tenth of a penny in Holland.

Travelling passes and passports seem to be becoming a farce. Abroad no notice was taken of half the papers the British riders carried.

Another time the A.C.U. would be well advised to look after a British party of motor cyclists properly at the ports. The sequel to the much-vaunted claim of special touring facilities abroad was not appreciated by the party.

Impressions of the Dutch Trial.—

What is happening to Britain in the world of sport? The yacht race lost, the motor boat race lost, the tennis championships wrested from us, and now an all-British team of motor cyclists beaten. 1921 must see a change!

There were six British-made motor cycles in the Dutch team—a smaller proportion than usual.

Motor cycles are in demand in Holland. 1921 should see a considerable expansion of the motor cycling movement.

To enable the exclusive illustrated report of the Anglo-Dutch Trial to appear in last week's issue, *The Motor Cycle* photographer journeyed with the competitors throughout the trial on his Matchless sidecar, and then continued from Amsterdam to the Hook in order to catch the boat to Harwich that evening. Lt. Kidstone, R.N. (3½ Sunbeam), who was under orders to join his ship, accompanied him.

When Secretary Loughborough arrived at Maastricht from Paris he was full of the International Six Days Trial to be held in Switzerland next summer. Switzerland won the Grenoble Trial this month, so that the succeeding event automatically takes place over Swiss mountain roads

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"Ixion" recently asked how to carry a spare chain. Fred Dover has solved the difficulty on his Triumph by lashing with insulation tape a spare chain to each of the legs of the stand.

The Dutch motor cyclists were very interested in the Easting windscreen on H. Boynton's James sidecar. Hitherto, most of the sidecars imported into Holland have been of the American variety—small in dimensions and bare of such refinements as hood and screen.

SPECIAL AWARDS.

Each rider completing the trip without the loss of marks will be awarded a gold medal.

Each rider completing the trip with a loss of one to ten points receives a large gold-plated medal, eleven to twenty points a large silver medal, and with twenty-one to thirty points lost a bronze medal.

J. Newman (Sunbeam) gained the silver cup presented by Nic Jannink, also the B.S.A. gold medal.

A special prize presented by "Cedos House" for the best performance on a two-stroke was won by Hugh Gibson (2½ Clyno).

L. Newey (Ariel) and W. B. Gibb (Douglas) tied for the gold-plated silver medal presented by Herman Smit.

H. Fels (Harley-Davidson sc.) won the gold-plated silver medal presented by E. J. E. Maas.

The silver cup presented by J. A. Boom was won by F. Janssen (7-9 h.p. Harley-Davidson).

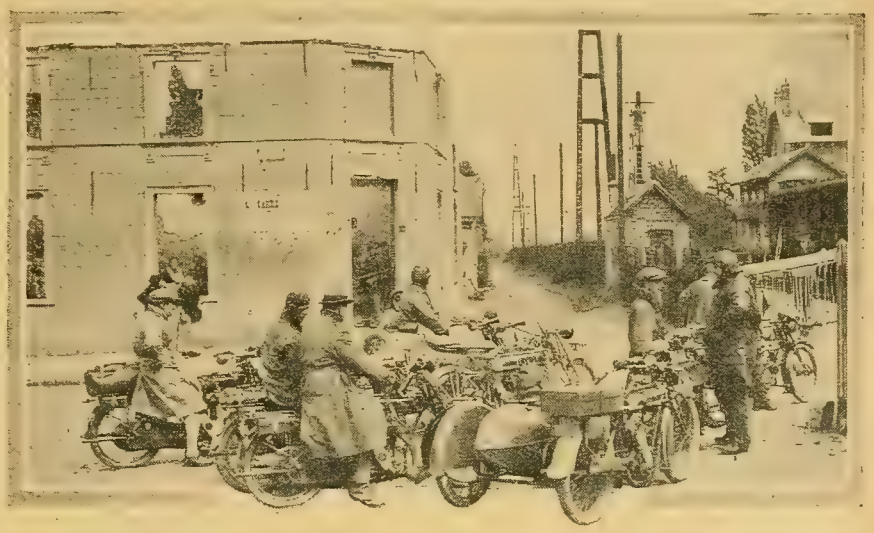
Reserve Riders in the Trial.

In conjunction with the Anglo-Dutch trial, a class was set aside for reserve riders, and run on precisely the same conditions as the International event.

The score of the reserve riders was as follows:

	Points lost.
J. W. G. Todd (Reading-Standard) ...	552
L. J. van Haren (2¾ h.p. Douglas) ...	8
E. Ekker, Jr. (4 h.p. Bianchi) ...	31
N. Rouwens, Jr. (6 h.p. Simplex) ...	18
J. M. Boom (7-9 h.p. Indian)	3
D. S. Kluit (7-9 h.p. Harley-Davidson)	3
J. A. Hanse (6 h.p. Royal Enfield) ...	3
A. Steensma (4 h.p. Blackburne) ...	5
V. Ponck, Jr. (2½ h.p. Cedos)	571
H. van der Wal (8 h.p. American X)	12
J. H. P. Jansen (7-9 h.p. Harley-Davidson)	28
H. C. Dolk (6 h.p. Martinsyde) ...	11
V. van Zijll (7-9 h.p. Harley-Davidson)	3

The best performances among the reserve riders were, as will be noted, accomplished by Messrs. Boom, Kluit, Hanse, and van Zijll, whom it was decided should draw lots for the silver cup presented by Mr. L. J. Zegers Veeckens.



Constant traces of war were evident during the trip across Belgium to Holland. A railway crossing near Louvain

The Longest Hill-climb in Europe.

THE longest hill-climb in Europe, if not in the world, is the annual sporting event up the Italian side of the Alps, from Suza to near the top of Mont Cenis Pass. This event, which is open to both motor cycles and cars, is the most important of its kind in Italy, and although it has never attracted many foreign competitors there is never any lack of Italian riders, not all of whom mount machines of home production.

As the event starts at six o'clock in the morning it is necessary to set out at daybreak to reach a point of vantage on the top of the mountain, nearly 6,000 feet above sea level. The start is in the village of Suza, and by Government Order the road is closed to all other traffic. At the outset a steep gradient has to be tackled, and of the 13¾ miles constituting the climb, about half a mile is almost level and the rest varies from easy gradients with gentle curves to successions of zigzags and hairpins which tax the skill of the riders.

The most difficult portion comes near the end, when after covering a half-mile straightaway with a very slight gradient, the "Staircase" has to be tackled. This is very appropriately named, for the road doubles back on itself in such a series of ledges that viewed from a distance it looks like a giant's staircase. From the top "landing" there is a most wonderful view, not only right down the "Staircase," but towards the valley miles below. The whole scenery, with its contrasts of blue sky, snow-capped peaks and abrupt precipices, is beyond description.

It was possible to appreciate the difficulties of the route when going up the mountain in the early morning to witness the race. Whilst most of the solo machines made the climb without difficulty, not a few of the sidecars had to shed their passengers, and getting away again on the steep gradients was not always an easy matter. Among those going up were the competitors in the Rome-Antwerp reliability run, many of whom found it possible to wait an hour and watch the hill-climb.

This year the best performance was made by the Italian Della Ferrera on a 500 c.c. machine of his own construction. His time was 21m. 45s., which was 26s. slower than the record set up in 1914 by Bordino on a 500 c.c. Motosacoche.

The results were as follow:

350 c.c. CLASS.

		Time. m.	s.
1.	Foglia (Douglas)	33	52⅗
2.	Fiandesio (Imperial)	34	41⅘

500 c.c. CLASS.

1.	Della Ferrera (Della Ferrera)	21	45
2.	Gnesa (Motosacoche)	22	32⅗
3.	Gianoli (Motosacoche)	25	55⅖

1,000 c.c. CLASS.

1.	Bordino (Harley-Davidson)	21	47
2.	Malvisi (Harley-Davidson)	22	1⅘
3.	Contarini (Harley-Davidson)	22	46⅘

SIDECARS, 1,000 c.c.

1.	Borgarello (Harley-Davidson)	20	10⅗
2.	Zanchi (Clyno)	32	42

A LIGHTWEIGHT TENT FOR MOTOR CYCLISTS.

Dunhill's light tent for motor cyclists can conveniently be carried on a sidecar.

DIFFICULTY of arranging for suitable accommodation has made the camping tour exceptionally popular during the present holiday season.

Consequently, a reference to some very useful tents, which are suitable for this purpose, and can be folded in such a way as to allow their easy accommodation on the machine, cannot fail to interest many of our readers.

A lightweight tent, suitable for two motor cyclists, and known as the "Bivouac," is made by the Lightweight Tent Supply Co., High Holborn, W.C.1, is made in three sizes, the largest measuring 6ft. 6in. × 4ft. 4in., and weighs only 60 oz. This firm also manufactures ground sheets, sleeping bags, and numerous utensils and equipment which go to complete the camping kit.

Another useful tent of reasonable size for two persons is sold by Alfred Dunhill, Ltd., 359-361, Euston Road, London, N.W.1. The feature of this shelter is that it can be folded so that its measurements are reduced to 2ft. 6in. × 8in. × 5in., and therefore can easily be housed in the rear of a sidecar or strapped to the carrier of the motor cycle. A ground sheet is not required, as the two walls and the floor of the tent are made in one piece forming a triangle. Three collapsible poles support the roof, and the usual guy ropes and pegs are included. The total weight is less than 7 lb.

IN PRAISE OF LARGER TYRES.

THE modern reliability trial is apt to include a certain amount of freak surfaces, and such surfaces when they consist of rock outcrop and large stones are none too good for wheel rims. After sustaining one or two bad dents in the rim and innumerable jolts to the spinal column, the rider, who was intending to cover the route of the Scottish Six Days Trials cast around for a suitable means of saving both the rims of his motor cycle and that part of his person which in youth is reserved for castigation.

After some thought he decided to write to the Palmer Tyre Ltd. and enquire what might be the largest tyre which could be fitted to 26in. × 2¼in. rims, and in reply received a courteous answer explaining that 26in. × 2¼in. tyres were, obviously, the correct size, but that, though they were unable to guarantee results, they were aware that 28in. × 3in. tyres were sometimes fitted.

A Successful Experiment.

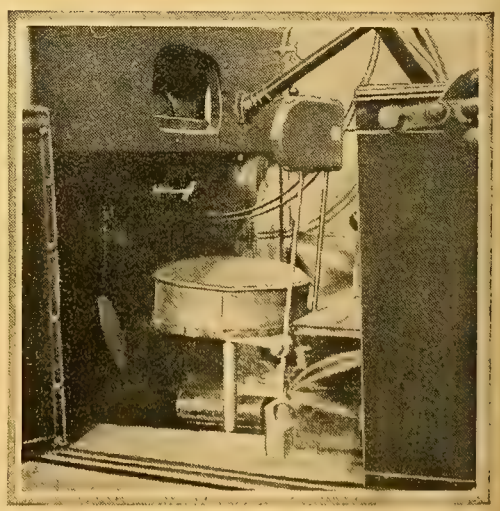
Now it is unwise to start on a Scottish Six Days with experimental fittings; but as the writer also had met with instances where 28in. × 3in. tyres had been used successfully on similar rims, and in France at that, he decided to try the experiment. A Palmer cord heavy 28in. × 3in., to fit American rims, was accordingly obtained and fitted to the rear wheel. The tyre slipped into place so easily that caution demanded security bolts. These were duly fitted, and the machine was driven hard for some two or three hundred miles over good roads. So satisfactory were the results from the point of view of comfort and reliability that the experiment was considered a success. Nevertheless, it was not without some qualms that the loose and rutty Scottish roads were tackled, for if anything will "roll off" a badly fitting tyre it is ruts or gravel. After safely negotiating the fearful roads from Lairg to Bettyhill on the second day of the trial all fears departed, and it is sufficient to state that the tyre gave no signs of trouble throughout the arduous trip. At the close of the trial the tyre was carefully examined. A nail had entered the cover and turned sideways, doing no damage whatever, and there were two slight cuts in the tread. Beyond this and a reasonable amount of wear on the three rib tread, the tyre was in faultless condition, and the only attention which it has since received has been to allow a certain amount of air to escape so as to provide easier riding over Midland roads, which between the pot-holes are tolerably smooth.

As a result, the writer has formed a resolution that nothing under 3in. tyres is good enough for him on future mounts.

H.D.T.

ACCOMMODATING A CHILD IN A MORGAN.

THE pleasure of a long ride in a sidecar, or cycle car, can be totally marred from the passenger's point of view if one is encumbered with a child on the knees. Even if the extra passenger is accommodated with an ordinary footstool, there is a likelihood of the passenger's knees and feet being cramped. The Barton auxiliary seat is designed to obviate this discomfort, the seat being supported on a single pedestal that fits into a socket containing a coil spring fixed in the floor of the sidecar. We have had this little seat in use for several months on a Morgan, and its decided advantage over an ordinary makeshift seat, with four supports, has been fully appreciated by the passengers. The circular seat is well sprung and padded, and the child's back is supported by a rest that can be adjusted to any height. The maker of the seat is Mr. S. Barton, 4, Windsor Street, Coventry.



The Barton auxiliary seat as used in a Morgan de Luxe

THE HOUR RECORD.

A Few Facts and Figures concerning the existing 500 c.c. Record.

RECENTLY, J. Emerson, on an A.B.C., beat the previous hour record for motor cycles of any size excepting 1,000 c.c., covering 67.93 miles in the 60 minutes. This is a wonderful performance for an engine of less than 400 c.c., and a few notes about what such a performance means may be of interest.

In the first place such a speed indicates that the engine must be turning over at the rate of 4,240 r.p.m., and the number of "revs" accomplished during the hour amount to upwards of 254,400, well over a quarter of a million, with a gear of 4.8 to 1. It is generally considered that high "revs" mean large horse power, and up to a certain point this is true—in fact, more than one horse power formula includes the number of revolutions among the other figures, by which it arrives at its result; for instance, the Hospitalier formula, which is well suited to motor cycle calculations, gives very reasonable results for a motor cycle in ordinary and travelling at moderate speeds. The formula usually ascribed to Dendy Marshall (but claimed by more than one) also includes "revs" in one of its forms. This formula gives results which may be reached by careful tuning.

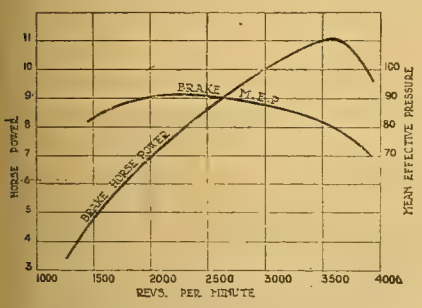


Fig. 1.—Curves showing the brake horse power and brake mean effective pressure for a single-cylinder engine, 85 × 88 mm. = 499 c.c. capacity.

Although, as I have said, the horse power increases with the "revs" up to a certain point, it does not continue to do so, up to the full speed of which the engine is capable, and it is the aim of engineering to make the power curve of an engine as straight as possible, so that it may continue to rise with the "revs" to the utmost extent. As a rule, the power will begin to drop some time before the 4,000 r.p.m. mark is reached, therefore it says much for the engine in question that the required horse power could be sustained at so high a speed for so long as an hour.

Maximum Speed.

Fig. 1 shows a typical brake horse power curve, which, it will be seen, drops quickly when the "revs" exceed 3,800 per minute, or fall below 1,500 per minute, the maximum power being given at just over 3,600 r.p.m. On the same graph I have also shown the curve representing the mean effective pressure, or ηP as it is sometimes called. These are the curves given by a well-known successful 3½ h.p. single-cylinder engine, the Rudge. It is, of course, largely the fall in the mean effective pressure, owing to the difficulty of completely filling the cylinder with gas at high speeds, that accounts for the falling off in horse power when the speed becomes very high. Obviously, for racing purposes, a motor cycle should be so geared that its maximum speed is attained at that number of r.p.m. which gives the greatest possible horse power.

Air Resistance.

At high speeds air resistance, which is a negligible quantity when moving slowly, absorbs the greatest amount of horse power. The air resistance varies approximately as the square of the speed, and as the area of the surface exposed to the air. But the shape of the surfaces also has considerable bearing upon the resistance, hence the streamlining of aeroplanes and racing motor cars. The upper curve in fig. 2 shows the resistance of a racing motor cyclist (who is supposed to present a surface of 5ft. to the air) by the Eiffel Tower formula, taking .003 as a constant; but as the surface in question is by no means flat, and the curved surfaces give a certain amount of streamlining effect, I have plotted out a second curve taking the constant as .002. If a motor cycle could be streamlined this figure might be still further reduced, but the streamlining of motor cycles (although suggested more than once in these pages) is still to become a *fait accompli*, but the rider has been streamlined to some extent. This was done in the case of Emerson himself, some years ago.

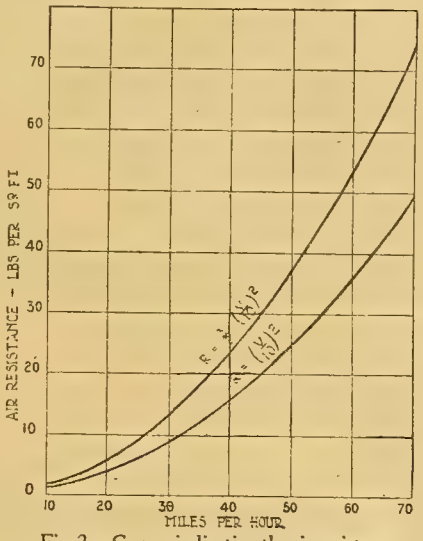


Fig. 2.—Curves indicating the air resistance to a racing motor cyclist. The top curve gives the Eiffel formula, taking the surface as five square feet. The bottom curve is a modification to allow for the shape of the surface.

Horse-power.

We have seen that the air resistance varies as the square of the speed, but the horse power required to overcome that resistance varies as the cube of the speed, for not only is the power of the resistance in-

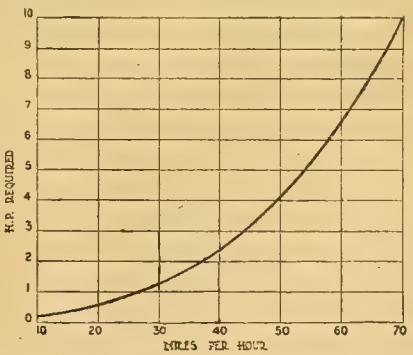
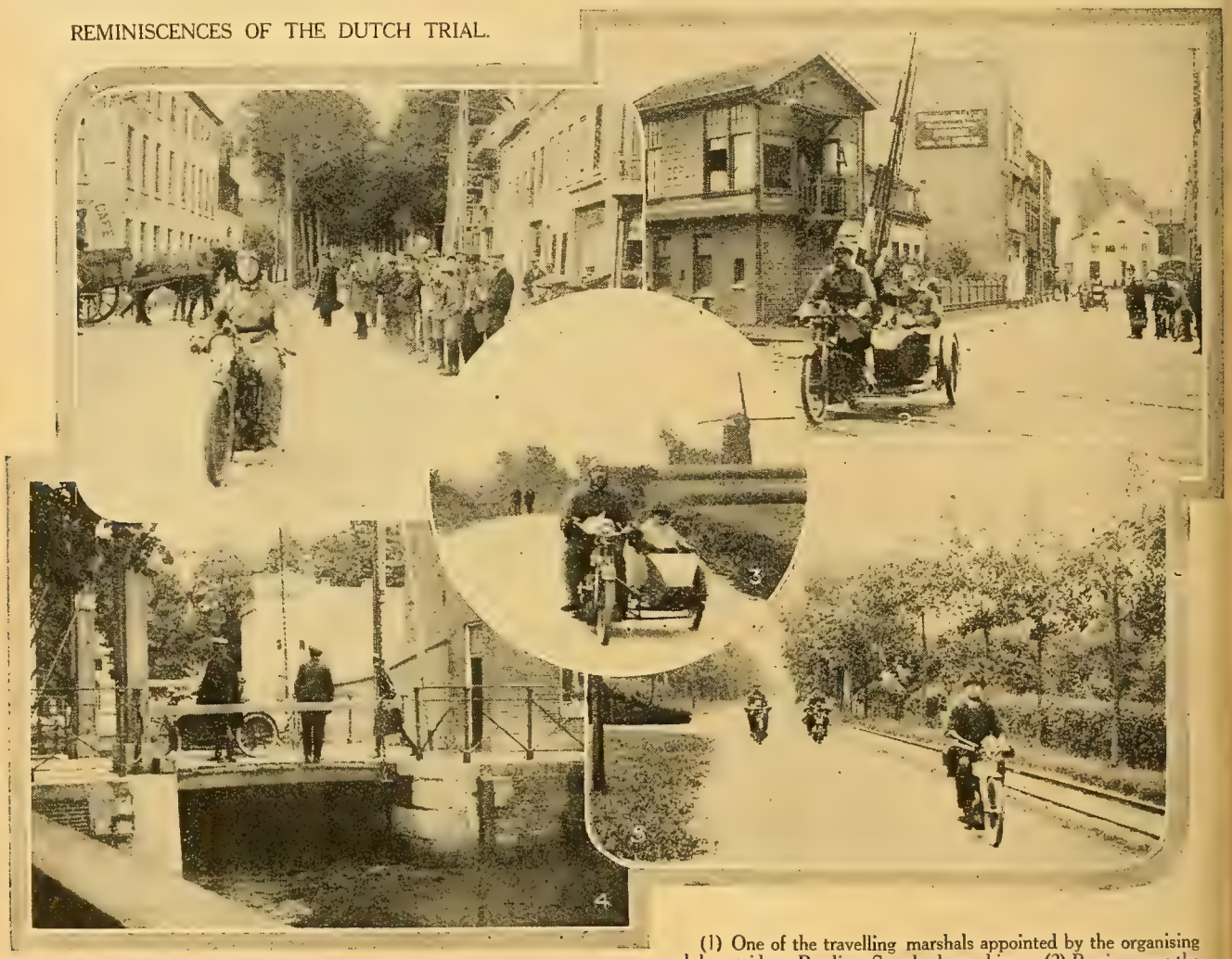


Fig. 3.—Curve showing the horse power required to propel a racing motor cycle over Brooklands track, taking the road resistance as 36 lb. per ton, and the air resistance as given by the lower curve in fig. 2.

The Hour Record.—

creased by the faster passage through the air, but that resistance has also to be overcome in a shorter time, and horse power is the rate of doing work. Now, Emerson covered many laps at a speed of 70 m.p.h., and on reference to fig. 2, taking the lower curve as more likely to give a correct result, we find the air resistance at 70 m.p.h. to be 49 lb. If we take the weight of the machine and rider to be about 370 lb. (1/6 of a ton), and the tractive resistance on Brooklands track at 36 lb. per ton, we have a total resistance of 55 lb., and the required horse power to maintain this speed will be $\frac{55 \times 70 \times 22}{15 \times 550} = 10.26$ and this is, as I have already said, very creditable to so small an engine. The average piston speed was about 1,500 feet per minute, consequently the velocity of the inlet gas must have been in the neighbourhood of 17,100 feet per minute, or 285 feet per second, which exceeds 194 m.p.h. AURIGA.

REMINISCENCES OF THE DUTCH TRIAL.



(1) One of the travelling marshals appointed by the organising club astride a Reading Standard machine. (2) Passing over the railway crossing in Heerlen—C. Wittevcen, jun. (5-6 h.p. James sidecar). (3) W. van Zijll (Douglas sidecar) in a typical Dutch countryside scene. (4) H. Boynton (5-6 h.p. James sidecar) crossing the swing bridge over the canal at Nieuwersluis. (5) Three competitors on the road to Ginkel. Observe the railway lines by the roadside.

FULL TIME GARAGES.

THERE are places where garages rank themselves in the same category as hotels, churches, surgeries, and pharmacies, remaining open practically continuously for emergency purposes, and at practically all daylight hours for routine services. There are others where garages take their responsibilities very lightly indeed. It is extremely common for the entire staff of a garage, excepting only a single casual urchin, to take their lunch simultaneously. It is by no means uncommon for a garage to shut on the local early closing day. I always feel a profound sympathy for people like publicans and agriculturists, who never get a day off; and I quite admit the problems involved. If the staff is big, there should be no trouble in arranging for one responsible individual to lunch early or late, and to remain on duty throughout early closing day. Early closing day is seldom the pet holiday for employees, who prefer Saturdays for their day off. Anyhow, garage owners who wish to draw custom and make money must perceive that the place where service is *always* obtainable is the one which will ultimately make good. Last week in quite an important town I spent an hour on early closing day in obtaining a tin of petrol. IXION.

A Sporting Trial on the Welsh Border.

Worcester and District M.C.C. One Day Trial.

FINE weather, an interesting course, and excellent organisation, characterised the recent one-day trial organised by the Worcester and District M.C.C. The course, which was 116 miles in length, was very well marked with arrows and colour. The system of timing was the same that was found so successful in the Scottish Six Days Trials, *i.e.*, each check stands by itself, and once marks are lost they cannot be regained. This innovation, so far as English trials are concerned, is due to the fact that several of the most active members of the Worcester club have competed in the Scottish trials, and thus appreciated this feature.

Starting outside Worcester at 10 a.m. competitors took the main road through Bromyard, Leominster, to Aymestrey, where the course lay to the right down a rough and narrow lane. Here the first obstacle, a watersplash 25 yards long, was encountered; it caused a number of failures. A. Thomas (Diamond), E. S. Ranstedt (3½ Ariel), D. B. Flux (4 Triumph sc.), and Edkins (Edmund), failed to make a clean passage or stopped on the rise with belt slip. J. A. Chadwick (Diamond) sheered his pulley key but managed to effect a repair of sorts and continued. The main road was gained at Presteign, through Walton and Gladestry, followed by another very rough section to Clyro. A second splash was encountered but did not prove difficult. E. Ranstedt, however, took it fast and suffered with belt slip and carburetter trouble; shortly afterwards we passed D. B. Flux in the ditch minus his sidecar disc, and in trouble with tyres.

L. C. M. Davies (Velocette), who rode consistently throughout, on the narrow lane near Lingen.

T. B. G. Vale (Norton), followed by M. Hartland (N.U.T.), negotiating the watersplash
The deep ruts on both sides caused several failures

A Stiff Climb after Lunch.

Twenty-three riders checked in at the lunch stop at Glasbury, D. L. Greig (3½ Sunbeam) arriving late, having punctured. We noticed J. A. Chadwick (2½ h.p. Diamond) trying to repair his transmission, but apparently he was unsuccessful as he failed to finish. The first obstacle encountered in the afternoon was Trevadoc Pitch outside Hay—a long rough climb with countless cross gulleys terminating in an S bend with a very loose surface and a gradient of about one in six. The star performances here were made by A. F. Harris (A.J.S.), T. B. G. Vale (Norton), L. C. Davies (Velocette), B. Bladder (New Imperial), and the two Morgans. A. Thomas (2½ h.p. Diamond) broke his belt on the first turn, while E. S. Ranstedt (3½ h.p. Ariel) ran up the bank. J. W. Wills (7-9 h.p. Indian sc.), who was carrying Fell Smith in his sidecar, failed near the top through clutch slip, and later on his coat caught fire, but without any serious consequences. L. Warren (2¾ h.p. Douglas) appeared "done up," having hit a cow near Hay. He, however, pluckily carried on minus footboards and finished. H. Moule (5-6 h.p. Rover sc.) just failed to make the climb, other failures being C. F. Quant (Triumph sc.) and W. Edkins (Edmund). Onwards the course lay over by-roads to Hereford, thence by the Worcester road over Froome Hill to the starting point. This hill was not observed, the majority of the competitors making light of it, though one or two failed.

The following competitors completed the course:

A. F. Harris (6 A.J.S.)
J. Westwood Wills (7-9 Indian sc.).
T. B. G. Vale (4 Norton).
L. C. M. Davies (2¼ Velocette).
B. Bladder (8 New Imperial sc.).
N. A. Bain (3½ Sunbeam).
G. Bernard (3½ Sunbeam sc.).
W. A. Carr (10 Morgan).
A. Thomas (Diamond).
F. Drew (3½ N.U.T.).
J. A. Fellows (James).
M. Hartland (3½ N.U.T.).
O K Bevington (3½ Sunbeam sc.).
H. Moule (5-6 Rover sc.).
L. Warran (2¾ Douglas).
D. L. Greig (3½ Sunbeam).
C. F. Quant (4 Triumph sc.).
G. H. Leeke (10 Morgan).
J. M Dosher (6 Enfield sc.).
W. Edkins (Edmund-Jap).
E. S. Ranstedt (3½ Ariel).

THE GRAND PRIX.

WITH fifty-three motor cycles and cycle cars entered for the Grand Prix Race at Le Mans on August 28th, and twenty-four machines for the voiturette or light car race on the following day, this two-day meeting in the Sarthe ought to be the most interesting French event of the year. The club has selected a short circuit only two or three miles from the city, with direct tramway communication to the main grandstands. The roads, while not being really bad, are somewhat rough for a motor cycle race, and will test the solidity and stability of the machines. The firms represented in the three motor cycle classes of 250, 350, and 500 c.c. are Thomann, Moto Solo, Alcyon, Motosacoche, Verus, Rudge, Peugeot, Blériot, A.B.C., and Douglas.

There are two cycle car classes, but as there are only a couple of 750 c.c. machines all the interest centres in the 1,100 c.c. class. If exception is made of the well-known Morgan, all the cycle cars are of new designs brought out since the Armistice, and some of them are by entirely new firms. The makes are Elfe, Automobilette, Ruby, Jourdain, Douglas, Ch. Fournier, Noel, Blanc and Guillon, Soriano-Pedroso, Major, and Morgan, each firm entering from two to four vehicles.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

ONE-GALLON PETROL CANS.

Sir,—With reference to "Ixion's" remarks on the above subject in your August 5th issue, under "Occasional Comments," I have got over the difficulty by converting a gallon oil tin with a petrol filler fitting and cap, off an old motor cycle tank, soldered in place of the existing filler, which makes it petrol tight. This is easily carried in a sidecar.

W. N. SPARKES.

TYRE CREEPING.

Sir,—We notice a letter in a recent issue of your journal from Mr. Leslie Eveleigh, stating the trouble he has experienced due to his tyres creeping.

We suggest that he fit Leosco patent tube savers to his rims, when he will find that they will cure his trouble entirely, without having to worry with security bolts. In addition, as is well known, they protect the inner tube from the rim, etc.

LEO SWAIN AND CO.

CARRYING SPARE CHAINS.

Sir,—In your issue of July 29th, "Ixion" asks for suggestions for carrying spare chains. The following method may seem to him worth trying.

Procure a flat tin which will just hold the chain when rolled up. Then roll up the chain with a strip of thick brown paper between the turns. Place the chain thus rolled up in the tin and pour in melted tallow. Prices' Candle Co. would no doubt be able to supply a better lubricant to use in place of tallow. In any case the chain will not come to any harm.

H. ROTTENBURG.

Cambridge.

THE DEGORY CARBURETTER.

Sir,—I was very much interested to read that your correspondent "Not Infallible" had achieved 113 m.p.g. on a Scott, and would very much like to know whether he has tried a Binks carburetter, for, if the Degory is a 30 m.p.g. improvement on that, I shall certainly get one for my Scott.

My machine has, perhaps, hardly had time to get quite "run in" yet, but I am getting just over 40 m.p.g. with a sidecar, and I feel I ought to be able to improve on that.

I should also like to know how he explains his getting better results with the plugs in the cylinder heads.

A. K. GORDON.

Sir,—With reference to "Not Infallible's" experience with the Degory No-jet carburetter, I have been using this carburetter for some time, with most excellent results, and on my standard 2¾ h.p. Douglas I have been obtaining over 120 m.p.g. on long runs.

A. E. WILLS.

CHIVALRY.

Sir,—Returning from Horsham recently on my two-stroke, I ran short of petrol one and a half miles from East Grinstead. I had to push my machine there, as nobody offered assistance. When I stopped occasionally for a rest, men in cars and on bicycles laughed at me; one man rudely suggested that I "hit it, and perhaps it will go." Probably he thought it quite a good joke. Anyway, he rode on laughing, without offering help. Considering I am a girl, I should have thought that at least one man would have shown himself gentlemanly enough to stop, even if he could not be of any assistance.

It makes one feel disgusted with boys of eighteen and twenty, and some of the older men are not much better. It is those who would be very grateful for help that are unlucky enough not to receive any.

(MISS) H. PEALL.

FINISH.

Sir,—I note with pleasure "West Countryman's" lines on the finish of Diamond machines; mine is a similar experience to his, although hailing from the North Country, where, perhaps, there has been more severe tests due to the weather this year. Although seldom cleaned properly, my machine shows no sign of bad use. I have disc wheels attached, which save an enormous amount of cleaning. I have no connection with this firm beyond being a satisfied owner.

NORTH COUNTRYMAN.

Masham.

A SILENCING TIP.

Sir,—I ride a 2¾ h.p. Douglas, and have found an effective method of silencing the noise made by the tappets striking the valve stems. I obtained four spent .22 rifle cartridges (copper) and inside each I put a small piece of rubber about ⅛in. in depth. I fitted these to the ends of the valve stems, and adjusted the tappets so that the base of the cartridge just rested tight on the tappet head. The necessary space between the valve stem and the tappet head is taken up by the play in the rubber. This could be done on other machines by obtaining a larger size of cartridge. When the copper wears out, new cartridges can be fitted.

Maybole. HIGHWAY.

FREEMASONRY OF THE ROAD.

Sir,—Last Saturday, having mended a puncture in the Edgware Road by the flying ground, I rode away having insecurely fastened a tool bag. I was pulled up in about one hundred yards, and turned back to have my tool roll returned to me by an honest motor driver who had seen it fall. But there was still missing a roll of tools in a duster, including two Triumph special spanners and a large King Dick.

On speaking to a constable some ten minutes afterwards after a fruitless search, he said: "Oh, were they yours? I saw the chauffeur of a car with two occupants stop and pick them up. I thought it curious that such a thing should have dropped from his car and asked him if they were his. He replied that they were. And departed."

Where is the freemasonry of the road?

C. J. GORDON SEDDON.

MINIATURES.

Sir,—We have carefully noted the letter signed by Mr. J. D. Timmins, relative to motor scooters in your issue of the 5th inst.

We welcome the views expressed by this contributor respecting the question of reliability trials for these little machines. We understand that in order to prove the possibility of travelling a distance of over a hundred miles on an A.B.C. Skootamota, a client of ours last Sunday travelled to Brighton and back, and in his report to us he stated that no trouble was experienced, but he emphasised the necessity of travelling at a pace within the limits of the engine fitted to the machine. We mention these facts, as we rather fear from reports received that the general public consider the possibilities of the motor scooter unlimited, whereas it is most desirable that they should be educated up to the fact that, used with intelligence and care, these machines, although essentially designed for short journeys, can be used for long distances.

We should welcome the views of other contributors and users, and trust you will bring this letter to the notice of numerous interested readers.

GILBERT CAMPLING, LTD.

CONSIDERATE DRIVING.

Sir,—I think a general warning should be given to touring motor cyclists in general, and South Wales motor cyclists in particular, to take great care in driving through Neath, Burton Ferry, and Port Talbot. Several prosecutions for driving to the public danger are pending. As is characteristic of most centres of police activity, the condition of the general street traffic is chaotic. In Port Talbot in particular the police have no control whatever over pedestrians or vehicles. ALEX. LINDSAY.

TOOLBAG FASTENERS.

Sir,—With reference to "Ixion's" comments on toolbag fastenings, it may be comforting for him to know that the old strap and buckle fastening is not altogether dead and unused.

As toolbag manufacturers, we are constantly pointing out the obvious advantages of the old method of fastening, and many motor cycle manufacturers, whom we have the pleasure of supplying, fix to their machines bags with the strap and buckle fastening.

We venture to suggest that "Ixion's" lamentations would be permanently relieved if he strode into the premises of a modern motor cycle depôt and noted the makes which still stick to the ancient fastener, "the strap and buckle."

J. PARFIELD AND CO.

SANS MAGNETO

Sir,—In *The Motor Cycle* lately there has been some correspondence about "running without a magneto." Although I have not come across it in a motor cycle, I have had an "Evinrude" rowboat motor, which did so. This was entirely due to the water circulating pump ceasing to work, the motor then got overheated, and pulling the high-tension cable off would not stop it running. I do not think any petrol engine is capable of firing a charge by compression alone as "Valveless" suggests in his letter. He also says he thinks it would make a two-stroke motor four-stroke; this engine two-stroked all the time except that it went very slowly and stiffly. PERCY L. OGDEN.

Sir,—I was very much interested reading the letter written by "Valveless" on the above subject.

For a long time it has been my opinion that the Diesel principle of ignition has been responsible for a hot engine to continue firing, after the magneto has been cut out. And also that it is responsible for pre-ignition in a great many cases. Like "Valveless," I do not put myself forward as an advanced theorist, but as a keen observant motor cyclist. I will go a step further than "Valveless" and try to explain.

The theory of incandescent carbon is all right and acceptable if we can be persuaded that carbon or plug points will retain heat enough to fire the next charge after the passage of the piston through the power-stroke, exhaust-stroke, and the induction-stroke. It seems to me that the fact of the cooling influence of the incoming fresh gases would be enough to make the hot carbon ineffective on the next compression stroke; likewise the plug points to my mind would not be sufficiently incandescent to fire it. One would think if the carbon did retain sufficient heat to fire the next charge, why will it not continue to fire so long as there is carbon left for the flame to feed on?

But this is not what happens, it only continues to fire for a few seconds and stops. This is my case for the carbon theory. It may be wrong, and I shall be glad to stand corrected.

The Diesel system offers us another solution, and to my mind a more acceptable one for the simple reason that the carbon and plug points theory as far as I can see must be purely guesswork, whereas the Diesel principle of ignition is an established fact.

With a naturally high compression engine the combustion space further reduced by excessive carbon, the engine already hot from heavy running, engine otherwise in good condition as regards compression, etc.: I contend that under these conditions it is quite possible for this engine to run for a few revolutions on the Diesel principle, *sans* magneto.

Southport. J. MILNER.

Sir,—Anent this subject which appears to be interesting to so many observant motor cyclists, perhaps some enthusiast who has experimented with small petrol engines for driving model aeroplanes will give us details as to how the ignition worked on these small engines. Unless my memory fails me, it was the practice of certain pseudo-engineers who designed these diminutive power plants to have a high compression, and to start up by means of coil and battery. Having warmed up, this heavy equipment was disconnected and removed, and the engine flew off with its aeroplane, *sans* any special apparatus to make the spark. X.P.D.N.C.

Earlsdon.

SPEEDOMETER FITTING.

Sir,—The purpose of this letter is to call riders' attention to a small detail of fitting up speedometers, which has revealed a potential source of danger.

I recently took delivery of a new B.S.A. machine and sidecar, having had a speedometer fitted by the agents. At the end of the twelfth mile, while driving the machine home and while passing an overtaken vehicle, the front wheel became detached from the off side of the front fork, with disastrous consequences to the steering, the machine finishing up with the horse (with which I collided head on) dancing on the fortunately empty sidecar. The speed at the time was not more than 8 m.p.h.

On examination it was found that the near side of the front fork was bent to an angle of 45°, while the off side of the fork was still quite true. The wheel would still spin truly on the spindle, and was apparently unscratched. These details are mentioned in order that the cause of the accident may be seen clearly.

The front spindle nut is so shaped that it has a collar which fits into a circular rebate in the fork end for the purpose of preventing the spindle from coming out of the slotted fork end unless screwed back several threads. The agents in fitting the speedometer had merely slipped the clip holding the smaller toothed wheel over the collar on the nut and then screwed up.

The thickness of the speedometer clip is such that the collar of the nut, instead of projecting well into the rebate, was only in to a depth of about $\frac{1}{50}$in. The result was that the function of the rebate in the fork end and the collar on the nut was completely destroyed. The retention of the spindle in the slotted fork end must now rely entirely upon non-slipping of the nut when screwed up.

On recovering from the effects of the accident I called the attention of the agents and also the speedometer manufacturers to this palpable defect in fitting, and enquired for a special nut having a longer collar to accommodate the added thickness of the speedometer clip. To my surprise the agents informed me that it was the usual custom in the trade to fit speedometers as mine had been fitted, and also volunteered the information that unless a front spindle nut was screwed up with a hammer on the spanner it would loosen in the first fifty miles or so!

The speedometer manufacturers also seem unaware that a special nut is necessary! On the other hand, our local garage manager informs me that he would not dream of fitting a speedometer without a special nut. So until I can obtain the nut necessary to make a safe job, I remain

Tipton. SPEEDOMETERLESS.

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TWO-STROKES.

Sir,—We think "A.L., Glasgow," loses sight of the fact that the two-stroke capacity is really much less than the stated capacity. The true c.c. of the simple three-port two-stroke engine, in our opinion, should be reckoned from the point where the piston closes the exhaust port. This will give the true c.c. For instance, in the Velocette the rated capacity by ordinary reckoning is 220 c.c., the bore and stroke being 62×73 mm. The effective stroke, *i.e.*, the amount of piston travel from the point where the piston closes the exhaust port to the top of its compression stroke, is equal to a volume of 165 c.c., that is lowering the capacity by 25%, which is quite sufficient handicap.

VELOCE LIMITED.
P. J. GOODMAN, Director.

Sir,—I think that "A.L., Glasgow," is prejudiced against the two-stroke engine. Do you not think that it ought to be encouraged on account of its great simplicity instead of discouraged, as "A.L." suggests. I think it is only fair to give it a few years to develop. Surely four-stroke enthusiasts are not afraid of it in its infancy.

Ibstock. H.P.C.

INDIAN KICK-STARTER.

Sir,—If your correspondent "Puzzled" will examine the kick starter pawl of his 7-9 h.p. Indian, he will find that this pawl carries a supplementary pawl, to release the main pawl when a reverse movement takes place.

I have had a similar experience with my 1914 Indian front starter, and, upon examination, found that the fine spring bearing upon the supplementary pawl had slipped its anchorage.

Since replacing this, I have had scores of backfires, as the 1914 Indian is, as far as road running is concerned, a fixed ignition machine, and consequently, when being started up, is inclined to early ignition.

If properly fitted, the supplementary pawl will release the main pawl within 3° reverse movement.

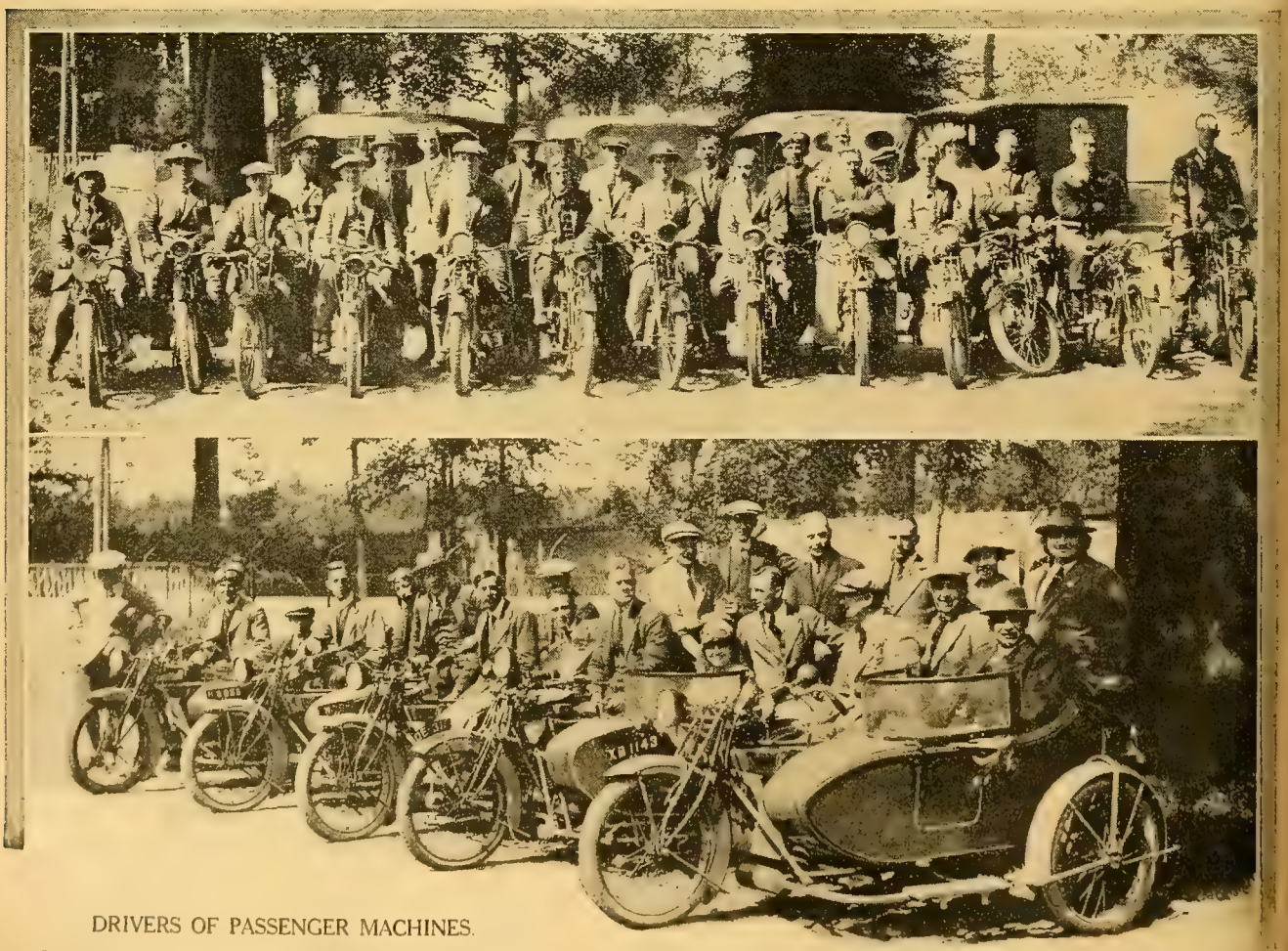
Broughton-in-Furness. 1914 7-9 h.p. INDIAN.

SUMMARY OF CORRESPONDENCE.

SATISFACTORY TREATMENT.—We have received a large number of letters of appreciation relative to the good treatment received at the hands of various garages and manufacturers. Among the firms mentioned are the following: The makers of the E.I.C. magneto, who replaced by return of post a magneto claimed to be defective; Ariel Works, Ltd.; the James Cycle Co.; and the makers of the Bonniksen speedometer, for similar prompt service. F.N. (England), Ltd., are also referred to in complimentary terms, while a discharged soldier—A. J. Biggs—who has opened a garage at Clarence Road, Southsea, is recommended on account of a prompt repair. The good work of the Euston Ignition Co., 329, Euston Road, London, on a rush job is the subject of another long letter, as is the promptitude of North and Sons, the makers of the Watford speedometer.

ENGLAND v. HOLLAND. SOLO RIDERS IN THE BRITISH TEAM.

J. W. Todd (Reading Standard) | C. Cross-thwaite (James) | H. Gibson (Clyno) | P. Moffat (Douglas) | G. P. Glen-Kidstone (Sunbeam) | W. B. Gibb (Douglas) | G. Smith (Sunbeam) | Kaye Don (Zenith) | L. Newey (Ariel) | H. P. Lucas (Zenith) | F. A. Hardy (Zenith) | E. A. Edwards (N.U.T.) | J. A. Newman (Sunbeam)



DRIVERS OF PASSENGER MACHINES.

F. J. Ellis (Matchless) | E. B. Ware (Matchless) | H. V. Colver (Matchless) | H. Boynton (James) | W. Pratt (Matchless)

NOTES FOR THE NOVICE

CARBURETTERS III.

(Continued from page 188.)

THE problem of so constructing a carburetter that it shall give a perfect mixture at all throttle openings is not, I think, a very difficult one. The required proportions of air and petrol are known, and it is not difficult to produce a carburetter that will supply increased amounts of the two constituents of an explosive gas in the correct proportions either by increasing the suction on the jet, and so obtaining an increased amount of fuel as the air valve is opened, or by enlarging the jet by withdrawing a needle or uncovering extra holes.

A Perfect Mixture at Varying Speeds.

The second requirement, viz., that of giving a perfect mixture at different speeds with the same throttle opening, is by no means so simple. As the speed of the air through the carburetter increases, it naturally takes more petrol from the jet. If this is all, the proportion of air to petrol would continue to be correct, but greater engine speed also causes a higher vacuum in the carburetter, and consequently a greater suction on the jet. This also has the effect of taking up more fuel, and therefore, the fuel supply being increased for two reasons, the mixture becomes too rich, unless some method of counteracting this be incorporated in the carburetter.

In the Cox-Atmos carburetter this end is achieved by placing the jet in a small venturi tube of its own, instead of in the main venturi. The Eta attains the same purpose by means of an injector connected by a tube to the interior of the carburetter on the engine side of the venturi, but on the atmospheric side of the throttle. The single-lever Amac resembles both these to a certain extent, seeing that it has a passage between the jet and the venturi, and another to the engine side of the venturi which acts as a pilot jet. In all three the controlling valve or jet is removed from the spraying jet. The Claudel-Hobson venturi tube is supplied with the usual jet, and this is surrounded by an annular space where air can enter as the suction increases, and keep the mixture uniform at different speeds. This carburetter has, in addition, an adjustment of the air supply controlled by a small lever on the side of the carburetter, by means of which a rich mixture can be given for starting purposes. When the engine is in motion the lever can be set to give the amount of air required by the fuel in use, or the atmospheric conditions prevailing at the time, but it need not be touched while driving.

The novice is very likely to form the opinion that he will obtain greater power by enlarging his jet and greater economy by reducing it. Although both of these opinions are broadly correct, they do not apply to every case. If the mixture be too weak a larger jet will naturally increase the power, but if the carburetter is already giving a perfect mixture no advantage will accrue from the use of a larger jet unless the air supply is also increased, and consequently an increased charge got into the engine—in fact the reverse will be the case, for the mixture will become too rich and will not burn so quickly, or exert so great a force upon the piston, the inside of the engine will become coated with a fine soot, the plugs will be sooted up, and misfiring will result.

Jet Sizes and Economy.

On any given engine the advantage of increasing both the jet size and the air supply is strictly limited, for it is essential to keep up the air velocity through the carburetter, and so promote suction turbulence, and this can only be done by having a choke tube of a reasonable size. Too large a choke combined with too large a jet may give a perfect mixture, but no more gas will enter the cylinder than if the air velocity were higher and the jet smaller, and the suction turbulence, which is so necessary to rapid combustion, would be lacking to a large degree.

Similarly a reduction of the jet size must be accompanied by a corresponding reduction in the air orifice, and consequent increase of air speed, so that we soon arrive at a point where a further decrease in the size of the jet no longer effects an economy of fuel, for the air must be kept closed and the throttle more open, and we have in effect a smaller carburetter working at a greater throttle opening. As a matter of fact it is sometimes possible to improve the m.p.g. by slightly enlarging the jet.

Notes for the Novice.—

Again, when using benzole in a carburetter tuned for petrol it is better in the interests of economy to reduce the jet than to increase the air supply, though it is not always so convenient to adopt this procedure. This is where the advantage of a variable jet is so apparent. To give an example—a month or so ago I was obliged to fill up my tank with petrol when my single lever Amac was tuned for use with benzole. This gave quite satisfactory running on the level, and on moderate hills, but on the steep grade of Birdlip the engine seemed to lack its usual power. However, a very slight opening of the W.S.R. jet made a world of difference. I passed the Knapp (1 in 5) and finished the climb in no uncertain fashion and with plenty of speed.

It is a very good plan when testing jet sizes to examine the plug (or plugs) at frequent intervals, and to cut down the jet size at the slightest sign of soot—not burnt oil, which may be wet or hard, but powdery black soot, such as can be easily wiped off with a rag or brush.

The Float Chamber.

The petrol level at the jet is controlled by the level in the float chamber, and, although this is always supposed to be correctly set by the makers of the carburetter before the instrument leaves the works, I have met with but few carburetters where the economy could not be improved by lowering the level a trifle. An easy means of adjusting the level is therefore very desirable, and preferably one which will allow the level to be set back to its former height, should the alteration not prove beneficial. In some cases where the needle has a brass collar, the collar can be moved up or down as required, but great care must be taken not to damage the point of the needle. In top feed carburetters and those having bottom feed with an inverted needle (such as the Amac), the collar must be lowered to lower the petrol level, and naturally in cases where the needle is operated by toggles, as the float rises, the collar must be raised to attain the same result. In some carburetters a slot turned on the needle takes the place of a movable collar, in which case the level can be lowered by placing a very light washer or ring (of aluminium, if such is obtainable, but a brass boot eyelet will do very well) under the spring clip above the float, or the level raised (but this is seldom necessary) by means of a heavy washer above the clip. Personally, I prefer these methods to tampering with the collar, as there is no chance of doing any damage, and they allow of an immediate and certain return to the original conditions if desired.

Effect of Level.

Some carburetters—*e.g.*, the Senspray—admit of a very low petrol level owing to the principles of their construction; others are much more sensitive to level. Generally speaking, a low level tends to economy, but makes starting a little more difficult, while a high level is beneficial for slow running. It need hardly be said that the highest allowable level must be below the orifices of the spraying jet, or flooding and waste of fuel will result.

I have occasionally met with carburetters in which the only method of altering the level of the fuel at the jet was by tilting the whole carburetter, since there was, owing to its construction, no convenient method of altering the level in the float chamber. This I consider to be a defect in design. J.H.W.

WHERE OLD-WORLD CUSTOMS STILL PREVAIL—BELGIUM, 1920.

A typical Belgian village scene. A bullock cart in St. Trond.

CLUB NEWS.

Coventry and Warwickshire M.C.

Local motor cyclists wishing to join the club in order to participate in the hill-climb at Stile Kop on September 4th should communicate at once with the hon. secretary, Mr. J. F. Spencer, 27, Priory Street, Coventry.

Helensburgh M.C.C.

Owing to lack of entries for the recent hill-climb held on Garshake Hill, Dumbarton, several of the classes were cancelled. The results of those run off were as follow: Class 2 (600 c.c.).—1, E. N. White (3½ Edmund); 2, D. C. Tullis (3 A.B.C.). Class 4 (sidecars).—1, W. M. McLellan (4 Norton sc.). Class 6 (600 c.c., novices).—1, W. M. Carlaw (3½ Lea-Francis); 2, T. Godley (3½ Rudge).

Colwyn Bay, Llandudno, and District M.C.C.

A club has recently been formed in the above district. All motor cyclists desirous of becoming members should get into communication with the hon. sec., Mr. R. H. Jones, "Greenfield," St. David's Road, Llandudno, or the hon. treasurer, Mr. D. R. Clarke, "Holmleigh," Woodland Park, Colwyn Bay.

Essex M.C.

Further particulars are now to hand concerning the Essex Motor Club's Twenty-four Hours Trial, which promises to be a most interesting event, embracing as it does two of the famous hills situated in the neighbourhood of Bala.

The start will take place from the "Old Gatehouse," Highgate, on September 10th, and the route will pass through Barnet, Daventry, Tamworth, Shrewsbury, Welshpool, and Bala. Having partaken of breakfast at Bala, competitors will ascend the Hirnant Pass, well remembered by competitors in the 1919 Six Days A.C.U. Trials, descending into Llanwyddyn and along the shores of Lake Vyrnwy. Thereafter the route proceeds *via* Cann Office to Shrewsbury, Tamworth, Daventry, to Dunstable, making a total mileage of 410 miles.

Entries close on August 28th, and full particulars can be obtained from the hon. organisers, F. A. Applebee and E. A. Colliver, 208, Great Portland Street, London, W.1.

Basingstoke M.C. and L.C.C.

A large crowd of spectators assembled to witness the club's recent hill-climb on Farleigh Hill. The weather was ideal, and the organisation very well carried out. Forty-seven competitors took part in the various classes, which were run off without a hitch, and some good riding was witnessed. The results on formula were as follow: 275 c.c.—1, W. Julian (Cedos); 2, T. Mansbridge (Metro-Tyler). 350 c.c.—1, C. Ody (2¾ Douglas); 2, S. Ody (2¾ Douglas. 550 c.c.—1, W. Julian (A.B.C.); 2, S. Julian (3½ Norton). 1,000 c.c.—1, W. Julian (A.B.C.); 2, S. Julian (3½ Norton). 600 c.c. sidecars.—1, S. Julian (3½ Norton sc.); 2, W. Julian (3½ Norton sc.). Light cars.—1, R. Baxter (A.V.). Fastest solo, F. Bickerton (Indian), 33⅖s. Fastest sidecar, S. and W. Julian tied, 43⅗s.

Future Events.

Aug. 19.—Worcester and District M.C.C. Hill-climb.
Aug. 21.—Plymouth and District M.C. and L.C.C. Run to Okehampton.
Aug. 21.—Southampton and District M.C. Trials for Club Cup.
Aug. 21.—Falkirk and District M.C.C. Hill-climb.
Aug. 21.—Dewsbury and District M.C.C. Competition.
Aug. 21.—Sheffield and Hallamshire M.C.C. Petrol Consumption.
Aug 21.—Edinburgh and District M.C. Run to Gifford.
Aug. 21.—Eastern Valley M.C.C. Run to Malvern.
Aug. 21.—Bedford and District M.C. and L.C.C. Club Run.
Aug. 21. Luton and S. Beds. A.C. Picnic.
AUG. 21.—YORK AND DISTRICT M.C. OPEN EVENT, SUTTON BANK.
Aug. 21-22.—Public Schools M.C.C. Week-end Run.
Aug. 22.—Rochester, Chatham, and District M.C. Inter-club Run.
Aug. 22.—Southampton and District M.C. New Forest Picnic.
Aug. 22.—Leeds and District M.C. One-day Trial.
Aug. 22.—Dewsbury and District M.C.C. Run to Malham.
Aug. 22.—North London M.C.C. Run to Cambridge.
Aug. 22.—Bury and District M.C. Social Run.
Aug. 22.—N.M.C.F.U. (Wolverhampton). Run to Ironbridge.
Aug. 22.—Woolwich, Plumstead, and District M.C. Gymkhana.
Aug. 22.—Reading and District M.C. and L.C.C. Paperchase.
Aug. 22.—Exeter M.C. and J.C.C. Run to Babbacombe.
Aug. 22.—N.M.C.F.U. (Portsmouth). Run to Christchurch.
Aug. 22.—Westmorland M.C.C. Social Run.
Aug. 22.—Cumberland County M.C.C. Run to Harrogate.
Aug. 22.—Northern M.C. Hill-climb.
Aug. 22.—Fleet and District M.C.C. Picnic and Gymkhana.
Aug. 22.—Nuneaton and District M.C.C. Run to Breedon.
Aug. 22.—Derby and District M.C. Reliability Trial.
Aug. 22.—North London M.C.C. Run to Cambridge.
AUG. 23-28.—A.C.U. SIX DAYS TRIALS.
Aug. 24.—Plymouth and District M.C. and L.C.C. Reliability Trial.
Aug. 25.—Leeds and District M.C. Run to Buttercombe.
Aug. 25.—Southampton and District M.C. Run to Barton-on-Sea.
Aug. 26.—Nuneaton and District M.C.C. Run to Copstone.
Aug. 26.—Eastern Valley M.C.C. Slow Hill-climb.

Southport A.C.

The Southport Automobile Club is holding a speed trial on August 28th, to be run on the Southport sands. There will be ten classes for motor cycles and two for cars. Full particulars can be obtained from Mr. E. Jones, 33, Morven Grove, Southport.

North London M.C.C.

The North London M.C.C. were the organisers of a well-attended flying meet held at Northolt Aerodrome on the 8th inst. Flights were obtainable at reduced rates, and a raffle which was arranged resulted in six lucky numbers securing a guinea flight in an Avro machine at a cost of a shilling each. The visiting clubs were the Stevenage and District, Bedford, Marlow and District, and N.W. London.

Taunton and District M.C.C.

Following up the recent successful events of this club a hill-climb is fixed for to-day at West Buckland Hill, near Wellington, and the first event is timed for 3 p.m. There are twelve classes in all, six for the Taunton Club only, and six for members of the Bournemouth, Bridgwater, Dorchester, Exeter, Sidmouth, Taunton and Yeovil M.C.C. The results will all be on time, and prizes are to be given as follow—one in every class, two if five or more starters, three if eight or more starters.

Warrington M.C.

Last month a reliability trial was held over a very severe course 185 miles in length, including Bwlch-y-Groes, reputed to be the stiffest climb in England and Wales, for the Melbourne Challenge Bowl and other valuable prizes. Out of the thirty competitors who faced the starter, only twelve checked in at the finish without having lost any marks.

Protests were received from two of the competitors, an error being discovered in the watch used to check the competitors in at the finish. It was therefore decided to re-run the trial over a short but very severe course in Wales on August 7th, only those who completed the original course without loss of marks being allowed to compete. Results:

Melbourne Bowl and First Prize.—J. H. Green (6 Martinsyde-Newman sc.), 100 marks.
Second Prize.—F. Parker (7-9 Indian sc.), 96 marks.
Third Prize.—B. Caldwell (3½ Norton), 95½ marks.
Gold Medal.—W. Jackson (4 Triumph), 91 marks.
H. A. Leach (4 Douglas), 90½ marks.
D. W. Beck (3½ Sunbeam), 87 marks.
R. S. Jackson (4 Triumph), 81 marks.
J. Roberts (6 A.J.S. sc.), 80 marks.

Competitors on the Scottish coast route in the recent York-Edinburgh-York trial. The leading rider is B. Jefferys (4 Norton sc.), who won a cup in the sidecar class.

CURRENT GAT

Times to Light Lamps.

Aug.	19th	... ...	8.45 p.m.
,,	21st	... ...	8.41 ,,
,,	23rd	... ...	8.37 ,,
,,	25th	... ...	8.32 ,,

Found.

Mr. A. E. Barrett, 323, St. John Street, Clerkenwell, recently picked up a motor cyclist's new waterproof jacket.

Police Persecution.

According to a daily newspaper, a motor cyclist was recently summoned at York for allowing exhaust gas to escape from his motor cycle.

One of the British Team.

We understand that the reason S. Barron, who was entered for both the International and the Anglo-Dutch trials, failed to reach Grenoble was that he broke his sidecar axle near Paris on the way to the French Alps.

Fixing Accessories.

One frequently comes across riders who have such things as tool bags and spare belts flapping about their machines. Because a spare tube case got jammed between the back wheel and the carrier of his machine, a well-known Wellingborough motor cyclist recently met with a serious accident.

Imports and Exports.

Last month (July) there was a considerable increase both in the importation and exportation of motor cycles. Imports showed a very big increase, the figures being nearly double those of June, but in cars, curiously enough, there was a slight reduction.

IMPORTS FOR JULY.

	1913	1919	1920
No. of motor cycles	82 ..	27 ..	666
Value, including parts and accessories	£ 14,074 ..	£ 2.586 ..	£ 51.179

EXPORTS.

To find an actual increase of £116,492 in motor cycle exports, against the previous month, is satisfactory indeed, the total amount for July being £271,078. In 1913 the figures for the same month were £92,178, so that even allowing for the difference in the value of the £, the recent progress made in our overseas trade would, on the face of it, appear to be decidedly good.

EXPORTS FOR JULY.

	1913	1919	1920
No. of motor cycles	1,621 ..	501 ..	2,641
Value of motor cycles	£ 71,287 ..	£ 33,521 ..	£ 203,849
Value of motor cycles, including parts and accessories	92,178 ..	50,773 ..	271,078

Motor Cycle Police v. Car Burglars.

Police Inspector Brunning, of Bromley, Kent, who on his three-year-old standard Douglas overhauled and captured burglars on a 30 h.p. car, after a five mile chase on the London Road, is an old motor cyclist. For several years he owned an Enfield sidecar outfit. He is a divisional police inspector, not a detective. Motor cycles are not yet issued to detectives, but no doubt will be as their value is realised.

The Scottish Two Days Trial.

Already there has been a ready response in the way of entries for the Scottish Two Days Highland Trial to be held September 18th to 20th, and announced in *The Motor Cycle*. The competitors leave Edinburgh at 7.30 on the Saturday morning for Oban, where Sunday is to be spent, from which resort the competitors return on Monday. The following entries have so far been received :

R. S. Macrae (Harley sc.).
N. D. Cran (7-9 Harley solo).
H. Mortimer Batten (P. and M.).
Harry E. Fairley (A.B.C. sc.).
Mrs. Olive M. Knowles (4 Norton).
R. M. Knowles (4 Norton).
G. H. Moir (Harley sc.).
George Grinton (Harley sc.).
James Steel (3½ Norton).
W. Lyle (Harley sc.).
A. H. Fairley (American X).
Baxter Norton (——).
Mrs. Duncan Bell (6 A.J.S. sc.)
Hugh Gibson (Clyno).
James Beck (3½ Sunbeam sc.).

Full particulars of this event can be obtained from Mr. Graham Davidson, hon. sec. Edinburgh and District M.C.C., Ltd., 6, Castle Terrace, Edinburgh.

Special Features.

NEXT WEEK'S BIG TRIAL.
IMPRESSIONS OF THE ANGLO-DUTCH TRIAL.

Carburetter Controls.

The lack of standardisation in carburetter controls was, in the opinion of a coroner's jury, responsible for a fatal accident in Norfolk recently.

20,000 Gallon Petrol Fire.

20,000 gallons of petrol were destroyed by fire at the Anglo-American Company's Bromley depot. The fire followed two other outbreaks in a month at the Bickey depot close by.

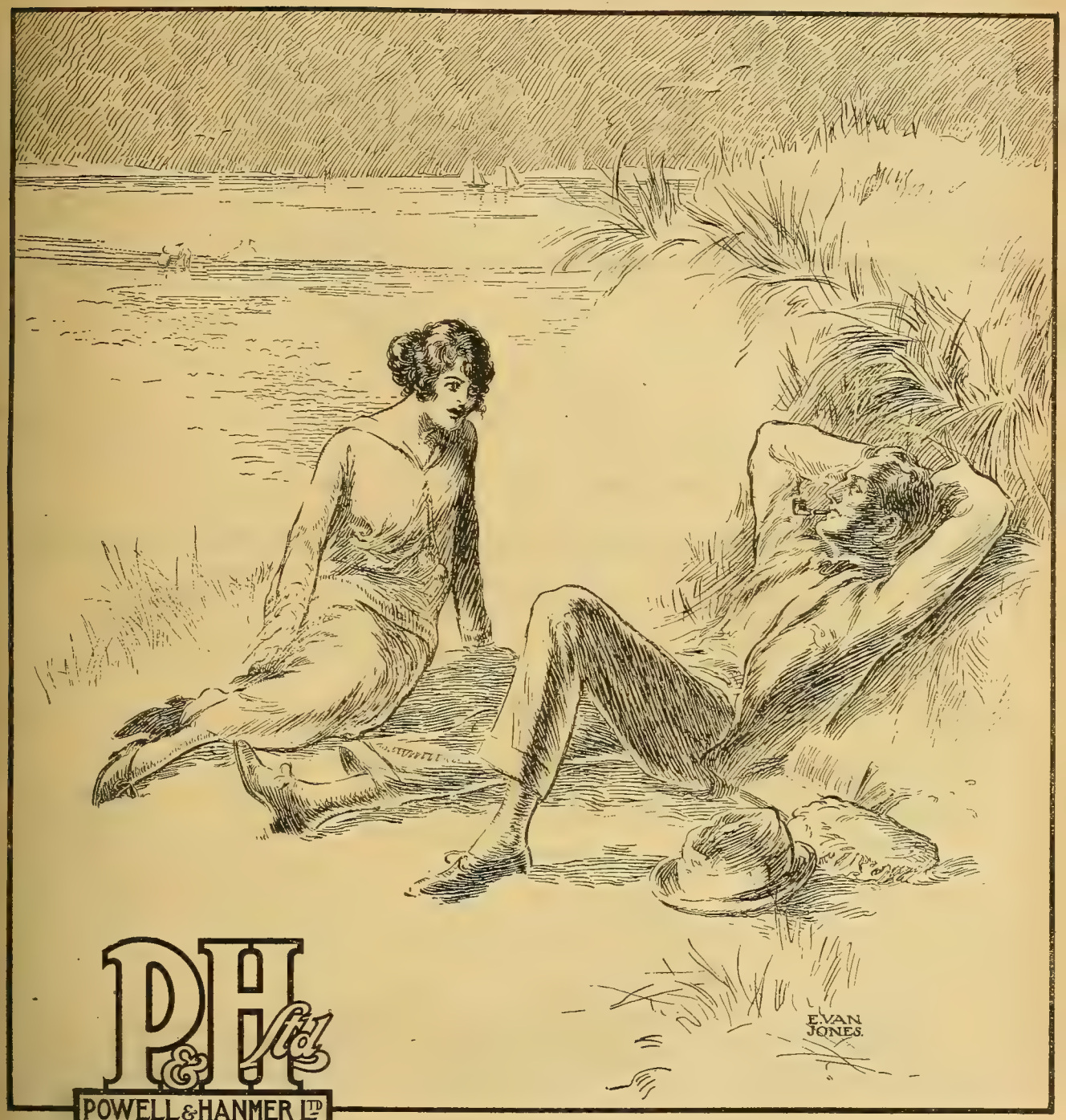
New Types in the Six Days.

Two three-cylinder radial engined machines are entered for the A.C.U. Six Days Trial. These are the Redrup, of which a description was given in our issue of Feb. 5th, 1920. Another interesting machine entered is the 500 c.c. two-stroke Dunelt, shown at the last Olympia Show, and which is now emerging from the experimental stage.

An Extensible Rear Lamp.

The idea (illustrated on page 153 of our issue of August 5th) of carrying a rear lamp on the sidecar, using an extensible bracket to bring it to the off side of the vehicle when in use, is protected by the reader who submitted it. He is willing to negotiate with any manufacturer interested in its commercial possibilities.

A miniature aeroplane, occupying in the aviation field the same place as the lightweight motor cycle in the world of wheels. The machine, which weighs 2 cwt., has been built by M. Pischoff, and is fitted with a Clerget flat twin engine of 16 h.p.



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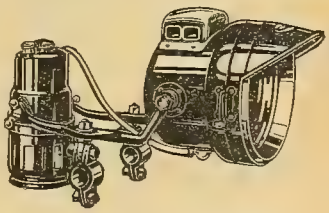
"But we can't go all that way back in the dark"—Why not? There's no need to worry at all with those "P. & H." LAMPS, you can ride as SAFELY by NIGHT as by DAY. They are absolutely ***the thing*** in Lighting Sets, giving a steady beam of clear white light for some distance ahead, and you spin along in comfort and safety.



Enjoy all your happy summer days to the full with an easy mind about the night ride home by using

"P. & H." LAMPS

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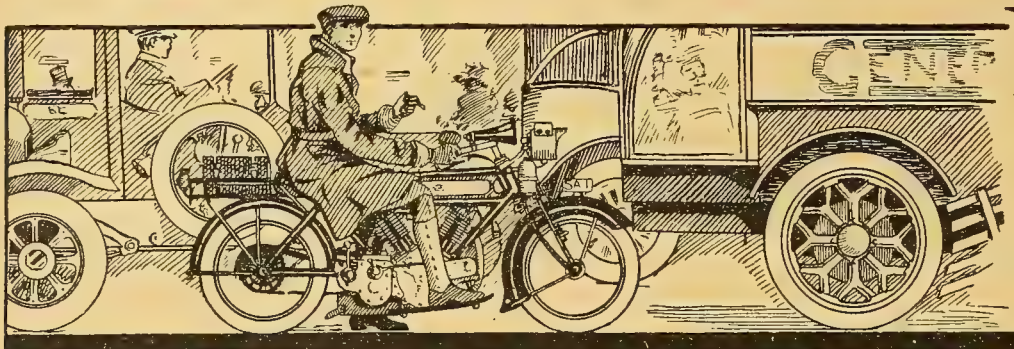
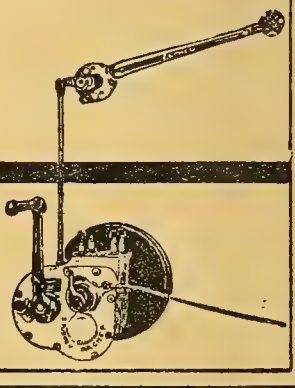


For the Traffic "crawl"

You know that crawl—when you've got to get down to a slow walk and then suddenly sprint at record speed. There's only one way of doing it—to have a Sturmey-Archer on your machine. Slip in the gear occasion warrants, and you have 2 or 50 miles an hour at your will.

Sturmey-Archer Gears, Ltd., Nottingham.



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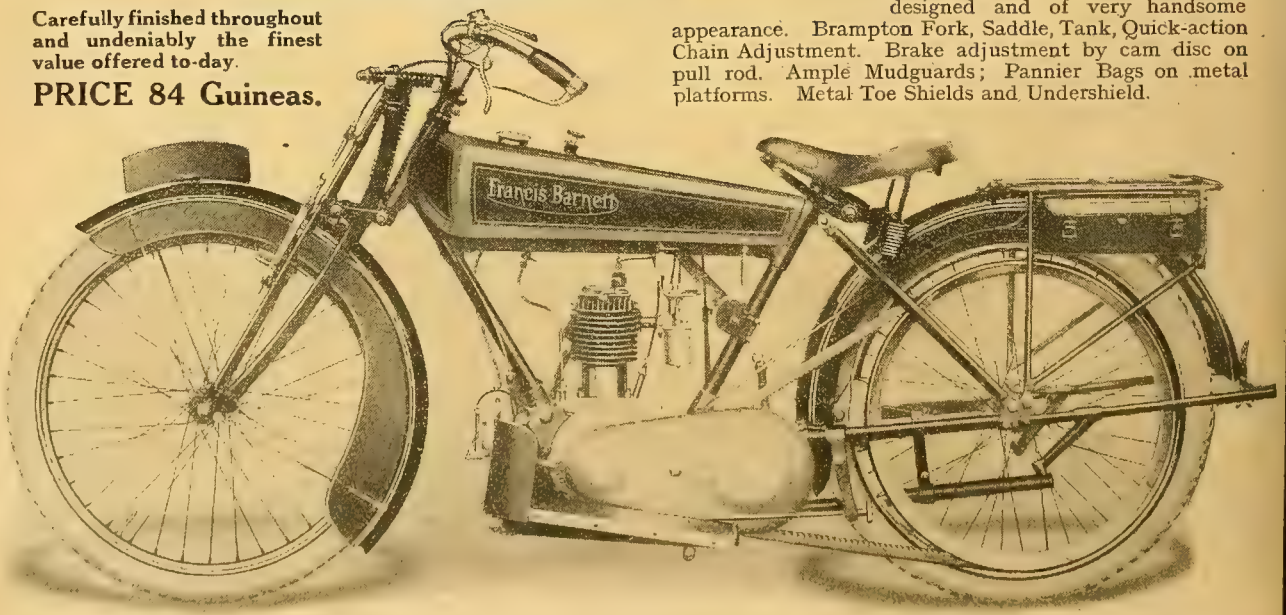
THE SUPER LIGHTWEIGHT

2¾ h.p. Jap Engine, Sturmey-Archer Two-Speed Gear, with Clutch and Kick Starter. Frame specially designed and of very handsome appearance. Brampton Fork, Saddle, Tank, Quick-action Chain Adjustment. Brake adjustment by cam disc on pull rod. Ample Mudguards; Pannier Bags on metal platforms. Metal Toe Shields and Undershield.

Carefully finished throughout and undeniably the finest value offered to-day.

PRICE 84 Guineas.



Overseas enquiries for Sole Agencies solicited.

FRANCIS & BARNETT, Ltd., *Works:* Lower Ford St., COVENTRY.

Police Activity in the Metropolis.

We learn that there is a police trap working on the Golder's Green-Tally Ho Road, Church End, Finchley, between Redbourn Avenue and Long Lane. A plain clothes policeman is stationed at Redbourn Avenue end.

Cup for Ex-D.R.'s.

Among the several special prizes in next week's Six Days Trial is a cup presented by Brigadier-General E. G. Godfrey Fausset, C.B., C.M.G., on behalf of the Signal Service Association. This is for the best performance in the trial by an ex-D.R.

Chatsworth Park Speed Trials.

The provisional results given on page 202 of last week's issue have been confirmed by the organising committee with a few exceptions. In Class 4 G. E. Hobart (5-6 James) is now placed third. Class 13, G. S. Boston (2¾ A.J.S.) is placed first instead of G. Dance, who takes second place; G. Grunton (7-9 Harley-Davidson) being third. In Class 14 G. Dance is second instead of G. Grunton, who now figures third; and in Class 17 G. Dance takes second, with V. Horsman (3½ Norton) third, the positions in Classes 18 and 19 being altered in the same way.

As regards the fastest time of the day, this is now given as a tie between G. S. Boston (A.J.S.) and G. Dance (Sunbeam).

In each open class there was a gold medal for the fastest time by private owner, and this brings Boston's total of gold medals to 15 and second private owner twice out of seventeen classes.

The East Midland Centre A.C.U.—the organisers—also gave "county" medals for members in different counties. The winners of these are as follow:

Yorkshire.—F. W. Dixon, York.
Derbyshire.—R. Carter, Chesterfield.
Nottinghamshire.—G. W. T. Hartwell and R. Lucas, tied.
Leicestershire.—H. Petty, Loughborough.
Lincolnshire.—L. W. Forington, Boston.

L. Runton making the fastest time at the Hull M.C.C. hill-climb last Saturday. The machine is an A.B.C.

North-Western Centre Hill-climb.

It is proposed to hold a hill-climb at Heyden Bridge on September 12th, open to all clubs in the North-west centre of the A.C.U., provided that satisfactory arrangements can be made; also on September 26th it is intended to run a reliability trial over a secret course of 100 miles. Further details of these events will be published later.

"The Motor Cycle" and the Six Days Trials.

As usual in the case of all important trials, members of *The Motor Cycle* editorial and photograph staffs will journey with the competitors throughout the A.C.U. Six Days Trials. Impressions of the start will appear in our next issue, and a fully illustrated description of the event will be published in *The Motor Cycle* dated Thursday, September 2nd.

A TWENTY-FOUR HOUR CLUB RUN.

Members of the Hull M.C.C. crossing the Humber during their recent reliability trial to London and back. The winner was H. Scarlett (3½ Rudge), standing second from left

Fifteen o'Clock.

One interesting feature of the A.C.U. Six Days Trial is that competitors will ride to times quoted on the service system. It will be strange to many to follow route card times which, for example, show that Langcliffe is to be reached at 15.5½ o'clock.

The Black Prince.

We are informed that A. G. Cocks—and not the late E. W. Cameron, of Askern—is the designer of the Black Prince runabout, and that the single plug flat twin engine is the patent of H. Singleton, of Liverpool. Mr. Cameron's efforts were chiefly concerned with the pressed steel construction of the Black Prince frame.

Riders as Designers.

Acting on the suggestion contained in "Ixion's" contribution last week, Messrs. Clifford Wilson Manufacturing Co., 70, Royal Hospital Road, Chelsea, are offering prizes for the best suggestion by a Quadrant owner for the improvement of the 1920 model of this well-known make of machine.

Second-hand Prices.

In order that readers may follow the general trend of the second-hand market, a list is given below showing the current highest and lowest prices asked by advertisers.

	Highest and Lowest.
A.B.C., 3 h.p., 4-speed, 1920	£135–£150
A.J.S., 6 h.p., sidecar, 1919-20	£165–£230
Alldays Allon, 2¾ h.p., 2-speed, 1915-16	£50–£55
Ariel, 3½ h.p., 3-speed, sidecar, 1919-20	£105–£150
Blackburne, 4 h.p., sidecar, 1920	£140–£165
B.S.A., 4½ h.p., 3-speed, sidecar, 1918-19	£105–£138
Calthorpe-Jap, 2¾ h.p., 2-speed, 1915-16	£40–£45
Clyno, 2½ h.p., 2-stroke, 1920	£65–£75
Coulson-B., 2¾ h.p., 1919-20	£79–£99
Diamond-Jap, 2¾ h.p., 2-speed, 1919	£68–£72
Douglas, 2¾ h.p., 2-speed, 1914-16	£10–£68
Douglas, 4 h.p., sidecar, 1917-18	£8?–£110
Enfield, 6 h.p., sidecar, 1916-17	£128–£145
Harley-Davidson, 7-9 h.p., sidecar, 1917-19	£135–£165
Indian, 7-9 h.p., Powerplus, sidecar, 1918-19	£115–£175
Matchless, Model H, sidecar, 1920	£200–£238
Matchless, Victory Model, sidecar, 1919	£140–£175
New Imperial Jap, 2¾ h.p., 2-speed, 1915-16	£45–£52
Norton Big 4, sidecar, 1919-20	£165–£200
P. & M., 3½ h.p., 2-speed, 1918-19	£65–£90
Rover, 5-6 h.p., sidecar, 1919-20	£160–£225
Sunbeam, 3½ h.p., 1918-19	£140–£165
Triumph, 3½ h.p., 3-speed, 1914-15	£55–£65
Triumph, 4 h.p., sidecar, 1920	£155–£170

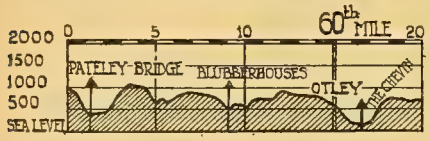
A Guide to the A.C.U. Six Days Event, starting from Darlington on Monday next. Complete List of Competitors and their Numbers. Each Day's Timetable.

FROM our knowledge of the routes chosen for next week's A.C.U. Trials, we can prophesy that the 120 competitors will have no touring holiday. This year, no doubt, there will be a larger gathering of interested spectators at various points of the route, if only on account of the more populous districts through which the routes lie. Further, on Friday of next week, the competitors will journey from the North to the Midlands, concluding the trial on the following day with a run to Brooklands for the speed test and final examination. The preliminary examination takes place at Darlington on Sunday next.

For the benefit of those readers who wish to see the entrants at various points of the course, we append below a timetable, showing the times at which the first competitor is due at the places mentioned.

Monday's Programme.

The first day's run is comparatively easy. A southerly route is taken, and the foothills of the Pennines entered after passing through Masham. From there a direct road is taken through Pateley Bridge and Blubberhouses to Otley, where, after climbing the Chevin, the route runs westwards to Keighley and over Rombolds Moor into Ilkley, the first lun-



MONDAY MORNING: An undulating route, not freakish, but with stiff gradients

cheon stop. After lunch a by-road is taken joining the main road at Bolton Abbey and proceeding up Wharfedale to Kettlewell. From Kettlewell the steep ascent known as Park Rash is taken over the Moors, into Wensleydale, the homeward journey being through Redmire and Richmond.

Timetable for Monday.

MORNING.—Darlington 8. Croft 8.12. Great Smeaton 9.30. Northallerton 8.52½. Bedale 9.18. Masham 9.37. Kirkby Malzeard 9.52. Pateley Bridge 10.19. Blubberhouses 10.42. Otley 11.5. Guiseley 11.18. Bingley 11.41. Ilkley 12.15. (1h. 15m. lunch stop at the Middleton Hotel.)

AFTERNOON.—Ilkley 1.30. Bolton Abbey 1.49½. Grassington 2.26. Kettlewell 2.43½. Carlton 3.26. West Witton 3.44. Thoralby 3.59. Redmire 4.15½. Richmond 4.50. Middleton Tyas 5.4. Croft 5.20. Darlington (Victoria Rd.) 5.31.

Tuesday's Run.

On Tuesday the route is again in the Pennines and is a succession of long and short climbs over the Yorkshire moors. After passing just to the north of Richmond, Swaledale is followed as far as Crackpot, where the road bears to the south over Askrigg Common, doubling back on itself across Swaledale up on to Arkengarthdale Moor. After passing through Keld and Thwaite, Wensleydale is crossed at Hawes, and the road running

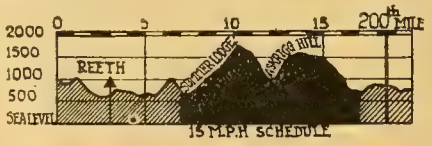
MONDAY AFTERNOON: Park Rash is included, one of the most difficult hills in the country.

up Widdale is followed until the watershed is crossed at Newby Head. From Dent the well-known trials route over White Shaw Moss is followed until Ingleton is reached for lunch. After lunch the first point of interest is the tunnel at Clapham, and then the steep climb up to Malham Tarn after passing through Langcliff. The grass-covered hill at Darnbrook House will prove difficult if the weather should happen to be wet, and thereafter nothing very difficult is met with on the homeward journey through Kettlewell, Askrigg, and Richmond.

Timetable for Tuesday.

MORNING.—Darlington (Skinner Gate) 8.0. Barton 8.17. Reeth 9.9. Feetham 10.11. Hawes 11.34. Dent 12.16½. Ingleton 12.59½. (1.30½m. lunch stop at Ingleborough Hotel.)

AFTERNOON.—Ingleton 2.30. Clapham 2.44. Stainforth 3.0½. Langcliffe 3.5½. Arncliffe 3.44. Kettlewell 4.1. Buckden 4.11½. Stalling Busk 4.37½. Bambridge 4.46½. Askrigg 4.51½. Redmire 5.13. Richmond 5.48. Middleton Tyas 6.5½. Croft 6.18½. Darlington (Victoria Road) 6.29.



TUESDAY MORNING: The descents on this section will test brakes to the utmost.

The Third Day.

For the third day the trial lies in the Cleveland Hills, but, unfortunately, a considerable distance of uninteresting country has to be traversed at each end of the day's run. After passing through Stockton-on-Tees and Guisborough, a turn southwards is made through Castleton on to Glaisdale Moor. After descending gently to Rosedale Abbey, the road suddenly rises on to Spenton Moor, this ascent is probably the most difficult in the trial. Nothing further of interest occurs before lunch at Thirsk, but in the afternoon the first thirty-five miles are all difficult going, and include numerous watersplashes. High ground is gained by the climb up Boltby Bank, from which point the run is approximately northwards until the plains are again reached at Ingleby Greenhow.

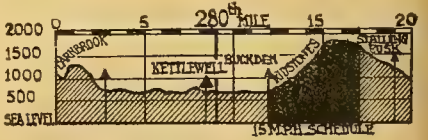
Wednesday's Timetable.

MORNING.—Darlington (Haughton Road) 8.0. Long Newton 8.16. Stockton-on-Tees 8.29½. Thornaby-on-Tees 8.32. Guisborough 9.18. Castleton 9.46. Hutton-le-Hole 10.28½. Kirby Moorside 10.37½. Lawton 10.46½. Helmsley 10.55. Kilburn 11.22. Bagby 11.35. Thirsk 11.45. (1h. 45m. lunch stop at Three Tuns Hotel.)

AFTERNOON.—Thirsk 1.30. Felix Kirk 1.40. Boltby 1.46½. Hornby 2.4½. Swainby 2.48½. Carlton 2.58. Ingleby Greenhow 3.28½. Stokesley 3.43. Crathorne 4.4. Yarm 4.7. Darlington (Park Gate) 4.44.

The Last Day in the North.

On Thursday a circular route is taken with Penrith as the object. The roads



TUESDAY AFTERNOON: Darnbrook will prove almost unclimbable if wet.

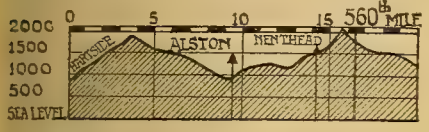
in the morning, although probably trying to the ordinary tourist, are not particularly difficult, whilst in the afternoon much of the run is over the same country as was traversed in the 1913 trials. Penrith is reached by way of Middleton-in-Teesdale, Kirkby Stephen, and Shap, and left by the direct road over Hartside to Alston, the highest town in England, and from there by a somewhat circuitous route over the moors of South Durham back to Darlington, thus ending the northern section of the trial.

Timetable for Thursday.

MORNING.—Darlington (Bond Gate) 8.0. Staindrop 8.33. Eggleslone 9.3. Mickleton 9.10½. Brough 9.54½. Kirkby Stephen 10.7½. Soulby 10.15. Crosby Ravensworth 10.51. Shap 11.3. Clinton 11.27. Penrith 11.36. (1h. 24m. lunch stop.)

AFTERNOON.—Penrith 1.0. Langworthy 1.14½. Melmerby 1.27. Alston 1.58½. Nenthead 2.13. West Gate 2.52½. Bolt's Burn 3.7½. Wolsingham 4.13. Tow Law 4.23½. Crook 4.37. Bishop Auckland 4.53½. Darlington (Bond Gate) 5.36.

On Friday the run southwards is commenced, but the familiar Great North Road is left severely alone except for some five miles north of Catterick. From Catterick a by-road is taken up Coverdale and down Park Rash into Kettlewell. After Kettlewell the direct road to Ilkley is followed, and from there Monday's run is repeated in a reverse direction as far as Harden. After climbing Harden Bank the industrial district to the west of Bradford is traversed.



THURSDAY AFTERNOON: The highest point in the trial (2,000 ft.) is reached.

Friday's Timetable

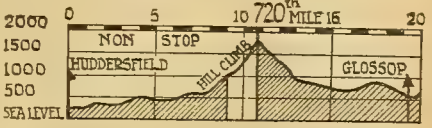
MORNING.—Darlington (Skinner Gate) 8.0. Barton 8.17½. Catterick Bridge 8.37½. Hunton 8.57. Middleham 9.17½. Carlton 9.31½. Kettlewell 10.3. Threshfield 10.21½. Bolton Abbey 10.50½. Ilkley 11.7½. Brighouse 12.9. Huddersfield 12.22½. (1h. 7½m. lunch stop.)

AFTERNOON. — Huddersfield 1.30. Glossop 2.28½. Buxton 3.11½. Ashbourne 4.13. Sudbury 4.43. Yoxall 5.10. Lichfield 5.30. Coleshill 6.16. Stonebridge 6.28½. Kenilworth 6.55½. Warwick and Leamington 7.9

The Last Day.

On Saturday the road work is of an easy nature, and Brooklands is reached in time for lunch, immediately after which the brake test will be held, followed by the half hour's run at speed and the final examination.

Coleshill 8.0. Stonebridge 8.12. Kenilworth 8.39. Warwick and Leamington 8.52½. Banbury 9.52. Oxford 11.0. Henley-on-Thames 12.9. Maidenhead 12.35. Windsor 12.55. Staines 1.13. Chertsey 1.22. Brooklands 1.40½.



FRIDAY AFTERNOON: The timed hill-climb is taken non-stop after nine miles climbing.

LIST OF ENTRANTS FOR THE SIX DAYS TRIALS.

CLASS A.—SOLO MACHINES UNDER 275 C.C.

No. and order of starting.	Entrant and Machine.	Driver.	Cubic Capacity.
1	Reg. H. Baxter (2¼ Radco)	Entrant	211
2	Butterfields, Ltd. (2½ Levis)	F. W. Applebee	247
3	S. Jones (2¼ Velocette)	Entrant	220
4	Humphreys and Dawes (2½ O.K. Junior)	N. M. Hall	246
5	Enfield Cycle Co. Ltd. (2¼ Royal Enfield)	H. L. Hanks	225
6	Veloce, Ltd. (2¼ Velocette)	G. Denley	220
7	Humphreys and Dawes (2½ O.K. Junior)	W. L. Handley	246
8	Butterfields, Ltd. (2½ Levis)	Gus Kuhn	247
9	James Cycle Co., Ltd. (2¼ James)	J. F. Lidstone	239.5
10	Veloce, Ltd. (2¼ Velocette)	E. F. Goodman	220
11	Butterfields, Ltd. (2½ Levis)	F. Porter	247
12	Clyno Eng. Co., Ltd. (2½ Clyno)	C. V. Freeman	269
13	H. P. Knowles (2¾ Hobart)	Entrant	269
14	Clyno Eng. Co., Ltd. (2½ Clyno)	H. Gibson	269

CLASS B.—SOLO MACHINES UNDER 350 C.C.

15	R. Gold (2⅞ Wolf)	Entrant	293
16	B. Kershaw (2¾ Verus)	Entrant	350
17	J. A Newman (2¾ New Imperial)	Entrant	292.4
18	D.F. and M. Eng. Co., Ltd. (2½ Diamond)	F. J. Price	293
19	R. B. Clark (2¾ Coulson)	Entrant	349
20	Beaumont Motors, Ltd. (2⅞ Redrup Radial)	N. A. Woolley	309
21	C. B. Redrup (2⅞ Redrup)	Entrant	309
22	J. W. Wills (2¾ Verus)	Entrant	348
23	Hoskison Motors, Ltd. (2⅞ Hoskison)	H. R. Guest	349
24	F. E. Baker, Ltd. (3½ Beardmore-Precision)	L. A. Bees	350
25	Humphreys and Dawes (2⅞ O.K. Union)	P. Pike	292
26	D. Read and Co. (2⅞ The Ready)	D. Read	293
27	W. J. Lake (2¾ A.J.S.)	Entrant	349
28	New Imperial Cycle Co. (2⅞ New Imperial)	L. Horton	294.4
29	New Imperial Cycle Co. (2⅞ New Imperial)	L. Tonks	292.4
30	F. E. Baker, Ltd. (3½ Beardmore-Precision)	A. G. Cocks	350
31	F. E. Baker, Ltd. (3½ Beardmore-Precision)	H. Greaves	350

CLASS C.—SOLO MACHINES UNDER 500 C.C.

32	Sopwith Aviation Co., Ltd. (3 A.B.C.)	K. Robinson	400
33	P. H. Hall (4 Blackburne)	Entrant	499
34	H. W. Merrill, jun. (3 A.B.C.)	Entrant	400
35	Norman Rycroft (4 Triumph)	Entrant	550
36	John Marston, Ltd. (3½ Sunbeam)	G. Dance	499
37	John Marston, Ltd. (3½ Sunbeam)	F. C. Townshend	499
38	H. Church (3½ Sunbeam)	Entrant	499
39	Capt. R. M. Knowles (3½ Norton)	Entrant	490
40	A. S. Guthrie (3½ Sunbeam)	Entrant	499
41	Alex. Wilkes (3½ Rover)	Entrant	499
42	N.U.T. Motor Co., Ltd. (3½ N.U.T.)	F. J. Fieldhouse	499
43	R. C. Winn (3 A.B.C.)	Entrant	398
44	E. A. Edwards (3½ N.U.T.)	Entrant	499
45	N.U.T. Motor Co., Ltd. (3½ N.U.T.)	W. C. Thompson	499
46	John Marston, Ltd. (3½ Sunbeam)	T. C. de la Hay	499
47	N.U.T. Motor Co., Ltd. (3½ N.U.T.)	D. Robb	499
48	Mrs. O. M. Knowles (3½ Norton)	Entrant	490
49	D. L. Greig (3½ Sunbeam)	Entrant	499
50	New Rover Cycle Co., Ltd. (3½ Rover)	G. Featherstonhaugh	499
51	B.S.A. Co., Ltd. (3½ B.S.A.)	H. F. Edwards	499
52	James Cycle Co., Ltd. (3½ James)	G. A. Strange	495.5
53	W. G. Harrison (3½ Sunbeam)	Entrant	499
54	Phelon and Moore, Ltd. (3½ P. and M.)	H. M. Batten	498
55	F. A. Longman (3½ Ariel)	Entrant	498
56	Phelon and Moore, Ltd. (3½ P. and M.)	G. M. Townsend	498
57	Capt. R. Locke (3½ Coventry Eagle)	Entrant	499
58	M. Davies (3½ Sunbeam)	Entrant	499
59	Phelon and Moore, Ltd. (3½ P. and M.)	J. J. A. Dias	498
60	Dunford and Elliott (Sheffield) (4½ Dunelt)	Dudley Barton	499

CLASS D.—SOLO MACHINES UNDER 750 C.C.

61	G. L. White (5 Rover)	Entrant	654
62	Harley-Davidson Motor Co. (4 Harley-D.)	D. H. Davidson	584.02
63	Scott Motor Cycle Co., Ltd. (3⅜ Scott)	Capt. C. P. Wood	532.5
64	New Rover Cycle Co., Ltd. (5 Rover)	W. Brandish	654
65	Harley-Davidson Motor Co. (4 Harley-D.)	J. A. O. Sullivan	584.02
66	B. Alan Hill (3⅜ Scott)	Entrant	532.5
67	E. S. Astley (5 Rover)	Entrant	650
68	New Rover Cycle Co., Ltd. (5 Rover)	D. H. Noble	654
69	Harley-Davidson Motor Co. (4 Harley-D.)	G. Grinton	584.02
70	Triumph Cycle Co., Ltd. (4 Triumph)	G. J. Shemans	550
71	W. H. Owen (5 Rover)	Entrant	654
72	Zenith Motors, Ltd. (5 Zenith)	L. T. Gilson	654
73	A. Colcombe (4 Indian Scout)	Entrant	596
74	W. Edwards (4¼ B.S.A.)	Entrant	557
75	H. Langman (3⅜ Scott)	Entrant	532.5
76	C. Moser (4 Triumph)	Entrant	550
77	E. Cross, M.B.E. (4 Triumph)	Entrant	550
78	D. A. Atkin (5 Rover)	Entrant	654
79	Scott Motor Cycle Co., Ltd. (3⅜ Scott)	W. L. Guy	532.5
80	R. W. Duke (4 Triumph)	Entrant	550
81	H. Pattison (4 Triumph)	Entrant	550
82	B.S.A. Cycles, Ltd. (4¼ B.S.A.)	L. L. Sealey	557
83	W. Westwood (4 Triumph)	Entrant	550
84	G. W. Ellis (4 Norton)	Entrant	633
85	B.S.A. Cycles, Ltd. (4¼ B.S.A.)	F. Turvey, jun.	557
86	H. Taylor (3⅜ Scott)	Entrant	532.5
87	Scott Motor Cycle Co., Ltd. (3⅜ Scott)	G. Hill	532.5
88	Triumph Cycle Co., Ltd. (4 Triumph)	H. Green	550
89	Triumph Cycle Co., Ltd. (4 Triumph)	F. G. Edmond	550
90	Humber, Ltd. (4½ Humber)	L. Crisp	600
91	Humber, Ltd. (4½ Humber)	H. F. O. Evans	600
92	Humber, Ltd. (4½ Humber)	E. Redvers Johnson	600
93	Ariel Works, Ltd. (4½ Ariel)	Tom Peck	610
94	Ariel Works, Ltd. (4½ Ariel)	L. Newey	610
95	Ariel Works, Ltd. (4½ Ariel)	Capt. J. L. Stocks	610
96	W. J. Chambers (4¼ B.S.A.)	Entrant	557

CLASS E.—SOLO MACHINES UNDER 1,000 C.C.

97	R. E. Darnton (7-9 Indian)	Entrant	997
98	V. Gayford (6 Zenith)	Entrant	770
99	Zenith Motors, Ltd. (6 Zenith)	Kaye Don	770

CLASS G.—SIDECARS UNDER 500 C.C.

101	Sopwith Aviation Co., Ltd. (3 A.B.C.)	G. W. Lush	400
102	Sopwith Aviation Co., Ltd. (3 A.B.C.)	E. E. Palmer	400
103	Dunford and Elliott (Sheffield) (4½ Dunelt)	P. Pehrson	499

CLASS H.—SIDECARS UNDER 750 C.C.

104	A. J. Stevens and Co. (1914), Ltd. (6 A.J.S.)	Cyril Williams	748
105	James Cooper, jun. (6 A.J.S.)	Entrant	748
106	A. J. Stevens and Co. (1914), Ltd. (6 A.J.S.)	H. R. Davies	748
107	W. J. Montgomery (5-6 Rover)	Entrant	654
108	Sam Wright (4½ Humber)	Entrant	600
109	A. L. Cranch (5 Rover)	Entrant	654
110	Capt. R. H. Bywaters (6 A.J.S.)	Entrant	748
111	A. J. Stevens and Co. (1914), Ltd. (6 A.J.S.)	E. Williams	748
112	S. Sawer (4 Norton)	Entrant	633
113	O. Wade (6 A.J.S.)	Entrant	748
114	W. McLellan (4 Norton)	Entrant	622
115	A. Joynson (5-7 Coventry Victor)	Entrant	688
116	James Cycle Co., Ltd. (7 James)	G. E. Stobart	749.2

CLASS K.—SIDECARS AND THREE-WHEELERS UNDER 1,000 C.C.

117	G. Packman (8 Matchless)	Entrant	968
118	G. Nott (7 Matchless)	Entrant	992
119	F. J. Watson (6 Ariel)	Entrant	798
120	F. J. Ellis (7 Matchless)	Entrant	992
121	G. D. Hardee (7 Matchless)	Entrant	992
122	C. R. Collier (7 Matchless)	Entrant	992
123	L. G. Bachelier (8 Blackburne)	Entrant	998
124	H.P.D. Motor Co. (8 Dot-Jap)	J. H. Place	980
125	New Imperial Cycle Co. (8 New Imperial)	Bert Bladder	980
126	H. E. Ashley (6 L.M.C.)	Entrant	842
127	Morgan Motor Co., Ltd. (8 Morgan)	H. F. S. Morgan	980
128	Morgan Motor Co., Ltd. (8 Morgan)	T. James	980
129	T. J. Ross (7 Matchless)	Entrant	992
130	Enfield Cycle Co., Ltd. (8 Enfield)	W. E. Smith	998
131	Zenith Motors, Ltd. (8 Zenith)	H. Jepson	988
132	Clyno Eng. Co., Ltd. (8 Clyno)	A. F. Knight	925
133	Enfield Cycle Co., Ltd. (8 Enfield)	D. Alexander	998
134	W. A. Fell-Smith (8 Blackburne)	Entrant	998
135	Capt. R. Charlesworth (8 Zenith)	Entrant	976
136	E. Foster (8 Dot-Jap)	Entrant	980
137	Dot Motors (8 Dot-Jap)	Harry Reed	980

CLASS L.—SIDECARS AND THREE-WHEELERS EXCEEDING 1,000 C.C.

138	S Hall (10 Morgan)	Entrant	1100
139	Morgan Motor Co., Ltd (10 Morgan)	F James	1100
140	F G Boddington (10 Morgan)	Entrant	1100

"One Design" Classes at Brooklands.

The B.M.C.R.C. First Open Meeting.

THE race meeting which took place at Brooklands on Saturday last was the first of a new series. Formerly the Brooklands Automobile Racing Club always included at least two motor cycle races at its meetings, and since this practice has been discontinued there have been no car and motor cycle races held during one afternoon. On Saturday, however, several motor car races figured in the programme, which was organised by the Essex Motor Club, a really live body which kept its events right up to schedule and provided excellent sport.

From the spectator's point of view the racing was not so interesting to watch as at the last B.M.C.R.C. meeting, owing to the events not starting and finishing at the fork. When this method of procedure is followed the competing vehicles pass close to the spectators at the end of every lap, and their progress throughout the race may be easily followed.

Various Starting Points.

On this occasion the starts took place sometimes at the fork, in the finishing straight or in the railway straight; the lap progress was impossible to follow, as the motor cycle competitors' numbers viewed from the finishing line were not discernible, even through powerful glasses.

Very little more could be seen even from the stewards' tower where we were allowed to stand, through the courtesy of Col. Lloyd and Mr. Loughborough, and had it not been for the kindness of Mr. T. D. Dutton, the circuit counter, it would have been impossible to have given a coherent account of each event.

Owing to the inadequacy of the temporary barrier placed across the top of the finishing straight car races cannot at present be started and finished at the fork, as the said barrier would not stop a wheel which might become detached from a competing car from running amok among the spectators. If this is so it would have been better to have started all the motor cycle events at the fork, and to have run them off separately at the beginning of the meeting, and to have organised the car races during the latter part of the afternoon.

The Junior Race.

The weather was gloriously fine, and there was a very fair attendance. The first event was the Junior Open Motor Cycle Handicap (about eight miles), for solo motor cycles not exceeding 500 c.c. The start was in the paddock and the machines had to pass the fork twice, then enter the straight and finish at the long finishing line. The event was very well supported, and of the machines which were present at the start, the most interesting and novel was S. L. Bailey's Douglas, which he has entered for the Grand Prix race at Le Mans on August 28th. It was in full touring trim, and had a ribbed aluminium casing containing oil to lubricate the overhead valve rockers, and a front rim brake. Emerson had a 460 c.c. French built A.B.C. for this event, but it did not compete.

The start was devoid of incident, and the first lap order at the fork was: Bennett, Longman, McNab, Hemy, Hull, Watson, Weatherall, Jacobs, Longden, Eve, Thorpe, Thompson, Bailey, and Miller. The second lap order was: Watson, Hull, Longman, McNab, Miller, Bennett, Eve, Thorpe, Thompson, and Jacobs. The result was a triumph for Douglas machines.

		C.C.	Start. m.	s.
1.	*H. Thorpe (Douglas)	350	1	3
2.	A. Watson (Douglas)	350	2	42
3.	T. Thompson (Douglas)	350	1	45
	T. Eve (Matchless)	330	1	30
	A. G. Miller (Matchless)	496		42
	J. F. Hull (Wooler)	346	2	48
	F. A. McNab (Wooler)	346	3	3
	S. L. Bailey (Douglas)	500		—
Closely followed by:				
	J. L. Emerson (A.B.C.)	400	Scr.	
	P. G. Dallison (Norton)	490		42
	W. A. Jacobs (Singer)	240	2	15
	S. E. Longman (Wooler)	346	3	9

*Winner's time, 9m. 42⅘s.=63¼ m.p.h.

In the Essex Short Handicap (about five and threequarter miles) which followed only two vehicles with which this journal deals took part, and of these Major Empson's A.V. retired, and Lieut. W. R. Steeles, G.N., came in fourth. Event 3 was a motor bicycle race—the Senior Open Motor Cycle Handicap (about eight and a half miles), for machines with engines not exceeding 1,000 c.c. The start was at the fork, which was passed twice before the straight was entered. There were twelve entries, all of which, save one, started. The first time past the fork, the competitors came by in the following order: Gayford, Davidson, Bond, Le Vack, Baldwin, Sawer, Harveyson, Remington, while the second lap order was: Gayford, Le Vack, Baldwin, Davidson, Bond, Harveyson, Sawer, and Remington. Rolfe (J.A.P.) retired in the second lap, as his front cylinder refused to fire. A brilliant win was made by Le Vack, who made his first appearance as an Indian rider at this meeting. Earlier he had been mounted on Godfrey's old single cylinder racer, his machine caught fire after passing the finishing line, but was promptly put out by the red-coated Pyrene men, but not before the rider had sustained a burn in the leg. Result:

		C.C.	Start. m.	s.
1.	*H. Le Vack (Indian)	994		15
2.	O. M. Baldwin (Matchless-Jap)	986		15
3.	V. Gayford (Zenith-Jap)	744	1	12
	G. L. Sawer (American X)	1,000		27
	H. R. Harveyson (Indian)	998	Scr.	
	E. Remington (Nut-Jap)	986	Scr.	
	D. H. Davidson (Harley-Davidson)	584	1	12
	R. Bond (Zenith-Jap)	976	1	0

*Winner's time, 7m. 14⅘s.=80 m.p.h.

In the Light Car Essex Long Handicap (about eight and half miles), W. D. Hawkes's Morgan came in third. He had 45s. start.

The chief novelty of the meeting was the introduction of the two "one design" races, of which the first was the Zenith Open Scratch Race (about four and threequarter miles). First prize, silver cup, value ten guineas, presented by Messrs. Zenith Motors, Ltd. Second prize, Zenith gold medal and £3. Third prize, Zenith gold medal and £1. The start was at the railway straight, and the machines, after passing the fork once, entered the straight. Unfortunately, it is not quite accurate to name this a one design race. The Zeniths had to have side-by-side valve engines not exceeding 85 mm. bore. This resulted in a variation of engine sizes, and several different makes of carburetters were fitted. Consequently close finishes were hardly to be expected. The event was well supported. Bond took the lead past the fork, and was followed by Salter, Gayford, Don (riding Dequin's machine), Harwood, Newbold, Harveyson, Jacks, Baragwanath, Cushman, Pinder, Mcnab, and Spikens. Result:

1.	*K[illegible]e Don (Zenith)	986 c.c.
2.	R. Bond (Zenith)	970 c.c.
3.	V. Gayford (Zenith)	750 c.c.
	F. E. Salter (Zenith)	986 c.c.
	J. E. G. Harwood (Zenith)	986 c.c.
	H. R. Harveyson (Zenith)	986 c.c.
	F. A. McNab (Zenith)	986 c.c.
	E. C. E. Baragwanath (Zenith)	986 c.c.
	W. J. Kelly (Zenith)	986 c.c.
	L. A. Cushman (Zenith)	986 c.c.
	M. Jacks (Zenith)	—
	F. R. G. Spikens (Zenith)	986 c.c.

*Winner's time, 4m. 30⅘s.=64½ m.p.h.

The Douglas Open Scratch Race for Douglases with side-by-side valve engines was not at all well supported, as there were only nine entries and five starters. The starting place, distance, and method of running were the same as for the Zenith race. First prize, silver cup, value ten guineas, presented by Messrs. Douglas Motors, Ltd. Second prize, £5. Third prize, £3. As they passed the fork, V. Longden was leading, followed by Watson and Thompson, who led at the start; Amery and Lloyd brought up the rear. Result:

1.	*T. H. Amery (2¾ Douglas)	350 c.c.
2.	A. Watson (2¾ Douglas)	350 c.c.
3.	V. Longden (2¾ Douglas)	350 c.c.
	R. T. Lloyd (2¾ Douglas)	350 c.c.

*Winner's time, 5m. 26⅘s.=53.55 m.p.h.

The finish was a close one.

The last event was the Open Three-wheeler Handicap (about eight and a half miles). For three-wheeled cars and motor cycles with sidecars. The machines started at the fork, which they passed twice, and then entered the straight.

Handicap for Three-wheelers.

This was an excellent race. F. A. Longman, the limit man, was leading at the first round, followed by Dickenson, Crossthwaite, and De Lissa, who was travelling well, Dequin, S. E. Longman, Bond, Chater Lea, Davidson, Openshaw, Sawer, Harveyson, Jepson, and Hawkes. The next time the competitors appeared De Lissa was leading, followed by S. E. Longman, Crossthwaite, Bond, Dequin, Dickenson, Chater-Lea, Sawer, Davidson, Openshaw, F. A. Longman, Jepson, Harveyson, and Hawkes. De Lissa increased his lead at the finish and won easily. Result:

		C.C.	Start. m.	s.
1.	*O. de Lissa (Motosacoche)	990	2	6
2.	R. Bond (Zenith-Jap)	976	2	6
3.	S. E. Longman (Harley-Davidson)	990	2	6
	G. L. Sawer (American X)	1,000	1	6
	R. Dequin (Zenith-Jap)	744	2	21
	C. Crossthwaite (James)	—	—	
	W. D. Hawkes (Morgan)	1,098	Scr.	
	H. Jepson (Zenith-Jap)	986		48
	H. R. Harveyson (Indian)	994	1	6
	D. H. Davidson (Harley-Davidson)	584	2	6
	L. P. Openshaw (Zenith-Jap)	986	1	6
	P. R. Dickenson (Triumph)	499	3	15
	J. Chater-Lea (Chater-Lea)	999	1	54

*Winner's time, 10m. 33s.=56.81 m.p.h.

Open Hill-climb in South Wales.

High speeds over a Long Course.

ONCE again Sunbeam and Norton riders have shown their prowess when, on the occasion of the Welsh Eastern Group M.C.C.'s open hill-climb on Govelin Hill, last Saturday, they vied with each other for premier awards.

The course was two and threequarter miles in length, with an average gradient of 1 in 9. Starting on the bridge, competitors had about a hundred yards of level to get into their stride, then swinging sharply to the left a straight steep stretch brought them to the famous Fiddler's Elbow. This was, of course, the main point of vantage from a spectacular point of view, and a good crowd had assembled to watch the various methods of cornering.

After taking the Elbow a stiff, almost straight mile is followed by a series of snake-like bends until the summit is reached, where a short "blind" of flat allowed high speeds over the finishing line.

The weather was ideal throughout the afternoon, and the road surface hard and for the most part very good. Marshals were posted at entervals *en route*, especially near the top, where some slight trouble was experienced by mountain sheep straying on the road. The organisation was excellent, though with such a long course the necessary intervals between performances proved rather tiring to some of the on-lookers.

Good Scooter Climb.

Punctually at two o'clock the first man, S. R. W. Lincup (1¾ Whippet scooter), was sent off. He climbed well, but was easily beaten by his only rival, W. G. C. Hayward, who was similarly mounted. The latter made the climb in 7m. 30⅘s.—faster than one of the lightweights.

Six riders competed in the 350 c.c. members' class, which proved an easy win for Reg. Brown, who made a very fine ascent on a 2¼ Diamond in 4m. 34⅘s. T. J. Parfitt (2¾ Douglas) came up well, but missed his gear change after the Elbow, and stopped. He however, made a very good get away on the steep incline. N. Mitchell (2¾ Verus) was slow, though he improved his time considerably in the open class which followed. Here George Dance made his appearance with his 2¾ Sunbeam. He came up very fast; his time, however, was some 16s. slower than that of Reg. Brown. The spectators were keenly interested in the proceedings, and many who were perched high on the hill, in order to get a longer view, called out for results as we trudged up the seemingly endless slope to view the riders from a different point.

Fast Climbing and Cornering.

The larger classes brought out several very fast machines and proved a tussle for best times between G. Dance (3½ Sunbeam), Reg. Brown (3½ Sunbeam), C. Sgonina (3½ Norton), and R. E. Toms (3 A.B.C.). Some very fast riding and beautiful corner work was witnessed, one of the most noticeable features being the extraordinary acceleration of these machines on the stiff rise after taking the Elbow. R. E. Toms (A.B.C.) hugged the inside well, his little engine screaming up while his *confrère*, A. White, struck the bank, stopped, and was later baulked by sheep near the top. Reg. Brown and G. Dance both made very fast ascents, and in spite of the latter losing his float chamber cover he covered the distance in 3m. 39⅕s., a speed of over 45 m.p.h. S. C. Chivers was handicapped with a single gear on his Norton, but made a good climb as did R. Jenks and A. Thom, both riding Harley-Davidson sports machines.

The second fastest man was C. Sgonina who was riding a 3½ Norton, fitted with a special overhead valve cylinder. He seemed quite a favourite with the crowd, but was 5s. slower than Dance's time. E. H. Ivens (4 Norton) skidded right round on the Elbow, while R. W. Hill (4-5 Veriot-Precision) came round with his petrol pipe adrift, his fuel spurting all over the engine.

It was unfortunate that a breakdown in the telephonic timing arrangements marred an otherwise excellent afternoon's sport. The results were as follow:

CLASS 1.—Scooters (Open).
1. W. G. C. Hayward (1¾ Whippet).
2. S. R. W. Lincup (1¾ Whippet).
Winner's time 7m. 39⅘s.

CLASS 4.—350 c.c. Solo (Members).
1. Reg. Brown (2¼ Diamond).
2. F. T. Stephens (2¾ Douglas).
3. F. E. Jenkinson (2¾ Wilkin).
Winner's time 4m. 34⅘s.

CLASS 5.—350 c.c. Solo (Open).
1. G. Dance (2¾ Sunbeam).
2. N. Mitchell (2¾ Verus).
3. F. E. Jenkinson (2¾ Wilkin).
Winner's time 4m. 50⅘s.

CLASS 6.—500 c.c. Solo (Members).
1. Reg. Brown (3½ Sunbeam).
2. R. E. Toms (3 A.B.C.).
3. C. Sgonina (3½ Norton).
Winner's time 3m. 55⅘s.

CLASS 7.—500 c.c. Solo (Open).
1. G. Dance (3½ Sunbeam).
2. C. Sgonina (3½ Norton).
3. Reg. Brown (3½ Sunbeam).
Winner's time 3m. 39⅕s.

CLASS 8.—750 c.c. Solo (Members).
1. C. Sgonina (3½ Norton).
2. Reg. Brown (3½ Sunbeam).
3. S. C. Chivers (3½ Norton).
Winner's time 3m. 44⅘s.

CLASS 9.—750 c.c. Solo (Open).
G. Dance (3½ Sunbeam), 3m. 41⅘s.

The fastest time was made by G. Dance (3½ Sunbeam) in 3m. 39⅕s. (45.16 m.p.h.).

S. C. Chivers, who rode a 3½ single-geared Norton. He made the ascent of 2¾ miles in 4m. 25⅕s.

A SPORTING TRIAL IN YORKSHIRE.

The Scott trial, which will take place on September 4th, is an annual event in which the organisers (the Scott Motor Cycle Co., Ltd.) endeavour to select the most arduous course that can be found on the West Yorkshire moors.

A map of the 1920 course is now before us, and from an intimate knowledge of the district, we can vouch for the "colonial" nature of the obstacles to be encountered. There are four observed water-splashes and five observed hills, and the scenery on all parts of the route is exceptionally fine.

The event is open to anyone, irrespective of make of machine; there are no entry fees, and competitors will find that all arrangements for meals, marshalling and arrowing are carried out most efficiently. Several valuable awards are offered, including trade and amateur team prizes, best solo prize and club team prize. Entries close on Saturday, and intending competitors should write at once to Sales Department, the Scott Motor Cycle Co., Ltd., Saltaire, Shipley, Yorkshire.

AN AMBITIOUS MINIATURE.

The Unibus, embodying many Features which follow Car Practice.

ALTHOUGH from its appearance the Unibus is sure to be called a motor scooter, yet when one comes to consider the design of this machine, it seems to warrant a more dignified title, for it is a veritable miniature car on two wheels. The little machine can best be described by considering it as a chassis with the bodywork (including the ample mud shields which completely protect the rider) removed. It is then seen to consist of a frame composed of steel side members with pressed steel ends. To the front end the steering head is fixed, and to the rear the back wheel is attached through the medium of leaf springs and radius rods.

The suspension deserves particular attention, as quarter elliptic springs are used both front and rear, the front springs being anchored to a plate at the base of the steering column, and their free ends attached to small links which hold the spindle of the front wheel, and which are also held by radius rods, themselves connected together so that lateral rigidity is secured. At the rear the quarter elliptic springs are anchored to the steel frame in a horizontal position, and over the springs radius rods are arranged, again rigidly connected together. A substantial link on each side connects the free end of one spring to the radius rod above it, and also accommodates the spindle of the rear wheel, so that here again lateral rigidity is assured, and the back wheel has its motion restrained to an approximately vertical path.

AN OPEN-FRAMED MACHINE WITH SHAFT-DRIVE.

Designed to provide every protection for the driver, the Unibus is the nearest approach to a miniature single track car that has yet been produced.

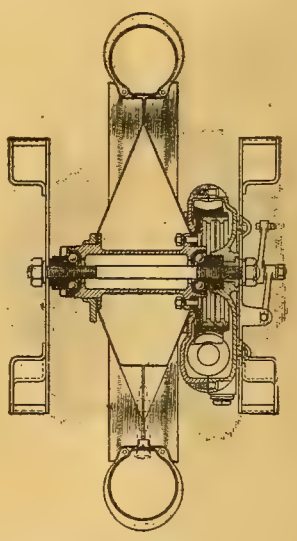
This view shows the position of the starting handle, gear change, and tank.

At the front of the frame the two-stroke engine is mounted, together with four pillars which support the petrol and oil tank and the top of the steering head. This engine has a bore and stroke of 70 × 70 mm., giving a capacity of 269 c.c. It is of the three-port type, and is equipped with magneto ignition. The engine is set across the frame in a vertical position, and attached to the engine-shaft is a Ferodo-lined dry plate clutch of ample size. From this the drive is transmitted to a two-speed gear box which has the gears always in mesh, engagement being by means of dog clutches. The drive is indirect on both gears, and from the gear box is taken by a shaft to an underslung worm drive attached to the rear wheel. Universal and sliding joints are arranged at each end of the propeller-shaft, and the underslung worm is of steel, while the worm wheel is of phosphor bronze.

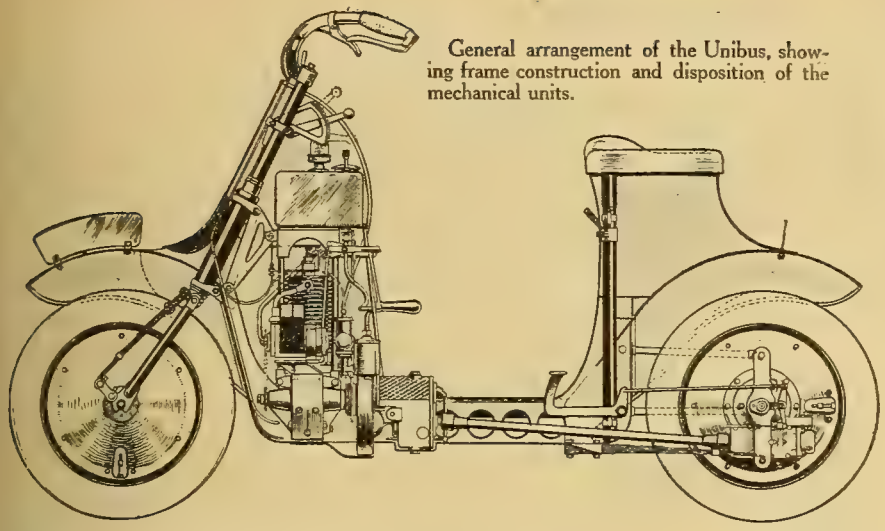
Thus, it will be seen that the transmission is entirely on car lines, and the same remark applies to the brakes. The phosphor bronze worm wheel is arranged to form a drum, in which are situated, side by side, two pairs of expanding cast iron brake shoes, one pair being operated by Bowden control from the handle-bar and the other pair by a pedal conveniently situated near the driver's heel.

Before leaving the "chassis" the wheels themselves are worthy of description, since they are formed of two dished steel stampings, held rigidly on a hub by a special device, and clamped together at their edge by small thumbscrews. The edge of each disc is formed as one half of the rim, to hold the 16 × 2¼in. wired-on Dunlop

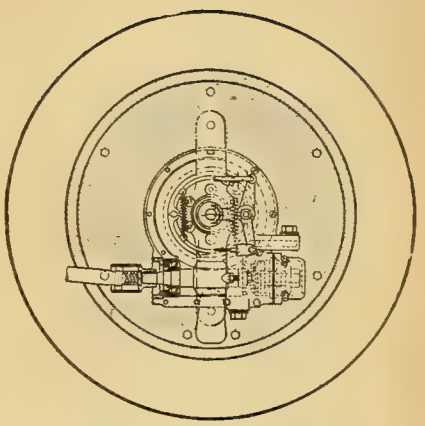
The front mudguard and engine shield are built to form one piece; the rear guard, too, being constructed in a similar manner, giving ample protection to the rider.



The underslung worm drive in part section, and rear hub brakes.



General arrangement of the Unibus, showing frame construction and disposition of the mechanical units.



Section through centre of rear wheel, showing side-by-side internal expanding brakes.

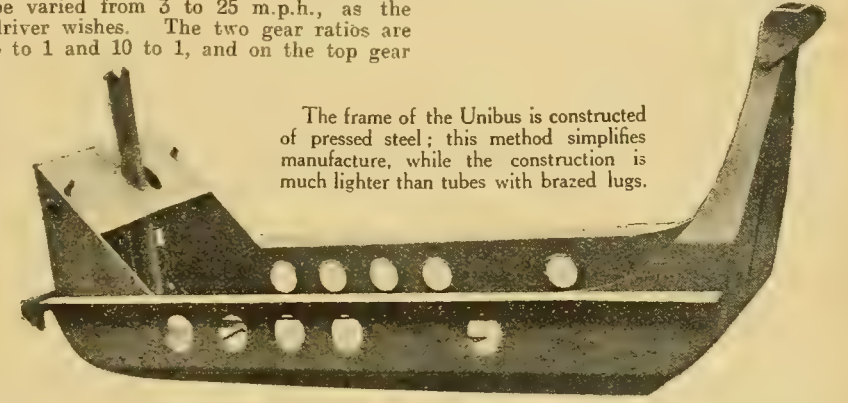
tyres. Should it become necessary to remove the tyres, the wheel is easily detached from the machine, and then is as easily taken apart in order that the tyre may be removed. A stand on motor cycle lines is arranged in front of the rear wheel, and is automatic in action, since a leaf spring bears on a cam formed on the spindle of the stand. The tank accommodates both petrol and oil, and a sight feed drip lubricator supplies oil to the cylinder and crank case of the engine.

Not only is the rider protected from mud and water thrown up on wet roads by the very complete mudguarding, but the engine is completely boxed in also, so that the rider's clothes are in no danger of becoming soiled with oil.

The seat is formed of a steel pressing, suitably padded, supported on a pillar, which forms a portion of the rear of the frame. Over the rear mudguard or shield a compartment is formed which accommodates a dry battery for supplying current to the electric lamps, a pump and a tool kit, and also leaves sufficient room for carrying a number of small parcels. This compartment is closed by the seat, which can be swung forward out of the way when access to the compartment is required. Suitable apertures are left in the front portion of the "body" to allow for cooling, and we are informed that no danger from overheating need be feared.

Protection for the Rider.

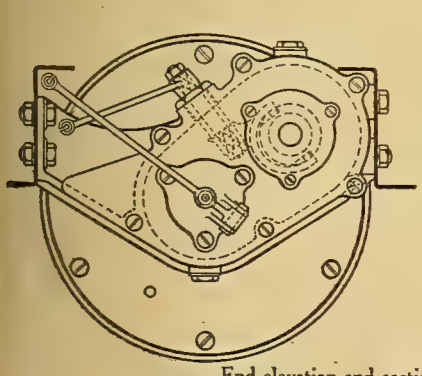
One of the chief attractions of the machine is that it is possible to use it in any weather, and in any clothes, without danger of becoming soiled or splashed, and, in addition to this, the ease of control of the little vehicle is a great asset. A handle starter is arranged by means of a chain and sprockets embodying a ratchet. On the road the speed may be varied from 3 to 25 m.p.h., as the driver wishes. The two gear ratios are 6 to 1 and 10 to 1, and on the top gear of 6 to 1 we are informed that Cleeve Hill and Leckhampton Hill, near Cheltenham, are climbed with ease.

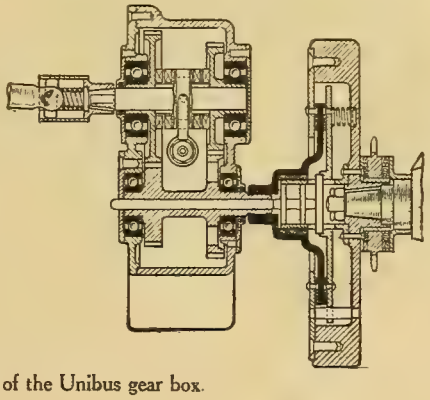


The frame of the Unibus is constructed of pressed steel; this method simplifies manufacture, while the construction is much lighter than tubes with brazed lugs.

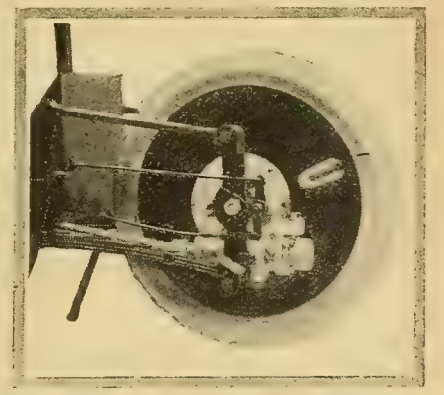
Manufactured in the fine modern workshops of the Gloucestershire Aircraft Co., at Sunningend Works, Cheltenham, the machine will be handled by the Service Motor Co., Ltd., Circus House, Oxford Circus, W.1, and its price, we understand, will be ninety-five guineas. This, of course, is a high figure, but one must understand that the design of the Unibus is on car lines, and is excellently carried out in practice. It is designed not as a motor scooter but as a small utility mount for ladies or gentlemen.

Such a machine as the Unibus should prove an interesting experiment, for when it has been on the market for a reasonable time it will be possible to judge whether the buying public prefer to pay approximately £100 for a luxurious and well-made miniature of this type or a motor cycle following conventional lines, with possibly fewer refinements, but capable of higher speeds and a wider sphere of action.





End elevation and section of the Unibus gear box.



Exterior of rear wheel showing springing arrangement. Observe the radius rod.

CLUB NEWS (Continued from p. 223.)

Market Harborough M.C.C.

A motor cycle club is being formed at Market Harborough, and motor cyclists residing in that district who are interested should communicate with Mr. A. M. Dawbarn, 96, St. Mary's Road, Market Harborough.

Lancaster, Morecambe, and District M.C.C.

It is proposed to hold a flying kilometre speed trial on Morecambe Promenade on September 22nd. As this will be a closed event, only members are eligible to compete. The hon. sec., Mr R. L. Ducksbury, will furnish particulars regarding visiting membership to anyone interested. Enquiries should be sent to him at Elms Hotel, Bare.

Hill-climb at Brighton.

With a view to forming a much-needed motor cycle club for Brighton and district a successful hill-climb was held on Sunday, 8th inst., the venue being Saddlescombe Hill. The unlimited solo class had to be run off twice, Dobson (3½ A.B.C.) and Hampton (8 Zenith) "dead-heating" twice. Dobson had an unfortunate accident, but was eventually proclaimed the winner after Hampton had run for a third time, he failing to beat Dobson's best time.

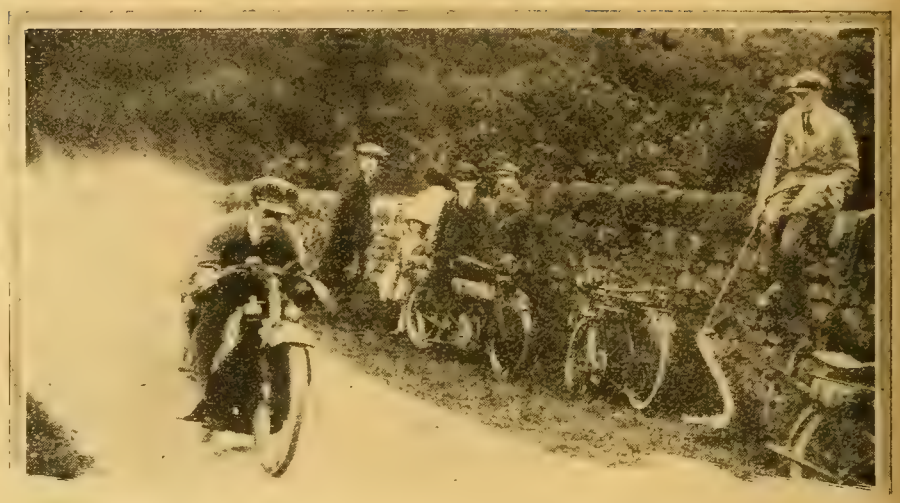
The organisers would be glad if intending members would forward their names and addresses to Mr. C. Watts, secretary (*pro tem*), 24, York Villas, Brighton. It is hoped, if the membership warrants it, to get the famous Madeira Drive for a speed contest in the near future. Results :

CLASS 1 (up to 350 c.c. Solo).—C. Volk (2¾ Douglas), 28⅘s.; H. W. Moreton (2¾ Douglas), 23⅘s.

CLASS 2 (up to 600 c.c. Solo).—H. D. Dobson (3½ A.B.C.), 22s.; H. Dyer (4 Triumph), 26⅘s.

CLASS 3 (Unlimited, solo).—H. D. Dobson (3½ A.B.C.), 22⅘s.; H. A. Hampton (8 Zenith), 23⅘s. (After run off.)

CLASS 4 (Unlimited, passenger).—W. Teeson (6 Enfield), 37⅘s.; —. Trill, 7-9 Indian), 38⅘s.



A flying start. G. Hill (Scott) in the Harrogate and District M.C.C. hill-climb last Saturday.

Northern M.C.

Recently this Northern club held a most successful reliability trial. The course, which covered Newcastle, Berwick, and Rothbury, with a total mileage of about 135 miles, was rather an easy one, and no great effort was required to keep to time. The attendance was quite good, and most of the competitors did well, about ten of the club's gold medals being won. There were two observed hills, these being well-known in the North, *i.e.*, Lakeside and Corbie Hills. Three competitors failed on the former.

The next big event of this club will be the two days' reliability trial to Scarborough, when it is expected that there will be a good entry. This trial, which will decide the winner of the Rudge-Whitworth Cup, will not be an easy one, many well-known hills in the Whitby and Cleveland districts being included.

Hull M.C.C.

A hill-climb was held on Saturday last at Garrowby Hill, the York Club ably officiating. The fastest time of the day was made by L. Runton (3 A.B.C.), and in the lightweight class Mr. W. V. Worthington (2¾ Wooler) was fastest. Mr. N. Walker (4 Triumph) won second places in Classes 3 and 4. Next Saturday Major A. J. Atkinson is entertaining the members of both local clubs to a gymkhana and hill-climb at his residence, Elloughton Dale. Events start at 3.30 prompt, and all Saturday. A good number of members turned out and everything was run off without a hitch, some quite good performances being put up in the various classes. The results on formula were as follow :

Harrogate and District M.C.C.

For the first time this year the Harrogate Club managed to have a fine day for a competition, and a nice little event in the form of a hill-climb was run off on Saturday, August 14th, with the following on formula results :

CLASS 1.—Solos up to 275 c.c.

1. J. Naylor (2¼ New Hudson).
2. W. E. Grange (2¼ Autoglider).
3. Mrs. T. Baxter (2¼ Triumph).

Winner's time 43s.

CLASS 2.—Solos up to 350 c.c.

1. M. Parkinson (2¾ Douglas).
2. T. Leak (2¾ Douglas).
3. E. R. Davies (2¼ Triumph).

Winner's time 38⅘s.

CLASS 3.—Solos up to 560 c.c.

1. H. E. Ellis (4¼ B.S.A.).
2. G. A. Nunneley (3½ Norton).
3. G. Hill (3¾ Scott).

Winner's time 34⅘s.

Fastest time in class, A. Hill (4 Triumph), 34⅘s.

CLASS 4.—Solos (Unlimited).

1. M. Parkinson (2¾ Douglas).
2. W. Backhouse (4 Triumph).
3. H. E. Ellis (4¼ B.S.A.).

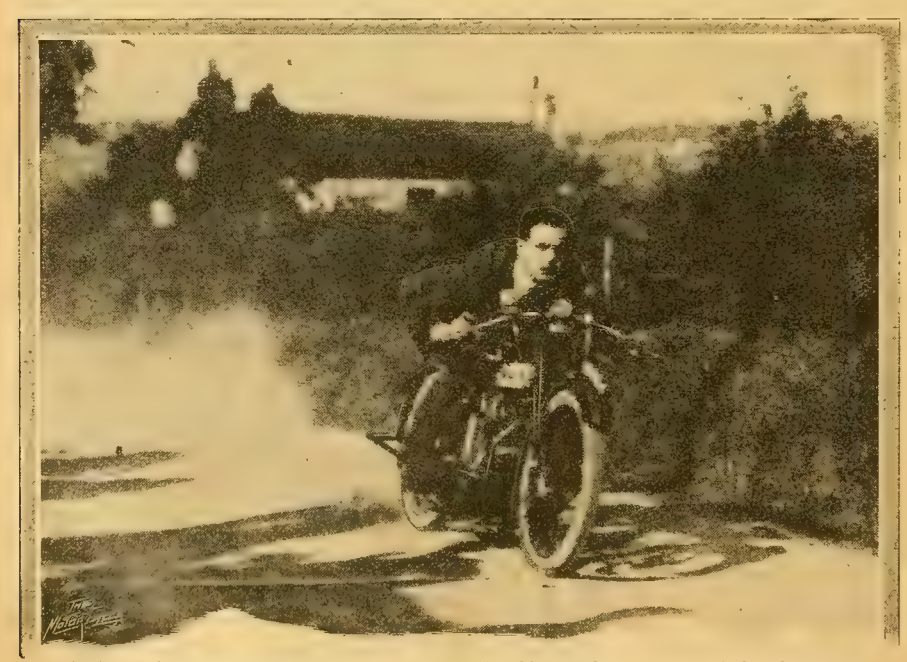
Winner's time 43s.

Fastest time on class and fastest time of the day to Backhouse (4 Triumph), 32⅘s.

CLASS 5.—Passenger Machines.

1. A. Hill (4 Triumph sc.).
2. T. W. Monkhouse (4 Triumph sc.).
3. J. Baxter (4 Triumph sc.).

Winner's time 46⅘s.



A. Alexander making fastest time of the day in the Glasgow Western M.C.C. last Saturday on a 3½ Douglas.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

A Lightweight Consumption.

[?] I ride a 1919 2¼ h.p. Levis, and the petrol consumption lately has been excessive. It is only doing about 45 m.p.g. Can you tell me how to remedy this? The bicycle is fitted with an Amac carburetter with a 24 jet. There is no belt slip, but the engine gets overheated after running a few miles. As far as I can tell, the petrol level is correct.—A.R.H.B.

The details you give are quite insufficient to enable us to suggest the cause of the trouble. It is possible that the carburetter is flooding, or may be the ignition timing has slipped, thus causing a late spark, which is especially detrimental to good results in a two-stroke engine. The cylinder may also require decarbonising, especially in the region of the exhaust port.

Building a Machine.

[?] (1.) Having recently purchased a 4 h.p. 50° twin J.A.P. engine, bore and stroke of which I understand to be 60 × 76 mm., I intend fitting this up with a two-speed Albion gear box, but being unacquainted with the merits of this particular type of engine, so far as revolutions are concerned, I am in doubt as to what gear ratios to employ. (2.) What size of sprockets and pulleys do you recommend on the gear box, engine-shaft, and back wheel? (3.) What make of carburetter would you advise for flexibility? (4.) Is there any particular type of magneto most suited for this engine? (5.) I am fitting 26in. × 2¼in. wheels to this machine. Do you consider this quite heavy enough?—A.A.B.

(1 and 2.) You will not be able to obtain any variation from standard in the size of the sprocket and pulley fitted to the gear box which you intend purchasing, and the belt rim also you will probably have to obtain in a standard size, such as 18in. or 19in. The only variation you will be able to make will be in the size of the crankshaft sprocket, which you will have to have specially made. We would suggest that a gear in the neighbourhood of 6 to 1 would be most suitable for this engine. The rule for finding gear ratio is to multiply the diameters or number of teeth of all the driving wheels, and also to multiply the similar dimensions of the driven wheels. Divide the latter product by the former to obtain the ratio. (3.) Almost any well-known make of carburetter would suit this engine if you obtain one of the correct size. It would be advisable to consult the makers of the engine, however, as they will be able to inform you of the particular carburetter which they have found to be most satisfactory. (4.) You will, of course, require a 50° magneto, but we cannot tell you the direction of rotation, as this depends on the driving arrangements provided for on the engine. (5.) 26in. × 2¼in. wheels will be quite in order, but it would be advisable to fit 2⅜in. covers on them.

Defective Drip Feed.

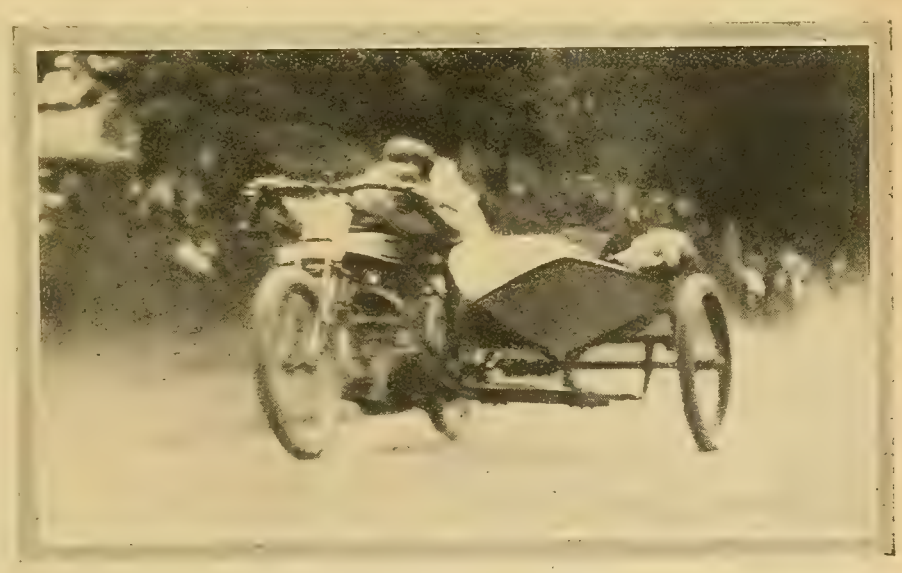
[?] I have trouble with the drip feed of my B.S.A. The oil flows down quite freely when engine is stopped, but once the machine is going the oil stays in the glass. I have often cleaned the little pen steel disc, etc., but with no improvement. Can you say why it does not work? I have to stop every four miles to let the oil go down.—B.W.

Possibly the trouble is due to the small ball valve between the oil pump and the drip feed sight body. You will be able to dismantle and clean this on removing the small set screw which you will find beside the gland nut at the top of the pump. If this is clear, and if the pen steel non-return valve is also working, the oil pump should work correctly provided the crankshaft air-release is clear.

Chain Adjustments.

[?] (1.) There is a little wrong with the gears of my 3½ h.p. Sunbeam, and I wish to take down the gear box. Please give details how to take this down, regarding clutch plates and sprocket. (2.) If repair is necessary on examination, would it be advisable to send the box to the makers? (3.) Back chain, I find on turning the wheel, is slack at one place; turning a little further it becomes tight. What is the necessary adjustment to effect a remedy?—H.H.

(1.) You should obtain the makers' instruction booklet, as this will give you all the details you require. Dismantling the gear box is a fairly simple operation, as it is quite obvious when you take the box off the frame what parts must be removed; you can scarcely go wrong in this. (2.) As you do not state the nature of the trouble we cannot advise you on this point. If any parts are defective, you would probably be able to replace them yourself. (3.) This trouble is usually experienced on all chain-drive machines. When adjusting the chains you should try them in various positions, and take care that the adjustment is correct when the chain is at its tightest point.



HIGH SPEEDS WITH A SIDECAR.

60 m.p.h. is glibly spoken of by many motor cyclists, but few ever accomplish that speed solo, much less with a sidecar. Here is G. W. Walker (Norton) travelling at over a mile a minute—a photograph obtained at the recent speed trials at Chatsworth Park.

An Uncontrolled Dog.

While riding a motor cycle along a highway, a dog, which was behind its master, suddenly bolted out at me right under the front wheel, and as a result I have been laid up three weeks with injuries to my knee. The machine itself is not much damaged. My friends advise me to sue the owner of the dog for damages. I shall be obliged for your reply to the following questions. I may mention that the machine is not insured for accident—nor am I. (1.) Do you think I have a good claim for damages? (2.) Should I interview the owner of the dog and thereby try to settle the matter with him; or (3.) Is it better to place the matter straight into the hands of my solicitor? (4.) I am told that I have a good claim, as all dogs are supposed to be under control on the highway. Is this correct? (5.) I can get witnesses who all say the dog deliberately charged out at me. Will this make the case stronger?—G.F.

(1.) No, unless you can show that the dog was to the owner's knowledge in the habit of rushing in front of motor cycles. (2.) Yes. (3.) This would be a waste of money, unless there is evidence to support the answer to No. 1. (4.) No, the law is quite clear that the owner of a dog is not liable for an act of a vicious or mischievous kind, unless it is known to the owner that the animal had that particular vice or mischievous propensity previously.

Raising the Gear.

Would you kindly give me your expert advice upon the following questions, as I contemplate purchasing an Army Triumph renovated by the makers? (1.) The number of teeth on the engine sprocket to give between 4½ and 4¾ to 1 on top, as I understand the standard ratio is 5 to 1, and consider this rather low for solo work. (2.) What 28 × 3in. tyres will fit the Triumph rims and clear the forks, and what effect will these tyres have with regard to gear ratio and speedometer readings? (3.) Could I fit a pair of 4 h.p. Douglas 1920 type front forks to a Triumph, and what effect would they have on the rake of the steering, etc.? At present I own a 2¾ h.p. Douglas and have also had a twin Zenith, and understand about keeping the revs. up by using my gears.—A.B.

(1.) You will find it very difficult to obtain a larger sprocket, although the makers may be able to supply one with seventeen teeth instead of the standard sixteen. (2.) You will probably find that Palmer cord tyres, size 28×3 will fit 26×2⅜ rims of the Triumph, but the makers do not guarantee them to do so. The 28in. tyre, of course, has the effect of raising the gear slightly, and it causes the speedometer to give a lower reading than the actual speed obtained. You can calculate the difference by working out the circumference of the two sizes of tyres and dividing these figures into one mile, thus finding out the number of revolutions the wheel will make in each case. (3.) It might be possible to fit a pair of 4 h.p. Douglas forks to the Triumph, but you would require special ball races to suit the Triumph head lug.

Excessive Oil Consumption.

I bought a 3½ h.p. J.A.P.-engined 1914 motor cycle six months ago. The engine pulls well when cold, and for about a mile. Then it overheats (especially the crank case) owing to shortage of oil. It consumes about one quart of oil every forty miles (B.B.), and even then does not get enough. I have just had it rebushed and new rings at a first-class works. The timing of the valves and ignition is correct. There is absolutely no oil leakage anywhere, and it is not being burnt in the combustion head, as the exhaust is practically colourless. The engine is mechanically perfect. Can you state any reason why this engine uses so much oil?—G.A.B.

The oil consumption of your engine is excessive, but without examination we are at a loss to give you any useful advice, as, from your description, the whole of the working parts are in good order. We can only suppose that one or more of the new bearings is too tightly fitted, and it will be advisable to remove the cylinder and make sure that all parts are moving freely.

IMPORTANT DATES.

Sa., Aug. 21st—
York and District M.C. Open Hill-climb at Sutton Bank.

Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial. Darlington as a centre.

Sat., Sept. 4th—
Scottish Speed Championships at St. Andrews.
Scott Trial in Yorkshire.

Nov. 29th Dec. 4th—
Olympia Motor Cycle Show.

Speed and Consumption.

In an argument with a friend the other day on the subject of jets I advanced the opinion that, no matter what size the jet may be, the petrol consumption is always the same for a given speed. I do not profess to know much about carburetters, so for the sake of convenience I would take the Senspray as an example. Supposing, on a 3½ h.p. machine on top gear, I can do 50 m.p.h. on full throttle with a 38 jet; then with a 40 jet I can do more, say 55 m.p.h., on full throttle, therefore to get 50 m.p.h. with the 40 jet the throttle will not need to be open quite fully. Similarly, with a 42 jet, the throttle will not need to be open as much as it was with the 40 jet in order to get the 50 m.p.h., and so on, until the jet is of such a size that the mixture will be too rich if the throttle is open wide. The fact that the throttle will have to be opened less, the larger the jet, to get the 50 m.p.h. seems to point to my supposition that the amount of petrol used at a given speed is a constant. Am I correct?—F.C.S.

In a properly designed carburetter there is only one correct size of jet, and any other size will affect the running or petrol consumption, although to what extent depends entirely on the particular carburetter in use. Provided that the carburetter is correctly adjusted for the particular size of jet in use, it is presumable that the petrol consumption for a given distance at a given speed will be constant. In the instance you mention, we should imagine that, if you can attain the same speed with a smaller throttle opening by increasing the jet, the consumption will be raised owing to the higher velocity of the air stream over the jet orifice.

A Sidecarrier.

I require an attachment for a 7-9 h.p. Indian motor cycle to enable me to carry a light load daily over a practically level road. Would you kindly enlighten me on the following points? (1.) Which would be the more satisfactory: an ammunition carrier or a specially-built carrier? (2.) The dimensions of an ammunition carrier? (3.) The maximum load I could carry with a machine of this power?—J.B.G.

(1.) As you do not state the nature of the goods which you have to carry, we cannot give you much assistance in suggesting the type of body you should use. (2.) We regret that we have not got the dimensions. (3.) The maximum load you can carry depends upon the design of the sidecar chassis. Given a properly constructed and substantial attachment, you should be able to take a load of about 2 cwt.

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"A.E.S." (Colne).—Grado gear.

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GRIMSBY TO TORQUAY.—J.C.C.

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BIRMINGHAM TO HASTINGS.—A.A.H.

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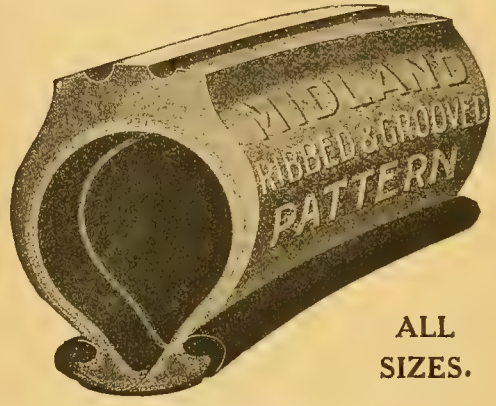

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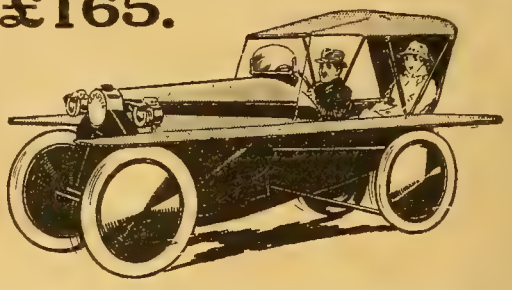

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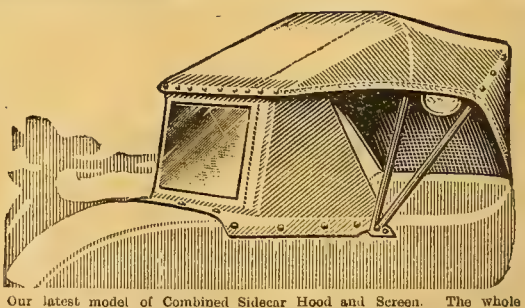

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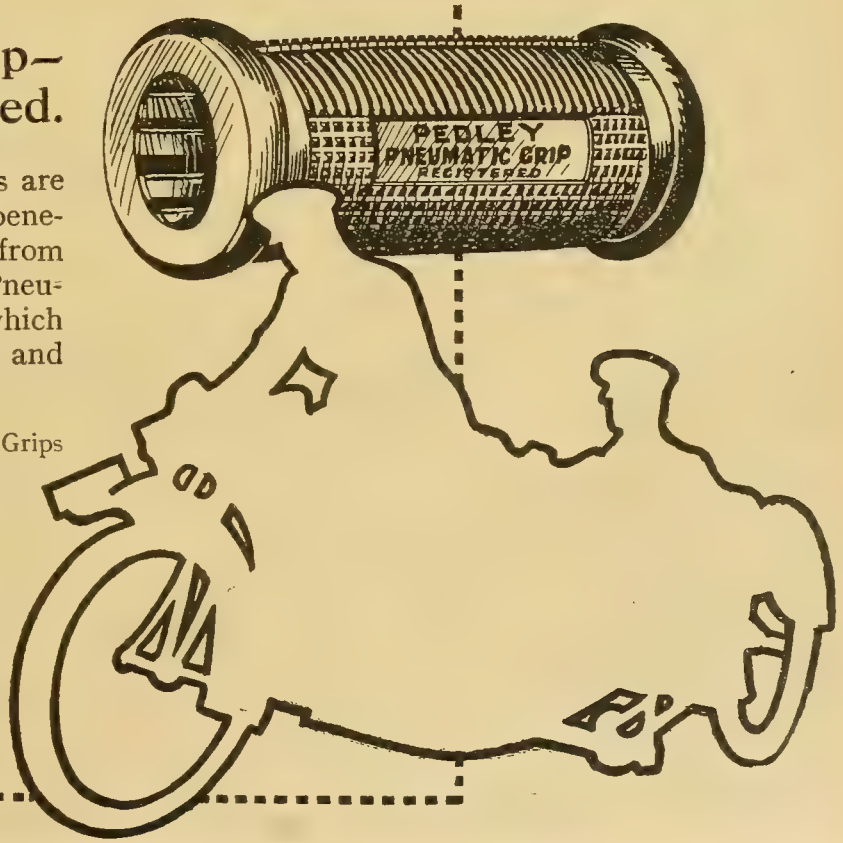

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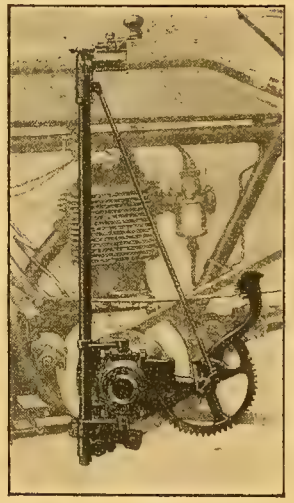

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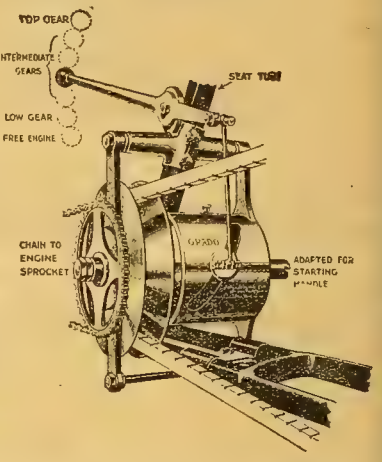

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SPECIAL OFFER.

O.K. JUNIOR, 2½ h.p. Union engine, Hutchinson tyres, B. and B. Carburetter, C.A.V. Magneto, very best finish throughout. Finest value on the market. **Cash £50 8 0** or **£16 16 0** down and 12 MONTHLY PAYMENTS OF **£3 3 0.**

SOME SPECIAL BARGAINS.

1920 **MATCHLESS H,** dynamo lighting, hood-screen, speedo., unscratched, **£230**	1920 **MATCHLESS H** dynamo lighting, as new in every respect, **£225**	1920 **HARLEY** and Dinky Sports Sidecar, over £40 worth of accessories, **£220**	1920 **ZENITH** and Swan Sports Sidecar, all accessories, **£210**	1920 **SCOTT** 3¾ h.p. 2-speed, all lamps and horn, unscratched, as new, **£130**
1919 **JAMES** 5-6 h.p., twin and sidecar, splendid condition, **£130**	1919 **INDIAN** 7-9 h.p. combination, electrically equipped, as new throughout, **£175**	1920 **N. U. T.,** Mag. dynamo, 3½ h.p. twin, speedometer, etc., as new, **£155**	1919 **INDIAN** 7-9 h.p., reconstructed, enamelled and plated, **£125**	1918 **CLYNO** combination, re-enamelled and plated, as new in every respect, **£140**

We hold the largest stock of guaranteed motor cycles in the United Kingdom. Let us know your requirements.

SIDECARS! SIDECARS! SIDECARS! Actually in stock over **50** sidecars. All leading makes and suitable for all types of machines.
HENDERSON CANOELET MILLFORD
BAMCO HARLEY WATSONIAN
Swan Sports from £30

Any machine may be purchased by paying half down. Balance in 12 monthly instalments. No extended payment orders can be accepted outside England.

TRADE SUPPLIED.

The Motor Cycle Specialists,

9, 10, 11, ROYAL PARADE, WEST CROYDON.

'Phone—Croydon 2450. 'Grams—"Track, Croydon."

LAMB'S

151, High St., Walthamstow.
'Phone—Walthamstow 169
'Grams—"Cyclotomo, Phone, London"

50, High Rd., Wood Green.
'Phone—Hornsey 1956.

387, Euston Rd., London, N.W.1.
'Phone—Museum 4978
Grams—"Lamoxy, Eusroad, London."

NEW MACHINES in Stock

CALTHORPE 2-stroke	74	19	6
CALTHORPE-J.A.P.	78	5	6
ARIEL combination	152	10	0
ARIEL solo	120	0	0
NEW HUDSON	75	0	0
LEA FRANCIS 3½ h.p.	130	0	0
ROVER 3½ h.p., T.T., 3-speed	149	10	0
HARLEY-DAVIDSON electric, 7·9 h.p.	195	0	0
HARLEY-DAVIDSON 4 h.p.	164	10	0
HARLEY-DAVIDSON "F" and sidecar	247	10	0
JAMES combination, 4¼ h.p.	170	0	0
JAMES combination, 5-6 h.p.	215	0	0
JAMES 2½ h.p., 2-speed	75	0	0
BLACKBURNE and sidecar, 4 h.p.	165	0	0
DIAMOND-J.A.P. 2¾ h.p.	84	3	0
DIAMOND single speed, 2½ h.p.	63	5	0
O.K. JUNIORS single speed	50	8	0
NEW IMPERIAL solo, 2¾ h.p.	89	5	0
B.S.A. combination, 4¼ h.p.	152	10	0
CLYNO 2¾ h.p.	75	0	0
SCOTT 3¾ h.p.	140	0	0
A.B.C. solo	150	0	0
RUDGE MULTI 3½ h.p., I.O.M.	110	5	0

NEARLY NEW.

1920 TRIUMPH solo			
1920 TRIUMPH and Sunbeam sidecar			
1920 TRIUMPH and Gloria sidecar	170	0	0
1920 COULSON 2¾ h.p. and accessories	85	0	0
1920 COULSON 4 h.p., comb.	139	0	0
1920 NEW IMPERIAL 2¾ h.p. and accessories	75	0	0
1920 NEW IMPERIAL and Swan sidecar	185	0	0
LEVIS Popular	60	0	0
1919 HARLEY-DAVIDSON and Bulbous H.D. sidecar	160	0	0
1920 ENFIELD 6 h.p.			
1919 ENFIELD lightweight	65	0	0
1919 ENFIELD 8 h.p., dynamo lighting			
1919 ENFIELD comb., 6 h.p.	160	0	0
1920 A.B.C., ridden 100 miles			
1919 JAMES 2¾ h.p.	63	0	0
1920 RUDGE 5-6 h.p., comb.	160	0	0
1920 ROVER 5-6 h.p., comb.	210	0	0
1920 WOOLER 2¾ h.p.	129	0	0
1920 INDIAN 7-9 h.p.	100	0	0
1920 DOUGLAS 4 h.p., comb. and accessories	170	0	0
1920 N.U.T. solo	185	0	0
1920 COVENTRY EAGLE	85	0	0
1920 P. & M. combination	175	0	0
1920 QUADRANT	135	0	0
1919 W.D. HARLEY-DAVIDSON	110	0	0
W.D. DOUGLAS	65	0	0

SECONDHAND.

1916 HARLEY-DAVIDSON and H.D. sidecar	140	0	0
1917/20 KING DICK 6-7 comb.	110	0	0
1916 B.S.A., as new	95	0	0
1917 LEVIS	50	0	0
1916 NEW IMPERIAL and accessories	52	10	0
1915 WOLF	29	10	0
1914 TRIUMPH	65	0	0

DEFERRED TERMS—¼ down and 11 monthly payments (with certain exception).
DISCOUNTS allowed off easy payment price if account be paid in 1, 3, or 6 months.

EXCHANGES ARRANGED.

In answering this advertisement it is desirable to mention "The Motor Cycle"

MOTOR CYCLES FOR SALE.

Alldays.

1917-18 Allon, 2-speed, large Lucas lamp, Klaxon, tools, pump, speeds, undershield, semi-T.T., new 700×65 Dunlop and 26×2½ front, very economical and fast, in perfect condition; offers.—Andrew, 2, Madrid Rd., Barnes. [2605

ALLDAYS 1918 6-8h.p. Twin Combination, 3-speed Sturmey-Archer, clutch, K.S., Bosch, exceptionally large and luxurious Cooper sidecar, Easting screen, all accessories, all in excellent condition; an exceptional turnout; nearest £180.—40, Summerfield Crescent, Edgbaston, Birmingham. [2836

ALLON de Luxe, ready for holidays, in perfect order, late 1919, only few miles, all as new, speedometer, Klaxon, lamps, 2 generators, legshields, unique underfield, tools, kick start, all on; £90. No question of looking for trouble; only reason selling, owner wishes buy small car; see machine, recognise splendid purchase; seen by special appointment. — Oakdene, Alleyn Park, Dulwich. [2408

American X.

1920 American X, just overhauled, perfect condition, accessories, with new Mills-Fulford C.B. sidecar: £170.—49, Belvedere Rd., Upper Norwood, S.E. [3357

AMERICAN X Combination, 7-9h.p., 3-speed, kick starter, Millford sidecar, a luxurious mount, just delivered.—Graham, Motor Agent, Kirkpatrick, Lockerbie. (D) [X8869

1919 American X, 7-9h.p., 3 speeds, clutch, kick starter, condition as new, mileage less than 4,500; £135 or near offer.—H. E. Hall, Jun., Westnor, Wimborne. [X8853

1920 American X 7-9h.p. with Grindley super-sprung Sidecar, hood, and screen, done 1,800 miles, 60 m.p.g., in perfect order; £175; after 6 p.m.—76, Victoria Rd., Harlesden, N.W.10. [3159

AMERICAN X 1917 7-9h.p., 3-speed, clutch, kick starter, luxurious Cooper bulbous sidecar, complete with hood, screen, lamps, horn, perfect throughout, small mileage, better than new; £150.—Photo and particulars, 179, Osmaston Rd., Derby. [3120

Ariel

ARIEL 3½h.p., Bosch, good; £32.—Froude, 55, Montpelier Rd., Peckham, S.E.15. [2767

CYRIL WILLIAMS, for early delivery of Ariels.—Chapel Ash Depot, Wolverhampton. [2267

1920 Ariel, shop-soiled, 3½h.p., £110; also 1914 T.T.; £42.—Ross, 86, High Rd., Lee, S.E. [3187

ARIEL 3½h.p. Combination; delivery from stock at list price.—R. M. Wright and Co., Ltd., Newland, Lincoln. [3412

ARIEL 2½h.p., 1914, lamps; £42.—18, St. Edmund's Terrace, St. John's Wood, N.W.8. 'Phone: Hampstead 8600. [2806

1916 5-6h.p. Ariel and Sidecar, hood, screen, lamps, speedometer, pan seat; £130.—Monk, 5, Sun St., Waltham Abbey. [X8954

1920 3½h.p. Ariel, 3-speed countershaft, just in for immediate delivery.—Wincycle Co., Ltd., 236, High Holborn, W.C.1. [9867

£38/10.—Ariel 3½h.p., 1914, sporty machine, new V belt, good Dunlops, adjustable pulley.—189, Lewes Rd., Brighton. [2191

ARIEL, all models, early deliveries; all parts stocked. —F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [7414

ARIEL 1919, 3½h.p., 3-speed, kick start, complete with lamps, etc., good as new; £95.—Boyes, West Hill, Retford, Notts. [2643

ARIEL 1914 3½h.p., Bosch mag., P. and H. lamps, 2-speed and free engine, accessories; £30.—Eastop, Pembroke Rd., Erith. [2230

ARIEL 1920 3½h.p., 3-speed, countershaft, kick starter, completely equipped, as new; bargain, £103.—Porter, Hadleigh, Essex. (D) [2803

ARIEL, 3½h.p., 3-speed, K.S., 1915, perfect, overhauled by makers, £70; with sidecar, £80.—Pongley, New Rents, Ashford, Kent. [2445

1919 (Oct.) 6-7h.p. Ariel Twin Combination, spring seat-pillar, luggage grid, horn, spares; £160, or offer.—Sands, The Garage, Kelsall, near Chester. [2269

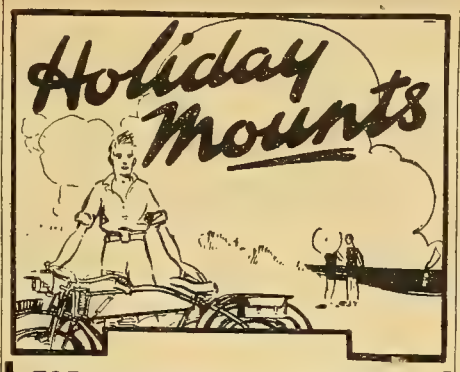
ARIEL Combination, 3½h.p., 3-speed, countershaft, 1914, C.B. spring wheel sidecar, small mileage, fine condition; best offer.—110, Granby St., Leicester. [3586

3½h.p. Ariel, 1911, 3-speed hub, clutch, sidecar with wicker and commercial bodies, suitable parcel delivery, good running order; offers.—Slingo, 11, Hythe Bridge St., Oxford. [3237

WAUCHOPE'S 9, Shoe Lane, London.—Ariels. Deliveries from stock of 3 brand new 3½h.p. combinations; £152/10; exchange arranged.—Wauchope's, 9, Shoe Lane, London. [2039

ARIEL Countershaft Models, solo or sidecar, in stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., N.W.1 ('Phone: 5476 Museum). [1096

MAUDES'.—Latest 1920 6h.p. twin Ariel, 3-speed model, complete with sidecar; £172/10; ex actual stock; deferred payments arranged.—Maudes', 100, Gt. Portland St., W.1. [3517



FOR IMMEDIATE DELIVERY.

NEW 1920 MODELS.

SOLO.

HARLEY-DAVIDSON, 7-9 h.p., electric	£192 17
HARLEY-DAVIDSON, 7-9 h.p., magneto	£184 11
VERUS, 2-stroke, single-speed	£60 0
VERUS, 2¾ h.p., Blackburne engine	£110 5
VERUS, 4 h.p., Blackburne engine	£126 0
P.V., spring frame, 2¾ h.p., 2-speed, slightly soiled (less 10%)	£78 15
METRO-TYLER, 2¼ h.p., 2-speed, slightly soiled (less 10%)	£69 18
METRO-TYLER, 1920, new model	£95 18
PORTLAND, 2¾ h.p., 2-speed	£60 0
CLYNO, 2¾ h.p., speed, clutch	£75 0
HUMBER, 4½ h.p. flat twin	£125 0
RUDGE-MULTI, standard model	£110 5
A.B.C., dynamo lighting model	£173 12
HARLEY-DAVIDSON, sports model, with speedometer	£154 2
BLACKBURNE, 8 h.p. twin, standard model	£170 0
ENFIELD, 2¼ h.p., 2-speed	£73 10
LEA-FRANCIS, 3½ h.p. twin, M.A.G. engine	£130 6
NEW IMPERIAL, 6 h.p. twin J.A.P., 3-sp.	£147 0
DIAMOND, 2¼ h.p. Villiers, 2-speed, clutch, kick-start	£84 3
FRANCIS-BARNETT, 2¾ h.p. J.A.P., 2-speed, clutch, kick-start	£84 0
RUBY, 2¾ h.p. J.A.P., 3-speed, kick-start, spring frame	£120 0

SIDECAR COMBINATIONS.

ROVER, 3½ h.p., 3-speed, complete with Sidecar	£206 0
QUADRANT, 4 h.p., complete with Sidecar	£145 0
ARIEL, 6-7 h.p. twin, 3-speed	£172 10

Actually in stock at time of going to Press.

SECOND-HAND MODELS.

SOLO.

DOUGLAS, 2¾ h.p., W.D. model, 2-speed, with re-enamelled tank	£68 0
NEW IMPERIAL, 2½ h.p. J.A.P., 2-speed	£70 0
ENFIELD, 2¼ h.p., all-chain drive, all accessories	£69 0
A.V. Monocar, 1920, as new	£170 0

SIDECAR COMBINATIONS.

DOUGLAS, 1914 model, 3½ h.p., 2-sp., kick-start, Bosch magneto	£110 0
NEW IMPERIAL, 8 h.p. J.A.P. engine, 3-speed, W.D. model, complete with Sidecar	£145 0
ROVER, 6 h.p. J.A.P. engine, 3-speed, all-chain drive, complete with Sidecar	£145 0

HARLEY-DAVIDSON.

1918 and 1919 W.D., 7-9 h.p. twin, magneto, kick start, 3-speed gear, clutch, standard models. Guaranteed in sound running order.

Solo	£110
Combination	£145

Trade supplied.

DEFERRED PAYMENTS.—A third purchase price on delivery of machine, the balance spread over a period of eight months 7½% extra.

MAUDES' MOTOR MART

100, GREAT PORTLAND ST. LONDON W.1. TELEGRAMS: ABDICATE, WESDO, LONDON. TELEPHONE: MAYFAIR 552, MUSEUM 537.

THE SEAL OF SATISFACTION

100, PARIS STREET, EXETER. TELEGRAMS: COMBUSTION EXETER. TELEPHONE: EXETER 933.

MAUDES' MOTOR MART

MOTOR CYCLES FOR SALE.

Ariel.

1920 6-7h.p. Ariel Combination, perfect condition, lamps, speedometer, Klaxon, hand and foot clutch, luggage carrier, mileage 900; £165.—18, Shaftesbury Rd., Luton, Beds. [3095

3½h.p. Ariel Combination, first-class order, reupholstered, electric sidecar lamp, tools and spares, owner-driven; any trial; £115.—Apply, H.T., 23, Mason Av., Whitley Bay, Northumberland. [X8796

ARIEL 1916 5-6h.p. Combination, engine A5506, Binks, U.H., all tools, many spares, 3 belts, 3 spare tubes, all lights (Lucas), Cameo, apron, spare touring bars; £126 all on, £115 without accessories; South Wales district.—Box 441, *c/o The Motor Cycle.* [2249

ARIEL 1913 4½h.p. Underslung Coachbuilt Combination, 3 speeds, clutch, kick, 3 lamps, Tan-Sad, exceedingly comfortable roomy sidecar, perfect running order, just overhauled; any trial, 3 up; £90, or nearest.—Snow, Nurseryman, Broadstone. [2478

Auto-Wheels.

AUTO-WHEEL, perfect order; £15, offers.—Gibbs, 68, South St., Bridport, Dorset. [3165

WALL Auto-Wheel, splendid condition, nearly new; £15.—Apps, 12, Stanley Gardens, Hampstead. [3043

WALL Auto-wheel, complete, with attachment; £9/10.—Howard, 30, Dawlish Drive, Leigh-on-Sea. [2604

WALL Auto-Wheel, 1914, good running order, with controls; £10.—Truscott, Rosewyn Cottage, Truro, Cornwall. [2677

AUTO Wheel, 1920 Model de Luxe, in stock; immediate delivery, £27/10.—Wilkins, Simpson, opposite Olympia, London. [2502

AUTO-WHEELS for Sale (2), excellent running order: 1 Wall tandem model, 1 B.S.A. model de luxe.—Oliver, 17, Willoughby Rd., Acton Vale, London, W.3. [2778

Bat.

5h.p. Bat-Jap, 2-speed, countershaft gear, practically new condition.—Cole, Stores, Little Clacton. [3226

BAT-J.A.P. 4h.p. Sporting T.T., 2-speed, F.E., clutch, sound throughout; £40.—10, Embden Grove, Manchester. [X8955

BAT.—Immediate delivery 1920 6h.p. Countershaft, 3 speeds model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8885

BAT-J.A.P. 8-10h.p Combination, sidecar built for 2; £80.—89, Abbey Rd., St. John's Wood, N.W.8 Padd. 2423. [3458

1920 Bat, Model 4, never been ridden; absolute bargain, £145, or nearest offer; must be sold.—Boulton, Smallthorne, Staffs. [2452

BAT-J.A.P. 6-8h.p. Combination, 2-speed, chain drive, in good condition, just been overhauled and repainted; £70.—3, Queen's Gate Place Mews, S.W.7. [2179

BAT-J.A.P. 8h.p. 1916 Combination, countershaft 3-speed, kick start, in splendid condition, fully equipped; £85.—Allen, 24, Grosvenor Av., East Sheen, S.W.14. [2271

BAT. A.T. 1920 8h.p. Combination, sprung sidecar, perfect condition, electric lamps, Bluemel screen; bargain £170.—Clark, 7, Exhibition Rd., South Kensington. [3438

BAT-J.A.P. 8h.p., Millford 2-seater sidecar, 3-speed, clutch, K.S., lamps, horn, etc., recently overhauled; £95, or near offer; trial.—40, Lr. Richmond Rd., Putney. [3039

SOMETHING Special.—8h.p., 90×77½ o.h.v., Bat, appearance, tyres, engine, absolutely as new, tuned up and prepared by one well known Brooklands rider; £85.—Lambert, 343a, Finchley Rd., N.W.3. Behind Langfiers. [3475

BAT-J.A.P. Combination, 8h.p., 3-speed, K.S., 1914 model, stored during war, engine recently overhauled and rebushed by makers, top-hole condition, complete; £110; after 6 o'clock.—Head, 1, Cumnor Rd., Sutton, Surrey. [2414

BRAND New 6h.p. Spring Frame Bat, 3-speed, countershaft gear, kick starter and clutch, all-chain drive model; £160, solo; or can be fitted with any make of sidecar to order.—Wauchope's, 9, Shoe Lane, London. [2044

BAT-J.A.P. 8h.p. C.B. Combination, kick starter, 2-speed, F.E., clutch, chain drive, Senspray; £70, or offer; would exchange for lighter powered combination with cash adjustment. — Apply, by letter, Sawer, 27, Burnaby Gardens, Gunnersbury. [3271

Beardmore

BEARDMORE-PRECISION, delivery from stock; £95.—Kays, 8, Bond St., Ealing, W. [3381

BEARDMORE-PRECISIONS; delivery 7 days; £95. —Grandex, 138, Gray's Inn Rd., W.C. [1216

BEARDMORE-PRECISION, slightly soiled; £95 with hooter.—Turpin, 29, Preston Rd., Brighton. [0202

BEARDMORE-PRECISION, immediate delivery; £95.—Seymour and Baker, 215, High St., Lewisham, S.E. [2233

MOTOR CYCLES FOR SALE.

Beardmore

BEARDMORE-PRECISION; deliveries from stock; £95.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [2694

BEARDMORE-PRECISION, 1920, lamps, horn, speedometer, tools, etc., not done 200 miles; £87/10.—198, Gt. Portland St., W.1. [3311

Black Prince.

BLACK Prince Buckboard; 95 gns.; one for immediate delivery.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X8866

Blackburne.

1920 4h.p. Blackburne Combination, small mileage; ride 50 miles to purchaser; snip, £148, complete.—Sheldon, Wheatley, Oxon. [9765

MAUDES'.—Latest 1920 8h.p. 3-speed model Blackburne, detachable wheels; £180; ex actual stock.—Maudes', 100, Gt. Portland St., W.1. [3519

1920 4h.p. Blackburne Combination, as new, not done 200 miles, complete with knee grips, horn, and tools, very smart machine; £150; owner bought car.—Box 7,051, c/o *The Motor Cycle*. [3273

BLACKBURNE 4h.p., 1920, 2,000 miles, no accessories, new driving tyre, 28×3in., spare larger engine sprocket, evening trial with light sidecar; solo £110, combination £130, with screen.—Deuchar, 30, Nutford Place, W.1. [2557

BLACKBURNE, 1920, immediate delivery from stock; 4h.p. solo £135, combination £164; 8h.p. solo £180, combination £212. Exchanges, extended terms.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0065

Blumfield.

BLOOMFIELD Combination, 5-6h.p., 3-speed, accessories, smart, good condition; £70.—Maida Vale Motor Works, Portsdown Rd., W. [9409

Bradbury

1920 Bradbury 4h.p., just delivered; list price, £128.—Turnill and North, Peterborough. [2646

BRADBURY.—Order now to avoid disappointment.—The Walsall Garage, Wolverhampton St., Walsall. [5762

BRADBURY, 2-speed; £39 coachbuilt sidecar; £111.—534, Fulham Rd., Walham Green, Basement. [3579

2¾h.p. Bradbury, new tyres, mag., running order; £38.—Larchcroft, Ridgeway Rd., Redhill, Surrey. Saturday. [2903

BRADBURY 6h.p. 1920 Model, new, complete, lamps, horn, etc.; £145.—Seymour and Baker, 215, High St., Lewisham, S.E. [2234

4¼h.p. Bradbury, Grado gear, clutch, pillion seat, splendid running order; £38.—Turner, 81, Wood St., High Barnet, Herts. [2471

4h.p. Combination, Bradbury, N.S.U. gear, lamps, horn, good running order; £50, or offers.—J. H. Isaac, 17, Ufford St., S.E.1. [2791

4h.p. Bradbury Combination, kick start, clutch, Watsonian canoelet C.B. sidecar, Bosch, B. and B.; £57/10.—81, Burford Rd., Catford, S.E.6. [3076

BRADBURY, 1920, 4h.p. model, just delivered, 2 speeds, kick starter, with Millford sidecar; £124/5.—Eagles and Co., 275, High St., Acton, W.3. [X8983

BRAND New 4h.p. Bradbury 3-speed Countershaft Model, fitted with Grindley sidecar, immediate delivery; list price.—Longworth's, 30, Borough Rd., Seacombe, Wallasey. [2254

1914 Bradbury Combination, 3-speed, kick start, clutch model, nearly new; £75, or exchange with higher power.—27, Chipka St. East, Ferry Rd., Cubitt Town, E. [2510

BRAND New 4h.p. Bradbury, 2-speed, kick start, fitted with Burbury coachbuilt sidecar, immediate delivery; £125.—Longworth's, 30, Borough Rd., Seacombe, Wallasey. [2253

BRADBURY 4¼h.p. Combination, 3 speeds, mag., Binks carburetter, lamps, etc., good order; £45 or nearest offer at Exmouth, Devon.—Box 454, c/o *The Motor Cycle*. [2883

1914-15 Bradbury 4¼h.p. Coachbuilt Combination, 2-speed countershaft, lamps, horn, spares, overhauled; any trial; £65.—Auckland, Brancaster Drive, Boultham, Lincoln. [3236

BRADBURY Red, 4h.p. or 4¼h.p., T.T. bars, clutch, tree, Bosch mag., B. and B., long exhaust, good running order; 43 gns.—G. Hollingshead, Pamber, Basingstoke, Hants. [2350

BRADBURY 4h.p. Combination, 2 speeds, Watsonian coachbuilt sidecar, Easting wind screen, tyres new condition, all accessories; any trial; £65.—13, Beaulieu Villas, Finsbury Park, N.4. [2290

BRADBURY 1914 4¼h.p. Combination, Sturmey-Archer 3-speed, excellent condition, not used since 1915, new belt Lucas lamp, horn, etc., any trial; what offers? 'Phone: Chiswick 1211 or Boxmoor 62.—Write, Box 7,087, c/o *The Motor Cycle*. [3436

Brough.

T.T. 3½h.p. Brough, 2-speed, grand machine; £70.—Minchin Motor Mart, 39, Penrhyn Rd., Kingston-on-Thames. [3459

REYS

173, Gt. Portland Street.

Telephone—Mayfair 879

Special Agents for

DOUGLAS

In Stock Ready to Ride away.

4 h.p. **DOUGLAS** Combination £170 0
2¾ h.p. **DOUGLAS** Model, with clutch £105 0
2¾ h.p. **DOUGLAS**, without clutch £109 0

Other New Machines in Stock.

2¾ h.p. **NEW IMPERIAL**, 2-speed £80 17
2¾ h.p. **NEW IMPERIAL**, with clutch and kick-starter £89 5
8 h.p. **NEW IMPERIAL** 3-speed Combination £186 18
3½ h.p. **LEA-FRANCIS**, 2-speed, M.A.G. engine £130 0
JAMES, 2-speed, 2-stroke £75 0
OLYMPIC, 2-speed, 2-stroke, with clutch and kick-starter £80 0
DIAMOND, 2-stroke, single-gear £56 10
4¼ h.p. **B.S.A.**, 3-speed, all-chain, and Sidecar £152 0
2¾ h.p. **RUDGE-MULTI**, Isle of Man model £110 5
ALLON, 2-speed, 2-stroke, clutch, and kick-starter £85 0
8 h.p. **ZENITH**, sports model £139 0
5-6 h.p. **JAMES** Combination £190 0

Second-hand Machines.

1915 2¾ h.p. 2-speed **DOUGLAS** £60
1916 2¾ h.p. 2-speed **DOUGLAS** £65
1915 2¾ h.p. 2-speed **DOUGLAS** £55
1917 4 h.p. **TRIUMPH** and accessories £100
1916 4 h.p. **TRIUMPH** and accessories £95
1915 4 h.p. **TRIUMPH** and accessories £90
1920 2-stroke 2-speed **JAMES** and accessories £72
1920 4 h.p. **DOUGLAS** Combination and accessories £162
Victory Model **MATCHLESS**, Sidecar, and accessories £150
1915 **A.J.S.** and Sidecar, all accessories £135
1920 2¾ h.p. 3-speed **DOUGLAS**, Lucas lamps, speedometer, complete £100
1915 4 h.p. **TRIUMPH** and Sidecar £115
1917 4 h.p. **DOUGLAS** and Sidecar, and accessories £110

Sidecars in Stock.

CANOELET, for Harley-Davidson £40 0
CANOELET, for New Imperial £39 5
CANOELET MINOR, for lightweight £18 18
B.S.A. £42 0
MILLS-FULFORD Skiff £27 15 6

EASY PAYMENTS TAKEN ON ALL MACHINES, AND EXCHANGES ENTERTAINED.

Large Stock of Powell & Hanmer Lamps and other Accessories.

CAR DEPOT:

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MOTOR CYCLES FOR SALE.

Brough.

T.T. Countershaft Brough, 1916, 3½h.p., o.v., S.A. 3-speed, clutch, kick start; 70 gns.—6, Mount Pleasant Rd., Ealing, W.5. [3122

BROUGH, special £16 new parts, K.S., S.A. 3-speed, satisfaction guaranteed; nearest £100, quick sale.—Rectory, Castlegate, Thirsk. [2628

1920 5h.p. Brough and Splendid Sidecar, hood, screen, lamps, grid, cover, tube, valves; photo; first £150 secures.—71, Churchill Av., Foleshill, Coventry. [X9063

1920 Brough 5h.p., lamps, horn, oversize Dunlop spares, unscratched, condition as new; nearest £136.—57, Mandalay St., Basford, Nottingham. (After 6 p.m.) [X8962

LATE 1919 5-6h.p. Brough, with Grindley sidecar hood, wind screen, lamps, horn, etc.; a bargain £155, or nearest offer; any trial.—Gee, Decorator, Sutton-in-Ashfield, Notts. [X8528

BROUGH Combination, 5h.p., 1919, mileage 1,000, perfect condition, lamps, horn, speedometer, chain Tan-Sad, luxurious sidecar, cost £50, fitted hood, curtains, wind screen; £180, no offers.—Iddon, 309, Holderness Rd., Hull. [2256

Brown.

BROWN Motor Cycle, fixed engine, good mag., tyres etc.; £17.—Yelf, Shipston-on-Stour, Worcestershire. [2133

BROWN Combination, 3-speed, clutch, 4h.p.; £68 or exchange.—57, Kenbury St., Coldharbour Lane, London, S.E. [3495

3h.p. Brown, new saddle, mag., new parts, in tip-top running order; £25, or offers.—Apply, 18, Alma Rd., Windsor. [2535

1914 Brown 5-6h.p. Twin Combination, large sidecar, good condition, ride away; £57/10.—34, Manor Rd., Erith, Kent. [2864

BROWN Combination, 3-speed Sturmey-Archer Bosch mag., complete lamps, etc., new condition, owner giving up owing to illness; £85.—157, Homesdale Rd., Bromley, Kent. [2166

B.S.A.

B.S.A. 2-speed Model, fully equipped; quick sale, £55.—Shaw, Motor Works, Perth. [X9060

B.S.A.—The Walsall Garage, Walsall, booking orders for all models; rotation deliveries. [5761

1920 B.S.A. 4¼h.p. Model K Combination, brand new; £149.—Freeman, 50, Brighton Rd., Redhill. [2829

1920 B.S.A. Twin, new, in stock; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [3403

B.S.A. Combinations from stock at list prices.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [1095

1920 B.S.A. All-chain Combination, new 3 weeks ago; price with spares, £165.—Foulkes, Shawbury, Salop. [3356

B.S.A. Combination 4h.p., 3-speed, Easting screen as new; £95.—Wilkins, 1, Pitcairn Rd., Mitcham S.W. Tel: City 628 [3487

B.S.A. (Model K.) and sidecar, August, 1919, excellent condition; owner buying car; £125.—Drake Wootten's Garage, Oxford. [6947

1920 B.S.A. Combination, magdyno, Lucas horn perfect condition; £155.—Edwards and Co., 50, Harrington Rd., S.W.7. [3402

LATE 1916 B.S.A. Combination, perfect running order, all accessories, new tyre; 95 gns.—Kilner, The Terrace, Shoeburyness. [2957

B.S.A. 3-speed Countershaft Combination, fully equipped, insured, speedometer; £88.—49, South Lambeth Rd., Vauxhall. [3246

1920 (June) B.S.A. All-chain Combination, wind screen; no reasonable offer refused.—Worrall, 32, Raleigh Rd., Coventry. [X8935

B.S.A., Model K, with sidecar, good condition; £95.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2740

B.S.A. New 6h.p. Twin Combination, just arrived, list price.—James and Adams, The Promenade, Palmer's Green. 'Phone: 681. [3148

1915 B.S.A. Combination, 4¼h.p., excellent condition; £100, bargain.—Walker, Ennerdale, Drumother Drive, Parkhead, Glasgow. [2675

6-7h.p. Twin B.S.A. and luxurious Canoelet sidecar just delivered; cost £240, accept £185, or offer before 6.—335, Gray's Inn Rd., London. [2195

1920 B.S.A., belt and chain, 4¼h.p., Montgomery sidecar, brand new outfit; first cheque £128 secures.—Box 7,082, c/o *The Motor Cycle*. [3427

4¼h.p. B.S.A. Combination, Magdyno, brand new; list price, no delivery charges; owner must realise.—Burchell, Hinton St. George, Crewkerne. [3225

B.S.A. 3½h.p., clutch model, Bosch mag., B. and B., take 2 anywhere; trial any time after 5 p.m.; price £45.—Collins, Church St., Chalvey, Slough, Bucks. [2346

1920 B.S.A. Combination, perfect condition, mileage 300, very fine set lamps, Klaxon, tools, new spare tube; bargain, £150; bought car.—F. Levett, 17, Turl St., Oxford. [2323

 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

Connaught.

CONNAUGHT 2¾h.p., 2-stroke, perfect, new tyres, tubes and belt, also lamps, etc.; £39/10, no offers.—Butcher, Ironmonger, Waltham Cross. [3169

CONNAUGHT Motor Cycles.—2½h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. J. Evans, 83-91, John Bright St., Birmingham. [0252

1917 Connaugh, 2-stroke, new C.A.V. mag., new belt, lamps, horn, perfect; £40, offer; must sell.—Wright, 8f, Sutton Buildings, James St., Bethnal Green, E.2. [2415

Corah.

CORAH-J.A.P. 3½h.p., Simms, B. and B., adjustable pulley, new Bates rear, good running order, fast; £25.—15, South St., Ashbourne, Derbyshire [X8974

Coulson.

COULSON Blackburne in Stock, £99; 2-speed, spring frame.—Clark, 7, Exhibition Rd., South Kensington. [344

COULSON-B, 2¾h.p., 1920, Blackburne engine, 2 speeds, low mileage, as new; £80, real bargain.—103a, High St., Wandsworth. [3197

1920 (June 19th) 2¾h.p. Coulson B., 2-speed, spring frame, fast, better than new; 87 gns.—Shackleton, 74, Eastworth Rd., Chertsey. [3072

COULSON-B, Oct., 1919, mileage 5,000, Brampton's, Miller lamp, horn, tools, spares, absolutely perfect throughout; £75, or best offer.—Gurney, Taplow, Maidenhead. [2326

Coventry Eagle.

COVENTRY EAGLE Combination, May 1920, mileage under 1,500, carefully used and unscratched, P. and H. lamp sets, Lucas large horn; accept £135.—Keeble, 2, Ferndale Cottages, Upper Dovercourt. [2906

1920 3½h.p. Coventry Eagle, Sturmey-Archer 3-speed countershaft gear, Klaxon, P. and H. head lamp and generator, enamelling and plating perfect, mileage about 400; £117.—Holland, Handscombe, Stoneygate, Leicester. [3064

Dalm.

THE Pilot.—Dalm 3h.p., 2-stroke, 2-speed, good condition; £50, no offers.—Coupland, 35, Poplar Grove, Rugby. [X8999

Dayton.

DAYTON 1914 2-stroke Lightweight, very good condition; £27/10, or nearest.—L. P. Sells, Pearlhaven, Canford Cliffs, Bournemouth. [3116

Dene.

DENE-J.A.P. 8h.p., Sturmey-Archer countershaft, Dunlop light car, 700×80, speedometer, lamps, all accessories and spares, sidecar machine but always ridden solo, carefully looked after and practically as new, 4,000 miles; £95.—Stutfield, Grove House, Hampton. [3468

Diamond

1920 Diamond, single-speed, with footboards; in stock.—Taylor's Garage, Wednesbury. [3577

CYRIL WILLIAMS, for early delivery of all models, Diamonds.—Chapel Ash, Wolverhampton [2266

DIAMOND 2¾h.p. 2-stroke in Stock, new; £63.—Clark, 7, Exhibition Rd., South Kensington. [3440

DIAMOND 2¾h.p., 1919, very little used, condition guaranteed, lamps, horn, tools; £55.—Pendlebury, Wolseley Rd., Rugeley. [2426

LATE 1919 Diamond-Villiers, disc wheels, accessories, excellent condition; reasonable offer.—Thatkyll Cottage, Lawrie Park Crescent, Sydenham S.E.26. [2300

MAUDES'.—Latest 1920 Diamond 2-stroke model, Sturmey-Archer gear; £85; ex actual stock; deferred payments arranged.—Maudes', 100, Gt. Portland St., W.1 [3524

Douglas.

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ALL Latest Models.

h.p. Combination, £170; fitted with tradesman's box carrier, £170; 2¾h.p. clutch model, £105; without clutch, £100.

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MOFFAT, Douglas Expert, Yeovil.

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MOFFAT, Yeovil. Tel.: 50 Yeovil [5698

DOUGLAS, W.D., all accessories; £70.—198, Gt. Portland St., W.1. [8316

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26×2¾	45/-	56/9
26×2½	45/-	67/9
28×3 Ex. Hy.	56/-	84/-

Size.	Make.	Our Price.	List Price.
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24×2⅜ ×2¼	Hutchinson	32/6	37/6
26×2	Avon Lightweight R.S. ...	25/6	28/6
26×2¼	Kempshall Hy. Non-skid .	59/6	69/6
,,	Avon Combination	55/-	90/-
,,	Palmer Cord Heavy	50/-	68/9
,,	Bates No. 1 Special	47/6	67/-
,,	Clincher Ex. Hy. de Luxe .	44/-	57/9
,,	Beldam Ex. Heavy	39/6	64/-
,,	Palmer Cord	39/6	57/9
,,	Spencer Moulton	39/6	57/-
26×2⅜	Palmer Cord Heavy	62/-	72/3
,,	Avon Hy. Rubber N.S. ...	42/6	55/-
,,	Hutchinson T.T.	39/6	50/3
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Indian 28×2¼ to fit 28×3	Goodyear A.W.T.	47/6	71/-
28×3	Bates Special Heavy	79/-	101/-
,,	Federal R. Non-skid	60/-	90/-
,,	Goodrich Safety Tread ...	59/6	93/6
,,	Wood-Milne Ex. Heavy ...	52/6	89/-
,,	Moseley 3-rib Ex. Heavy ..	45/-	78/-
650×65	Palmer Cord Heavy	68/-	79/6
,,	Avon Heavy 3-rib	58/-	74/-
,,	Dunlop Grooved	57/6	83/-
,,	Best French Make, 3-rib ..	39/6	79/-

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26×2¼ ...	7/6	10/3			
26×2½ ...	7/9	13/3			
Butted ..	9/6	13/3	28×3 ...	12/9	16/6
26×2¼ endless }	8/3	12/3	700×80 .	12/9	19/6
28×3 Lap-ended				11/3	16/6

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Per Foot.	⅝in.	¾in.	⅞in.	1in.	1¼in.
	2/1	2/7	3/-	3/6	4/2

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MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS Spares, front forks, etc.—262, Blackhorse Lane, Walthamstow. [2272

2¾h.p. Douglas, 2-speed, lamps; £45; evenings.—41, Maple Rd., Anerley, S.E. [2416

1916 Douglas, in perfect order; trial; £43.—53, Pelham St., South Kensington. [3489

2¾h.p. Douglas, excellent condition; £50.—Weeks, Linslade, Leighton Buzzard. [2978

2¾h.p. Douglas, single speed, ride away; £18.—93, Hessel Rd, West Ealing. [2555

1915 Douglas 2¾h.p., £53; also 1917 4h.p., £75.—Ross, 86, High Rd., Lee, S.E. [3183

DOUGLAS 1920 2¾h.p., 3-speed, as new; £95.—Gomm, Corn Merchant, Staines. [3370

2¾h.p. Douglas, good running order; £10, no offers, 24 —177, Earlsfield Rd., S.W.18. [2313

DOUGLAS, 1916, buffers, in new condition; £53/10; snip.—202, Munster Rd., Fulham. [2586

DOUGLAS 2¾h.p., late 1916, thoroughly overhauled; £50.—Dorling, Star Yard, Barnet. [2288

£58.—Douglas, W.D., lamps, horn, tools, Tan-Sad, insured.—243, Burdett Rd., Bow. [2599

DOUGLAS, 1914, lamps, etc., in splendid order; £45.—198, Gt. Portland St., W.1. [3313

2¾h.p. Douglas, 2-speed, splendid order throughout; 24 £44.—40, Old Rd. W., Gravesend. [2852

DOUGLAS 1911 2¾h.p., complete, needs adjusting; £20; photo.—Tilley, Studio, Wimborne. [2468

DOUGLAS 4h.p. Combination, from Stock; £170.—Tom Norton, Ltd., Llandrindod Wells. [2213

DOUGLAS 1916 2¾h.p., in good running order; £55.—12, Banbury St., Battersea, S.W. [3097

DOUGLAS 2¾h.p., late model, any trial, as new, accessories.—Brown, Brookside, Emsworth. [3173

DOUGLAS 1915 Combination; £90.—89, Abbey Rd., St. John's Wood, N.W.8. Padd. 2423. [3456

DOUGLAS, 2¾h.p., 1916, perfect; £65.—Ainsworth, 10, Adolphus Rd., Finsbury Park, N.4. [2603

DOUGLAS, 1912, 2-speed, all accessories, ride away; £45.—Peters, Millstone Lane, Nantwich. [X8947

1916 Douglas (reconstructed.); £55.—4, Denman Place, Piccadilly Circus, W.1. 'Phone: Reg. 986. [2130

4h.p. Douglas Combination, 1918, nice condition; nearest £100.—20, Whitley St., Reading. [X8940

DOUGLAS, 2¾h.p., fine condition, 2-speed, free, 1913; 45 gns.—Slade, 290, Brixton Hill, S.W. [2182

DOUGLAS Combination, new condition, new Palmer tyres; £110.—262, Blackhorse Lane, Walthamstow. [2271

DOUGLAS 2¾h.p., 1916, all accessories; £55.—Lea, 13, Willoughby Rd., Hampstead, N.W.3. [3377

DOUGLAS 2¾h.p., 1916, good condition; £55, or near offer; after 6.30.—119, Brecknock Rd., N.19. [2183

DOUGLAS 1913 2-speed, equipped, overhauled, good condition; 38 gns.—321, Ivydale Rd., Nunhead. [2356

DOUGLAS, 2¾h.p., 1916, condition as new; £60.—Lambert, Goose Yard, St. John St., Angle. [2627

1920 Douglas, 2¾h.p., 3 speeds, standard model, condition as new; £90.—Stradlings, Newbury. [3267

BRIGHTON, Hove and district Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS 1915 2¾h.p. 2-speed; £45, bargain.—Clark, 7, Exhibition Rd., South Kensington. [3405

DOUGLAS 2¾h.p., 2-speed, splendid condition, Bosch, tyres good; £55.—Croft, Kingsway, Gerrard's Cross. [2243

DOUGLAS 2¾h.p., engine No. 35525, lamp, horn, etc.; £59.—Motor Cycle Mart, Stafford St., Walsall. [2378

DOUGLAS 2¾h.p., 1916, excellent condition; from £50.—Owen, 59, Scholefield Rd., Holloway, N.19. [X8939

4h.p. 1919 Douglas Combination, splendid condition, accessories; £125.—17, Sussex Rd., New Malden, Surrey. [3094

4h.p. Douglas, 1916, perfect running order; must sell; £70; after 6.—64, Claremont Rd., Leytonstone. [2620

2¾h.p. Douglas, £20; 2¾h.p. de luxe, £56; latter 4 go anywhere.—Simmons, 26, Leckwith Place, Cardiff. [2161

DOUGLAS 1914 2¾h.p., 2-speed model, excellent condition throughout.—Parker's, Bradshawgate, Bolton. [X8874

DOUGLAS 2¾h.p., 1915, C.A.V. lamps, long exhaust; £62; perfect.—45, Duke St., Henley-on-Thames. [2684

DOUGLAS.—Immediate delivery 1920 2¾h.p., 3 speeds and clutch.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8888

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MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS.—Immediate delivery, 1920 4h.p. combination.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8884

1919 4h.p. Douglas Combination, lamps, wind screen, etc.; £135; any trial.—Barnes, Holme Rd., Matlock Bath. [X8857

DOUGLAS, 2¾h.p., 2-speed, T.T. handle-bars, good machine; £38.—Surgery, 27, Sydney St., South Kensington. [2432

2¾h.p. Douglas, overhauled, new crankshaft fitted, fast; £27/10.—Simpson, Orchard Rd., Sunbury-on-Thames. [2569

1916 4h.p. Douglas, good condition; £70; can be seen by appointment.—Fox, 274, Mortlake Rd., Ilford, Essex. [2835

4h.p. Douglas Combination, 1917-18, 3-speeds, clutch, kick starter, complete; £100.—Adams, 82, York Rd., Battersea. [2989

1920 Douglas Combination, brand new; £170.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 4827. [3395

DOUGLAS 2¾h.p., No. 37658, practically new engine, tyres, appearance excellent; £55.—21, Newton Av., Acton. [3092

DOUGLAS 4h.p. Combination, lamps, horn, 500 miles, as new; £138.—Rhosha Motor Co., Bank Mews, Romford. [3397

DOUGLAS 1916 2¾h.p., 2-speed, makers' colours, splendid condition; £54.—30, Crystal Palace Park Rd., Sydenham. [3009

DOUGLAS 4h.p. Combination, 1918, thoroughly overhauled, sidecar repainted; £100.—Dorling, Star Yard, Barnet. [2287

DOUGLAS 2¾h.p., late model, buffer forks, footboards, discs, perfect; £58.—Biggs, Wormley, Broxbourne, Herts. [2527

1918 Douglas, 4h.p., 3-speed, very fast, perfect throughout; bargain, £75.—Fox, 41, Greencoat Place, Westminster. [3145

4h.p. Douglas, engine No. 5183X, all accessories, tyres unpunctured; £80.—Cleghorn, 24, Bellamy St., Belham, S.W. [3131

DOUGLAS 1915 2¾h.p., makers' colours, lamp set, splendid condition; 50 gns.—103, Thurlow Park Rd., West Dulwich. [3011

DOUGLAS, 2¾h.p., 1916, engine No. 35005, perfect, new condition, makers' colour; £65.—Evans, 38, Linver Rd., Fulham. [2433

DOUGLAS 1914 2¾h.p., T.T., nice condition; £50.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station). [0269

DOUGLAS 1920 Combination, wind screen, Lucas horn, etc., as new; £156.—Motor Cycle Mart, Stafford St., Walsall. [2377

IF you require a fast and really dependable Douglas, write to me. I supply under guarantee.—Robert Bamford (see below).

ROBERT BAMFORD.—I generally own, and always know of the best 2¾h.p. Douglasses in London. Every machine specially selected and tested. See under Consulting Engineers. [2127

1916 W.D. Douglas 2¾h.p., 2-speed, good lamp set, perfect order; £55.—Babb, Wayford House, Southmolton, Devon. [3334

2¾h.p. Douglas, top-hole condition, 38 gns.; also Rex combination, 55 gns.; must sell.—20, Mordaunt Rd., Harlesden. [2147

2¾h.p. Douglas, 1916, plated, enamelled, engine overhauled, lamps, horn, etc.; £65.—Reeves, The Knoll, Rudgwick, Sussex. [2869

DOUGLAS, 2¾h.p., 2-speed, excellent condition, lamps, generators, spare belt; £45.—Trevena, Stanley Villas, Redruth. [2602

2¾h.p. Douglas, 1915, splendid condition, not W.D., footboards, lamps; sacrifice £48.—8, Franconia Rd., Clapham, London. [3375

DOUGLAS 1920 4h.p. Combination, brand new, just arrived from works; £170; immediate delivery.—Ginger Motors, Banbury. [X8944

DOUGLAS Combination, July, 1919, perfect, spares, drum, Prices 'oil, full kit; £125.—11, Bedford Rd., Kempston, Bedford. [3223

DOUGLAS 2¾h.p., been stored, new condition, clutch, K.S., footrest, guard, lamps, Klaxon.—L., 21, Market Place, Kingston. [3041

32 GNS.—Douglas 2¾h.p., good tyres, aluminium footboards, mechanical horn, in splendid order.—2, Victoria Park Rd., N.E. [2873

DOUGLAS 4h.p. Combination, 1920 (June), perfect condition, fully equipped, insured; £155.—160, Franciscan Rd., Tooting. [2937

DOUGLAS 4h.p. Combination, 1918, lamps, hood, tools, etc., little used; £115, as new.—142b, Fulham Rd., Kensington, S.W. [3104

1915 Douglas, 2¾h.p., 2-speed, in splendid condition, lamps, horn, and accessories; £48.—45 Bow Common Lane, E.3. [2431

DOUGLAS 1918 4h.p., 3-speed, makers' colours, splendid condition; 80 gns.—Beechenhurst, Crystal Palace Park Rd., Sydenham. [3010

H.A.H. Accessories. Complete Electric Lighting Sets.

REGISTERED H.A.H. TRADE MARK

H.A.H. Specialities. Genuine Hellesen Dry Batteries

Write for Catalogue. FREE on application.

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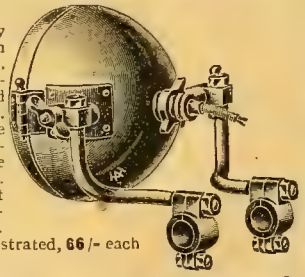

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This Trade Mark on an article guarantees to its owner Reliability, Quality, Efficiency, Finish, also prompt, and courteous treatment whenever replacements or spares are required.

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on wiring up, etc., etc., on application, sent by return.

Complete Solo and Sidecar Sets. Prices from £5

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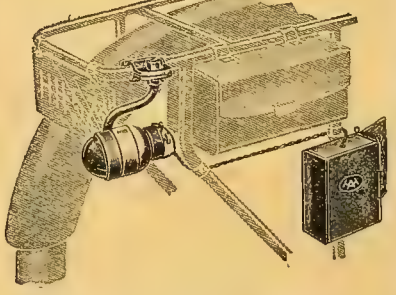

Complete Set, 29/6 As illustrated.

Comprising: Fig. 573, Rear-lamp, 9/6 each. "Force" Genuine Hellesen Dry Battery, 9/11 each. Fig. 386 Metal Carrying Case, 10/6 each.

With an Acetylene Headlamp use an Electric Rear-lamp Set, which cannot blow out, and is always ready to be switched on at a moment's notice

A. H. HUNT, LTD.,
H.A.H. WORKS,
Tunstall Road, CROYDON, Eng.

Telephones: Croydon 2225, 2226. Telegrams: Keyage, Croydon."

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS Motor Cycle, 1915, lamps, tools, etc., privately owned and ridden, first-class order; £60.—Raynham, Saffron Walden. [2214

350 C.C., December, 1918, Douglas, not W.D., all on, hardly used, guaranteed perfect; £80.—7, Milner Rd., Merton, S.W. [2797

DOUGLAS, 4h.p., lamps, horn, discs; £125.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2742

2¾h.p. Douglas, 3-speed, lamps, horn, not done 20 miles; actually in stock.—R. M. Wright and Co., Ltd., Newland, Lincoln. [3413

DOUGLAS 4h.p. 1916, lamps, horn, 3 speeds, K.S., good condition; reasonable offer accepted.—143, Ravensbury Rd., Earlsfield, S.W. [3345

4h.p. Douglas Combination, 1917, splendid condition and appearance, not had much use; £85.—207, Blackshaw Rd., Tooting. [3004

DOUGLAS, 1916, 2¾h.p., buffer forks, new tyres, as new; £65.—Jones and Adams, The Promenade, Palmer's Green. 'Phone: 681. [3149

2¾h.p. Douglas, 1916, completely overhauled and re-enamelled makers' colours, perfect condition; £55.—3, Courtlands Av., Lee, S.E.12. [2729

4h.p. Douglas Combination, 1918, lamps, horn, etc., new tyres, splendid condition; £93.—O. Connell, 82b, Bedford Rd., Clapham, S.W. [2896

2¾h.p. Douglas, 2-speed, October, 1917, Binks, perfect order, little used, inspection invited; 63 gns.—Dean, Barclay's Bank, Lingfield. [2222

DOUGLAS 4h.p. Combination, recently overhauled, sidecar body new; £90, or nearest.—4, Salisbury Terrace, Mytchett, Frimley, Surrey. [2841

DOUGLAS Combination, 1919, 4h.p., completely fitted, condition good; £110.—Hewins' Garages, Ltd., The Real Service Firm, Taunton. [2696

1918 Douglas Combination, hood, screen, etc., condition as new, owner going abroad; nearest 100 gns.—68, Barrington Rd., Brixton. [2986

1918 4h.p. Douglas Combination, C.A.V. mag., P. and H. lamps, excellent condition; £95.—10, St. Albans Crescent, Woodford Green, E.18. [3358

DOUGLAS 1915 2¾h.p., 3-speed, good apeparance, very fast, lamps, etc., seen any time; £65.—G. Mayne, Inworth Grange, Tiptree, Essex. [2422

4h.p. Douglas Combination, 1917-18, 3-speed, clutch, splendid condition, lamps, horn, speedometer, etc.; £115.—67, Little Heath, Charlton, S.E. [3016

1919 4h.p. Douglas, 3-speed, K.S., foot clutch, good condition, appearance; £80.—24, Park Rd., near Craven Park Junction, Harlesdon, N.W.10. [3052

1920 Douglas Combination, complete accessories, hood and wind screen, insurance paid; £160, no offers.—Shutter and Co., Bath St., Bath. [2848

1920 Douglas, 2¾h.p., 3-speed, hand clutch, kick starter, mileage negligible, perfect condition; £100, or near offer.—Stradlings, Newbury. [3266

DOUGLAS 1917 2¾h.p., 2-speed, buffer forks, speedometer, Klaxon, lamps, carry 2 anywhere; £56.—4, North Side, Wandsworth Common. [3098

£56.—1916 2¾h.p. 2-speed Douglas, electric lighting, horn, pump, and tools, very fast and reliable; a bargain.—50, Manor Park Rd., Harlesden, N.W. [3558

1916 4h.p. Douglas Combination, first-class condition, re-enamelled, reupholstered, good tyres; £90.—Thomas, 254, Earlsfield Rd., Wandsworth. [2992

4h.p. Douglas, late pattern, with 1919 chassis, de luxe side lamps, speedometer, perfect condition; £115.—Shailer, 61, Bedford Hill, Balham, S.W. [2566

1917-18 4h.p. Douglas Combination, perfect running order, new tyres, and all accessories, recently overhauled.—Ring, Valentine, East 4456. [2792

GIBB, Douglas Specialist, Gloucester, gives personal attention to all orders. All spares at makers' prices stocked. No profiteering.—'Phone: 852. [6340

LATE 1914 4h.p. Douglas, thoroughly overhauled, in very good running condition, lamps, horn; £90.—Pollit, Rusby Beck, Binley-in-Wharfedale, Leeds. [2727

DOUGLAS, 2¾h.p., 2-speed, 1917, lamps, horn, knee pads; £70. — Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2741

DOUGLAS 2¾h.p., 1920, clutch model, not done 30 miles; best offer accepted for immediate sale.—Dowdeswell, 58, Sturges Rd., Wokingham, Berks. [3050

DOUGLAS 1916 2¾h.p., 2-speed, makers' colours, new lamp set, Klaxon, long exhaust, very fast; £55.—18, Marlborough Rd., Old Kent Rd., S.E.1. [3200

1919 (November) Douglas 2¾h.p., not W.D. machine, lamps, horn, spares, transferable insurance, expert examination; £83.—Lloyd, Moira, Leicestershire. [2592

DOUGLAS 2¾h.p., single-speed, overhauled, splendid condition; £27; exchange combination, cash adjustment.—13, Henning St., Battersea, S.W.11. [2801

1920 Douglas 2¾h.p., 3 speeds, 200 miles, unscratched, Cowey, Miller lamps, insurance; £105; no offers.—A.H.R., 12, Church Rd., Ashford, Kent. [2489

MOTOR CYCLES FOR SALE.

Enfield.

h.p. Enfield Combination (May, 1920), Lucas Magdyno lighting set, practically brand new, any rial; £195; evenings or week-end.—230, Hamlet ourt Rd., Westcliff-on-Sea. [2612

NEW 2¾h.p. Royal Enefield 2-stroke Models, 2-speed models, for immediate delivery from stock, low uilt, and ideal machine for traffic; £73/10 each.—auchope's, 9, Shoe Lane, London. [2026

3h.p. Royal Enfield, Bradbury engine, spring 4 forks, new belt, B. and B., horn, pump, lamps, olbag, tyres good, low, ride away; £35, or nearest fer.—R. W. Taylor, 32, Newtown Rd., Carlisle. [2399

917 6h.p. Enfield Combination, Lucas head, side, and rear lamps, Lucas horn, speedometer, Eastg wind screen, Palmer cords, condition as new; 160.—Lewis, 2, Boyward St., St. John's, Worcester. [2143

917 Enfield 6h.p. Combination, excellent condition, screen, speedometer, lamps, horn, Tan-Sad, leg ields, spare tyre, tube, tools, run two seasons only; ly trial; best offer over £150.—70, The Grove, Bedrd. [3368

NFIELD Combination, 6h.p., new condition, lamps, Easting screen, speedometer, horn, Klaxon, all cessories, spare covers, guaranteed perfect; genuine rgain, £150 lowest.—C. A. Shaw, 19, Vernon Rd., lton, Beds. [2673

920 (delivered May) Enfield Combination, 8h.p., Magdyno lighting, fitted with speedometer, sting, Tan-sad, luggage grid, priming taps, and ires, as new, bargain; £220, or near offer.—355, ork Rd., Battersea. [2575

NFIELD Combination, fully equipped, hood, Easting, pillion seat, luggage grid with travelling base atched, splendid condition; £125, for quick sale; take htweight as part.—Wilkes, 99, St. Alban's Rd., iethwick, Birmingham. [X9070

920 8h.p. Enfield Combination, new end of June, only ridden 150 miles, horn, Lucas lamps, Tand carrier and tools, splendid condition; owner buying ; price £185 cash.—Montague J. Chater, Buck and ll, Long Itchington, Nr. Rugby. [X8850

h.p. Royal Enfield Combination, 1917, electric lighting, Orto hood and screen, horn, speedometer, lion seat, spare tyres, tubes, chains, everything nplete, new condition; £150, no offers.—Shrimpton, Battersea Rise, Clapham Common, London. [2802

NFIELD Combination, 6h.p., 1916, excellent con dition, just thoroughly overhauled, small mileage, chbuilt sidecar, hood, screen, lamps, horn, speedeter, pillion seat, mirror, new tyres, tools, spares; 35; seen after 6.30.—11, Pleydell Av., Stamford ok, W.6. [3068

920 2¼h.p. Enfield, not done 150 miles, and as new, Palmer cord tyres, P. and H. lamp and erator, Klaxon 3 gn. horn, full kit of tools; a at bargain, £68/10; list price of machine alone 3; first cheque secures.—Stancliffe, Summer House, slingden. [3272

NFIELD 6h.p. Coachbuilt Combination, late model, Lucas dynamo lighting, 3 lamps, speedometer, tric and bulb horns, Cameo wind screen and storm on, 700×80 tyres new, new chains, full kit tools, re chains, tyre, tube, bulbs, valves, etc., absolutely plete and as new; £160, worth £200.—Simpson, Hatcham Park Rd., New Cross Gate, S.E. [2916

Excelsior.

XCELSIOR 2-speed Lightweights, new, in stock: 2-stroke £67, J.A.P. £78.—Clark, 7, Exhibition Rd., th Kensington. [3459

919 2¾h.p. Excelsior-Jap, 2-speed, ridden few miles only; £67.—Motor Cycle Mart, Stafford St., Wal- [2379

914 British Excelsior Combination, 5-6h.p., 3 speeds, hood and screen, ride away; £80.—26, bridge St., Waltham Abbey. 'Phone: Waltham s 238. [2531

F.N

h.p. F.N., Bosch, B. and B., ride away; £35 or near offer.—Bridge, 12, Douglas St., Bolton. [2894

N., 4-cyl., 2-speeds, engine recently overhauled, Bosch, good tyres, re-enamelled; £40, or offer.—ton, Esk House, Whitby. [2908

h.p. F.N., mag., spring forks, in perfect running order, low, fast and reliable; £15.—19, Commer- Buildings, Saltisford, Warwick. [X8827

N. 5-6h.p. 4-cyl., C.B. sidecar, 2 speeds, clutch, hood, wind screen, lamps, etc., good combination; offers.—143, Ravensbury Rd., Earlsfield, S.W. [2347

5.—F.N. 5-6h.p., fixed gear, cyls. rebored, new pistons and rings fitted, thoroughly overhauled, Dunlop covers and tubes.—Cornford, Bindon, Wool, et. [2534

14 F.N. 7-9h.p., 3-speed, multi-disc clutch, with splendid coachbuilt sidecar, all accessories, over- d; real bargain, £110.—Tondeur, 4a, Chapel St., are Rd., N.W.1. [3556

p. F.N., free engine, Bosch waterproof, Binks, new tyres, good condition throughout, ride away; £42, ear offer.—Barber, 1, Oak Villas, Ernest Rd., sley, West Drayton, Middlesex. [3042

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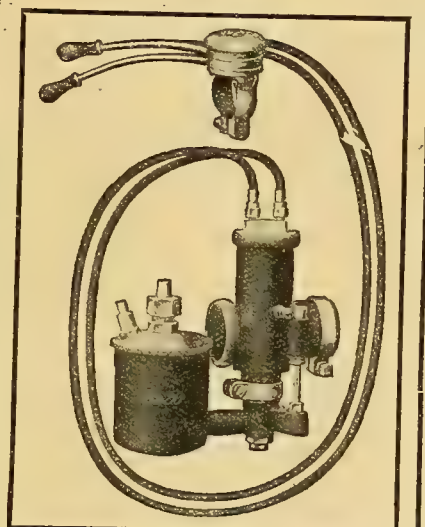

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F.N., 5-6h.p., 4-cyl., 2 speeds, shaft drive, Bosch, B. and B., extra heavy tyres, tools, spares, slight adjustment necessary; £30, or exchange lightweight.—Devonshire, Elston, Newark, Notts [2849

2¼h.p. F.N., shaft, 2-speed, clutch, lamps, horn, tools, good tyres, many extras, large mudguards, ride away; £30; stamp full particulars and photo.—Onyett, 91, Cherryhinton Rd., Cambridge. [X8851

F.N., 4-cyl., 1920, 7-9h.p., 3 speeds, clutch, shaft drive, combination, coachbuilt sidecar, spacious locker, hood, screen, D.A. lighting set complete, speedometer, horn, 3in. tyres, all spares, as new; £220; owner buying car; any trial by appointment.—Box 7,064, c/o *The Motor Cycle*. [3287

Francis-Barnett.

MAUDES' Latest 1920 2¼h.p. 2-speed model Francis-Barnett, 84 gns., ex actual stock; deferred payments arranged.—Maudes', 100, Gt. Portland St., W.1. [3521

Gloria.

GLORIA-TRIUMPH Combination, 8h.p., screen, hood, legshields, pillion seat, luggage carrier, petrol carrier, all new tyres, excellent condition; £197; or exchange Rover; cash adjustment.—Hart, Jubilee Terrace, Donisthorpe, Ashby-de-la-Zouch. [X9011

Grandex

GRANDEX Precision 2¾h.p., splendid little mount; £30, bargain; exchange.—Bunting's Motors, Wealdstone, Harrow. [2967

GRANDEX 4¼h.p., coach combination, 3-speed, K.S.; £85; trial after 8 p.m.—20, Tyrrell Rd., Peckham Rye, S.E. [2585

GRANDEX-PRECISION 4¼h.p. Combination, 1915, excellent extra large C.B. sidecar, Enfield gears, engine just thoroughly overhauled by makers, 2 new tyres, several spares, lamps, tools, horn etc., perfect condition, smart turn out, only wants seeing; £110; after 7.—H., 32, Felday Rd., Lewisham. [2785

Harley-Davidson

1919 Harley 3-speed Combination, fully equipped; £150.—353, King St., Hammersmith, W.6. [3366

HARLEY-DAVIDSON.—Immediate delivery of flat twins.—Motor Cycle Mart, Stafford St., Walsall. [2381

£100.—Harley 7-9h.p., 1918, plated and stove enamelled, as new; snip.—341, Upper St., N.1. [2406

1918 Harley-Davidson, fully guaranteed, £110; also 1920 opposed, £160.—Ross, 86, High Rd., Lee, S.E. [3185

HARLEY 7-9h.p. Combination, fine running order, accessories; £95, don't hesitate.—103a, High St. Wandsworth. [3196

1918 Harley-Davidson Combination, real posh lot; what offers?—Thompson, 10, Ulverstone Rd., West Norwood. [3582

1918 Harley Combination, completely equipped, ready to ride away; £140.—18, Burlington Rd., New Malden, Surrey. [2144

1920 Flat Twin Harley, lamps, horn, mileage 1,000, insured, condition guaranteed; £135.—Harley, 7, Orleans Rd., N.19. [2546

1920 Model Harley-Davidson Electric Combination; immediate delivery; £235.—Maudes' Motor Mart, 100, Paris St., Exeter. [3528

HARLEY, 7-9h.p., 1915, and coach sidecar splendid running order, no accessories, and £85 secures it.—103a, High St., Wandsworth. [3199

HARLEY-DAVIDSON.—Immediate delivery 1920 4 h.p., 3 speeds and clutch model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8886

HARLEY 4h.p. Flat Twin, equipped; £150.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2743

HARLEY-DAVIDSON Combination and Sports Model in Stock, new; list price.—Clark, 7, Exhibition Rd., South Kensington. [3443

1916 Harley-Davidson Combination, 3-speed, just been overhauled at the cost of £40; price £135.—Wilson, 84, Whitley St., Reading. [2845

HARLEY-DAVIDSON, 1915, dynamo lighting, enamel and mechanical condition perfect; £75, first cheque.—125, High St., Woolwich. [2551

1920 Harley, Model F, Harley sidecar, speedometer, horn, lamps, not done 50 miles; £225.—Edwards and Co., 50, Harrington Rd., S.W.7. [3404

HARLEY, 1919, repainted, all as new, solo; £130; very fast.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2739

HARLEY-DAVIDSON, 1915, magneto model, or exchange 1920 Matchless and cash.—Barter, 47, Broomfield Av., Palmer's Green. Avenue 7769. [7316

HARLEY-DAVIDSON Combinations, 1918 and 1919, from £130; solo from £95; all in running order.—Owen, 59, Scholefield Rd., Holloway. N.19. [X8938

1915 7-9h.p. Harley-Davidson Combination, electric ignition, in first-class condition; £125, or near offer.—Linington, 54, Commercial Rd., Portsmouth. [X9074

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY-DAVIDSON, 1918, 7-9h.p., 3 speeds, clutch, etc., mechanically perfect, and ready to ride away; £98.—17, Cranmore Way, Muswell Hill, N. [2950

HARLEY-DAVIDSON.—Immediate delivery 1920 7-9 h.p. standard model, with Mills-Fulford or Henderson sidecars.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8885

7-9h.p. Harley-Davidson, late model, condition as new; any trial and examination; £112.—174, Barcombe Av., Streatham Hill. 'Phone: Streatham 2563. [3467

HARLEY Combination, 1916, discs, overhauled, grand condition and appearance, tyres as new; £140, or near offer. — Monro, Bannockburn, New Barnet. [3253

HARLEY-DAVIDSON, 1920, new, just out of crate, speedometer, ampmeter, electric lighting, full kit tools seen any time; £185, or near offer.—Bray, Stationer, Potter's Bar. [2812

HARLEY-DAVIDSON 1915 7-9h.p. Combination, excellent condition, lamps, etc.; any trial; best offer over £110.—4, St. John's Wood Park, N.W.8. Phone: Hampstead 3496. [3079

FOR Sale, 7-9h.p. 1920 Harley-Davidson, with well sprung Swan sidecar, complete with usual accessories, and almost new condition.—Blakey, 20, St. Bede's Terrace, Sunderland. [1902

HARLEY-DAVIDSON, 1918, mag. model, 3-speed, good condition, accessories; £100; exchange 8h.p. Blackburne, cash adjustment.—Hood, 32, Fulham Palace Rd., Hammersmith. [1818

1920 (June) Harley-Davidson 7-9h.p. and sidecar, electric model 20J, fully equipped, speedometer, electric lamps and horn, splendid outfit; £230.—75, Cleave Rd., Gillingham, Kent. [3180

HARLEY-DAVIDSON 1920 4h.p. Model, complete with Swan sporting sidecar, electric lighting, mechanically perfect and quite indistinguishable from new.—Parker's, Bradshawgate, Bolton. [X8879

HARLEY-DAVIDSON 1920 Electrical Model, sidecar de luxe, disappearing hood, etc., disc wheels, spring pillion seat, not been 30 miles, fully insured; at list price, £295.—Apply, 70, Knightsbridge, S.W. [2708

HARLEY-DAVIDSON 1920 7-9h.p., fitted to de luxe sidecar, with hood, screen, and luggage grid, excellent condition; cost £245, accept £210; buying car.—Slater, 133, Sandyford Rd., Newcastle-on-Tyne. [2427

HARLEY-DAVIDSON 1915 7-9h.p. Combination, Bramley C.B. sidecar, luggage carrier, screen, tyres, chains as new, good running order, lamps, etc.; £115.—Roy Miller, Burnham Overy, Norfolk. [2306

1920 7-9h.p. Fully Equipped Harley, mag. model, mechanically perfect, luxurious Dunhill sidecar, combination practically unscratched, and tyres unpunctured, many extras; £200.—Birch, Cotmore, Thame. [X8863

MAUDES'.—Latest 1920 electric model Harley-Davidson just delivered, delivery ex actual stock, solo £201/6, with Millford sidecar £244; 1920 flat twin, sports model, £164/9. — Maudes (below).

MAUDES'.—Latest 1920 magneto model, complete with Millford de luxe sidecar, £237/6; solo machine only £184/11.—Maudes, 100, Gt. Portland St., W.1. [3509

1920 7-9h.p. Harley-Davidson Combination, 50 gn. Harley sidecar, electric model, Easting, electric and bulb horns, speedometer, tyres unpunctured, mileage 1,000, magnificent outfit, absoluetly as new; £240.—53, Leagrave Rd., Luton. [X8791

1920 7-9h.p. Harley-Davidson, electric model, winner of 3 gold medals, gold cup at Brooklands, 3 other awards, faultless condition, speedometer, etc., all accessories; 180 gns., or best offer.—Seen at South Western Hotel, Richmond. [2178

HARLEY-DAVIDSON Combination, as new, 7-9h.p., wind screen, lamps, speedometer, splendid condition, only wants seeing; £170 or near offer; seen before 6 p.m. or after by appointment.—206a, Green Lanes, Finsbury Park, N.4. [2198

1920 Harley-Davidson Flat Twin, complete with makers' lighting set, speedometer, and horn, only done 700 miles, absolutely perfect condition; £160; owner bought car.—Phone Park 2168, or apply 18, Holland Park Mews, W 11. [3087

HARLEY-DAVIDSON, 7-9h.p., Magneto Model, 1918, overhauled, tested, and tuned up; £95, or with brand new coachbuilt sidecar, bulbous back; £130.—Langford's, 37, Broadway, Cricklewood, London, N.W.2. 'Phone: Hampstead 8616. [3192

1920 Harley-Davidson 7-9h.p. Combination, in absolutely unscratched condition, speedometer, 3 lamps, generator, legshields, handle muffs, spares and tools, wind screen, tyres unpunctured; trial by appointment; £200.—Leney, Chilham, Kent. [2309

1918 Harley Combination, 7-9h.p., 3-speed, kick start, mag. model, electric lighting, mechanical horn, etc., large bulbous back sidecar; price £160, or take late model solo machine part payment, trial arranged.—Ash Lodge, Junction Rd., Brentwood, Essex. [1390

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HARLEY-DAVIDSON Combination, late 1919, in perfect condition and indistinguishable from new, special large bulbous back sidecar, Easting wind screen, Tan-sad, fully equipped; accept £155 cash; seen any time.—Allen, 24, Grosvenor Av., East Sheen, S.W.14. [2970

1915-16 Harley-Davidson Electrically-equipped Combination, hood, double-sided screen, pillion seat with step, 5 lamps, hand and foot clutch, recently overhauled by makers, formerly a show model; £145, or near offer.—Owner away; seen, St. Pancras Garage, Judd St., London. [2268

1915 7-9h.p. Harley-Davidson, Millford sidecar, Ricardo aluminium racing pistons, new mag. and carburetter, repainted, plated, upholstered, electric lights, horn, voltmeter, switchboard in tool box on tank, disc wheels, wind screen, spares, tools; open to any examination; £150; owner buying car.—Haswell, Seymour Rd., Plymouth. [2634

Hazlewood.

5-6h.p. Hazlewood-Jap Combination, new May 1920, little used; £180; exchanges.—Chas. Ashby, Cycle Agent, Northampton. [2594

1920 Hazlewood-Jap 5-6h.p. with Mills-Fulford Sidecar, not ridden 500 miles, lamps, tools, horn; £180.—Raynham, Saffron Walden. [2215

2¾h.p. Hazlewood-Jap, 1914, 3 speeds and F.E., adjustable pulley and tappets, Bosch, B. and B., B. and L. drip feed, new 1¼ gal. tank, machine enamelled grey, new tubes, tyres, and belt; £45; will exchange combination with cash adjustment.—'Phone: Urmston 208.—Monk, Housing Dept., Council Offices, Irlam, Lancs. [2397

Henderson

HENDERSON Combinations, ready to ride away.—W. H. Grimes and Co., 18, Bruton Place, Bond St., W. [2966

1915 Henderson Combination, 10h.p. 2-speed, clutch, very fast and powerful, perfect condition; £95, bargain.—Badham, Zion, Begelly. [2298

Hobart.

1920 Hobart-Jap, 2-speed and clutch, K.S.; £90.—Ross, 86, High Rd., Lee, S.E. [3186

1914 Hobart 4h.p. Twin, 3-speed, perfect, everything good as new; £47, worth £80.—Miss E. Holland, Eastry, Kent. [3567

1920 Hobart-Villiers, as new, run 100 miles, horn, tools, registered, etc.—Warren, 40, Goodmayes Rd., Goodmayes, Essex. [2170

1914 3½h.p. Hobart-Jap Combination, overhead valves, 3-speed Sturmey hub, just repaired, as new, engine in good order, lamps, tools, etc.; £60.—31, Hutland Rd., Ipswich. [3330

A REAL Bargain.—Hobart-Villiers 2-stroke, 2-speed, believed 1917, engine, tyres, etc., in splendid condition, but requires new front mudguard; first £45 secures.—11, Higher Albert St., Chesterfield. [X9002

Hockley.

BRAND new 1920 Hockley 2-stroke, Albion 2-speed gear, duplex frame, Dunlop tyres, C.A.V. magneto, drip feed, pan saddle, luxurious machine; list price £70, to clear £55; illustration sent.—191, Sweetman St., Wolverhampton. [3453

Humber

HUMBER Lightweight, 1914, splendid order, Lucas lamps, etc.; £30.—Ross, 290, Uxbridge Rd., West Ealing. [2308

HUMBER Motor Cycle, 2½h.p., coil ignition, ride away; £17.—Howarth, opposite Post Office, Heston, near Hounslow. [3569

MAUDES'.—Latest flat twin Humber, 3½h.p., 1920 model; £125; ex actual stock.—Maudes, 100, Gt. Portland St., W.1. [3513

HUMBER 3½h.p. Combination, 2 speeds, clutch handle start, in perfect order; £55.—Carter, 75, Penyston Rd., Maidenhead. [2763

HUMBER, Dec., 1919, 3½h.p. flat twin, 3-speed clutch, all accessories; nearest £110.—H. Pardoe, Brook Farm, Wollescote, Stourbridge. [2274

HUMBER Roc, 1909 to 1914, Rex Roc, 1912 to 1915, all standard parts used.—J. Connolly, Engineer, 13, Carmelite Rd., Coventry. [X9077

1920 4½h.p. Flat Twin Humber Combination, Millford 4-point, run 100 miles; any trial; £165.—Lines, Union House, Foleshill, Coventry. [X8922

1919 Humber 3½h.p., flat twin, lamps, speedometer, horn, tools and pump, 1,000 miles, as new; £100 or best offer.—A. Taylor, Hamble, Hants. (D) [2332

HUMBER 1920 4½h.p. Flat Twin Combination in stock; makers' price, plus carriage.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 3 [188

1918 3½h.p. Twin Humber, all black, excellent condition, little used, £85; also new 192 4½h.p. Humber, £140.—26, Morland Rd., Croydon. [330

HUMBER 4½h.p. Flat Twin Combination, 19 latest model, just arrived; £173/12/6; immediate delivery.—Wilkins, Simpson, opposite Olympia, London. [25

MOTOR CYCLES FOR SALE.

James.

19 (Dec.) 5-6h.p. James Combination, Lucas lamps, Cameo-wind screen, 2 horns (mechanical bulb), Tan-Sad, complete with spare chains, tools, carefully used, in excellent condition through- £140.—Bernard, Jacques Court, Elham, Canter- [3374

J.A.P.

J.A.P. Sporting Combination, 2-speed, free engine; £110.—201, Lillie Rd., Fulham, S.W.6. [3262

P. 4h.p. Single, overhauled, rebushed, new Druids, Amac, clutch, tyres good, perfect condition; £42.— Clovelly, Bury St., Lower Edmonton. [2825

14 3½h.p. J.A.P. and wicker sidecar, 2-speed gear box, speedometer, good condition; £45; exchange ered.—58, Tustin St., Old Kent Rd., S.E. [2763

J.A.P., Sturmey 3 speed gear box, K.S., Binks carburetter, Bosch mag., in perfect condition; Field, 35, Wellshouse Rd., Willesden Junction, 10. [2847

20 3½h.p. Twin Jap-Lea Francis, all lamps, horn, Cowey speedometer, 400 miles, better than £115.—Colonial Motor Co., 104a-106a, Finchley N.W.3. 'Phone: Hamp. 7822. [2173

J.B.S.

S. Motorcyclette, on special made Centaur cycle, in good condition throughout; £21.—Rose's Gar- Uxbridge. [3032

J.H.

J.H., 1915, M.A.G. engine, 3-speed, clutch and kick start, countershaft gears, fitted with under- sidecar; £115.—Wauchope's, 9, Shoe Lane, Fleet London. [2042

Kerry

RRY Combination, B. and B., Bosch, wicker side- car, in going order and good condition; £35.—Box , c/o *The Motor Cycle.* [2359

Lea-Francis.

A-FRANCIS, 1920, M.A.G. engine, absolutely as new; £120.—198, Gt. Portland St., W.1. [3317

A-FRANCIS in Stock, new M.A.G. engine; £130. Clark, 7, Exhibition Rd., South Kensington. [3441

p. Lea and Francis, new 1920 model; £130; ex change arranged. — Wauchope's, 9, Shoe Lane, on. [2033

A-FRANCIS, as new, mag., 1920 model, good condition; any trial; £120; pillion seat, Klaxon, 35, Warwick Rd., Banbury, Oxon. [3544

A-FRANCIS, 1920, M.A.G. engine, Cowey speedo- meter, large P. and H. lamp, horn, etc., as new; .—Motor Cycle Mart, Stafford St., Walsall. [2380

A-FRANCIS.—Immediate delivery, 1920 twin-cyl., 2 speeds, hand-controlled clutch, M.A.G. engine,— er's, Bradshawgate, Bolton. Tel.: 1348. [X8887

A-FRANCIS Sporting Combination, recent, J.A.P. twin, Bosch, hood, electric; £100, or near offer. tain, 34, Olive Rd., Cricklewood. Museum 3694. [2140

A-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic nts.—A. J. Sproston, Ltd., 193, Gt. Portland St. [0099

AUDES'.—Latest 1920 3½h.p. model Lea-Francis, M.A.G. engine; £130; ex actual stock; deferred ents arranged.—Maudes', 100, Gt. Portland St [3522

A-FRANCIS 1917 3½h.p., 2-speed and clutch, recently overhauled and renovated, fitted with new 1920 3½h.p. J.A.P. engine.—Parker's, Brad- gate, Bolton. [X8878

A-FRANCIS, 1920, M.A.G. engine, run few miles only, with coachbuilt sidecar, accessories; £155. vnham Motor Co., 223, Hammersmith Rd., W. e: Hammersmith 80. [2738

20 Lea-Francis 3½h.p. 2-speed, kick starter and clutch, complete with electric head and tail , and battery in box, as new, mileage 150; £130. E. Hall, Jun., Westnor, Tonbridge. [X8854

A-FRANCIS 1920 3½h.p. Twin; delivery from stock of this famous mount at list price, £130 Exchange or extended terms.—City Agents, Elce o., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0066

K.L.M.

M. Cycle, 3h.p., Bosch, Amac, new Dunlop heavies and belt, lamps, good condition; ride away; -1, Woodlands Place, Trafalgar Rd., East Green- [2774

Levis.

VIS Popular Models in Stock; £60.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. e: 214. [1097

VIS 1919 2¼h.p., fast, powerful, guaranteed per- fect mechanical condition; £55.—Fisher, Cross, ester. [3075

VIS 2¼h.p., 1916-17, single speed, excellent con- dition, accessories; £38; offers.—Davis, Crow- e, Berks. [2509

VIS Popular, 1916, excellent condition, accessories; 45; exchange higher power.—Sheppard, 108, The at, Slough. [2831

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NEW SCALE, 2-stroke, 2-speed, clutch, and kick-starter, £24 1s. deposit, and 11 equal monthly instalments of £6 12s. 3d.
CALTHORPE - J.A.P., 2¾ h.p., 2-speed, clutch, £21 deposit, and 11 instalments of £5 14s. 10d.
NEW IMPERIAL, No. 2, 2-speed, £24 deposit, and 11 instalments of £6 10s.
OMEGA-J.A.P., 2¾ h.p., clutch, and kick-starter, £22 6s. deposit, and 11 instalments of £6 1s. 7d.
ALLON, 2¾ h.p., 2-speed, clutch, and kick-start, £23 deposit, and 11 instalments of £6 4s. 4d.
SCOTT, 3¼ h.p., deposit, and 11 instalments of £10 1s.
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LEVIS 2-stroke, in excellent condition, lamps and tools, etc.; can be tried any time; £35.—Perritt, Wall Hall, Watford. [2280

LEVIS 1917, Model E, Enfield 2-speed, mileage 600, perfect; £62; exchange considered.—Box 442, c/o *The Motor Cycle.* [X8897

1920 2¼h.p. Levis mileage about 200, lamps and accessories; £55 for quick sale.—Owen, 73, Harrogate St., Barrow-in-Furness. [2132

LEVIS, 1920, 2-speed gear, semi-T.T., Pedley grips, P. and H. lamps, etc.; £60.—13a, Victory Sq., New Church Rd., Camberwell, S.E.5. [X8934

1915 Levis, 2½h.p., lamps, etc., lovely machine, excellent condition: £38/10.—Minchin Motor Mart, 39, Penrhyn Rd., Kingston-on-Thames. [3463

LEVIS 1920 Popular Model, just arrived from works; immediate delivery at makers' price, £60.—Wilkins, Simpson, opposite Olympia, London. [2504

LEVIS.—We strongly recommend, and can supply early, this famous 2-stroke.—District agents, The Walsall Garage, Wolverhampton St., Walsall. 'Phone: 444 [5765

LEVIS 2¼h.p. 1920 Popular Model, tools,, knee grips, horn, very low mileage, owner forbidden to ride; sacrifice to ride away, £55.—Kneen, Brigham, Cockermouth. [2387

F.O.C.H. have a Levis, in fine condition.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2521

Lincoln-Elk.

£27.—Lincoln-Elk 3h.p., Bosch, Amac, Druids, in perfect running order, ready to ride away; first cheque secures.—1, Castle St., Warwick. [X8749

L.M.C.

L.M.C. 4¼h.p. C.B. Combination, 3-speed, clutch, running order.—Avery, 85, Stanley Rd., Wallington. [2194

M.A.G.

1920 M.A.G. Matchless Combination, as new, £200; also 1919, all on, £170.—Ross, 86, High Rd., Lee, S.E. [3188

Martin.

MARTIN-J.A.P., 8h.p., o.h.v., also sidecar; offers.— Hart, Causeway, Mitcham. [2850

Martinsyde.

1920 Model Martinsyde-Newman Combination; immediate delivery; £170.—Maudes' Motor Mart, 100, Paris St., Exeter. [3527

MARTINSYDE-NEWMAN Combination, as new, lamps, horn, speedometer; £190.—Young, 143, Sunderland St., Houghton-le-Spring, Durham. [3215

MARTINSYDE Combination, Magdyno lighting, hood, screen, full equipment, spares, horn, as new; offers over £200.—Collins, 33, Rosamund Rd., Bedford. [2342

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Martinsyde-Newman; £170; dynamo lighting (Lucas), £200; delivery from stock; cheapest combination marketed. [X8867

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford; also Cornwall and Devonshire, for Martinsyde-Newman combination, £170; deliveries now being effected; sub-agents appointed.—Maudes' Motor Mart, 100, Gt. Portland St., W.1, and Paris St., Exeter. [6612

Matchless

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8h.p. Combination, mag., Jap engine; £205.

READY for Road, Lucas electric lighting set and horn; £231/7/6.—Lakeman, 26, Long Acre, London, W.C.2. [0274

MATCHLESS-M.A.G. Combination, fully equipped; £110, or offer.—Toop, Caterham Valley. [3083

MATCHLESS Combination, coachbuilt, 8h.p., all on; £85.—Seen, Crow Bros., Guildford. [3007

MATCHLESS Combination, 2-speed, kick starter, £130, or offer.—Atkinson, West Rd., Lancaster. [2482

MATCHLESS Combination, 6h.p., coach painted January, wind screen; £130, bargain.—Sutton, Bagshot, Surrey. [2561

MATCHLESS-J.A.P. 2¾h.p., 2-speed, free, kick start, good running order; £25.—88, Kew Rd. Garage, Richmond. [3176

1920 Matchless, magdyno, speedometer, new, in stock; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [3405

MATCHLESS-J.A.P., Montgomery sidecar, splendid combination; £65.—McClean, Redlands, Whitton Rd., Twickenham, S.W. [2834

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Matchless.

1920 Matchless, perfect, all on, 2-seater sidecar; cost 235, accept £220.—Legards, Leather Merchants, Barnsley. 'Phone: 11. [2544

MATCHLESS 1914 Combination, 4h.p., 3-speeds, new tyres; £65; bargain, or separate.—1, Clayton Rd., Hayes, Middlesex. [2910

1920 Matchless Combination, complete outfit, new condition, many extras; any trial; £210.—38, Blenheim Av., Barnsley. [2946

8h.p. Matchless Combination, 2-speed, kick start, perfect order, room wanted; £68.—114, Crysta Palace Rd., E. Dulwich. [3178

1914 Special Racing Matchless, J.A.P. single, not used since 1914; £40 to clear.—8a, Blue Ball Yard, St. James' St., Piccadilly. [2758

1920 Model H Matchless, dynamo lighting, hood, leg guards, horn, etc., perfect; £215; exchanges. —2, Nightingale Rd., Lower Clapton. [3298

£115. 8h.p. Matchless-Jap Combination, everything equal to new, privately owned, room wanted this week.—257, Beckenham Rd., Beckenham. [2532

1920 Matchless, M.A.G. engine, dynamo lighting Lood and screen; any trial; 900 miles; bargain, £220.—50, Gloucester Rd., Tottenham, N.15. [3161

MATCHLESS Combination, 1919, spare wheel, wind screen, Lucas lamps, footboards, splendid condition; £160.—Greenop, 27, Castlegarth, Kendal. [2389

MATCHLESS C.B. Combination, 8h.p. J.A.P., recently overhauled and all new tyres, splendid order. —Wylde, 29, Fox Lane, Palmer's Green, London, N. [2205

MATCHLESS, April, 1920, Model H, dynamo lighting, speedometer, hood, etc., mileage 1,100, guaranteed perfect; £214.—125, High St., Woolwich. [2550

3½h.p. T.T. Matchless, 1914, o.u.v. twin J.A.P., aluminium pistons, Gradua gear, very hot stuff; bargain, £80.—Tyne Lodge, Grange Loan, Edinburgh. [3371

85½×65 Overhead Valve Matchless J.A.P., adjustable pulley, sporty bicycle, £85; if with 2-speed, £95; photo 6d.—Mills, 16, Hall St., Mansfield. [2606

MATCHLESS Combination, 8h.p. M.A.G. engine, Lucas dynamo lighting, perfect in every way; £140.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [1614

MATCHLESS, 8h.p., 1920, spring frame combinations, early delivery, with or without dynamo lighting.—Wauchope's, 9, Shoe Lane, Fleet St., London. [2048

MATCHLESS Combination, the very latest M.A.G. engine, speedometer, legshields, magdyno lighting; £235; near offer.—Rogers, 106, Fulham Palace Rd., W.6. [3483

MATCHLESS Combination (July, 1919), interchangeable wheels, lamps, hood, etc.: better than new; reasonable offer.—113, Rodney Rd., Walworth, S.E. [2622

1920 Matchless, Model H, M.A.G. engine, Lucas horn, lamps, speedometer, legshields, hood, perfect condition; 205 gns.—Edwards and Co., 50, Harrington Rd., S.W.7. [3407

MATCHLESS Model H Combinations, new and second-hand; immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2733

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MATCHLESS.—Immediate delivery latest Model H combination, complete with Lucas Magdyno electric lighting, M.A.G. engine, spare wheel and tyre.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8894

MAUDES'.—1920 H Matchless combination, Lucas lamps, Klaxon horn, Bonniksen speedometer, very small mileage, and as new; moderate price.—Maudes', 100, Gt. Portland St., W.1. [3526

MATCHLESS, 1920, Model H, with D.A. lighting, Lucas lamps, Bonniksen speedometer, run 2,100 miles, splendid condition, any trial; £200.—Mason's Garage, Letchworth, Herts. [1763

MATCHLESS 1919 8h.p. Victory Model Combination, detachable wheels and spare, Lucas accessories, in very nice order; £165.—Elce and Co., 15-16, Bishopsgate Av. Camomile St., E.C.3. [0067

1920 Model H Matchless Combination, electric and acetylene lighting, tyres unpunctured, speedometer, and every accessory, better than new; offers. —12, Little Heath, Old Charlton, S.E.7. [2524

MATCHLESS Combination, 2-speed, kick start, clutch, chain drive, 8h.p. J.A.P., fine turnout; £120, or exchange lower power, cash adjustment.—57, Kenbury St., Coldharbour Lane, London, S.E. [3498

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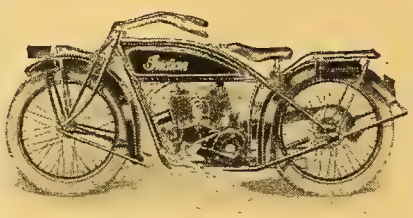

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1919 Victory Model Matchless Combination, age 3,098, new rear tyre, fitted with la horn, mirror, Tan-Sad, speedometer, tools, spa Windle, Manora, Hollington Park, St. Leonard

1920 Model H Matchless Combination, Mag lighting, speedometer, screen, spare wheel shield, horn, fully equipment, splendid condition; —Rackham, Charlton House, Old Charlton, S.E.

MATCHLESS Combination, 1916, Model 8B, engine, Lucas dynamo lighting, speedon discs, screen, faultless condition throughout; after 6 p.m.—62, Camden Av., Catford, London

MATCHLESS, 1920, Model H, rear drive, sp meter, hood, Lucas gas set, legshields, sp special coachbuilt pillion seat, insurance, owner ing car; £215.—32, Morrab Gardens, Water Seven Kings.

MATCHLESS Combination, M.A.G., 3 speeds, cl Lucas dynamo lighting, electric and bulb h hood, screen, and speedometer, all in excellent dition; £160.—Griffin, 53, Denmark Hill, Cambe S.E.5.

1920 Matchless, full touring equipment, mag everything on, superior combination, gu teed sound throughout, 50-100 miles trial willi 3 months' insurance; £240.—35, Whittingstall Fulham.

MATCHLESS Combination, completely overha coachbuilt sidecar, new tyres, tubes, belt, wind screen, horn, lamps; any trial; bargain; for sale, £105.—Patterson, Lawton Rd., Rainhill, L shire.

MATCHLESS M.A.G. 1914 Combination, countershaft, thoroughly overhauled and enamelled by makers April, 1920, acetylene ligh splendid condition; offers.—Pickerill, Calveley Sc Tarporley, Cheshire.

1915 Matchless Combination, 7-9h.p. M.A.G., B 3 speeds, countershaft, clutch, kick st electric lighting, speedometer, screen, hood, Tan beautiful condition, been very carefully driven; —34, Manor Rd., Erith, Kent.

1919 8h.p. Victory Model Matchless Combin 3-speed, with spare wheel, Lucas horn, accumulator lighting set, low mileage, tyres as all wheels interchangeable, in perfect running c £155.—Farr, Contractor, Chichester.

MATCHLESS 1918 (Nov.) 8h.p., 3 speeds, with sidecar, interchangeable wheels and spare, screen, lamps, horn, speedometer, leg shield, 4 n new tyres, complete set spares and tools, perfect; —133, Plaistow Rd., West Ham, E.15.

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MODEL H Matchless, M.A.G. engine, Lucas la Lucas horn, rear drive speedometer, leg sh adjustable wings to wind screen, sidecar step, cut-out, complete with spare wheel, tools, pump, fect condition, mileage to date 475; price £220.— Cheltenham Rd., Bristol.

MATCHLESS Combination.—Book your orders Ross, 86, High Rd., Lee, S.E., for 1920 s frame 8h.p. Matchless combination. A model a on view at above address. Deliveries guara strictly as per order received. Retail price as ruli time of delivery. A large assortment of second- motor cycles of all makes always in stock.

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1920 Matchless Combination, Model H, M.A.G. gine, Lucas dynamo lighting, rear-drive sp meter, Lucas bulb and electric horns, leg-guards, sp undershield, and discs all round, and interchange wheels, unpunctured, mirror, special Binks carbure sidecar has special dash, wind screen, with side w hood, and adjustable footrests and other refineme perfect in every way, better than new, privately o and driver; 250 gns., well under list; apply eve 5-9.—Owner, 41, Rookfield Av., Muswell Hill, N.10

Metro.

METRO Sporting, all on, perfect condition; £45.— Fulham Rd., S.W.

METRO 1916, T.T. bars, discs, enamelled red, new, single speed; £45, or offer.—125, High Woolwich.

1920 2½h.p. Metro-Tyler, 2-speed, lamps, horn, in excellent condition; £65.—2a, Ryebank Seymour Grove, Manchester.

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TRO-TYLER. 2¾h.p., 2-speed, and all acces- series, in top-hole condition; £55.—F. Moor, robisher Rd., Hornsey, N. [2940

TRO-TYLER, type S, latest model, brand new, 2¾h.p., 2-speed, with enclosed mag. and gear box; 3; delivery from stock.—P. J. Evans, 83-91, John St., Birmingham. [0260

p. Metro-Tyler, not done 100 miles, perfect con- dition, lamps and tools complete; owner going r combination; £60, or nearest offer.—E. H. all, Ogbourne, Wilts. [2476

UDES'.—Latest 1920 model Metro-Tyler, Type S, £95, ex actual stock; 1919 model, brand reduced price, £65, ex actual stock; deferred nts arranged.—Maudes', 100, Gt. Portland St. [3523

TRO-TYLER, latest S type, super 2-stroke; delivery from stock at list price, £95 cash. nge or extended terms. Trade supplied.—City s, Elce and Co., 15-16, Bishopsgate Av., Camo- t., E.C.3. [0069

Minerva.

ERVA 3½h.p., B. and B., Eisemann, new tyres; 15.—322, Glyn Rd., E.5. [3056

p. Minerva, mag., Amac, good mechanical order and comfortable, suit learner; N. London; £17. 7,056, c/o *The Motor Cycle.* [3278

ERVA Twin 5-6h.p., Grado gear, Bosch mag., new Amac, P.H. lamps, splendid condition; must d; no reasonable offer refused.—118, High St., . [3167

Moto-Reve.

p. Moto-Reve, splendid running condition, Amac, mag., tyres good; no reasonable offer refused.— n, New Rd., Talywain. [3220

New Hudson.

HUDSON, 3-speed, sidecar; quick sale, £55.— 19, Plumstead Common Rd., Plumstead. [3018

0 New Hudson 2-stroke, mileage 500; £70, or offer.—Miller, Ashover Hydro, nr. Chesterfield. [X8521

HUDSON, 1915, 2-stroke, new, mag., tyres and elt perfect; £32.—James, Empire, Wood Green. [2348

HUDSON.—Immediate delivery 1920 2¼h.p. 2 peeds models.—Parker's, Bradshawgate, Bolton. 1348. [X8881

HUDSON 2¼h.p., 1920, little used; £72, or ear offer; Tewkesbury district.—Box 6,984, c/o otor Cycle. [2211

p. New Hudson, 3-speed and clutch, in fine con- dition, suitable for sidecar; £43.—85, Dalberg rixton, S.W.2. [2823

6 New Hudson 2-stroke, condition and appearance like new, lamps, tools, etc.; £40.—16, Gains- h Rd., Crewe. [X8668

HUDSON 2 stroke Lightweights, immediate elivery, spares stocked.—New Hudson Depot, 45, lon Rd., W.C.2. [1298

0 New Hudson 2-stroke, new July, mileage 800, perfect running order; £65.—Ramsey, Whitehill ll, Midlothian. [2190

HUDSON 4h.p., 1914, 3-speed, clutch, com- lete; £70.—Hewins' Garages, Ltd., The Real Firm, Taunton. [2697

0 New Hudson 2-stroke, unused; £72.—Colonial Motor Co., 104a-106a, Finchley Rd., N.W.3 : Hamp. 7822. [2175

HUDSON 2¼h.p., 2-speed, 1917, lamps, horn, ools, etc., splendid condition; £46, offers.—97, ngale Rd., Wood Green. [1253

HUDSON, 1920, 2¼h.p., 2-stroke, T.T. model. -speed gear, lamps, been used for demonstrating; Partridge, 10, Chapel St., Luton. [2947

HUDSON 4h.p., 3-speed, clutch, coachbuilt idecar with hood, electric light, perfect condition; Capt. Betts, S.R.D., Deptford, S.E. [X8826

9 (Aug.) New Hudson Combination, 6h.p., East- ing wind screen, lamps, tools, new spare tyre, £160.—Kempson, 33, Temple Rd., Willenhall. [3022

3½h.p. New Hudson, Comfy sidecar, 3-speed Armstrong, Klaxon, Cameo wind screen; £80. er; seen evenings.—94, Clarence Rd., Grays. [2463

5 New Hudson, 2½h.p., 2-stroke, Thomson- Bennett mag., Amac, nearly new tyres, lamps, ries, tools, spares, new condition; £38.—35, s Rd., Hammersmith. [3547

HUDSON 6h.p. Combination, hood, screen, tc.; bargain, £135; worth £160; must sell.— : 1289 Hampstead.—Seen, Stag Garage, Fleet Hampstead, N.W.3. [2655

E 1919 New Hudson, 4h.p., 3 speeds, K.S., and 1920 Henderson sidecar, tools, spares, lamps, in- e; must sell; £125, or near; Woolwich district. 7,024, c/o *The Motor Cycle.* (D) [2472

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P. & M., 3½ h.p., Dunhill Sidecar, apron, lamps, horn, etc., fully equipped.

BAT, 1920, 6 h.p., Henderson Elite Sidecar, grey, Windscreen, Cowey horn, and speedometer, Tan-Sad seat, Luggage grid, lamps, as new; done 150 miles.

TRIUMPH, 4 h.p., 1920, Henderson feather-weight Sidecar, lamps, horn, apron, etc.

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MOTOR CYCLES FOR SALE.

New Hudson.

1920 New Hudson Touring De Luxe 2¼h.p. 2-stroke, new June, ridden 200, makers' guarantee, perfect, insured, licences, full kit; best over £70; appointment.—Kitching, 32, Palmer Rd., Harringay, N.15. [2486

New Imperial.

NEW IMPERIALS.—Model 1, 2¾h.p. J.A.P., 2-speed.—Below.

MODEL 2, 2¾h.p. J.A.P., 2-speed, clutch, and kick start.—Below.

8h.p. New Imperial-Jap and Canoelet Sidecar.—Below.

6h.p. New Imperial-Jap and Canoelet Sidecar.—Below.

8h.p. New Imperial-Jap Solo.—Below.

ALL Brand New, for immediate delivery at list price.—R. M. Wright and Co., Ltd., Newland, Lincoln. [3416

1920 New Imperial Lightweight, delivery from stock; list prices.—Rose's Garage, Uxbridge. [3033

1919 New Imperial-Jap Combination, 6h.p.; £130. —Burch, Guildford St., Chertsey. [2878

1920 New Imperial, kick start, perfect, as new; £75. —Pickett, Optician, Andover. [2680

NEW IMPERIAL-J.A.P., 2¾h.p., accessories; £48.— Castleman, 285, Upper Richmond Rd., Putney. [2574

NEW IMPERIAL-J.A.P., 2 speeds, perfect order; £33, near offer.—8, Priory Place, Well St., Hackney. [X9019

NEW IMPERIAL 8h.p. Combination, 1919; £140, or offer; exchange Sunbeam.—Cadman, 20, Aldridge Rd., Bayswater. [X8825

1919 8h.p. New Imperial Combination, splendid condition; seen by appointment.—10, Chestnut Rd., Kingston-on-Thames. [2997

NEW IMPERIAL; immediate delivery all models. —Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2737

NEW IMPERIAL 2¾h.p., 1917, like new, countershaft, 2 speeds; any trial.—Pack Horse Hotel, Egham Hill, Egham, Surrey. [1168

1915 2¾h.p. 2-speed New Imperial, lovely machine; bargain, £42.—Minchin Motor Mart, 39, Penrhyn Rd., Kingston-on-Thames. [3464

NEW IMPERIAL-J.A.P., 2½h.p., 2-speed, 77 gns.; ditto, with clutch and kick starter, 85 gns.— Edwin Knight, High St., Reigate. [2601

1920 2¾h.p. New Imperial, 2-speed, clutch, kick starter, little used, bought sidecar machine; £75. —Ivens, Linden Av., Kidderminster. [3230

1920½ 6h.p. New Imperial, Henderson Elite sidecar, mileage 150, all accessories, as new; £190. —Write, Tait, 65, Coventry Rd., Ilford. [2808

NEW IMPERIAL-J.A.P. 2¾h.p., 2 speeds, lamps, Stewart horn, complete, practically new; £58.— Rackham, 23, Benedict Rd., Brixton, S.W. [2479

MAUDES'.—Latest 1920 8h.p. model New Imperial; 140 gns.; complete with Millford sidecar, £179; ex actual stock.—Maudes', 100, Gt. Portland St., W.1. [3520

1920 New Imperial-Jap, 8h.p., with Montgomery sidecar, Klaxon, handsome turnout; £155; new June; unscratched.—Shaw, Durkar, near Wakefield. [2449

1919 (Sept.) New Imperial-Jap 8h.p. Combination, low mileage, electric lighting, all accessories, perfect order; £140.—Kelham, Nassington, Peterborough. [3367

1920 New Imperial 8h.p., with Millford 30 gn. sidecar (C.B.), lamps, and horn, as new, unscratched; £159.—Wrighton, The Drapery, Northampton. [3378

1920 New Imperial, 6-8h.p. J.A.P., Sandum Elite sidecar, hood, screen, Lucas lamps and horn, small mileage, condition as new, very smart; £175.— Brooks, Hawthorns, Worting, Basingstoke. [2442

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £82/17; with clutch and kick-starter, £89/5.— P. J. Evans, 83-91, John Bright St., Birmingham. [0262

BRAND New 2½h.p. 1920 New Imperial-Japs: No. 1, without kick start, £80/17; clutch model with kick start, 2 speeds, £89.—Wauchope's, 9, Shoe Lane, London. [2031

1920 New Imperials, new 8h.p. combinations, also light tourist models, during this week; write or call to secure.—Clapham (Motors), 27, Stockwell St., Greenwich. S.E.10, or 'phone: Greenwich 751. [2003

NEW IMPERIAL, 1919, 2-speed, Watford speedometer, horn, and lamps, aluminium leg shields, insurance policy, excellent condition; 59 gns.—Cusdin, The Bungalow, Turnpike Lane, Hillingdon Rd., Uxbridge [3074

FOR Sale, New Imperial-Jap 2¾h.p., 2 speeds, free engine, 1919, variable mag., 1919, B. and B. carburetter, new cyl. and engine parts, T.T. bars, long exhaust, all-red finish, disc wheels, very fast, accessories; £48.—Wyndham, Thomas, Ewhurst, Surrey. [2410

MOTOR CYCLES FOR SALE.

New Imperial.

1920 6h.p. New Imperial-Jap and Sunbeam Sidecar Combination, beautifully fitted up, all best accessories, condition as new, mileage under 300; illness sole reason for selling; any trial given; £178 for quick sale.—Apply, Arthur E. Warren, Oakfield House, Scriven Rd., Knaresborough. [2259

NEW IMPERIAL 1920 Light Tourist Models, delivered from stock; 2¾h.p. 2-speed model, £80/17; clutch and kick starter, £89/15. -Cash, extended terms, or exchange. Trade supplied.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0070

Norton.

NORTON Big Four, 3-speed, just delivered, unridden.—222, Beacon St., Lichfield. [2960

1919-20 T.T. Norton, lamps, horn, knee grips, fast; trial anywhere; £95.—Reg, 32, High St., Reigate. [3279

NORTON 4h.p., Brampton gear, complete with lamps, Klaxon, etc.; £65.—Seymour and Baker, 215, High St., Lewisham, S.E. [2236

1919 (Oct.) Big Four Norton, Lucas lamps, horn, etc., excellent condition; £118.—Coverdale, Caius College, Cambridge. [2246

BIG Four Norton Combination, 3-speed, countershaft, perfect condition, any trial; £120, all in. —64a, Emmanuel Rd., Balham. [2938

NORTON 1919 Big Four Combination de Luxe, very powerful, new condition; trial; £157.—78, Bayswater Rd., Handsworth, Birmingham. [X8966

NORTON 1916 Big Four de Luxe Combination, 3 speed, all-chain, mileage under 3,000; £130.—Woods, Connaught Rd., Gainsborough. [2711

1920 3½h.p. Sports Norton, speedometer, etc., exceptionally fast, over 70 m.p.h., few miles only; £110.—11, Craven Park, Harlesden, N.W.10. [3150

NORTON, 1919 (late), T.T., fully equipped; best over £90; new1920 Big Four; also 1920 T.T.; list price; London.—Box 7,057, c/o *The Motor Cycle.* [3280

1917 Norton 3½h.p., good condition, ridden about 600 miles, Cowey trip speedometer, electric horn, and tools; £90.—A. J. Hammant, 8, Greys Rd., Henley-on-Thames. [2512

1920 Big Four Norton, semi-T.T. bars, knee grips, Lucas lamps, horn, low mileage, condition perfect; 135 gns.—Holloway, c/o Parkes, Dartmouth St., Birmingham. [3128

1915 3½h.p. Norton Combination, 3-speed countershaft, clutch, 1920 engine, lamps, horn, tools, new Norton sidecar; £120.—Haines, Canynge Rd., Clifton, Bristol. [2315

NORTON Big Four Combination, 1918, Sturmey Archer 3-speed countershaft gear, lamps, screen, excellent condition; £160, or nearest.—3, Burleigh Park Rd., Peverell, Plymouth. [2833

LATE 1919 (Sept.) Big Four Norton Combination Norton de luxe sidecar, in good condition and thorough running order; £155, offer; motor cycle, £130. —74, Windsor Rd., Neath, S. Wales. [2264

HERE'S a Snip.—Special B.R.S. Norton, guaranteed in splendid condition, really hot stuff, complete with lamps and accessories; first £87/10 secures.—R. Carter, 11, Higher Albert St., Chesterfield. [X9004

NORTON Big Four 1919 Combination, chain drive, very little used, Easting, dynamo electric lighting, speedometer, leg shields, Lucas horn, sidecar has bulbous back specially arranged stow luggage beside tin petrol, also lubricating oil; £170; selling, as bought car.—19, Stoneby Drive, New Brighton. [3221

N.S.U.

N.S.U. 3½h.p., 2-speed, F.E., footboards; £32; Leicestershire.—Box 7,072, c/o *The Motor Cycle.* [3294

N.S.U. 3½h.p., free engine, Bosch; £22; running order; after 6.—80, Stamford St., London, S.E. [3091

N.S.U. 3½h.p. 2-speed Coachbuilt Combination, excellent condition; £47.—Sharp, 11, Vorley Rd., Upper Holloway. After 6. [3135

N.S.U. 2¾h.p. Twin, o.i.v., Bosch, new Dunlops, new Stewart mechanical horn, good lamp, fast machine; £30.—36, Radnor Gardens, Twickenham. [2888

N.S.U. 6h.p., 2 speeds, with cane sidecar, new B. and B. Bosch, 2 lamps, new back tyre, starter, powerful; £33/10.—Willoughby, Merstham, Surrey. [3019

POWERFUL Combination 8h.p. N.S.U., Millford sidecar, upholstered green leather, horn, lamps speedometer, in good running order; £65, quick sale — 26, Queen's Ter., Southampton. [2237

N.U.T.

NUT-J.A.P. O.H. Twin, T.T., 1914-15, very fast, any trial; £75.—Ralph Jackson, Sunnyside, Alcester. [X8946

N.U.T. Motor Cycles from Stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214 [1098

1920 Model N.U.T.; immediate delivery; Lucas electric lighting; 145 gns.—Maudes' Motor Mart, 100, Paris St., Exeter. [3530

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1920 3½ h.p. **ARIEL,** solo	£120	0
1920 3½ h.p. **ARIEL** Combination	£157	10
1920 3½ h.p. **ARIEL** Comb., Magdyno	£182	10
1920 6-7 h.p. **ARIEL** Comb. (2 in stock)	£177	10
1920 8 h.p. **BLACKBURNE** and lovely bulbous back Sidecar to match	£225	0
1920 **A.B.C.,** Magdyno	£173	7
1920 **A.B.C.,** standard	£150	0
1920 8 h.p. spring frame **B.A.T.** Or with posh Sidecar	£165	0
	£205	0
1920 I.O.M. **RUDGE** (2 in stock)	£110	5
1920 2¾ h.p. **CEDOS,** 2-speed	£73	10
1920 3½ h.p. **ROVER,** 3-speed	£200	0
1920 5-6 h.p. **ROVER,** 3-speed (Either of the above Rovers can be sold solo, if required).	£227	0
1920 **DIAMOND-J.A.P.,** 2-speed	£82	10
1920 **GLYNO,** 2-stroke, 2-speed	£75	0
1920 **HOBART,** 2-stroke	£63	0
1920 **WOOLER** (The Record Breakers)	£103	0
1920 **DIAMOND-VILLIERS,** 2-speed	£84	3
1920 **B.S.A.,** Model H. and Sidecar	£152	0
1920 **ALLDAYS ALLON,** 2-speed	£85	0
A few 1920, slightly used, unscratched and indistinguishable from new.		
1920 8 h.p. Standard Model **ENFIELD**	£190	0
1920 6 h.p. standard model **ENFIELD**	£190	0
1920 6 h.p. Magdyno model **ENFIELD**	£230	0
1920 3½ h.p. **BEARDMORE-PRECISION,** spring frame fore and aft; list price £95. With lamps and Klaxon horn. Our price	£90	0

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1920 **EARL** Cycle Car, 2-speed and reverse, special J.A.P. engine (dirt cheap)	£85	0
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SOME OF OUR **SECOND-HAND MACHINES** IN STOCK.

1919 3½ h.p. **SUNBEAMS,** with 1920 cylinders, 2 in stock, with accessories	£132 10 and £145	0
1919 **HARLEY** Combinations, 3 in stock, from	£175	0
1919-20 **P. & M.** and Sidecar, all Lucas accessories	£150	0
1919 5-6 h.p. **JAMES** Combination, 2 in stock	£155	0
1920 4 h.p. **DOUGLAS** Combinations, as new, 2 in stock	£160 and £165	

Several others, including 1919 **TRIUMPH** and Sidecar, **£160,** as new; dynamo lighting **SUNBEAM** Combination, **£175**; 7-9 h.p. **INDIAN, £75**; clutch model **TRIUMPH, £52**; 3½ h.p. **NORTON** Combination, **£125.**

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MOTOR CYCLES FOR SALE.

N.U.T.

MAUDES'.—Latest 1920 model N.U.T., with Lu dynamo set; £165; ex actual stock.—Maud 100 Gt. Portland St., W.1. [3

1920 N.U.T., magdyno lighting, extra electric h spotless, as new; first £160 secures.—Rho Motor Co., Bank Mews, Romford. [3

1920 3½h.p. N.U.T., dynamo lighting, extra air take, special saddle, condition as new; £14 The Gables, Monkham's Drive, Woodford Green. [3

N.U.T. 1920, ridden under 1,000 miles, dyna lighting, discs, all accessories and spares; £ —The Gables, Monkhams Drive, Woodford Green, Es [2

N.U.T.—We are sole wholesale and retail agents Staffordshire, and can supply these famous chines for early delivery.—Walsall Garage, Wal Tel.: 444. [5

W. SPARROW, Ltd., Osborne Garage, Ye official N.U.T. agents, now booking orders early delivery. Write or 'phone for particulars—T Yeovil 114. [6

1920 3½h.p. N.U.T., May, Magdyno lighting, L bulb horn and electric, Bonniksen trip spe meter, mirror, insured for £175; cost £185, hig over £170 secures.—Box 7,052, c/o *The Motor Cyc* [3

1920 3½h.p. N.U.T., Recherche model, Magd lighting set, with tube and belt case and s belt, Henderson sidecar painted to match, with a mulator lighting; combination £183, will separat Gibson, 9, Bank St., Carlisle. [X8

O.K.

O.K. Union; deliveries from stock; 48 gns.—Cen Garage, Carmarthen. [2

1920 O.K. Juniors 2-stroke, just delivered; all gns.—Turnill North, Peterborough. [2

O.K. Union Models in stock at maker's price £5 —Eagles and Co., 275, High St., Acton, W.3 [X8

O.K. Villiers, 2-stroke, 2-speed, almost new, scratched.—J. Jones, Holly Bush, Cowbridge [2

1920 Demonstration Model O.K., new, f equipped; list price.—Ascott, 5, Western Mitcham. [3

O.K., 2¾h.p. J.A.P.; £60; July, 1919, splendid dition, 2-speed.—3, Fanthorpe St., Put S.W.15. [2

O.K. Junior, 2-stroke, 1916, 2-speed, fine condit £40 cash.—Smith, 67, Redcliffe Gardens, Western 1232. [X8

O.K. Junior; instant deliveries from stock; 48 —Hewin's Garages, Ltd., the Real Service F Taunton and Totnes. [2

O.K. 2¾h.p., 1917, 2-speed, 4-stroke; £44.—18, Edmund's Terrace, St. John's Wood, N. 'Phone: Hampstead 8600. [2

O.K. Juniors from Stock; 48 gns.—A. J. Young Co., Ltd., Heath Garage, Newmarket ('Ph 214), and 75, Albany St., Regent's Park, N.W.1 ('Pho Museum 5476). [

O.K., 2¾h.p. 2-stroke, Senspray, Druids, lamps, tyres, smart appearance, fast, late model; gns., or exchange higher power.—79, Wolfington West Norwood, S.E. [3

Omega

1920 Omega, 2-speed, lamps, mileage 100; £7 Andrews, South St., Wellington, Somerset. [2

2¾h.p. Omega, late 1919 2-speed gear box, run 1 miles only, all accessories; £55.—Linington, Commercial Rd., Portsmouth. [X9

1919 Omega-T.D.C., 2¾h.p., 2-speed, 2-str Klaxon, 2 toolbags, XI-All saddle; 49 offer.—260, Victoria Dock Rd., London, E.16. [2

1920 (July) 2¾h.p. Omega-Jap, Miller's lamp, g rator, mechanical horn, perfect condition, miles; £75.—124, Nelson Rd. Central, Great Yarmo [2

1920 Omega-Jap, brand new, 2-speed, kick start, h controlled clutch, disc wheels, delivery from s at list price.—Longworth's, 30, Borough Rd., Seaco Wallasey. [2

P. and M.

1920 P. and M., lamps and horn, 700 miles, perf £117.—35, Talbot St., Whitchurch. [X8

P. and M. Combination, just overhauled, lamps, £125.—198, Gt. Portland St., W.1. [3

P. and M. Coachbuilt Combination, splendid co tion; offers.—68, Burton Rd., Brixton. [2

P. and M. Combination, 1919, all lamps and fitti as new; £138.—198, Gt. Portland St., W.1. [3

1920 P. and M. 3½h.p., just delivered; list pr £115.—Turnill and North, Peterborough. [2

BRIGHTON, Hove and district P. and M. agent Turpin's, 22 and 29, Preston Rd., Brighto [0

1920 Model P. and M.; immediate delivery; £11 Maudes' Motor Mart, 100, Paris St., Exete [3

P. and M. 1917-18 R.A.F., splendid condition; £6 Cooper, 47, Blackhorse Lane, Addiscombe, don. [3

MOTOR CYCLES FOR SALE.

P. and M.

18 P. and M. Combination, 2-speed, kick start, good condition, ride away; £95.—42, Lillian Rd., s. [2542

nd M. 1918 3½h.p., 2-speed, K.S., excellent condition; £68.—10, Baronsmead Rd., Barnes, on. [3132

19 P. and M. Combination, condition perfect, not W.D., private owner, lamps, etc.; £115.—26, St. rd's Rd., Reading. [2201

h.p. 1917 P. and M. Motor Cycles, W.D. type, in good condition, for sale.—Apply, Cliffords, 196, m Palace Rd., Hammersmith. [2335

18 P. and M., 3½h.p., 2-speed, kick starter, good tyres, enamel almost as new, mechanically ct; £69.—Mines, 80, Church Rd., Barnes, S.W. [2980

2nd M. Combination, late R.A.F. model reconstructed, perfect condition, new enamel and g, 1920 colours; £82/10; equipped.—114, Hill Peckham, S.E.15. [3257

ELON-MOORE, ex-military stores, overhauled and sent on approval, £78; complete with B.S.A. 2 sidecar, £115; trade supplied.—Maude's, 100, Portland St., London, also Paris St., Exeter. [3504

RGE Number P. and M. 1917 and 1918 W.D. Models, all-chain drive, 2-speed, kick starter, overd, original colours, ready to ride away, price £70; inations, £98; the trade supplied.—Barnett, o/o is and Hall, Ridge Mews, Child's Hill, Cricklet. N.W. 'Phone: Hampstead 7667. [3269

P. and S.

and S., 1920, 2-speed, 2-stroke, Cowey horn, lamps, practically unused; £70.—3, Courtlands Av., Lee. 2. [2731

W 2¾h.p. P. and S., fitted with the Villiers 2-stroke engine, 2-speed, clutch model; £73.—chope's, 9, Shoe Lane, London. [2047

Paragon.

RAGON.—Early deliveries.—Sole agents for Worcestershire, The Castle Motor Co., Ltd., Kidderter. [8700

RAGON 3h.p. 2-speed 2-stroke, spring frame; delivery from stock at list price.—R. M. Wright and Ltd., Newland, Lincoln. [3417

20 Paragon 2-stroke, 3h.p., 2-speed, spring frame, just delivered, owner must sell: £58, cost £70, in.—Roope, Jessamine House, Manningtree, Essex. [2317

Peco.

CO 2¾h.p. 2-stroke, 2-speed, speedometer, horn, new tyres, belt; £38.—Bell, Holmeden, Datchet. [2390

Precision.

ECISION 4h.p., discs, 3-speed, 1914-15, very sporting; £43.—57, Clarence Rd., Teddington. [3066

ECISION 2½h.p., 3-speed, clutch, pedal starter; £45.—Smith, Ivy Villas, Thornton Rd., Potters [2320

h.p. Precision, 1912, Bosch, B. and B., adjustable pulley, just overhauled; £25.—Faulkner, Spion , Cliffe-at-Hoo, Kent. [3085

h.p. T.T. Precision, overhead valves, Sturmey 3-speed countershaft gear, thoroughly overhauled, amelled and plated, new tyres, belt, horn, etc.; bargain; after 6 p.m.—Berry, 41, Somerset Rd., onton, N. [2769

h.p. Precision, 1915, 3-speed, clutch, kick start, new heavy tyres, belt, and horn, Druid spring s, Brooks saddle and bags, etc., enamel as new, starting, guaranteed mechanically perfect; accept .—Collins, 9, Riversley Rd., Nuneaton. [2955

Premier.

16 Premier 3-speed Countershaft K.S. Coachbuilt Combination, accessories; £80; guaranteed.—20, terbury Rd., Croydon. [1146

REMIER 2½h.p., handle-bar controlled clutch, good tyres, all accessories; £35 or nearest.—Hebditch, Hendford Hill, Yeovil. [2209

REMIER, pre-war model, 3½h.p., fast, nearly new tyres, all accessories, Mabon clutch, owner going ad.—Hirst, 17, Shoebury Rd., East Ham. [2462

REMIER 7-9h.p., with Swan coachbuilt sidecar and all accessories; cheap, £50, or near offer; y after 6 p.m.—158, Lynton Rd., Upper Grange , Bermondsey, S.E. [2398

REMIER 3½h.p., 3-speed countershaft gear, clutch, kick starter, lamps and generator, reliable and ine machine, will pull a sidecar anywhere; 60 gns. oodside, Robin Hood Lane, Sutton, Surrey. [3177

REMIER 3½h.p. 1914 Combination, Cameo screen, 3 speeds, clutch, kick starter, engine and gear just overhauled at Premiers, new Amac carbuer, nearly new tyres; £85. — Doole, Southlea, gland Rd., Poole. [3251

Pullin.

5 Deposit on Pullin motor cycle, delivery about Sept.—Write, Ferrar, Bleak House, Keddington Louth, Lincs. [2536

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BLACKBURNE 8 h.p. Combination £225 0
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CLYNO 8 h.p. Combination £250 0
DIAMOND, 2¼ h.p., 2-stroke £62 3
DIAMOND-J.A.P., 2½ h.p., 2-speed . £82 10
INVICTA-J.A.P., 2¾ h.p., 2-speed, clutch, and kick-starter ..... 85 gns.
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METRO-TYLER, 2½ h.p., 2-speed, Type S. £95 18
NEW IMPERIAL 8 h.p. Combination 178 gns.
NEW IMPERIAL-J.A.P., 2¾ h.p., 2-speed ..... 77 gns.
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O.K.-UNION, 2¾ h.p., 2-stroke .... 48 gns.
OMEGA-J.A.P., 2¾ h.p., 2-speed ... 71 gns.
ROVER, 3½ h.p., 3-speed, all-chain drive £149 16
RUDGE - MULTI, 3½ h.p., I.O.M. model ..... 105 gns.
SCOTT, 3½ h.p., twin £140 0

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1916 **ARIEL** 5-6 h.p. Combination, lamp, horn, speedometer, windscreen, etc. £130
1920 **COULSON - BLACKBURNE,** 2¾ h.p., 2-speed, lamps, horn, speedometer £90 0
1918 **DOUGLAS,** 2¾ h.p., 2-speed, R.N. model £65 0
1920 **HARLEY-DAVIDSON,** 7-9 h.p., with Sidecar and accessories .. £210 0
1915 **HARLEY-DAVIDSON** and Sidecar £140 0
1919 **JAMES,** 2¼ h.p., 2-speed £65 0
1920 **LEA - FRANCIS,** 3½ h.p., Henderson Sidecar, P. & H. lamps, Lucas horn, speedometer, as new £150
1912 **WOLF,** 3½ h.p., lamp and horn £38 0
W.D. **NEW IMPERIAL** 8 h.p. Combination, 3-speed, clutch, kick-starter, all-chain drive £145 0
1914 **SUNBEAM,** 6 h.p., and Sidecar, lamps, and horn £130 0
1916 **JAMES,** 2¼ h.p., 2-speed, lamps, and horn £50 0
1914 **TRIUMPH,** 4 h.p., 3-speed ... £55 0
1919 **TRIUMPH,** 4 h.p., 3-speed, and Millford Sidecar, lamps, horn, and speedometer £135 0
W.D. **P. & M.,** 3½ h.p., 2-speed, and kick-starter £78 0
W.D. **P. & M.,** 3½ h.p., 2-speed, and kick-starter, and new Millford Sidecar £103
W.D. **ROVER,** 5-6 h.p. combination, 3 speeds, clutch, kick starter, all chain drive £135 0

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P.V. 6-8h.p. Twin J.A.P., spring frame, good condition; £80; exchange.—Apply, Box 7,022, c/o *The Motor Cycle.* [2440

MAUDES'.—Latest 1920 model P.V., 2 speeds; reduced price, £71; easy payments arranged; ex actual stock.—Maudes', 100, Gt. Portland St., W.1. [3515

Quadrant.

QUADRANT, 4½h.p., very fast, special engine; any trial; great sacrifice, £27.—179, Earlsfield Rd., S.W.18. [2314

CLIFFORD Wilson Mfg. Co., the premier Quadrant agents; in stock.— Tel.: Kensington 7113. (See diplayed advertisement.) [3046

QUADRANT 1920 4½h.p. Combination in stock; makers' price, plus carriage.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [1883

NEW 1920 4½h.p. Quadrant Combination, 3-speed, Sturmey-Archer countershaft gear, clutch, and kick starter; £145.—Wauchope's, 9, Shoe Lane, Fleet St., London. [2043

QUADRANT 1920 4½h.p., Canoelet sidecar, horn, tools, not done 2,000 miles, condition as new; best offer over £150 secures.—McLellan, 12, King Edward's Av., Chelmsford. [2706

1916 Quadrant Combination, 4¼h.p., countershaft 3-speed, clutch, kick, chain drive, Canoelet coachbuilt sidecar, new chain and Dunlop, lamps, horn; £85. —Bird, 125, Goddard Av., Swindon. [2231

QUADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the only moderate-priced outfit left.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [X8266

4½h.p. Quadrant Combination, 1915-16, B.S.A. 3-speed gear box, 3 lamps, horn, speedometer, Easting, spares, 3,000 miles only, perfect; £95.—Harwood, 71, Burnt Ash Hill, Lee, S.E.12. [2588

Radco.

1914 Radco, 2¼h.p., perfect order; £33.—34, Springfield Rd., Tottenham, N.15. [2149

RADCO 2-stroke, 1915, good tyres and belt; £35.—Damsell, The Mount, Lydbrook, Gloucestershire. [X9000

1919 Radco, in perfect order; £37; fully equipped.—Simmonds, Ceres, Maidstone Rd., Chatham. [2817

1919 2¼h.p. Radco, good condition, lamps, etc.; first £45, or best offer.—Crosleigh, Aspenden, Buntingford, Herts. [3111

Reading-Standard.

1917 Reading-Standard Combination 10h.p. 3-speed, clutch, K.S.; £120.—2, Kingston Lane, Teddington. [2307

1916 Reading-Standard with Rennoc Canoelet Sidecar, hood, and screen, disc wheels, sporting and powerful 'bus; trial arranged; £120.—Hughes, Catstree House, Wolfield, Bridgnorth. [2707

Ready.

THE Ready-Jap. 2¾h.p., Brompton Forks, Albion gears, Amac, E.I.C. magnetos; £76.—From agents or direct from manufacturers, D. Read and Co., Weston-super-Mare. [X8078

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1914 Regal-Precision 4¼h.p. Coachbuilt Combination, all on, ride away; £63, nearest.—Blairgowrie, Crowborough, Sussex. [2547

Revere

REVERE 1919 2-stroke, 2-speed, complete; £60; a really topping machine.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [2692

Rex

REX 4h.p. good condition; £38, bargain.—14, Mildmay Rd., Romford. [3157

1914 8h.p. Rex Combination, 3 speeds, kick starter and accessories; £95.—Mitchell Bros., Hartfield, Sussex. [2343

£48.—6h.p. Rex, C.B. Canoelet, 3-speed, K.S., new Druids, good tyres.—Millard, Abbey Rd., Belvedere, Kent. [2764

REX 5-6h.p. a.i.v., Bosch, B. and B., requires slight adjustment; £17/10.—30, Chancelot Rd., Abbey Wood, S.E. [3158

REX 6h.p. Twin, Montgomery coachbuilt sidecar, in splendid order; 100 gns. — 21, Norbury Av., Thornton Heath. [2932

REX 3½h.p., Bosch, B. and B., spring forks, powerful, recently done up, little used; £40.—Stevens, 76, High St., Barnet. [2893

REX 5-6h.p. and Sidecar, 2-speed, in good condition, tyres almost new, with lamps; £47; very cheap. —109, Bowes Rd., Palmers Green. [3105

1920 New 8h.p. Rex-Blackburne Combination, Model 55, spare wheel; £218/18.—Halifax Motor Exchange, Union St. South, Halifax. [2722

REX, 3½h.p., Bosch mag., B. and B. carburetter, copper tank, just overhauled, in good running order.—F. King, West St., Scotter, Gainsboro'. [2581

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REX 4h.p. Motor Cycle and Sidecar, free engine, handle start, 4 speeds, in good running order. room wanted, bought a car; £45.—J. Cassidy, 16, Wells St., Bury, Lancashire. [2419

1920 Model 55 8h.p. Rex Combination, new, Blackburne engine, interchangeable and spare wheel, 3 Lucas lamps and generators. horn; £220.—Box 446, c/o *The Motor Cycle*. [X8936

3½-4h.p. Rex Motor Cycle, mechanical Bosch, Dunlop belt, Brooks, etc., take £19/10; another 2¾ Roc H.T.M. mag., good tyres, Dunlop, etc., £19/10.—Madison, Littleover Works, Derby. [X8708

REX Combination, 1914, 6-8h.p., chain drive, 3-speed gear box, clutch, kick starter, coachbuilt sidecar, hood, screen, lamps, horn, etc., little used, ready for touring; bargain, £135, or exchange.—Gardners' Motor Works, Wendover, Bucks. [2644

Roc.

SINGLE-SPEED Roc, in running order.—People, Hatherden, Andover, Hants. [2354

4½h.p. Roc, also sidecar, Bosch mag., good condition; £30; would separate.—Collins, 29, Hartham Rd., Isleworth. [2959

Rover.

1915 T.T. Rover, very hot; £75, near.—346, Romford Rd., Forest Gate. [2168

ROVER Combination, 5-6h.p., brand new; £225.—Box 426, c/o *The Motor Cycle*. [X8786

T.T. Rover, 1916, 3½h.p., Philipson, equipped; 65 gns.—6, Mount Pleasant Rd., Ealing, W.5. [3121

T.T. Rover, believed 1917, splendid condition; £40.—Grimes, 18, Bruton Place, Bond St., W.1. [2965

ROVER 3½h.p., 1920 (June), chain drive, absolutely perfect; £145.—Dragon House, Petersfield. [2466

ROVER 3h.p., in splendid order; £40, or nearest offer.—Gladwell, Barsham, nr. Beccles, Suffolk. [2344

ROVER T.T., Philipson, Nov., 1919, all accessories, spares, fast; £85.—Llanfan, Sutton Rd., Erdington. [X8968

ROVER 1920 5 6h.p. Combination, immediate delivery; £235.—Kays, 8, Bond St., Ealing Broadway. [3383

ROVER-J.A.P. 6h.p., 1917 twin combination, top-hole condition; cheap.—Bach, Dunnington, Alcester. [X8950

ROVER 3½h.p., 1910, fixed engine, Bosch mag., good running order; £25.—117, Hugh Rd., Stoke, Coventry. [X9084

1920 5-6h.p. Rover, special sidecar, new June, mileage 800, Cameo screen; £200.—Rhodes, Welburn, York. [2686

1920 Rover Combination, 5-6h.p., brand new, in stock at list; exchanges.—2, Nightingale Rd., Lower Clapton. [3299

IN Stock, 1920 T.T. Rover, 3½h.p., Philipson pulley, lovely machine; list, £123/7/6.—Davis's Garages, Ltd., Bargoed, Glam. [2263

ROVER 5-6h.p. New Countershaft Model Combination, Millford sidecar; £210.—Edwin Knight, High St., Reigate. [2600

ROVER Combination, C.B. sidecar, countershaft, 3-speed, splendid condition; reasonable price.—64, Smith St., Warwick. [X8957

ROVER, 1918, 5-6h.p., 3-speed, clutch, machine as new, new £40 sidecar, complete with accessories; £150.—Below.

ROVER Combination, 3½h.p., equal to new, completely equipped, 3-speed, C.S.; £110.—Cope's Garage, 15, Upper Hagley Rd., Birmingham. [2186

MAUDES'.—Latest new 1920 Rover combination, 3½h.p., ex actual stock; £206.—Maudes', 100, Gt. Portland St., W.1. [3508

ROVER Combination, 1919, 5-6h.p., guaranteed unscratched, and as new; £150, or offer.—374 Grove Green Rd., Leytonstone, E.11. [2393

ROVER Combination, 6h.p. twin, 1920, small mileage, unscratched; first reasonable offer.—Fullerton, 23, Addycombe Terrace, Newcastle-on-Tyne. [2508

1920 Latest Model 5-6h.p. Rover Combination, mileage 250, new lamps, speedometer; £220.—Collier's Motories, Union St., South, Halifax. [2724

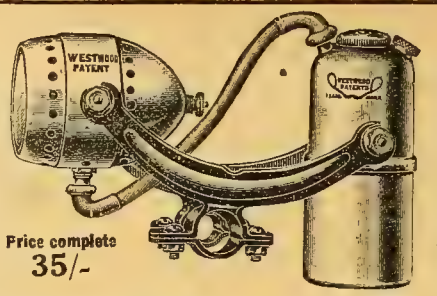
1920 Rover 4h.p. and £40 Sidecar, 3 speeds, accessories, Easting wind screen, mud shields, cheap; £140.—143, Ravensbury Rd., Earlsfield, S.W. [3346

ROVER 1920 5-6h.p. Coachbuilt Combination, latest improvements throughout, just arrived; makers' price.—Eagles and Co., 275, High St., Acton, W.3. [X8982

ROVER 1919 3½h.p., 3-speed, accessories, any trial, £95; Rover 1914 3½h.p., 3-speed, perfect order, £70.—1, Norwood Rd., Herne Hill. 'Phone: Brixton 1964. [3573

ROVER 1920 5-6h.p., brand new combination, lamps, wind screen; list price £245; my price £220.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [3494

1919 (November) Rover 5-6h.p. Combination, not W.D., under 1,000, perfect, Lucas accessories; £180.—Day, 177, Churchill Rd., Handsworth, Birmingham. [2683



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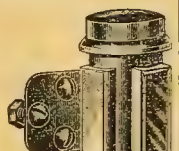

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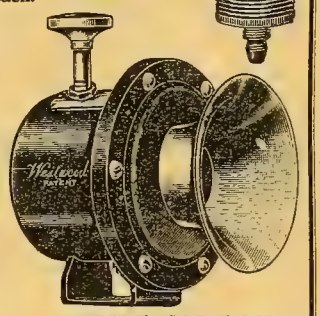

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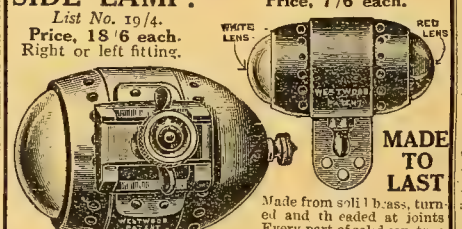

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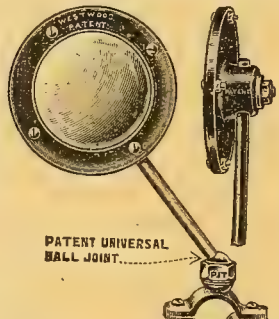

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ROVER, 3½h.p., 3 speeds, clutch, lamps, horn, toc etc., guaranteed faultless in every way, take si car anywhere; £65, or with new coach sidecar £85 2, Nightingale Rd., Lower Clapton. [33

F.O.C.H. have a 5-6h.p. Rover Combination, sm mileage.—Fair Offer Car Hou-e, 5, Heath Hampstead (near Hampstead Tube Station). 'Phon Hampstead 3752. Hours 9-7, including Saturdays [25

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1920 5-6h.p Rover Combination, complete wi lamps, Cowey horn, and speedometer, milea 600, in brand new condition; £175.—Colonial Mo Co., 104a-106a, Finchley Rd., N.W.3. 'Phone: Han 7822. [21

ROVER Combination, 5-6h.p., 1920, not done 1 miles, perfect, disc wheels, lamps, wind scree leg shields, speedometer, hood to sidecar; best o over £200.—Hewin's Garages, Ltd., the Real Serv Firm, Totnes. [26

ROVER 5-6h.p. Combination, Oct., 1919, run 9 miles, J.A.P. engine, chain drive, Klaxon, Cam screen, spare tube, Lucas head lamp, sidecar and t lamps, tools, repair outfit, no faults; £170.—Sherra Church Stretton. [X88

ROVER Combination, 5-6h.p., 1919, 3-speed, elect lighting, Watford luminous trip speedomet Easting wind screen, good tyres, all accessories, Ca carburetter, luggage grid; perfect condition; Colches district.—Box 6,985, c/o *The Motor Cycle*. [22

1919 (Dec.) 5-6h.p. Rover Combination, hand a foot clutch, Cameo wind screen, storm apro luggage and petrol carriers, side and rear lamps, he numerous spares, excellent condition; £170.—Ki Whitworth Rd., Grange Town, Yorks. [26

Royal Ruby.

8h.p. Royal Ruby 1919 Combination, been very lit used; £190.—Alexander, Hale, Altrincham. [26

1918-1919 Royal Ruby Combination, 8h.p., wi lamps and wind screen; £135.—Kays, 8, Bo St., Ealing Broadway. [33

1920 Royal Ruby 3h.p., spring frame, brand ne £100.—Fowler and Brigden, 130, Euston R N.W.1. Museum 4827. [33

1920 Royal Ruby, 3h.p., 2-speed, spring fra moderate mileage; £105.—Collier's Motori Union St. South, Halifax. [27

1916 Royal Ruby 2¾h.p., 2-speed, 4-stroke, J.A. very little used; perfect condition; £52/10, or b offer.—A. Taylor, Hamble, Hants. (D) [23

1920 Spring-frame Royal Ruby, 3h.p., 2 speeds a clutch, actually in stock for immediate deliver £120.—Kays, 8 Bond St., Ealing Broadway. [33

1920 Royal Ruby, 3h.p., spring frame, kick sta 2-speed, immediate delivery; £120.—The Clyd dale Supply Co., Ltd., 2, Bridge St., Glasgow. [02

MAUDES'.—Latest 1920 3-speed model Royal Rub spring frame; £120; ex actual stock; e payments arranged.—Maudes', 100, Gt. Portland S W.1. [35

1920 Royal Ruby Combination, J.A.P. engine, pu chased end March, little used, mileage 5 beautiful condition, disc wheels, Klaxon horn, hoo screen, side curtains; first £185 secures; cash urgent wanted.—2, Alexandria Rd., Stockton Heath, Warrin ton. [X89

Rudge.

5-6h.p. Rudge Multi Combination, in splendid orde Alexander, Hale, Altrincham. [26

RUDGE Multi, 1917-18, 105 m.p.g.; £65; after 7, 28, Archway Rd., Holloway, N. [34

RUDGE Multi, 1920, I.O.M., good as new, lamp etc.; £90.—The Green, Banbury. [23

RUDGE I.O.M. Multi, new, in stock; £110.—Cla 7, Exhibition Rd., South Kensington. [24

1920 Rudge Multi Twin, 7-9h.p., just delivered; li 140 gns.—Turnill North, Peterborough. [26

1916 Rudge Multi, clutch, in perfect order; £65. Stanley Cycle Works, Ealing Rd., Wembley. [31

RUDGE Multi, 1920, T.T. model, just delivere 105 gns.—Eagles and Co., High St., Acton, W.3 [X89

IN Stock, 1920 I.O.M. Rudge Multis, 3½h.p.; li £110/5.—Davis's Garages, Ltd., Bargoed, Glam. [22

RUDGE Multi 3½h.p. Motor Cycle, late 1915, good condition; £55.—13, Portland St., Walsa [34

1920 Rudge 3½h.p. I.O.M. Model, £110; also 19 T.T. clutch model, £36.—Ross, 86, High Rd., L S.E. [31

MOTOR CYCLES FOR SALE.

Rudge.

O.M. Rudge Multi, clutch and starter, in stock at list; exchanges.—2, Nightingale Rd., Lower Clap- [3301

UDGE Combination, 7-9h.p., 1920, lamps, tools, etc.; great bargain, £140.—198, Gt. Portland St., 1. [3320

920 Rudge Models in stock; list price.—Fowler and Brigden, 130, Euston Rd., N.W.1. Museum 7. [3393

EW 1920 3½h.p. Rudge Multi Motor Cycle, pedal starter, T.T. handle-bars.—Websters, Engineers, keston. [2229

1h.p. Rudge Multi, 1914 model, good condition; 2 what offers?—Mitchell, Westbury, Brackley, thants. [2492

RAND New T.T. Rudge Multi, K.S., unscratched, insured, all on; £110, no offers.—Nelson, Berkeley tel, Brighton. [3023

UDGE Multi, 3½h.p., late 1919, mileage 200 miles only; must sell; £95, or nearest.—Wilks, Dashwood Rd., Banbury. [X8793

920 Brand New Rudge Multi, T.T., I.O.M., complete with accessories; list price.—Black Park, litchurch, Salop. [X8858

1h.p. Rudge Multi, excellent condition, £65; 2 Douglas C.B. sidecar, £17; offers.—Claremont, ry Hill, Catford. [3053

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UDGE, I.O.M., 3½h.p., lamps, horn, speedometer, tools, etc., splendid condition; £100.—198, Gt. rtland St., W.1. [3310

UDGE, I.O.M. Model, list price: from stock.—A. J. Young and Co., Ltd., Heath Garage, Newket. 'Phone: 214. [1101

920 New T.T. Rudge Multi; sell for best offer; exchange for lightweight and cash.—88, Park , Dulwich, S.E.21. [3341

AUDES'. — Latest 1920 model Rudge multi; £110/5; ex actual stock.—Maudes', 100, Gt. rtland St., W.1. [3518

913 Rudge 3½h.p., single, lamps, tyres good, excellent appearance; £36, or near offer.—Soanes, llington House, Thame. [3307

UDGE Multi 5-6h.p., complete with all accessories, done about 200 miles.—Offers to Box 38, High Wellington, Somerset. [2709

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UDGE Multi Combination, 1914 (late), clutch, Sensprav, lamps, speedometer, Klaxon; bargain, 5.—76, Seely Rd., Tooting. [2589

UDGE, I.O.M. model, in stock; list price.—Newnham Motor Co., 223, Hammersmith Rd., W. one: Hammersmith 80. [2734

UDGE 3½h.p. I.O.M. Multi, June, 1920, Watford rear drive speedometer, and all accessories; £106. Watson, 10, Prospect Rd., St. Albans. [2983

UDGE 7-9h.p. Twin Combination, in stock; list price.—Newnham Motor Co., 223, Hammersmith , W. 'Phone: Hammersmith 80. [2735

920 3½h.p. I.O.M. T.T. Rudge Multi, condition as new, mileage about 500, all necessary spares; 5.—Sheppard, Maple Grove, Bath. [9498

920 Rudge Multi, T.T., delivered this week; list price.—Bickell and Sons, 247-251, Archway Rd., ghgate, N.6. 'Phone: Hornsey 1090. [0254

UDGE I.O.M. Model, 1920, hardly used, guaranteed equal to new, equipped; £98/10.—Longman s., 17, Bond St., Ealing. Tel.: 689. [1611

920 I.O.M. Rudge Multi, new, lamps, horn, speedometer, tools, Tan-sad, tyre, insurance; £105.—Cromwell Crescent, Earl's Court, London. [2913

920 I.O.M. Rudge Multi, little mileage, absolutely perfect, lamps, horn, tools; £100.—dgwick, Biltmore, Portsmouth Rd., Hindhead. [3380

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Rudge.

RUDGE 1920 7-9h.p. and 5-6h.p. Multi Combinations in stock; makers' price, plus carriage.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [1880

BRAND New Rudge Multi, T.T., in stock, just delivered, 3½h.p., 1920 model, Dunlop tyre, lamp, etc.—Jackson, 21, Market St., Whaley Bridge, Cheshire. [3081

1919 3½h.p. Rudge Multi and Rudge Sidecar, all disc wheels, speedometer, wind screen, etc.; nearest £110, bargain.—57, Villiers St., Stoke, Coventry. [X8928

1919 3½h.p. Rudge Multi, with coachbuilt sidecar, the whole in perfect condition, complete with lamps, tools, etc.; £90.—Rogerson, Orton Waterville, Peterborough. [2296

500 C.C. Rudge Multi, 1918, pedal start, new tyres and belt, lamps, horn, tools, appearance and condition as new; £76.—7, Milner Rd., Merton, S.W.19. [3480

RUDGE Multi, 1915, 5-6h.p., new Palmer cord, gear renewed, spare belt, tools, excellent appearance; offers.—Trial by appointment to Matt, 13, Flamborough St., Stepney, E. [2951

RUDGE Multi, I.O.M., believed 1916, in first-rate condition, tyres very good; a bargain at £65.—Colonial Motor Co., 104a-106a, Finchley Rd., N.W.3. 'Phone: Hamp. 7822. [2176

1914 5-6h.p. Rudge Multi and new coachbuilt sidecar, engine just overhauled, fitted new Binks 3-jet, tyres good, good hill-climber; cheap at £85; must sell.—Sant, Draper, Mortimer, Berks. [2345

WAUCHOPE'S, 9, Shoe Lane, London.—Brand new I.O.M. 1920 Rudge Multi and free engine, £110/5; also second-hand I.O.M. Rudge, 1919 model, £95; single-speed 1914 model, £35. [3554

3½h.p. Rudge Multi, 1913, and sidecar, new belt, all lamps, horn, speedometer, recently overhauled, insurance; £75; appointment. — Turner, 1, Crewdson Rd., Brixton Rd., S.W. [3261

3½h.p. Rudge Multi and Featherweight Sidecar, mud shields, lamps, horn, and mirror, mechanically perfect, good tyres and belt; £90.—Radcliffe's Garage, Spenser Av., Rock Ferry, Cheshire. [3351

1920 Rudge Multi 3½h.p. Touring, fully equipped, small mileage; £95, or with 40 gns. nearly new Rudge sidecar, £130; lovely outfit, £22 below makers' price—Box 7,006, c/o *The Motor Cycle*. [2358

1919 Rudge Multi Combination, 3½h.p., guaranteed in perfect condition, lamps, horn, had very little use; £120.—Langford's, 37, Cricklewood Broadway, London, N.W.2. 'Phone: Hampstead 8616. [3191

1920 Brand New I.O.M. Rudge 3½h.p., sloping tank, multi gear and free engine, £110/5; also second-hand Rudge, 1919 model, £95; another, single speed, 1914, £35.—Wauchope's, 9, Shoe Lane, London. [2040

3½h.p. Rudge Multi, 1916, in good order, new back wheel and multi pulley, also new valves, complete with big F.R.S. lamp set and coachbuilt sidecar, all tyres as new; £75.—H. Judd, Fringford, Bicester. [3379

F.O.C.H. have a 1919 Rudge Multi, coach sidecar, everything on; bargain.—Fair Offer Car House, 5, Heath Street, Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2517

Scale.

1920 New Scale, 3½h.p. Precision engine, 2-stroke, 2-speed, clutch, kick start; £90; immediate deliveries.—The Rochester Auto and Supply Co., Rochester. [0199

Scott.

1920 Brand New Scott Combinations; offers.—626, Lea Bridge Rd., Leyton. [3495

SCOTTS in Stock, 1920 models; list prices.—Plaxton, 24, Westborough, Scarborough. [2624

SCOTT, just delivered; £140.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [2693

1920 T.T. Scott for sale, run 50 miles; £135.—Dallaway, Fruit Merchant, Smethwick. [5193

SCOTT, sports model, just delivered, new; £140.—Wilkinson's, Engineers, Silver St., Doncaster. [X8948

SCOTT Combination in Stock for immediate delivery.—E. M. Wright and Co., Ltd., Newland, Lincoln. [3418

SCOTT 1915 Combination, excellent order, lamps, mechanical horn.—19, Victoria Parade, Muswell Hill. [2580

1919 Scott Combination, very little used, Orto wind screen; £168.—Motorcycle Mart, Fair Row, Chatham. [2820

SCOTT 3¾h.p., in splendid condition; £45.—89, Abbey Rd., St. John's Wood, N.W.8. Padd. 2423. [3455

1920 Scott, done 1,000 miles, complete with lamps, horn, in perfect and new condition; £130.—Jesse Baker, Wigan. [2661

1920 Scott and Scott Sidecar, Lucas lamps and horn, never been used; £193; handsome outfit.—Jesse Baker, Wigan. [2662

MOTOR CYCLES FOR SALE.

Scott.

SCOTT 3¾h.p., needs overhauling, water-cooled, believed 1913; first £20 secures.—Bryant, 36, East St., Colchester. [X8808

SCOTT Combination, 1920, perfect condition, acetylene lamps, horn and tools, tyres good; £165.—227, Maidstone Rd., Rochester. [2204

SCOTT.—Immediate delivery 1920 3¾h.p., 2 speeds, hand-controlled clutch model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X8889

SCOTT (late 1914) Coachbuilt Combination, speedometer, Cameo, perfect condition; £75.—F., 31, Onslow Rd., Richmond, Surrey. [2935

3¾h.p. Scott, early, excellent condition, ridden daily; £37; exchange S.S.S. lathe and tools.—Osborne, 202, Foley Park, Kidderminster. [9513

1920 Scott, mileage about 700, lamps and accessories, fully insured; £128 for quick sale.—Owen, 73, Harrogate St., Barrow-in-Furness. [2131

SCOTT Combination, late 1919, little used, good condition, fully equipped, spares; £130, or nearest; solo, £110.—Staite, Radford, Leamington. [X9021

1920 (July) Scott, semi-T.T. bars, lamps and horn, mileage about 600; £137; cost £145; would exchange for A.B.C.—T. Twentyman, Pickering, Yorks. [3354

1915 Scott, lamps and horn, just overhauled, fitted with Henderson featherweight sidecar, in good condition throughout; £95.—Hutchinson, Boroughbridge. [3243

1919 Scott, sports model, wide mudguards, long exhaust, disc wheels, equal to new; £115; no dealers.—Jesse Baker, 46, Market Place, Wigan. Tel.: 457. [2663

SCOTT, 1920, standard model, T.T. bars, electric lamps, Lucas horn, Bonniksen speedometer, small mileage; £110, or nearest.—Siddeley, Crackley, Kenilworth. [X9066

SCOTT 3¾h.p., 2-speed, free engine, lamp, speedometer, good running order, but needs slight repair; £38, or exchange lightweight.—Logan, Fleming Square, Maryport. [2919

SCOTT, 1913, 2-speed, kick start, Bosch mag., semi-T.T., lamps, 2 generators, speedometer, nearly new Dunlops, 3in. rear; £45; after 6.30 or week-end.—Kethro, St. John's Rd., Orpington, Kent. [2867

Scout.

LIGHTWEIGHT 2¾h.p. Scout, Bosch mag., Triumph carburetter, sloping frame and tank, T.T. bars, long exhaust pipe, in good running order; £28/10.—26, Queen's Ter., Southampton. [2238

Singer.

3½h.p. Singer, Bosch, B. and B., perfect order; £45, or nearest offer.—15, Bruce Grove, Tottenham, N. [3063

SINGER, 3½h.p., 2-speed, clutch, Bosch, combination, 1914; £65.—Butts, 15, Haverstock St., City Rd., N.1. [2615

SINGER 2¾h.p., little used, B. and B., Bosch, Druid forks, Grado gear, reliable; £50.—Stevens, 76, High St., Barnet. [2892

SINGER 2¾h.p., single speed, just overhauled, perfect running order, appearance good; £27.—Horgan, 42, Cowley Rd., Brixton. [2202

SINGER 3½h.p., 1914, Bosch, B. and B., perfect mechanical condition, will do 45 m.p.h., Armstrong Mark VI. gear, clutch, tyres good, starts easily, fast, economical, tools, spares, lamps; £45.—Akester, 1, Luther St., Leicester. [X8959

Sparkbrook.

1920 Sparkbrook, 2½h.p., 2-speed, condition as new; £68.—W. Cork, Sheep St., Skipton, Yorks. [X8964

SPARKBROOK, 1920, 2¾h.p., 2 speeds; at makers' price £75.—Eagles and Co., 275, High St., Acton, W.3. [X8984

1919 Sparkbrook, as new, under 800, new lighting set; £55, or nearest.—88, Westcombe Hill, Blackheath. [2192

SPARKBROOK 1919 2½h.p., 2-speed, lamps, C.A.V., perfect condition; £60.—Marchant, 132, Widmore Rd., Bromley Kent. [2193

SPARKBROOK, 2-speed models, £75; from our showrooms.—A. J. Young and Co., Ltd., Heath Garage, Newmarket (Phone: 214), and 75, Albany St., N.W.1. [1099

SPARKBROOK Combination, 8h.p. J.A.P. engine (recently overhauled, cost £18), hood, screen, speedometer, lamps, Voltalite dynamo, 2 gas generators, oversize tyres, new spare (unused), Binks carburetter, insured to May, 1921, condition excellent throughout; £120, or near offer.—Post Office, Northgate, Chester. [2135

Sun.

1920 Sun 2½h.p. 2-speed, kick start, just delivered; list, £70.—Turnill North, Peterborough. [2650

2¾h.p. Sun-Villiers, 1915, powerful, good condition, lamps, horn; best above £30.—92, Fellows Rd., N.W.3. [2559

1917 2¾h.p. Sun-Vitesse 2-stroke, 2-speed, lamps, horn, etc.; £42/10.—Banister and Botten, 34] Upper St., N.1. [2405

BECAUSE OF THEIR QUALITY
insist on
BELDAM
Inner Tubes

THE life of your tyre depends on the quality of the inner tube. Beldam Inner Tubes are of the highest possible quality. They are built up layer by layer from the finest sheet rubber. Beldam Tubes are extremely elastic, of great strength and toughness, and, if correctly fitted, will outlast your cover.

Get a Beldam InnerTube to-day and compare it with any others you are using. You will realise at once the superior quality of the Beldam and why it wears so long.

You get them in a Waterproof Bag

Every Beldam Tube is packed in a waterproof bag, which keeps it fresh and clean and free from damage until you want it.

All standard sizes made. Write for prices.

The Beldam Tyre Co. (1920) Ltd. Brentford, Mid'x.
Godbolds.

MOTOR CYCLES FOR SALE.

Sun.

SUN-VILLIERS 2¾h.p. 4-stroke, o.h.v., 2-speed, K.S., new back tyre, belt, fully equipped, fine condition; £42.—3, Grove Rd., Chertsey. [2618

SUN-VILLIERS 2-stroke, 2-speed, good condition, Al'all saddle, new tyre and belt, lamps, complete; 48 gns.—Herbert Guest, Huntingdon Rd., Thrapston. [X9017

Sunbeam

1914 3½h.p. Sunbeam Combination, fully equipped; £110.—Barnett, Barnett and Co., Deal. [2334

SUNBEAM 1916 3½h.p. Combination, good order; nearest £115.—Potts, High St., Biddulph. [3000

SUNBEAM Combination for Sale, brand new; £203. Norman Whitehouse, Bridgtown, Cannock. [X8861

£55 (nearest).—1915 3½h.p. Sunbeam unit complete, mechanically perfect; see Engines.—Cox. [X9014

1918 Sunbeam 3½h.p., solo, in splendid condition; £120.—Kays, 8, Bond St., Ealing Broadway. [3387

SUNBEAM 3½h.p., 1920, new, not done 100 miles; 148 gns.—Watson Jones, Whitley Manor, Newport, Salop. [2428

1919 Sunbeam, sporting sidecar, electric light, as new; first £155.—Stone, 116, Cheltenham Rd., Bristol. [3234

8h.p. Sunbeam Combination, 1919, spare wheel, good condition; £185.—Burgess, 272, High Rd., Tottenham. [2915

1917 Sunbeam Combination, 3½h.p., with lamps complete; £145.—Kays, 8, Bond St., Ealing Broadway. [3386

£3 Under List.—For immediate sale, new 1920 standard Sunbeam. — Capt. Brittain, Orient Lodge, Buxton. [X9003

3½h.p. Black and Gold Sunbeam, late model, perfect condition, 3 speeds, etc.; price £102/10.—51, Queen St., Hitchin. [2890

SUNBEAM 8h.p. Combination, 1919, perfect condition, lamps, horn, speedometer; £215.—222, Beacon St., Lichfield. [2961

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; £110.—C. Barton, Clapham, Yorks. [0246

1919 3½h.p. Sunbeam Combination, splendid condition, 2 spare tyres; £150; seen by appointment.—Box 7,063, c/o *The Motor Cycle*. [3286

1920 Sunbeam, 3½h.p., electric lighting, £160; R.F.C. beaver-lined helmet, new, 22/6; flying suit, £4.—133, Barkerend Rd., Bradford. [X9069

AUG., 1920, 3½h.p. Sunbeam Combination, all wheels interchangeable, Lucas lamp sets, horn, tools; £212.—Simpson, Chemist, Ibstock. [X8989

SUNBEAM 2¾h.p., 2-speed, kick starter, good running condition, Bosch mag., just overhauled; £60.—52, Chatsworth Gardens, Acton, W.3. [2865

3½h.p. T.T. Sunbeam, June, 1920, Millford sidecar, Lucas, Bonniksen spares, etc., mileage 800; £200, or offer.—Gilbert, 217, Park St., Luton. [3126

SUNBEAM Combination, 1919 (Sept.), mileage 950, unscratched, carefully driven, unpunctured; any examination; £170.—26, Wanderers' Av., Wolverhampton. [2155

SUNBEAM 3½h.p. brand new, all accessories, any trial; first reasonable offer accepted; after 6 p.m.; engine No. 4977.—14a, Draycott Mansions, Albert Rd., Hendon, N.W.4. [2826

1915 (Sept.) 3½h.p. Sunbeam, 3-speed, etc., new coachbuilt sidecar, new lamps, accessories, excellent condition; reasonable offer.—63, Solon Rd., Brixton. [3548

SUNBEAM 1916, 3½h.p. Combination, excellent condition, new C.B. sidecar, for immediate sale; £150, including insurance.—Gadsden, 77, Chatsworth Rd., Bournemouth. [2270

SUNBEAM Combination 8h.p., late model, electric lights, hood, screen, spare wheel, equal to new; £180 near offer.—Roberts, 81, Dundee Rd., South Norwood, S.E. [3359

1919 (Sept.) 8h.p. Sunbeam Combination, electric lighting, wind screen, hood, and Klaxon; £220, bargain.—Hampton, c/o Boyce, 329, Archway Rd., Highgate, N. [3361

8h.p. Sunbeam Combination, new January this year, accessories, in practically new condition throughout; £250, or near offer.—Seen at Greenwood's Garage, Pangbourne, Berks. [2385

1919 3½h.p. Sunbeam, Henderson sidecar with wind screen, lamps, speedometer, knee grips, tools and spares; nearest £150; Derbyshire.—Box 6,994, c/o *The Motor Cycle*. [2283

1920 8h.p. Sunbeam Combination, hood, screen, Lucas lamps, all spares, spare wheel, not been used, just as from works; £245.—Sanitary Inspector, Lye, Stourbridge. [2491

1920 3½h.p. Sunbeam Combination, as new, low mileage, perfect, Lucas lamps, Cowey horn, mirror, etc.; £200, lowest.—Turner, Saddler, Blackburn Rd., Church, Lancashire. [X8963

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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This Week's Trials.

FORTY different makes of motor cycles are represented in this week's annual reliability trials of the Auto Cycle Union. It will be recalled that the entry list was limited to 150, and actually 139 names were sent in. Of this number 133 started on Monday last. Right from the commencement of the 918¼ miles trial the hills were severe in the extreme, as those acquainted with the Yorkshire and Northumbrian districts will agree. Writing at Darlington from a recollection of some of the hills which in pre-war days were accepted as freak climbs, it can confidently be forecasted that the conditions will prove quite the most difficult yet encountered. One remembers similar suppositions on the part of competitors on the eve of previous big trials, but there can be no gainsaying that a gold medal in the 1920 Six Days Trials will prove a trophy of which to be proud. After an examination of the 95 solo and 38 passenger machines ranged up in the official garages, one is impressed by their workmanlike appearance and complete equipment.

Worthy of the Test.

Judged as a whole, the machines are magnificent. If any motor cycles in the world are capable of the worst trial that even the A.C.U. can provide, then the 1920 models assembled at Darlington this week will come through all right. Believing, as *The Motor Cycle* does, in the future of the lightweight, we were glad to see fourteen entrants in this class for engines up to 275 c.c. But the course does not favour lightweights. Mountain tracks which no sane man would ever dream of traversing awheel in the ordinary way are there to transmit shocks and exert the greatest possible stresses on frames and fittings. And this is in a measure the weakness of the event, for its very difficulties encourage the piling on of weight to meet extreme conditions to the disadvantage of the ordinary everyday tourist. This explains to some extent why 3½ h.p. machines have gone up from 160 lb. to the modern weight of approximately 300 lb. Weight reduction—*not* addition—should, we again urge, be one of the objects of the A.C.U. in both solo and sidecar machines, and particularly the former. Light weight means economy in tyre wear and general running costs. Single-cylinder engines easily held sway with a total of 69, V twins numbering 49, and flat twins 13. There were also 6 side by side twin two-strokes entered, and 2 three cylinder radial engines, but one regrets that there are no four-cylinder machines in this year's event.

Mudguarding and Silencing.

Improved attention is clearly being paid to mudguarding and silencing, though two-strokes (25 of them were entered) with one exception appear noisy in comparison with the four-stroke engine. The results will bring out the efficacy of the design of these two outstanding items. It is interesting also to note that a 500 c.c. two-stroke made its appearance in this week's trial, and its performance will be watched with considerable interest by two-stroke enthusiasts. Since there are many who look upon this type of mount as foreshadowing the moderate priced passenger machine of the future.

1920 marks the first trial in which radial engined machines have appeared. The Redrup is the latest and most original design of engine in the trial, and represents still another promising type of motor cycle hailing from Yorkshire. Those readers who can do so should see the competitors and their machines at some point or other on the long course. Fortunately, three important districts are embraced.

A review of the features of the machines represented, as well as impressions of the start, appear on another page of this issue, and a full description of the event with personal observations of the performances of the riders will appear in *The Motor Cycle* next Thursday.

An Index to the advertisements in this issue will be found on the page facing the back cover.

Occasional Comments by "Ixion"

Carburetter Lever Arcs.

I HAVE been freak-hilling with one of the modern single-lever carburetters. Its throttle lever tip travels through a curve of about 9in. between the fully-closed and wide-open positions, as is the wont of such beasties. I have such long taper fingers that my fond parents wanted to have me trained as a Paderewski, but this lever quite baffles me. I can't do a lightning close-down with it nohow, and I found freak-hilling very arduous work in consequence. I had to resort to the novice's favourite dodge of cutting out on the exhaust whenever my machine tried to rear over backwards or climb the hedgerows. If these controls are going to become standard, somebody will have to invent a little reduction gear which reduces the length of their arc. Of course, all Yankee lovers will say, "Why not twist grips?" Well, I am always willing to adopt Sinn Fein methods when I quarrel with design, but I don't like twist grips as well as the radial lever: the motion does not seem so easy and natural to me. But, honestly, the radial lever is "na poo" when its arc makes your thumb and fore-finger do splits.

Six Days Innovations.

WE must wait a bit to see how the innovations in the A.C.U. Six Days work out. The track test is obviously thorny to organise, but the brief *résumé* of the published conditions leaves me stone cold. I have before now brought several 3½ h.p. machines through a six days in very rocky condition; but I have only once finished with a 'bus so dud that it couldn't manage 35 m.p.h. for half an hour; and that was umpteen years ago. I opine that every entrant who struggles as far as Brooklands will earn his 15 marks in the "speed" test, unless the full conditions contain some catch not yet announced. The brake test sounds like the real goods; but I hope that a staff of marshals have been engaged to make the men descend at a pukka 10 m.p.h.; otherwise some of the wangling fraternity will have to be sent down the hill more than once. I suppose it would be too much to make the men start down the hill with chains (or belts) removed, and their arms folded until they reach the "stop" flag. (N.B.—I am *not* an entrant this year.) The fast hill-climb will occasion great excitement, but is it going to cut much ice? Either you give no marks for it (in which case it is merely a pleasant interlude); or else you give a lot of marks. In the latter case (making free with names), it is hard luck on a machine like the B.S.A., which has built up a reputation on faithful years of no-trouble service, to ask it to try speed stunts against the Norton, which has always plumped for pace. Until further particulars appear, the innovations have a slight savour of window dressing; but if you are going to permit an entry of 150 machines, it will always be difficult to be fair, exacting, and technical in the several tests.

Against Excessive Weight.

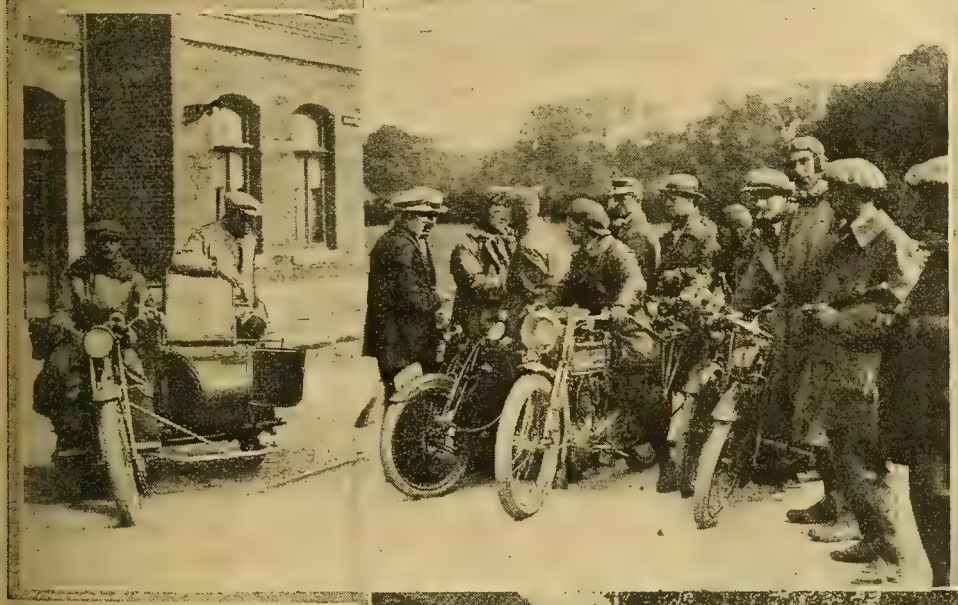
I COMMENTED a few weeks ago on the amazing popularity of baby machines, and especially of the smaller two-strokes. Riders and agents alike inform me that the boom in babies is not merely a question of prices or deliveries, but marks the commencement of a definite reaction against excessively heavy machines. This symptom should be noted by all concerned. Motor cycling is entering upon a new phase, and tapping new strata in the market. The sporting youngster does not particularly mind what a machine weighs so long as it will tote him round. The newer riders are often stout and pursy. They do not always care for high speeds or long distances. Many of them are compelled to store their machines in extremely inconvenient places. For such owners the difference between 2 cwt. and 3 cwt. is more than perceptible. If they accidentally purchase a real heavyweight, they find it a perfect incubus. Tremendous sales await the first genuine touring machine to weigh a bare 1½ cwt. Technically, the problem is by no means insoluble. In the past, first-class 3½ h.p. machines have finished the T.T., though they weighed no more than 160 lb. The motor cycle industry is awaiting an engineer who will do for it what Mons. Mathis did for the light car when he produced in 1914 a three-speeded 10 h.p. two-seater which weighed 8 cwt. as against the 12 cwt. which was then the normal weight for such vehicles. The aeroplane industry has shown what engineers can do when weight reduction is compulsory. Where motor cycles are concerned, low weight cannot become compulsory until one inspired designer sets the example.

Dual-purpose Designs.

I SUPPOSE there is no doubt that the single model policy has tremendous manufacturing advantages. If a firm is going to concentrate on a 500 c.c. machine, for example, it is simpler and more remunerative to design a model which is adaptable for either solo or combination purposes. The rider's interests are, however, diametrically opposed to this policy. The man who wants a 500 c.c. solo machine wants it as light as possible, and this implies that his frame need not be stiff and heavy enough to take the pull of a sidecar. Similar reasoning applies to engine, gear box, transmission, and other items. At present the commercial factors are in the ascendant, and the market contains few — if any — medium-powered machines designed simply and solely for solo tourist purposes. It is a great pity. The solo men may ultimately regain their lost ideals *via* a circuitous path. One or two firms are concentrating on the sports 'bus —*e.g.*, the Duzmo. The sidecar may get in its baneful work once more, and prevent such machines from becoming the acme of lightness. Then a slightly detuned edition of the solo sports model would make a good solo tourist.

The Ideal Alarm.

WHENEVER I attend any big assembly of motor cyclists, I look out for a better alarm signal than I have yet discovered; and so far my search has been fruitless. The bulb horn is too weak for fast men. The mechanical horn is noisy enough, and has been greatly improved by the rounded knobs now so fashionable; but its note is unnecessarily disagreeable, and you must remove a hand from the bar to operate it. Exhaust whistles had a brief vogue some years ago, but our smoky exhausts soon killed them. We want handle-bar control of a penetrating signal with a pleasant note; and, in all probability, we shall have to wait for full electrical equipment before we get this desirable combination. I must frankly admit that on occasions I ride too "blue" to relish a horn on the top tube, whilst an enormous hooter mounted on the handle-bar is bad for steering. Some of the American electric hooters and dial equipments are ahead of ours.

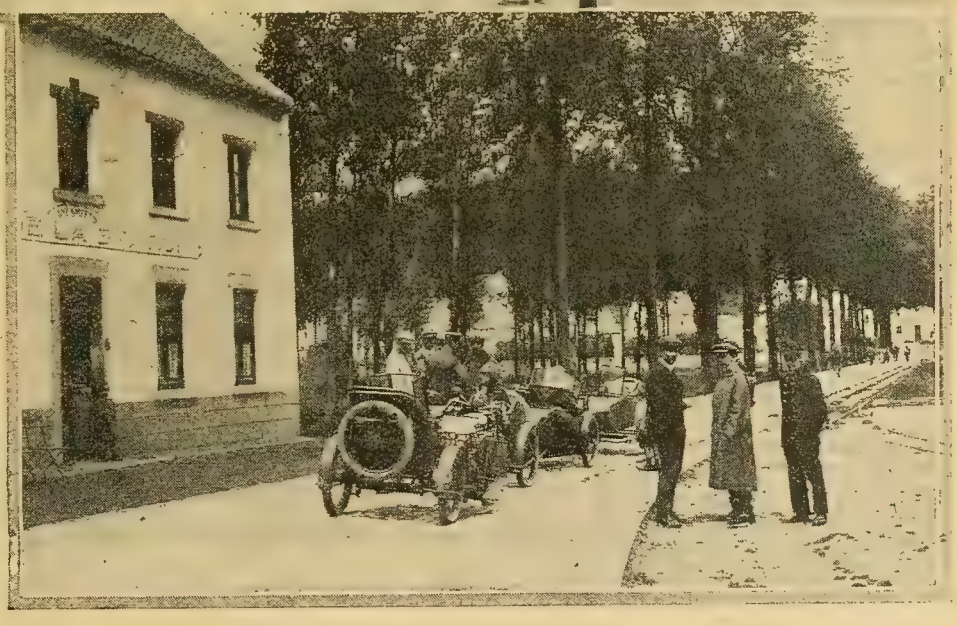


FRONTIER FORMALITIES.

(Top) At Cannes; here competitors have to show their Customs card and national driving licences. The Dutch Customs is about a quarter of a mile away.

(Centre) The Dutch Customs at Cannes, where the same procedure had to be followed. The competitors' destination was about two and half miles away.

(Bottom) Another view of the Belgian Customs House at Cannes. Their papers having been signed, the riders are about to cross the frontier into Holland. Both Belgian and Dutch Customs officers were kind, courteous, and expeditious.



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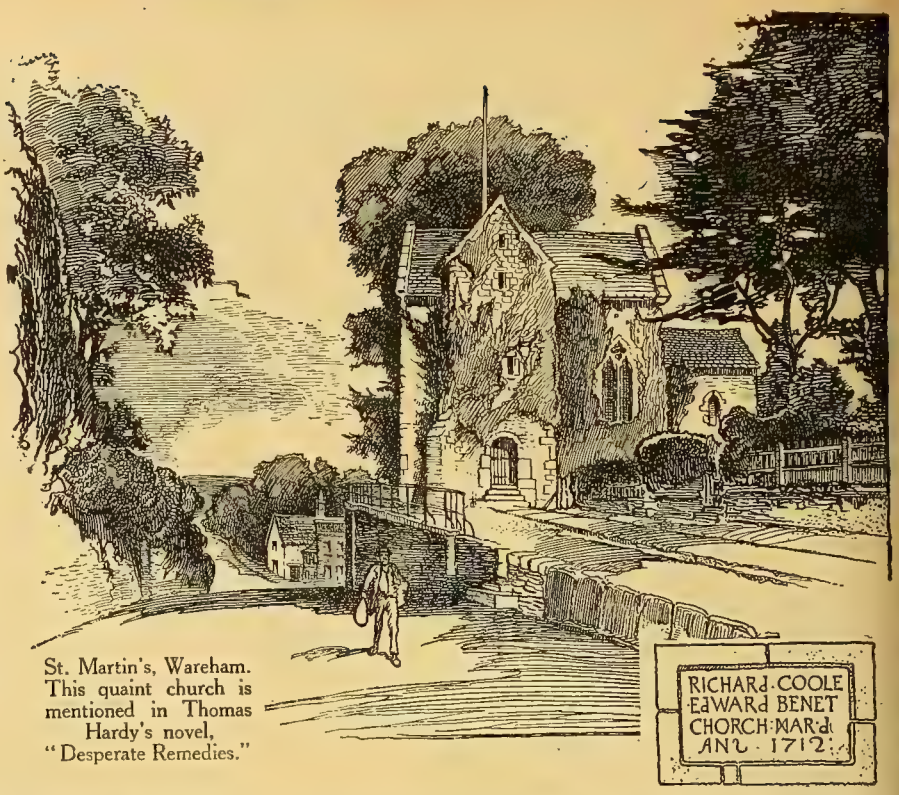
by C.G. HARPER

SALISBURY TO SHAFTESBURY, SHERBORNE, DORCHESTER, AND WIMBORNE.



St. Martin's, Wareham. This quaint church is mentioned in Thomas Hardy's novel, "Desperate Remedies."

WILTSHIRE and Dorsetshire roads are not of the best. A Warwickshire man would despise their surface, and feel aggrieved at their constant change of gradient; but the explorer who seeks new interests has to take traveller's luck. A great disposing cause of the loose surface we often find in these parts is the sheep-rearing nature of the farming. Driven along the roads, the sheep very soon injure the best of surfaces.

However, the way out of Salisbury is sufficiently good. Leaving the city from the Poultry Cross and proceeding past the railway station into Fisherton, we reach Wilton through the long avenue of elms that makes so gracious a feature of these first miles. We turn left to enter Wilton, that little town once thought important enough to give a name to the entire shire of Wilts before ever Salisbury came into being. It was the capital of the tribe called the "Wilsaetas." To-day it is remarkable only for Wilton House and Park, the seat of the Earl of Pembroke adjoining; for the carpet factory, and for an odious modern church built in the Italian style in 1844, and replacing a modest English building. This was the doing of Sidney Herbert, Lord Herbert of Lea. It is worth the traveller's while to examine closely this pretentious and costly building; and he will probably be in agreement with the present writer that it was an error of taste which could not possibly be repeated to-day.

In the old town of Shaftesbury there are many quaint streets, this one—Gold Hill—being one of the most characteristic of the historic town

At Barford, in three miles, we turn left and cross the river Nadder, following a switchback road through Compton Chamberlayne and Fovant. Away on the left, at an average distance of one mile, the lofty downs run parallel for some miles. They are the characteristic sheep downs of Wiltshire, lonely except for the flocks, the shepherds, and their dogs. They grow nearer as we proceed by Swallowcliffe and Austy Hollow, whence the road descends to Brookswater. The hollow at Austy is romantic, and so is that by-way on the right which leads in one and a half miles to the picturesque ruins of Wardour Castle, battered in the sieges of 1643 and

Day Trips and Week-ends.—

1644, when Lady Arundell gallantly defended it in the absence of her husband. She was one of the several forceful combatant dames of that time who warred with desperate courage on one side or the other; Lady Bankes, of Corfe Castle; Lady Brilliana Harley, of Brampton Bryan, the mighty Bess of Hardwicke; and others.

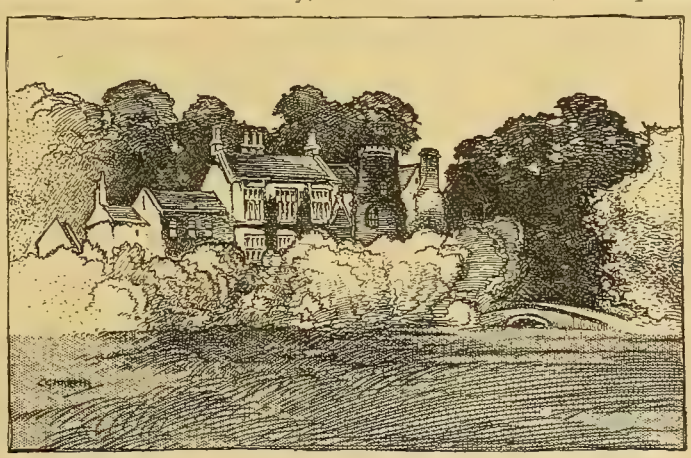
Cerne Abbey; on the hillside can be seen the figure of the "Cerne Giant." Cerne village, once a busy community, is now a small hamlet.

Faded Splendour.

A steepish rise leads into Shaftesbury, that grey, quiet, time-worn and weary old town on the hill: the ancient place called variously "Shaston" and "Palladour," which once possessed twelve churches, an abbey, and three mints. It is difficult, looking upon the town to-day, to realise that ever it was thus. Of the abbey only the site and some broken tiles are left; there are but three churches (two of them modern), and it is scarcely necessary to say that there is not any mint. We have come sharply up into Shaftesbury, but by the easiest road into it. All others are very steep indeed, and one is frankly impossible, being, indeed, in the nature of a cobble-stone staircase. It is called "Gold Hill." Truly, there is nothing so interesting in Shaftesbury as the view from it: that wonderful view over the vale of Blackmore. We shall see exactly how steep and long are the hills when leaving for Sherbourne. The road seeks the level in many turns, and comes down into the vale at East Stower. Passing that and the sister village of West Stower, the cross-roads at Henstridge Ash are gained. Here is the "Virginia Inn," traditionally one of the spots where Sir Walter Raleigh smoked his first pipe. He smoked that first pipe (by tradition) in at least five other places. We expect that of so brilliant a figure of history and romance.

Links with the Spacious Days.

Milborne Port, in four miles, has a name which might lead the stranger to suppose it a port for ships. But it is not. This pleasant little town takes the second part of its name from the ancient Port family, long since extinct. The tennis court, prominently adjoining the church, is a curious old feature, built for the game of wall tennis. It is but two and a half miles into Sherborne, a pleasing and busy little market town, whose great and noble abbey church gives it the appearance of a cathedral city. We approach by Oborne and the outlying Castleton, where, on the left, are the ruins of an ancient Sherborne Castle, and the stately mass of a newer, old enough, however, to have been partly built by the unfortunate Sir Walter Raleigh, who had never any good fortune after this old property of the Abbots of Sherborne had been granted to him.



Wolverton House, a picturesque feature of Charminster. It is the old home of the Trenchards.

A Sermon in Stone.

The chief cause for the cheerful appearance of Sherborne is the lovely colour of the stone of which the abbey and many of the houses are built. It is the local golden-yellow Ham Hill stone: seen, however, in its greatest beauty within the abbey, where it is worked into that final triumph and glory of Gothic architecture, the fan-vaulting of the early years of the sixteenth century.

At Sherborne we turn south for Dorchester, nineteen miles—a charming and excellent road, part of the old coach route from Bristol to Dorchester and Weymouth. The long rise surmounted, and passing Long Burton, the distant heights of Dorset, crowned with eerie clumps of trees, appear. The loftiest of these is High Stoy, which, together with the crests of Bulbarrow and Dogbury, looks very imposing. The road descends into level lands at Holnest. It is a most endearing region of scrub-woods, and extremely rural. Here on the right is Holnest Lodge, once a seat of that eccentric person of many names, J. S. W. Sawbridge Erle-Drax, M.P. for Wareham, an exceedingly wealthy and conceited squire, who has left his mark on Holnest Lodge by erecting a lofty column in front of the house in honour of himself and in default of anyone else being likely to do it for him. It is surmounted by a bronze statue of himself, in frock coat; and altogether is a quaint and laughable affair. The squire, long since gathered to the bosom of Abraham, or of Ahrimanes, lies in a vast mausoleum which he built in the churchyard. It overshadows the humble church.

Picturesque Decadency.

From Middlemarsh we climb to those downs seen in the distance, and, passing Minterne Magna, come to Cerne Abbas, which lies chiefly to the left of the road. Cerne is an extreme example of decay. It was once a market town, but is now a derelict village, too tired to complete the act of dying. But, oh! so picturesque, with the old abbey gateway, and the sun-baked and windswept downs enfolding it lovingly. On those downs there is seen the great outlined figure of the "Cerne Giant," 180ft. long, supposed to have been traced

Day Trips and Week-ends.—

there by the worshippers of the sun god Heil, about A.D. 600.

Dorchester is reached in seven and a quarter miles, past Nether Cerne and Charminster, where the manor house of Wolverton is glimpsed on the left, the old home of the Trenchards. On the right, approaching Dorchester, is the Roman camp of Poundbury, used of later years as a camp for German prisoners of war. We turn sharp to the left into Dorchester, that prosperous town, meeting-place of many roads, and, descending its main street, emerge by a right turn at Fordington on to the Wareham road. It is sixteen miles to Wareham, delightful all the way, through Broadmayne, Warmwell Cross, Owermoigne, and Wool, where Wool railway station, Woolbridge old manor house, and the Gothic bridge over the river Frome oddly neighbour one another. Wareham itself is a quiet old town, enclosed within ancient earthworks, relics of a day when it needed all the protection it could get from marauding Danes and Vikings, who assailed it by way of Poole Harbour. There are old churches at Wareham, notably that of St. Martin: all too large for the small population. Heath roads are mostly our portion onwards, past Lytchett Minster, with its oddly-named "Peter's Finger Inn," and thence (avoiding a right-hand turning for Poole) to Fleet's Corner, where we bear left at the fork of roads for Wimborne.

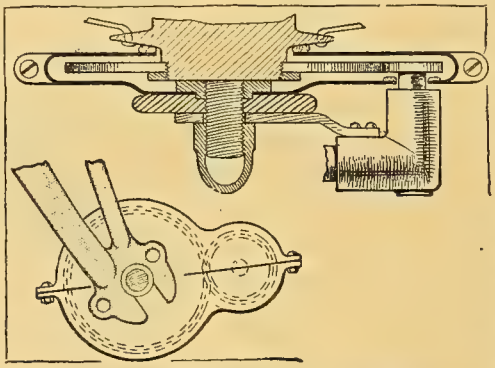
Wimborne's interest is in its Minster Church, Norman and Early English: a grand relic, containing a library of chained books and the curious tomb of Anthony Etricke in the wall of the south choir aisle. It is a chest of polished slate, decorated with coats of arms and bearing a date in large numerals, oddly altered from 1691 to 1703. The explanation given of this is that the chest was prepared in his lifetime, and that he expected to die in 1691. By reason of grace, he had an extension of twelve years.

In nine and a half miles we come to Cranborne, marked on most maps in larger letters than it deserves, for it is a very tiny and primitive place; and then by a lonely and indifferent road in seven miles to the main Blandford and Salisbury road, at Coombe Bisset Hill, five miles from Salisbury. By the time we have reached the city, we shall have covered 106 miles, through many towns and villages, each of which has something of interest to offer.

Covers for Speedometer Drive.

A Suggestion for the Refinement of a Detail sadly needing Attention.

IT has often been suggested in the pages of *The Motor Cycle* by "Ixion" that the cog-wheel which drives a speedometer should be screwed on an extension of the front hub instead of the rough and ready method of attachment to the spokes by means of a number of screws. This, as has been pointed out, would save much trouble in adjustment, and the speedometer drive could be attached easily and quickly by the veriest novice. (The present plan requires a certain amount of time and skill.) It would be a very simple matter for the manufacturers of motor cycles on the one hand, and of speedometers on the other, to agree upon a standard thread which could be placed upon the hub of every machine and covered with a washer and locking ring. These would be removed when the speedometer was fitted, the drive screwed on to the flange and the locking ring returned to its place. The removal of the wheel, which would have to be done in any case, would be the most tiresome part of the operation.



Showing how the fitting of a speedometer drive might be carried out.

The advantages of all this are very obvious, but the benefit need not end here. The fact of the driving wheel having a small space between it and the spokes would allow of the fitting of a neat cover for the speedometer drive, and this would improve its wearing qualities and render it more silent—both very desirable objects. The accompanying illustrations show how this could be carried out quite effectively. The case could be made of any sheet metal (aluminium would perhaps be better) split horizontally and held in position by being gripped between the fork and the flange of the cone. Dust could be excluded by the use of felt washers at the two openings. Such a case would also enable the speedomter drive to be effectively lubricated.

WEATHER AND THE MOTOR CYCLIST.

UNDOUBTEDLY the very indifferent weather prevailing during this summer has been responsible for the easing off in demand which in some quarters is regarded as a "slump." The enormous and ever increasing circulation of *The Motor Cycle* is sufficient proof that there is no falling off in interest in motor cycles.

At this time of the year there is bound to be less multiplication of enquiries than in the early spring, as new comers to the pastime have not yet learned that the motor cycle is an all-the-year-round utility mount. It is the prospect of summer rides in the country that first attracts the man who has never before owned a motor vehicle. The weather has been very bad this year, and many potential owners have deferred buying on this account. However, according to an Italian statistician, good and bad "seasons" run in cycles of seven years,—and next year is to be the first of a promised seven years of fine weather summers. Let us hope so! VEDETTE.

An impression of D. Danskin at speed on his 75 m.p.h. Rover.

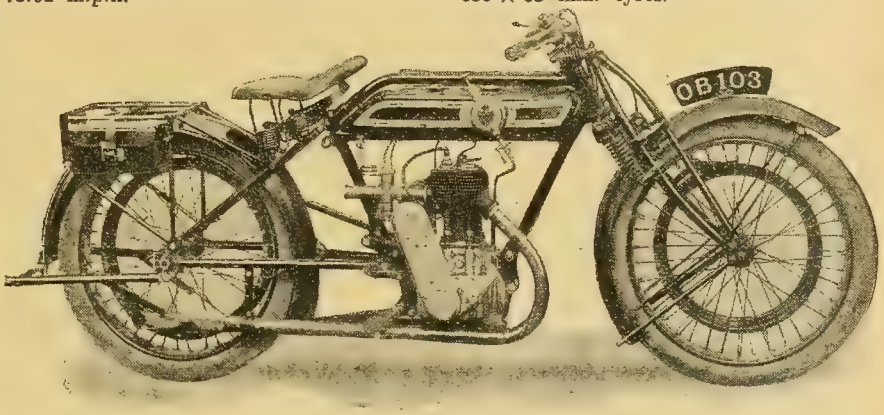
SEVENTY-FIVE miles per hour! Such a speed is only appreciated by those who know the difficulty of obtaining even 65 m.p.h. The kilometre record stands at 82 m.p.h. for a 500 c.c. machine; but this speed is not for the average owner of a T.T. mount. Generally, any 500 c.c. machine built for road as well as track work, capable of exceeding 65 m.p.h. may be regarded as being above the average.

Realising the demand among the young clubmen for a simple solo single capable of good performances in those local speed events so dear to the clubman's heart, the New Rover Cycle Co. has of late been experimenting to speed up its standard T.T. model. The machine illustrated is the result. It is capable of 75 m.p.h., and this without any suggestion of freakishness in the engine or a specially lightened frame.

Certain parts of the engine have been redesigned, and stronger valve springs have been fitted, but otherwise the machine is standard.

On a quarter of a mile of quiet and unfrequented stretch of road we last week timed D. Danskin on one of these machines, and he covered the distance in 12.50s. and 12.25s. respectively on two runs. This works out at 71.99 m.p.h. and 73.47 m.p.h.; but the day before, when the conditions were slightly more favourable, the same rider had accomplished the quarter mile in 12s. dead = 75.01 m.p.h.

This modified T.T. Rover is practically the same as the catalogued machine, excepting for the slight alterations in the engine and the absence of a silencer. Its specification includes a roller big end bearing to the connecting rod, an E.I.C. magneto, B. and B. carburetter, and 650 × 65 mm. tyres.



The modified 3½ h.p. T.T. Rover.

SPRING CARRIERS—AN EXPERIENCE.

SEVERAL correspondents having urged the advantages of the spring carrier as a suitable means of carrying spares and equipment, I decided to purchase a spring pillion seat specially to transport my baggage (of an inanimate nature, of course!).

The device selected was equipped with a large tool bag and in this was placed all the most vulnerable spares, such as sparking plugs, repair outfit and chain links. These parts had remained in almost perfect condition in the ordinary pannier bag of my rigid-framed machine for some six thousand miles, but as I projected a long tour in Scotland, some better insulation from the vibration of bad roads was considered advisable.

After covering nine hundred miles I got my first puncture and opened that spring supported tool bag. Horrors! The plugs, once in separate leather cases, the chains once tightly packed in rag, and the repair outfit were one pounded mass of fragments!

The tyre repair was affected by the *débris* of the outfit, and the plugs were carried in my pocket for another three hundred miles, unserviceable until the threads had been rechased in the lathe. What is the lesson to be learned? The pillion seat is normally sprung to carry the weight of an average person; with any less weight, or entirely unladen, the bouncing and vibration set up by the uncompressed springs is infinitely worse than anything to which the rigid carrier is subjected, and, in consequence, damage to anything carried thereon may be expected. In the case in question the springs could not be readily adjusted (or some of their number removed) to carry a load of a few pounds, and as a result the jolting of the carrier was intensified by their violent oscillations.

In order to be suitable for luggage carrying (where only light loads are concerned), the springs of a pillion seat should be instantly adjustable for tension, otherwise the rider is advised to attach any light and delicate articles *rigidly* to some rigid part of the motor cycle frame.

WHARFEDALE.

SIX DAYS TRIALS REPORT NEXT WEEK.

In the next issue of *The Motor Cycle* a complete description of the A.C.U. Six Days Trials will be published, with many exclusive illustrations.

OVERSEAS SECTION

A Commentary based upon Practical Experience and a Study of Overseas Opinions.

International Competitions.

THERE is an aspect of International trials quite apart from the cementing of national goodwill, which is bound to result whenever two nations meet in friendly contest. We refer to opportunity afforded British manufacturers to show their product to riders of other countries. For this reason, perhaps, it was regrettable that more British makers did not compete in the International Six Days Trial in France. It must not be forgotten that France is now a motor cycle manufacturing country, and that a very different state of affairs exists from that which prevailed prior to the war. The motor cycle manufacturers of that country promise to become noteworthy competitors to British and American houses in the Continental and Overseas markets.

The motor cyclist and potential motor cyclist on the Continent is a new generation, and it is thought in some quarters that an opportunity was lost when makers on this side of the Channel overlooked the value of the publicity of such a trial to demonstrate their products in a sadly neglected market.

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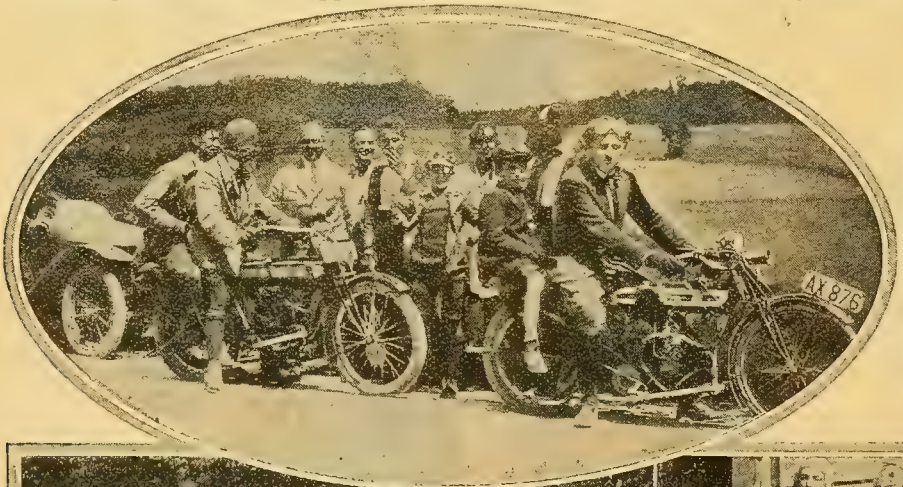
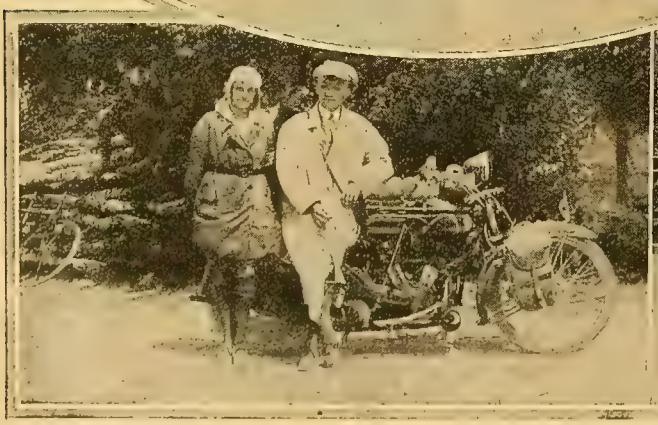
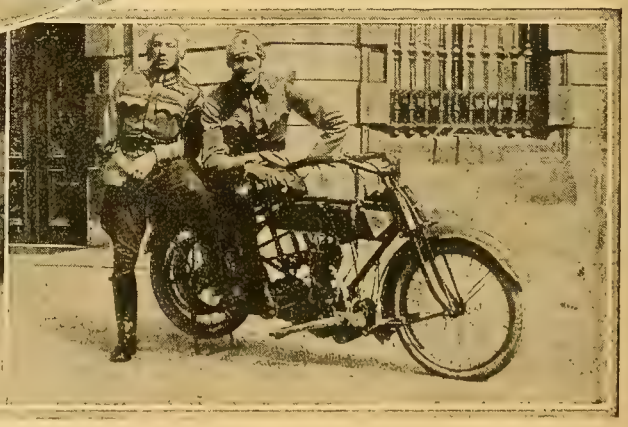
Criticism of British Viewpoint.

FROM time to time we receive letters from Overseas motor cyclists severely criticising British methods, and while we appreciate the difficulties of our manufacturers, we cannot but admit that many of the complaints are justifiable. This week's mail bag contains a letter from a Continental rider who is under the impression that British manufacturers assess any event outside Great Britain on its publicity value in this country, and not on its value as propaganda for future overseas trade. It is also thought that enterprise is lacking, and that there is a tendency for manufacturers to consider past and present business as a basis for justification, or otherwise, instead of the







BRITISH MOTOR CYCLES IN CZECHO-SLOVAKIA.

It is a good sign to hear of the motor cycle enthusiasm displayed in a country which has for so long been in a state of unrest. Our Czecho correspondent, who sends the photographs, says that great keenness is shown at speed trials, which are organised on similar lines to those held in England. The top photograph depicts a scene at a speed event, the two machines shown being a Rudge and Douglas.

(Left) A Clyno outfit; the lady, like her British sisters, is not content with the sidecar seat, but takes turns on the saddle.

(Right) Two B.S.A. enthusiasts, one of whom has lost an arm, the other a leg.

Overseas Comments.—

uture. We have observed this tendency ourselves, nd in some quarters have been told by certain makers hat, "Our business in —— does not justify the cost f entering competitions in that country." Surely otential, and not past, demand should be the basis f valuation.

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The Anglo-Dutch Trial.

THE recent international trial in Holland must react in favour of British motor cycles in that country. The Dutch people depend almost entirely upon imported motor cycles, and are prepared to buy the machines they know to be satisfactory. Every machine that was ridden by members of the English team in the Trial referred to proved its reliability, and, if this goodwill is used to advantage, the makers must benefit in no small measure. There were also British machines in the Dutch team, but their value had already been assessed by the Hollanders, or they would not have been chosen to represent Holland in the Trial.

Although the members of the British team were mounted on British machines, their opponents' mounts were a mixture of British, American, Belgian, Dutch, and German productions. With one exception all the British team made non-stop runs—a really remarkable performance—but four Dutchmen stopped, and these were debited against one rider of a British machine and three who were mounted on Americans. Now if the Trial is finely analysed by buyers in that part of the Continent, they must be impressed by the superiority of those machines which came from this country.

If non-stops are taken as the basis of reliability, then the following may be said to be the international results:

British machines	24	22	non-stop.
American machines	9	6	,,
Belgian machine	1	1	,,
German machine	1	1	,,
Dutch machine	1	1	,,

Based on percentages, the individual instances shown above take pride of place, but in a case of this kind a high proportion of non-stops in a large number of starters, as happened amongst the British machines, is decidedly more meritorious.

A Selection of Letters from Readers scattered all over the World.

Take Your Own Machine to India.

A correspondent from Cachar, India, protests against the prices asked for British machines in his district. "The price charged for British machines here is past words," he says. "Profiteering is not in it! I bought my machine new in August last, and brought it out with me in December. The import duty is only 7½% on the owner's valuation of the machine, and it can always be shipped as personal luggage. In my case I had no steamship freight to pay. I should also advise anyone taking a machine out to have it very securely packed in a totally enclosed case."

An American Likes British Machines.

MR. K. T. ROBINS, an American reader, favours British machines after experience with them during the war. Writing from Rochester, N.Y., he says: "I have been a constant reader of *The Motor Cycle*, and I receive it here regularly every week.

"In my opinion, American motor cycles certainly have some very good points over English machines. Twist grip control, one of the most prominent factors on American motor cycles, is by far the best means of control. The heaviness of the motor cycle, combined with horse-power, tank capacity, large wheels and tyres, certainly helps to make motor cycling a pleasure. "I have had a lot to do with Triumphs, B.S.A.'s and Douglases, both in the British Army and in civilian life, and I must say give me the English machine every time."

Manufacturers' Treatment.

A reader in Rawalpindi, who signs himself "India," draws attention to the high prices of British machines, and compares them with the cost of American big twins. A 4¼ h.p. B.S.A., he says, is advertised by an agent at a price equivalent to £206 13s. 4d. (1,600 rupees), and proceeds:

"Recently in one shop in Karachi I saw a brand new Triumph and a brand new four-cylinder Henderson standing side by side. The price of the former was Rs. 1,625, and that of the latter Rs. 1,650—roughly £215 each. It makes one tired to hear all this hot air about British goods when this sort of thing exists. The manufacturers themselves are the people to blame. They exercise no check on their agents' prices and actions, and if private individuals write them direct, they reply referring us to their agents.

"Of twenty firms to whom I wrote for specific details of machines suitable for certain specified rough work here, not a single firm replied giving me clear answers to my tabulated questions. Some simply stuffed a sheaf of literature, which did not answer many of my questions, into an envelope.

"The two firms who have made more song about Overseas conditions and the suitability of their machines for these than any other firms actually gave me less information than others.

"Consequently, after treatment of this kind, followed by the most casual attention to personal calls when in England some months later, I have now gone in for a big American twin, and have also been responsible for the purchase of several others by my friends, who acted on my advice."

Scooter Possibilities in India.

On the subject of motor scooters, an Indian correspondent agrees that a seat is an absolute essential. "There is room for these miniatures out here," he says, "provided they are fitted with a seat, but they must be good, light, strong, economical, and cheap to buy. At half the price of the cheapest motor cycle they should find a ready market."

Shaft Drive Wanted.

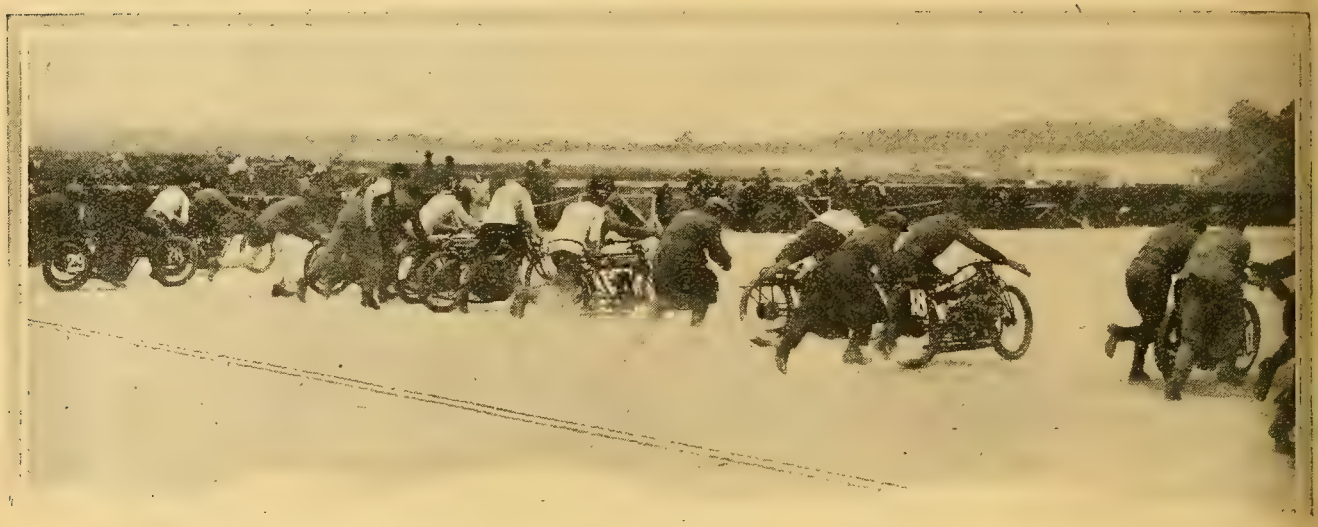
MR. J. H. D. HIRJI-KHOORSHID, of Hyderabad, Deccan, writes about his ideal machine as follows: "Having been an enthusiastic reader of long standing of your very valuable paper, I have often read different readers' comments on various models of motor cycles for Colonial use, and I beg to offer a few ideas of an ideal machine, with a hope that some enterprising British manufacturers will put one on the market with all the necessary spare parts at a reasonable price, inclusive of all the necessities.

"*Brief Specifications.*

"1. 4 h.p., horizontally-opposed twin cylinders.
"2. Spring frame.
"3. Shaft drive (as per the celebrated F.N.).
"4. Drum brakes, with hand and foot controls.
"5. Detachable wheels with a spare wheel.
"6. Mechanical lubrication, with sight feed.
"7. Binks carburetter, with extra air lever.
"8. Electric lighting dynamo, with magneto.
"9. Three-speed countershaft, with kick-starter.
"10. Speedometer, with engine attachment.
"11. Petrol indicator, with filter tap, attached to tank capable of holding two gallons of fuel and half a gallon of lubricating oil.
"12. Hand and foot clutch (dry plate).

"I believe that the celebrated Douglas, with the exception of No. 3, is the ideal mount, and if this renowned machine is turned out with a shaft drive it will be a boon to the Douglas enthusiasts. It is a pity that the manufacturers do not realise the immense benefit of the shaft drive. A Douglas so turned out, with all the above-mentioned attachments (which, by the way, is very easy to do), will, no doubt, command a better market throughout the world, asserting the superiority of the British manufacture—'British, therefore *best*.'"

TIME TRIALS AT BROOKLANDS.



Fifth B.M.C.R.C. Members' Meeting. 275 c.c. Kilometre Record Broken.

THE fifth B.M.C.R.C. members' meeting was held at Brooklands on Wednesday, August 18th, and at the beginning of the programme the first 1920 time trials were run off.

A strong wind blowing from the south-west caused considerable difficulty during certain portions of the races, but aided those who competed in the kilometre speed trial, in which some excellent speeds were attained. The first trial, Class A1, for motor bicycles not exceeding 275 c.c., attracted one entrant only, whilst the remaining five classes were well supported. Result :

CLASS A.1.—FOR MOTOR BICYCLES NOT EXCEEDING 275 C.C.

	Mile.		Kilom.	
	Time.	Speed.	Time.	Speed.
*W. A. Jacobs (Singer)	62.4	57.69	38	58.87

CLASS B.—FOR MOTOR BICYCLES NOT EXCEEDING 350 C.C.

S. Bailey (Douglas)	52.2	68.97	32.2	69.47
T. Eve (Matchless)	54.4	66.18	32.4	69.04
V. Longden (Douglas) ..	57.4	62.72	34.6	64.65
Tudor Thompson (Douglas)	58.6	61.43	35.2	63.55
E. Longden (Dot-Jap) ..	59.8	60.81	37	60.46
J. F. Hull (Wooler)	64.8	55.56	40	55.92
E. Longman (Wooler) ..	67.4	53.41	40.8	54.83
F. MacNab (Wooler) ...	69	52.17	42	53.26
S. Gill (Alecto)	69.8	51.58	42.6	52.51
A. Watson (Douglas) ...	73.8	48.78	43.6	51.32
G. Senior (A.J.S.)	77	46.75	50.6	44.21

CLASS C.—FOR MOTOR BICYCLES NOT EXCEEDING 500 C.C.

V. Horsman (Norton) ..	46	78.26	27.6	81.05
J. Emerson (A.B.C.) ...	47.6	75.63	28.2	79.32
S. L. Bailey (Douglas) ..	48.4	74.38	29	77.14
H. Martin (Matchless) ..	48.8	73.77	29.8	75.07
J. Patterson (Norton) ..	50.4	71.33	31	72.15
A. Miller (Matchless) ...	50.8	70.87	30	74.57
H. Harveyson (Indian) .	51	70.59	30.4	73.58
L. Pope (Matchless)	52	69.23	29.6	75.57
F. Collard (Rudge)	52	69.23	33.2	67.38
J. Newall (Lea-Francis) .	61.4	58.63	37.2	60.13
M. Lapize (Rudge)	65.6	54.88	38.6	57.95
B. Remington (Rudge) .	68.4	52.63	41.2	54.27

CLASS E.—FOR MOTOR BICYCLES NOT EXCEEDING 1,000 C.C.

H. Harveyson (Indian) .	42	85.71	25.2	88.77
L. Remington (Nut-Jap)	42.2	85.31	25.4	88.07
O. Baldwin (Matchless) .	44	81.82	27	82.85

CLASS H.—FOR MOTOR CYCLES AND SIDECARS NOT EXCEEDING 750 C.C.

V. Gayford (Zenith)	51.8	69.5	30.6	73.1
R. Dequin (Zenith)	63	57.14	37.8	59.18

CLASS I.—FOR MOTOR CYCLES AND SIDECARS NOT EXCEEDING 1,000 C.C.

E. Baragwanath (Zenith)	51.56	69.82	31.22	71,65
H. Jepson (Zenith)	53	67.92	32.2	69.47
J. Chater-Lea (Chater-Lea)	55.6	64.75	33.8	66.97
O. de Lissa (Motosacoche)	55.8	64.52	33.4	66.18
L. Pope (Harley-D.) ...	78.2	46.04	48.2	46.41

* In Class A.1. W.A. Jacobs, astride the same Singer on which he established the flying kilometre record on April 17th, 1914, broke his own record. His previous speed was 57.65 m.p.h., as compared to his latest speed of 58.87 m.p.h.

The first race, the Junior Scratch Race for motor cycles not exceeding 350 c.c., attracted twelve entrants, all of whom got away well.

At the conclusion of the first lap T. Eve (Matchless), S. L. Bailey on his overhead valve Douglas), and H. Thorpe (Douglas) led the field, and as the leading machines crossed the line on their third lap T. Eve's machine was missing badly, and Bailey had overhauled him, whilst Thorpe was now running second.

S. L. Bailey won easily, and Thorpe, who had retained his place, came in second, followed by Tudor Thompson. S. Gill, who recently established and broke several records, retired during the second lap. Results :

	Speed.
1. S. L. Bailey (Douglas)	59.94 m.p.h.
2. H. Thorpe (Douglas)	—
3. Tudor Thompson (Douglas)	—

The Senior three-lap scratch race for motor cycles with engines not exceeding 500 c.c. provided one of the closest and most exciting finishes ever witnessed at Brooklands. At the end of the first lap Horsman was leading, followed by Porter, Emerson, S. L. Bailey, Miller, Dallison, Martin, Pope, Harveyson, Collard, and Gard.

Porter led in the second lap, and after him came Horsman, Emerson—these three in a bunch—then Bailey, Miller, Pope, Harveyson, Collard, and Gard. In the final lap Emerson was leading as the finishing line was approached, with Horsman second, but Porter apparently had plenty in hand, and shot forward winning by a length. Result :

	Speed.
1. E. Porter (3 A.B.C.)	70.69 m.p.h.
2. J. Emerson (3 A.B.C.)	—
3. V. Horsman (3½ Norton)	—

The all-comers' one lap scratch race provided no such excitement as the last race. Sidecars and three-wheelers were to have been included, but none materialised. Davidson and Sawer were quickest off the mark, and Miller, who was not ready when the flag fell, failed to start. Result :

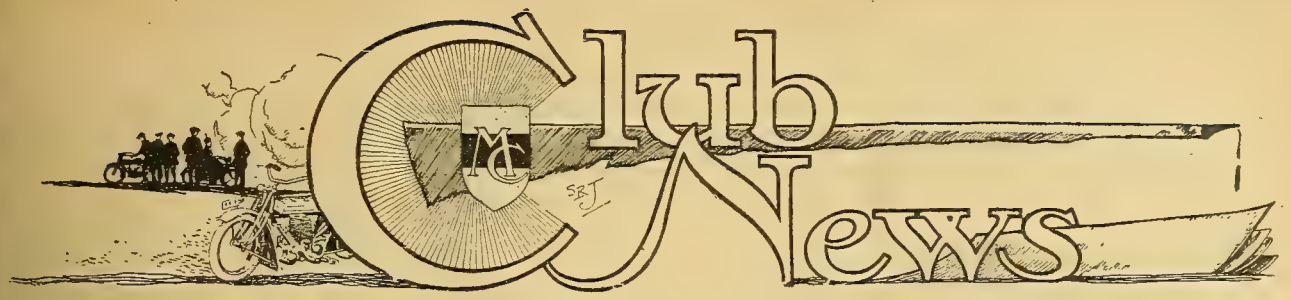
	Speed.
1. E. Remington (8 Nut-Jap)	71.84 m.p.h.
2. J. R. Harveyson (3½ Indian)	—
3. G. L. Sawer (7-9 American X)	—

The all-comers' solo handicap (three laps) came to a sad end. There were thirty-six entries for this event, and only three non-starters, and there was every prospect of a fine race, but the rain which had been threatening all the afternoon came down with a vengeance. Belts slipped on many machines, one after another fell out during the second lap and the race was eventually stopped.

After an interval it was decided to run off the Ealing handicap (two laps) for motor cycles, sidecars, and three-wheeled cars owned and driven by a member of the Ealing and District M.C.C. The winner, P. Cunningham, rode a brand new P. and M. in full touring trim, which he had only just purchased and put up a speed of nearly 50 m.p.h.—a very fine performance. The first lap order was : Cunningham, Hyem, Tilbury, Longman, Malone, Davidson, and Keogh, whose machine was missing badly (it was raining at the time). Cunningham won easily. Result :

	Start. m. s.	Speed. m.p.h.
1. P. Cunningham (3½ P. & M.)	2 38	49.81
2. P. J. Malone (7-9 Harley-Davidson) Scr.		—
3. D. H. Davidson (7-9 Harley-Davidson)	14	—

Owing to the bad weather the meeting was then abandoned.



North Lindsey A.C.

The result of the reliability trial held by the above club on August 14th, over a very sporting course, is as follow: 1, Reg. Smith, 5 marks lost; 2, T. Goodson, 8 marks lost; 3, Jos. Beaman, 10 marks lost.

North-Western Centre A.C.U.

The North-Western Centre A.C.U., which comprises the clubs affiliated to the A.C.U. in Lancashire, Cheshire, and North Wales, is holding a hill-climb on September 12th, and has also decided to run a trial over a secret course on the 26th prox. The hon. sec. is Mr. J. H. Place, 8, Dugdale Road, Burnley.

Leeds and District M.C.

The results of the recent trial to London and back, held in conjunction with the Bradfield, Wakefield, and Hull clubs, were as follow:

Gold Medal and Trophy: J. H. Leuty (Calthorpe).
Gold Medals: Major W. H. Oates (Lagonda), S. Jepson (6 A.J.S.), W. Atkinson (4 Triumph), and R. J. Brown (7 Indian).
Silver Medals: F. E. Wasling (Ford), T. Hardy (8 Enfield), R. Almond (4 Triumph), C. L. Adams (3½ Rudge), W. Wood (4 Triumph), W. E. Asquith (6 A.J.S.), and C. F. Lane (3½ Rudge).
Bronze Medals: W. N. Jackson (4 Triumph) and J. Ford (7 F.N.).

Night Trial of the Westmorland Club.

The Westmorland Motor Cycle Club held its first night trial on the 14th inst., from Kendal to Portobello and back, the course being 140 miles each way. All the machines entered were single cylinders, Triumphs and Nortons being well represented. There was only one sidecar competing and that was ridden by Bryan Jefferys, a one-legged rider, who was on the 4 h.p. Norton, which he rode successfully in the York-Edinburgh run. His brother rode the 3½ h.p. Norton, which gained premier honours in the same trial. The first machine left Kendal at eleven o'clock on Saturday night, the weather conditions being ideal. The course was laid over Shap Fells to Penrith and Carlisle, Lockerbie, Moffat, and Edinburgh, but the return journey was made *via* Galashiels and Hawick. Portobello was reached by all machines promptly, but on the return run many riders had to stop owing to being too early at the checks. The first machine was timed to return to Kendal at 6.30 on Sunday evening. Not one of the competing machines had a mechanical breakdown, and the only tool kit unstrapped was that of Byran Jefferys, who encountered a puncture close to Edinburgh. The results were as follow: 1, Bryan Jefferys (4 h.p. Norton and sidecar); 2, Guy Jefferys (3½ h.p. Norton); 3, R. R. Rothwell (Triumph); 4 (equal), R. P. Roddick and P. Hoggarth (Triumphs); 5, M. Sedgwick (Triumph).

Future Events.

Aug. 28.—North Lindsay A.C. Speed Trials.
Aug. 28.—Sheffield and Hallamshire M.C.C. Competition.
Aug. 28.—N.M.C.F.U. (Wolverhampton). Reliability Trial
Aug. 28.—Edinburgh and Dist. M.C. Social Run.
Aug. 28.—Manchester M.C. Gymkhana and Social.
Aug. 28.—Dublin and District M.C.C. Reliability Trial.
Aug. 28.—North London M.C.C Run to Windsor.
Aug. 28.—Dewsbury and District M.C.C. Surprise Run
Aug. 28.—Leeds and District M.C. Hill-climb.
Aug. 28.—Plymouth and District M.C. and L.C.C. Gymkhana.
Aug. 28.—Public Schools M.C.C Reliability Trial.
Aug. 28-29.—Northern M.C. Run to Scarborough.
Aug. 28-29.—Coventry and Warwickshire M.C. Week-end Run to Llangollen.
Aug. 29 —N.M.C.F.U (Sheffield). Run to Blyth and Retford
Aug. 29.—Bradford M.C. and L.C.C. Freak Hill-climb at Rosevale Abbey.
Aug. 29.—Macclesfield and District M.C. Hill-climb at Axe Edge.
Aug. 29.—Sutton M.C.C Surprise Run
Aug. 29.—Leeds and District M.C. Run to Kirkham Abbey.
Aug. 29.—Rochester, Chatham, and District M.C. Inter-team Trial.
Aug. 29.—Nuneaton and District M.C.C. Run to Berkswell.
Aug. 29.—Southampton and District M.C. Run to Hayling Island.
Aug. 29.—N.M.C.F.U. (Leeds). Speed Trials.
Aug. 29.—N. Wilts M.C. and L.C.C Run to Stratford-on-Avon.
Aug. 29.—Exeter M.C. and J.C.C. Run to Babbacombe.
Aug. 29.—N.M.C.F.U. (Portsmouth) Run to Hayling Island
Aug. 29.—Westmorland M.C.C. Reliability Trial.
Aug. 29.—Scarborough M. and M.C.C. Reliability Trial.
Aug. 29.—Warrington M.C. Run to Llangollen.
Aug. 29.—Reading and District M.C and L.C.C. Run to Dorking.
Aug. 29.—Harrogate and District M.C.C. Social Run.
Aug. 29.—Bedford and District M.C. and L.C.C. Ladies' Day.
Aug. 29.—Derby and District M.C. Run to Dukeries.
Sept. 2.—Norwich and District M.C. Hill-climb.
Sept. 4.—N.M.C.F.U. (Sheffield). Sports at Cordwell Valley.
Sept. 4-5.—Coventry and Warwickshire M.C. Touring Trial to Llangollen.
Sept. 5.—North London M.C.C. Inter-club Run.
Sept. 10-11.—Essex M.C. Reliability Trial, London-Bala-Dunstable.
Sept. 11.—B.M.C.R.C. Members Meeting.
Sept. 11.—Coventry and Warwickshire M.C. Hill-climb at Stile Cop.
Sept. 12.—North-Western Centre A.C.U. Hill-climb at Heyden Bridge.
Sept. 18.—B.M.C.R.C. Open Meeting.
Sept. 25.—B.A.R.C. Meeting at Brooklands.
Sept. 26.—North-Western A.C.U. Reliability Trial.
Oct. 2.—B.M.C.R.C. Championship Meeting.

The Bradford, Leeds, and Hull Two-day Trial.

The results of the recent Yorkshire-London-Yorkshire Trial, organised by the Bradford, Leeds, and Hull clubs, are as follow:

Briggs Cup: S. M. Haigh (3½ P. and M. sc.).
Hodgson Cup: Geo. Townsend (3½ P. and M.).
Gold Medals: D. H. Rhodes (3½ Scott sc.), H. K. Watson (3½ Scott sc.), H. Langham (3½ Scott sc.), C. Knowle (3½ Scott sc.), F. Smith (3½ Triumph), A. R. Naylor (3½ Triumph), F. Scriven (9.6 Hampton), F. Spencer (9.6 Hampton), C. Sidney (3 A.B.C.), and C. B. Haigh (3½ P. and M. sc.).
Silver Medals: H. Harrop (3½ P. and M. sc.), A. Mortimer (3½P. and M. sc.), J. Leyland (3½ P. and M. sc.), J. Spencer (7 Indian sc.), A. Fearnley (4 B.S.A.), W. E. Anderton (3½ P. and M sc.), Geo. Allen (3½ P. and M. sc.), D. Parkinson (2¾ Sunbeam), A. Dovener (3½ Scott sc.), and A. Holyroyd (3½ Scott sc.).

Norwich and District M.C.

Amongst the various classes included in the Ringland hill-climb to be held on September 2nd is an "old crocks" class for machines built prior to 1914.

Cardenden M.C.

Witnessed by several thousand spectators, the newly formed Cardenden (Fife) Motor Club held a successful hill-climb on the 11th inst. The winners were: Class 1, under 350 c.c.: J. Beveridge, jun. (Douglas). Class 2, 600 c.c.: J. Reed (Norton). Class 3, unlimited: T. Stewart (8 Zenith), and fastest time of the day. Class 5: C. Carden (7-9 Harley-Davidson).

Birmingham M.C.C.

A hill-climb at Stile Cop is being organised for September 4th by this active club. Twelve classes will be available, including scooters on time only, and on time and formula for motor cycles of 250 c.c., 300 c.c., 350 c.c., 499 c.c., 600 c.c., 750 c.c., and unlimited. There will also be two sidecar classes, 499 c.c. and unlimited, on time and formula, and one for cycle cars up to 1,100 c.c. on time only. An interesting event will be for the four fastest machines of the day, for which there will be no entry fee. A long list of prizes is offered, and the entries are: Trade, 15s. first entry, 10s. 6d. subsequent entries, and 12s. 6d. and 8s. 6d. respectively for private owners or amateurs.

Coventry and Warwickshire M.C.

Owing to a clashing of dates with another Midland club, the Coventry and Warwickshire M.C. hill-climb has been postponed until September 11th. The programme for this event includes fourteen classes as follows: 300 c.c. and 350 c.c. for amateurs, 350 c.c. open, touring machines up to 500 c.c. for amateurs and for all members, 501 c.c. to 650 c.c. sidecars up to 500 c.c., and up to 650 c.c. for amateurs, and unlimited sidecars for all members. Cycle cars and light cars up to 1,100 c.c., light cars up to 1,600 c.c., both for amateurs; any light car up to 1,600 c.c., open to all members, and unlimited cars.

Among the awards two challenge cups are being offered. The entry fees are 5s. for first entry, and 2s. 6d. each subsequent entry for motor cycles and sidecar machines; 10s. 6d. and 5s. 6d. respectively for cars. Entries close on Saturday next, and should be sent to Mr. Gordon Francis, c/o Francis and Barnet, Lower Ford Street, Coventry.

A week-end touring trial has been arranged for September 4th and 5th, when members will journey to Llangollen.

The Miniature as a Utility Mount.

Scooter Evolution: The Practical Possibilities of the Type.

JUST as the crude cycle cars of 1911 created prejudice, which for some time reacted upon the better productions introduced by responsible engineers, so is the earlier type motor scooter causing confusion where genuine miniature motor cycles are concerned.

We repeat what we have often stated, that there is a very certain field of utility for a miniature machine with an open frame and a comfortable seat, and confirmation of our early prophecies concerning the ultimate decline of the stand-up type scooter and rise of the seat type miniature is to be found without seeking. Those makers of the former who have seen the truth of our contentions and who have developed their machines into miniature motor cycles, will, we think, admit that the latter have proved to be the better proposition, both from a selling point of view and from the standpoint of the user.

Seats Almost Universal.

Few indeed are the people who prefer to stand when they can sit comfortably, and while one or two hardy riders have undertaken long journeys in the former position, we do not think any private owners of such machines have attempted a journey of, say, one hundred miles.

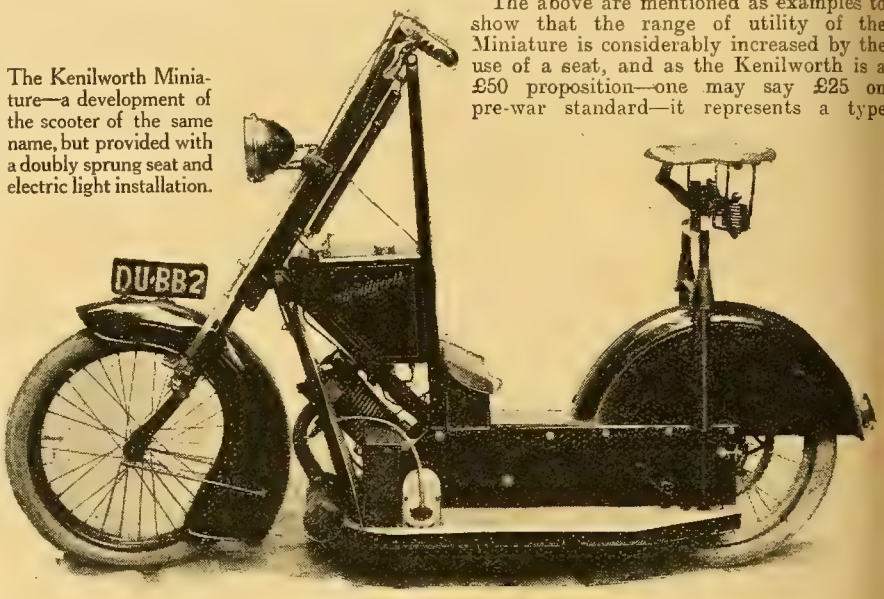
On the other hand, owners of some of the better known seat type miniatures frequently use them for journeys such as are undertaken on a fully fledged motor cycle.

The Kenilworth Miniature is one of these, and as proof of its popularity as a utility mount, it is interesting to observe that in the city of its origin—Coventry—and the residential districts adjacent, there are many in use by owners directly and indirectly connected with the motor industry, who use them for runabout purposes, such as home to office service and visits to the links or tennis courts.

We have before us letters from owners in various parts of the country who have undertaken long journeys on these machines. Amongst these is one from two ladies who recently rode from Coventry to Brighton—a distance of 145 miles. The first seventy-five miles were covered in about six hours' running time. These ladies previously owned two-stroke motor cycles, and affirm their preference for the Kenilworth on account of its lighter weight, increased comfort and cleanliness. Another owner made a journey from Redhill (Surrey) to Gloucestershire—a distance of 145 miles in eleven hours—with a petrol consumption of 130 m.p.g.

The above are mentioned as examples to show that the range of utility of the Miniature is considerably increased by the use of a seat, and as the Kenilworth is a £50 proposition—one may say £25 on pre-war standard—it represents a type which fills a gap undoubtedly existing at the present time between the pedal bicycle and the orthodox motor cycle.

Incidentally, the Kenilworth is a well-made and finished machine, fitted with a small but highly efficient four-stroke engine having an outside flywheel and overhead valves. It is manufactured by Booth Bros., Coventry.



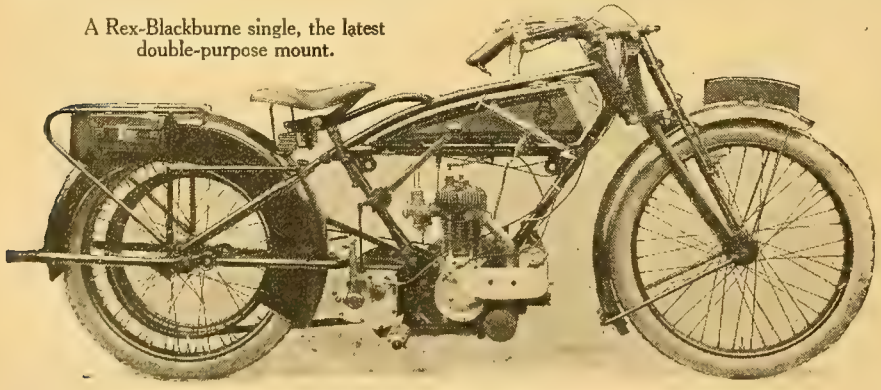
The Kenilworth Miniature—a development of the scooter of the same name, but provided with a doubly sprung seat and electric light installation.

A Dual-purpose Rex.

New Single-cylinder 4 h.p. Blackburne-engined Model for Solo or Sidecar Use.

QUITE a number of British motor cycle manufacturers consider that in developing the De Luxe sidecar machine, another just as profitable field is being neglected. We refer to the dual-purpose machine—handy enough for solo work and suitably built for propelling a sidecar—which prior to the war was the most common type of motor cycle on the market, and which has subsequently suffered no loss of popularity.

The Rex Motor Manufacturing Co., Coventry, hold this opinion, and for some time their experimental department has been at work on a machine on the lines we have indicated.



A Rex-Blackburne single, the latest double-purpose mount.

Although following the main lines of the Rex twin model and the Model 77 big single, the new machine is smaller, shorter, and consequently much lighter than those machines which were designed exclusively for sidecar work. As will be seen from the illustration, the new model has extremely pleasing outlines, and since its equipment consists of very popular units—*i.e.*, 4 h.p. Blackburne engine, Sturmey Archer gear box, 28×2½in. tyres, Brampton forks, Rex cantilever saddle pillar, and adjustable handle-bars—and its finish the same which characterises all the company's post-war products, it will undoubtedly prove a very popular machine.

Sidecar Lugs Incorporated.

The illustration shows that sidecar fixings are integral with the frame, and that the rear stay lug is incorporated in both stays, so that the machine may be used for continental sidecars without alteration.

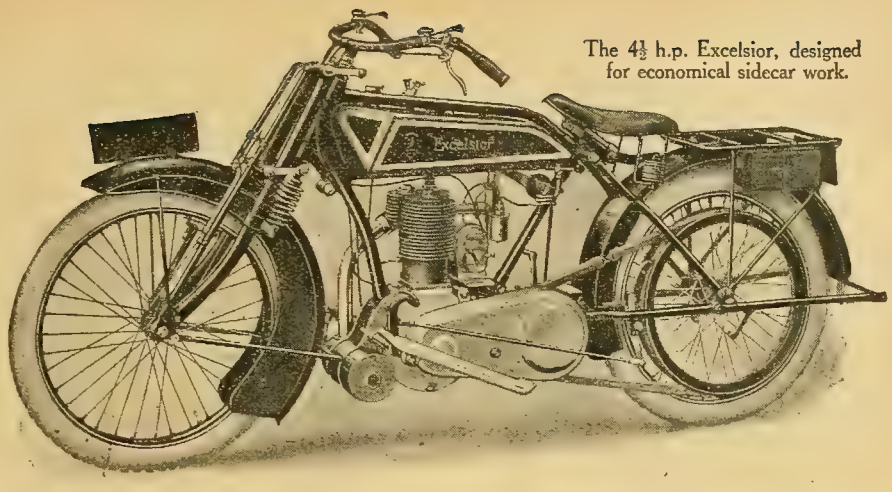
A special sidecar is being produced for this machine.

A Big Single Sidecar Machine

4½ h.p. British Excelsior Revived.

DESPITE the general tendency for the sidecar machine to become a de luxe outfit with, in some cases, over-elaborated equipment, there are still manufacturers who appreciate the value of the market which exists for a machine at a more popular price. To render such machines a commercial proposition, many post-war luxuries, such as enclosed chain drive, dynamo lighting, hoods, screens, and detachable wheels, have to be omitted. Some, however, favour this simplicity.

Among the several machines of this type now available is the new 4½ h.p. Excelsior, which embodies an 86×112 mm. (650 c.c.) engine, with which the makers were very successful before the war, and a conventional specification includes Sturmey-Archer gear, 650×65 mm. Dunlop tyres, Hans Renold ⅝×⅜in. chain, 1in. Dunlop belt, C.A.V. magneto, Senspray carburetter, and Druid forks. The price of the machine is £125, or with coachbuilt sidecar £160. The makers are Bayliss, Thomas and Co., King's Road, Tyseley, Birmingham.



The 4½ h.p. Excelsior, designed for economical sidecar work.

A Wolf with 350 c.c. Blackburne Engine.

The latest name to become associated with the Blackburne 350 c.c. engine is the Wolf, a new model of which, embodying this engine, is shown above.

AS an intermediate between the lightweight and the 500 c.c. single, the 350 c.c. single-cylinder has taken a firm hold of the riding public. It has long been recognised that an engine of a size sufficient to propel a sidecar is unnecessarily large for purely solo use, while the motor cyclists who formerly used 500 c.c. machines of the lighter type require something a little larger than the popular lightweight. The 350 c.c. machine fills this need, hence the increasing popularity of the 2¾ h.p. Blackburne engine unit, which seems to find new sponsors every week.

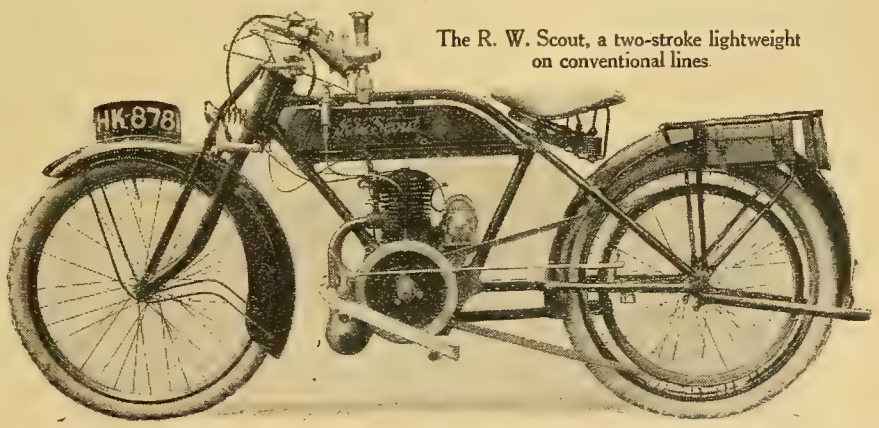
One of the latest firms to adopt this engine is the Wulfruna Engineering Co., Ltd., of Wolverhampton, who have succeeded in producing a mount of very pleasing lines. The specification includes Brampton Biflex forks, Dunlop 26×2¼ heavy tyres, Sturmey-Archer two-speed gear, with kick starter and hand-controlled clutch.

The finish is all-black with the tank relieved by a gold line, and the provisional price is 105 guineas.

A Dalm-engined Scout.

ONE of the latest entrants to the lightweight market is a 3 h.p. R.W. Scout motor cycle, which is equipped with a 73×76 mm. (318 c.c.) Dalm two-stroke engine. The characteristics of this unit, it will be remembered, include the provision of double exhaust ports and exhaust pipes, which are said to eliminate "four stroking."

The new pattern Amac carburetter is fitted, and an E.I.C. magneto supplies the current for ignition. Saxon forks, large mudguards, and 26×2½in. three-ply Beldam tyres form part of its equipment. Direct transmission is provided by a ¾in. Dunlop belt. A two-speed model is also marketed.



The R. W. Scout, a two-stroke lightweight on conventional lines.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

ASSISTING COOLING.

Sir,—I noted in the "Questions and Replies" columns of *The Motor Cycle* of July 29th that "F.W.C." wishes to fit aluminium fins to the cylinders of his 3 h.p. Enfield in order to keep his engine cool. He will probably be surprised to know that accurately carried out experiments with air-cooled cylinders showed that by adding aluminium fins or other "gadgets" for the purpose of keeping the cylinder cooler actually resulted in increasing the cylinder temperature by 10° C. approximately.

The cylinder temperature was found by means of thermo-couples, and was measured in two places in the region of the exhaust valve seat.

D. P. MUIRHEAD, A.M.I.A.E.

COURTESY ON THE ROAD.

Sir,—Not long ago you gave an article in your paper on the experience of various cyclists in trouble and the lack of courtesy accorded to those in distress. May I give you my experience as a direct contradiction of the facts you stated? I was riding a Baby Levis near Sloane Square when the engine stopped and no persuasion in my part would start my machine. I was accosted by a gentleman, who suggested various remedies and eventually came to the conclusion it was the plug. He took it out for me, and soon put matters right, so that I was able to get to my destination without further trouble. I can assure you I was extremely grateful for the assistance rendered, and I trust this letter will prove that not all to whom assistance have been given proceed on their way without the usual thanks for services rendered, and my sincere wish is that at some future date I may, in return, be able to give some one in distress, like myself, some help, should the occasion arise.

R. T. PROUDFOOT.

CHAIN DRIVE ON SPRING FRAME MACHINES.

Sir,—Your correspondent "T" is, I am sure, correct in his statement about the necessity of concentric movement between the countershaft pulley in springing the driving wheel of a motor cycle. What he says with regard to a chain-driven machine is, in a lesser degree, true of the belt-driven machine; it stands to reason that the extra strain on the belt must in time tell.

Most makers get over the difficulty of the unconcentric motion by seriously restricting the springing of the machine. About an inch seems to be the average, and, in my modest opinion, it is not sufficient. From personal experience, 2½in. gives a delightful sense of comfort, which is a revelation to anyone trying it for the first time, similar to the effect of riding in a well-sprung car. E.F.H.

Southampton.

Sir,—"T's" letter, *re* "Chain Drive on Spring Frame Machines," in *The Motor Cycle*, August 12th, is the first letter, so far, which is getting on the right track.

But, although being *almost* correct in saying that the centre of pivot of spring should be coincident with the countershaft sprocket spindle, this, by itself, will not maintain the transmission tension constant.

Two other things are absolutely necessary to achieve this, one of which is so simple that it is surprising that so far the principle has escaped attention, and for the idea one is indebted to the locomotive, or, rather, Stephenson. The other is a means for maintaining the centre of the fulcrum (not pivot) *always* coincident with the centre of the final transmission, even when the countershaft is moved.

In conclusion, I wish to inform "T" that I have completed a design for a rear springing system, which maintains transmission tension and centres constant irrespective of the amount of the movement of the wheel, and that this design is now being fully protected. There are two designs, one specifically for the Scott and the other for standard machines. In both the principle is the same as mentioned, with the two necessary additional features, one of which I am not just now disclosing. G. HAROLD DURSTON.

[Several patents have been filed which cover the point mentioned by our correspondent. The springing system of the Coventry Premier Runabout also embodies this feature.—ED.]

A UNION OF MOTORISTS.

Sir,—Is it too much to hope that one day the A.A. and the R.A.C. will amalgamate and form a sort of Motorists' Union? Surely we should then be in a position to insist upon fair treatment in the way of taxes and the price of petrol. The "Union" officials should have power to order a strike—"all vehicles off the road"—and so bring the Government and oil companies to their senses. "All vehicles off the road may not *sound* much, but the consequent dislocation of business would be enormous. I am no Bolshevist; on the contrary, my King and country come first, right or wrong, but I do believe that the people who pay should have their say. Personally, I should sadly, but gladly, miss my machine. And that brings me to another little matter which I am sure must be of interest to thousands of your readers. Many of us bear the mark of the Hun, and being deprived of the total, or partial, could not the Government, on the question of taxes, be induced to show a little consideration towards men who are compelled to "mote" or stay at home? GRINGO.

Bristol.

DETAILS OF BUSINESS.

Sir,—One would imagine that the object of motor cycle manufacturers and accessory dealers advertising in your pages is to call the attention of the public to the fact that they have these goods and are anxious to supply them.

In our big cities business people are far more ready to communicate by telephone than by letter, and most readers do so if they can, yet out of 225 displayed advertisements in your issue of August 12th I note that only eighty contain a telephone number. One of your client's advertisements states "they" invite enquiries, and yet omits the telephone number. This seems to me to be particularly unenterprising, as the reader who wants to communicate with a manufacturer, dealer, or agent through the telephone turns naturally at once to the advertisements in *The Motor Cycle* in preference to the telephone directory.

Many manufacturers, agents, and dealers who display their goods for sale in *The Motor Cycle* are unkind enough not to let readers know the price of them, and this involves great hardship on Overseas readers of your paper, as I have noticed before in the Correspondence columns. Prices are continually changing, and since this is so, the current price should always appear in the advertisements. Nothing can be more galling to the Overseas reader than to have to write to the Homeland so as to know the price before giving an order. This procedure means anything from six to nine months, or even a year's, delay.

If the business of the country is to be rebuilt, surely the details to which I call attention should not be ignored!

Harpenden. OBSERVER.

GARAGE REPAIRS.

Sir,—"L.P.," Plymouth, has brought up a point of considerable importance when he complains of the manner in which motor cycle repairs are carried out in some garages, but he is hardly fair to the trade when he implies that this is "in nearly every case." There are many garages in the country specialising in motor cycle work, in which experienced fitters and turners are employed exclusively for overhauls and repairs, boys and apprentices being kept in their proper place. Unfortunately, what he says is often only too true; on the one hand the file and hacksaw merchant is the culprit, and in a large number of cases the large garage which does mainly car business. In the latter the motor cyclist is looked upon as a nuisance, and suffers accordingly.

There is another side to every opinion, and "L.P." would be well advised to take it into consideration. From actual experience I can definitely state that, when it comes to repairs, the average motor cyclist is a far more difficult customer to deal with than the car owner, especially when qualified men are employed on the job. Good men get big wages: the motor cyclist is usually of moderate means. It often takes as long to tackle a bicycle job as it does a car owing to the delicacy of the parts in comparison, and often their inaccessibility. When the owner is presented with the bill, which in reality shows the proprietor only a fair profit, there is a scene. The motor cyclist writes to the papers about profiteers, whilst the garage owner tears his hair, sacks his men, and employs boys in the hope of meeting the motor cyclist's pocket. Then "L.P." comes along, doubtless being quite willing to pay a fair price for a good job, gets badly bitten, and he writes to the papers.

There is always the remedy, as "L.P." states, of refusing to pay for "dud" repairs, but a much more satisfactory method is to inspect the garage workshop and satisfy oneself first that the job is likely to be properly executed, instead of handing in the work on chance and kicking up a row afterwards.

If "L.P." cares to call on the writer, he can see motor cycles being repaired by real live mechanics, who are motor cyclists themselves. H. F. W. FLOWER,
Plymouth Branch, Exeter Motor Cycle Co.

ROADSIDE CONVERSION.

Sir,—The following "get-you-home" tip for converting the overhead mechanical inlet of Rudge, M.A.G., N.S.U., Harley-Davidson, and Indian engines to automatic working in the event of a breakage of the rocker or long tappet rod, may be of use to some of your readers:

Take the inlet tappet out of the timing case and dismantle the rocker on the inlet valve dome. Unscrew the dome and take the strong spring off the inlet valve, and put in the place of the usual inlet valve spring a light coil spring. Make quite sure that the spring is only just strong enough to close the valve. Replace the dome, and knock a small plug (a sharpened pencil will do) into the guide in the top of the dome in order to make the dome airtight.

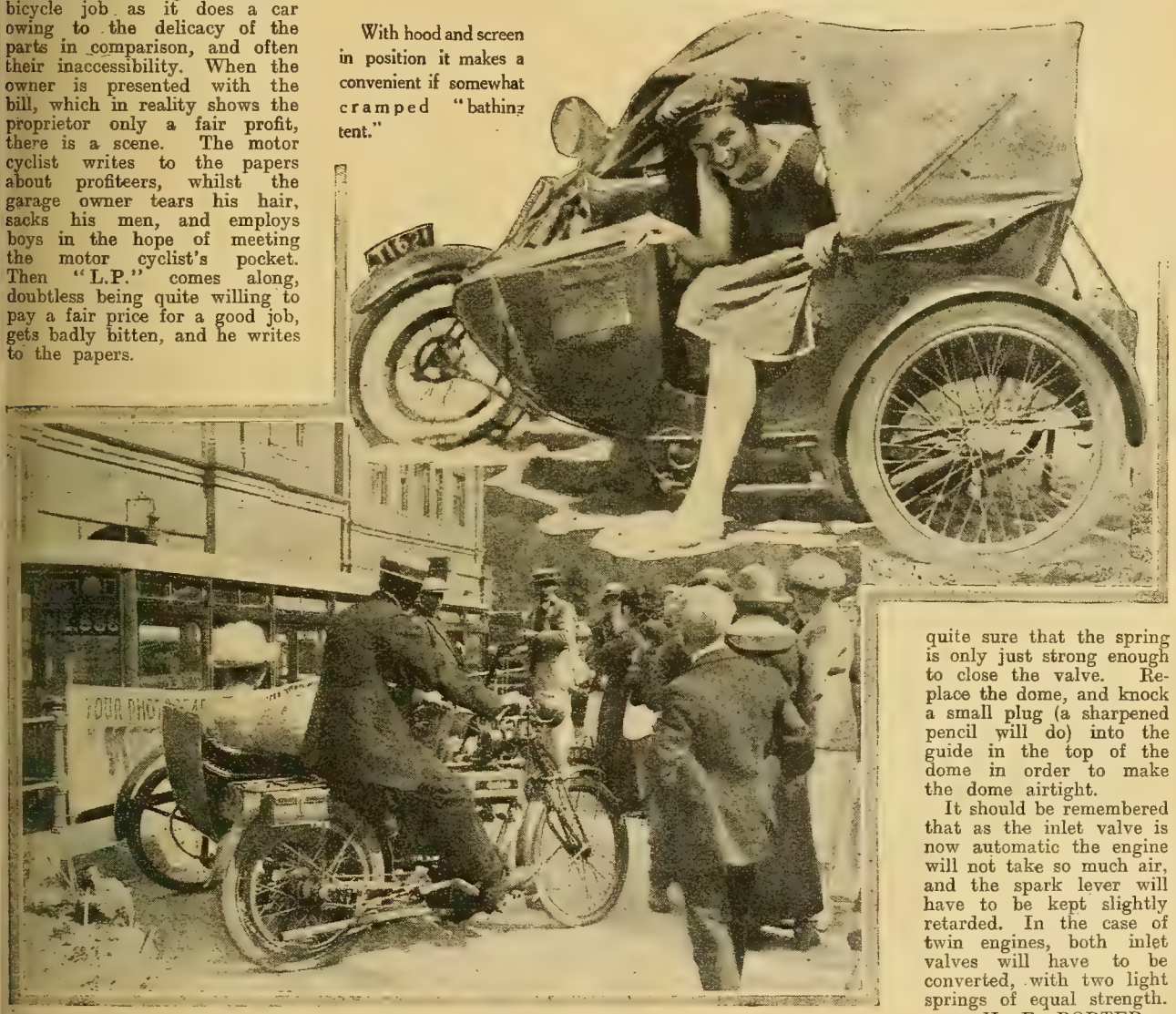
It should be remembered that as the inlet valve is now automatic the engine will not take so much air, and the spark lever will have to be kept slightly retarded. In the case of twin engines, both inlet valves will have to be converted, with two light springs of equal strength.

H. E. PORTER.

[A suitable light spring is usually to be found on the plunger of the tyre inflator.—ED.]

ANOTHER USE FOR THE SIDECAR.

With hood and screen in position it makes a convenient if somewhat cramped "bathing tent."



ONE SHILLING WHILE YOU WAIT.

There are many people who enjoy the fun of make-believe Here are people posing in a sidecar belonging to the photographer who appeared to be doing good business in an inland watering-place, charging one shilling a photograph.

A MOTORISED LADIES' BICYCLE.

Sir,—I was interested with the picture of the Auto Wheel lightweights in a recent issue of *The Motor Cycle* and venture to send you a photograph of an Auto scooter that I have designed and made in the little village of Fulbourn, utilising an Auto Wheel for the driving power. I may say that its capabilities are really wonderful for such a small engine. It is very light, weighing 60 lb., will travel 4 to 20 m.p.h., and is a good hill climber. It may interest the numerous readers of *The Motor Cycle* to learn what can be done with the small unit if fitted to rear forks of any cycle, this being direct drive, gains power and speed, and saves the tyre wear considerably.

A neatly-designed motorised ladies' bicycle. The power unit is an Auto Wheel. (See letter, C. J. Beckett.)

C. J. BECKETT.

BLEA TARN PASS.

Sir,—I have read with interest your correspondent's remarks on the above in *The Motor Cycle* for August 12th. May I point out that the trip in question was organised by myself, and was the result of a wager made by Mr. J. Westwood Wills and myself with certain officials of the Cumberland Club who claimed that a clean climb of this hill, without putting a foot to the ground, and at the first attempt, was impossible.

As events proved, these gentlemen were mistaken, but whether the hill was in good condition that day or not, both Mr. Wills and I are quite prepared again to accept a wager, and to essay a clean climb, when the hill is in the worst possible condition, the Cumberland Club to be the judges in this respect.

J. A. NEWMAN.
Hon. Trials Sec., Worcester and Dist. M.C.C.

OIL IN THE T.T.

Sir,—We issued to the trade recently a poster dealing with the result of the T.T. races which, by inadvertence, claimed more for Castrol than it should have done. On discovering the error we at once took steps to withdraw all copies issued and substitute a corrected poster, but as a complaint has reached us from another lubricating oil firm that some of the originals issued are still being exhibited, we should be extremely glad if you would allow us to state the facts in your columns.

The first place in the Senior T.T. race has been won on each occasion since 1911 by riders using Castrol. In 1913 this oil was also used by the third in the Senior event and second in the Junior, and in 1914 the two riders who tied for second place in the Senior and the third in the Junior were again assisted by our lubricant.

C. C. WAKEFIELD AND CO., LTD.

SPARE PARTS.

Sir,—As an occasional contributor and enthusiastic reader of your paper, may I be allowed to back up "Ixion" in his remarks *re* spares? I do 1,000 miles touring monthly for seven months in the year, but beyond the usual tool outfit supplied by the Douglas people, do not carry a single spare, except a belt and tube. My Douglas was received on January 1st, has gone perfectly, the plugs are still A1, valves quite unworn, and, what is more, in three long tours—London to Falmouth and back and a host of smaller trips this year—not a single part of the machine has shaken loose either on the road or off it. Therefore, it seems that the modern machine, if carefully driven and periodically examined, say once every 1,000 miles, needs no spares, and can be thoroughly relied on. *Re* plugs: Two Lodge plugs lasted me 15,000 miles on a 1914 P. and M., and gave no trouble. My present mount is very light on belts and tyres. Can one of your readers give me a tip to prevent my brake pedal turning over on to the footboard?

May I remark *en passant* that if the names of "reasonable" hotels in the country could be published (I would be pleased to give several) it would be a great boon.

C.M.-T.

PLUG EFFICIENCY.

Sir,—In answer to the letter from "Unknown" in *The Motor Cycle* of May 27th *re* Bosch plugs.

I have had just the same experience. The Bosch plug I have on my machine has been in use for eight years, and though the porcelain dome is chipped and pitted all over I dare not risk using another plug, especially on a long run.

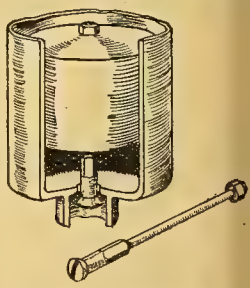
The secret, I think, is in the alloy of which the metal points are made. The points will not bridge over with carbon as is the case with our plugs. But there is one plug which comes up to the Bosch, and that is the Bethlehem (Indian) American plug. I find my engine ticks over most regularly and there are no signs of pre-ignition at the fastest speed.

INDIA.

COURTESY ON THE ROAD.

Sir,—In reply to "Disgusted" I must say that my experience of courtesy among motor cyclists on the road is quite the reverse to his.

Quite recently I was travelling to Maidstone when I passed a "very amateur" motor cyclist, who was tinkering with his engine, and evidently knew nothing whatever about it. He had taken out the plugs and removed the carburetter, and on my stopping to inquire his trouble, he was unable to tell me. I looked round the machine and found his needle valve was missing, and on telling him this he remembered having taken the carburetter off some hundred yards or so further along the road, and must have forgotten to replace it; we were, however, unable to find it.



Using part of a spoke to repair a carburetter. (See letter, J. G. Clemetson.)

After some consideration, I asked him if he would object to my removing one of his spokes. This I did, and using the nipple as the seating, and cutting the spoke off at the height gauged by the petrol level, I fitted a small nut to the spoke and burred it over to prevent it slipping through the float (see illustration).

This was quite effective, and the owner of the cycle asked for my address, which I gave him. A few days later a small parcel arrived containing a couple of new plugs and a letter thanking me for my trouble and also for a very useful "tip."

J. G. CLEMETSON.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	By post.
"MOTOR CYCLES AND HOW TO MANAGE THEM." The standard handbook on the motor cycle. Covers every subject relating to all types of motor cycles, their management and care. Twenty-first Edition. Just published	2/6	2/10
"HINTS AND TIPS FOR MOTOR CYCLISTS." Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition.	2/-	2/3
"TRACING MOTOR CYCLE TROUBLES." A reliable system for tracing motor cycle faults and of remedying any trouble when found. Fourth Edition.	2/-	2/3
"THE MOTOR CYCLE" ROAD MAPS England and Wales, Scotland, London (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.	5/6	5/10
"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District. New Edition. Just published	5/-	5/4

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Converting a Three-wheeler.

I have a number of commercial Auto-Carriers in use, and consequently know the capabilities of these little machines, and it has occurred to me that a decent pleasure car could be made up of one of these. Could you advise me if it is practicable, and where I could get the necessary bodywork, dummy radiator, etc.? I have particularly in mind an 8 h.p. 1916 model.—H.W.

There is no reason why you should not make quite a satisfactory pleasure vehicle based on an A.C. chassis. The necessary alterations, however, will have to be done locally, as we do not know of anyone who can supply you with the parts you specify. At various times we have seen conversions such as you suggest, and when equipped with bonnet and dummy radiator the appearance is quite good.

Badly Fitted Bearings.

Recently I returned my 1919 2½ h.p. two-stroke to the agents from whom I bought the machine, and they have replaced the white metal big-end and main bearings with phosphor bronze. I removed the cylinder to locate an engine noise, and I find the connecting rod fouls, with its forward edge, the aluminium of the crank case each time piston descends. The new big end has up and down play, and new main bearings are also slack. I have only ridden machine fifty miles since rebushing. (1.) Will you please tell me if the repairers are responsible for this occurring and the reason for it? Can the fault easily be corrected? (2.) Is not this very bad work, and combined with No. 1 responsible for a great lack of power, as timing and carburation are right?—W.H.S.

If the connecting rod fouls the crank case, as you state, it would point to the fact that there has been some very bad fitting, as in order for this to happen the bush must be eccentric in the big end of the connecting rod; that is, provided the original parts have been refitted. The wear seems to indicate that either grossly unsuitable material for the new parts has been used, or that the workmanship is very bad. We presume that you have given the engine ample oil. Without actual examination it is impossible to state whether the repairers are responsible, and we would suggest that you take the machine to them and point out what has happened, and at the same time ask for an explanation.

Overheats after Overhaul.

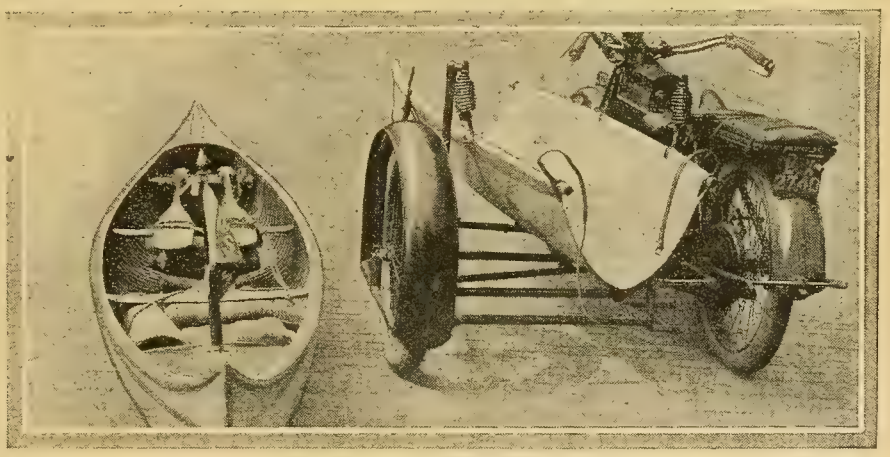
Could you enlighten me on the following? I have had the cylinder of my P. and M. motor cycle at the makers to be reground, valve seatings refaced, with new piston, new valves, and valve guides. I have assembled them, and I find that the engine overheats badly. I have timed it as follows: Piston on top, exhaust valve just closed, inlet just to open, and it blows back just a little through the carburetter; if I advance the inlet one tooth the engine won't run. It has to be cooled down every three or four miles. —H.W.

Try the effect of retarding the exhaust valve one tooth, so that it does not close until the piston has reached top dead centre. It may even be allowed to remain open until the piston has passed the top dead centre position, while the inlet valve should open at the same time, or it may commence to open as the exhaust valve is just about to close. The ignition should be set so that the spark occurs when the piston is on top dead centre, the control being two-thirds retarded.

Intermittent Slowing Down.

A week ago I took off the cylinder of my 1911 Triumph (which has been running well), and also dismantled the timing gear. These I replaced in their right position and gave the machine a trial. Now, when I am going down hill after two or three miles run, a clatter sets up in the engine every few yards and the machine slows up. But if I lift the exhaust lever slightly the machine runs quite all right. Of course, more slowly. And again, if I let the machine out on the level or up hill it goes well for about 100 yards, then drags for a yard or two, and rushes off again. I took the cylinder off and gears out, thinking perhaps one of the bearings had worn, but everything seemed right, but on replacing them and giving the machine another trial the same trouble occurs.—H.B.

The symptoms you describe would lead us to suspect a fault in the petrol supply. Possibly the petrol pipe is blocked up, or there may be an air lock in the petrol tank. The clatter you mention is difficult to account for, but it may be due to starvation.



A REAL BOAT BODY.

Considerable interest was aroused in London streets recently when Mr. Armstrong, of Messrs. Ballard's Motors, 92, Gloucester Road, London, S.W.7, drove this outfit with the canoe up to the City. One would imagine that such a lengthy body as the Canadian canoe entails—15ft. long—would render the machine extremely unwieldy in traffic, but this is not the case, as Mr. Armstrong turned the machine round in Tudor Street with the greatest ease, and after a short trial run, brought it up alongside the pavement without overlapping it in the slightest. The beauty of the means of carrying the canoe is that it can be detached in about thirty seconds. It is held in a Willesden canvas "hammock," and is secured by straps fore and aft, while amidships is a steel rod with a lever screw which keeps the canoe securely in place.

Side Play in Gearshaft.

Recently I had chain cases off my 2¾ h.p. Sunbeam, and noticed the sprocket wheel of gear box (although tight on shaft) had about ⅛in. play, viz., the wheel and shaft could be moved in and out of box. Please tell me what to do with this? Will it make chain run off sprocket wheel?—J.G.

Apparently the movement is confined to side play, which is quite in order, and will have no ill-effect on the running. We do not think you need have any fear that the symptoms you describe will cause your chain to run off the sprocket wheel.

Another Mysterious Noise.

I have a 1919 3½ h.p. Ariel, which has run about 6,000 miles. It has lately developed a grind, which appears to come from the crank case. The engine has been dismantled entirely, but no fault whatever can be found. The gear box is also found to be in perfect condition. Can you advise me what is the best course to adopt in discovering this "grind"? The machine will only touch 35 m.p.h.—O.W.

Without examination we are unable to tell you the source of the noise, which appears to come from the engine, especially as you tell us, after dismantling, both engine and gear box appear to be in perfect condition. The speed of the machine is certainly not good, but you must recollect that this particular model has been developed rather as a touring sidecar machine than a high speed solo mount. Possibly you could improve its pace by advancing the ignition somewhat.

Lightening Pistons.

I have a 1914 6 h.p. N.S.U., and I want to increase the speed. The pistons with gudgeon and rings weigh 1 lb. 10 oz. each. Please let me know: (1.) Is this excessive? (2.) What should they weigh? (3.) Where can I get light cast iron ones? (4.) Where can I get light steel ones? (5.) Approximate price? (6.) How to rebalance flywheels?—R.G.K.

(1.) The weight of the pistons is certainly rather heavy, but it may not be possible to lighten them without affecting their strength, and without having them before us we cannot give you any definite information on the point. (2.) It is all a question of design. In all probability correctly designed pistons can be brought down to 16 or 18 ounces. (3 and 4.) You will find it extremely difficult to obtain pistons at the present moment, although if you peruse the miscellaneous advertisement columns of *The Motor Cycle* you might get in touch with a repairer who would undertake to make some for you. (5.) We cannot give you the price. (6.) In a V twin engine it is usual to balance half the weight of the reciprocating masses plus the weight of the rotating masses. The reciprocating parts are the pistons, gudgeon pins, and top halves of the connecting rods, while the rotating parts are the lower halves of the connecting rods together with the crank pin.

Bad Pick Up.

Having purchased a new machine with 4 h.p. Blackburne engine, with Amac single-lever carburetter, I find that, at whatever speed I am running, an opening of the throttle causes a momentary pause, and then the engine goes on all right. The same applies to any size jet. I am using No. 25 at present. What is the correct size jet for solo work, and what setting for the air intake? I find the latter can be set at 0 or 6 without any great difference. Two motor mechanics have overhauled and experimented, but without success. Apart from this trouble, the machine runs perfectly, and everything seems in order.—R.J.P.

A 25 jet should be about the right size for the engine you are using, but since you are able to use either 0 or 6 holes of extra air without apparent effect, we gather that the choke is too small, and should recommend you to write to the manufacturers of the carburetter, who will no doubt give you the requisite information.

IMPORTANT DATES.

Mon., Aug 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial. Darlington as a centre.

Sat., Sept. 4th—
Scottish Speed Championships at St. Andrews.

Scott Trial in Yorkshire.

Sat., Sept. 25th—
East Midland Open Reliability Trial, organised by the Wolverhampton, Redditch, and Kidderminster M.C. Clubs.

Sat., Oct. 9th—
M.C. and A.C. Open Reliability Trial.

Nov. 29th-Dec. 4th—
Olympia Motor Cycle Show.

READER'S REPLY.

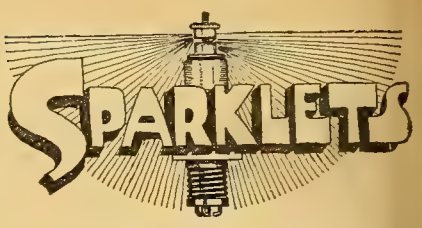
Mysterious Lack of Power.

Seeing "P.E.T.'s" query in your issue of the 12th inst., I feel I would like to give him some information regarding his trouble with the 2½ h.p. J.A.P. engine. I had precisely the same difficulty with my 4 h.p. J.A.P.; additional troubles were high petrol consumption and frequent breakage of exhaust valves. As you suggest, I kept the tappets properly adjusted and tried all kinds of pet timings both for ignition and valve gear, but met with no success. I then dismantled the engine with a very determined spirit to run the trouble to earth and spent pounds in special valves, etc. The engine was apparently in perfect mechanical order throughout, but the cam and rockers were badly worn, and when I had these replaced I was immediately rewarded by the engine developing its full power and giving 120 miles per gallon.—B. KENT.

RECOMMENDED ROUTE.

STAINES TO ILFRACOMBE.—A.S.

Staines, Bagshot, Blackwater, Hartley Row, Basingstoke, Whitchurch, Andover, Amesbury, Heytesbury, Warminster, Frome, Shepton Mallet, Glastonbury, Bridgwater, Taunton, Milverton, Wivelscombe, Bampton, South Molton, Barnstaple, Ilfracombe.



The Winning T.T. Machine.

Leicestershire readers will be interested to know that the Sunbeam which won the Senior T.T. race will be on view at the Sunbeam Depot, 16, London Road, Leicester, during the present week.

The Stocktaking Period.

The Triumph Cycle Company, Coventry, ask us to notify our readers, and particularly Triumph riders, that their works will be closed from August 26th to September 6th for annual stocktaking and rearrangement of plant.

Motor Cycles for Hire.

In view of the numerous enquiries we are receiving asking where motor cycles may be hired, North-country readers will be interested to learn that the Northern Motor Exchange, Marion Street, Sunderland, have a number of 2¾ h.p. Douglas motor cycles, which they are prepared to let out on hire.

Patronised by Royalty.

H.R.H. Prince Henry uses both a solo and a sidecar machine; moreover, he appreciates that a good machine deserves to be well cared for. He has recently purchased for both his mounts Howard covers, which are made by the Howard Car and Cycle Cover Co., 71, High Holborn, W.C.1.

Plug Testing Free.

A sparking plug testing apparatus has recently been installed at the London depot of the Apollo Plug Co., 84a, Great Titchfield Street, W.1. It is capable of testing any type of plug, a voltage of 250,000 (under a pressure of anything up to 250 lb. per square inch) being passed through the plug. Motorists can avail themselves of this apparatus free of charge.

Units and Odds and Ends.

Enthusiastic amateurs are again turning their attention to cycle car construction in their spare time. One firm, the Service Co., 289-293, High Holborn, W.C., is laying itself out to supply materials, such as engines, gear boxes, frame parts, etc. The firm also keeps in stock a large selection of second-hand motor cycle parts.

Catalogues Received.

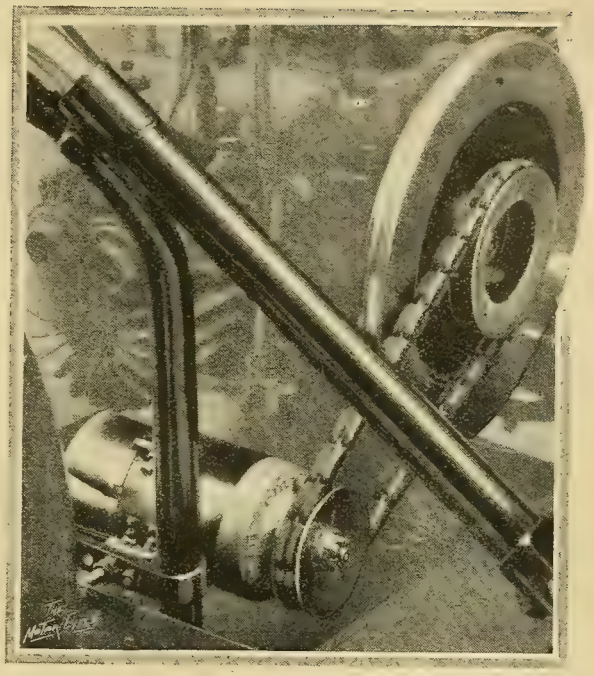
We are in receipt of a copy of the miniature edition of Messrs. Brown Brothers' 1920 catalogue. This contains the same complete information of the goods marketed by this firm as the ordinary catalogue, but should prove exceedingly useful for ready reference.

The Service Company, Ltd., 228-293, High Holborn, London, W.C.1, have sent us a copy of their latest catalogue of accessories interesting to motor cyclists and light car owners. This contains a very attractive list of accessories.

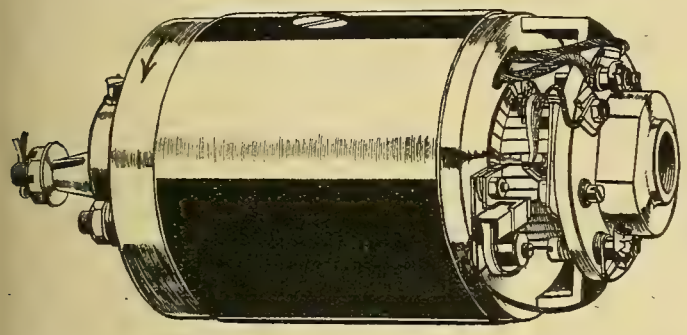
The Rotax Motor Cycle Lighting Outfit.

A Variable Speed Dynamo of Compact Design for Use on Solo Machines or Sidecars.

IT is with great pleasure that we are able to announce that the Rotax motor cycle electric lighting outfit is now ready for the market. We have known for a considerable time that this well-known electrical firm had at last turned its attention to adapting this equipment for use on solo motor cycles and sidecar outfits. Not only in connection with motor car installations is the house of Rotax famous, but the system used by them—Leitner's—is also employed for the illumination of trains, not only in this country, but all over the world. This variable speed dynamo is provided with three brushes, and is shunt wound with the winding across the positive and demagnetising brushes. Each dynamo is capable of adjustment by the makers, and is so set by them that it gives the maximum charging output of five amperes. The Rotax is a six volt set, extremely neat and compact in design, weighs only 6¼ lb., and occupies but little space on the machine to which it is fitted.



The Rotax dynamo, driven off an auxiliary pulley fixed to the flywheel on a Douglas. The switch box is situated on the top of the tank.



Dynamo with commutator cover removed, showing brush gear.

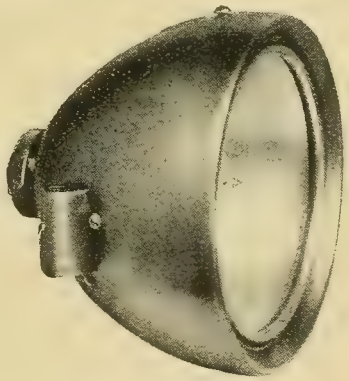
The switchboard is designed so that it can be fixed into the side of the tank, or placed on the top of it, or on the top tube. It is fitted in the last mentioned position on the 4 h.p. Douglas sidecar outfit. Simplicity is the keynote of its construction. On the box is a pointer operating a barrel switch, which has three positions, (1) for lighting the lamps, (2) for charging, and (3) "off." At the top of the switchbox is a small slot through which a white mark appears. When the engine is running and the pointer is moved to the word "charge" or "lamps," a red mark appears in the orifice, thus denoting that the battery is charging. This red mark is situated on the top of the cut-out switch, and indicates that the switch has cut in and the dynamo is charging.

The Rotax tail lamp.

Holes for the leads in the switchbox cover are at an angle so that wet is excluded. A suitable box is supplied for the battery. The dynamo in this case is provided with a pulley, and is driven by means of a Whittle belt with an extra pulley bolted on to the Douglas flywheel, while the instrument is held in a strap clip situated at the bottom of the duplex down tube of the Douglas frame.

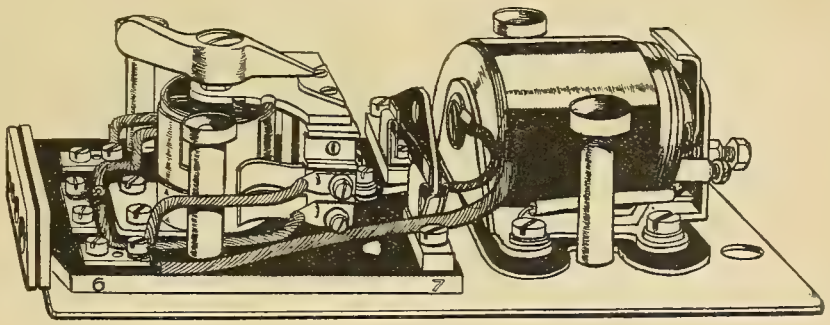
Numbered Terminals.

All terminals are numbered, so that installation should be quite easy. The set illustrated has been under test for a long time, and the Rotax Motor Accessories Co., Ltd., Rotax Works, Willesden Junction, London, N.W.10, knowing the reputation they enjoy with their car lighting outfits, have not placed it on the market before it has been thoroughly proved.



The Rotax head light

Much care and attention have been bestowed upon the design of the lamps, which are both neat and efficient. The head lamp has a smooth exterior which is easily cleaned, and a large knurled nut is provided for adjusting the focus of the bulb.



Details of the Rotax switchboard

CURRENT CHAT

Times to Light Lamps.

Aug. 25th	... ...	8.27 p.m.
,, 28th	... ...	8.24 ,,
,, 30th	... ...	8.21 ,,
Sept. 1st	... ...	8.17 ,,

25,000 Miles per Day for a Year.

Misprints and a few ciphers are responsible for strange news in the daily papers. 2,000,000 miles on a set of tyres which still look new is one of the latest.

182 Government Motor Cycles Missing.

The third report of the Public Accounts Committee mentions that, of the 351 motor cycles issued to the Ministry of Food during the railway strike, only 169 have as yet been returned to Slough. The matter is being further investigated.

Where the A.C.U. Competitors are To-day.

To-day (Thursday) competitors in the A.C.U. Six Days Trials will start from Darlington (Bond Gate) at 8 a.m. on the fourth day of their strenuous ride. The times of the first man at the various places *en route* are as follows: Staindrop, 8.33 a.m.; Egglestone, 9.3; Mickleton, 9.10½; Brough, 9.54½; Kirkby Stephen, 10.7½; Soulby, 10.15; Crosby Ravensworth, 10.51; Shap, 11.3; Clifton, 11.27; Penrith, 11.36.

In the afternoon they will commence to leave Penrith at one o'clock, and the first competitor is due at Langworthy at 1.14½; Melmerby, 1.27; Alston, 1.58½; Neuthend, 2.13; West Gate, 2.52½; Bolt's Burn, 3.7½; Wolsingham, 4.13; Tow Law, 4.23½; Crook, 4.37; Bishop Auckland, 4.53½; Darlington, 5.36.

Where the Competitors go To-morrow (Friday).

MORNING.—Darlington (Skinner Gate), 8.0; Barton, 8.17½; Catterick Bridge, 8.37½; Hunton, 8.57; Middleham, 9.17½; Carlton, 9.31½; Kettlewell, 10.3; Threshfield, 10.21½; Bolton Abbey, 10.50½ Ilkley, 11.7½; Brighouse, 12.9; Huddersfield, 12.22½. (1h. 7½m. lunch stop.)

AFTERNOON.—Huddersfield, 1.30; Glossop, 2.28½; Buxton, 3.11½; Ashbourne, 4.13; Sudbury, 4.43; Yoxall, 5.10; Lichfield, 5.30; Coleshill, 6.16; Stonebridge, 6.28½; Kenilworth, 6.55½; Warwick and Leamington, 7.9.

Saturday's Timetable.

Coleshill, 8.0 a.m.; Stonebridge, 8.12; Kenilworth, 8.39; Warwick and Leamington, 8.52½; Banbury, 9.52; Oxford, 11.0; Henley-on-Thames, 12.9 p.m.; Maidenhead, 12.35; Windsor, 12.55; Staines, 1.13; Chertsey, 1.22; Brooklands 1.40.

Tanks and their Future.

In view of the number of motor cyclists who have been more or less intimately connected with tanks during the late war, the book entitled "Tanks in the Great War," by Col. J. F. C. Fuller, D.S.O., published by John Murray, may be of interest to our readers. In a review of this work in "The New Witness" (edited by G. K. Chesterton), of August 6th, are some interesting facts relative to the Army prejudice against this new weapon. Many people, including some of the German high officials, consider that the tanks were largely instrumental in winning the war, but, in spite of this, it is pointed out that some of the regular army, and especially the cavalry element, who have a large voice in control, are apparently endeavouring to oust tanks from the prominent position which they have won for themselves.

An Ex-Despatch Riders' Rally.

The second annual rally of ex-motor cyclist despatch riders who once formed that section of the late 24th Division took place recently at Knutsford.

On this occasion ten "answered the call," coming by road from distant parts of the country.

Throughout there was shown that fine spirit of *camaraderie* which almost invariably mellows the meetings of ex-service men, and it was unanimously decided to continue the rally as an annual event to take place on the last Saturday in June at somewhere central to all.

Such reunions as this are to be commended, as the interchange of reminiscences, even if often retold, keeps green the friendships struck up during hazardous times.

Special Features.

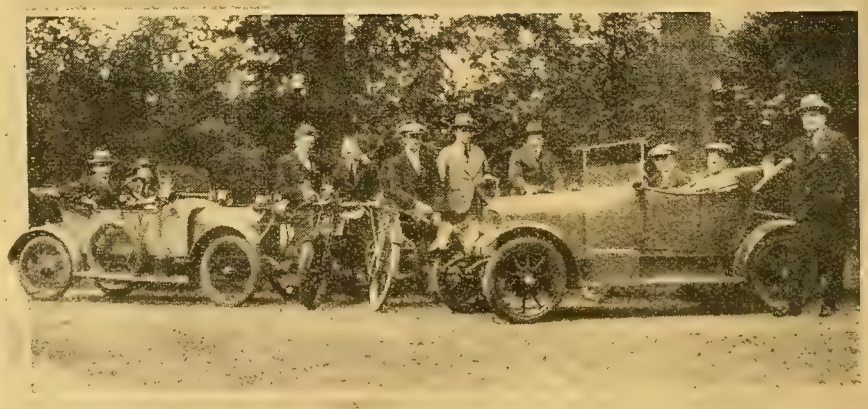
A.C.U. SIX DAYS TRIALS
DAY TRIPS AND WEEK ENDS.
NEW MODELS.

Open Air Camping.

Many motor cyclists are interested in the subject of camping. The current issue of *The Autocar* contains a number of special articles and illustrations dealing with open-air camping in its various phases, including trailer, caravan, and with the aid of an ordinary car loaded with camping equipment. Useful advice of a general nature will be found in the interesting matter which forms the special subject of this particularly attractive number of *The Autocar*.

Hundred Miles at Portmarnock.

The open hundred miles handicap for the cup presented by Mr. W. P. Nash was held at Portmarnock under the auspices of the Dublin and District Motor Cycle Club, and resulted in a win for a Harley-Davidson. Although the preceding days were very calm, the sands were not in the usual good condition, and the times were slow. S. J. Redmond, on a 3½ h.p. overhead valved Indian, was on scratch, but he retired at half distance owing to engine trouble. C. W. Johnson (7-9 Harley-Davidson), with 5m. start, was at the head of affairs at half distance, and, riding out steadily, won easily. The placings were as follows: 1, C. W. Johnson (7-9 Harley-Davidson), 5m.; 2, A. Carton (4 h.p. Indian Scout), 12m.; 3, J. A. Carville (4 h.p. Triumph), 17m. The winner's net time was 2h. 40m. 45s.



Ex-D.R.'s of the late 24th Division on the occasion of a rally recently held at Knutsford, Cheshire.

Midland Open Trial.

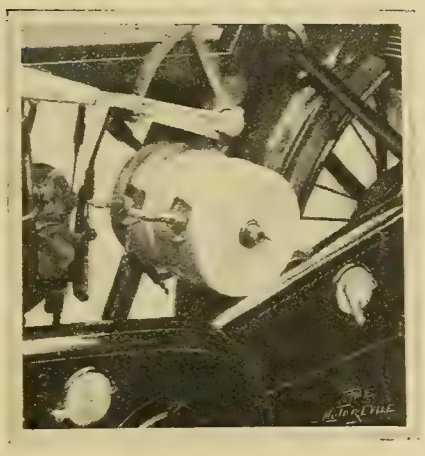
An open trial, which forms one of the seventy events sanctioned by the A.C.U., is to be run off on September 25th, by a joint committee of the Wolverhampton, Kidderminster, and Redditch clubs. The course will be approximately 150 miles. Entrance fees are, for club members 21s. and for trade members £1 10s. Particulars are now available from the hon. secretary, Mr. A. G. Hilton, Hume Street, Kidderminster.

Motor Cycle Works Fire.

An outbreak of fire occurred at the Birmingham works of the James Cycle Co., Ltd., in the early hours of last Sunday morning, and considerable damage was done to the motor cycle assembling sections. The productive side of the works was little affected, however, and only current output is lost; deliveries will only be held up temporarily, and next year's programme is not likely to suffer in any way.

The Autocar Handbook.

The tenth edition of *The Autocar Handbook* will appear next week and will be on sale at all bookstalls, etc. The work had been revised during the war, but the advances made lately have been so great that the book has been rewritten throughout, and is now by far the largest and most up-to-date popular work on the subject. In order to deal with modern developments, the chapters on engines and transmission have each been divided into two, and an entirely new chapter has been added on the electrical installation, which has so increased in importance on modern cars. The special points of the Ford car are also treated in a separate chapter. The whole work has been compiled with great care, each division of the subject having been put in the hands of an expert; and about 250 new illustrations have been prepared. The book is published at 3s. 6d. net, by the proprietors of *The Motor Cycle*, Messrs. Iliffe and Sons, Ltd., 20, Tudor Street, E.C.4.



Two Cearns aluminium spare tube carriers are fitted to H. Mortimer Batten's P. and M. in the Six Days Trials.

Eastern Group Welsh Motor Cycling Clubs.

The following are the results of the open hill-climb held at Govillon Hill on Saturday, August 14th:

CLASS 1: Scooters (open).—1, W. G. S. Hayward (1¾ Whippet), 7m. 39⅘s.; 2, S. R. W. Lincup (1¾ Whippet), 13m. 8⅘s.

CLASS 2: Solo machines up to 350 c.c. (members).—1, Reg. Brown (2¼ Diamond), 4m. 34⅘s.; 2, F. T. Stephens (2¾ Douglas), 5m. 31⅗s.

CLASS 5: Solo machines up to 350 c.c. (open).—1, Geo. Dance (2¾ Sunbeam), 4m. 50⅗s.; 2, N. Mitchell (2¾ Verus), 5m. 32⅘s.

CLASS 6: Solo machines up to 500 c.c. (members).—1, Reg. Brown (3½ Sunbeam), 3m. 55⅘s.; 2, R. E. Toms (3 A.B.C.), 4m. 6⅘s.

CLASS 7: Solo machines up to 500 c.c. (open).—1, Geo. Dance (3½ Sunbeam), 3m. 39⅗s.; 2, C. Sgonina (3½ Norton), 3m. 44⅘s.

CLASS 8: Solo machines up to 750 c.c. (members).—1, C. Sgonina (3½ Norton), 3m. 44⅗s.; 2, Reg. Brown (3½ Sunbeam), 3m. 54⅘s.

CLASS 9: Solo machines up to 750 c.c. (open).—1, Geo. Dance (3½ Sunbeam), 3m. 41⅘s.; 2, C. Sgonina (3½ Norton), 3m. 44s.

CLASS 10: Unlimited solo (members).—1, Reg. Brown (3½ Sunbeam), 3m. 55⅗s.; 2, Alf. Parfitt (6 Sun-Jap), 4m. 13⅘s.

CLASS 11: Unlimited solo (open).—1, C. Sgonina (3½ Norton). 3m. 45s.; 2, G. H. Tucker (3½ Norton), 4m. 15s.

CLASSES 13 AND 14.—Unable to run, due to telegraphic breakdown.

American View of British Motor Cycle Industry.

Returning to the U.S.A. after his trip to this country, Mr. Arthur Davidson, of the Harley-Davidson Co., told an American contemporary that he had acquired an even higher respect than he possessed before for British business methods, sportsmanship, and *savoir faire*. "We Americans ought to forget a lot of that stuff they fed us on in our school-books," he added.

An Outing for Wounded Soldiers.

It would appear that many people are apt to forget that many of our wounded soldiers are still in hospital. In this connection the members of the Surbiton and District M.C. and L.C.C. recently arranged a most successful outing, and conveyed about fifty limbless soldiers for a pleasant trip including tea at Reigate Hill. As we are told that many of the patients have had no such treat for many months we take this opportunity of reminding club secretaries that opportunities of combining a kindness with their own pleasure still exist.

The Number of Motor Bicycles Registered in France

The total number of motor cycles registered in France is 28,538. The Department of the Seine, which comprises Paris, has 7,169 machines; the Department of the Rhône has 1,251; and another Southern Department—Bouches-du-Rhône—has 822. Curiously enough, in some of the Departments which include the greatest number of hills, like the Haute Pyrénees, only sixty-four motor cycles are to be found—while, probably, the smallest number is in Lozère, where there are only twenty-one.

Though the numbers of motor cycles in France are increasing, there seems to be no reason why they should not be considerably augmented, considering the small number there are compared with the population of the country, which is 40,000,000. Probably the bad state of the French main roads is responsible.

A FURTHER DOUGLAS SUCCESS.

IN the report of the B.M.C.R.C. meeting of August 14th, we made mention of a special racing Douglas intended for the Grand Prix Race at Le Mans. On this machine S. L. Bailey was successful on Tuesday, the 17th inst., in beating the flying five miles record. His time was 4m. 32s., equalling 66.18 m.p.h., the previous best being G. E. Stanley, 2¾ h.p. Singer, 75×79 mm., 349 c.c., June 14th, 1913, 4m. 37⅖s., 64.93 m.p.h. Bailey also covered the ten miles standing start in 9m. 16⅗s., at a speed of 64.65 m.p.h., beating the previous record made by Stanley, August 9th, 1913, on a Singer machine, on which he covered the distance in 46m. 58s., at a speed of 63.88 m.p.h.

Hutchinson tyres, an E.I.C. magneto, and Shell motor spirit were used.

Mr. Bailey, who is general manager of the motor cycle departments at the Douglas works, is now on a business visit to his home country, Australia. He sailed on Saturday, and takes a new 2¾ h.p. chain driven model with him.

S. L. Bailey (Douglas), who beat the flying five mile record on the 17th inst. His speed was 66·18 m.p.h. He also lowered the figures for the ten mile standing start.

The worst hill on the first day's run—Park Rash. This hill has a maximum gradient of about 1 in 4 and a very loose surface.

A Review of the Competing Machines. Impressions of the Start.

ALL roads led to Darlington on Saturday, the centre for the 1920 Auto Cycle Union Six Days Reliability Trials. As a matter of fact the majority of those who journeyed up from the Midlands manufacturing districts elected to sample Park Rash Hill, near Kettlewell, one of the most terrifying gradients of the Trial, which had to be ascended on the first day. They experienced varying fortunes, some proclaiming the hill unclimbable with a sidecar—a rash statement, the truth of which was dispelled by several successful ascents late in the afternoon.

Those riders who were not sampling test hills (and, in this connection, it should be stated that a considerable amount of practising has been the rule this year), went to Sutton Bank to see the hill-climb. In Thirsk we saw Mr. and Mrs. J. E. Greenwood aboard a long stroke 4 h.p. Sunbeam sidecar outfit, who were spending a holiday in Yorkshire. The experimental mount they had with them has an engine modelled on the lines of the T.T. engine, *i.e.*, with a detachable cylinder head having vertical radiating fins. At the post office we saw the James team on their way to Darlington. Stobart's sidecar spring had snapped, and a wire was being despatched for a replacement. From Thirsk we rode behind Mr. and Mrs. R. M. Knowles, who are competing on their Scottish Trials Norton machines.

Naturally, the severity of this year's course was the subject of general comment as the riders gathered round the dinner tables on Saturday evening. It goes without saying, too, that "the hills are the roughest and most severe ever known, etcetera." One gets used to this sort of eleventh hour summing up of the Six Days Trials as the years roll round; still, from our knowledge of several of the freak hills included, we are inclined to agree that the whole event will be up to 1921 standard, by which we mean that conditions must necessarily increase in severity as machines are improved year by year. One must remember that Park Rash in the Ilkley Club's trial earlier in the summer stopped four-fifths of the entry, and Yorkshiremen, who *know* what steep and rough hills are, can handle their machines in first-class style. How the motor cycle experts of the whole country will fare is mere speculation at the moment of writing, and the chronicle of their experiences will appear in *The Motor Cycle* next Thursday.

The Eve of the Trial.

Sunday morning last saw competitors putting the finishing touches to their machines in the various garages throughout the town. Between 2 and 3 p.m. each man had to report to the A.C.U. offices and there receive numbers and route cards and book of meal coupons (a reminder of the Dutch Trial), afterwards handing his machine over to the weighbridge officials and then to the official garage for sealing. Each mount had its tank filled before the weighing operations ready for the start at 8 a.m. on the morrow. Two garages have been requisitioned, and in true A.C.U. style the floors are clearly spaced.

Generally speaking, they are a fine lot of workmanlike mounts, which go to form a splendid representation of the various types of motor cycles manufactured today. From lightweights of 275 c.c. the machines range throughout the scale up to luxurious sidecars and runabouts, all of which are bound to be examined with keen interest at Brooklands on Saturday. Judged by numbers, the most popular machine in the Trial is the Rover with ten representatives, Triumphs having nine, Sunbeams eight, and A.J.S. seven. An analysis of the entries is interesting.

Forty different makes are represented by the 133 competitors who started from Darlington last Monday, of which thirty-eight are on passenger machines and ninety-five are riding solo. Twenty-five two-stroke are entered.

	Singles.	V-twins.	Flat Twins.	Side-by side Twins.	3-cyl.	4-cyl.
2-strokes	19	—	—	6	—	—
4-strokes	46	48	12	—	2	—

The numbers of machines in the various classes are as below:

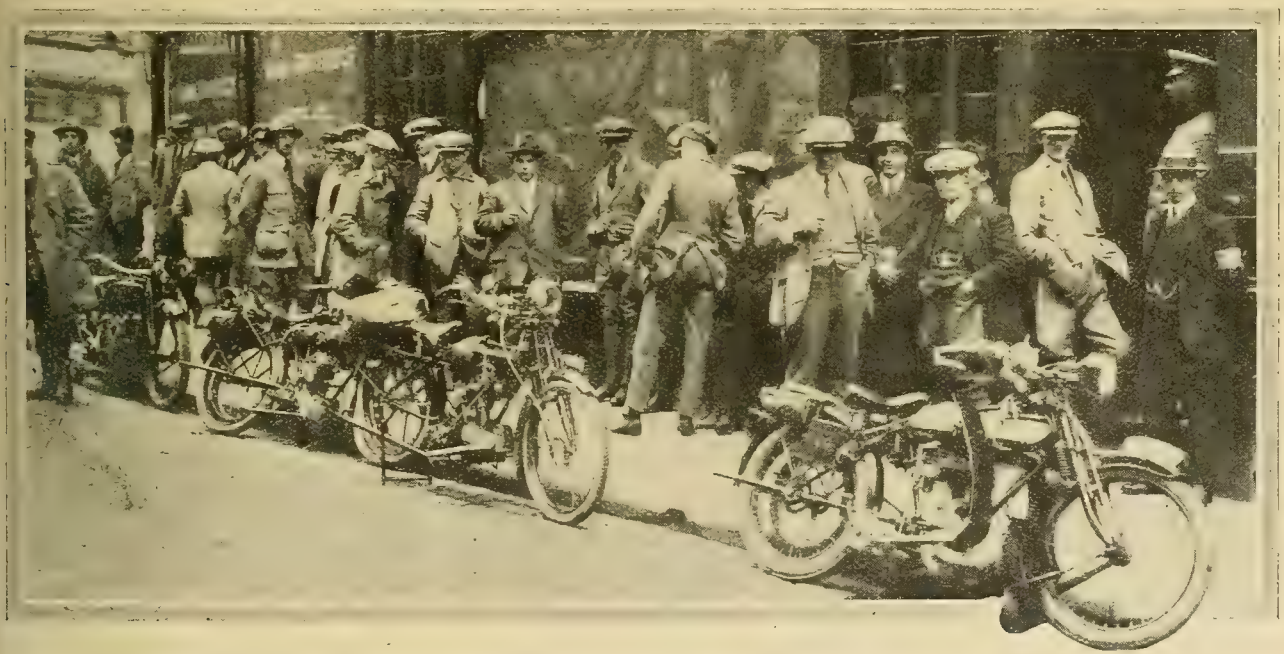
SOLO.		
Class A.	275 c.c.	14
„ B.	350 c.c.	17
„ C.	500 c.c.	25
„ D.	750 c.c.	36
„ E.	1,000 c.c.	3
PASSENGER.		
Class G.	500 c.c.	3
„ H.	750 c.c.	11
„ K.	1,000 c.c.	21
„ L.	Over 1,000 c.c.	3
	Total	133

A Review of the Competing Machines.

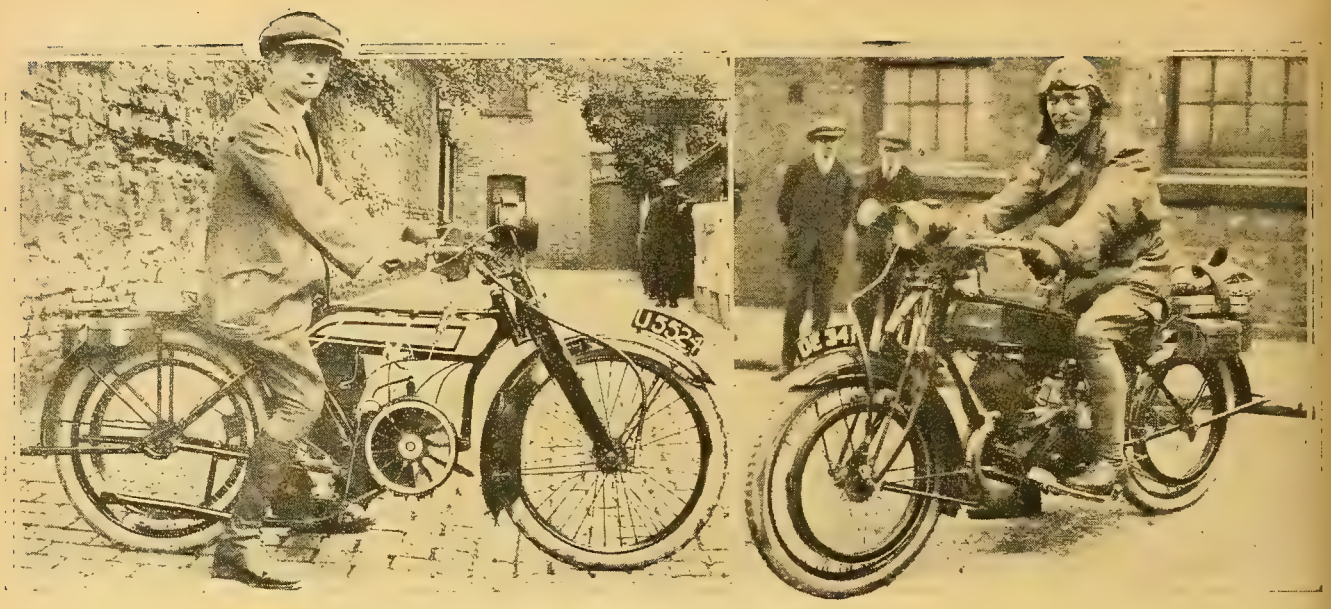
In the main the competing machines are of standard pattern, but here and there one notices new features which usually herald their adoption as standard in the succeeding year. The twin Humber, driven by Sam Wright, for instance, has a sidecar brake consisting of a dummy belt rim of about 12in. diameter and the usual V block, the brake being operated by the passenger. Considering the precipitous and winding descents, this seems a desirable move. Wright's flat twin Humber, by the way, ticks over beautifully quietly, and seems to be quite the most silent machine in the Trial. It has a Cox Atmos carburetter, which instrument is found on a number of machines. The little Velocettes, whose design still arouses feelings of admiration, now have internal expanding front wheel brakes. If the dimensions are large enough, this desirable solo lightweight goes up another stage toward perfection. Alan Hill's Scott has a B. and B. carburetter and twin Splitdorf plugs with spring terminals to each cylinder. Hill assures us that his machine is five miles faster when the plugs fixed in the cylinder head are used. Both mudguarding and silencing have received much attention. Ariels, for instance, have double silencers, and fine mudguards are applied to the Zeniths, one of which has horizontal extensions from the lower stays of the front guard. All the A.J.S. sidecar machines have 700×80 mm. Dunlop Magnum light car tyres. The machines themselves appear to be brand new and well up to the standard of finish attained by this first-class firm. The Sunbeams make a fine show, and have a star team in the saddle whose names have become household words. These solo mounts actually have 700×80 mm. tyres, and, apart from their carburetters, represent standard practice. The carburetters are Amac, B. and B., and Binks respectively. No trial would be complete without a Levis team. The machines have the identical engines used in the Isle of Man. On Park Rash they had plenty of power, but their speed was too high on the atrocious surface, and so, to prevent being buffeted about on the road, the machines were reduced in speed by altering the gear ratios on Sunday to 6.2 and 15.2 to 1. F. W. Applebee (Pa), of course, is astride one of the Levises.

Unquestionably the real novelty of the Trial is the Redrup Radial, of which there are two specimens. One has its engine entirely enclosed; the other is similar to the unit we exclusively described and illustrated in these pages on Feb. 5th, 1920. They run very smoothly, are flexible, and hum like a four-cylinder. If the machines survive the hills and get to Brooklands on Saturday (as we hope and expect they will as an encouragement for the enterprising designer), one can predict quite definitely that they will form a centre of attraction. Lake's A.J.S. has one of the old 2¾ h.p. T.T. engines with a very tall cylinder and side-by-side valves. He found definite traces of water in the tank on Sunday and was

The last stage of the competitors' preliminaries—entering one of the official garages for sealing and storage.



The competitors did not appear to like this, A dull, cold Sunday morning in Darlington had damped the spirits of many, and to stand in a queue to obtain access to the number stewards was far from pleasant.

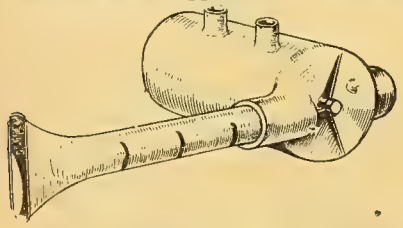


NEW TYPES IN THE TRIAL.

The Redrup three-cylinder radial, a miniature four-stroke of 309 c.c. (the cylinders are hidden by the fan flywheel), and a big single two-stroke. The riders are N. A. Woolley (2¾ Redrup) and Capt. Barton (4½ Dunelt).

busy for some time with the machine upside down. There were several changes in the riders; P. W. Bischoff took Freeman's place on a two-stroke Clyno, and Frank H. Applebee is riding one of the five A.B.C.'s in place of Keith Robinson.

A mount new to competition work is the Ready which has a 2¾ h.p. J.A.P. engine, and is altogether a neat and well proportioned machine. The O.K. two-strokes should do well, for their riders are seasoned competition men, and the machines themselves sound in design and workmanlike in appearance. Incidentally, two are equipped with the 1921 O.K. engine. Enfields have a strong representation, and started off well, for Douglas Alexander had the advantage of acquaintanceship with Park Rash, which he found within his compass provided the left side of the road was hugged tenaciously. The Triumph team this year have solo machines with all chain transmission, the new Triumph three-speed gear boxes and enclosed spring fork. Grinton's flat twin Harley-Davidson looks fit for any task. This rider, by the way, is reported to have seen his machine off by train at Edinburgh, then journeyed to Darlington by road in time to witness the arrival of the train with his trial's mount.

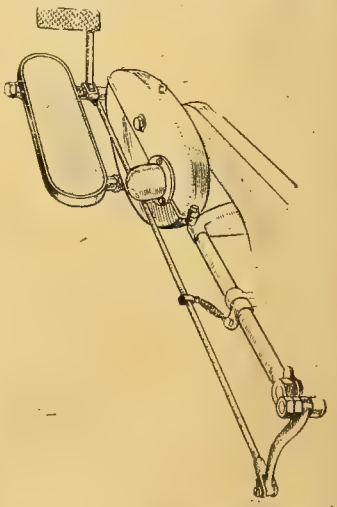


New pattern silencer on the Six Days Rover. The extension pipe is quite short.

Hugh Gibson is riding his Dutch Trials Clyno with a reserve supply of petrol accommodated in a neat flat tin affixed to the carrier. The spring frame sidecar outfit in the hands of A. F. Knight has electrical equipment and combination Avons of 700×80 mm. Beardmore-Precisions look spick and span, their riders being tended by Maurice Holroyd (the son of Mr. Victor Holroyd), who has lately joined Messrs. F. E. Baker, Ltd.

Only two Indians are in the running: a Scout and a 7-9 h.p. Powerplus. One wonders whether the Coventry Victor has sufficient ground clearance for the rough roads in store, but we shall see. The sidecars form an important section, and range from a 400 c.c. A.B.C. to the heavy brigade represented by the Dots and Matchlesses. Whereas the Dots with their red finish are all British, having J.A.P. engines, the Matchlesses have M.A.G. engines and Schebler carburetters. Another departure is the fitting of front wheel contracting band brakes and extra large hubs having ½in. balls. A big two-stroke Dunelt has a sidecar attached, so evidently the makers have great faith in its climbing abilities.

A Matchless modification. Front wheel brakes of the contracting type are fitted to the team from Plumstead.



On the Rover machines several detail improvements are in evidence. Above are shown the rear brake operating rod and crank. The latter is much longer than standard.

Quite one of the most attractive sidecars is Charlesworth's French grey Zenith with disc wheels. Sawer has again set himself the task of piloting a single-cylinder sidecar round the course, and is again astride a 4 h.p. Norton, a make of machine on which he has done so well in the past. The Morgans mostly have J.A.P. water-cooled engines, and appear to be exactly the same designs as have shown up so conspicuously in past events. The Douglas is a notable absentee this year.

Eleventh Hour Impressions of the Trial.

Conjectures as to the Severity of the Course. The Freak Hill Policy.

DARLINGTON. SUNDAY NIGHT.

WE unfortunates who have come up to Darlington by road fully understand why the A.C.U. have come North for its 1920 trials venue. The modern machine is so reliable that no week of ordinary riding can find out its weaknesses. Hence, the tendency in modern trials is to select roads guaranteed to smash up anything, and north of Doncaster heavy industrial traffic has simply knocked the roads to pieces. They are scolloped from side to side into potholes as big as soup tureens, and several competing machines were stalled by the roadside yesterday all the way from Doncaster to Catterick. It is not definitely known how much of this kind of surface is included in the official route, and it must be admitted that the going began to improve north of Boroughbridge. But the Southern entrants had a rare shaking up on their way here, and are saying glumily that the "blinding," previously utilised to make up time after a bad section in the Six Days will be a physical impossibility this year.

Prospects.

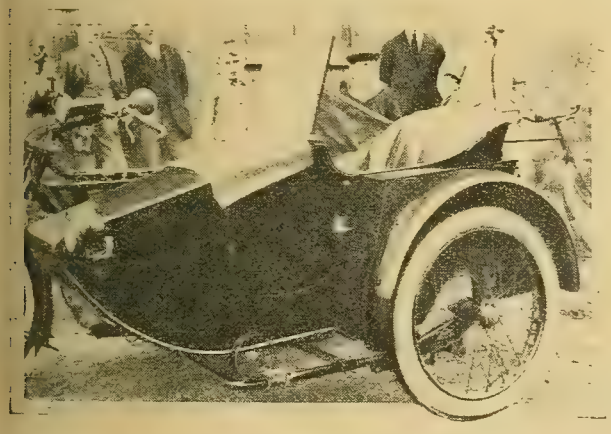
On the eve of a big trial the men always have "wind up" about the hills, but we do not remember ever to have noticed such intense nervousness on the night before any previous event. As usual, there is much circumstantial evidence about the ferocity of the hills. The Rev. E. P. Greenhill fought the Competitions Committee tooth and nail to get Rosedale Abbey Bank excluded, and failed. A Yorkshire enthusiast, who owns a Rolls-Royce, has made umpteen attempts to climb Park Rash, and has given it best in sheer despair. One firm intended to enter a team of single-cylinder sidecars, but after a practice tour elected to send its men round solo. Tim Wood considers that Darnbrook is as near unrideable in wet weather as a hill can be: and there were torrents of rain last night. Hugh Mason says none of these hills compare with the Stake. Thirty or forty men, who went to practise on Park Rash yesterday, turn pale, and hastily order drinks when any local pundit pronounces that Park Rash is a gentle incline by comparison with others which he names. Then some veteran competitor commences to reminisce about the strike over White Shaw Moss in 1913. This is the kind of atmosphere which is always created by the dread of the unknown in a company of keen riders who are anxious to do justice to their machines; and large deductions must always be made for rumour and nerves. Nevertheless, the 1920 trials will unquestionably prove far more severe than any of their predecessors. Indeed, writing before the event has actually started, we think it possible that these trials may at last bring the old "freak hill" policy to a head. If the weather is dry, everything will go off smoothly. If the weather converts arduous stunts into practical impossibilities we may see a radical revision of policy in 1921.

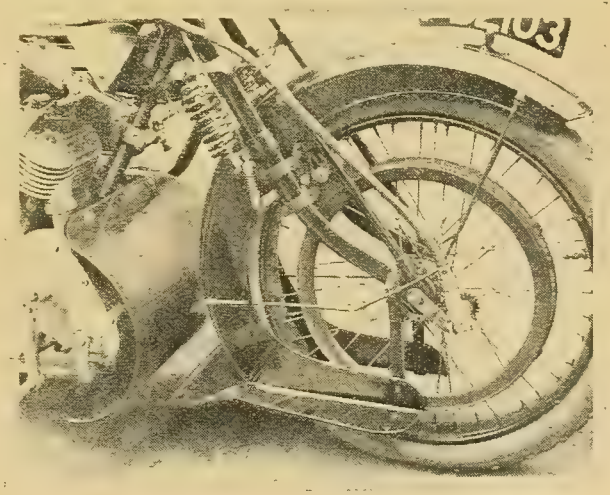
Hugh Gibson and the 2½ Clyno he is piloting. A neat three-quarter gallon tank is strapped to the carrier.

Riding to Time.

As all old competition riders know, there is usually a vast amount of "blinding" in an A.C.U. Six Days. Reliablility marks used to depend on punctual arrival at certain given points. It paid the men to keep well ahead of time in case some rough and dangerous section should have to be taken at a mere crawl. This year a rider's time "may" be taken at *any* point of the 918 mile course. This is roughly equivalent to threatening us with an unlimited number of secret checks over the whole 918 miles of the route. This threat is modified by a printed hint that in practice no timing will be attempted at points where we are likely to have lost time. Still to the general strain of riding must now be added the necessity of being not more than ten minutes late or early *for a whole week*! Every twenty miles from start to finish we shall see a large board by the roadside showing the distance covered since 8 a.m. on Monday: thus somewhere near Buxton on Friday afternoon we shall be greeted by the figures 740, and rejoice that we have only 178 more miles to cover.

The first petty controversy is likely to arise about replenishing tanks. The rules say that this may only be done in controls, *i.e.*, at midday and night. Presumably this regulation is meant to rob riders of plans and excuses for visiting garages and also to enforce capacious tanks. Many of the babies and of the sidecars cannot do anything like one hundred miles on a tank, and something like this distance is set on several half days. So the owners intend to carry reserves with them, and the interpretation of the rule remains to be cleared up later on.





(Left) A large tool locker in the new Enfield sidecars. Observe that the mudguard is fitted to the body.

(Right) The improved front wheel mudguarding on H. Jepson's Zenith

MEN AND MACHINES IN THE TRIAL.

A.J.S.
W. J. Lake (2¾).
Cyril Williams (6 sc.).
J. Cooper, junr. (6 sc.).
H. R. Davies (6 sc.).
Eric Williams (6 sc.).
O. Wade (6 sc.).

ARIEL.
F. A. Longman (3½).
T. Peck (4½).
L. Newey (4½).
J. L. Stocks (4½).
F. J. Watson (6 sc.).

A.B.C.
G. W. Lush (3 sc.).
E. E. Palmer (3 sc.).
F. A. Applebee (3).
R. C. Winn (3).

BEARDMORE-PRECISION.
L. A. Bees (3½).
A. G. Cocks (3½).
H. Greaves (3½).

BLACKBURNE.
L. G. Bachelier (8 sc.).
W. A. Fell-Smith (8 sc.).

B.S.A.
H. F. Edwards (3½).
W. Edwards (4¼).
L. L. Sealey (4¼).
F. Turvey, junr. (4¼).
W. J. Chambers (4¼).

CLYNO.
P. W. Bischoff (2½).
H. Gibson (2½).
A. F. Knight (8 sc.).

COULSON.
R. B. Clark (2¾).

COVENTRY VICTOR.
A. Joynson (5-6 sc.).

DIAMOND.
F. J. Price (2½).

DUNELT.
Capt. Barton (4½).
P. Pehrson (4½ sc.).

DOT-JAP.
J. H. Place (8 sc.).
Harry Reed (8 sc.).
E. Foster (8 sc.).

ENFIELD.
H. L. Hanks (2¼).
D. Alexander (8 sc.).
W. E. Smith (8 sc.).

HOBART.
H. P. Knowles (2¾).

HOSKISON.
H. R. Guest (2¾).

HUMBER.
L. Crisp (4½).
E. Redvers Johnson (4½).
S. Wright (4½ sc.).
H. F. O. Evans (4½).

HARLEY-DAVIDSON.
J. A. O. Sullivan (4).
D. H. Davidson (4).
G. Grinton (4).

JAMES.
J. L. Lidstone (2¼).
G. E. Stobart (7 sc.).
G. A. Strange (3½).

INDIAN.
A. Colcombe (4).
R. E. Darnton (7-9).

LEVIS.
F. W. Applebee (2½).
G. Kuhn (2¼).
F. Porter (2¼).

L.M.C.
H. E. Ashley (6 sc.).

MORGAN.
H. F. S. Morgan (8).
T. James (8).
S. Hall (10).
F. James (10).
F. G. Boddington (10).

NEW IMPERIAL
J. A. Newman (2¾).
L. Horton (2¾).
L. Tonks (2¾).
B. Bladder (8 sc.).

MATCHLESS.
G. Packman (8 sc.).
F. J. Ellis (8 sc.).
H. V. Colver (8 sc.).
T. J. Ross (8 sc.).
G. Nott (8 sc.).
G. W. Hardee (8 sc.).

NORTON.
Mrs. O. M. Knowles (3½).
S. Sawer (4 sc.).
R. M. Knowles (4).
G. W. Ellis (4).

N.U.T.
F. J. Fieldhouse (3½).
W. C. Thompson (3½).
E. A. Edwards (3½).
D. Robb (3½).

O.K. JUNIOR.
N. M. Hall (2½).
W. L. Handley (2½).
P. Pike (2¾).

P. and M.
H. M. Batten (3½).
G. M. Townsend (3½).
J. J. A. Dias (3½).

ROVER.
G. L. White (5).
W. Brandish, junr. (5).
E. S. Astley (5).
D. Danskin (5).
W. H. Owen (5).
D. A. Atkin (5).
Alex. Wilkes (3½).
G. Featherstonhaugh (3½).
W. J. Montgomery (5 sc.).
A. L. Cranch (5 sc.).

RADCO.
R. H. Baxter (2¼).

REDRUP RADIAL.
N. A. Woolley.
C. B. Redrup.

READY.
D. Read (2¾).

SCOTT.
W. L. Guy (3¾).
G. Hill (3¾).
H. Taylor (3¾).
B. Alan Hill (3¾).
H. Longman (3¾).
C. P. Wood (3¾).

SUNBEAM.
H. Church (3½).
D. L. Greig (3½).
W. G. Harrison (3½).
G. Dance (3½).
T. C. de la Hay (3½).
A. S. Guthrie (3½).
F. C. Townshend (3½).

TRIUMPH.
E. Cross (4).
F. G. Edmond (4).
C. Moser (4).
N. Rycroft (4).
W. Westwood (4).
R. W. Duke (4).
H. Green (4).
H. Pattison (4).
G. J. Shemans (4).

VELOCETTE.
E. F. Goodman (2¼).
S. Jones (2¼).
G. Denley (2¼).

VERUS.
B. Kershaw (2¾).
J. W. Wills (2¾).

WOLF-JAP.
B. Gold (2¾).

ZENITH.
L. T. Gilson (5).
V. Gayford (6).
H. Jepson (8 sc.).
Kaye Don (6).
R. Charlesworth (8 sc.).

THE START ON MONDAY.

Competitors were early astir on Monday for the eight o'clock start. They were despatched in pairs by F. T. Bidlake—one solo and one sidecar—until the 120 had departed, after which solo riders went off singly. The weather was dull, but fine, and all except six weighed in. These non-starters were P. H. Hall (4 Blackburne), H. W. Merrill, jun. (3 A.B.C.), R. Locke (3½ Coventry Eagle), M. Davies (3½ Sunbeam), R. H. Bywaters (6 A.J.S. sc.), and W. McClennan (4 Norton sc.).

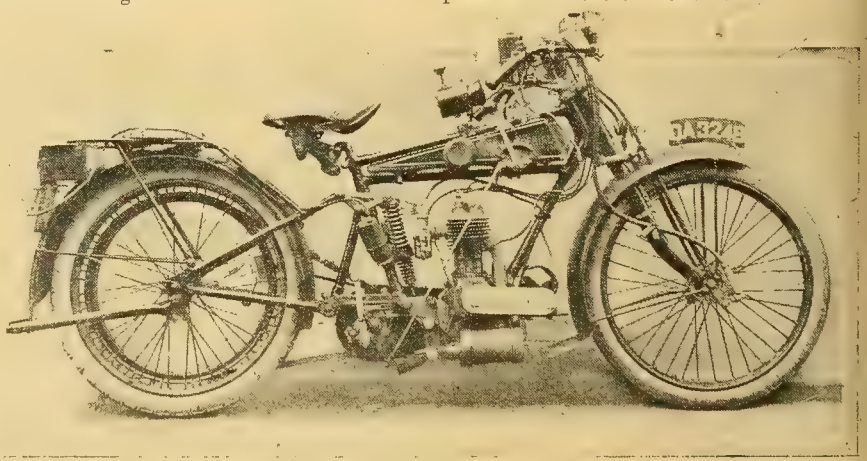
Most of the others made good starts, but one could detect whether they used benzole or petrol, thus despatching the claim that modern benzole is odourless.

J. A. Newman, now mounted on a spring frame 2¾ h.p. New Imperial, started well. Mrs. O. M. Knowles (3½ Norton), the only lady competitor, received a hearty cheer from the spectators. N. A. Woolley (2¾ Redrup Radial) started splendidly, but C. B. Redrup himself stopped his engine on the word to go, as it was misfiring. After cleaning the plug, however, he started well. L. A. Bees, on the Beardmore-Precision, got away impressively. The Enfields are forerunners of the 1921 models, having new rear mudguard and a special shield inside the sidecar wheel. A long tool-box is fitted at the side of the body.

The Dot machines are identical with those used last year.

Several competitors were wearing light-coloured oilskins, which, worn with a belt, stuck out at the skirt like the dress of the ballet girl.

Silencer efficiency varied noticeably. H. E. Ashley (6 L.M.C. sc.) started splendidly. All were expectant of Park Rash, which was bound to weed out many, but the morning's run was mild in comparison with the afternoon section.



J. A. Newman's spring frame New Imperial—a new model which embodies a three-speed gear box.

UP SUTTON BANK IN 1 MIN. 18 SECS.

York and District M.C.C. Open Hill-climb.

SUTTON Bank is one of the famous hills of England, but its location on the Hambleton Hills in North Yorkshire renders it inaccessible to the majority of motor cyclists, to whom, in consequence, it is unfamiliar.

Last Saturday it was the scene of the York and District M.C.C. annual open hill-climb, which attracted 119 entries.

The programme was not without its stars, however, and the spectators at various parts of the course were soon to learn that most of the classes were to be close duels between L. Mitchell (3½ Norton) and G. S. Boston (2¾ A.J.S.).

Boston's first run up was in Class 3 for 350 c.c. solo machines, when he reached the summit in 1m. 37⅖s. But the duel did not really open until Mitchell clipped 8⅘s. off this time in Class 8 (500 c.c.). L. A. Runton (3 A.B.C.) was 9⅕s. slower, but E. Searle (3½ Norton) narrowed the margin to 1⅗s. Then Boston beat Mitchell's time by 4⅘s.

In the following class it was evident that these two riders were using to advantage the experience gained on the previous runs. Mitchell succeeded in bringing the time down to 1m. 22s., which was thought by many to be the fastest time possible for the day. Boston's little A.J.S. was running better than ever, but he failed to do better than 1m. 23⅘s.

In Class 10, Mitchell decreased his time of over 2s., and it was thought that 1m. 20s. was surely the limit. The excitement was great when Boston came hurtling up the winding course, and roared over the summit with ⅖s. to the good, his time being 1m. 19⅗s.

It was now apparent that the heavier weight of the Norton would be in Mitchell's favour if it were possible at all for him to improve upon his time. Boston found it difficult to prevent his machine from skidding under him.

In his final run up (in Class 11), Mitchell succeeded again in lowering his time (1m. 18⅘s.), but Boston's luck was out, and he took 1m. 26⅗s., thus leaving the Norton champion of the day.

Two other Norton riders, E. Searle and G. E. Cowley, came next in order of merit, but Runton's A.B.C. was fast, as was Debenham's Brough. Blackhouse, on a Triumph, also accomplished some good speeds.

On Sutton Bank. A big crowd gathered at the bend, where some good cornering was witnessed.

G. S. Boston (A.J.S.), who has done remarkably well in speed events lately.

Individual Performances.

L. Mitchell (3½ Norton).—Class 8: 1m. 29s. Class 9: 1m. 22s.* Class 10: 1m. 20s. Class 11: 1m. 18⅘s.*

G. S. Boston (2¾ A.J.S.).—Class 3: 1m. 37⅖s.* Class 4 (sidecars): 1m. 46⅘s.* Class 5 (sidecars): 1m. 46⅘s.* Class 6 (sidecars): 1m. 46⅘s.* Class 7 (sidecars): 1m. 46⅘s.* Class 8: 1m. 24⅘s.* Class 9: 1m. 23⅘s. Class 10: 1m. 19⅗s.* Class 11: 1m. 26⅗s.

E. Searle (3½ Norton). Class 8: 1m. 30⅘s. Class 9: 1m. 29⅘s. Class 10: 1m. 31s. Class 11: 1m. 32⅘s.

G. E. Cowley (3½ Norton).—Class 4 (sidecars): 1m. 54⅕s. Class 5 (sidecars): 1m. 54⅘s. Class 6 (sidecars): 1m. 54⅖s. Class 7 (sidecars): 1m. 54⅘s. Class 8: 1m. 33⅘s. Class 9: 1m. 30⅘s. Class 10: 1m. 30⅗s. Class 11: 1m. 31⅕s.

F. W. Dixon (7-9 Harley-Davidson).—Class 7 (sidecars): 1m. 47s. Class 11: 1m. 26⅕s.

L. A. Runton (3 A.B.C.): Class 8: 1m. 38⅗s. Class 9: 1m. 38⅗s. Class 10: 1m. 59⅗s. Class 11: 1m. 58s.

Miss S. F. Wilson (2¼ Velocette).—Class 2: 2m. 44⅘s.* Class 3: 2m. 38⅗s.

R. T. Cawthorne (2½ Autoglider).—Class 1: 2m. 8⅕s.* Class 3: 2m. 9⅘s.

G. Hellewell (3 A.B.C.).—Class 8: 1m. 44⅗s. Class 9: 1m. 46s. Class 10: 1m. 46⅕s. Class 11: 1m. 47⅘s.

W. Wilkinson (4 Triumph).—Class 9: 1m. 49⅕s.

G. A. Reed (3¾ Scott).—Class 9: 2m. 21⅕s. Class 10: 2m. 42⅗s.

T. V. S. Twentyman (3¾ Scott).—Class 10: 1m. 53⅗s.

W. L. Guy (3¾ Scott).—Class 9: 1m. 46⅕s.

S. S. Debenham (3½ Brough).—Class 9: 1m. 35⅗s.

G. Clapham (4 Triumph).—Class 9: 1m. 45⅖s. Class 10: 1m. 45⅖s. Class 11: 1m. 44⅗s.

R. W. Stanfield (3¾ Scott).—Class 9: 1m. 41⅖s.

G. Eastwood (4 Triumph): Class 9: 1m. 51s. Class 10: 2m. 36⅗s. Class 11: 1m. 46s.

G. Thompson (6 Zenith).—Class 11: 1m. 45s.

Geoffery Hill (3¾ Scott).—Class 9: 1m. 38s.

W. Blackhouse (4 Triumph).—Class 9: 1m. 36⅖s. Class 10: 1m. 39⅕s.

R. Flint (3 A.B.C.).—Class 9: 1m. 46s. Class 10: 1m. 41⅕s.

W. H. Hadfield (4 Triumph).—Class 9: 2m. 8s. Class 10: 1m. 47⅕s.

S. R. Whincup (1½ Whippet).—Class 1: 3m. 34s.

H. Clay (Essex).—1m. 58⅖s. Fastest car.

* Winner of class.

L. Mitchell (Norton), who made fastest time of the day.

CLUB NEWS. (Continued from page 245.)

Essex M.C. Twenty-four Hours Trial

Entries for the Essex Motor Club twenty-four hours trial on September 10th and 11th should reach the trials hon. sec., Mr. F. A. Applebee, 208, Great Portland Street, London, W.1, not later than August 28th.

Stockport and District M.C.

It is the intention of the Stockport and District Motor Club to have a closed reliability run on the 29th August, of 100 miles. The Talbot Challenge Cup presented to the club by Messrs. The Talbot Garage, Ltd., is to be presented for the best performance of the day and a matter of a dozen more prizes are offered. For particulars *re* membership and entry forms apply to Trials Hon. Secretary, E. S. Abram, 226, Manchester Road, Stockport.

Bristol M.C.C.

The above club will hold its open hill-climb on Saturday, September 11th. The hill selected is within a twenty miles radius of Bristol, perfectly safe at speed, and has a very excellent surface. Further particulars and entry forms may be obtained either from Mr. A. E. Tozer, Rudge-Whitworth, Ltd., Queen's Road, Bristol, or Mr. H. W. Jacobs, 4, Ravenswood Road, Redland, Bristol. Entries close first post, Saturday, September 4th.

North London M.C.C.

The annual hill-climb was held recently at Handpost Hill, near Northaw, and attracted a large and varied entry. The surface was good, the weather ideal, and the police rendered all assistance in their power to make the event a success. Fastest solo of the day was G. J. Read (6 Enfield), and fastest sidecar R. W. Greaves (7-9 Indian sc.) A. A. Prestwich (2¾ Diamond) made a fine ascent in the 350 c.c. class.

Glengarriff and Back Awards.

The following are the awards in the two days trial of the Dublin Club to Glengarriff and back :

Gold Medals: P. H. Hurse (4¼ B.S.A.), Jas. Browne (2¾ Douglas), H. McAllister (6 A.J.S. sc.), T. E. Greene (3½ Douglas), A. Carton (4 Indian), J. McEntaggart (7-9 Indian), D. Allen (4 Norton), and Hon. H. Massy (7 Harley sc.).

Silver Medal: J. Doyle (3 A.B.C.)

Bronze Medals: R. Humphreys (2¼ Velocette), J. A. Adair (4¼ B.S.A. sc.), and P. McGrath (2¼ Velocette).

N. Lepler was disqualified for repairs in Maryborough control.

Roche Cup: Best performance, P. H. Hurse (4¼ B.S.A.)

Unlimited Sidecar Prize: Hon. H. Massy (7-9 Harley-Davidson).

Under 600 c.c. Sidecar Prize: J. Adair (4¼ B.S.A.)

Lightweight Prize: R. Humphreys (2¼ Velocette) and P. McGrath (2¼ Velocette).

Team Prize: J. Browne (2¾ Douglas), T. E. Greene (3½ Douglas), and P. H. Hurse (4¼ B.S.A.)

Newcastle and District. M.C.

The Newcastle and District Motor Club's Travers reliability trial on 15th August, over a 120 miles course, which included some of the freak hills to be found in the County of Durham, comprised nine checks and five observed hills.

Competitors were allowed one minute late or early at each control without deduction of marks. There were forty-six competitors. A flexibility and acceleration test was included near Edmundbyers.

Mr. W. Crompton worked out the formula results, whilst Mr. W. Baxter was chiefly responsible for scrutinising the various reports. Mr. Linden Travers was present at the adjudication in an advisory capacity.

Messrs. Travers provided £50 for prizes, and the club undertook to present gold medals for the best performance by a novice in each class. The results were as follow :

Under 350 c.c. Class (solo).—1, £7. R. W. Lawton (2¾ Douglas); 2, £3, J. E. Reed (2½ Wolf); novice gold medal, W. Rickard (2¼ Diamond-Jap).

Under 600 c.c. Class (solo).—1, £7, R. Reid (4¼ B.S.A.); 2, £3, A. Dixon (3½ Rover); Mr. Dixon also took the novice gold medal.

Under 600 c.c. and Sidecar.—1, £7, C. Armstrong (3 A.B.C.); 2, £3, W. Crompton (4 Triumph).

Sidecar Class (any capacity).—1, £7, J. Cooper (6 A.J.S.); 2, £3, O. Birse (8 Rex-Blackburne); novice gold medal, R. Astbury (8 Chater-Lea).

Car Class (any capacity).—1, £7, R. Seed (16.9 Arrol-Johnston); 2, £3, A. G. Wood, D.S.O., M.C. (10 Le Zebre); Mr. Seed also secured the novice gold medal.

Plymouth and District M.C. and L.C.C.

A hill-climb will be held at Huckaby for a cup, presented by Major Moon, on September 11th, also a reliability trial on September 25th for a prize given by Sir Thomas Baker.

Liverpool M.C. Open Trial.

A sporting one day trial which usually includes some of the worst hills in North Wales is the competition for the Reliance cup, organised annually by the club.

This year the trial is to take place on September 18th, and Wales will again be the objective. Entry forms and full particulars can be obtained from the hon. sec., Mr. E. E. Holloway, 36, Sandown Lane, Wavertree, Liverpool.

Hull Clubs' Joint Outing.

A most enjoyable afternoon was spent last week-end by members of the Hull Motor Cycle and the Hull Auto Cycle and Light Car Clubs, when the vice-president of the latter, Major A J. Atkinson, entertained both clubs at his residence, Elloughton Dale, on Saturday last. Before tea a gymkhana was held and five out of the eighteen events decided. The winners of these were :

Colour race, Mr. Griffin; cigarette race, Mr. Walker; obstacle race, Mr. Walker; potato race, Mr. Struthers; riding the plank, Mr. Dodsworth.

Owing to the wet weather after tea, it was decided to continue the sports next Saturday at 3 p.m. in the same field, again kindly lent by Major Atkinson.

Open Welsh Speed Championships.

A Well-organised Programme carried out on a Perfectly Natural Speedway.

ASSISTED by the officials of the Carmarthen and the Neath and Ystalyfera Clubs the open Welsh speed championships were decided on the 19th inst. The organisation of the event was excellent, the entire programme being run off under three hours without a hitch. Many and varied styles of cornering were witnessed : some good and some indifferent. Great fears were entertained by the crowds for the safety of one rider, who proceeded steadily seaward for some distance. It was thought he had heard the call of the sea; however, he changed his mind ultimately, to the relief of all.

Pendine Sands form the finest natural speedway imaginable, inasmuch as a machine can be steered "hands off" on them, and there are few places of which this can be said. The results given below are subject to confirmation by the executive committee.

OPEN CHAMPIONSHIPS.

CLASS 1 : 300 c.c., four miles (two laps).—1, W. Edwards (Omega); 2, T. Hopkins (Edmund); 3, Morris Isaac (Edmund). Time : 6m. 45s.

CLASS 2 : Ten miles (five laps).—1, George Dance (2¾ Sunbeam); 2, Howard Davies (2¾ A.J.S.); 3, W. Edwards (2¾ Verus). Time : 12m. 15s.

CLASS 3 : 500 c.c., ten miles (five laps).—1, George Dance (3½ Sunbeam); 2, C. Sgonina (3½ o.h.v. Norton); 3, Howard R. Davies (2¾ A.J.S.). Time : 11m. 23⅘s.

R. C. Toms, on his A.B.C., had engine trouble, and Lindsay (Norton) failed to start owing to another machine falling on his machine and breaking off the vulcanite magneto high-tension terminal. Sgonina and Dance had a good tussle, Dance ultimately winning comfortably.

CLASS 4 : Unlimited solo, ten miles (five laps).—1, George Dance (3½ Sunbeam); 2, A. Lindsay (3½ Norton); 3, C. Sgonina (3½ o.h.v. Norton).

A good tussle. Dance's acceleration after cornering won him victory. The first three machines came home within twenty seconds of one another. G. Dance, 10m. 38⅖s.; A. Lindsay, 10m. 45⅖s.; C. Sgonini, 10m. 53s.

WELSH CLOSED SPEED CHAMPIONSHIPS.

CLASS 5 : 300 c.c., four miles (two laps).—1, Morris Isaac (Edmund); 2, T. Hopkins (Edmund). Time : 6m. 44⅘s.

CLASS 6 : 350 c.c., four miles.—1, S. Jones (2¾ Verus); 2, S. Pitman (2¾ Douglas). Time : 6m. 8⅘s.

W. Edwards (2¾ Verus) blew a cylinder head in pieces when leading well ahead.

CLASS 7 : 500 c.c., four miles (two laps).—1, A. Lindsay (3½ Norton), 4m. 15s.; 2, C. Sgonina (3½ Norton), 4m. 27⅘s.; 3, J. Thomas (3½ Norton), 4m. 35s.

CLASS 8 : Unlimited, four miles (two laps).—1, A. Lindsay (3½ Norton), 4m. 15⅘s.; 2, C. Sgonina (3½ Norton), 4m. 20⅘s.; 3, R. E. Toms (3 A.B.C.); 4, J. Thomas (3½ Norton); 5, J. O. Smith (4 Norton).

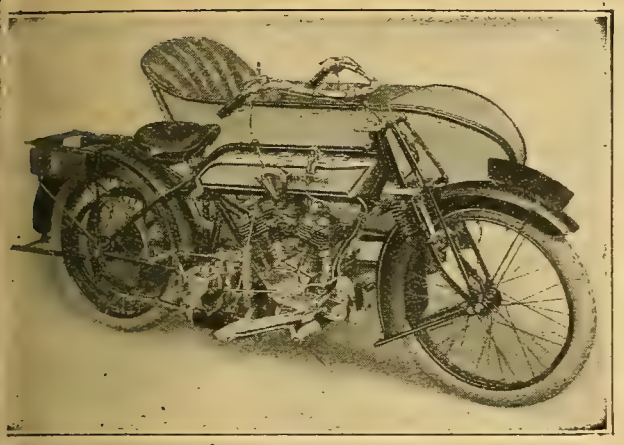
Class 8 had the best entry, attracting sixteen entries, of whom four or five failed to materialise. None of the big twin enthusiasts got up very much speed.

CLASS 9 : Sidecars, 750 c.c., straight mile.—1, Handel Davies (5-6 James); 2, Jack Thomas (3½ Norton).

CLASS 10 : Sidecars, 1,000 c.c., straight mile.—1, E. R. Mitchell (7-9 Indian); 2, Handel Davies (5-6 James); 3, Jack Thomas (3½ Norton); 4, A. King Smith (8 Harley-Davidson).

George Dance takes three open championships, and A. Lindsay two closed championships and the Triumph Co.'s silver cup for best performance by a Welsh competitor.

Howard Davies (A.J.S.), whilst fast, did not seem up to recent form.



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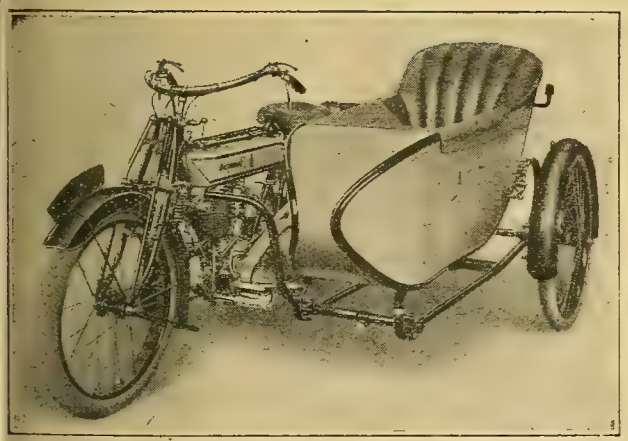

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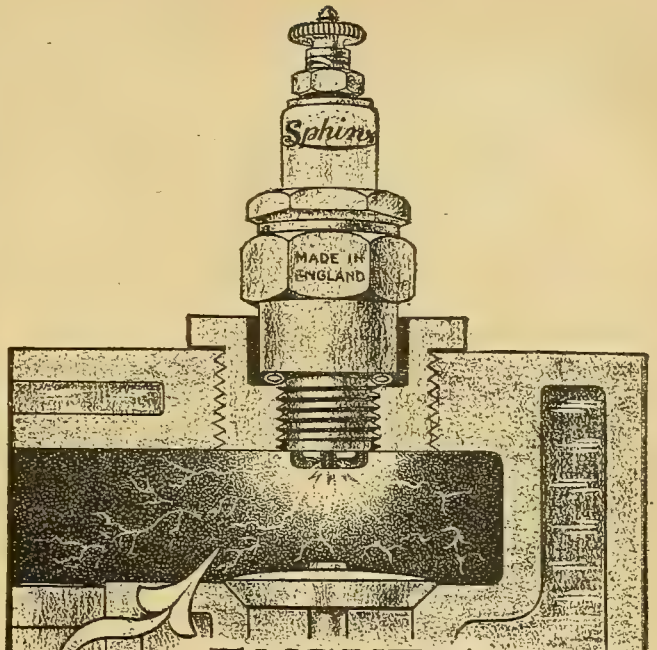

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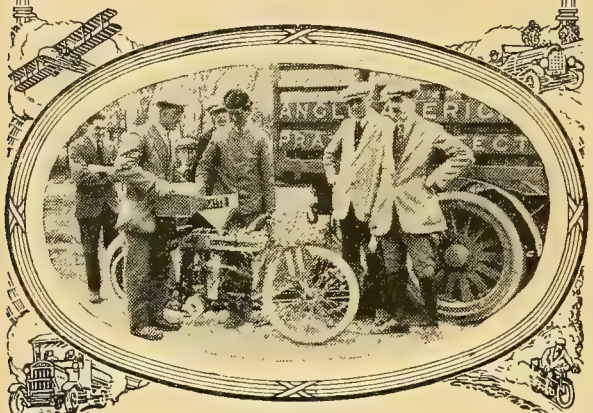
OPEN MEETING,
BROOKLANDS,
Aug. 14.**



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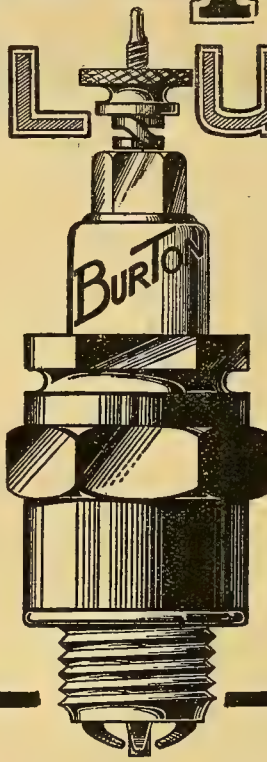

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The plug that recommends itself

Extract from "The Motor Cycle," June 17th, 1920.

PLUG EFFICIENCY.

SIR,

I give the following experience, which occurred some little time ago. On a fairly new two-stroke engine the plug suddenly went wrong after previously doing quite well. I tried five different plugs of the best known makes, and none lasted more than ten minutes. I then asked the garage people if they could suggest anything, and was advised to try a Burton, which was unknown to me. I never had another moment's trouble. I know nothing else whatever about it, not even the makers' name or address, but wish to give credit where it is due.

Apply for particulars—

SALES MANAGER,
Burton Sparking Plug and Motor Accessories,
Progress Works, Bernard St., WALSALL.

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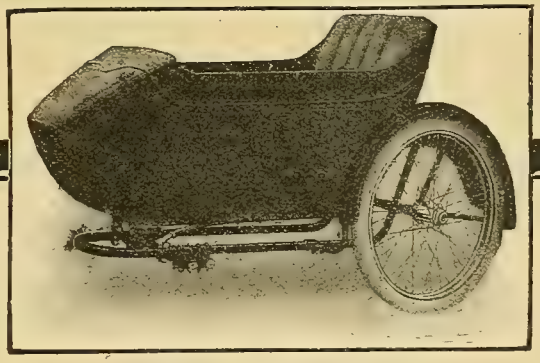

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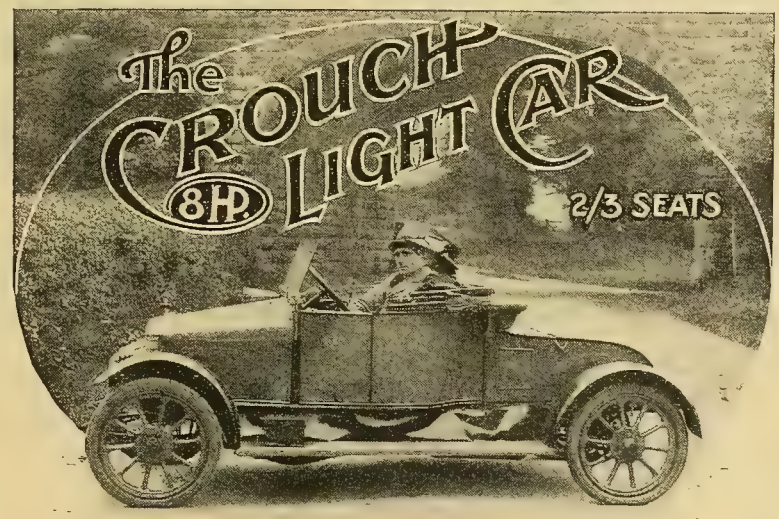

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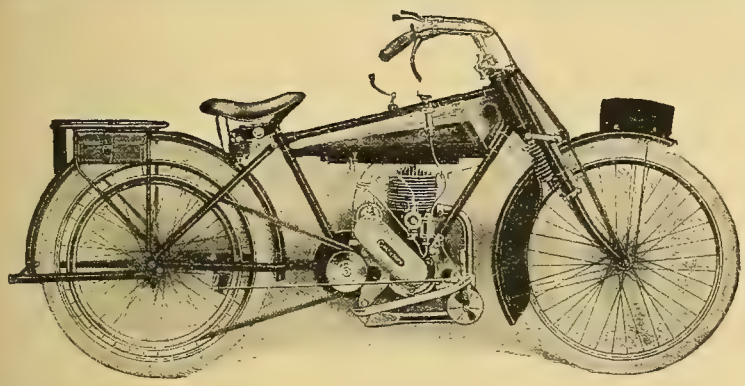

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3½h.p. Arno Combination, 3-speed and clutch, new Clincher, good enamel; £35, offers.—Manor Hotel, Datchet, Bucks. [3614

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BLACKBURNE 1920 4h.p., mileage 300, lamps, horn; what offers.—Noakes, 37, West St., Buxton, Derbyshire. 3620

4h.p. 1920 Blackburne, delivered July 29th; £130, or exchange for 8h.p. Zenith combination.—Belmont, Lyme Regis, Dorset. [3728

1920 Blackburne 2¾h.p., very little used, extra strong frame, new appearance; £80.—Bailey, The Butts, Matlock. [4142

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MAUDES'.—Verus, 4h.p. 3-speed Blackburne model, complete with Canoelet sidecar, £154; less sidecar, £126; delivery ex actual stock.—Maudes' (below).

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1920 B.S.A. 4¼h.p., new, magdyno lighting; £145.—27 Merton Rd., Bootle. [X9570

B.S.A. Combination, 4¼h.p., 3-speed, kick starter; £85.—121, Acton Lane, Chiswick. [3975

1920 B.S.A. Combination, just delivered; no premium.—Phillips Bros., Aldershot. [4575

1920 B.S.A. 4¼h.p., chain drive, just delivered; no premium.—Phillips Bros., Aldershot. [4574

3½h.p. B.S.A., splendid order, Bosch mag.; £50.—Marsh, Scots Grove, Chobham, Surrey. [3849

B.S.A. 1920 6-7h.p. Twin, 3-speed kick start.—Poxon and Co., Ltd., 24, Castle St., Canterbury. [3829

3½h.p. B.S.A., clutch model, splendid condition; £45.—Petters, 13, Uppercourt Rd., Epsom. [4417

1920 B.S.A. Twin, new, in stock; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [3403

1920 B.S.A. and No. 3 Montgomery Sidecar, brand new; £138.—Box 7,271, c/o *The Motor Cycle*. [4845

B.S.A. 1916 4¼h.p., 3-speed countershaft gear, all-chain, K.S., Mills-Fulford sidecar.—6, John St., Stafford. [X9474

B.S.A. 1918 Combination, perfect; cheap; going abroad.—Tooth, Stoneleigh, Patchinghall Lane, Chelmsford. [4459

B.S.A. Combinations from stock at list prices.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [1095

4¼h.p. B.S.A. 1917 Combination, perfect; £115, or exchange lightweight and cash.—T., 52, Brodrick Rd., S.W.17. [4400

1920 6-7h.p. B.S.A. Combination, 6h.p. Bradbury, and N.U.T. in stock.—C. Orton and Co., 6, Bridge St., Blyth. [4711

B.S.A. 4h.p., 1914, just overhauled, splendid condition; bargain, £57/10.—Hutton, Red Lion Hill, East Finchley. [X9457

B.S.A. Combination, 4h.p., 3-speed, thoroughly good, tyres very good, lamps, speedometer; £70.—202, Trinity Rd., S.W.17. [4057

B.S.A., thoroughly overhauled, in perfect condition, ride away; a bargain, £60; after 7.—11, Audley Gardens, Seven Kings. [3723

1920 B.S.A. Combination, perfect condition, little used, fully equipped; offers.—Nicholsons, The Brewery, Maidenhead. [X9641

B.S.A. Combination, 1918; £100.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4516

NEW B.S.A., Model A, chain-cum-belt, Palmer tyres, and No. 2 B.S.A. sidecar, Palmer tyres; £152.—Glovers, Witham, Essex. [3970

1920 4¼h.p. B.S.A. Combination, little used, in splendid condition, fully equipped; £145.—Varney, 95, Alma Rd., Windsor. [4877

1920 B.S.A. Combination, magdyno, Lucas horn, perfect condition; £155.—Edwards and Co., 50, Harrington Rd., S.W.7. [3402

B.S.A. (Model K.) and sidecar, August, 1919, excellent condition; owner buying car; £125.—Drake, Wootten's Garage, Oxford. [6947

B.S.A. 4¼h.p., 1914, K.S., C.B. sidecar, privately owned; £90.—Apply, Crystal Garage, 86, Church Rd., Upper Norwood, S.E. [4136

1920 B.S.A. 6h.p. Twin, delivery from stock; list price.—Jones and Adams, The Promenade, Palmers Green. 'Phone: 681. [4722

B.S.A., Model K, with sidecar, good condition; £95.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2740

B.S.A. Combination, 1915, complete with accessories; £115.—Seen Harvey, Hudsons' (next The George), South Woodford, E.18. [3913

MOTOR CYCLES FOR SALE.

Coulson.

EW Coulson B 4h.p., with 3-speed clutch and kick starter, spring frame, etc.; 118 gns., or on easy yments 4% extra; only one-fifth deposit, balance by monthly instalments.—Harrods, Ltd., 118 Bromp- Rd., London. [4372

EW Coulson B 2¾h.p., £99/15; 4h.p. models, £110/5; each fitted with 2-speed gear, spring me, Blackburne engine; at manufacturers' list prices, sy payments 4% extra, only one-fifth deposit, balance 12 monthly instalments.—Harrods, Ltd., 118, Bromp- Rd., London. [3636

EW Coulson B 2¾h.p., £99/15; 4h.p. models, £110/5; each fitted with 2-speed gear, spring me, Blackburne engine, at manufacturers' list ces; easy payments 4% extra; only one-fifth deposit, ance by 12 monthly instalments.—Harrods, Ltd., 3, Brompton Rd., London. [4371

Coventry Eagle.

920 Coventry Eagle, 3½h.p., 3-speed countershaft, brand new, unpacked; £112.—Box 7,266, c/o *Motor Cycle.* [4839

920 Coventry Eagle, 2-stroke Villiers engine, single-speed, in stock; special price, £65.—Crescent rage Co., Chandos St., Leamington Spa. [4221

.O.C.H. have a new Coventry Eagle, Model 7; list price.—Fair Offer Car House, 5, Heath St., mpstead (nr. Hampstead Tube Station). 'Phone: mpstead 3752. Hours 9-7, including Saturdays. [4043

Dayton.

AYTON 2½h.p., 2-speed, perfect condition; £50, or near offer.—R. Fry, Hadlow Down, Sussex. [4327

De Luxe.

920 2¾h.p. De Luxe; nearest £42; exchange equal heavier machine, callers only.—79, Haliburton , St. Margaret's, Twickenham. [3617

Dene.

h.p. Dene Motor Cycle, 1914, and coachbuilt side-car with screen, speedometer, lamps, tools, etc., overhauled and re-enamelled throughout; £100.—V. Watson, 29, Friar Lane, Leicester. [X9576

Diamond.

IAMOND 2-stroke, Villiers, new; £63.—Clark, 7, Exhibition Rd., South Kensington. [4802

YRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266

'AUDES'.—Latest 1920 Diamond 2-stroke model, Sturmey-Archer gear; £85; ex actual stock; rred payments arranged.—Maudes', 100, Gt. Port d St., W.1. [4966

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'OFFAT, Douglas Expert, Yeovil.

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OUGLAS, 2¾h.p., 1915, 3 speeds; £58.—Pater's, Motors, Bedford. [4977

.p. Douglas Combination; list price.—Haynes Bros., Ltd., Maidstone. [4399

OUGLAS Combination, 4h.p., electric light, as new, only wants seeing.—Below.

OUGLAS 2¾h.p., perfect condition, fitted new aluminium discs, lamp set, belt, large copper ex-st, spare belt, sporty machine.—110, Fulham Palace , Hammersmith, W.6. [3964

920 Douglas 4h.p., just delivered; no premium.—Phillips Bros., Aldershot. [4578

OUGLAS 2¾h.p., 2 speeds; bargain, £32.—63, Arlingford Rd., Brixton, S.W. [4318

OUGLAS 1918 4h.p. Combination, lamps and horn, —5, Shorndean St., Catford, S.E. [4715

3h.p. Douglas, good running order; £19; no offers. 4 .—177, Earlsfield Rd., S.W.18. [2313

OUGLAS 2¾h.p., late 1916, thoroughly overhauled; £50.—Dorling, Star Yard, Barnet. [2288

48.—Douglas 2¾h.p., 1916, good running order.—436, Whitehorse Rd., Thornton Heath. [4620

916 2¾h.p. Douglas, excellent condition.—Pollard, Chestnuts, Boreham, Chelmsford. [3859

OUGLAS 1918 4h.p., condition new; bargain £70. —63, Knatchbull Rd., Camberwell. [3603

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DOUGLAS, 4h.p., 3-speed, clutch, K.S., 1918; £75; after 7.—97, Calbourne Rd., Balham. [4308

1920 Douglas 4h.p. Combination, just delivered; no premium.—Phillips Bros., Aldershot. [4579

DOUGLAS 2¾h.p., not war finish; £55.—Sinclair, 5, Crescent Grove, Clapham Common, S.W.4. [4531

DOUGLAS 2¾h.p. 1917, just overhauled; £60, or offers.—6 Hornby Place, Waterloo, S.E.1. [1318

4h.p. Douglas Combination, 1918, nice condition; nearest £100.—20, Whitley St., Reading. [X8940

1916 Douglas, mauve tank, fast, T.T.; snip, £57/10. —Louvant, Manorgate Rd., Kingston-on-Thames. [3713

1917 Douglas 4h.p. Combination, running order, all on; quick sale £90.—202, Trinity Rd., S.W.17. [4059

DOUGLAS 1918 2¾h.p., C.A.V., long exhaust, very fast; snip, £60.—54, Paddenswick Rd., W.6. [3936

DOUGLAS 4h.p. Combination, 1920, all accessories. —Poxon and Co., Ltd., 24, Castle St., Canterbury. [3828

£30.—Douglas 2¾h.p., 2-speed, riding order; approval; must sell.—Box 7,278, c/o *The Motor Cycle.* [4853

DOUGLAS 1912-13 2¾h.p., thoroughly overhauled, new parts; £50.—Burton, Regent St., Spalding. [4687

NEW 1920 2¾h.p. 2-speed (less clutch) Douglas; £100.—Bound's Garage, 223, High Rd., Kilburn. [4746

BRIGHTON, Hove and district Douglas agents.—Turpia's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS 2¾h.p., W.D., new April, perfect; £60; appointment.—38, Alton Rd., Waddon, Croydon. [3665

DOUGLAS 2¾h.p., perfect order, 900 miles, lamps, horn, etc.; £80.—Weddell, Lisburn Villa, Alnwick. [3944

DOUGLAS, 1916, buffer head, excellent condition; bargain, £45/10.—202, Munster Rd., Fulham. [3989

DOUGLAS 2¾h.p., 3-speed, clutch; £105; in stock. —Clark, 7, Exhibition Rd., South Kensington. [4798

1916 2¾h.p. 2-speed Douglas Bufferhead, as new; £52/10.—76, Herongate Rd., Wanstead Park. [4217

1920 Douglas 2¾h.p., kick starter model, just delivered; no premium.—Phillips Bros., Aldershot. [4577

DOUGLAS.—Immediate delivery 1920 4h.p. combination.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X9492

DOUGLAS 2¾h.p., 2-speed, splendid condition, Bosch, tyres good; £55.—Croft, Kingsway, Gerrard's Cross. [2243

DOUGLAS 2¾h.p. excellent condition; bargain, £57/10.—112, Crescent Rd., Alexandra Park, N.22. [3856

FINCHLEY.—Douglas 1916-17 2¾h.p., 2-speed, accessories perfect order; 59 gns.—Lynton, Park Crescent. [X9470

DOUGLAS 1914 2¾h.p., 2-speed model, excellent condition throughout.—Parker's, Bradshawgate, Bolton. [X9479

DOUGLAS 1920 4h.p., new, with 3-speed, kick start, solo; £130; in stock.—Herbert Robinson, Ltd. (Below).

DOUGLAS 1920 4h.p., 3-speed, with latest type sidecar, finished in saxe blue; £170; in stock.—Herbert Robinson, Ltd. (below).

DOUGLAS 1920 2¾h.p., 3-speed, with hand-controlled clutch and kick starter, improved frame, forks, and tank; £105; in stock.—Herbert Robinson, Ltd. (below).

DOUGLAS 1920 2¾h.p., with improved frame, forks, and tank, less clutch and kick starter; £100; all the above actually in stock; can be despatched immediately. Second-hand Douglas, Triumph, and Sunbeam motor cycles entertained in part payment.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4160

DOUGLAS, 2¾h.p., late 1916, buffer springs, little used, lamps, etc.; £58.—32, Poppleton Rd., Leytonstone. [4452

1914 Douglas 2¾h.p., 2-speed, fitted new pistons, etc.; best offer over £38.—Woodcote, Stafford Rd., Wallington. [4264

DOUGLAS 1916 2¾h.p., makers' colours, aluminium footboards, very fast; £56.—72, Longridge Rd., Earl's Court. [3599

DOUGLAS 2¾h.p. (2), one uncrated, W.D., like new, £75; other very good bike, £55.—'Phone: Hamp. 7822. [3980

DOUGLAS 1915 2¾h.p., overhauled and re-enamelled makers' colours; £65.—R. D. Varty, Thundersley, Essex. [4855

DOUGLAS 4h.p. Combination, lamps, horn, 500 miles, as new; £138.—Rhosha Motor Co., Bank Mews, Romford. [3397

DOUGLAS 2¾h.p., 2-speed, bought new 1918, excellent condition; £55.—12, Stanger Rd., South Norwood, S.E.25. [4679

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 4h.p. Combination, 1918, thoroughly overhauled, sidecar repainted; £100.—Dorling, Star Yard, Barnet. [2287

DOUGLAS.—Immediate delivery, 1920 3¾h.p., 2 speeds and clutch.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X9496

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2¾h.p. Douglas, fast and reliable, go anywhere, good tyres, Binks, 2-speed. 1912 model; £50.—Neal, Horbury, Wakefield. [3784

DOUGLAS 2¾h.p., 1915, 2-speed, just overhauled, makers' colours; £56/10.—42, Claremont Rd., Walthamstow, E.17. [3730

DOUGLAS 4h.p. Combination, fully equipped, not W.D.; £95; any trial evenings.—1, Broomhill Rd., Goodmayes. (D) [4180

2¾h.p. Douglas, in good running order, with accessories; £35; seen only after 6 p.m.—Brick House. Billingshurst, Sussex. [4492

DOUGLAS, 2¾h.p., 2 speeds, late 1915, kick, re-enamelled, all in good condition; £45.—Hole, 129, Park Lane, Carshalton. [4280

1920 Douglas 4h.p. Combination, lamps, Klaxon, new tyres, complete; £165.—43, Stock Orchard Crescent, Hollaway, N. [4421

DOUGLAS 2¾h.p., new June, 1919, accessories, in splendid condition; price £55.—Pilley, 167, Camberwell Grove, London. [4097

DOUGLAS 2¾h.p., 1916, all complete, brand new mag., whole requires renovation; £42/10.—Dowell, High Rd., Byfleet, Surrey. [[3945

DOUGLAS 1920 4h.p. Combination, brand new, just arrived from works; £170; immediate delivery.—Ginger, Motors, Banbury. [X9555

DOUGLAS, 2¾h.p., 1918, condition throughout as new; £69; or exchange 2-stroke.—Dawson, 88, Beresford Rd., Lowestoft [4317

4h.p. Douglas Combination, late model, good order, 3-speed, kick start, good condition; £90.—8, Connop Rd., Enfield Wash. [4512

DOUGLAS 4h.p. Combination, 1920 (June), perfect condition, fully equipped, insured; £155.—160, Franciscan Rd., Tooting. [2937

1916 Douglas, new tyres, buffer forks, good as new; £65.—Jones and Adams, The Promenade, Palmers Green. 'Phone: 681. [4723

DOUGLAS Combination, 1918, 3-speed, in new condition, new tyres; bargain, £110.—262, Blackhorse Lane, Walthamstow. [4128

DOUGLAS, 4h.p., lamps, horn, discs; £125.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2742

IMMEDIATE.—Colmore Depots can supply Douglas and sidecar; also 2¾h.p. models; at once.—31, Colmore Row, Birmingham. [X9415

DOUGLAS 1916 2¾h.p., buffer forks, makers' colours, splendid condition; £53.—30, Crystal Palace Park Rd., Sydenham. [4568

1915-16 Douglases, 2¾h.p., renovated, new mag. (C.A.V.); £45; only 12 left.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4382

DOUGLAS 4h.p. Combination, immediate delivery; £170.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [3826

DOUGLAS 4h.p., Henderson lightweight sidecar, 3 speeds, clutch, K.S., lamps, horn, tools, perfect; £99.—23, Victoria Rd., Bexley. [4223

2¾h.p. Douglas, W.D., 1919, spring seat-pillar, Miller head lamp, footboards, Terry spring links; £75.—Box 7,178, c/o *The Motor Cycle*. [3752

1915 2¾h.p. Douglas, Thomson-Bennet mag., lamp, horn, accessories, excellent condition; £65.—Stone, Printer, Milford-on-Sea, Hants. [3651

1915 Douglas, good order, £40; 1918 W.D. combination, good order, £85; 4h.p.—195, Stonhouse St., Clapham Common, S.W. [4022

1915 Douglas 2-speed, electric lighting, etc., little used, absolutely perfect, overhauled, spares; 57 gns.—12, Leopold Rd., Wimbledon. [4186

DOUGLAS, 4h.p., 3 speeds and clutch, kick start, wants back exhaust pipe, in good condition; £55.—Hole, 129, Park Lane, Carshalton. [4281

2¾h.p. Douglas, 2-speed, mechanically perfect, £10 worth accessories, heavy Dunlops, sound; £50.—R. Pack, Hope House, Sunningdale. [4085

DOUGLAS 4h.p. 1918 Combination, fully equipped, just been overhauled; £105, or close offer.—12, The Quadrant, Winchmore Hill, N.21. [3757

4h.p. Douglas Combination, 3-speed, blue sidecar, lamps, etc., new condition; £100 near offer.—The Haven, 120, Sutherland Rd., Croydon. [4588

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DOUGLAS, 2¾h.p., without clutch, immedi delivery; £100.—Vivian Hardie and Lane, L 24, Woodstock St., New Bond St., W.1. [38

DOUGLAS 1915 2¾h.p., 2-speed, lamps, horn, spe ometer, new tyres, makers' colours, insured; £ —Whitney, 172, Mitcham Rd., Tooting. [X91

1920 Douglas, 3-speed, Cowey horn, Tan-Sad pill seat, lamp, tools, only ridden few miles; £90 51, Cambridge Rd., Wanstead, E.11. [X94

DOUGLAS 1915 2¾h.p., 2-speed, new heavy Dunl tyres, new saddle and horn; £50; seen after p.m.—18, Caillard Rd., Byfleet, Surrey. [40

DOUGLAS Combination, 3-speed, kick starter, excellent condition, any trial with 3 up; fi cheque £88.—272, Green St., Forest Gate. [41

DOUGLAS 1919 Late 4h.p. Coachbuilt Combi tion, in excellent condition throughout; £14 exchanges.—R. D. Varty, Thundersley, Essex. [48

DOUGLAS Combination, 1919, 4h.p., complete fitted and good condition; £120.—Hewi Garages, Ltd., the Real Service Firm, Taunton. [43

DOUGLAS 3-speed Model, April, 1920, Miller lam mechanical horn, knee-grips; £95.—W. E. Sha 249, Marshalls Cross Rd., S. Helens, Lancashire. [37

DOUGLAS 2¾h.p., 1915, 2-speed, with all acc sories; any reasonable offer.—Seen Harvey, Hu sons' (next The George), South Woodford, E.18. [39

LATE 1914 4h.p. Douglas, thoroughly overhauled, very good running condition, lamps, horn; £90 Pollit, Rusby Beck, Binley-in-Wharfedale, Leeds. [27

1920 2¾h.p. Douglas, lamps, Cowey speedomet horn, Tan-Sad, done 1,700; £100, or near; af 5.30.—Farrand, 364, Goldhawk Rd., London, W. [X95

DOUGLAS, 2¾h.p., 2-speed, 1917, lamps, ho knee pads; £70. — Newnham Motor Co., 2 Hammersmith Rd., W. 'Phone: Hammersmith [27

DOUGLAS 4h.p. 1920 Combination, with wi screens, lamps, etc., as new; £170, or neare offer; by appointment.—Claremont, Deane, Bolton [40

1920 Douglas Combination, used twice, Eastin lamps, etc., £16 worth accessories; what offe or exchange.—2, Nightingale Rd., Lower Clapton. [47

4h.p. 1917 Douglas Combination, 3-speed, splend condition, very smart coachbuilt sidecar; £10 evenings after 5.—11, Southfields Rd., Tunbridge Wel [46

DOUGLAS 1916 2¾h.p., buffer springing, lam horn, footboards, makers' colours, excellent co dition; 60 gns.—Freemason's Hospital, Fulham Rd [36

1920 Douglas Combination, 2 months old, fitt with lamps, horn, wind screen, tools, etc A.S.C., 60, Mortimer St., W.1. Tel.: Museum 662 [36

1919 Douglas 2¾h.p., Binks carburetter, copper haust, Tan-Sad, fully equipped, small mileag £85, bargain.—Goodridge, 6, Richmond St., Brighto [37

DOUGLAS Combination, Oct., 1917, good conditio £120, or exchange 1920 Enfield or similar mak 6h.p., cash £40.—4, Wolfington Rd., West Norwood. [37

DOUGLAS 4h.p. Combination, 1916, 3-speed, ki start, electric lighting, screen, spare time; ba gain, £105.—Hutton, Red Lion Hill, East Finchle [X94

2¾h.p. Douglas Combination, 1916, in excellent co dition and good hill-climber, all accessories, sale at low price.—Box 7,252, c/o *The Motor Cycle* [41

1915 Douglas 2¾h.p., 2-speed, fully equipped tour, fast, guaranteed mechanically perfec £60.—27, Flaxton Rd., Plumstead, London, S.E.18 [40

1916 Douglas, 2¾h.p., renovated, everything as ne Tan-Sad, horn, etc., beautiful machine; £60 Mrs. Butler, 35, Hertford Rd., Enfield Highway, N [42

DOUGLAS Combination, April, 1920, splendid co dition throughout, under 300 miles; any tri £160, or near offer.—Marvin, 70, Whitwell Rd., Sou sea. [47

DOUGLAS 2¾h.p., 1920, 3-speed, without clute guaranteed unscratched and as new, approv with pleasure; £95.—Gibb, Douglas Expert, Glo cester. [63

DOUGLAS 1920 4h.p. Combination, brand ne just arrived; immediate delivery; at make price, £170.—Wilkins, Simpson, opposite Olymp London. [38

1918 Douglas 4h.p. Combination, 3 speeds, clute starter, lighting set, etc., appearance as ne sacrifice £97.—769, Romford Rd., Manor Park, L don, E. [27

DOUGLAS Combination, 4h.p., 1920, plated lam and horn, accessories, done less than 300 mil new condition; £155.—H. Swayne, Mornay Lod Torquay. [44

4h.p. Douglas C.B. Combination, late 1917, ov hauled by Douglas, equal new, doctor own bought car; £90, quick sale.—Jury, 7, West St., Bro ley, Kent. [41

MOTOR CYCLES FOR SALE.

Enfield.

NFIELD (Nov., 1919) 3h.p. Twin, M.A.G. engine, 2-speed, kick start, complete with Lucas lamps, echanical horn, insurance policy, only ridden a few ndred miles; £87/10, no offers.—10, Woodside Rd., uth Norwood, S.E.25. [4678

NFIELD, 3h.p., reg. No. 602702, 2-speed, clutch, kick start, mechanical lubrication, delivered Jan., 20, fully equipped, powerful head lamp, only used ek-ends, Thomson-Bennett mag., new condition; £90. , Hanover St., London, W. [4487

NFIELD Combination, 6h.p., 1917, electric lighting, Orto hood and screen, horn, speedometer, pillion t, spare tyre, tube, chains, everything complete, new dition, very smart turnout; £145.—Shrimpton, 24, ttersea Rise, Clapham Junction, London. [4884

919 8h.p. Enfield Combination, Lucas dynamo lighting, Lucas horn, Watford speedometer, ring handle-bars, 2 wind screens, child's seat, hood, ot shields, luggage grid, magnificent outfit, good dition; £195.—5, Down's Park East, Bristol. [3934

Embro.

919 Embro with new 2¼h.p unit; £46.—Bowers, 27, Fox St., Scunthorpe, Lincs. [4460

Excelsior.

XCELSIOR, 4½h.p., 3 speeds; £45.—Pater's, Motors, Bedford. [4979

1h.p. Excelsior, new mag., in good order; £12, or 4 nearest.—Perrin, South Carlton, Lincoln. [3749

XCELSIOR-J.A.P., 2-speed, £78; with clutch, £84; in stock.—Clark, 7, Exhibition Rd., South nsington. [4801

XCELSIOR Motor Cycle, all models in stock, 2½, 2¾, 4½, and 8h.p.—J. Hebden and Son, 149, St. mes St., Burnley. [4905

XCELSIOR Combination, 4½h.p., the new big single; from stock; £160.—Hewin's Garages, Ltd., the al Service Firm, Taunton. [4336

XCELSIOR 1918 8h.p. Combination, sporty side-car, perfect order; trial, appointment; £140.—nliffe, 11, Howgate Rd., East Sheen, S.W.14. [3600

915 Excelsior, 2¼h.p. Peco, semi-T.T.'s, Brooks, new Dunlops, lamps, Amac, variable ignition and ley, good condition, reliable; £40; exchange good N.—Skittles, Letchworth. [3719

F.N.

.N. Lightweight, shaft, 2-speed, new tyre, stored wartime, perfect; first £35.—21, Cambridge Ter-e, W.2. [3901

.N. 5h.p., clutch model, first-class condition, good appearance; £60.—Bryant, Quarry Farm, Scar-rough Rd., Malton, Yorks. [3899

.N. 4-cyl., low built, running order (requires new carburetter), Thompson-Bennett, good tyres; 3/10, or near offer.—45, Quay St., Newport, Wight. [4481

914 F.N. 7-9h.p., 3-speed, multi-disc clutch, with splendid coachbuilt sidecar, all accessories, over-lled; real bargain, £110.—Tondeur, 4a, Chapel St., gware Rd., N.W.1. [3556

.N., 4-cyl., 2-speed, gate change, hand clutch, sloping frame, saddle tank, separate oil tank, disc wheels, ctric lighting, etc.; for quick sale £55.—Spencer, tter St., Bishops Stortford. [4522

.N. 5-6h.p., C.B. sidecar, 2 speeds, handle-bar con-trolled clutch, just been thoroughly overhauled, ps, good tyres; £68; any morning before 10 o'clock. 75, Talgarth Rd., West Kensington. [4881

.N., 4-cyl., 1920. 7-9h.p., 3 speeds, clutch, shaft drive combination, coachbuilt sidecar, 2 spacious kers, hood, screen, D.A. lighting complete, speedo-ter, horn, 3in. tyres, all spares, as new; £220, or reat offer for quick sale; owner bought car; any l by appointment.—Box 7,297, c/o *The Motor Cycle*. [4939

Francis-Barnett.

RANCIS-BARNETT 2¾h.p. J.A.P., 2-speed, kick starter, lamps, horn, speedometer, new June, 20; £90.—Tameta, Epplebay Rd., Birchington. [4345

AUDES' Latest 1920 2½h.p. 2-speed model Fran-cis-Barnett, 84 gns., ex actual stock; deferred yments arranged.—Maudes', 100, Gt. Portland St., 1. [4963

EW Francis-Barnett, 2¾h.p. J.A.P., 2-speed clutch and kick starter; in stock at manufacturers' list ce, £88/19; easy payments 4% extra, only one-fifth posit, balance by 12 monthly instalments.—Harrods, L, 118, Brompton Rd., London. [3638

EW Francis Barnett, 2¾h.p. J.A.P., 2-speed, clutch, and kick starter, in stock at manufac-ers' list price; £88/19; easy payments 4% extra; y one-fifth deposit, balance by 12 monthly instal-nts.—Harrods, Ltd., 118, Brompton Rd., London. [4373

Harley-Davidson.

ARLEY-DAVIDSON 1919 Combination; £145.—Wauchope's, 9, Shoe Lane, London. [4931

919 Harley, as new; £130; exchange lower power and cash.—T., 52, Brodrick Rd., S.W.17. [4402

ARLEY Sports Model in Stock, new; list price.—Clark, 7, Exhibition Rd., South Kensington. [4800

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26×2	Avon Lightweight R.S.	25/6	28/6
26×2¼	Avon Combination	55/-	90/-
,,	Palmer Cord Heavy	50/-	68/9
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,,	Clincher Ex. Hy. de Luxe	44/-	57/9
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,,	Kempshall Hy. Non-skid	63/-	75/3
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Harley-Davidson.

HARLEY Combination, 1915, special trial winner; £110.—Seen 40, Thornton Rd., Thornton Heath, S.E. [3987

1918 Harley-Davidson Combination, real posh lot; what offers?—Thompson, 10, Ulverstone Rd., West Norwood. [3582

HARLEY 1915 Coach Combination, nice running order, 3-speed; real bargain, £85.—103a, High St., Wandsworth. [4608

HARLEY-DAVIDSON 1919 Combination, like new, £130; 1918 solo, £105; bargains.—322, White-horse Rd., Croydon. [3894

NEW Electric Model Harley, complete with speedo-meter, etc.; £199/9/1.—Maudes' Motor Mart, 100, Paris St., Exeter. [4143

HARLEY-DAVIDSONS, 1918-1919; £100 each, re-enamelled and overhauled, ready to ride away.—1, Wellesley Parade, Croydon. [3895

HARLEY-DAVIDSON 7-9h.p., with Mills-Fulford sidecar, perfect condition; any trial; £135.—Sea-born, Mile End, Colchester. [4029

HARLEY-DAVIDSON, immediate delivery, 1920, 4 h.p., 3 speeds and clutch.—Parker's, Bradshaw-gate, Bolton. Tel.: 1348. [X9494

HARLEY-DAVIDSON, 1919, 7-9h.p., 2 lamps, generator, horn, complete, perfect order; £110.—8, Nassau Rd., Barnes, S.W. [4455

HARLEY 4h.p. Flat Twin, equipped; £150.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2743

RUSSELL and Co. have for sale Harley-Davidson, 1919, room required for new stock; what offers? —275, Regent St., London, W.1. [3609

HARLEY-DAVIDSON, 7-9h.p., Model F, 1920, just delivered; list price, first cheque secures.—Wootten's Garage, High St., Oxford. [3693

1915 Harley, mag. model, and sidecar, electric lamps, etc.; price £160.—Winstan Henney, 63, South End, Croydon. 'Phone: 2431. [4445

HARLEY-DAVIDSON 1918 Combination, lamps, Klaxon, wind screen, looks smart; £145.—1, Shakespeare Av., Harlesden, N.W.10. [3610

LATE 1915 7-9h.p. Harley Combination, in practically new condition throughout, magnificent turnout; sacrifice, £120.—Else, Dimple, Matlock. [X9544

IMMEDIATE.—Colmore Depots can deliver at once all models of Harley-Davidson motor cycles and sidecars.—31, Colmore Row, Birmingham. [X9414

HARLEY, 1919, repainted, all as new, solo; £130; very fast.—Newnham Motor Co., 223, Hammer-smith Rd., W. 'Phone: Hammersmith 80. [2739

1920 Harley, Model F, Harley sidecar, speedometer, horn, lamps, not done 50 miles; £225.—Ed-wards and Co., 50, Harrington Rd., S.W.7. [3404

HARLEY-DAVIDSON New 1920 7-9h.p., electric lighting, with Model MM4 Canoelet sidecar; £232/17/3.—Fleming, Ambleside Garage, Stourbridge. [3961

1920 Harley 4h.p., flat twin, perfect, carefully used, equipped, owner bought car; bargain, £145.—'Phone: Victoria 1977.—24, Page St., Westminster. [4303

HARLEY-DAVIDSON 7-9h.p., 1919, splendid con-dition, appearance as new, comple less carrier, any trial; £95.—Hutton, Red Lion Hill, East Finch-ley. [X9455

HARLEY-DAVIDSON.—Immediate delivery 1920 7-9 h.p. standard model, with Mills-Fulford or Hender-son sidecars.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X9493

HARLEY-DAVIDSON Motor Cycle, new 1920, 4 h.p. sports model, flat twin, with Klaxon horn and speedometer; £159/16/6.—Fleming, Ambleside Garage, Stourbridge. [3962

HARLEY-DAVIDSON 1919 7-9h.p. Combination, electric lighting, special Rennoc sidecar, hood, and Easting screen; £180, or nearest.—Hodson, Blox-wich, Staffs. [X9462

1917 Harley-Davidson, not W.D., Harley sidecar, bulbous back, discs Tan Sad, legshields, hood, screen, spares; also garage.—61, Radnor St., Bradford Moor, Bradford. [4465

1919 Harley-Davidson, electric model, splendid con-dition, as new; £165, or near offer; exchange for good solo mount.—Hearne, Rose Cottage, Penn St., Amersham, Bucks. [3630

HARLEY-DAVIDSON 1920 7-9h.p. Electric Com-bination; £200; exchange 4h.p. solo or combina-tion, cash adjustment.—Graves, Bilberry Tea Rooms, Rednal, Birmingham. [X9433

1919 Harley-Davidson 7-9h.p., mag. model, excellent condition, £97/10; sidecar bulbous backed as new, optional, £35.—J.B., 2, Exchange Mansions, Golders Green, London. [4500

1920 Harley-Davidson 7-9h.p., electric model, and sidecar, fully equipped, all accessories, only done 1,000 miles; owner abroad; £225.—Barnett, 2, Chol-meley Park, Highgate, N.6. [4889

1917 Harley-Davidson Combination, just overhauled by makers, lamps, horn, tools, spare tyre, tube, and chain, insurance policy—A.S.C., 60 Mortimer St., W.1. Tel.: Museum 6626. [3691

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY-DAVIDSON 1915 Model K, clutch, 7-9 h.p., very fast, £40 overhaul at Harleys, receipts shown; nearest £90.—Seen at Cridland Bros., 85, Boundary Rd., St. John's Wood. [4671

HARLEY-DAVIDSON 1920 4h.p. Model, complete with Swan sporting sidecar, electric lighting, mechanically perfect and indistinguishable from new. —Parker's, Bradshawgate, Bolton. [X9484

1920 7-9h.p. Harley-Davidson, magneto model, luxurious Dunhill sidecar, fully equipped, many extras and spares, mechanically perfect, practically unscratched, tyres unpunctured; £190.—Birch, Cotmore, Thame. [X9545

1919 Harley-Davidson Combination, mag., magnificent sidecar, hardly scratched, wind screen, electric lights, all usual accessories; seen any time; £185, or good solo part exchange.—257, Clapham Rd., S.W.9. [4885

1917 Harley, electric model, with Capjon and Mudd £85 sidecar, Tan-Sad, Cowey horn, hood and screen, perfect condition; price £230 nett.—Winstan Henney, 63, South End, Croydon. 'Phone: 2431. [4442

MAUDES'.—Latest 1920 electric model Harley-Davidson just delivered, delivery ex actual stock, solo £201/6. with Millford sidecar £244; 1920 flat twin, sports model, £164/9. — Maudes (below).

MAUDES'.—Latest 1920 magneto model, complete with Millford de luxe sidecar, £237/6; solo machine only £184/11.—Maudes. 100, Gt. Portland St., W.1, and 100, Paris St., Exeter. [4952

HARLEY-DAVIDSON 1920 7-9h.p., with well sprung Swan Sidecar, compressed acetylene lighting, speedometer, Klaxon, Tan-Sad, perfect condition; bet offer above 200 gns.—Blakey, 20, St. Bede's Terace, Sunderland. [4732

1917 Harley-Davidson 7-9h.p., magneto model, bulbous back, aluminium sidecar, disc wheels, lamps, good tyres, spare cover and tubes, climb anything, enamel good; £155.—E.W., 11, Peter St., Kimberworth, Rotherham, Yorks. [X9163

HARLEY-DAVIDSON, 1917, new Renoc sidecar, re-enamelled, retyred, Low generator, insurance policy, lamps, spares, recently overhauled; offer nearest £140.—Fitzgerald, 23, Queen's Gate Gardens, South Kensington, S.W. [4406

1920 Harley-Davidson Combination, electric model, aluminium discs, hood and screen, leg shields, speedometer, used 800 miles only, and is as new; price £240 nett.—Winstan Henney, 63, South End, Croydon. 'Phone: 2431. [4441

HARLEY-DAVIDSON 7-9h.p. Combination, splendid condition, perfect running order, new tyres, electric lights and horn, new accumulator, screen, speedometer; £165, or near offer.—32, Ederline Av., Norbury, S.W.16. (After 7 p.m.) [3615

HARLEY-DAVIDSON Combination, as new, 7-9h.p., wind screen, lamps, speedometer, splendid condition, only wants seeing; £155, or near offer; seen before 6 p.m. or after by appointment.—D., 206a, Green Lanes, Finsbury Park, N.4 [4751

1918 7-9h.p. Harley-Davidson Combination, 1920 Rideezi sidecar, discs, D.A. lighting set, Klaxon, tyres, chains, and 2 tubes, new Aug. 1st, enamel as new, perfect order throughout; £155.—Worters, Hatchford Hill, Cobham, Surrey. [4367

1920 Harley 7-9h.p. Combination, electric model, specially made sidecar (cost £85), large electric head lamp on body, discs, speedometer, watch, petrol carrier, etc.; lot cost £285; will take any reasonable offer.—Aviemore, Monkhams Drive, Woodford. [4205

4h.p. Harley-Davidson, 200 miles, speedometer, lamps, horn, tools, perfectly new condition, new Canoelet sidecar, 3in. American rims, tyres, interchangeable, colour to match, not used; £185; no offers; Lincolnshire.—Box 7,245, c/o *The Motor Cycle.* [4153

1920 Harley, 7-9h.p., just delivered, mag. model. Klaxon horn, Easting wind screen, Grindlay double spring sidecar, petrol and luggage carrier, spare 29×3½ tyre and tube, speedometer; £260; owner having light car.—Banner, Chemist, Ferryhill Village. [4451

1918 Harley Combination, perfect order, tyres as new, large electric lighting set, head, tail, and sidecar, horn, spare tyre, tubes, etc., roomy bulbous back sidecar; £150, or late model 4h.p. in part payment, Douglas preferred.—Ash Lodge, Junction Rd., Brentwood, Essex. [4699

HARLEY-DAVIDSON, late 1919, mag., not used until June last, Millford special sidecar, upholstered Harley colour, outfit as new, mileage 500, Harley lamps, horn, sidecar lamp, unused Tan Sad, spares; price £220; owner going abroad.—Barnes, 85, Boundary Rd., West Hove. [4561

Hazlewood.

HAZLEWOOD Combination, 6h.p. J.A.P., 1920, brand new, unregistered; what offers under list price?—Box 7,249, c/o *The Motor Cycle.* [4150

1920 Hazlewood-Jap Combination, demonstration model, 5-6h.p., 3-speed countershaft, kick start, clutch, tools, mileage very low; exceptional opportunity, £188.—Lythalls Lane Garages, Foleshill, Coventry. [X9538

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MOTOR CYCLES FOR SALE.

Hazlewood

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch and kick starter; at manufacturers' current list price, £204/12, or on easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [363

NEW 5-6h.p. Hazlewood Combination, 3-speed clutch and kick starter, at manufacturers' current list price, a thoroughly reliable outfit; £204, o on easy payments 4% extra; only one-fifth deposit balance by 12 monthly instalments.—Harrods, Ltd. 118, Brompton Rd., London. [437

Henderson

1920 Henderson Electric Model, mileage 250; £175 —38, Aboyne Rd., Tooting. [411

1920 Henderson Solo, done 100 miles, delivered August; £170.—F. Bossutt, 79, High St. Southampton. [391

HENDERSON Solo and Combinations, actually in stock.—W. H. Grimes and Co., 18, Bruton Place, W.1. Mayfair 4792. [4436

HENDERSON 1920 10h.p., 4-cyl. model, fitted with Langford special sidecar, brand new; £240.—Lloyd, 9, South Molton St.,W. Mayfair 1011. [0282

1920 Henderson and bulbous sidecar, disc wheels electric lighting, heavy wind screen, unscratched; £220, nearest.—61, New Kent Rd., London, S.E.1. [4527

HENDERSON 1920 Electric Combination, all accessories, discs, plated exhaust, perfect, must sell; sacrifice; £210.—Ansell 5a, Lanark Place, Maida Vale, London. Paddington 5855. [4248

HENDERSON, late 1919 electric model, complete with Canoelet military model sidecar, electric Brolt lamps and Klaxon, also hand horn, Easting screen, Watford speedometer, mileage under 2,500, spares and tools, engineer owned and driven, guaranteed perfect; nearest £240 secures.—J.P.W., Dudbridge Iron Works, Stroud, Glos. [4305

Hobart.

1919 Hobart-Villiers 2-stroke, as new; any trial; £50.—Alfieri, 17, Homepark Rd., Wimbledon Park. [3896

HOBART-VILLIERS 2-stroke 2½h.p., ridden 500 miles; £48; seen after 6 p.m.—23, Werter Rd., Putney. [3871

HOBART-VILLIERS 2-stroke, 2-speed, believed 1916-17, accessories; nearest £46; photo 6d.—153, Manor Rd., West Ham, E.15. [4506

£50.—1916 2¾h.p. Hobart-Villiers, 2-speed, Amac, M-L, lamps, Klaxon, accessories, new condition.—63, Solon Rd., Brixton. Exchange. [4916

HOBART Villiers, single speed, new July, 1919, good lamps, footboards, tyres unpunctured, finish as new, 120 m.p.g.; £55; after 6 p.m.—20, Warwick Row, Coventry. [X9542

1920 Hobart-Jap, Sturmey 2-speed, clutch, kick start, all lamps, Cowey, only ridden 200 miles, all as new; accept £5, or offer for quick sale.—10, Amblicote Rd., Grove Park, S.E.12. [4340

HOBART, 2¾h.p. Villiers engine, 2-speed gear box, C.A.V. mag., Amac carburetter, 1916, perfect condition, lamps, horn, spare belt, etc.; £40.—P. Smith, 1, Bartons Lane, Old Basing, Hants. [3727

NEW 2½h.p. Hobart Lightweight 2-speed Models; in stock at manufacturers' list price, £75, 4% extra for easy payments; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [3640

NEW 2½h.p. Hobart Lightweight, 2-speed models in stock at manufacturers' list price; £75; 4% extra for easy payments; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4374

Humber

HUMBER, new, 4½h.p., in stock; £140.—Julian, 84, Broad St., Reading. [4164

3½h.p. Humber Combination (wicker), 2 speeds, 2 new tyres and 3 tubes; £47.—35, Weymouth St., Apsley End, Herts. [4396

MAUDES'.—Latest flat twin 3½h.p. Humber, 1920 model; £125; ex actual stock.—Maudes', 100, Gt. Portland St., W.1. [4956

HUMBER 3½h.p., with sidecar, Gradua gear, Bosch mag., engine just overhauled; £55.—85, Waller Rd., London, S.E.14. [4389

HUMBER Combination, in good condition, free engine, clutch, good condition; £40.—262, Blackhorse Lane, Walthamstow. [4129

HUMBER Combination, 3½h.p., 2-speed, handle start, Bosch, B. and B., lamps, horn, very good condition; £38.—54, Little Heath, S.E.7. [4545

4h.p. Humber, C.B. new sidecar, 2 speeds, free engine, starter, makers' overhaul, trial; 50 gns.—3, Victoria Gardens, Notting Hill Gate, W. [3973

HUMBER 1920 4½h.p. Flat Twin Combination in stock; makers' price, plus carriage.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [1982

1919 3½h.p. Flat Twin Humber and Sidecar, electric lights, Klaxon, Easting, many spares, tyres good, guaranteed; £105.—37, Kensington Rd., Coventry. [X9465

MOTOR CYCLES FOR SALE.

Lea-Francis.

EA-FRANCIS, 1920, M.A.G. engine, run few miles only, with coachbuilt sidecar, accessories; £155. ewnham Motor Co., 223, Hammersmith Rd., W. one: Hammersmith 80. [2738

EW Lea-Francis, 2-speed, clutch and kick-starter, M.A.G. engine; at list price, £130, or on easy ments 4% extra; only one-fifth deposit, balance by no th'y instalments.—Harrods, Ltd., 118, Brompton , London. [4376

EW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on easy ments 4% extra; only one-fifth deposit, balance by monthly instalments.—Harrods, Ltd., 118, Bromp- Rd., London. [3641

EA-FRANCIS 1920 3½h.p. Twin, delivery from stock of this famous mount at list price; £130; h, exchange, or extended terms; trade supplied.— agents, Elce and Co., 15-16, Bishopsgate Av., nomile St., E.C.3. [0066

Levis.

EVIS, 2¼h.p., 1916; £39.—Pater's, Motors, Bedford. [4978

EW Levis in Stock; list price.—Fancourt's Garage, Stamford. [3701

EVIS.—District agents, The Walsall Garage, Walsall. Tel.: 444. [5765

EVIS 2¼h.p., new condition; offers; cash urgently needed.—55, Ballspond Rd., Islington. [4499

EVIS 2¼h.p. 1915, splendid condition, climb anything; price £35.—89, Wyley Rd., Coventry. [X9634

)20 Popular Levis, done 200 miles, new June; £58, with insurance.—207, Shirland Rd., Paddington, [3789

46.—1916 Levis, 2 speeds, fully equipped, excellent running order.—436, Whitehorse Rd., Thornton ath. [4619

EVIS Popular Models in Stock; £60.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. one: 214. [1097

EVIS, 1916, everything good, makers 'overhaul, new condition; genuine bargain, £42.—Croft, Dunsell, obham, Woking. [4202

EVIS, 1913, in good order and condition, all accessories; can be seen and tried on appointment;).—Apply, Lowe, Haining, Ascot. [3837

EVIS 1920 Popular Model, just arrived from works; immediate delivery at makers' price, £60.—Wils, Simpson, opposite Olympia, London. [3887

)15 Levis, 2½h.p., lamps, etc., lovely machine. excellent condition; £38/10.—Minchin Motor rt, 39, Penrhyn Rd., Kingston-on-Thames. [3463

)16 2¼h.p. Levis, overhauled, new mag., piston, and rings, gudgeon pin, and flywheel, trial, st sell; £45, or offer.—G. Tidy, Ewhurst, Surrey. [4573

EVIS 1920 Popular Model, delivered from makers May, all accessories, lamps, horn, licence and in- nce; owner taken delivery sidecar outfit; what offers? 5, High Rd., Tottenham. [3733

Lincoln-Elk.

)12-13 Lincoln-Elk, Bosch, B. and B., clutch, new Dunlops and belt; £35.—Penistan, 93, St. rew's St., Lincoln. [4730

RACTICALLY New T.T. Lincoln-Elk, 3h.p., Philipson pulley, lamps, accessories; £38.—63, Solon , Brixton. Exchange. [4919

)14-15 3½h.p. Lincoln-Elk Combination, 2-speed, clutch, kick start, just overhauled; £55.—Seen at , Kingston Rd., Teddington. [4944

L.M.C.

M.C. 6h.p., spring frame and rigid models in stock; trade supplied.—Huffam, Exchange St., Norwich. [3764

½h.p. L.M.C., latest model, 3-speed, K.S., decompressor, ridden only 100 miles; what offers?— Upper Richmond Rd., East Putney. [4525

.M.C. 1917 6h.p., 3-speed, hand clutch, kick start, lamps, spares; £95; with sidecar, hood, screen, re tyre, £120.—35, Prince of Wales Rd., Norwich. [3711

)19 L.M.C. 4¼h.p. Combination, Sturmey-Archer 3-speed, electric lighting, fully equipped, excel- condition; £110.—153, Cromwell Rd., Peterough. [3802

Lugton.

UGTON-PRECISION, 1914, 4¼h.p., low, sporty, long exhaust, very fast, Bosch, B.S.A., fixed gear 3-speed wheel; £42.—After 6 p.m., 4, Lenthall Rd., ston. [4694

Martin.

)14 o.h.v. Martin, 3½h.p., with new pattern N.S.U. gear, very fast, and in guaranteed condition; e £75, or near offer.—Winstan Henney, 63, South l, Croydon. 'Phone: 2431. [4444

Martinsyde.

)20 Martinsyde-Newman Combination, just delivered; no premium.—Phillips Bros., Aldershot. [4582

ARTINSYDE-NEWMAN Combinations; immediate delivery.—Maudes' Motor Mart, 100, Paris Exeter. [4146

Buy it this way if it's more convenient.

LAMB'S,

50, HIGH RD., WOOD GREEN, N.22.
'Phone: Hornsey 1956.
387, EUSTON ROAD, N.W.1.
'Phone: Museum 4978.
Telegraphic Address: "Lamocy, Eusroad, London."
151, HIGH ST., WALTHAMSTOW, E.17.
'Phone: Walthamstow 169.
'Grams: "Cyclotomo, 'Phone, London."

Ex Gov.
HARLEY-DAVIDSON,
1919 7-9 h.p., and H.D. bulbous back sidecar.
160 cash or £80 down and 11 payments of £8 7s. 4d.

New
ROVER.
3½ h.p. T.T., **£149 16s. 3d.** cash or £41 down and 11 payments of £11 8s. 8d.

O.K.
48Gns. cash or £14 down and 11 payments of £3 16s. 6d.

P. & M.
1919 combination. **£135** cash, or £67 10s. down and 11 payments of £7 1s. 2d.

1920
TRIUMPH and Sidecar,
Discs, lamps, and horn. **£180** cash, or £50 2s. down and 11 payments of £13 13.

A.B.C.
£150 cash or £41 14s. 6d. down and 11 payments of £11 7s. 7d.

New
CALTHORPE-JAP,
£78 5s. 6d. cash or £21 down and 11 payments of £5 18s. 4d.

Ex Gov.
B.S.A. and B.S.A. Sidecar,
£135 cash, or £67 10s. down and 11 payments of £7 1s. 2d.

Ex Gov.
DOUGLAS,
£65 cash or £32 10s. down and 11 payments of £3 8s. od.

New 1920
SCOTT,
£140 cash or £39 down and 11 payments of £10 12s. 3d.

Soiled 1920
COULSON,
4 h.p. and sidecar. **£130** cash or £65 down and 11 payments of £6 15s. 11d.

New
NEW HUDSON,
£75 cash or £21 down and 11 payments of £5 13s. 5d.

and many others.

MOTOR CYCLES FOR SALE.

Martinsyde.

MARTINSYDE, new, 6h.p. combination, in stock; £170.—Julian, 84, Broad St., Reading. 'Phone: 1024 Reading. [4165

MARTINSYDE-NEWMAN Combination, delivered July 31st, Lucas dynamo lighting, Lucas horn, Tan-Sad, wind screen; cost £211; will sacrifice for any reasonable offer; must sell immediately.—26, Woolhope Rd., Worcester. [4328

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford; also Cornwall and Devonshire, for Martinsyde-Newman combination, £170; deliveries now being effected; sub-agents appointed.—Maudes' Motor Mart, 100, Gt. Portland St., W.1, and Paris St., Exeter. [6618

Matchless

MATCHLESS.

1920 Models for Instant Delivery.

STANDARD Model, fitted M.A.G. or J.A.P. engine, £205; with dynamo lighting, £230.—Lakeman, 26, Long Acre, London, W.C.2. [0274

1913 Matchless Combination, 8h.p.; £115; exchange solo.—Lewis, Exton's Rd., King's Lynn. [3805

MATCHLESS, 1920, Model H, dual lighting, accessories, insurance; cash offers.—14, Leslie Rd., Leyton, E.11. [3935

MATCHLESS-J.A.P. Twin 4h.p., 3-speed, clutch, o.h.v., good condition; £50.—53, Falmouth Av., Higham's Park. [4219

MATCHLESS Combinations at makers' prices; enquiries invited.—Wilkins, Simpson, opposite Olympia, London. [3890

1920 Matchless, magdyno, speedometer, new, in stock; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [3405

1920 Matchless Combination, Model H, M.A.G. engine, brand new, unridden; £195.—Box 7,268, c/o *The Motor Cycle*. [4841

MATCHLESS M.A.G. Combination, dynamo lighting excellent condition; £135.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [4600

1914 Matchless-Mag. 8h.p. Combination, horn, 3 generators, lamps; £95.—Apply (letter), Berry, Whale Island, Portsmouth. [4110

6h.p. Matchless Coachbuilt Combination, fully equipped, perfect condition; any trial; £95.—101, Fentiman Rd., Kennington, S.W.8. [3720

8h.p. Matchless-Jap, 2 speeds, kick start, Venus sidecar, perfect running order; £100.—West, 32, Thornhill Terrace, Aldershot. [3848

RACING Matchless 3½h.p., special engine, 63×80, twin, long exhaust, like new; £70.—Woodwards, Chiltern Green, nr. Luton, Beds. [3929

MATCHLESS Model H Combination, immediate delivery; £205.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [3824

MATCHLESS latest Model H Spring Frame Combination, Lucas Magdyno, spare wheel and tyre, luggage grid, only done few hundred miles, equal to new.—Parker's, Bradshawgate, Bolton. [X9480

1920 Model H Matchless, all complete bar lamps, very small mileage, perfect; any trial; £185.—Webster, 33, Birdhurst Rise, S. Croydon. [4286

1920 Matchless Model H Combination, standard equipment, new condition, mileage 2,500.—Greenwood, 5, St. Michael's Rd., Croydon. [4358

MATCHLESS 1915 M.A.G. Combination, grid, Easting, overhauled and enamelled like new; £115.—Broomfield, 322, Whitehorse Rd., Croydon. [3893

1916 Matchless Combination, M.A.G. engine, Model 8B, 3-speed, guaranteed perfect; £115; Triumph part.—37, Arlington Rd., Surbiton. [4567

1920 Model H Matchless Combination, M.A.G. engine, new and unregistered; £200.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [4705

MATCHLESS H Combination, July, 1920, makdyno, spare wheel, screen, horn, speedometer 600 miles; offer owner gone abroad.—26, Aldersmead Rd. Beckenham. [4184

MATCHLESS 1915 Combination, M.A.G., good condition; 120 gns.; owner bought car.—Write, in first instance, 12, Ailsa Rd., St. Margaret's-on-Thames. [3619

1920 Matchless Combination, brand new, unregistered, dynamo, etc.; list price.—'Phone: Croydon 1643. Minson, 2, Blenheim Gardens, Wallington, Surrey. [4122

1920 Matchless, Watford speedometer, Lucas horn, dynamo lighting, hood and screen, spare wheel; no offers; £235.—Kirton, 17, Springfield Av., Muswell Hill, N. [3846

8h.p. Matchless Combination, 1915 model, dynamo lighting, speedometer and electric horn, perfect order; £165, or nearest offer.—Topcott, Hadham, Herts. [3909

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS, 1920, Model H, combination, done 300 mi es; nearest £200; before 1 o'clock Thursdays, any time Friday. Saturday.—136, Lambeth Walk, S.E. [3937

MATCHLESS Combination, M.A.G. engine, Lucas dynamo, good condition, 3-speed, kick start, coachbuilt sidecar; best offer.—74, St. James' Rd., Bermondsey. [4533

MATCHLESS Combination, 1920 Model H., speedometer with trip, lamps, horn, special screen, spare wheel; £205.—Lark House, Longcauseway, Farnworth, near Bolton. [4111

1915 8h.p. Matchless Combination, M.A.G. engine, lamps, and mechanical horn, just overhauled at Matchless; £125.—J. Smith and Co., 16, Hampstead Rd., N.W.1. [4911

MATCHLESS H Combination, brand new, unregistered, M.A.G., Magdyno, Lucas fittings, Dunlops, special fittings; £245.—Read, Butcher, High St., Brentford, N. [4547

1920 Matchless, Model H, M.A.G. engine, Lucas horn, lamps, speedometer, legshields, hood, perfect condition; 205 gns.—Edwards and Co., 50, Harrington Rd., S.W.7. [3407

MATCHLESS Model H Combinations, new and second-hand; immediate delivery.—Newnham Motor Co., 223, Hammersmith Rd., W. 'Phone: Hammersmith 80. [2733

MATCHLESS 1920 Combination, Model H, 8h.p. J.A.P., complete, as new; £220; appointments only.—Meek, 686, Forest Rd., Walthamstow. 'Phone: Walthamstow 542. [3722

MATCHLESS Combination, 1915, 7-9h.p., M.A.G., dynamo lighting set, newly overhauled, all in perfect condition; £140.—Apply, Waburn Garage, The Colonade, Russell Sq., London. [4098

8h.p. Matchless, cane sidecar, overhauled and rebushed, 2-speed, Amac, Bosch, good tyres, lamps, accessories, believed 1912; £70, or nearest.—Wigg, 1, Birchfield Rd. Northampton. [X9552

MATCHLESS, delivery from stock of new spring frame model, equipped to your requirements; replacements for Matchless models of all dates.—Tassell, 1a, Bloomfield Rd., Plumstead. [1958

MATCHLESS, 8h.p., 1920, spring frame combinations, early delivery, with or without dynamo lighting; also a second-hand 1920 model, offers.—Wauchope's, 9, Shoe Lane, London. [4933

1916 Matchless Combination, M.A.G. engine, spring sidecar wheel, hood, screen, speedometer, all accessories and spares, lovely outfit, any trial; £150.—J., 77, Howarth Rd., Plumstead, S.E. [4542

MATCHLESS.—Immediate delivery, 1920 Model H combination, complete with Lucas Magdyno electric lighting, M.A.G. engine, spare wheel and tyre.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X9501

MAUDES' can now give immediate delivery of latest 1920 Matchless-Jap or M.A.G. engine, spare wheel, etc., £205; with Lucas lighting equipment, £230.—Maudes', 100, Gt. Portland St., W.1. [4968

MATCHLESS 1919 8h.p. Victory Model Combination, detachable wheels and spare, Lucas accessories, in very nice order; £165.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0075

MATCHLESS Combination, delivered July, done 500 miles, complete with acetylene lighting; £225, or exchange Victory model or Triumph with cash adjustment.—19, Audrey Rd., Ilford. [4386

MATCHLESS Combination, 1920, M.A.G. engine, Magdyno, every accessory, cost £270 May, hardly used, as new, guaranteed; reasonable offers; evenings.—41, Rookfield Av., Muswell Hill. [4427

MATCHLESS Combination, 6h.p. J.A.P., 2-speed, kick start, any trial, sacrifice, 58 gns.; another, chain drive, £120, or exchange lower power, cash adjustment.—57, Kenbury St., Camberwell, London. [4681

MATCHLESS Combination, 1916, Model 8B, mag., engine, Lucas dynamo lighting, speedometer, discs, screen, faultless condition throughout; £147, after 6 p.m.—62, Canadian Av., Catford, London. [3594

1920 Matchless Model H Combination, dynamo lighting, speedometer, hood, screen, Klaxon, sidecar step, pillion seat, perfect condition; owner buying car; £240, or near offer.—Fisher, 35, New Park Rd., Brixton, S.W.2. [4323

F.O.C.H. have a new Matchless-M.A.G. Combination, Lucas equipment; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4048

1919 8h.p. Victory Model Matchless Combination, 3-speed, with spare wheel, Lucas horn, and accumulator lighting set, low mileage, tyres as new, all wheels interchangeable, in perfect running order; £155.—Farr, Contractor, Chichester. [2467

MATCHLESS 8h.p. J.A.P. Victory Model Combination, electric side and tail, acetylene head lamp, Palmer cord tyres, spare wheel complete, nearly new Palmer cord spare cover, horn, speedometer, Orto folding screen, hood, luggage carrier, Tan-Sad pillion seat, and usual accessories, exceptionally good engine, all in perfect condition; £175, or nearest offer.—W.W.C., 20, Red Bridge Lane, Wanstead, E.11. [4879

ALLEN-BENNETT
MOTOR CO.,

1920 **MATCHLESS** Model H.2 Combination, Lucas Magdyno lighting, unscratched, and indistinguishable from new..... **£230**

1920 **MATCHLESS** Model H Combination, as above, but with J.A.P. engine **£225**

1920 **HARLEY-DAVIDSON,** 7-9 h.p., and Dinky Sporting Sidecar; over £40 worth accessories; very small mileage **£215**

1920 **ZENITH,** 8 h.p., c.s., and Swan sporting Sidecar, all lamps, horn, speedometer, as new **£210**

1920 **SCOTT,** 3½ h.p., 2-speed, all lamps, etc., as new **£130**

1920 **N.U.T.,** 3½ h.p. twin, Lucas Magdyno lighting, as new in every respect, Bonniksen speedometer **£155**

1919 **JAMES** 5-6 h.p. twin Combination, splendid condition throughout. Snip . **£130**

1919 **IVY,** 2½ h.p., 2-speed, new condition . **£47 10**

TRIUMPHS. — A few left—countershaft 3-speed models, thoroughly overhauled; **£90,** cash; or with brand new coachbuilt Sidecar, **£117 10s.**

DOUGLAS.—A few 1917-18 4 h.p. Combinations still available, overhauled, finished makers' colours; **£120,** cash; or **£60** down and 12 monthly payments of **£5 15s.**
New bulbous back Sidecar body, **£5** extra.

B.S.A.—A few 4½ h.p. 3-speed countershaft clutch and kickstarter models available; thoroughly overhauled, finished Service green; **£85,** cash; or **£40** down and 12 monthly payments of **£4 6s. 3d.**

INDIAN.—A few 1919 Powerplus spring frame **INDIANS** available, 7-9 h.p., 3-speed, clutch, and kick-starter; thoroughly overhauled, re-enamelled, and plated; **£120,** cash: or **£60** down and 12 monthly payments of **£5 15s.**

The above is only a selection from our stock of over 150 machines that are ready for IMMEDIATE DELIVERY. Let us know your requirements. Extended Payment Terms—half down and balance in 12 monthly instalments No Extended Payment Orders can be accepted outside England.

9, 10, 11, ROYAL PARADE, WEST CROYDON.

'Phone: Croydon 2450.
'Grams: "Track, Croydon."

Hours of Business: 9-7 including Saturdays.

MOTOR CYCLES FOR SALE.

Matchless.

1920 Matchless Combination, 8h.p., ridden only miles, Lucas dynamo lighting, hood, fold wind screen, spare wheel, legshields, tools, spares, e insurance policy, all risks; £260.—Allen, 139, Lav der Sweep, Clapham Common, S.W.11. [4

1920 Matchless, Model H2, M.A.G., Lucas magdy hood, wind screen, luggage grid, spare wh step, every possible accessory, practically new, done 1,500 miles, any trial up to 100 miles; £23(Ekins, 60, Grange Drive, Winchmore Hill. [3(

1916 Matchless Combination, 7-9h.p. M.A.G., speeds, all-enclosed chain drive, lamps, ho Watford, clock, discs, hood, screen, luggage and pet carrier extra seat for child, also Tan Sad, perfe £150.—2, Nightingale Rd., Lower Clapton. [4

1915 M.A.G. Matchless 8B., with 8B2 sidecar, size D.A. set, with case, Cowey speedomet Cameo wind screen, Tan-Sad, oversize tyres new, j overhauled for holidays, found perfect, splendid appe ance, full insurance (May), extras; £135.—10, Ge Rd., Anerley, S.E.20. [4

MODEL H Matchless, M.A.G. engine, Lucas lam Lucas horn, rear drive speedometer, leg shiel adjustable wings to wind screen, sidecar step, m cut-out, complete with spare wheel, tools, pump, p fect condition, mileage to date 475; price £220.—2 Cheltenham Rd., Bristol. [33

BARGAIN.—Matchless combination, 8h.p. J.A. Victory Model, 1919, just overhauled, re-enamel in makers' colours, 3 new tyres, spare wheel, Klax horn, special apron, and hood, spare parts and tools, good spare tyres, 2 new tubes, Tan-Sad, Lucas set lam special dry electric batteries to fit same; quick s £185; no dealers; can be seen any day from 1 to p.m.; any trial given.—14, Soho St., Oxford St., L don. Cause of sale, buying car. [48

Metro.

METRO, late 1919, perfect condition, long exhau brass bearings; £50.—Tunstall, Highlegh. [X93

METRO-TYLER 1919 2½h.p., 2-speed, plated haust, little used; £60; offers.—37, Bishop S Shrewsbury. [X95

1919 (Nov.) Metro, new tyres and belt, spare be disc wheels, long plated exhaust, fast and ec nomical, tools, etc.; £60.—Vokes, 1, Belmont Av., N Malden. [42

METRO-TYLER, type S, latest model, brand ne 2¾h.p., 2-speed, with enclosed mag. and gear bo £95/18; delivery from stock.—P. J. Evans, 83-91, Jo Bright St., Birmingham. [02

METRO-TYLER, 1919 model, 2½h.p., 2-speed, wi clutch and kick starter, just been thoroughly ov hauled and re-enamelled, equal to new; £70.—Apply, 1 Prebend Mansions, Chiswick, W.4. [46

MAUDES'.—Latest 1920 model Metro-Tyler, Ty S, £95, ex actual stock; 1919 model, bra new, reduced price, £65, ex actual stock; deferr payments arranged.—Maudes', 100, Gt. Portland S W.1. [49

METRO-TYLER, latest S type, super 2-strok delivery from stock at list price, £95 cas Exchange or extended terms. Trade supplied.—Ci Agents, Elce and Co., 15-16, Bishopsgate Av., Cam mile St., E.C.3. [00

Minerva.

MINERVA 3½h.p., m.o.i.v., mag., B. and B., Brook new tupes and belt, been stored; first £18 secure —P. Blackman, 61, Kingsley Rd., Maidstone. [36

3½h.p. Minerva, mag., B. and B., good tyres, sprir forks, dropped frame; trial between 6 and p.m.; £20, or offer.—21, Windsor Rd., Denmark Hill [45

3½h.p. Minerva, good tyres and belt, E.I.C. mag B. and B. carburetter, adjustable pulley, sprir leaf forks; £18 secures; no offers.—14, Estcourt S Devizes. [40

Moto-Reve.

LIGHTWEIGHT Motor-Reve, good condition, ri away; £30.—32, Upper Richmond Rd., Ea Putney. [45

Motosacoche.

1916 500 c.c. M.A.G. Motosacoche, Enfield 2-spee kick start; £54.—50, Harold Rd., S.E.19 (ne Crystal Palace). After 6. [43

New Hudson.

1920 New Hudson 2-stroke, 2-speed; £65.—19 Stonhouse St., Clapham Common, S.W. [40

£35, 2¼h.p., 2-stroke, 2-speed, New Hudson; seen appointment.—4, Marine Park, West Kirby. [45

NEW HUDSON, J.A.P. 2¾h.p., 3-speed clutch, goo running order; £30.—266, Hornby Rd., Blac pool. [44

1920 New Hudson 2-stroke, new July, perfect co dition; £65.—Ramsay, Whitehill, Rosewell, Mi lothian. [36

1920 2¾h.p. New Hudson 2-stroke, unused; li price £75; will accept £72.—'Phone: Ham 7822. [39

NEW HUDSON, immediate delivery, 1920 2¼h.p. stroke model.—Parker's, Bradshawgate, Bolto Tel.: 1348. [X94

MOTOR CYCLES FOR SALE.

New Hudson.

EW HUDSON, 4h.p., single speed, splendid condition; £42.—Holmewood, Southern Rd., Fortis n. N.2. [4749

EW HUDSON 2-stroke Lightweights, immediate delivery, spares stocked.—New Hudson Depot, 45, s Inn Rd, W.C.2. [1298

EW HUDSON, 2-stroke, 2-speed, just overhauled, new piston, perfect condition.—Townsend, Tyrley, ket Drayton, Shropshire. [4669

EW HUDSON 2¼h.p., 2-speed, 1917, lamps, horn, tools, etc., splendid condition; £46, offers.—97, ntingale Rd., Wood Green. [1253

EW HUDSON 3½h.p., 3-speed, late 1915, just overhauled, good condition; £60, or nearest.—ham, High St., Eynsham, Oxon. [3988

)15 New Hudson 2¾h.p., 3-speed, clutch, kick start lately rebushed, lamps, horn, good condition; after 7.—Roberts, 29, Clarendon Rd., Lewisham. [4106

)19 4h.p. New Hudson, 3-speed countershaft, C.B. sidecar, patent folding chassis, fully equipped. llent condition; £125, offers.—15, St. Paul's Rd., lord. [4291

EW HUDSON, 3½h.p., 3-speed, clutch, T.T. bars, accessories, new tyre and belt, very fast, excel condition; £55.—9, Hamilton Gardens, St. John's d, N.W.8. [4646

EW HUDSON Lightweights, 1920, 2¼h.p., 2-speed £75, or fully equipped with head lamp and gener tail lamp, and tubing, horn, L.C.C. registration, ol. and oil, £79/15.—Coppen, Allan and Co., 89 Portland St., London, W.1. 'Phone: Mayfair 9. [0280

EW HUDSON, 2¾h.p. J.A.P., 3-speed hub gear with all new ball races, in perfect condition, ch, new belt, splendid tyres, one practically new, in l running order; £40, or offer.—Richardson, 5, High St. Albans. [9843

EW HUDSON 1916 6h.p. Coachbuilt Combination kick start, 3-speed countershaft, foot and hand trolled clutch, B. and B. carburetter, type B.S.V ch mag., fitted Mills-Fulford sidecar, Dunlops. .S. lamps, perfect order throughout; price £110.— son, The Grove, Victoria Av., Prestatyn, North es. [X9095

New Imperial.

.p. New Imperial 1920 Combination, 1,000 miles; near offer list price.—Belmont, Lyme Regis. [4641

IPERIAL Lightweight, Bosch, running order, good tyres; first cheque £22.—59, Somers Rd., South [4825

)19 8h.p. New Imperial Combination, 3 lamps, 2 horns; £140.—Jenkins, 4, Glamorgan Terrace, nsea. [4354

EW IMPERIAL-J.A.P. Combination, 8h.p., excel lent condition; £135.—Longman Bros., 17, Bond Ealing. [4599

)20 New Imperial-Jap 2¾h.p., 2-speed, kick starter, brand new, unridden; £82/10.—Box 7,267, *The Motor Cycle.* [4840

EW IMPERIAL 8h.p. Solo, 1919, under 600 miles, stored since Sept.,; £125; appointment.—Major len, Gt. Missenden. [4196

EW IMPERIAL; immediate delivery all models —Newnham Motor Co., 223, Hammersmith Rd. Phone: Hammersmith 80. [2737

)15 2¾h.p. 2-speed New Imperial, lovely machine bargain £42.—Minchin Motor Mart, 39, Pen n Rd., Kingston-on-Thames. [3464

'AUDES'.—2½h.p. New Imperial, 2 speeds, Dunlop tyres, Saxon forks, excellent condition; £66.— ides', 100, Gt. Portland St., W.1. [4949

)20 New Imperial 2¾h.p. J.A.P., 2-speed, kick start, clutch, accessories, excellent condition; —Alencar, 21, Edith Rd., W.14. [4090

)19 (July) 8h.p. New Imperial and 1920 sidecar to match, all as new, £15 worth of accessories and res; £165.—Hyde, Poplars, Wool, Dorset. [3707

EW IMPERIAL 1917 2¾h.p., 2-speed, in perfect order, genuine, any trial; can be seen any time ept week-ends.—Bate, 8, West St., Horsham. [3847

'AUDES'.—Latest 1920 8h.p. model New Imperia 140 gns.; complete with Millford sidecar. £179; actual stock.—Maudes', 100, Gt. Portland St., W.1 [4969

EW IMPERIAL Combination, 8h.p., late 1919, condition as new, complete with lamps, Klaxon, etc., ndid machine; £140.—Owen, Southwold, Thunders Essex. [3790

EW IMPERIAL-J.A.P. 1916-17 2¾h.p., 2-speed, semi T.T. bars, long exhaust pipe, lamps, me nical horn; £46; exchanges.—R. D. Varty, Thunsley, Essex. [4858

)20 New Imperial, 6h.p. J.A.P., Henderson Elite sidecar, horn, mirror, Easting, spares, mileage 00, everything as new; bargain, £165.—Chase, lach, Llandudno. [4690

EW IMPERIAL-J.A.P. 8h.p. Combination, 1917, with all lamps, horn, etc., as good as new, only d 800 miles, guaranteed perfect; £132.—Wallis, 23 rtington Grove, Cambridge. [4823

ALLEN-BENNETT
MOTOR CO.,

NEW MACHINES FOR IMMEDIATE DELIVERY.

RUDGE MULTWIN, 7-9 h.p.	£147 0
BLACKBURNE, 8 h.p. twin, 3-speed, clutch, and kick-starter	£180 0
BLACKBURNE, 8 h.p. twin, with Henderson Elite Sidecar	£225 0
MATCHLESS Model H Combination, spare wheel	£205 0
HUMBER, 4½ h.p. flat twin, 3-speed, clutch, and kick-starter	£140 0
BLACKBURNE, 4 h.p., 3-speed, clutch, and kick-starter	£135 0
RUDGE, I.O.M., 3½ h.p., Multi, and clutch	£110 5
HARLEY - DAVIDSON, 5 h.p., sports model, flat twin	£164 9 10
JAMES 5-6 h.p. Combination	£190 0
NEW IMPERIAL 8 h.p. Combination	£186 18
ALLDAYS ALLON, 2¾ h.p., 2-speed clutch, and kick-starter	£85 0
VERUS, 2¾ h.p. Blackburne engine, 2-speed, clutch, and kick-starter	£110 5
VERUS, 4 h.p. Blackburne, 3-speed, clutch, and kick-starter	£127 10
LEA-FRANCIS, 3½ h.p., 3-speed, clutch, and kick-starter, all-chain drive	£130 0
BLERIOT-WHIPPET, 8 h.p. Blackburne engine, electric lighting, 2-seater body, spare wheel, etc.	£280 0
COULSON-B., 4 h.p. Blackburne engine, 2-speed, spring frame	£110 5
COULSON-B., 2¾ h.p. Blackburne engine, 2-speed, spring frame	£99 15
COULSON-B., 4 h.p. Blackburne engine, 3-speed, clutch, and kick-starter	£127 10
COULSON-B., 2¾ h.p. Blackburne engine, 2-speed, clutch, and kick-starter	£110 5
VERUS, 2¾ h.p., 2-stroke, 2-speed, clutch, and kick-starter	£80 0
VERUS, 2¾ h.p., 2-stroke, single-speed	£60 0
H.B., 2¾ h.p. Blackburne engine, 2-speed, clutch, and kick-starter	£99 15
WOOLER, 2¾ h.p. flat twin, variable gear, touring models	£102 0
WOOLER, 2¾ h.p. flat twin, variable gear, semi-T.T. model, with footboards	£103 10
O.K.-VILLIERS, 2-speed, best value for money	£65 0
CALTHORPE-J.A.P., 2¾ h.p., Enfield 2-speed (plus 5%)	£74 11
CALTHORPE, 2¾ h.p., 2-stroke, Enfield 2-speed	£71 8
P.V., 2¾ h.p. Villiers, 2-speed, spring frame (plus 5%)	£75 0
CLYNO, 2¾ h.p., 2-stroke, 2-speed, clutch	£75 0
DIAMOND, 2½ h.p., sports model	£62 3
COVENTRY-EAGLE, 2½ h.p., single-speed, Villiers engine	£67 1
EXCELSIOR, 2¾ h.p. J.A.P., 2-speed	£78 0
EXCELSIOR, 2¾ h.p., 2-stroke, 2-speed	£67 0
PAX, 2¾ h.p. Blackburne engine, 2-speed	£96 12
COVENTRY-EAGLE, 2¾ h.p. J.A.P., 2-speed, clutch, and kick-starter	£90 6
HARLEY - DAVIDSON, 7-9 h.p., Mag. model	£193 1 6
HARLEY-DAVIDSON, 7-9 h.p., Mag. model, and Sidecar	£235 1 6

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New Imperial.

1919-20 New Imperial 8-h.p. J.A.P. Combination, excellent order, low mileage, 28×3 wheels, enclosed chain drive, electric lighting; exchange for lightweight and cash.—Kelham, Nassington, Peterborough. [4392

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £82/17; with clutch and kick-starter, £89/5.—P. J. Evans, 83-91, John Bright St., Birmingham. [0262

F.O.C.H. have a New Imperial Light Tourist, No. 2, list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4033

1920 New Imperials, new 8h.p. combinations, also light tourist models, during this week; write or call to secure.—Clapham (Motors), 27, Stockwell St., Greenwich. S.E.10, or 'phone: Greenwich 751. [2008

NEW IMPERIAL-J.A.P. 8h.p. and Tradesman's Side Van, carry 3 cwt., 1919, electric lamps, mechanical horn, spare tubes, guaranteed perfect condition; £135, or near offer.—Jones, Margaret's Buildings, Bath. [4069

1920 6h.p. New Imperial-Jap and Sunbeam Sidecar Combination, beautifully fitted up, all best accessories, condition as new, mileage under 300; illness sole reason for selling; any trial given; £168 for quick sale.—Apply, Arthur E. Warren, Oakfield House, Scriven Rd., Knaresborough. [4700

NEW IMPERIAL 1920 Light Tourist Models, delivered from stock; 2¾h.p. 2-speed model, £80/17; clutch and kick starter, £89/5. Cash, extended terms, or exchange. Trade supplied.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3 [0069

Norton.

B.R.S., 1916, late Norton, lamps, hood, grips; £85.—Green, Grocer, Reigate. [4486

NORTON Big Four, 3-speed, just delivered, unridden, registered.—32, High St., Reigate. [4485

1919 (Oct.) Big Four Norton Sporting Combination, fully equipped; offers.—Collins, 26, Cardiff Rd., Luton. [4570

IN Stock for immediate delivery, Norton Big Four, also lightweight Omega, 2-speed.—Howley, Devizes. [4817

B.R.S. Norton, June, 1919, thoroughly overhauled, as new; £100, or nearest offer.—Hebron Lodge, Evington, Leicester. [3923

NORTON.—Immediate delivery 1920 Big Four and 3½h.p. T.T. countershaft models.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X9503

NORTON 1916 Big Four de Luxe Combination, 3-speed, all-chain, mileage under 3,000; £130.—Woods, Connaught Rd., Gainsborough. [2711

BARGAIN.—1920 Norton Big Four, Gloria sidecar, Easting, P.H. lamps, Klaxon, perfect condition, as new; offers.—2, London Rd., Faversham. [3739

£85.—4h.p. Norton, 3 speeds, clutch, kick start, O.A.V. mag., late model, excellent condition.—436, Whitehorse Rd., Thornton Heath, S.E. [4621

1920 Big 4h.p. Norton De Luxe Combination, only run 800 miles, equal to new, 700×80 tyres, Binks, all accessories; £170.—81, Parrin Lane, Monton, Manchester. [X9477

1920 (June) T.T. Norton, 600 miles, 6 to 60 m.p.h., lamps, horn, speedometer, knee grips, spare belt and inner tube, tools, property officer ordered abroad; £115.—Holdway, Woolverton, Beckington, Bath. [4310

1919 Four Norton, sporting Swan sidecar, disc wheels, Klaxon, 3 lighting sets, mechanically perfect; £165, or would exchange late model G.N., Morgan, or other fast 2-seater, cash adjustment.—Box 7,194, c/o *The Motor Cycle.* [3836

1920 3½h.p. T.T. Norton, 3 speeds, chain drive, delivered last week, only ridden 50 miles, Lucas large head and tail lamps, horn, A.K. knee grips and tools, any trial willingly; £155; no offers.—9, Mostyn Crescent, Llandudno. [3921

NORTON Big 4 Combination, 1915, with 1920 engine complete, 3-speed, speedometer, electric lighting, sidecar has additional side panel for child, wind screen, hood, perfect condition; £120.—27, Glenthorn Grove, Brooklands, near Manchester. [4388

1920 Norton Big Four Combination, Watsonian R34 sidecar, knee grips, Klaxon, tyres 650×65 all round, condition perfect, quite the smartest outfit on the road, any trial, owner bought car; will accept £165 for quick sale; insured.—F. R. Waddington, Thornton Steward, Bedale, Yorks. [4020

BIG Four Norton, late 1916, special machine, purchased from T.T. second winner, 2in. plated exhaust, brand new piston, gudgeon, big and small ends, controls, bars, footrests, stove-enamelled, makers' transfers, accessories, special built racing Canadian canoe type 3-ply sidecar, revarnished blue and linings, whole guaranteed perfect and unscratched, about fastest and smartest combination of any horse-power on road; after 6; £140, or near offer. Wanted, late twin combination and 3½h.p. Norton engine.—88, Brook Green, Hammersmith. [4157

MOTOR CYCLES FOR SALE.

N.S.U.

N.S.U. Clutch Model Twin, Bosch mag., B. and B. carburetter, lamp, horn, running order, overhauled; exchange Levis.—Thorpe, East Heath, Wokingham. [4535

3h.p. N.S.U., good running condition, 23 gns.; Singer 3½h.p., Armstrong 3-speed and pedal starting, clutch, good running order; bargain, £39/10.—Carters, Ibstock. [X9561

3½h.p. N.S.U. Coachbuilt Combination, 2 speeds, clutch, spring frame, Bosch, overhauled, good condition and appearance; £45.—Simpson, 28, Dulwich Wood Park, S.E.19. [4074

N.U.T.

N.U.T. Electric; immediate delivery.—Maudes' Motor Mart, 100, Paris St., Exeter. [4145

N.U.T. Motor Cycles from Stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214 [1098

N.U.T.—Sole wholesale and retail agents for Staffordshire.—The Walsall Garage, Walsall. Tel.: 444. [5766

FRANK WHITWORTH, Ltd., 139, New St., Birmingham, for immediate delivery of N.U.T. at £165. [X9590

NUT, 1920, just delivered, dynamo lighting, etc.; list price, first cheque secures.—Wootten's Garage, High St., Oxford. [3692

MAUDES'.—Latest 1920 model N.U.T. with Lucas dynamo set; £165; ex actual stock.—Maudes', 100, Gt. Portland St., W.1. [4955

FOR Sale, £170, or exchange for 1920 N.U.T., 1919 Rover, with special sidecar costing £60, mileage 150.—Perrin, Richardson Rd., Hove, Brighton. [4181

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery. Write or 'phone for particulars—Tel.: Yeovil 114. [6023

LATE Special T.T. 3½h.p. N.U.T., clutch, 5 to 55 m.p.h., 120 m.p.g., exceptionally smart, new tyres, enamel unscratched; £86, offers.—9, Red Hill, Bassett, Southampton. [4672

N.U.T. 1920 3½h.p. Twin, Lucas magdyno, delivery of this famous mount can be given from stock at list price; £165; cash, exchange, or extended terms; trade supplied.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0071

8h.p. N.U.T.-J.A.P., 3-speed sporting combination, all-red finish, fully equipped with lamps, Klaxon, tools, spare valves and tubes, etc., splendid coachbuilt sidecar with wind screen and apron, the whole outfit in excellent condition throughout; accept £95, or near offer.—Noyce, Butcher, Andover, Hants. [3860

O.K.

O.K.-VILLIERS 2½h.p. 2-stroke, 1920, unused; £48.—103a, High St., Wandsworth. [4606

O.K. Union Models in stock at maker's price £50/8.—Eagles and Co., 275, High St., Acton, W.3. [X8981

O.K. Union 1916 2½h.p., all on, good condition; £37.—17, Sydney Rd., Raynes Park, London. [4134

O.K. 2¾h.p., 2-speed, free engine, lamps; £40, or near offer, bargain.—27, Witham Rd., Isleworth. [4713

O.K. Junior, as new, only done 20 miles; any examination and trial; £50, or nearest.—Tippen, Marden, Kent. [4266

O.K. Junior, instant deliveries from stock; 48 gns.—Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes. [4329

O.K.-UNION, 1920, £45, lowest, or exchange with cycle car engine, magneto, and clutch, with cash.—Fairbairn, Station Approach, Sidcup, Kent. [4521

O.K. Juniors from Stock; 48 gns.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., Regent's Park, N.W.1 ('Phone: Museum 5476). [1100

F.O.C.H. for O.K. Unions and Juniors, list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4035

Olympic.

OLYMPIC-J.A.P. Motor Cycle, new 1920, 6h.p. twin, Enfield 2-speed gear, with model D4 Canoelet sidecar; £136.—Fleming, Amblecote Garage, Stourbridge. [3963

Omega

OMEGA-J.A.P., May, 1920, 2-speed, spares, little used; £66.—Randall, 23, Soho Sq., W. [3607

1920 2¾h.p. Omega-Jap, 2-speed, disc wheels, Olympia model, hardly ridden; £68.—Smith, 34, Goddard Av., Swindon. [3996

F.O.C.H. for Omegas; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4039

OMEGA Motor Cycles; delivery from stock Model A, 71 gns.; Model C, 79 gns.; carriage paid to nearest railway station.—Campbell and Semple, 39, St. Leonard's St., Dunfermline. [3626

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OMEGA-J.A.P. T.T. 2¾h.p., 2-speed, Sept., 1919 lamps, horn, pump, tools, knee-grips, wheel discs long exhaust, heavy tyres, and condition as new accept £58.—Collins, 9, Riversley Rd., Nuneaton. [432

1920 Omega-Jap 2¾h.p., 2-speed, free, H.B. clutch kick start, all on, lamps, horn, tools, etc., lon copper exhaust, cost £85 a fortnight ago, as new £75 cash, no offers.—N. Cook, Glebeside, 5, Harrington Rd., Brighton. [408

P. and M.

P. and M., 2-speed, engine perfect; best offer.—2 St. John's Rd., Putney. [373

BRIGHTON, Hove and district P. and M. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [020

P. and M. Combination, new sidecar; exchange cycl car or twin; sell.—Dunn, Milton St., Peterborough [365

1918 P. and M. Combination, 2-speed, kick star splendid condition; £75.—69, King Edward Rd Rugby. [X954

P. and M. 3½h.p. Combination, 2-speed, new sidecar running; £35.—Hutton, Red Lion Hill, Eas Finchley. [X945

P. and M. Combination, 3½h.p., 1916, 2-speed, K.S excellent condition; £72.—38, Payne St., Dept ford, S.E.8. [455

P. and M. Lightweight, running order, Bosch, 20 gns must sell; also clutch pulley, 30/-.—Barney, New port, Wight. [462

P. and M. Combination, R.A.F. model, late type good running order; £75, real snip.—103a, Hig St., Wandsworth. [460

P. and M. Combination, coachbuilt, all on, smar lot, any trial; £92.—A.G., 12, Thrale Rd Streatham, S.W. [476

3½h.p. P. and M., mechanically perfect, appearance as new; £58/10; photo stamp.—Higby, Manor Estate, Hemel Hempstead. [406

P. and M., 1918, W.D., 2-speed, kick starter, over hauled, condition guaranteed, tyres excellent £73.—Box 7,304, c/o *The Motor Cycle.* [492

1918 P. and M., excellent condition, tyres, lamps mechanical horn, as new; £75.—Harvey, Cosy nook, Churchfields, Cheshunt, Herts. [456

1919 P.M. Combination, excellent engine, tyre good, lamps, and horn, condition hardly scratched any trial; £125.—202, Trinity Rd., S.W.17. [405

P. and M. Combination, 3½h.p., R.A.F. model, 2 speed, kick start, new back Dunlop tyre, sidecar nearly new, lamps, etc.; £98.—8, Clifton Gardens, W.9 [488

1918 P. and M., 3½h.p., 2-speed, kick starter good tyres, enamel almost as new, mechanically perfect; £69.—Mines, 80, Church Rd., Barnes, S.W. [298

1920 P. and M., latest model, delivered fortnight hardly used, select machine; write, or call week ends.—Six Hills House, Six Hills, Leicestershire. [363

P. and M. 3½h.p., R.A.F. reconstructed model, 2 speed, kick starter, chain drive; £78.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [007

P. and M. (1917), incomplete, comprising engine frame, wheels, tank, saddle, carrier, fork (missing gear, spring handlebars; £25 lot; wanted, gears.—9a John St., Norwich. [X935

PHELON-MOORE, ex military stores, overhauled and sent on approval, £78; with Millford latest 1920 sidecar, £109; trade supplied.—Maudes', 100, Gt. Portland St., London; also Paris St., Exeter. [494

PHELON and Moore 1920 3½h.p., W.D. model splendid condition, tuned and only ridden 1,000 miles by mechanic, Cowey speedometer, accessories £112.—Long, 17, Sheen Rd., Richmond, Surrey. [386

1919 P. and M. Combination (not W.D.), Easting Klaxon, luggage carrier, apron, 3 lamps, new tyres, spare valve, 2 covers, tubes etc., low mileage perfect, practically unscratched; £130.—Vernon, 2 Liskeard Gardens, Blackheath. [448

1920 (May) P. and M. Combination, coachbuilt side car with apron, enamel (blue), plating, and all details, including tyres, perfect condition, tools, and Stewart signal; £155.—Andrews, Orton Longueville Peterborough. [410

LARGE Number P. and M. 1917 and 1918 W.D. Models, all-chain drive, 2-speed, kick starter, over hauled, original colours, ready to ride away, price £70 combinations, £98; the trade supplied.—Barnett, c/ Morris and Hall, Ridge Mews, Child's Hill, Cricklewood, N.W. 'Phone: Hampstead 7667. [326

P. and S.

NEW 2¾h.p. P. and S., fitted with the Villiers 2 stroke engine, 2-speed, clutch model; £73.—Wauchope's, 9, Shoe Lane, London. [204

Paragon.

PARAGON.—Early deliveries.—Sole agents for Worcestershire, The Castle Motor Co., Ltd., Kidderminster. [870

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Peugeot

ABY Peugeot 6h.p., 3-speed and reverse, Bosch mag., Stepney, hood, wind screen and lamps, in running order; £45.—Barker, 90, Gt. Knollys Reading. [4362

ALMER-PEUGEOT.—Palmer spring frame (the world's best), Peugeot 5-6h.p., Bosch, Binks 3-tyres, belt, saddle new all round, fast, no road ks; £60; a real bargain.—Spion Kop Garage, sedown, Bath. [X9642

P.F.

F. Motor Cycle, tyres as new, Bosch mag., B. and B. carburetter, lighting set, mechanical horn; nearest offer.—Maunder, 2, Victoria Rd., Yeovil. [X9484

Pope.

OR Immediate Disposal, one 7-9h.p. Pope, 2-speed gear box and clutch, spring frame, electric light-mechanical horn, fitted with large bulbous back hbuilt sidecar and Easting wind screen; £115. We also supply from stock all spare parts for these hines.—Samuel Reed and Sons, 136, Gt. Dover St., 1. Phone: Hop. 2537. [4631

Precision.

RECISION 2½h.p., 3-speed, clutch, pedal starter; £45.—Smith, Ivy Villas, Thornton Rd., Potters [2320

RECISION 4¼h.p. Combination, 2-speed, lamps, speedometer; £60; after 6.—19, Campbell Rd., well. [3629

RECISION 3¾h.p., 2-speed gear, with coachbuilt sidecar, well sprung, new Dunlops throughout, com-e with lamp, horn, etc., also few spares and tools, good condition and running order; £65, bargain; t sell.—Apply, 5, Park Av., Mitcham. [3675

Premier.

35.—1914 4h.p. Premier combination, 2-speed gear box, clutch, excellent condition.—63, Solon Rd., kton. Exchange. [4917

REMIER 3½h.p. Combination, 2-speed clutch, handle start, good condition; £50.—M. Kerron, t Bannatyne, Scotland. [4113

)14 Premier Combination, horn, tools, etc., over-hauled throughout and in excellent condition.—.C., 60, Mortimer St., W.1. Tel.: Museum 6626. [3688

4h.p. Premier Combination, 3-speed countershaft, wind screen, lamps, and spares, in new condi-; £120, or reasonable offer.—Wood, 20, Greenway , Taunton. [4692

P.V.

AUDES.—Latest 1920 model P.V., 2 speeds; reduced price £71; easy payments arranged; ex actual k.—Maudes', 100, Gt. Portland St., W.1. [4958

Quadrant.

)20 Quadrant 4½h.p., as new, all on; £100; seen by appointment.—Montgomery Ennis, Melrose ce, Clifton, Bristol. [X9415

UADRANT 1920 4½h.p. Combination in stock; makers' price, plus carriage.—Shepherd and Co., ield Highway. Tel.: Waltham Cross 31. [1883

)16 4½h.p. Quadrant, B.S.A. 3-speed, clutch, kick start, chain-belt, heavy Dunlops and tubes, new , splendid condition; £75.—90, Park Av., Barrow-in-ness. [4104

EW 1920 4½h.p. Quadrant Combination, 3-speed, Sturmey-Archer countershaft gear, clutch, and k starter; £145.—Wauchope's, 9, Shoe Lane, Fleet London. [2043

UADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the y moderate-priced outfit left.—Victor Horsman, L, 7, Mount Pleasant, Liverpool. [0277

4½h.p. Quadrant Combination, to makers specification; at list price, including carriage from rks, £147/7/3, or on easy payments 4% extra.—rrods, Ltd., 118, Brompton Rd., London. [4377

UADRANT 1920 4½h.p., 3-speed, chain drive, kick starter combination, £145; solo, £115; delivery m stock; cash, exchange, or extended terms; trade pplied.—Elce and Co., 15-16, Bishopsgate Av., Camo-le St., E.C.3. [0072

EW 4½h.p. Quadrant Combination, to makers' specification; at list price, including carriage from rks, £147/7/3, or on easy payments 4% extra.—rrods, Ltd., 118, Brompton Rd., London. [3642

LIFFORD WILSON Mfg. Co., the premier Quad-rant agents.—We can give immediate delivery of o models, £115, or combinations, £145.—Free de-ery within 150 miles from Birmingham. Special ilities for suitable accessories and insurance. Service ailable day or night. Trade supplied.—70, Royal spital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4514

Radco.

ADCO 2¼h.p., new condition, P. and H. lamps, all on; bargain, £30.—Carter, 45, Bayston Rd., Stoke wington. [3902

ADCO 2¼h.p. 2-stroke, lamps, horn, insurance; £43.—Blackman, 26, Pyrland Rd., Newington een, N.5. [4563

ADCO 1920 2-speed 2-stroke, splendid equipment; £55; exchange or deferred payments.—Bunting's otors, Wealdstone. [4772

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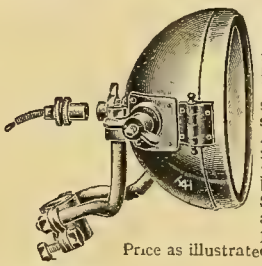

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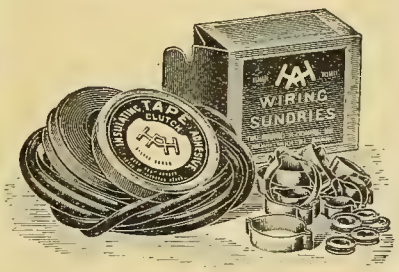

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Radco.

19 20 Radco 2¼h.p. 2-stroke, 2-speed, discs, 120 m.p.g., perfect condition; £50.—Alleway, Upper Sombourne, Winchester. [3850

RADCO, 1920, 2¼h.p., 2-speed, equal new, spare belt, lamps, tools; £68, or offer.—White, 12, Stone St., Hastings, Sussex. [4469

19 19 (July) Radco, practically new, lamps, horn, spare tyre, belt, etc., ridden 700; £45.—10, King's Rd., Kingston-on-Thames. [4322

RADCO 1915 2-stroke 2¼h.p., perfect running order, new back tyre, spare belt; seen any time; Uxbridge district; £38.—Box 7,193, c/o *The Motor Cycle*. [3835

Reading-Standard.

READING-STANDARD, 2 late models, want slight repairs; very cheap to clear.—Grimes, 18, Bruton Place, Bond St., W.1. [4437

READING-STANDARD Combination, 1920, electrically equipped, hardly used; £195.—W. H. Grimes and Co.- 18, Bruton Place, Bond St., W.1. [4438

READING-STANDARD 1920 Electric Combination, all accessories, mileage 560, superb outfit, cost £265, going abroad; sacrifice £210.—Pasmore, 39, Maida Vale, London. [4247

Ready.

THE Ready-Jap. 2¾h.p., Brompton Forks, Albion gears, Amac, E.I.C. magnetos; £76.—From agents or direct from manufacturers, D. Read and Co., Weston-super-Mare. [X8078

Regal.

REGAL-PRECISION 3¾h.p., special engine, 2-speed countershaft, lamps, Klaxon, knee grips, sporty, as new; £85.—Harcombe, 30, Mason Rd., Headless Cross, Redditch. [4614

Revere

NEW 1920 2½h.p. Revere, 2-speed, 2-stroke; £65.—Thos. Booth, Frodsham. [3667

REVERE 1919 2-stroke, 2-speed, complete, lamps, etc.; £60.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [4330

Rex.

REX Twin 6h.p., perfect, ride away; £35.—62, Grafton Rd., Horn Lane, Acton. [4361

REX-BLACKBURNE 8h.p. Combination, immediate delivery.—Pater's, Motors, Bedford. [4975

REX 3½h.p., mag., Amac, T.T. bars; ride away; £20, no offers.—76, Grange Walk, Bermondsey. [4108

REX 5-6h.p. Coachbuilt Combination; £75; seen after 6 evenings.—13, Copland Rd., Wembley. [3611

REX Twin, 2-speed, handle start, good condition; £40. Sidecar to fit; £10.—52, Westfield Rd., Bletchley. [4637

19 13 4h.p. Rex, Bosch, B.B., with or without sidecar, splendid condition; offers.—Gill, Euchurst Rd., Cranleigh, Surrey. [4809

REX 3½h.p., with coachbuilt sidecar, Bosch, Binks, pulley, perfect running order; £45, or offer.—Holyport School, Maidenhead. [4112

19 20 New 8h.p. Rex-Blackburne Combination, Model 55, spare wheel; £218/18, or exchange.—Halifax Motor Exchange, Horton St., Halifax. [4011

REX 6h.p. Coachbuilt Combination, 2-speed, kick Bosch, B. and B. pilot, speedometer, lamps, wind screen, god condition; £75.—32, Melfort Rd., Thornton Heath. [4236

6-8h.p. Twin Rex, 1913, splendid condition, coachbuilt combination, handle start, 2-speed, lamp, horn; £60.—A.S., 6 Van Diemans Rd., Chelmsford, Essex. [3682

REX 2¾h.p., Bosch mag., Senspray carburetter, Klaxon, perfectly new back 3-ply heavy Dunlop cover and inner tube, footboards; £25.—Swift, 31, Milton Rd., Sittingbourne. [3842

19 14 Twin Rex, all-chain drive combination, speedometer, lamp set, 3-speed, A.J.S. gear box, kick start, new tyres; exchanges. — Humphries, 185, Brighton Rd., South Croydon. [X9450

Riley.

3 2 1h.p. Riley, mag., Triumph carburetter, new belt and back tyre, take 2 up anywhere, sound order; £30.—Palmer's Garage, Peasedown, Bath. [X9643

Roc.

ROC 3½h.p., 2-speed, F.E., Bosch, good condition, slight adjustment to gears; 20 gns., or near offer.—46, Peabody Rd., Farnborough, Hants. [4349

Rover.

ROVER T.T., 1919, like new; £80.—Warne's, 46, Churchfield Rd., Acton. [3959

ROVER Combination, 5-6h.p., brand new; £225.—Box 426, c/o *The Motor Cycle*. [X8786

ROVER 3½h.p., clutch, new tyres; £40, offers.—Druitt, 47, Ordell Rd., Bow. [4553

19 16 3½h.p. T.T. Rover, Philipson, equipped, perfect; £68.—6, Mount Pleasant Rd., Ealing. [4490

ROVER 1913 3½h.p., clutch model, exceptionally good condition; £60.—Tippen, Marden, Kent. [4267

MOTOR CYCLES FOR SALE.

Rover.

ROVER Combination, 5-6h.p., 1920, only done 500 miles.—55, Greenbank Rd., Birkenhead. [X9587

1914 3½h.p. Rover, 3-speed, perfect, £66; wanted, Monocar or fast solo.—46, Dunchurch Rd., Rugby. [X9431

3½h.p. Rover, Bosch, B. and B., Grado Multi gear, running order; £30.—1, Plantation Rd., Sunderland. [3717

ROVER 3½h.p. 1914, 3-speed, perfect condition guaranteed; nearest £60.—15, Brandram Rd., Lee, S.E. [4590

ROVER 1920 5-6h.p. Combination, immediate delivery; £235.—Kays, 8, Bond St., Ealing Broadway. [3383

MAUDES'.—Latest new 1920 Rover combination, 3½ h.p., ex actual stock; £206.—Maudes', 100, Gt. Portland St., W.1. [4951

ROVER 5-6h.p. 1919 Combination, splendid condition; bargain, £150.—12, The Quadrant, Winchmore Hill, N.W.21. [3756

4h.p. Rover, clutch model, Bosch mag., excellent condition, lamp, etc., all complete; £47.—77, Church St., Shoreditch. [4092

1920 Latest Model 5-6h.p. Rover Combination, mileage 250, new lamps, speedometer; £220.—Collier's Motories, Halifax. [4013

ROVER 3½h.p., fixed gear, lamps, registration, etc., sound working order; £30; seen by appointment.—Yeo, Woodhurst, Warlingham, Surrey. [4216

ROVER 1920 5-6h.p. Coachbuilt Combination, latest improvements throughout, just arrived; makers' price.—Eagles and Co., 275, High St., Acton, W.3. [X8982

3½h.p. Rover, 3-speed, clutch, C.B. Combination, condition as new; must sell, cheap; what offers?—Williams, 9, Blanmerle Rd., New Eltham, S.E.9. [4212

1914 3½h.p. Rover C.B. Combination, 3-speed clutch, fully equipped, new tyres, excellent mechanical condition; £65, or offer; appointment.—14, Pepys Rd., New Cross. [3666

ROVER 6h.p. Combination, 1919, lamps, horn, speedometer, wind screen, luggage grid, perfect condition; £165.—Pangbourne, Milton Rd., Weston-super-Mare. [3931

ROVER, 1919, speed model, Philipson pulley, lamps, horn, new oversize tyre; accept £85; bargain; consider lightweight and cash.—L. Cantrill, 172, Cross Rd., Coventry. [X9534

ROVER 1920 5-6h.p. Combination, latest model, bulbous back sidecar, in stock for immediate delivery at list price; £235. Exchanges, extended terms.—Below.

ROVER 1918 5-6h.p. W.D. Model Combination, reconstructed and guaranteed sound; £135.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

1919 Rover 3½h.p., 3-speed, kick start, lamps, horn, tools, spares, excellent condition; seen by appointment; nearest offer to £105.—A. Gray, Somerton, Bury St. Edmunds. [4616

1920 Rover, T.T. model, brand new, with Cowey horn, Philipson pulley; list price £124, will accept £95; only used 200 miles.—Wallis, 23, Hartington Grove, Cambridge. [4822

1920 5-6h.p. Rover Combination, all lamps, Cowey horn and speedometer, mileage 600, looks and is, as good as new, very silent and beautiful machine; £170.—'Phone: Hamp. 7822. [3978

ROVER Combination, 3½h.p., 3-speed countershaft, late model, bulbous sidecar, lamps, tools, etc., perfect condition; £135, or near offer; Leamington.—Box 477, c/o *The Motor Cycle.* [X9468

1919 (late) 3½h.p. Rover and sidecar, electric lighting, mechanical horn, speedometer, Easting screen, faultless condition; £160.—Paymaster Lieutenant Carter, H.M.S. Greenwich, Portsmouth. [3747

T.T. Rover, new Sept., 1919, not done 1,500 miles, Philipson pulley, hand-controlled, Lucas lamps and horn, and spares, knee grips, in excellent condition and very fast; £86.—Leigh, Radford Bank, Stafford. [X9568

ROVER 1914 3½h.p., 3-speed S.A., Bosch mag., recently overhauled, brand new, Bamco sidecar; nearest offer £85 secures; can be seen any time.—B.A.M. Co., Ltd., 169-171, High Rd., Willesden Green, N.W.10. [3695

F.O.C.H. have a 5-6h.p. W.D. Rover Combination, Easting, negligible mileage.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4036

ROVER Combination, late 1918, 5-6h.p. J.A.P., 3-speed, K.S., hand and foot clutch, car tyres (28in. × 3in.), coachbuilt sidecar, Easting screen, luggage carrier, lamps, all complete; £150, offer.—25, Hampton St., Walworth, S.E.17. [4758

ROVER 5-6h.p. 3-speed Combination, new from makers Oct., 1919, special roomy sidecar, Lucas lamps, Klaxon, speedometer, wind screen, hood, luggage grid, 28×3in. tyres unpunctured; £175; owner going abroad.—A. Legg 17, Pepys Rd., Raynes Park, S.W.19. [4237

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1918-19 3½h.p. Rover and Rover Sidecar, 3-spe countershaft, clutch, K.S., 3 lamps, horn, ki grips, mirror, storm apron, insurance, a perfect tu out, in excellent condition, 110 m.p.g. solo, 80 si car; cash offers over £120.—Phillips, Glenmore, Da ley, Shropshire. [X95

Royal Ruby.

ROYAL RUBY 2-stroke, excellent order, new Du lops, lamps, horn; trial; £39.—122, Wood Va Honor Oak. [42

1920 Royal Ruby, new, 3h.p., spring frame mod £95.—Mosedale, 30, Canterbury Rd., West K burn, N.W.6. [37

1919 Royal Ruby, 2¾h.p. J.A.P., speedometer, ve fast, nice looking; £52, offer.—69, Laitwood R Balham, S.W. [36

1919 Royal Ruby, 8h.p. J.A.P. combination, ele tric lighting and accessories; £150.—Gunar Rainham, Essex. [39

1920 Royal Ruby Motor Cycle, just unpacked, 3h. spring frame; £115.—Royal Garage, Clacto on-Sea. 'Phone: 26. [38

1918-1919 Royal Ruby Combination, 8h.p., wit lamps and wind screen; £135.—Kays, 8, Bon St., Ealing Broadway. [33

1920 Royal Ruby, 3h.p., 2-speed, spring fram moderate mileage; £105.—Collier's Motorie Union St. South, Halifax. [40

1920 Royal Ruby (new), 3h.p., speeds, clutch, sprin frames, etc.; list price £120, accept £110.—Youn Gascoinge, Misterton, Somerset. [37

1918 Royal Ruby 2¾h.p., 2-stroke, 2-speed, P. an H. lamps, horn, etc., guaranteed perfect; £50.- E. A. Saunders, Sutton, Weymouth. [45

ROYAL RUBY Combination, 1919, 8h.p. J.A.P little used, perfect; £165, or thereabouts; Lar cashire.—Box 7,225, c/o *The Motor Cycle.* [39

ROYAL RUBY, Sept., 1919, 2-stroke Villiers, lam etc., mileage negligible; £46.—Parker, c Powell, The Swillet, Chorley Wood, Herts. [36

1920 Spring-frame Royal Ruby, 3h.p., 2 speeds an clutch, actually in stock for immediate delivery £120.—Kays, 8 Bond St., Ealing Broadway. [33

1920 Royal Ruby, 3h.p., spring frame, kick start 2-speed, immediate delivery; £120.—The Clyde dale Supply Co., Ltd., 2, Bridge St., Glasgow. [02

1920 8h.p. Royal Ruby, sidecar, sprung grid, locke Easting screen, D.A. lighting, condition perfect 172 gns.—Captain Puckle, H.M.S. Eagle, Portsmouth. [39

MAUDES'.—Latest 1920 3-speed model Royal Ruby spring frame; £120; ex actual stock; eas payments arranged.—Maudes', 100, Gt. Portland St W.1. [49

ROYAL RUBY 1918 8h.p., all-chain, enamel an plating as new, with Mills-Fulford 2-seater side car, any expert examination, 50 miles trial with up; £140, or nearest.—272, Green St., Forest Gate [41

Rudge.

NEW Rudge Multi, with second-hand sidecar; £13 —Glovers, Witham, Essex. [39

1917 Rudge Multi, splendid order, usual accessories £65.—41, Southam Rd., Banbury. [40

RUDGE I.O.M., Multi, in stock; £110.—Clark, Exhibition Rd., South Kensington. [48

1920 Rudge Multi, T.T., just delivered; no premium no premium.—Phillips Bros., Aldershot. [45

1920 I.O.M. Rudge in Stock at List; £110/5; ex changes.—2, Nightingale Rd., Lower Clapto [47

RUDGE Multi, 1920, T.T. model, just delivered 105 gns.—Eagles and Co., High St., Acton, W.3. [X89

MAUDES'.—Latest 1920 model Rudge Multi, £110/ ex actual stock.—Maudes', 100, Gt. Portland St W.1. [49

RUDGE Multi, 1920, perfect condition, under 2 miles; what offers?—Box 7,243, c/o *The Mot Cycle.* [41

RUDGE Multi, 1914, good condition, lamps, etc £70.—Hewin's Garages, Ltd., the Real Service Fir Taunton. [43

1920 Rudge, complete with lamps and horn, on on the road 19 days; what offers?—Brook Burnham, Somerset. [46

RUDGE Multi, 3½h.p., late 1919, mileage 200 mil only; must sell; £95, or nearest.—Wilks, Das wood Rd., Banbury. [X87

MOTOR CYCLES FOR SALE.

Rudge.

h.p. Rudge Multi Coachbuilt Combination, excellent condition; £105; after 7 p.m.—44, View Rd., Plumstead. [4508

UDGE Multi 5-6h.p. and sidecar, lamps, speedometer, etc., worth £130, like new; £95.—140, den St., London. [4357

UDGE, I.O.M. Model, list price: from stock.—A. J. Young and Co., Ltd., Heath Garage, Newket. 'Phone: 214. [1101

UDGE Multi, I.O.M., believed 1916, Palmers in good condition, good goer; cheap at £65.—one: Hamp. 7822. [3983

UDGE Multi 1920 I.O.M., pedal start, unregistered; offers over £100; cash wanted; bargain.—Box 18, c/o *The Motor Cycle*. [4940

UDGE, I.O.M. model, in stock; list price.—Newnham Motor Co., 223, Hammersmith Rd., W. one: Hammersmith 80. [2734

6h.p. Rudge Multi, 1914, and Canoelet sidecar, in good running order; £70, or near offer.—F., 22, don Rd., Tunbridge Wells. [X9416

.h.p. Rudge, excellent condition; any trial; enquiries after 2 p.m.; £80.—Goldsworthy, M.W.B. ks, Battersea Park Rd., S.W. [4289

20 5-6h.p. Rudge Multi, with Rudge sidecar, complete with lamps, etc.; cheap for cash.—Berry, teredge, Hipperholme, Halifax. [4450

.M. 3½h.p. Rudge Multi, T.T., late June, 1920, little used, perfect order, full tool kit, horn; £100. me, 27, Spring Gardens, Crewe. [3677

UDGE Multi Coachbuilt Combination, latest colours, overhauled, perfect, lamps, speedometer, £75.—38, Grosvenor Rd., Ilford. [4878

UDGE 7-9h.p. Twin Combination, in stock; list price.—Newnham Motor Co., 223, Hammersmith W. 'Phone: Hammersmith 80. [2735

20 Rudge Multi 3½h.p., electric lighting, new March, spares, tools as supplied; £105.—Lieut. ner, H.M.S. Vulcan II., Portland. [3773

20 Rudge Multi, T.T., delivered this week; just price.—Bickell and Sons, 247-251, Archway Rd., igate, N.6. 'Phone: Hornsey 1090. [0254

20 Rudge Multi, as new, mileage 100, complete with lamps; £110; ride 30 miles to purchaser.—ly, H. Pentelow, Rothwell, Kettering. [3872

20 New I.O.M. Rudge Multi, correct model, with spoked belt rim, clutch, and pedal starter; price.—Fancourt's Garage, Stamford. [3700

JDGE Multi 1920 I.O.M., pedal starter, mileage 120, guaranteed perfect, unregistered; £98/10; examination.—Hunt, Villa, Eye, Suffolk. [4941

20 I.O.M. Rudge Multi, new, lamps, horn, speedometer, tools, Tan-Sad, tyre, insurance; £100.—Cromwell Crescent, Earl's Court, London. [4454

JDGE Multi 1920 3½h.p., T.T., brand new; just arrived; immediate delivery; at makers' price,)/5.—Wilkins, Simpson, opposite Olympia, London. [3881

'DGE Multi 1920 3½h.p. I.O.M., lamps, horn, tools, etc., perfect condition; offers over £95.—e, 10, Gretna Gardens, Richmond, Surrey. (D) [4197

20 I.O.M. Rudge, in stock for immediate delivery; price 105 gns., crate and carriage extra.—Win-Henney, 63, South End, Croydon. 'Phone: 2431. [4443

R Sale, 7-9h.p. twin Rudge Multi combination, only ridden 100 miles; what offers? Reason for selling, r buying car.—Apply, Box 433, c/o *The Motor Cycle*. [X8829

h.p. Rudge Multi and Wicker Sidecar, good condition throughout, trial; offers, or exchange light- ht and cash.—Platt, Duxbury, Chorley, Lancs. [3917

19-20 Rudge Multi I.O.M. Combination, fully equipped, very fast, perfect condition; £110, offer.—Linzell, 1, Conway Rd., South Tottenham. [4227

JDGE 1920 7-9h.p. and 5-6h.p. Multi Combinations in stock; makers' price, plus carriage.—herd and Co., Enfield Highway. Tel.: Waltham s 31. [1880

JDGE Multi, 3½h.p., Millford sidecar, spring wheel, apron, fine condition, good tyres, new lamps, horn, spares; £75, lowest.—12, Chester e, Plumstead. [4752

JDGE Multi 3½h.p., late 1917, clutch, pedal start, fast, powerful, splendid condition, appear- : £76.—Motor Cycle, 114, Coedfenmaen Rd., ypridd, S. Wales. [4671

JDGE 3½h.p. C.B. Combination, kick start, wind screen, lamps, excellent condition and appearance, y detachable; any trial after 6 p.m.; £62.—M., 44, mer Av., West Ealing. [4352

JDGE Multi, 1914 3½h.p., clutch, pedal starter, lamps, horn, speedometer, new belt, good tyres, tly overhauled; ride away; £55; appointment.—Leadale Rd., Stamford Hill, N.16. [3672

14 5-6h.p. Rudge Multi, coachbuilt sidecar, Walbro screen, complete, lamps, Lucas horn, , tubes, as new, new cylinders, re-enamelled, all llent condition; £100.—101, Holly Rd., Aldershot. [3857

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Rudge.

1920 T.T. Rudge Multi, lamps, Klaxon, Watford speedometer, spare belt, tools, mileage under 2,500, just completely overhauled by Rudge depot; £105.—Goodwin, Imperial Hotel, Eastbourne. [4315

1920 Brand New I.O.M. Rudge 3½h.p., sloping tank, multi gear and free engine, £110/5; also second-hand Rudge, 1919 model, £95; another, single speed, 1914, £35.—Wauchope's, 9, Shoe Lane, London. [2040

F.O.C.H. have a new I.O.M. Rudge Multi, 3½h.p.; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4044

1916 Rudge Multi, 3½h.p., fully equipped with lamps, horn, tools, new covers and belt, full insurance, in excellent condition, must sell, room wanted; nearest £60.—Jones, 25, Frederick Rd., Custom House, E.16. [4410

F.O.C.H. have late model Rudge Multi and sporting coach sidecar, fine order; £65.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4038

3½h.p. Rudge Multi Combination, late model, fully equipped, electric lighting throughout, new De Luxe sidecar, Cameo screen, new tyres, tools, etc., wonderful condition, recently overhauled; £85; instalments considered.—209, Broadway, W. Hendon, N.W. 'Phone: Kingsbury 162. [4882

1920 3½h.p. T.T. Rudge Multi, electric lighting, red discs, T.T. bars, grips, Tan-Sad, horn, speedometer, mirror, tube and carrier, tools, spares, sportsman's mount, 80 m.p.g., guaranteed 56 m.p.h. perfect condition, bought June; £115.—Searle, Ruabon, Avondale Rd., Seaford, Sussex. [3685

Scale.

1920 New Scale with Coachbuilt Sidecar, any trial; offers.—68, Hamborough Rd., Southall. [4461

1920 New Scale, 3½h.p. Precision engine, 2-stroke, 2-speed, clutch, kick start; £90; immediate deliveries.—The Rochester Auto and Supply Co., Rochester. [0199

Scott.

WAUCHOPE'S, 9, Shoe Lane, London.—New 1920 Scott, delivery from stock; £140. [4937

SCOTT, as new, in perfect condition, semi T.T. bars, any trial; £105.—Eadington, Alderley Edge, Cheshire. [X9472

SCOTT, 1915, just overhauled and re-enamelled, like new; £72/10.—145, Sutherland Av., Maida Vale. 'Phone: Hamp. 3919. [4191

SCOTT, deliveries from stock, solo or combination; £140 and £185.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [4331

SCOTT, 1920, T.T., complete lamps, horn, and spares, Palmer tyres, perfect condition; £140.—Herbert, 28, Howard St., Bradford. [4468

1914 Scott Combination, excellent condition, Mills-Fulford sidecar, hood and screen; £85.—Andrews, Oliver Cottage, Ecclesfield. [X9548

SCOTT Spares are stocked by Godfreys, Ltd. Postal enquiries receive prompt attention.—208, Gt. Portland St., London, W.1. [9081

SCOTT, 1920, Swan sporting sidecar, Lucas lamps, horn, etc., £165; another, 1920, £155.—Warne's, 46, Churchfield Rd., Acton. [3958

SCOTT 3¾h.p., 1915, roomy coachbuilt sidecar, in perfect order, good tyres; any trial; £85.—18, Rathcoole Av., Hornsey, N.8. [4204

SCOTT (1920, June), mileage 400, absolutely as new and perfect; nearest £130; buying lightweight.—Hutchings, Poltair, St. Austell. [4054

3¾h.p. Scott and Bramble Sidecar, electric lighting, excellent condition, complete; £100.—Seen Ranelagh Garage, Lower Common, Putney, S.W. [4870

1920 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £120.—Dallaway, Fruit Merchant, Smethwick. [0275

SCOTT Combination, 1915, 3¾h.p., just overhauled, as new, all on; £75; Thursday or Sunday.—J. Clark, 389, York Rd., Wandsworth, S.W.18. [4052

SCOTT, solo; exchange Bradbury 4h.p. combination, 2-speed, kick starter; sell £60; cash adjustment.—145, Upper Thomas St., Aston, Birmingham. [3622

SCOTT 1920 3¾h.p., water-cooled engine, immediate delivery can be given of these machines.—H. A. Saunders, Ltd., 182, Broad St., Birmingham. [4787

SCOTT 1920 3¾h.p. Sports Model, full racing T.T. bars, very fast, done 100 miles only, quite equal to new; price £138.—Parker's, Bradshawgate, Bolton. [X9487

SCOTT 1915, electric light, re-enamelled and plated, splendid condition, 65 gns.; also nearly new C.B. sidecar off same, £17.—6, Studley Rd., Stockwell, S.W.4. [3788

SCOTT Combination, 1916, perfect condition, Cameo, Klaxon, F.R.S. lamps, trip speedometer; bargain, £100.—15, Acacia Rd., Lordship Lane, Wood Green. [4502

1920 Scott, little used, Stewart horn, lamps, Sandum sidecar, Easting, insurance transferred, ready to ride; £155; owner got car.—Olliver and Addis, Margate. [3709

MOTOR CYCLES FOR SALE.

Scott.

SCOTT, believed 1915, re-enamelled, engine, gears, radiator good, Bosch, Cowey horn, long exhaust; trial willingly; £70; Surrey.—Box 462, c/o *The Motor Cycle.* [X9190

SCOTT, 1920, speedometer, all accessories, as new, with or without absolutely new Watsonian K34 sidecar.—Edwards, 5, St. Mary's Rd., Crumpsall, Manchester. [4086

SCOTT 1914 C.B. Combination, 2-speed, kick-starter, complete lamps and tools, new tyres, chains; £65.—Seen Bellchamber's Garage, The Bell, Hendon. [3625

SCOTT, 2¾h.p., disc wheels, semi-T.T. bars, long exhaust, brand new heavy tyres, engine and gears perfect, Binks 3-jet; £80.—Berry, 81, Hawthorne Rd., Bolton. [4347

1912 Scott Combination, mileage 1,000, stored throughout the war, tyres excellent, needs tuning up and slight adjustments; £60, or offers.—Particulars, 19, High St., Kenilworth. [X9577

1914 Scott 3¾h.p., with coachbuilt sidecar, Lucas lamps, speedometer, Binks, Bosch, Palmers, tools, fine condition; £85, lowest.—3, Rosemont Parade, North Finchley, N.12. [4049

SCOTT Combination, 1920, as new, royal blue, powerful and quiet, fitted with lamps, horn, speedometer, mirror; £150.—Mace, Pendennis, Highfield Rd., Purley, or City 7768. [3712

1917 Scott Combination, 3¾h.p., water-cooled, 2-speed, kick start, in top-hole condition, any trial; £97, or exchange considered: all on.—385, Garrett Lane, Wandsworth. [4424

SCOTT 1917 Combination, aluminium sidecar, completely overhauled, good condition, new tyres, B.B. carburetter, T.T. bars; £115; seen London.—6, Mountfield Rd., Tunbridge Wells. [4643

1920 Scott Combination, splendid condition, small mileage, Cowey speedometer, Lucas horn, lamps, purple discs, spare tyre, etc.; £185.—Hemmings, Jersey House, Hewlett St., Cheltenham. [4622

Singer.

SINGER 3½h.p. Clutch Model; £40.—Brook Bros., Burnham-on-Sea. [3949

SINGER 2¾h.p., good condition, lamps, Tan-Sad; £35 or near; seen mornings.—34, Stacey Rd., Forest Gate, E.7. [4075

2½h.p. Singer, clutch, adjustable pulley, splendid condition; £45, or near offer.—Camm, Little Bytham, Grantham. [4667

SINGER, 2¾h.p., clutch, Druid forks, B. and B., Bosch, lamps and generator, enamel new; £33.—8, Nassau Rd., Barnes, S.W. [4456

SINGER Combination, 4h.p., new C.B. sidecar, clutch C.S. gears, lamps very reliable, fine appearance.—B., 13, Barons Court Rd., W.14. [4471

SINGER, 4½h.p., clutch, 2-speed, coachbuilt sidecar, tyres and appearance new, engine perfect; £55.—Hislop, 3, Lillieshall Rd., Old Town, Clapham. [4634

SINGER Combination, 4¼h.p., 1914, 2-speed, all accessories, hood, screen, speedometer, spares, perfect condition, fine appearance; £95.—14, Ermine Rd., Lewisham. [4447

4¼h.p. 2-speed Countershaft Singer and Sidecar, C.B., tip-top running order, as new, lamps, horn, tyres good; £75, or near offer.—Holland, Ringwood, Hants. [4149

SINGER, believed 1914, 4h.p., K. starter, clutch, Grado gear, lamps, horn, speedometer, take sidecar; £42.—Cox, 3, Southbridge Row, Southbridge Rd., Southend, Croydon. [3875

Sparkbrook.

SPARKBROOK, 1920, 2¾h.p., 2 speeds; at makers' price £75.—Eagles and Co., 275, High St., Acton, W.3. [X8984

LATE 1919 Sparkbrook 2½h.p., 2-stroke, 2-speed, as new, lamps, horn, etc.; £60.—Jones, 610, St. Helen's Rd., Bolton. [X9356

SPARKBROOK, 2-speed models, £75; from our showrooms.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., N.W.1. [1099

NEW 2½h.p. Sparkbrook, 2-stroke, single-speed; £69; 2-speed, £75, in stock, or on extended payments 5% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [3634

NEW 2½h.p. Sparkbrook 2-stroke, single speed, £69; 2-speed, £75, in stock, or on extended payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4369

Sun.

SUN-VILLIERS 1917 2¼h.p., re-enamelled, engine and condition perfect; £40.—495, Upper Richmond Rd., East Sheen. [4663

1917 Sun Villiers 2¼h.p., good order, new tubes, new Palmer cord, Lucas lamps, horn; £47; also Werner; £16, offers. Giles, Nina, Tennyson Av., King's Lynn. [4253

The Original Light Car Specialists
MOTOR CYCLE DEPARTMENT
EST 1893 TEL. MAYFAIR 3426

MEBES & MEBES

TRAVEL IN COMFORT

by purchasing one of the

45

leading makes of Motor Cycles that we have in stock for immediate delivery at makers' **list price.**

SOLOS.

ALLDAYS ALLON, 2½ h.p.	At list price.
BAT, 6 h.p.	At list price.
BRADBURY, 6 h.p.	At list price.
BEARDMORE-PRECISION	At list price.
COULSON-B., 4 h.p.	At list price.
COULSON-B., 2¾ h.p.	At list price.
CALTHORPE-J.A.P., 2¾ h.p.	At list price.
CLYNO, 2¾ h.p.	At list price.
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NEW IMPERIAL, 2¾ h.p.	At list price.
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ROVER, 3½ h.p., T.T.	At list price.
SPARKBROOK, 2½ h.p.	At list price.
TRIUMPH, Renovated by the Triumph Co.	At list price.
VELOCETTE, 2½ h.p., two-speed	At list price.
WOOLER, 2¾ h.p., variable gear	At list price.
WILKIN, 2¾ h.p. Bl'kburne engine	At list price.
ZENITH, Model G.	At list price.

COMBINATIONS (New).

QUADRANT, 4½ h.p., complete as makers' specification ..... At list price.

COMBINATIONS (Second-hand).

L.M.C., 1920, 4½ h.p., Henderson B.1 Sidecar, all lamps, fully equipped, as new.

L.M.C., 1920, 6 h.p., suspension frame model, Henderson B.1 Sidecar, speedometer, windscreen, lamps, many extras, as new.

P. & M., 3½ h.p., Dunhill Sidecar, apron, lamps, horn, etc., fully equipped.

BAT, 1920, 6 h.p., Henderson Elite Sidecar, grey, Windscreen, Cowey horn, and speedometer, Tan-Sad seat, Luggage grid, lamps, as new; done 150 miles.

TRIUMPH, Renovated, Cadby sidecar, lamps, horn, tools, etc. Fully equipped.

TRIUMPH, 4 h.p., 1920, Henderson feather-weight Sidecar, lamps, horn, apron, etc.

We are Sole Agents for LONDON and the HOME COUNTIES for **L.M.C.** and **WILKIN.** Live Agents please write for terms. Retail Selling Agents, London and 20 miles, **BEARDMORE-PRECISION.** The Motor Cycle that is five years ahead of its time. Contracting Agents for every well-known make from A to Z.

HENDERSON SIDECARS.

A-1 Models for immediate delivery in stock. Elite, B.1, A. and Spring-frame models.

SIMPLEX MOTOR ATTACHMENT.
Fitted to both lady's and gent's cycle for immediate delivery at Makers' List Price.

ACCESSORIES.

A large and complete stock at competitive prices.
Service at all times at the House of "MEBES."

154-156, Gt. Portland St., W.1.

MOTOR CYCLES FOR SALE.

Sun.

SUN-VILLIERS 2-stroke, new tyres and belt, lamp good condition; £48.—Newell, 71, Mount Arar Rd., Richmond, Surrey. [430

SUN-J.A.P. 1916 4h.p. Combination (sidecar 1915 3-speed Sturmey-Archer countershaft gear, Stewa speedometer, double lighting; £115, or near offer. Kimber, 78, Drakefield Rd., Balham, S.W.17. [386

Sunbeam

1914 Triumph, 4h.p., 3-speed, condition perfe £62.—95, Grosvenor Rd., Highbury. [454

8h.p. Sunbeam Combination and Spare Wheel; li price.—Haynes Bros., Ltd., Maidstone. [439

1919 Sunbeam 3½h.p. Combination, as new, re good; £175.—Yellow Garage, Surbiton. [37

SUNBEAM Combination, brand new; list price.—Ne man Whitehouse, Bridgtown, Cannock. [X95

1918 Sunbeam 3½h.p., solo, in splendid conditio £120.—Kays, 8, Bond St., Ealing Broadway. [33

1920 Sunbeam 3½h.p., magdyno lighting, perfe condition; £195.—27, Merton Rd., Bootle. [X95

3½h.p. Sunbeam Combination, brand new, all acce sories; cost £206, offers.—203, Newland Av., Hu [47

1917 Sunbeam Combination, 3½h.p., with lamps co plete; £145.—Kays, 8, Bond St., Ealing Broa way. [33

£100.—3½h.p. Sunbeam, Sept., 1915, new lamps, a cessories, new condition.—63, Solon Rd., Brixto Exchange. [49

1919 3½h.p. Sunbeam (military), perfect conditio offers.—Wilkins, 52, Waldeck Rd., Carrington Nottingham. [43

SUNBEAM 3½h.p. Late 1919 Combination, in exc lent condition, little used; £140.—Prall, Hanle Stoke-on-Trent. [37

SUNBEAM 1919 4h.p. Combination, fully equipp covers, tubes; £155.—Lt. Kelway, Brooklan Langport, Somerset. [37

1920 Sunbeam, 3½h.p., Lucas accessories, milea 200, sports model, July; £160.—Goodman, Ell mere, Northampton. [42

SUNBEAM 1919 4h.p., French Military Model, complete, good condition; £110.—Abell, Newsten Ratcliffe Rd., Leicester. [36

SUNBEAM 1919 4h.p. Combination, covers, tub fully equipped; £145.—R. L. T. Kelway, Broo lands, Langport, Somerset. [38

SUNBEAM Combination, late 1919, 8h.p., hoo screen, Lucas lamps and horn, Tan-Sad; £230 Healey, The Croft, Llandudno. [X95

LUCAS Magdyno Lighting and Ignition Sets Fitte 3½h.p. Sunbeam from stock; others in few day —27, Merton Rd., Bootle, Lancs. [X95

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b clutch, lamp, horn, etc., excellent conditio £110.—C. Barton, Clapham, Yorks. [02

SUNBEAM 3½h.p., 3-speed, 1916, black and gold, ne 1920 cylinder, piston and rings, Senspray, origir chains; £100.—62, Gerard St., Derby. [X94

AUG., 1920, 3½h.p. Sunbeam Combination, wheels, interchangeable, Lucas lamp sets, hor tools; £212, or near offer.—Simpson, Chemist, Ibsto [X95

2¾h.p. 1914 Sunbeam, 2-speed, kick start, clut accessories, splendid condition, ready to ride awa £65, or near offer.—Noel, Temple Guiting, Winchcomb Glos. [37

1920 3½h.p. Sunbeam, lamps, Klaxon, Cow speedometer, splendid condition, all acc sories; £170, or near offer.—Morris, Delamere Hou Chester. [X95

SUNBEAM 3½h.p., and coachbuilt sidecar, hoo Cameo wind screen, luggage grid, lamps, spar good condition; bargain, £100.—132, Victoria Dr Eastbourne. [36

SUNBEAM, late 1914, Bosch ZU, 2¾h.p., clutc K.S., starts with touch, 2 speeds, good conditio lamps, horn, and pump; £70.—11, Queen's Rd., Leyto stone, E.11. [41

1919 Sunbeam 8h.p. Combination, all lamps, n speedometer, very well kept, tyres, etc., p fect, owner giving up; £180, or near offer.—'Phon Hamp. 7822. [39

1919 (Oct.) Sunbeam, 3½h.p., black and gold, pict engine, Bosch mag., 600 miles, largest Lu lamps, Klaxon, etc.; £130.—Vallancey, seen 24, Wo stock St., W. [47

SUNBEAM 1917 8h.p., mag.-engine, Lucas elect lighting, finest sidecar, spare wheel, all int changeable, handsome outfit; £170; any trial.—Quee Head, Waltham Abbey. [46

1920 Sunbeam 8h.p. Combination, lamps, spe ometer, horn, spare wheel, mirror, and spm perfect condition; price £210; owner buying car. Estcourt Av., Headingley, Leeds. [40

SUNBEAM 2¾h.p., 2 speeds, countershaft, free gine, kick start, fitted speedometer, lamps, ho stand and carrier, splendid condition; £65.—Murr 37a, Charles St., Hatton Garden, Holborn. [X95

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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The Six Days Trials.

IT would appear that the A.C.U. judges did not pay their usual careful attention to "condition" at the finish of the Six Days Trials. Had they done so fewer gold medals would have been awarded. This year, machines with (1) a broken footboard, (2) leaks cured with Plasticine, (3) a broken valve rocker, (4) a broken piston, and (5) a burst silencer were passed with full marks for condition. Clearly the five cases enumerated escaped the usually keen eye of the examiners, who completed their task in three or four hours on Saturday evening. Why such cursory inspection should have satisfied the judges this year, when last September the examination was not only severe but ultra critical, we are unable to explain. There is no object in our hiding these facts, for many competitors well-know the machines we refer to. The effect of the omission to discover and penalise such defects has the effect of discounting the value of a gold medal. No fewer than eighty-eight riders of the ninety-six finishers are provisionally awarded gold medals, when actually a careful examination of the machines under the important heading of "condition at the finish" would have provided valuable data and thinned the ranks of the gold medalists, whilst at the same time increasing the value of the chief award.

There are always grumbles after every big trial, and this year the nature of the route came in for the greatest criticism. It must, however, be realised that the A.C.U. is doing its best to provide for the motor cycles, a year's work in a week's time, and the surfaces must be vile to fulfil such demands. Generally, the trial was well organised, and is bound to benefit the pastime in many ways. It will be observed from our description that certain competitors withdrew in protest against the difficult nature of the route. Their action only served to emphasise the merit of the achievement of those who successfully survived the course.

A Wobbly Policy.

The A.C.U. is, however, somewhat to blame for including hills in the programme which were afterwards omitted on the score of condition. Either these hills should never have been included or else the competitors should have been taken over the route published at all costs. Not only do such changes affect competitors, but also spectators. Some hundreds of keen motor cyclists had assembled to watch the performances at Rosedale Abbey Bank, some having ridden a distance of nearly two hundred miles only to be doomed to disappointment. Notwithstanding the omission of Rosedale, the course for the first two days ensured that this year's trial should prove the stiffest event of its kind ever held, but this is as it should be.

Performances of the Two-strokes.

Outstanding performances were made by some of the little two-strokes which excited the admiration of all spectators. A single-cylinder air-cooled two-stroke sidecar is a novelty in a six days trials, and we are glad to state that such a machine distinguished itself on its first appearance, and completed the course satisfactorily.

One or two sidecar machines were conspicuous for their performances, but freak hills, with really loose surfaces, put the sidecar outfits and three wheelers to a serious disadvantage, since they are often unable to use the only tracks on which wheel grip is attainable.

Brooklands failed to eliminate many of those who survived thus far, a matter of surprise to many who know track conditions, but probably the fact that the speeds set in the various classes did not necessitate full throttle work all the time, saved many first class awards.

The number of gold medals provisionally awarded is high considering the severity of the course, and though this may be partly due to a less rigid final examination than was expected, it speaks volumes for the reliability and capabilities of the modern motor cycle.

An index to the advertisements in this issue will be found on the page facing the back cover.

None Too Sure.

THE other week I advised west-bound motor cyclists to avoid the Moretonhampstead route across Dartmoor, because of the lumbering chars-à-bancs which blanket the narrow, tortuous lanes. I came back east next day, *via* Launceston, on a spring-frame A.B.C. I retract my advice. It is better to die swiftly, beneath the ruthless wheels of a char-à-banc, than to skid and bump for a couple of hours. A few miles north of Bodmin, an unholy alliance between the Cornish rainfall and some timber lorries has trenched the roadway for miles. Where the lorries turn off, potholes commence, and continue as far as Crockernwell, so that only the last dozen miles into Exeter are tolerable. To judge by the convulsed faces of the rigid-framed enthusiasts whom I met, I was by no means the chief or only sufferer. Next time I go west it will be by aeroplane or the G.W.R.

2,000 Miles on a G.N.

A FRIEND of mine has just completed 2,000 miles on a 1920 G.N., and his experiences are of interest to all who believe in the future of the cycle car and consider that three wheels are fundamentally inferior to four. He has encountered no real trouble, though the machine was bought second-hand, and has been worked very hard. Such few attentions as the machine has required have been of the petty order, and relate to a broken valve spring, loose woodscrews in the body work, etc. It is often asserted that a featherweight vehicle cannot be properly sprung, but the suspension of the light G.N. is probably equal to that of so well known a car as the 10 h.p. Singer; I tried both vehicles over the same roads in the same week, and should put them on a par. The chains have not yet been adjusted, though they are now about ripe for tightening; few sidecar outfits would last 2,000 miles without chain tightening. The fuel consumption averages 50 m.p.g., and the little vehicle has altogether given him immense satisfaction.

Our Crowded Inns.

YEARS ago, when I was tame sociologist on the staff of a daily paper, I penned some thrilling articles on "How the Poor Live." I slept in fourpenny dosshouses, and acquired a wide experience of those greedy little insects which Prof. Shipley has immortalised as the minor horrors of war. During August week I was perforce reminded of those bygone days. When I travel on professional duty, my expenses are a matter for the office treasury, and after the manner of employees all the world over, I pull up at the Hotel Superb, and charter one of their best rooms. But this August I had been involved in a slight fracas with my rear chain, which, during replacement, had dropped off the sprockets and flicked me across the nose. So when I sighted my rugged visage in a mirror as the commissionnaire at the Hotel Superb answered tersely, "No room here!" I hied me to a garage, washed, and strutted up to the Hotel Splendide. Half an hour later I meekly and furtively crept up to a shabby little hostelry which bore the plaque of a push-bicycle club. Two hours later I turned disconsolately away from the door of the last inn in the last town to which my carbide would carry me. Moral: book accommodation ahead at holiday times, even at onehorse burghs of an intermediate character. I came near discovering whether the fourpenny doss has gone up to eightpence.

The Number-plate Strafe.

A GOOD many of us are gradually discovering that the police campaign anent number-plates was not primarily inspired by meticulosities about measurements, as seemed to be the case. The real animus is a suspicion that many riders are using numbers which do not belong to them or to their machines, and that others have never paid carriage tax on their machines. If any such sly merchants should read these words, I advise them, in their own interests, to exercise honesty as the best policy. No, I have not been detected using imaginary numbers on eight different 'buses. I have merely been put through a very searching cross-examination about the umpteen machines which I have registered during the past six years. I have had a little fun out of it, as my local authorities are extraordinarily ignorant of the law, an ignorance which is clearly shared by many of the riders who have bought machines from me. Points on which the average practice is weak are as follows:

1. When a machine changes hands, the seller *must* notify the registering authority of the sale, and supply the name and address of the buyer. This terminates the seller's responsibility. It is not his business to transfer the numbers, or pay the fee.

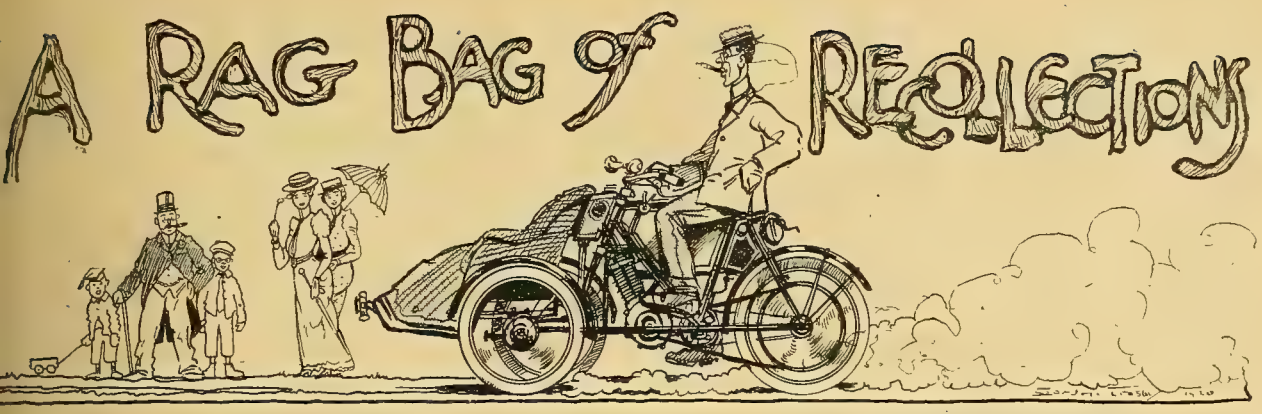
2. The buyer *must* immediately notify the registering authority whether he wishes to cancel or transfer the registration. In the latter case he must pay the fee. Until he has transferred the numbers, the machine is technically unregistered, and he may be punished for riding it.

3. Under the present taxation scheme, all motor cycles are taxed alike, and no new carriage licence is necessary. It is only necessary for every rider to have as many licences as he owns machines.

4. Should the proposed new taxation scheme come into force in 1921, any change of mount will plainly have to be taken up with the taxation people, since motor cycles will be differentiated for taxation purposes according to weight, etc.

At present many buyers lay themselves open to penalties by failing to transfer numbers when they buy machines already registered by somebody else.

A RAG BAG of RECOLLECTIONS



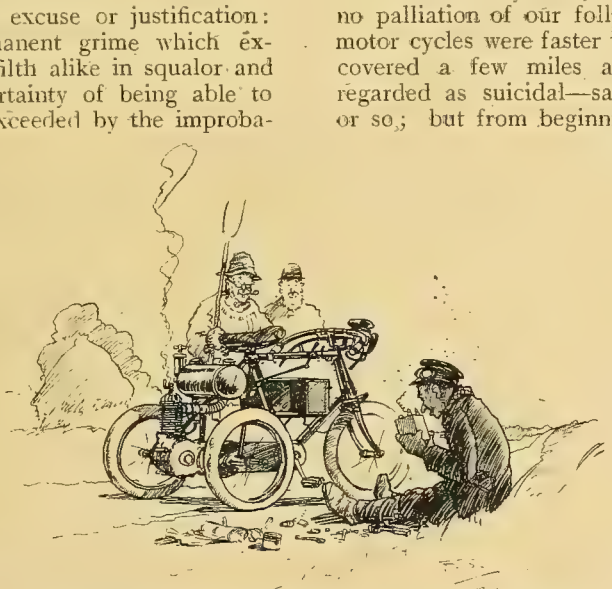
"Ixion" refuses to let Bygones be Bygones and reopens the Book of Time.

An extract from the preface, and the first chapter of a long-promised book by our popular contributor, which will shortly be published by the proprietors of "The Motor Cycle." The title of the book will be "My Motor Cycle Reminiscences," and will contain over a dozen long chapters illustrated with drawings by F. Gordon Crosby, and many old photographs.

THE other day I saw a revival of *The Belle of New York*. Its cast includes a shabby lunatic who amongst other eccentricities strolls into a ndy store, interrupts the lyrics of the spangled horus, and orders a ton of coal. The assembled uts and flappers receive him with a bored, puzzled oliteness. That is exactly how we pioneer motor clists were regarded by the general public twenty ears ago—we were incomprehensible lunatics. Our om was preferred to our company, and only persons ith perfect manners forebore to tell us so.

Merely Tolerated.

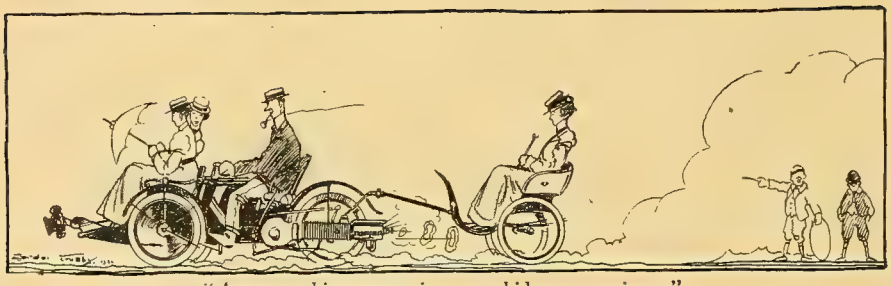
Indeed, unless we frightened people's horses, they ere quite astoundingly polite to us. Our weird obby seemed to be without excuse or justification: veneered us with a permanent grime which exeeded every known form of filth alike in squalor and adhesiveness. The uncertainty of being able to art on a journey was only exceeded by the improbaility of our ever reaching ur destinatoin in the iddle. We were unquesonably doomed to spend ng hours by the roadside, nder conditions that ranged om grilling sun to a frosty ight, from desperate soliude to a seething mob. uch times of penance ere usually devoted to ne identification of some ystic ailment which fflicted our machines. The dds in the first place were eavily against our being ble to trace the trouble; n the second place the etting was equally strong gainst our being able to emedy it, if found. There ere no garages; the longest push could only bring us to the door of some ambitious cycle repairer, more ignorant and less cautious than ourselves.



"Such times of penance were usually devoted to the identification of some mystic ailment which afflicted our machines. The odds in the first place were heavily against our being able to trace the trouble; in the second place, the betting was equally strong against our being able to remedy it."

Difficult Days.

When it rained, we sideslipped and got drenched, for our machines were woefully top-heavy, and the modern dreadnought clothing was not dreamt of. In winter we suffered from frostbite. In summer our engines overheated. Our belts slipped and broke and pulled through without partiality under all conditions; the slip which they developed in wet weather was not more habitual than the glaze from which their leather suffered when roads were dry and dusty. Most of us were ex-cyclists; but such a hideous past was no palliation of our folly. We could not claim that motor cycles were faster than push bicycles; we often covered a few miles at a speed which was then regarded as suicidal—say twenty-four miles an hour or so; but from beginning to end of a cross-country journey the prehistoric motor cycle was generally slower than a scissor-grinder's handcart. We could not claim that we preferred the motor cycle for hill-work; for the main difference between it and the push bicycle, where gradients were concerned, was that the latter was very distinctly easier to push. Economy could be no factor in our inexplicable conduct. A new machine might easily cost £75 to buy. Its repair bill was long enough to stagger a munition magnate, and it was out-of-date soon after it had been delivered. The most sympathetic student



"A run on this monstrosity was a hideous experience."

of human nature might be pardoned for comparing us to the gentleman who carried a slice of toast about with him under the delusion that he was a poached egg.

The Horse Age.

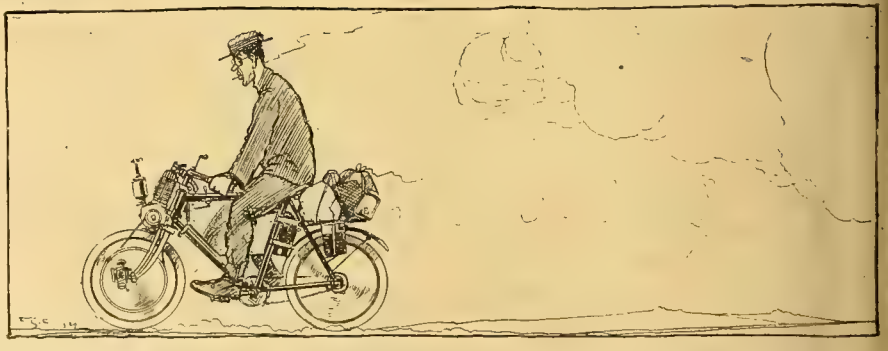
If we were studied from the standpoint of the community, we appeared absolutely unpardonable. The country was horsey in those by-gone days—horse buses, horse trams, horse cabs, horse carriages; every man, woman and child who did not possess a horse occasionally lay awake at nights and dreamt of having one, just as nowadays in our day-dreams lost uncles expire in Kalamazoo City and leave us enough money to run a Rolls-Royce. Now that the horse is all but extinct, I may inform the curious that it was an observant, suspicious, and ignorant animal. When motor cycles first dawned on its vision, it took careful stock of them. Several disturbing points were immediately obvious. Motor cycles smelt abominably. The men who accompanied them on the roads were dreadful ruffians. Sometimes a motor cycle might be met travelling at inconceivable velocities. On other occasions, indeed more commonly, they were found stationary by the roadside. This latter attitude was pure cunning, intended to entice unwary horses up to close range before the noise and smell began. The new monster was evidently a lethal projectile, a kind of bomb on wheels; when it was in motion you could hear the clockwork whirring in its inside, and you would be half deafened by its repeated efforts to detonate. We produced some such impression on the horses of our day. The consequence was that when they sighted us they immediately did an "about turn" and worked up to maximum revolutions in an amazingly few yards. The staidest old Dobbin would instantly become oblivious to the presence of kind mistress and the family barouche behind him. Many nasty accidents occurred as a result, and timid horse owners became afraid to venture on the roads.

The uplift beneath motor cycling in those early days must have been equivalent to a religion, or we should never have borne its manifold disagreeables as we did. It was derived from three motives: Some of us were engineers; we may hardly have believed in the ultimate road possibilities of a featherweight high-speed engine, but even if we privately regarded the machine as a product of Bedlam, it was certainly an amusing little toy. Others gambled on its commercial possibilities. The average cycle agent saw that the papers were full of the new locomotion; he reflected that he made two or three pounds out of every ordinary cycle he sold, plus a small but regular income out of repairing it; a machine which retailed at six times the price of a pedal cycle would be proportionately remunerative; so he took pains to get into the new trade on the ground floor. Others, again, were adventurers, pure and simple. When there is no war on, no filibustering in South America, no uncharted islands to explore, this land of policemen and accurate maps and black coats on Sundays is apt to bore a certain type of temperament. The purchase of a motor cycle imported a spice of risk and uncertainty and Bohemianism into such a life.

In the early days I did not actually own a motor cycle. For one thing I was too poor; for another I was too timid. Neither confession stirs any shame in me. The first motor bicycle I ever rode had its engine insecurely perched on the top of the front mudguard; the carburetter resembled a 2 lb. biscuit box full of lamp wicks and petrol, and the ignition consisted of a platinum tube kept red-hot by means of a petrol burner. The contraption cost about £50 to buy, and perhaps £1 a week to run. I was in at its death—it sideslipped on the grease in the Euston Road, leapt on top of its owner, pummelled him severely, and, catching fire, burnt itself to scrap-iron. Such costly spectacles did not commend the investment to an ambitious youth with a career to be carved. So I owed my first road experiences to rich and foolish friends, and they usually confirmed my decision not to own a machine.

A Ghastly Mechanism.

Take the Bollée tandem for example. This ingenious three-wheeler had a large air-cooled engine placed horizontally in line with the rear chain stays. Amidships was a gigantic cavern, containing a three-speed sliding gear, the shafts of which were supported in bearings attached to a particularly bulky frame. The transmission from the gear box to the back wheel was by means of a short flat belt, three inches wide: in lieu of a clutch, the back wheel was levered forward in the frame to slacken the belt during gear changes. A run on this monstrosity was a hideous experience.



"The first motor bicycle I ever rode had its engine insecurely perched on the top of the front mudguard. The carburetter resembled a 2 lb. biscuit box full of lamp wicks, and the ignition consisted of a platinum tube kept red hot by means of a petrol burner."

A Rag Bag of Recollections.—

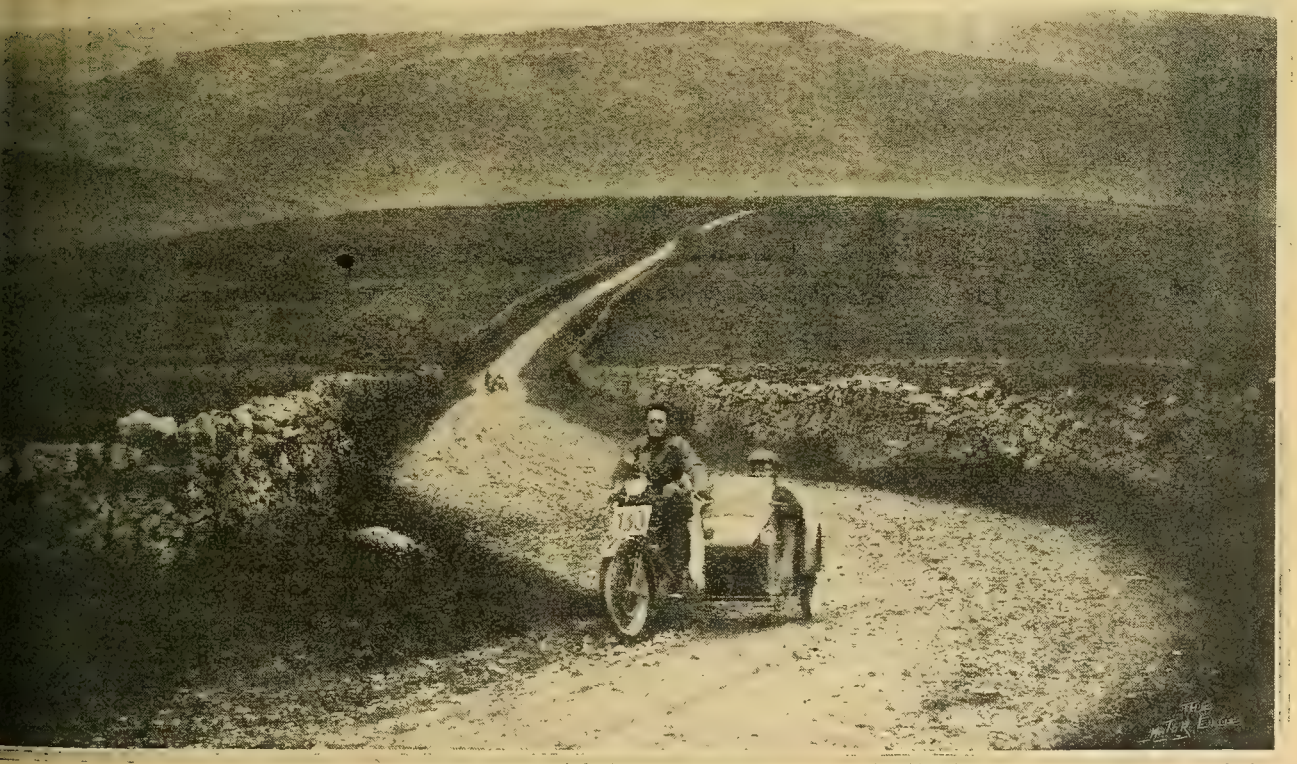
At the outset the thing cajoled you by a twenty-mile non-stop. Then the gearshaft bearings got out of truth. You uncovered the central cavern, and ladled in a hundredweight of grease with a large wooden spoon. Then the cylinder began to glow redly. You took it off and found the slots of all the piston rings in line. Then the belt slipped. Then the belt broke. And so on.

An Early Victorian.

Motoring on such a Pegasus was lively, even when an expert accompanied the novice. Occasionally we ventured abroad without a tutor. A gilded youth of my acquaintance possessed a spider wheel machine, the make of which escapes me. He called it his "victoria" from the shape of its coachwork. He invited two of us to travel out from Oxford to Bicester to dinner one summer evening. The beastie did the outward journey non-stop. Two hours later, full of meat and wine, we emerged into the hotel yard to start the engine before an admiring crowd of ostlers. Four hours later three sweating, wearied men had exhausted every known expletive, and still the engine was mute. Finally she started. She ran rather badly for four miles, and came to a standstill. The crew disembarked, and wondered. One of us struck some matches. By their fitful light we spotted a wet stain on the road behind the car—in fact, a wet trail leading Bicesterwards in the darkness. "The water's leaking," quoth the skipper. The first mate investigated the stain somewhat closely with a match. Over the smouldering ashes we decided that the leakage must have been petrol.

With another novice I essayed a fifty-mile trip on a weird four-wheeler, having two wheels in the centre, one in front, and one behind. I believe it was an Ariel tricycle, with the rear half of a ladies' bicycle attached to the back axle, trailerwise. Anyway, it went uncommonly well. We accomplished the outward journey without incident. One mile back on the way home it stopped dead. We discussed and surveyed for hours; but as neither of us had the least notion as to the name of any part, or even as to how the engine worked, we got no forrarder. At last I discovered a small brass nut lying on the road behind the machine. It might have fallen off the machine; or again, it might not. We decided to hunt for a vacant stud or bolt. After three-quarters of an hour we spotted an insignificant little thread projecting from a cone of white china behind the tricycle saddle. Triumphantly we screwed the brass nut back, and for the next half-hour we pedalled the outfit madly up and down the road in efforts to start the engine. Fate frowned on us. There was nothing doing. Another dismount. Further discussion. At last my companion drew my attention to a rather limp-looking wire, hanging down in rather detached fashion from a small black coil.

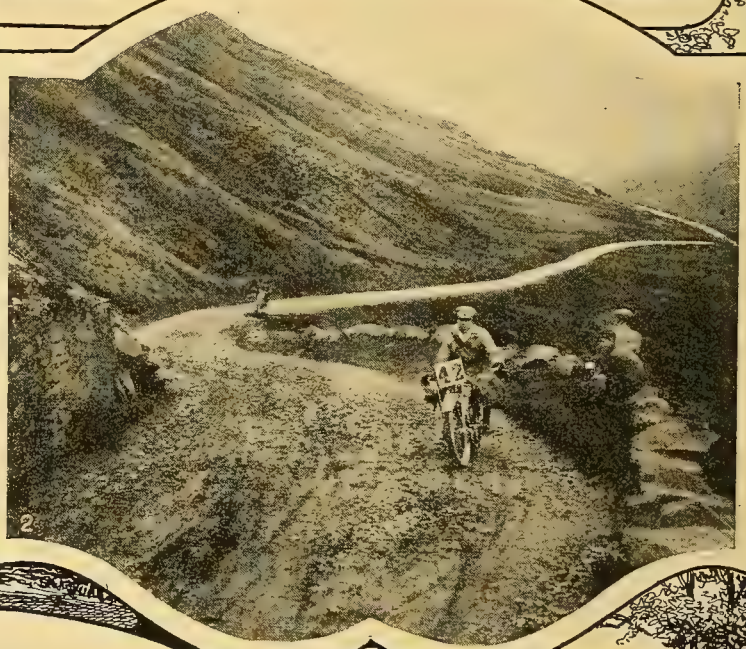
"That looks as if it ought to be tied up somehow," he opined. It was my brain that leapt to the idea of attaching the wire by the brass nut to the porcelain cone.



A.C.U. SIX DAYS TRIALS.

Buttertubs Pass. In the foreground, Douglas Alexander (8 Enfield sidecar), whose hill-climbing was a feature of the trial. A31

Scenes in the A.C.U. Six Days Trials.

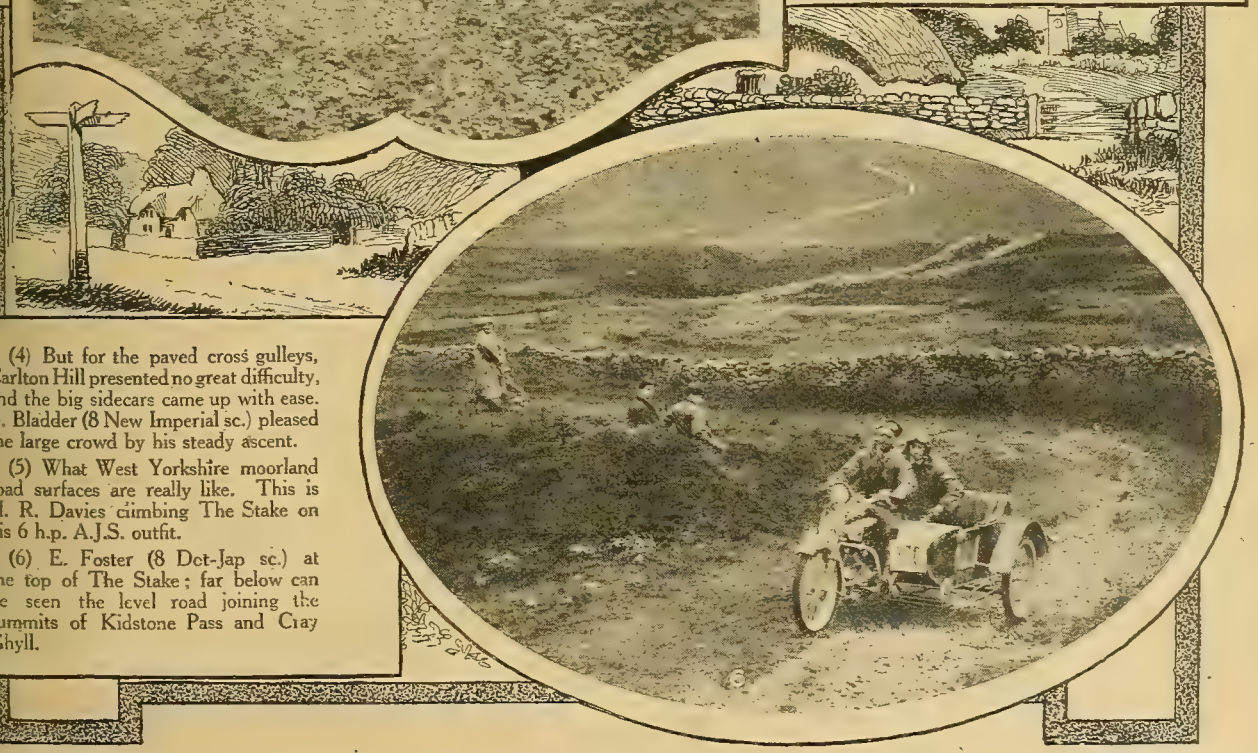


(1) Except to those who know its difficulties, Park Rash is almost unclimbable on a sidecar outfit. W. J. Montgomery (5-6 Rover sc.) and E. Williams (6 A.J.S. sc.) have their passengers on the carriers to prevent wheel slip.

(2) F. J. Fieldhouse (3½ N.U.T.), followed by F. A. Longman (3½ Ariel), on Buttertubs Pass, in Wensleydale.

(3) The lightweights have done wonderfully well. F. Porter (2¾ Levis) is shown in the midst of a confident climb of Boltby Bank.

Even the camera cannot adequately convey a full idea of the gradients and surfaces encountered. These pictures show some of the worst hills in the Trial.



(4) But for the paved cross gulleys, Carlton Hill presented no great difficulty, and the big sidecars came up with ease. B. Bladder (8 New Imperial sc.) pleased the large crowd by his steady ascent.

(5) What West Yorkshire moorland road surfaces are really like. This is H. R. Davies climbing The Stake on his 6 h.p. A.J.S. outfit.

(6) E. Foster (8 Det-Jap sc.) at the top of The Stake; far below can be seen the level road joining the summits of Kidstone Pass and Cray Ghyll.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

A.C.U. SIX DAYS TRIALS.

Sir,—After shouting myself hoarse warning people to "clear the course" on Monday afternoon at Park Rash, I am sorry to report that I was guilty of baulking a rider who was one of the last to arrive. That I did this under a misapprehension is no excuse, and I apologise most humbly for my stupidity. I think the number was one of the eighties and the machine a B.S.A. He nearly bowled me over, in which event I should have been jolly well served.

Southport. N.A. 5744.

CHIVALRY.

Sir,—Miss Peall's letter has been a revelation to me. Previously I have held the opinion that the lady rider had the best time of all upon the highway, for it is almost inconceivable to me that any man, however urgent his business, could pass a lady obviously in distress.

All the male riders I have met so admire the pluck of lady motor cyclists that they are only too ready to render them any assistance in their power.

I may, however, add, from my experience, and speaking in general, it is of little use to expect assistance from the pedal cyclist or the car driver, but I sincerely hope that Miss Peall may yet form a different opinion at any rate of the motor cycling boys of eighteen and twenty.

But if an Englishman can treat a lady thus, the day is approaching when he must cease to boast his nationality.

Louth. DOUGLAS.

A.C.U. SIX DAYS TRIALS.

An abrupt corner following the descent of Satron Side. The competitors are H. Jepson (8 Zenith sidecar) and H. P. Knowles (2¾ Hobart).

THE TWO-STROKE AS A TELL-TALE.

Sir,—I was interested in "Notes for the Novice" on carburetters (Chapter III.), and have derived some benefit therefrom. In his remarks *re* perfect mixture, however, I presume the writer was referring to four-strokes. I saw no reference to two-strokes. This is a common fallacy; the two types perform differently. Regarding the sooted plug test, this will not apply to a two-stroke; the latter, if correctly lubricated, consumes too much oil to allow any dry soot to accumulate. One of the advantages of a two-stroke (usual three-port type) is that it automatically regulates the correct mixture. If the mixture is too rich the engine rebels by four-stroking, while if too weak it will spit back through the carburetter—this is, of course, provided the ignition and other factors are right.

I have a W.S.R. variable jet fitted to my Amac double-lever carburetter, and I can descend a gentle gradient without four-stroking. I can also run along at 3 m.p.h. (on low) with the engine two-stroking constantly, and am able to paddle away from cold inside three feet (measured).

I should like to testify to the efficiency of the L-M plug; the porcelain is magnificent. I have already run 2,000 miles on one, and it has never given me the slightest trouble. It is perfectly clear every time I inspect it, and it is still going strong, although the electrode is slightly burnt.

In conclusion, I think the two-stroke a delightful machine—*if taken care of*. In my opinion the four-stroke is doomed to extinction as soon as the two-stroke is perfected. The advantage of the more constant torque is at once apparent.

Manchester. TWO-STROKE ENTHUSIAST.

A PETROL CONSUMPTION CHALLENGE.

Sir,—Referring to A. K. Gordon's letter relative to petrol consumption on the "Scott," the correct way to tune up a Binks carburetter is to fit three jets of the correct size. If when running on the first pilot jet the machine accelerates permanently when the extra air lever is opened slightly, this jet is too large, and the same applies to the second jet and to the main jet. When the carburetter is correctly jetted when running on any or all of the jets the machine should not accelerate, but rather ease up if the extra air lever is opened. This proves that you are then running on a correct mixture and the most economical mixture possible, and when riding the machine and you are only using one of the three jets the other two are damped out and no petrol can be spilled out of them; consequently, when a machine is so jetted no further advantage is possible.

We get scores of letters from users saying they are getting from fifty to seventy miles to the gallon. It is quite possible to exceed this amount by what I call freak riding. One of my customers once wrote me, saying he had achieved a twenty-five-mile journey at the rate of 155 m.p.g.; but I am open to challenge any other carburetter or rider to get as many miles to the gallon as I can get with my carburetter. The test journey that I would suggest would be from Manchester to Preston, over Belmont Hills, about forty miles, the condition being that I will take my Scott out with a standard Binks carburetter in competition with any other standard Scott machine with any other carburetter, and I will set the pace, and when on arriving at Preston the competing machine will have used as little petrol as I have done, I will give £10 to any charity the editor likes to mention, provided my competitor will do likewise, but a condition would have to be that the competitor keeps within ten yards of me through the entire journey. C. BINKS.

APPRECIATION

Sir,—I have seen in your valuable paper comments on "Lack of Finish." I thoroughly sympathise with "Disappointed" and "Charge Engineer," but I must add that my 2½ h.p. Sparkbrook is an ideal machine for finish, and is the admiration of all my friends, one of whom went off and bought the sister machine.

Several people when they knew I was getting a two-stroke advised me to the contrary, saying it was slow, a bad hill-climber, and got overheated so quickly, etc. I have had my machine some little time now, and I have found it speedy, excellent on hills, such as Hindhead and others, often leaving other machines and cars far behind, and the machine has never failed me, even in the worst weather.

Before ending, I would like to bring to your notice the unwillingness of garages to open a two-gallon tin of petrol for a rider who only requires one gallon. The other day I had to push my machine two and a half miles to a garage at which I purchased the desired amount. I feel sure that many riders have only a gallon tank, and therefore perhaps have felt either the need of one-gallon tins, or the stirring up of these disobliging places. I would like to hear other riders' opinions on the subject. TWO-STROKE.

Woking.

The experimental Scott Sociable was seen on several occasions on the Six Days route last week. Mr. Alfred A. Scott is here seen passing through the watersplash near the summit of The Stake. He also climbed Park Rash on his latest creation.

Sir,—May I encroach on your good nature by annexing a small portion of your valuable paper?

I started off from Northwood, Middlesex, recently, with my brother. Our machine was an 8 h.p. Blackburne and Canoelet sidecar. We covered 155 miles on the first day by speedometer, and averaged 23 m.p.h. for the whole run, while our petrol consumption was 62 m.p.g. The total weight carried was fifty-five stone.

The machine had only covered 108 miles previously, and so was not run in. We had no trouble of any sort during the whole of the trip, which we completed on the second day after covering seventy miles to Ilkley. We have now had three Blackburnes between us, and I may say, with all due respect to other makers, that there is not a machine on the road to-day that we would change for ours. (We add the usual disclaimer.)

As regards the roads, they are perfect from St. Albans to Doncaster, but directly one gets to the north side of Doncaster they develop into a miniature battlefield, with shell-holes every few yards. It is nothing more or less than a disgrace to the West Riding Council.

NORMAN B. SHALDERS.

FITTING A SPEEDOMETER.

Sir,—I have just read "Speedometerless's" letter in your issue of the 19th ult., complaining of speedometer fitting, and am very surprised that both he and the garage manager are at a loss for a remedy.

The same defect was very plain to me when I fitted the speedometer to my B.S.A. and to my previous machine, a 2¾ h.p. Douglas, but I did not risk an accident. Instead, I reamered out a suitable washer to slip over the wheel spindle, and then cut down the outside diameter of the washer, so that it just fitted the rebate in the fork-ends. The front wheel was put back, the washer slipped into place (thus doing the same work as the collar on the nut supplied, viz., keeping the spindle from falling out), then the small spindle bracket slipped on, and, lastly, the nut. Result: perfect safety for the last four years, at a cost of fifteen minutes extra work.

Should "Speedometerless" not be able clearly to understand my description, I will gladly make the necessary part, or send him a sketch. SOLUTION.

Sir,—I have read with interest the letter of "Speedometerless" in the issue of August 19th.

I have several times had similar cases come to my notice, but can assure "Speedometerless" there is no necessity for him to adhere to his *nom-de-plume*, as the Watford people have for twelve months supplied an instrument which in no way interferes with the front spindle. The bracket which carries the small pinion is secured to the front forks by adequate clips, and during the present season I have fitted dozens without any subsequent trouble.

I am sure if he wrote Messrs. North and Sons, they would give him full details and doubtless an illustration.

Gosport. W. J. REYNOLDS.

[Letters have also been received from several other users of Watford speedometers on the same lines.—ED.]

Sir,—I have read the letter of "Speedometerless," in your issue of August 19th with interest. In the first place I consider the carelessness shown in fitting the speedometer to your correspondent's machine blameworthy.

Last year I bought a B.S.A. and wished to fit a "Watford" speedometer, but I undertook the work myself. I soon found that the clip of the speedometer would prevent the collar of the nut on the off side of the spindle being screwed into the rebate in the fork, so I had one sixteenth of an inch turned off the flange of the nut, and I filed the flat clip down by one thirty-second of an inch, thus prolonging the collar three thirty-seconds of an inch, which was of sufficient length to make the front wheel safe. That it was a success is proved by the fact that I afterwards rode the machine over 2,000 miles, and then sold it to a party who has since ridden it a further 2,000 miles without the nut once having come loose of its own accord.

Bradford. AMATEUR MECHANIC.

PLUG EFFICIENCY.

Sir,—I have read with much interest the articles on plugs that have so often appeared in the Correspondence pages. As yet I have not found any reference to a plug that was given to me about eight months ago by a two-stroke rider. This motor cyclist came to my aid when I was stranded with a burnt-out plug on the back cylinder of my Douglas (spares lost through tool-bag jolting open). It has "Heath Patent" printed on the insulator, and seems to possess the apparently impossible feature of neither oiling up nor overheating, although I have put five plugs out of action since. It seems rather a pity that such a good plug should be practically unknown. I have tried to get one a good many times since, but without success. Can any reader tell me where it is obtainable?

Golder's Green. DOUGLASITE.

[The makers of the Heath plug are Heath Plugs, Ltd., Sancroft, Kennington Cross, London, S11.—ED.]

WHAT IS HAPPENING TO THE TRADE?

Sir,—I heartily endorse everything written by "One who watches" on "What is Happening to the Trade."

I paid over £200 for an outfit which I have ridden a few times. I have been kept waiting so far ten weeks for a replacement part costing 3s. I am much attached to this make of machine, but the poor service I have of late received has decided me to try elsewhere for my next mount, though I know it will not give me such satisfaction.

I trust, sir, that this letter will not evoke columns of correspondence again on "Good Service," for I am convinced that such is the exception, not the rule. The object of some manufacturers to-day is to get rid of new machines. They appear then to lose all interest in the client. However, a year or two will tell its tale. PEDESTRIAN.

Loughborough.

POLICE PERSECUTION.

Sir,—Much as I dislike the attentions of the man in blue when on the road, I nevertheless can confess to little sympathy with "K.A.M." in his whine about the police campaign against long exhausts in Edinburgh. It is about the first campaign initiated by the police against motor cyclists which has glimmerings of reason in it. There is no rhyme or reason in the ridiculous lengths of flue piping which one sees attached to every second or third motor cycle, and the motive of their owners in transforming a muffled boom into a barking crackle is quite beyond me. If they think it impresses the lay public with the terrific power and speed of their machines, they are much mistaken, for there is nothing more exasperating to people whose houses abut upon main roads than motor cycles with exhausts like that of "K.A.M."—"4½ft. long and 2½in. in diameter."

The argument about silence being a cause of accident is worn so thin as to be merely silly; one does not hear of the wholesale slaughter of riders of Scott machines.

Much of the police persecution is, admittedly, to be deplored; but I think a good deal of it is due to excessive noise and speed on the part of motor cyclists in places where noise and speed are entirely undesirable, and merely give motor cyclists in general a bad name. And I think if the police would transfer their "traps" to dangerous corners and cross-roads, their efforts would be *useful* rather than an annoyance. But long exhausts are a sign of pure selfishness on the part of the rider, and a perfect nuisance to the whole community; and I hope the police will continue this campaign and extend it throughout the country in lieu of their efforts against, for example, inadequate number plates, which cause annoyance to nobody. DUGGIE.

Cambridge.

Sir,—I have just bought a 2¾ h.p. motor cycle of a popular make from a motor cycle mechanic in this town. The machine, instead of having a silencer on (which I understand it should have in the usual way), has two separate exhaust pipes, from either cylinder to the rear, the pipes having slits in and partially closed ends.

When the machine is going a decent pace the exhausts emit a kind of cr-crackle. The first time I went out with it I was told by a police superintendent that I should have to have a silencer fitted at once.

Now the previous owner had it eight months, had ridden hundreds of miles, passed scores of policemen, and ridden through many large towns, and had never been pulled up once. Why is it then that I should be pulled up the first time I was on the machine? I do not mind having to fit a silencer, but what, to my mind, was unfair, was that the old owner could ride the machine for eight months, lives not far from the police station, and should never be pulled up once, although riding it in the same condition as I bought it. It is such things as this, and petty trifles such as measuring number plates, etc., that rankle the motor cyclist, and cause criticism. THE PIKE.

Pickering.

AUTO-WHEEL ON TANDEMS.

Sir,—I have followed with much interest the discussions appearing in your journal on lightweights. I am running an Auto-wheel attached to a lady-back tandem and find the combination very successful, and now do rides with lady passengers I would have never attempted before I fitted the Auto-wheel. I have a three-speed gear on the tandem, and always assist the engine on hill with the pedals. Have any of your readers had experience with the "J.E.S." motor bicycle? B.Y

SUMMARY OF CORRESPONDENCE.

PLUG EFFICIENCY.—In recent issues we have published letters from a reader who signed himself "An Old Hand" anent the respective efficiency of British and German plugs, and from the makers of Cooke plugs, who offered our correspondent a set of plugs for test. The firm in question desired that the report of service in "Old Hand's" machine should be published in these columns. The following is "Old Hand's" further contribution on this question: "Sir,—Since my letter of May 27th, under the above heading, appeared in *The Motor Cycle*, I have had the pleasure of testing a good number of plugs, courteously sent to me by British plug makers. During the time I have had my present machine I may say I have tried no fewer than fifty-two plugs, *i.e.*, twenty-six different types, and up to July 16th have only found two plugs of British make that will drive it. One of them is a plug made by Howard S. Cooke and Co., which they referred to in their letter in your issue of June 16th. I accepted their offer and conditions, and find, as far as my engine is concerned, after exhaustive tests, that their plug gives almost exactly the same results as the Bosch single point plug with regard to speed, power, and petrol consumption, the most noticeable features of similarity being slow starting, with a little misfiring. When warmed up both plugs fire regularly, but the engine travels with a sluggish beat. The other plug referred to is the Apollo No. 1, a pair of which I have tested for the Apollo Co. The way my engine starts, the manner in which it ticks over at a crawling pace, and the power and speed the engine develops with the Apollo plugs, in comparison, has simply amazed me. My mileage per gallon of petrol is also increased considerably. I have tried every conceivable plan to put this plug out of action without success. In every way it outclasses, I am pleased to say, the Bosch, which I have had to depend upon for so long.—AN OLD HAND, Ashington."

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West Birmingham M.C.C.

A one-day reliability trial is being arranged for September 26th, and an entry of at least fifty is expected. Particulars are available from Mr. A. J. Jacobs, 268, Hagley Road, Edgbaston.

Runcorn and District M.C.

A hundred miles sporting trial will be held by the Runcorn and District M.C. on the 5th inst., beginning at 10.30 a.m., and starting from Moughland Lane (Park End). The course will be Runcorn, Chester, Wrexham, Llangollen, Ruthin, Mold, Chester, Delamere, and Runcorn.

N.M.C.F.U. (Sheffield).

On Saturday the members of the N.M.C.F.U. in the city of steel makers will hold a sports meeting, while on the 12th inst. a paperchase has been arranged. This event will start from Owler Bar at 10.30 a.m.

Bristol M.C.C.

Twenty-three riders competed for the Douglas Cup in the Bristol Club's Trial on the 21st ult. The following obtained gold medals: 1 (Douglas Cup and gold medal), J. Langfear (5-6 h.p. Clyno and sidecar); 2, W. Courtney (3½ Sunbeam and sidecar); 3, S. Powlesland (3¾ Scott and sidecar); 4, F. A. Simpson (2¾ Douglas); 5, two competitors tied—W. Ousley and Eli Clarke, sen. (3½ Sunbeam sc., and 6 Douglas sc.).

Dorchester M.C. and L.C.C.

A speed hill-climb on Portesham Hill was recently organised by the Dorchester Motor Cycle and Light Car Club.

There was some delay at the start owing to the difficulty experienced in timing on such a winding hill, but this was soon satisfactorily settled, and the 350 c.c. class run off, the first man away being C. B. Brudenell on a 2¾ Coulson-B, which made a steady touring climb. The fastest time in this class was by H. Peckham, riding a 2¾ Douglas, time 1m. 4⅕s. A very creditable performance was also put up by G. Pursey, riding another 2¾ Douglas, which seemed to have a remarkable turn of speed.

The 600 c.c. class was very representative, and consisted of Triumphs, Nortons, A.B.C.'s, Veruses, and Douglases. All the competitors made splendid climbs, but the 4 Triumph, ridden by A. J. Trenchard, and the 3 A.B.C., ridden by A. E. Hann, particularly excelled themselves.

In the unlimited class amazing speeds were attained by J. Caslake, jun. (Harley-Davidson), C. Taylor (3 A.B.C.), A. E. Hann (3 A.B.C.), and A. J. Trenchard (4 Triumph), the result being a victory for A. E. Hann, who covered the distance in 51⅘s., thereby beating his record by ⅖s., and making fastest time of the day.

Future Events.

Sept. 2.—Norwich and District M.C. Hill-climb.
Sept. 4.—West Birmingham M.C.C. Paperchase.
Sept. 4.—N.M.C.F.U. (Sheffield). Gymkhana.
Sept. 4. Loughborough and District M.C.C. Hill-climb.
Sept. 4.—Dewsbury and District M.C.C. Run to Burnsall.
Sept. 4.—North Lindsay A.C. Paperchase.
SEPT. 4.—WOOLWICH, PLUMSTEAD AND DISTRICT M.C. QUEEN TRIAL FOR MATCHLESS CUP.
Sept. 4.—Eastern Valley M.C.C. Hill-climb.
Sept. 4.—N.M.C.F.U. (Wolverhampton). Paperchase.
Sept. 4.—Edinburgh and District M.C. One Day Trial.
Sept. 4.—Exeter M.C. and L.C.C. Run to Bolston.
Sept. 4.—Public Schools M.C.C. Hill-climb.
Sept. 4.—Birmingham M.C.C. Speed Trials.
Sept. 4.—Westmorland M.C.C. Hill-climb, Kirkstone Pass.
Sept. 4.—Helensburgh M.C.C. Gymkhana.
Sept. 4.—Cumberland County M.C.C. Reliability Trial.
Sept. 4.—Sheffield and Hallamshire M.C.C. Competition.
Sept. 4.—Wolverhampton M.C.C. Sheppard Cup Trial.
Sept. 4.—N.M.C.F.U. (Sheffield). Sports at Cordwell Valley.
Sept. 4-5 Coventry and Warwickshire M.C. Touring Trial to Llangollen.
Sept. 4-5.—N. Wilts M.C. and L.C.C. Bournemouth.
Sept. 5.—North London M.C.C. Inter-club Run.
Sept. 5.—Plymouth and District M.C. and L.C.C. Meet at Grenofen Bridge, 3 p.m.
Sept. 5.—N.M.C.F.U. (Sheffield). Run to Monsal Dale.
Sept. 5.—Fleet and District M.C.C. Run to Lyndhurst.
Sept.5.—Reading and District M.C. and L.C.C. Run to Cobham.
Sept. 5.—N.M.C.F.U. (Portsmouth). Run to Horsham.
Sept. 5.—Bury and District M.C. Competition.
Sept. 5.—Dewsbury and District M.C.C. Run to Plumpton Rocks.
Sept. 5.—Worcester and District M.C.C. Social Run.
Sept. 5.—Newcastle and District M.C. Hill-climb.
Sept. 5.—Stalybridge and District M.C. Social Run.
Sept. 5.—Liverpool M.C. Short Trial.
Sept. 5.—North London M.C.C. Inter-club Run.
Sept. 6.—Plymouth and District M.C. and L.C.C. Monthly General Meeting.
Sept. 8.—Plymouth and District M.C. and L.C.C. Meet at the Rock, 3.30 p.m.
Sept. 9.—Eastern Valley M.C.C. Non stop Trial.
Sept. 9.—Bedford and District M.C. and L.C.C. Club Run.
Sept. 10.—Essex M.C. Twenty four Hour Reliability Trial.
Sept. 10-11.—N. Wilts. M.C. and L.C.C. Run to Clifton.
Sept. 11.—Plymouth and District M.C. and L.C.C. Hill-climb at Hurcaby Top.
Sept. 11.—Public Schools M.C.C. Route Competition.
Sept. 11.—Edinburgh and District M.C. Car Hill-climb.
Sept. 11.—Dublin and District M.C.C. Paperchase.
Sept. 11.—North London M.C.C. Supper Run to Essendon.
Sept. 11.—Luton and Beds. A.C. Hill-climb.
Sept. 11.—Leeds and District M.C. Speed Trial.
Sept. 11.—Sheffield and Hallamshire M.C.C. Speed Trial.
Sept. 11.—Bury and District M.C. Run to Chester.
Sept. 11-12.—Dewsbury and District M.C.C. Week end Run.
Sept. 12.—West Birmingham M.C.C. Run to Malvern.
Sept. 12.—Ilkley M.C. and L.C.C. Social Run.
Sept. 12.—Birmingham M.C.C. Captain's Day.
Sept. 12. Westmorland M.C.C. Social Run.
Sept. 12.—Exeter M.C. and J.C.C. Run to Teignmouth.
Sept. 12.—Harrogate and District M.C.C. Paperchase.
Sept. 12.—Stalybridge and District M.C. Social.
Sept. 12.—Reading and District M.C. and L.C.C. Run to Bognor.
Sept. 12.—Northern M.C. Gymkhana, Rothbury.
Sept. 12.—Woolwich, Plumstead and District M.C. Picnic.
Sept. 12.—Scarborough Mm and M.C.C. Run to Falling Cross.
Sept. 13.—N.M.C.F.U. (Portsmouth). Run to Cocking Causeway.
Sept. 12.—Loughborough and District M.C.C. Run to Letterworth.
Sept. 15.—N. Wilts. M.C. and L.C.C. Picnic.
Sept. 18.—Southampton and District M.C. Hill-climb.
Sept. 18.—West Birmingham M.C.C. Run to Stratford.
Sept. 25.—Plymouth and District M.C. and L.C.C. Reliability Trial.

Coventry and Warwickshire M.C.

Owing to the absence of many members at the Six Days Trials, the committee has extended the closing date for entries for the hill-climb at Stile Cop (September 14th) until Saturday next.

Berwick and District M.C.

Recently a surprise run was held in which A. Welsh and J. R. Brown secured first and second places respectively, while last week-end was set apart for a reliability trial to Peebles, *via* St. Mary's Loch.

Southampton and District M.C.

A speed-judging and reliability trial was held on August 21st over a forty-mile circular course in the New Forest district. Fifteen out of the seventeen starters made non-stop runs, and the winner was H. Hobbs (3½ Sunbeam sc.), error nil; 2, E. C. Prince (2¾ Douglas), error 3m. 57s.; 3, W. T. Hunt (8 Rex-Jap sc.), error 5m. 56s.

Isle of Wight M.C.C.

The first annual reliability trial of the newly formed Isle of Wight Motor Cycle Club was held on Saturday, August 21st.

The course, which was a circuit of the Island, was about seventy-five miles, and included some very stiff hills and bad roads. It was keenly contested, and no speedometers were allowed. Result: 1, G. Scotney (6 h.p. Enfield sc.); 2, F. Eyles (5-6 Zenith) and E. Warrior (8 h.p. Chater-Lea); 3, W. C. L. Brown (3½ Indian) and A. Elderfield (6 h.p. Enfield).

Worcester and District M.C.C.

The results of the one-day reliability trial, which was held on August 7th, are now finally announced as follows:

GENERAL CLASS (PASSENGER).—G. H. Leeke (8 Morgan) and W. A. Carr (8 Morgan) tied for president's cup and gold medal; O. K. Bevington (3½ Sunbeam sc.), silver medal.

GENERAL CLASS (SOLO).—W. H. Harris (6 A.J.S.) and F. Drew (3½ N.U.T.) tied for E. Williams's cup and gold medal; N. Brain (3½ Sunbeam), silver medal.

EXPERT CLASS.—G. G. Barnard (3½ Sunbeam sc.), B. Bladder (8 New Imperial sc.), and T. B. G. Vale (4 Norton) gold medals.

TEAM PRIZE.—W. A. Carr, G. H. Leeke, and J. M. Dosher.

SECRETARY'S NOVICES' PRIZE.—Solo, L. Warren; passenger, R. E. Quant.

MRS. BEVINGTON'S PRIZE.—A. Thomas.

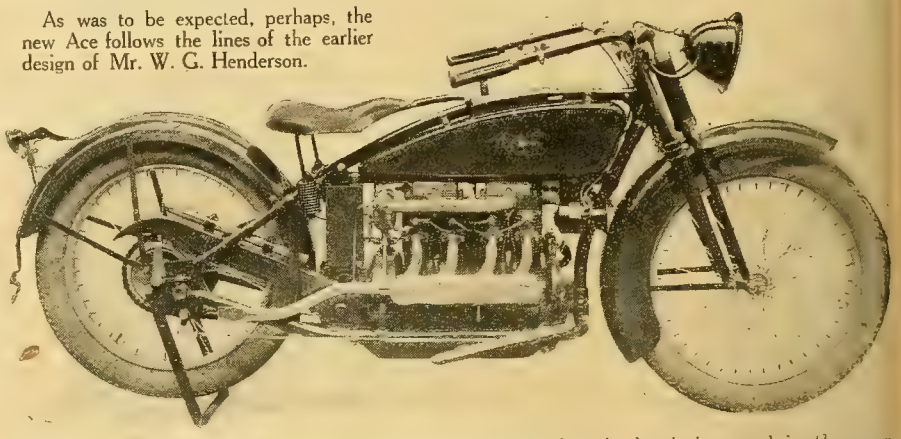
The Four-cylinder Ace American Motor Bicycle.

Car-type Power Unit, 68 mm. × 82 mm.; 1,192 c.c.

THE four-cylinder Ace, which was briefly described in *The Motor Cycle* of February 26th, 1920, has now arrived in England, and delivery can be made from stock by Messrs. Melchior, Armstrong, and Dessau, 14, Great Marlborough Street, London, W.1.

Since it was designed by Mr. W. G. Henderson, it is not strange that it bears a very strong resemblance to the machine which carries his name; but when we study the interior mechanism, we find important innovations. The frame is of very strong construction, being made of heavy gauge tubing. It is of the duplex variety, and carries the engine in a horizontal cradle. Instead of the ordinary saddle tube are two steel stays joining the rear forks and chain stays on both sides of the back wheel.

As was to be expected, perhaps, the new Ace follows the lines of the earlier design of Mr. W. G. Henderson.



Enclosed Overhead Inlet Rockers.

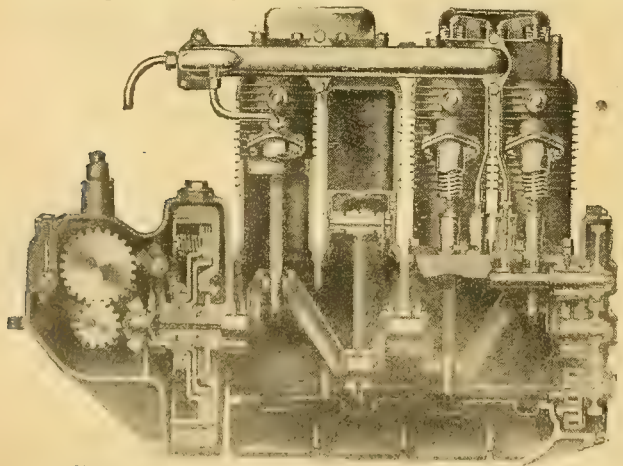
Externally, the engine is reminiscent of the o.h.v. Henderson, but the inlet valve rockers and springs are totally enclosed by means of special pressed steel housings, on the top of each of which are six holes for oil protected by a lid kept closed by means of a spring, consequently all dust and dirt are completely excluded. The inlet valves themselves work in cages, and are 1½in. in diameter with a lift of ¼in. The inlet valve cages consist of two castings in pairs, and the general exterior appearance of the engine is most attractive. The exhaust valves are of the usual pattern, and both they and the overhead inlet valve tappet rods are provided with large adjustable tappets.

The lubrication system is interesting. Here, as elsewhere in this engine, motor car practice has been closely followed. There is no separate oil tank. The crank case is designed to hold three quarts of lubricant. Driven off the timing gear at the forward end of the crank case is a gear pump, which draws oil from the sump at the bottom of the crank case and sprays it into troughs moulded in a tray above the normal level of the oil. These troughs are consequently kept full of oil, and the big ends, which are provided with dippers, dip into oil at each revolution, lubricating their bearings and filling the crank case with oil mist. The excess of oil flows back to the sump through a hole in the centre of the tray. The level of the oil is ascertained by a steel rod dipping into the base of the sump, which, if withdrawn, shows the level at a glance. Air is introduced into the crank case through a breather provided with suitable baffles to prevent the oil from being blown out. The exit of the breather is turned downwards to the ground so that no oil is sprayed upon the exterior of the crank case.

Large Bearing Areas.

Noteworthy also are the dimensions of the principal bearings. The front bearing is 1¼in. long, the centre bearing of the four-throw crankshaft 1½in., and the rear bearing 1¼in. Following automobile practice, the bearings are of bronze, lined with white metal.

A Schebler carburetter is fitted which delivers the gas into an inlet manifold of special construction provided with a wall that extends to a point midway between the two valve inlets. Gas follows along the wall to the central point, whence it travels equal distances to each inlet, thus equalising the distribution. A "hot spot" is provided by a projecting elbow on the rear end of the inlet manifold, which is connected to the exhaust of No. 4 cylinder by means of a small pipe.



The Ace engine retains many of the characteristics of Mr. Henderson's previous design, including overhead inlet valves.

Automobile practice has been so far followed that the bottom of the aluminium crank case may be removed without disturbing the engine, and is provided with ribs to give additional strength and to assist in cooling.

The gear box contains three speeds and a bevel transmitting power from the crankshaft to the sprocket, which is connected to the rear wheel by means of a single chain; and in the rear half of the crank case casting is a housing for the flywheel and multiple-disc clutch, which runs in a bath of oil.

Driven off the timing gear is the Berling magneto, and on its shaft is a belt pulley driving the Splitdorf dynamo, carried under the forward end of the tank on the near side of the machine and fastened to the secondary frame tube by means of a clip. On the opposite side is the Klaxon horn.

An excellent head lamp and tail light are provided, while the battery case is carried under the saddle and behind the carburetter.

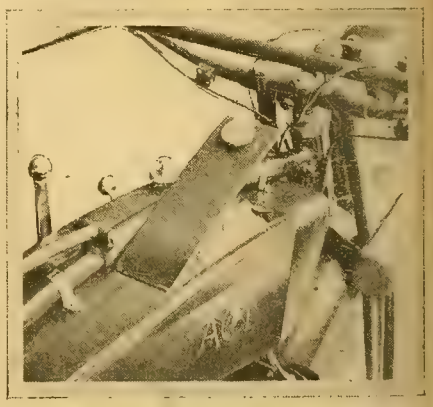
Usual American practice is followed as regards the clutch and change-speed lever, which are interlocking—that is to say, unless the clutch is withdrawn the gears cannot be changed.

Control Mechanism.

The brakes are of the external contracting pattern, one operating by a heel pedal on the near side and the other by a pedal on the off side, while the clutch may be actuated either by foot or by hand.

An interesting feature is the petrol tank, which holds four American gallons.

The front forks are of substantial construction, and follow lines somewhat like those of the 1914 Henderson. Lugs are provided for the attachment of a sidecar.



A tool box is carried in a recessed portion of the petrol tank.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Tax on Light Four-wheeler.

I am going to build a small four-wheeled monocar weighing under 200 lb., and should be glad of your advice regarding taxation. Under the new system, should I have to pay a car tax, or would it come under the class of lightweight motor cycles?—A.E.B.F.

ny vehicle with four wheels (not being i the nature of an invalid's carriage) mes under car taxation, irrespective of igine size or weight.

Time Limit for Legal Action.

I had the misfortune of being in a collision recently, and was notified five weeks later that the other party was going to hold me responsible for the damage. The question I wish to ask you is whether I should not have been notified before this time had elapsed, as I have been given to understand that a claim cannot be made after fourteen days.—A.G.E.

claim can be made against you, notithstanding the fact that you did not ceive notification until five weeks after ie event. As a matter of fact, an action ay be brought within six years, but ıy unreasonable delay in making the aim would certainly not help the aintiff.

Knocking and Gear Slip.

(1.) My 1919 Scott has always slipped on high gear when climbing anything like a steep hill, whether I hold my foot on high gear pedal or not, but it grips again on the level; what can I do to remedy this, please? (2.) Also when I open out on to third jet a knocking occurs. What would this be, do you think? My high gear chain is loose, but not the low one, and I have fitted a new high gear chain, this is also loose, but not loose enough to get a half link out. The machine has only run about 700 miles, and I have been most careful in my driving.—W.T.O.

(1.) Gear slipping on the Scott machine may be due to one or other of these causes—insufficient grip on the friction band of the outer quick thread drum which is attached to the control pedal; excess of oil on the expanding band; wear of the expanding band and gear drum, or wear of the rollers which expand the gear band. As your machine has only done 700 miles, wear should not have taken place. Try the effect of tightening the friction grip band on the outer worm drum, and if this does not cure the trouble, inject petrol through the small holes which you will find in the periphery of the high gear drum. (2.) The knocking may be caused by the main jet being too small, also the ignition may be slightly too far advanced. A slack high gear chain also tends to cause harsh running, but here again a new chain should not yet be necessary; (we have obtained slightly more than 4,000 miles out of one of these high gear chains before a renewal was necessary). Knocking on full throttle may also be caused by the sparking plugs becoming overheated; perhaps those fitted on your machine are not suitable, and it might be advisable to change them.

READER'S REPLY.

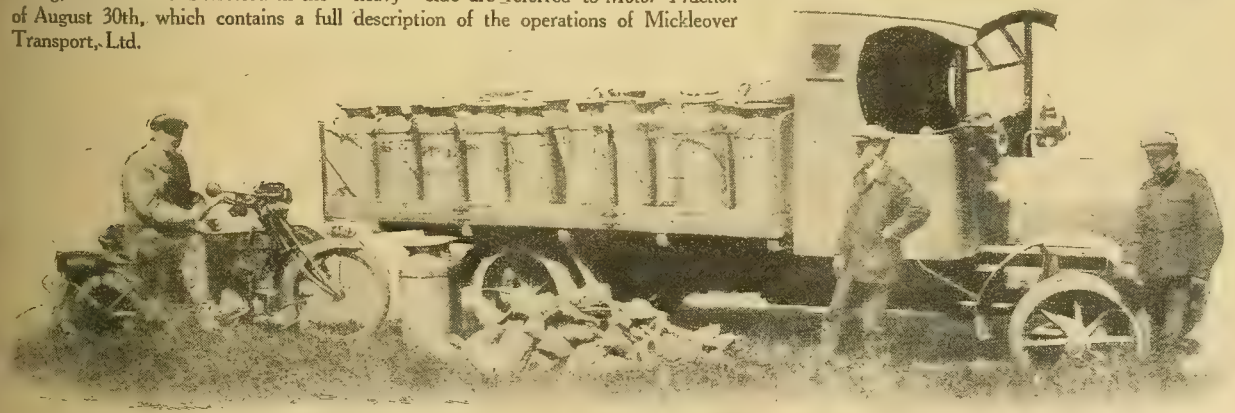
Defective Drip Feed.

In the issue of *The Motor Cycle* for the 19th of August, you reply to "B.W." about a defective drip feed. The trouble is a defective ball valve entering the crank case, the spring not holding the ball in place at top. I have had the same trouble. I do not think it is the ball valve between the oil pump and drip feed sight body, as the oil gets into the body but not down the pipe.—R.M.B.

I am a B.S.A. owner and have had the same trouble as "B.W." with the drip. I listened to the various ideas about the pen steel disc, etc., but found out myself, after having considerable trouble, that the complete cure was to tighten up the gland nut of the regulating screw. All other joints should be airtight.—SCOTTIE.

THE SIDECAR OUTFIT IN BUSINESS.

One of the New Imperial machines used by the depôt engineers of Mickleover Transport, Ltd., for keeping in touch with the work of lorries on the road. The company named run 300 lorries in different parts of the country, and they collect 150,000 gallons of milk daily for United Dairies, Ltd. Like the lorries, the sidecar machines are on the road every day whatever the weather may be, and we understand that they are giving every satisfaction. The work of organising such a big fleet to give economical results is a big undertaking, and readers interested in the "heavy" side are referred to *Motor Traction* of August 30th, which contains a full description of the operations of Mickleover Transport, Ltd.



THE A.C.U. SIX DAYS TRIALS.

A Memorable Test over the Yorkshire Moors. The A.C.U. and its Much Criticised "Freak" Hill Policy. A Day-to-day Description of the Incidents.

Miles and miles of Yorkshire moors were included in last week's Six Days Trials route. Some of the surfaces were grass grown, and had borne no vehicle for months past. A general view of The Stake, 1,700ft. up, showing R. Charlesworth (8 Zenith sc.) and S. Hall (10 Morgan).

MONDAY'S RUN, 161½ Miles.

Route: Darlington, Croft, Great Smeaton, Northallerton, Bedale, Masham, Kirkby Malzeard, Pateley Bridge, Blubberhouses, Otley, Guiseley, Bingley, Ilkley (lunch), Bolton Abbey, Grassington, Kettlewell, Carlton, West Witton, Thoralby, Redmire, Richmond, Middleton Tyas, Croft, Darlington.

Test Hill: Park Rash.

AS recorded in last week's issue, 133 competitors started from Darlington on the first day of the A.C.U. big trial. Those mentioned included thirty-eight on passenger machines and ninety-five who were riding solo. An analysis of the starters showed that the various classes had received support as follows: Lightweights up to 275 c.c., fourteen; up to 350 c.c., seventeen; solo machines of 500 c.c., twenty-five; 750 c.c., thirty-six; and 1,000 c.c., three. Among the passenger machines there were three with engines under 500 c.c., eleven 750 c.c., and twenty-one 1,000 c.c.; in addition there were three Morgans with engines slightly over 1,000 c.c.

Perfect weather greeted the start, the week-end's rain having laid the dust, whilst a cold wind had dried off all the grease, and the absence of sun suggested that the A.C.U. would have less cause to criticise air-cooling than in 1919.

Alec Ross called each man's number 15m. before he was due to start, and he was then allowed to enter the official garage and ride off to the quiet street in which the men were marshalled for the formal start. The first forty solo men had sidecars brigaded with them, so to speak, an arrangement which was later to prove catastrophic, as it led to serious baulking on Park Rash after lunch. Thus, Nos. 1 (Radco-solo) and 101 (A.B.C. sidecar) started simultaneously, and so on.

The first forty miles inspired incredulity in the competitors' minds. The surfaces were uniformly excellent. There were no hills. The route would have been dull to a degree if there had been no scenery to gaze at. A pack of foxhounds and a somewhat resentful bull provided the only relief from the tedium of reeling off level miles at rather less than legal limit. The steep rough descent of Old Church Bank into Pateley Bridge suggested that the leopard does not change his spots, and that the A.C.U. would shortly revert to its old policy of trying to smash machines.

Harper Dyke, on the far side of Pateley Bridge, proved to be an observed hill; but the 500 c.c. solo machines mostly tackled it on middle gear, so that anybody who lost marks on it richly deserved to do so. A mile or two over the crest came the only time check which we noticed all morning. The timekeepers' car was ingeniously concealed inside a huge barn.

Presently the road surfaces became more worthy of the A.C.U. reputation. Pot-holed macadam is good going compared to roads made of enormous setts, patches of which have subsided a foot or so. Fork springs could be heard clashing up solid.

THE TRIAL IN A NUTSHELL.

DISTANCE 918¼ miles (Aug. 23rd to 28th).

NUMBER OF STARTERS 133 (38 solo, 95 sidecar).

FOUR DAYS over Yorkshire Moors.

ONE DAY down centre of England.

LAST DAY at Brooklands for Speed and Brake Tests and Final Examination.

Forty manufacturers represented.

he A.C.U. Six Days Trials.—

Crossing the moors from Bingley to Ilkley we descended two of Friday's hills —Thwaites Brow, a paved corkscrew of 1 in 5, which would be formidably slippery in rain, and Keighley Gate—rough, but not frightful. Naked rocks jutting up through the moorland road threw several men off, and gave us all a rare jolting.

Lunch was taken at the Middleton Hotel, Ilkley, and meanwhile motorists from all over the North of England were streaming towards Park Rash—the titbit of the day's run.

A nasty little climb out of Kettlewell brought the riders into a grassy lane, bordered with innumerable cars and cycles, and at the end of a mile a paralysing spectacle burst upon their gaze. A steep hillside formed a natural grand stand for hundreds of spectators, round whom an apparently vertical scree of sand and loose stones curved away in a blind corner. The gradient is possibly 1 in 4, but the surface constitutes the real difficulty, steering being the problem for solo men, whilst tyre adhesion is the crux for sidecarists. As the event proved, any good solo rider who takes the left-hand side steadily ought to make a clean ascent; but sidecars can only get tyre grip by going up on the extreme right, and then the trouble is to keep up speed enough to get good steering.

The opening performances were poor, since the judge's car blocked the left-hand side for solo men, and some of the sidecar men were foolish enough to tackle the loose stuff in the road centre.

The first few men, both solos and sidecars, all failed, and just when the spectators had begun to denounce the hill as unclimbable, "Pa" Applebee made the first clean ascent, though his little Levis was jolted all over the road by the stones.

The big single two-stroke Dunelt sidecar on the grassy slope known as Beatgate Bank, Feetham. Summer Lodge, which caused so many failures, is among the range of hills in the background.

Noticeably good climbs were made by Kuhn and Porter (Levis), Goodman and Denley (Velocette), Kershaw (Verus), and Clarke (Coulson) in the lightweight classes.

Sam Wright's Humber was the first sidecar to make the hill look possible for three-wheelers, and Packman put up an equally good show with his Matchless. Stobart did even better by bringing his James up with the passenger seated instead of bouncing on the carrier. Nott was baulked. Colver's gear lever was jolted into neutral. Mrs. Hardee provided a touch of humour by helping to push her husband's outfit up. Smith's Enfield and sidecar turned a complete circle and ran over a boy seated by the roadside, which shows how the surface flung the outfits about. Hall's was the only Morgan to conquer the hill, but Boddington looked like making a clean climb when his chain broke.

Opinions differed as to whether F. Turvey (B.S.A.) or Capt. Wood (Scott) made the finest showing on a solo machine. For team work the Scott, N.U.T., 5 Rover, Sunbeam and Triumph all made excellent impressions, but the baby machines certainly had the toughest task amongst the soloists.

At night the judges wisely decided to ignore all failures on the hill and to award five bonus marks for clean ascents.

The route home included grass fields minus a track, each rider taking his own line to a gap in the far wall. Such gaps often embody a stone step so high that crank cases may foul it.

From top to bottom Park Rash is nearly three miles long, and in some cases early failures were repeated higher up.

This picture conveys some idea of the crowd which assembled on the lower reaches of Park Rash, near Kettlewell. The competitor seen ascending is F. G. Boddington (10 Morgan).

TUESDAY, 165½ Miles.

Route: Darlington, Reeth, Feetham, Hawes, Dent, Ingleton (lunch), Clapham, Stainforth, Langcliffe, Arncliffe, Kettlewell, Buckden, Stalling Busk, Bainbridge, Askrigg, Redmire, Richmond, Middleton Tyas, Croft, Darlington.

Test Hills: Summer Lodge, Buttertubs Pass, White Shaw Moss, The Stake.

After yesterday's sample of a real Yorkshire hill, competitors were highly expectant this morning when they set out *via* Reeth. There was a succession of short and sharp rises among the Pennines. Swaledale was followed as far as Crackpot, and then came a fearsome hill known as Summer Lodge, which unseated nearly every competitor.

Some had the power, but were hopelessly baulked again by the sidecars, which in one case stopped in a group with a Morgan broadside across the narrow road. The surface of this hill was described by Darnton, the Powerplus Indian rider, as a combination of a ploughed field and the Brighton beach, but the several twists were only just wide enough for a sidecar machine, so that passing was next to impossible. Brandish (Rover), Pa Applebee (Levis), Turvey (B.S.A.), D. Alexander (Enfield sc.), and S. Wright (Humber sc.), were among the ten or a dozen who claimed clean ascents.

On to Askrigg Hill, not quite so bad, there was a bad corner on joining the Muker road after the descent of Satron side. Then to Feetham there was a sharp rise, grass-grown, resembling the roof of a house, known as Beatgate Bank, leading to Barnard Castle. Most competitors got up comfortably despite the stones and a flock of sheep, which gave the photographers their opportunity. It was noticed how well the lightweights kept a straight course, and how agile the sidecar passengers had already become in scrambling on to the carriers. The Dunelt two-strokes are already notable for splendid climbing abilities, and the Velocettes were showing up magnificently among the lightweights. On to Arkengarthdale Moor, over the Buttertubs Pass, to the Wensleydale side, some of the riders were beginning to look crestfallen, knowing that White Shaw Moss still required attention before lunch at Ingleton. Rumours of the withdrawal of the Clyno entrants (later confirmed), owing to the "unreasonable conditions," were abroad at Buttertubs. Here, at the 220th mile, there was a secret check.

The hairpin bend at the top of the steepest stretch on Park Rash. C. Moser (4 Triumph) is seen after successfully negotiating the single figure gradient. In the right-hand top corner the approach to the hill from Kettlewell will be observed.

On Buttertubs Pass.

E. E. Palmer (3 A.B.C. sc.) led the way, and made light of the hill. This rider's showing on the steep gradients is so far a revelation. He was followed by Handley (O.K.), Jones (Velocette), Hall (O.K.), and Baxter (Radco), and all got up splendidly. Colver (Matchless) left the change down very late, and nearly spoiled his ascent. The Morgans were fast, the Scotts glided up, the Zeniths roared up, the Triumphs went up as good Triumphs usually do, and the Nut-Jap riders to a man were good. Ryecroft hit a boulder, which lifted his machine clear of the ground.

In the middle of the Pass there is a slight descent before the culminating stretch of 1 in 4½ and the usual stony surface. We passed here Sawer (Norton sc.) with a stripped low gear pinion—

A SCENE ON PARK RASH.
The sidecarist is O. Wade (6 A.J.S.), and the solo rider B. Kershaw (2¾ Verus-Blackburne).

Notwithstanding the severity of the course, many competitors were able to get ahead of time, which necessitated a halt to avoid being caught at the secret checks. D. Robb (3½ N.U.T.) is seen passing G. A. Strange (3½ James) and W. G. Harrison (3½ Sunbeam) near Reeth.

hard luck indeed, for Sawer's hill-climbing has won him the respect of all his fellow competitors. Frank Applebee (A.B.C.) was very fast, Knowles (Hobart) had the bad luck to break his belt on the hill when already 50m. late, Sullivan (4 Harley-Davidson) stopped momentarily through mulling the gear change, whilst all the A.J.S. sidecars did excellently. Darnton on his red Indian—which he affectionately calls his "Fire Engine"—streaked up the gradient. Turvey and Co. on the B.S.A.'s simply toured up. Douglas Alexander (Enfield)—probably the fastest sidecarist—added one more hill to his bag.

The "Strike" Hill of 1913.

White Shaw Moss is a long, rough hill, compounded of turf and boulders, with two bad knuckles, of which the worse comes at the very foot—a sharp bend covered with loose stones, and utterly devoid of any decent track. A narrow strip of hard stuff on the right soon terminates in a jutting ledge of rock, which caused worse wobbles than the loose stuff in the centre. There were, of course, innumerable failures, and all the passenger machines had an anxious time; not a few solo riders fell, charged walls or ditches, or even swung right round and began to go down again. The lightweights, as usual, were flung here, there, and everywhere, but Jones (Velocette) and Kuhn (Levis) made fine ascents, whilst Denley and Goodman actually waggled their Velocettes through a tangle of stranded sidecars on the very worst pitch. Newman on the little New Imperial and Clark on the Coulson lived up to their Park Rash reputation. Kershaw on a Verus was good, but Pa Applebee took a heavy fall. Price on the Diamond and Wills on a Verus were astonishingly fast for their power. The sidecar drivers were all in a cleft stick. If they came up slowly they lost steering way—a catastrophe which befell many. If they came up fast, their back wheels spun. Eric Williams made the first clean sidecar climb with his passenger on the carrier. Sam Wright brought the Humber up fast, but a gigantic skid brought his sidecar into the wall with a thud. Packman came up finely, as did Nott and Ross (both are experts at throttle work coupled with scientific bouncing)—a fine show for Matchless machines. Ashley on the L.M.C. sc. was also good, but nobody bettered Smith's 8 h.p. Enfield outfit, which was extremely fast. H. F. S. Morgan bounced his reluctant back tyre into biting the stones, and got up well. F. James's Morgan did not arrive till the surface had been cut to ribbons, but he got up; and Hall's Morgan made a most spectacular dive between two stranded bicycles, and scored a good climb. Douglas Alexander (Enfield sc.) dispensed with bumping, and his passenger remained in the sidecar. Capt. Charlesworth was faster, but his passenger was on the carrier, bouncing in unison with the driver. Foster's Dot-Jap made a similar ascent.

The heavier solo machines scored many first rate climbs. The Sunbeam crowd were particularly impressive, especially Dance. Mrs. Knowles (Norton) made a lovely climb, as steady as if she had been on macadam. Longman on the Ariel was cool and masterful. Three P. and M.'s conked out in a heap. Wood and Langman on Scotts were superb, as was Davidson on the Harley-Davidson. The Triumphs came up confidently in a cluster, Green and Edmond a foot apart shouldering each other like lovebirds. Chambers on the Zenith, was a sensible climb—slow and sure. By contrast Gayford, on a sister machine, came up far too fast, turned a complete circle, and went on just as though the feat had been intentional.

The Stake on Tuesday Afternoon.

After lunch at Ingleton, Kidstones Pass, succeeded by a further climb known as The Stake, unseated a number of riders on the homeward run. Near the top there are two turns, many stones, and the usual slippery stretches of grass. P. W. Bischoff was a spectator and announced the decision to withdraw the Clyno entrants. Major Watling pronounced the course thus far as more difficult than the Scottish Trials.

No. 1 (Baxter), clad in his familiar aluminium coat, led on the Radco, W. Cooper, who is verifying the course on his Morris Cowley light car, having passed

S. Wright (4½ h.p. air-cooled Humber sidecar) after having conquered the most difficult section of Park Rash; for this performance he was applauded by the many spectators.

The A.C.U. Six Days Trials.—

a few minutes earlier, and incidentally received a cheer from the many Yorkshiremen present for a very neat ascent. Pehrson (Dunelt sc.) had to be assisted due to wheel slip. F. W. Applebee (Levis) when going gamely hit a huge boulder, which diverted his front wheel up a steep grass bank which he mounted like a sheep on a wall, high and dry. He gamely went on again. Jones (Velocette) used his foot merely to keep upright. Davies (A.J.S. sc.) was very good; also Eric and Cyril Williams on similar machines. Hall (O.K.) was very good; also Lidstone (James), Hanks (Enfield), Denley and Goodman (Velocettes), Porter and Kuhn (Levises).

Now Mr. Alfred Scott demonstrated the hill-climbing powers of his new Sociable, which buzzed away merrily up the hill. Cocks and Bees on their two-

TWO OF TUESDAY'S HILLS.
(Left) Buttertubs. F. J. Fieldhouse (3½ N.U.T.) (Right) The Stake. A Morgan and a Zenith sidecar, the latter driven by Capt. R. Charlesworth.

stroke Beardmore-Precisions showed up well. Price (Diamond) travelled well, though he got in a rut and was thrown on the descent of the other side to Bainbridge. Robinson (A.B.C.) made a clean ascent, and in fact the majority of the solo mounts which showed up conspicuously on other hills. But ill luck awaited many of the sidecar men, who had proved themselves well able to account for sheer gradient, for a wet grassy patch on the very summit stopped quite a dozen sidecarists through sheer inability to get a wheel grip. Just above this stretch Dr. Low's Audiometer was in operation—quite the last straw to many enraged riders!—but, of course, many wily men who detected the instrument simply dropped into low gear and closed their throttles to minimise the effect! A cinema man completed the fare provided at The Stake. Strange (James), who has been doing well, suffered a fall on the descent to Bainbridge over a grass track with a very uneven surface. Newman did not arrive on his new Imperial, due, it was discovered later, to a seized gear box near Arncliffe. Boddington (Morgan) was delayed by a puncture.

Some are Happy!

Homeward there was nothing to trouble the riders further on this memorable day, for Darnbrook was dry, otherwise ——! The stony ascent in Richmond provided no excitement but continual bumps for the machines, one or two of which had lost their silencers, or part of them, by this time. We rode with a group of fourteen men homewards, one D. A. Atkin on a twin Rover, actually describing his experience so far as "topping." The Ariel riders were members of the party, happy as usual, but short of Watson whose engine seized and caused his withdrawal

Monday's retirements included:
H. Gibson (2½ Clyno), C. B. Redrup (2¾ Redrup), D. Read (2¾ Ready), R. M. Knowles (3½ Norton), G. W. Ellis (4 Norton), G. W. Lush (3 A.B.C. sc.), and L. G. Bachelier (8 Blackburne sc.).

On Tuesday the following retired:
P. W. Bischoff (2½ Clyno), B. Gold (2¾ Wolf), J. A. Newman (2¾ New Imperial), N. A. Woolley (2¾ Redrup), W. J. Lake (2¾ A.J.S.), D. L. Greig (3½ Sunbeam), W. J. Montgomery (5-6 Rover sc.), S. Sawer (4 Norton sc.), F. J. Watson (6 Ariel sc.), J. H. Place (8 Dot-Jap), H. E. Ashley (6 L.M.C. sc.), A. F. Knight (8 Clyno sc.), H. Reed (8 Dot-Jap sc.), and F. G. Boddington (10 Morgan).

WEDNESDAY'S RUN, 134½ Miles.

Route: Darlington, Stockton-on-Tees, Guisborough, Castleton, Hutton-le-Hole, Kirby Moorside, Lawton, Helmsley, Kilburn, Bagby, Thirsk (lunch), Felix Kirk, Hornby, Swainby, Carlton, Ingleby Greenhow, Stokesley, Craythorne, Yarm, Darlington.

Another fine day, and an easy route. The original programme included Rosedale Abbey Bank, reputed to be the worst on the entire course, but the stewards wisely decided to substitute a switch road, as the July rains were said to have washed the filling out of the gulleys, and there was some risk of broken crank cases. Crowds of Northern motorists had flocked to Rosedale, and the change of route caused them great disappointment, which the more sporting competitors unquestionably shared. After lunch, there were a few gentle hills, of which Boltby could claim mild difficulties; a good deal of roughish going; lots of fine scenery; and a regular series of watersplashes, several of which were quite sporting.

The only incident worthy of record before lunch was W. H. Wells's astute placing of the secret check. He found a smooth switchback over a lofty moor, and hid just behind the crest of a hump, which a preceding dip tempted us all to rush. Some of the boys were too smart for him even then: they had noticed that these checks generally occurred near one of the A.C.U. "twenty-mile" boards, one of which was just about due. So

The lower reaches of Buttertubs Pass, showing T. J. Ross (7 Matchless sidecar), Norman Rycroft (4 Triumph), and in the background W. A. Fell Smith (8 Blackburne sc.)

W.H.W. did not catch as many men as he expected.

The little market town of Thirsk was crowded, its great square forming a fine park for spectator's machines. After lunch there was a general rush to Boltby hill, which drew a huge crowd. It is quite a fair test, the main difficulties consisting of a stony centre and deep cross gulleys, whilst a watersplash 100 yards from the foot did not please the belt-drivers. Failures were few, being practically confined to the weaker lightweights and to passenger machines which encountered tyre stop. Particularly fine ascents were registered by Clark's Coulson, Wills's Verus, and Hanks's Enfield amongst the lightweights, and in the passenger class by Wright's Humber, Stobart's James, Bladder's New Imperial (his passenger remaining seated all the way up), and both Enfields. The big Enfield combination answers its helm with quite remarkable accuracy in what a golfer would term "the rough." Morgan roared up very comfortably indeed.

An Aquatic Afternoon.

The later hills were of no special account, but an insignificant incline becomes formidable when preceded by a watersplash, and we quite lost count of the fords along this section. Hawmby Beck was perhaps the worst, and Edwards (B.S.A.) found a deep hole in it and fell very heavily. Sheep Wash near Scarth Nick would be frightful in the reverse direction, but the trial came down the steep side, and it gave the men no real trouble. Several men had plugs put out of action, and Mrs. Knowles got water in her magneto, and had to blind in order to save her time marks. It is generally supposed that splashes are included only to test belts; so it is worth putting on record that they detect weaknesses in ignition, both as regards construction and location. Several of the splashes were officially observed.

Big Two-strokes making Good.

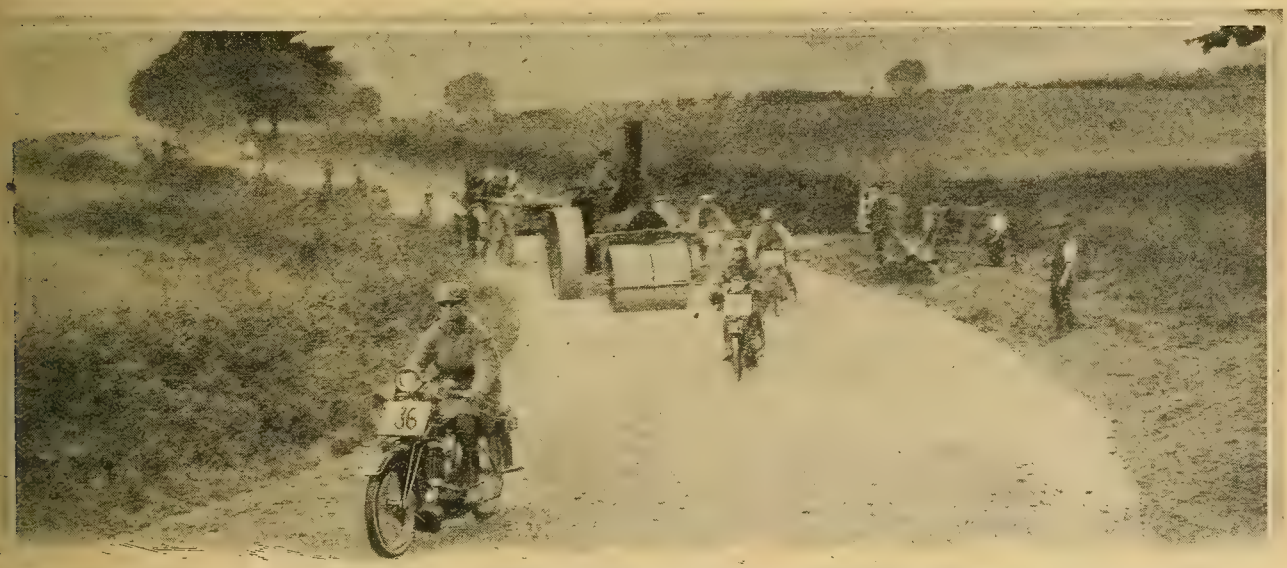
The two Dunelt two-strokes were still going strong, but the sidecar machine was handicapped by having a too high gear. Pehrson's bottom gear was only 12 to 1—rather high for a 500 c.c. outfit. One competitor suggested that the 1921 trials should be held in Lincolnshire in order to avoid so many "nasty" hills.

Westwood Wills rode the last twenty-one miles into Darlington on the rim. He "never mends punctures," his stock of spare tubes was exhausted, and the deflated cover refused to stay on the rim.

Lidstone, on the James, had trouble at a splash owing to the water dragging his coat into the naked magneto chain, but he managed to get going again.

Some of the old hands always dismount and examine a splash before entering it. There were horrid rumours of a ford which was paved with green slime, so that no solo machine could cross it erect.

After this day's easy run some of the more ardent spirits were pining for more hills to conquer.



Park Rash and Summer Lodge had prepared the competitors for anything in the way of surfaces. Here are seen two Sunbeam riders, G. Dance and F. C. Townsend, traversing a section of highway under repair.

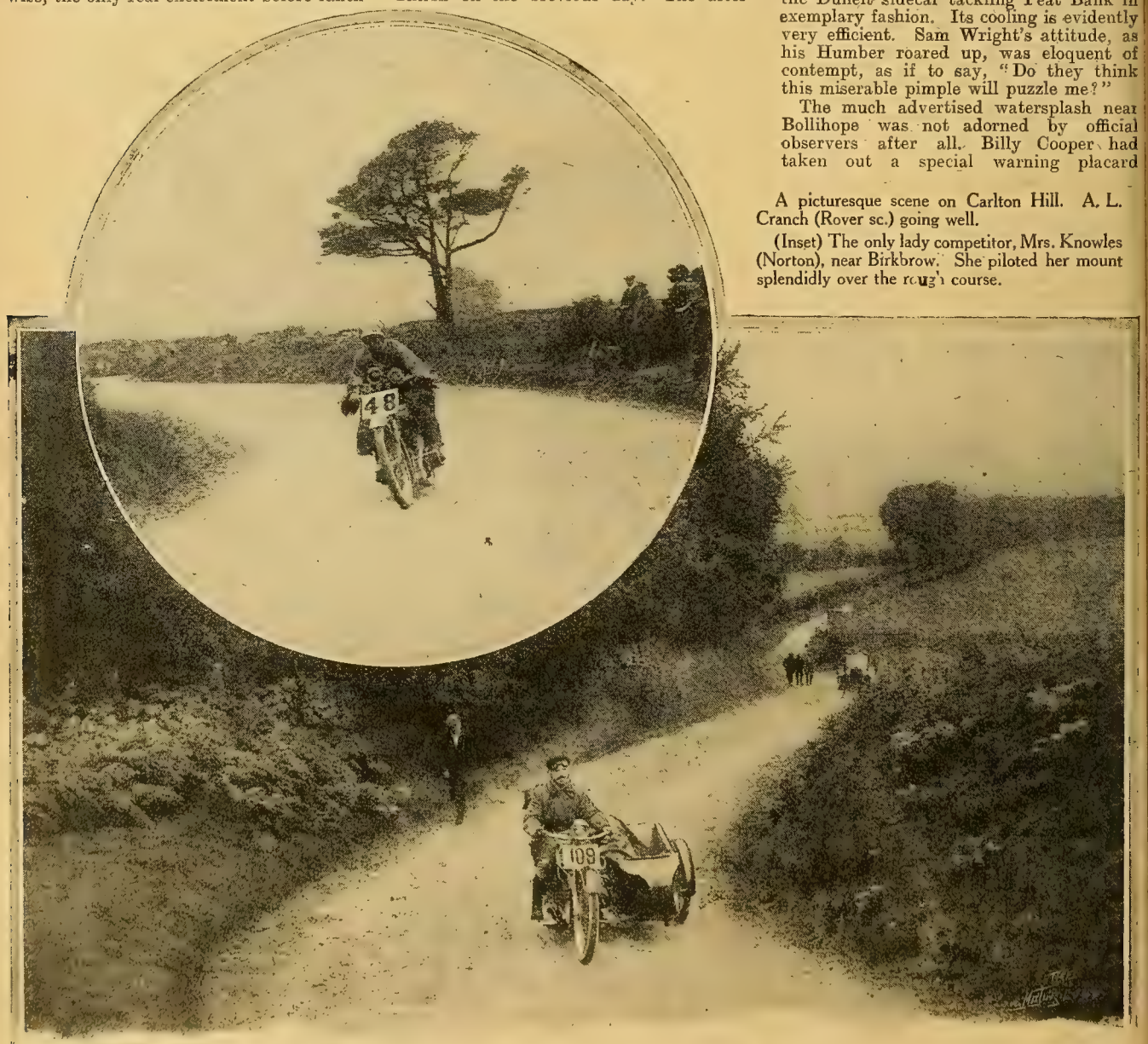
THURSDAY'S RUN, 160½ Miles.

Route: Darlington, Staindrop, Egglestone, Mickleton, Brough, Kirkby Stephen, Soulby, Crosby, Ravensworth, Shap, Clifton, Penrith (lunch), Langworthy, Melmerby, Alston, Nenthead, St. John's Chapel, Westgate, Bolt's Burn, Wolsingham, Tow Law, Crook, Bishop Auckland, Darlington.

A fine day again, and easy roads. Much of the route lay over main roads of excellent surface, so that the men were able to enjoy many gorgeous panoramas of dale and heather. Dust has begun to be mildly troublesome, and the roads were choked with clouds of it immediately after breakfast, when a few men took advantage of the good going to blind ahead and gain time to change tyres. Several of the passenger machines were thus engaged, and in the preliminary sprint they raised the road surface almost sky high. Otherwise, the only real excitement before lunch was a gem of a watersplash. Mercifully, for the sake of the competitors, it was not observed by any official, for only 5% of the men got through without trouble. It was particularly deceptive. The canny men prospected on foot, and seeing only 8in. of water charged ahead. Unfortunately, the bottom was soft mud and very deep. Some fell in the stream, others stuck fast in a vertical position, and many got their magnetos or carburetters (or both) full of water. Loud were the curses when the unfortunates discovered there was no A.C.U. observer in the crowd, so that all the solo machines might have utilised the narrow footbridge. At one time two Morgans lay cheek by jowl in the stream, completely blocking the passage, and later on the correspondent of a well-known daily paper stuck fast, and, refusing to wet his feet, waited until a horse was fetched to tow his car out.

Spectators at Penrith—the luncheon stop—were far less numerous than at Thirsk on the previous day. The afternoon run commenced with the long climb up to Alston, the highest town in England. This was a top gear run for most men, and the fine surface allowed us to enjoy the view which embraces four counties. After ascending Kilhope we were despatched on various excursions up byroads into the wilderness, but the going on the narrow tracks was uniformly hard, and the gradients, if sharp, were usually short. Lots of little hills had to be tackled, of which Peat Bank and Suffley Bank had attracted a lot of spectators. Most 500 c.c. solo machines tackled these "banks" on second gear, unless an unexpected hairpin created the scare of five lost marks. Mrs. Knowles, who is eagerly awaited all along the course, missed a gear change on one of these climbs, but nobody yet knows whether this particular pitch was officially observed or not. The refusal of the A.C.U. to advertise the observed hills leads to a good deal of precautionary bottom gear work. We noticed the Dunelt sidecar tackling Peat Bank in exemplary fashion. Its cooling is evidently very efficient. Sam Wright's attitude, as his Humber roared up, was eloquent of contempt, as if to say, "Do they think this miserable pimple will puzzle me?"

The much advertised watersplash near Bollihope was not adorned by official observers after all. Billy Cooper had taken out a special warning placard



A picturesque scene on Carlton Hill. A. L. Cranch (Rover sc.) going well.

(Inset) The only lady competitor, Mrs. Knowles (Norton), near Birkbrow. She piloted her mount splendidly over the rough course.

Two spring-framed machines, a Matchless sidecar and an A.B.C., on Thwaites Brow, near Keighley—a paved hill with five hairpins, and a gradient of 1 in 5.

'Dangerous Watersplash—Slippery Bot-om," but instead of the expected 2ft. a nere 4in. of water was trickling lazily over the not very slimy stones. Many riders had got such wind up about this splash that they deliberately took the ootbridge, though they thought the splash was "observed," preferring to ose marks rather than risk their machines. The "clever" brigade first searched the knot of bystanders for a man with a brassard, and then took the bridge. Even then Nemesis overtook them, for there was a 9in. drop off the end of the bridge.

One of the James brothers, on a Morgan, has had a curious experience. The driver's story is that he stuck on Summer Lodge on Tuesday and blocked the road in his efforts to avoid running back. The marshals asked him to get aside, and let the solo machines up, guaranteeing that he should be given a time allowance for the courtesy. He clocked in very late, as the marshals failed to return and assist his restart, as arranged. He was allowed to start on Wednesday, and again this morning, but the officials wired to Penrith for him to surrender his numbers at luncheon to-day, which he accordingly did. His brother broke a cam lever, and was towed into Penrith.

For some mysterious reason this afternoon's run concluded with nearly thirty miles of mining villages. Incredible pot-holes, innumerable children, and illimitable number of dogs infested the roadways. The riders were very fed up when they reached Darlington.

FRIDAY'S RUN, 204¼ Miles.

Route: Darlington, Catterick Bridge, Hunton, Middleham, Carlton, Kettlewell, Threshfield, Bolton Abbey, Ilkley, Brighouse, Huddersfield (lunch), Glossop, Buxton, Ashbourne, Sudbury, Yoxall, Lichfield, Coleshill, Stonebridge, Kenilworth, Warwick, Leamington.

To the general relief, Friday opened fine, for the penultimate day's run is generally a teaser, and if rain and grease had been added to the horrors of our 200 miles this day there would have been many retirements. All the disagreeables came before lunch. They began with the grass and stones leading up to Park Rash from the reverse side. Then came the descent of that notorious hill—quite the fiercest of many very practical brake tests during the day. Mrs. Knowles confesses she would rather go up ten times than down once, and many of the men zigzagged to ease the gradient.

Last But Not Least.

There was a little good going into Ilkley, and towards the top of Keighley Gate a spell of horrors began. The climb out of Ilkley bothered nobody, but the moor road to Keighley consists of a series of pits and boulders, well calculated to smash up sidecars and buckle wheel rims. The *pavé* through Keighley is notorious. Thwaites Brow was dry, so there was no fear of skidding on this quaintly paved corkscrew, and the men romped up its easy incline. Then came the climax of the whole trial so far as discomfort and risk was concerned—Harden Bank. It is difficult to make this abominable hill live in cold print. It has no gradient worth mentioning, but its surface is simply indescribable. In lieu of the small loose stones which compose the surface of most rough hills, the reader must imagine innumerable big stones, deeply embedded in sandy soil, with long prism-shaped edges exposed. Many of them are a foot long, and protrude six inches. Here and there, particularly on the inside of the second bend, there are tremendous reefs of solid rock. One loose boulder lying in the fairway weighed a good 60 lb. A rider who knows the correct path up the hill can watch his front wheel and dodge the more violent collisions. A first timer must look ahead for the wisest track, and let his front wheel takes its punishment. Very few solo men got up without using their feet to correct wobbles. The passenger machines had little trouble until the middle of the first hairpin, which is a left-hand bend, got cut up into a morass. The crews for once had no need to bounce deliberately; the rocks saw to that part of the business.

Performances on Horden Bank.

Many fine ascents were made, nevertheless, and a big crowd of spectators thoroughly enjoyed the spectacle. Of the lightweights, Hanks (Royal Enfield), Kershaw (Verus), and Clark (Coulson), impressed us most. F. W. Applebee (Levis) got an ovation. Price (Diamond) was flung up the bank, but he never stopped his engine. He just let his machine slide back on to the road, let in his clutch again, and went happily on—a great stunt. Kershaw never took his feet off the rests—a very neat, clever climb. Baxter's Radco has been geared too high for some of the worse hills. Harden suited him, and he did excellently.

J. F. Lidstone (James) and Eric Williams (A.J.S.) passing through Alston, the highest town in England

C. P. Wood (Scott) on the extraordinary surface of Harden Bank, which resembles on some portions the set lava stream of a volcano.

Most of the passenger machines bounced masterfully up, having a hard bottom for their driving tyres. The Dunelt sc. did excellently for so small an engine. H. F. S. Morgan made a fearsome climb at speed, roaring and rolling. The bigger solo machines had the easiest task, as their weight and speed gave steady steering if they enhanced the personal misery. Frank Applebee (A.B.C.) shot up at a great rate with his feet on the rests. Dance (Sunbeam), of course, was fast. When we got on to a proper road again, we were in the manufacturing district. Everything was black and grimy, a dirty haze hung overhead, and the common objects of the roadside were dogs, children, trams, setts, wool lorries, and pot-holes as big as baths. But the road was wide, the police were encouraging, and there was a miniature T.T. along the streets of Brighouse and Huddersfield to lunch, where another vast crowd awaited us.

The Timed Hill-climb.

A very few miles of dirty streets sufficed to release us from Huddersfield and its horrors, and the sole incident of the afternoon was the timed climb up Holme Moss—a long, easy main road hill with a medium hairpin or two, and lots of spectators. No police were present, the road was open to ordinary traffic, and there was a mild procession of non-competing motors in both directions. For example, just as a Tin Lizzie was trying to overtake a 5-ton lorry on the worst hairpin two sidecar combinations (Sam Wright and Eric Williams) roared round neck and neck, and got thoroughly baulked. Again, when George Dance was roaring up to cut the hairpin, he met a big American twin coming down on the very angle of the bend. Of the baby two-strokes the Velocettes were clearly the fastest round the hairpin; the Blackburne engines of the Verus riders showed very healthy acceleration. The crowd were eagerly waiting for Mrs. Knowles, and she took her Norton up in most workmanlike fashion at a good bat. Seen at the top, Eric Williams (A.J.S.), Bladder (New Imperial), and Fell-Smith (Blackburne) were the most impressive sidecars on a fast straight. Of the rest the James and Velocette babies, with Wills's Verus, were very speedy, whilst Ryecroft (Triumph), Applebee (A.B.C.), and Morgan (Morgan) simply tore past us. When we had cleared the moors above the Woodhead reservoirs we got on to decent Midland roads, switchbacky to Ashbourne and flat through Staffordshire and Warwickshire. High speed was the order of the day. The fringe of spectators by the roadside gradually threatened to become all but continuous. The streets of Lichfield were full. At Coleshill the police had difficulty in keeping a narrow lane open for us to pass, and at Stonebridge every lover of motors in both Birmingham and Coventry had congregated. At Kenilworth the exigencies of hotel accommodation split the trial into two parties bound for Leamington and Warwick respectively. Had Mrs. Knowles's billet been in Coleshill, probably she would have gained a gold medal, for her performance was one of the best in the trial. Fate was against her, however, for in Berkswell a non-competitor emerging from a side road ran into her, with the result that she was rendered unconscious. Thus ended a tiring day.

THE LAST DAY, 113½ Miles. Total 918¼ Miles.

Route: Coleshill, Stonebridge, Kenilworth Warwick, Banbury, Oxford, Henley-on-Thames, Maidenhead, Windsor, Staines, Chertsey, Brooklands.

The last day. Main roads and no secret checks! What a relief to the tired survivors who set out from Coleshill on the last leg of the hardest trial that has ever been organised. The majority took it easy, but others availed themselves of the opportunity to get ahead in order to make adjustments and polish up their machines for the final examination. Toward the end brushes and petrol tins were a common sight. Whilst many machines appeared to be in as good condition as when they started, on passing some of the others we detected strange noises suggesting that the terrible gruelling had left its mark upon the mechanism. The A.J.S. sidecars were in splendid condition, the Triumphs and Scotts were burbling along, while the American representatives—Indian and Harley-Davidson solo models—were causing their riders no anxiety.

Stopped on the wayside we saw a few riders carrying out tyre repairs, and one or two changing covers in the sunshine among green fields. With only a few miles to go, a few punctures were not sufficient to damp the spirits of the unlucky ones, providing that they had sufficient time in hand.

The half-hour's speed-test on the track was a popular feature, and the competitors indulged in real speed work. P. Pehrson (Dunelt) demonstrated the speed of a big single two-stroke with a sidecar.

Near Oxford we came upon Mrs. Knowles, who was so keen to see the finish that, against the doctor's orders, she had accepted the pillion of Grieg's Sunbeam in order to get there. We took her aboard our passenger machine, and proceeded on our way, and shared in the very friendly ovations with which her fellow competitors greeted her. It was evident that they were greatly relieved to see her on the road, for alarming rumours had reached them in their billets in the various Midland towns where they had spent the night. In the 'Varsity city, goodly crowds collected to see the procession. Through Henley, Maidenhead, Windsor, and Staines, the run was just a tour, which would have been boring to the tired riders had not a "gold" been in sight.

Brooklands at last.

Just before two o'clock the leaders were turning into Brooklands race track. Round the bends and through the tunnel they came with smiling faces, then into the paddock to be parked while they had lunch.

Before the last man was in, the brake test had started on the test hill. To prove that one had perfect control over a machine in free engine on a 1 in 4 required an ability to balance at a snail's pace on the part of the solo riders. Only a small minority failed in the test. Knowles could not hold his Hobart, and the brakes on Charlesworth's Zenith were not quite sufficiently powerful to bring him to a stop.

Quite a number of brakes squeaked and squealed, but the great majority were silent. Alexander's Enfield had its wheel locked, and he slithered a little on his steel studs. Among the best performances we saw were Smith's Enfield sidecar, S. Hall's Morgan, de la Hay's Sunbeam, Robbs's N.U.T., Edwards's B.S.A., Strange's James, Batten's P. and M., Hardee's Matchless, White's and Danskin's Rovers, and Longman's Ariel.

Dr. A. M. Low was the judge for this event, and apparently he relied upon his own judgment instead of the watch. Most of the riders came down the hill at less than 1 m.p.h., hence the watch was useless, and Dr. Low, therefore, called upon them to increase speed, and then pull up.

Incidents of the Speed Test.

After this test, the competitors rode to the fork to start their speed test. Here again the regulations appear to have been altered, for although the programme stated that the test was to be for half an hour, the competitors received instruction cards upon which was stated the number of laps which had to be covered at a certain speed.

The table of results on pages 286-7 shows that only a few lost marks in this test. In fact many competitors seemed to cast caution to the winds and indulged in a real speed burst, covering their number of laps well within their time. A number of the competitors had never seen Brooklands, and to ride on it was to realise their dreams, and it says something for modern engines that they stood up to this open throttle treatment at the hands of those who had no previous experience on Brooklands, where an engine requires twice as much lubrication.

Fate had reserved a trick or two for a few unfortunates. The engine of Stobarts's James sidecar, which had done so splendidly during the trial, developed trouble, as did Kaye Don's Zenith. The former was towed in, and the latter did his required number of laps on one cylinder. F. A. Applebee (A.B.C.) actually ran out of petrol, and caused his father (the veteran F.W., or Pa, as he is familiarly known) some anxiety when he did not reappear. E. Redvers Johnson (4½ Humber) got into a speed wobble, and fell heavily, hurting his hands badly. Tonks (New Imperial) ran over a Cowey horn on the track and suffered a fall. Touring bars are not really suitable for track work. Sam Wright's Humber sidecar did all that was required, and he received many congratulations for bringing so small a sidecar through the trial.

THE WINNING SCOTT TEAM IN THE SIX DAYS TRIALS.

Left to right: W. L. Guy, Capt. C. P. Wood, and Geoffrey Hill. In each instance the machines have 3in. Palmer cord tyres, Amac carburetters, with W.S.R. jet adapters, which gave an average of 88 m.p.g., and K.L.G. plugs.

A.C.U. SIX DAYS TRIALS, 1920.

CENTRE: DARLINGTON.

PROVISIONAL RESULTS:—

133 Starters. 33 Retired. 88 Gold Medals. 5 Silver Medals. 1 Bronze Medal.
2 No Awards. 3 Disqualified. 1 Withdrawn.

Basis of Awards: marks credited at the start—200, made up as follows: Reliability 100, Hill-climbing 50, Braking 20, Condition at finish 20. Silence 10. To secure Gold Medals competitors in the respective classes had to obtain the following marks: Solo: 275 c.c., 150; 350 c.c. and 500 c.c., 175; 750 c.c. and 1000 c.c., 180; Sidecars: 500 c.c., 160; over 500 c.c., 175.

Rider and Machine.	No. of Cyl.	Capacity.	Weight.	MARKS LOST. Week's Deviation from Schedule.	Marks Lost on Hills.	Silence.	Speed Test.	Brake Test.	Condition.	Total.	Award.
		c.c.	lb.								
R. H. Baxter (2¼ Radco)	1	211	182	22	40	—	—	—	—	62	Silver medal.
F. W. Applebee (2¼ Levis)	1	247	196	—	—	—	—	—	—	—	Retired Friday.
S. Jones (2¼ Velocette)	1	220	196	2	+ 5	6	—	—	1	4	Gold medal.
N. M. Hall (2¼ O.K.-Junior)	1	246	203	—	—	—	—	—	—	—	Retired Saturday.
H. L. Hanks (2¼ Royal Enfield)	1	225	196	2	5	4	—	—	—	11	Gold medal.
G. Denley (2¼ Velocette)	1	220	196	5	+ 5	6	—	—	—	6	Gold medal.
W. H. Hanley (2½ O.K.-Jun.)	1	246	224	5	20	—	—	4	2	31	Gold medal.
G. Kuhn (2¼ Levis)	1	247	203	10	+ 5	4	—	1	4	14	Gold medal.
J. F. Lidstone (2¼ James)	1	239	224	14	15	6	20	—	—	55	Silver medal.
E. Goodman (2¼ Velocette)	1	220	196	—	+ 5	6	—	—	1	2	Gold medal.
F. Porter (2¼ Levis)	1	247	196	—	+ 5	4	—	—	—	+ 1	Gold medal.
P. W. Bischoff (2½ Clyno)	1	269	175	—	—	—	—	—	—	—	Retired Tuesday.
H. P. Knowles (2¾ Hobart)	1	269	196	137	90	4	—	10	1	242	No award.
H. Gibson (2½ Clyno)	1	269	196	—	—	—	—	—	—	—	Retired Monday.
B. Gold (2¾ Wolf)	1	293	224	—	—	—	—	—	—	—	Retired Tuesday.
B. Kershaw (2¾ Verus)	1	350	252	—	+ 5	—	—	—	1	+ 4	Gold medal.
J. A. Newman (2¾ New Imperial)	1	292	224	—	—	—	—	—	—	—	Retired Tuesday.
F. J. Price (2½ Diamond)	1	293	224	3	—	—	—	—	4	7	Gold medal.
R. B. Clark (2¾ Coulson)	1	349	252	—	+ 5	—	—	—	1	+ 4	Gold medal.
N. A. Woolley (2¾ Redrup)	3	309	224	—	—	—	—	—	—	—	Retired Tuesday.
C. B. Redrup (2¾ Redrup)	3	309	224	—	—	—	—	—	—	—	Retired Monday.
J. W. Wills (2¾ Verus)	1	348	252	5	+ 5	7	—	—	—	7	Gold medal.
H. R. Guest (2¾ Hoskison)	1	349	238	—	—	—	—	—	—	—	Retired Thursday.
L. A. Bees (3½ Beardmore-Precision)	1	350	287	10	25	6	8	—	—	49	Bronze medal.
P. Pike (2¾ O.K.-Union)	1	292	210	—	—	—	—	—	—	—	Retired Monday.
D. Read (2¾ Ready)	1	293	224	—	—	—	—	—	—	—	Retired Monday.
W. J. Lake (2¾ A.J.S.)	1	349	210	—	—	—	—	—	—	—	Retired Tuesday.
L. Horton (2¾ New Imperial)	1	292	224	—	—	—	—	—	—	—	Disqualified.
L. Tonks (2¾ New Imperial)	1	292	224	—	—	—	—	—	—	—	Gold medal.
A. G. Cocks (3½ Beardmore-Precision)	1	350	287	—	10	6	—	—	—	16	Gold medal.
H. Greaves (3½ Beardmore-Precision)	1	350	280	1	10	7	—	—	—	18	Gold medal.
F. A. Applebee (3 A.B.C.)	2	400	294	4	+ 5	2	—	—	5	6	Gold medal.
N. Rycroft (4 Triumph)	1	550	280	—	—	6	—	—	—	6	Gold medal.
G. Dance (3½ Sunbeam)	1	499	308	1	—	4	—	—	—	5	Gold medal.
F. Townshend (3½ Sunbeam)	1	499	308	14	—	4	—	—	—	18	Gold medal.
H. Church (3½ Sunbeam)	1	499	287	—	—	—	—	—	—	—	Retired Thursday.
Capt. R. M. Knowles (3½ Norton)	1	490	287	—	—	—	—	—	—	—	Retired Monday.
A. S. Guthrie (3½ Sunbeam)	1	499	308	1	+ 5	6	—	—	3	5	Gold medal.
Alex. Wilkes (3½ Rover)	2	499	308	—	—	—	—	—	—	—	Retired Thursday.
F. J. Fieldhouse (3½ N.U.T.)	2	499	287	5	10	—	—	—	3	18	Gold medal.
R. C. Winn (3 A.B.C.)	2	398	287	7	5	—	—	—	—	12	Gold medal.
E. A. Edwards (3½ N.U.T.)	2	499	294	—	10	—	—	—	—	10	Gold medal.
W. C. Thomson (3½ N.U.T.)	2	499	280	8	+ 5	1	—	—	—	4	Gold medal.
T. C. de la Hay (3½ Sunbeam)	1	499	315	—	+ 5	4	—	—	—	+ 1	Gold medal.
D. Robb (3½ N.U.T.)	2	499	294	—	+ 5	—	—	—	—	+ 5	Gold medal.
Mrs. O. M. Knowles (3½ Norton)	1	490	308	—	—	—	—	—	—	—	Retired Friday.
D. L. Greig (3½ Sunbeam)	1	499	315	—	—	—	—	—	—	—	Retired Tuesday.
G. Featherstonhaugh (3½ Rover)	1	499	308	—	—	4	14	—	—	18	Gold medal.
H. F. Edwards (3½ B.S.A.)	1	499	294	4	+ 5	8	—	—	—	7	Gold medal.
G. A. Strange (3½ James)	2	495	280	3	10	8	—	—	—	21	Gold medal.
W. G. Harrison (3½ Sunbeam)	1	499	308	—	—	4	20	—	—	24	Gold medal.
H. M. Batten (3½ P. & M.)	1	498	308	—	15	6	—	—	—	21	Gold medal.
F. A. Langman (3½ Ariel)	1	499	294	2	+ 5	4	—	—	—	1	Gold medal.
G. N. Townsend (3½ P. & M.)	1	498	294	—	5	6	—	—	—	11	Gold medal.
J. J. A. Dias (3½ P. & M.)	1	498	280	—	5	6	—	—	—	11	Gold medal.
Capt. Barton (4¼ Dunelt)	1	499	315	—	10	6	—	—	—	16	Gold medal.
G. L. White (5 Rover)	2	654	322	—	—	—	—	—	—	—	Gold medal.
D. H. Davidson (4 Harley-Davidson)	2	584	308	—	—	2	—	—	—	2	Gold medal.
Capt. C. P. Wood (3¾ Scott)	2	532	280	—	+ 5	—	—	—	—	+ 5	Gold medal.
W. Brandish (5 Rover)	2	654	322	—	—	—	—	—	—	—	Gold medal.
J. A. O. Sullivan (4 Harley-Davidson)	2	584	308	—	5	2	—	—	—	7	Gold medal.
B. Alan Hill (3¾ Scott)	2	532	308	—	5	—	—	—	—	5	Gold medal.
E. S. Astley (5 Rover)	2	654	336	—	—	—	—	—	—	—	Disqualified.
D. Danskin (5 Rover)	2	654	308	—	5	2	—	—	—	7	Gold medal.
G. Grinton (4 Harley-Dav.)	2	584	322	—	5	2	—	—	—	7	Gold medal.
G. G. Shemans (4 Triumph)	1	550	280	—	+ 5	6	—	—	—	1	Gold medal.
W. H. Owen (5 Rover)	2	654	308	—	10	4	—	—	—	14	Gold medal.
L. T. Gibson (5 Zenith)	2	654	336	—	+ 5	2	—	—	—	+ 3	Gold medal.
A. Colcombe (4 Indian)	2	596	308	—	5	—	—	—	—	5	Gold medal.

PROVISIONAL RESULTS OF THE A.C.U. SIX DAYS TRIALS, 1920 (Continued).

Rider and Machine	No. of Cyl	Capacity.	Weight.	MARKS LOST. Week's Deviation from Schedule.	Marks Lost on Hills.	Silence.	Speed Test.	Brake Test.	Condition.	Total.	Award.
		c.c.	lb.								
W. Edwards (4¼ B.S.A.)	1	557	280	—	5	4	—	—	—	9	Gold medal.
H. Langman (3½ Scott)	2	532	280	—	+ 5	—	—	—	—	+ 5	Gold medal.
C. Moser (4 Triumph)	1	560	280	1	5	8	—	—	—	14	Gold medal.
E. Cross (4 Triumph)	1	550	287	—	10	6	—	—	—	16	Gold medal.
D. A. Atkin (5 Rover)	2	654	308	—	+ 5	4	—	—	—	+ 1	Gold medal.
W. L. Guy (3½ Scott)	2	532	308	4	+ 5	—	—	—	—	+ 1	Gold medal.
R. W. Duke (4 Triumph)	1	550	280	—	+ 5	6	—	—	—	1	Gold medal.
H. Pattison (4 Triumph)	1	550	280	—	+ 5	6	—	—	—	1	Gold medal.
L. L. Sealey (4¼ B.S.A.)	1	557	315	1	+ 5	4	—	—	—	—	Gold medal.
W. Westwood (4 Triumph)	1	550	280	—	+ 5	8	—	—	—	3	Gold medal.
G. W. Ellis (4 Norton)	1	633	294	—	—	—	—	—	—	—	Retired Monday.
F. Turvey, Jun. (4¼ B.S.A.)	1	557	294	2	—	4	—	—	—	6	Gold medal.
H. Taylor (3½ Scott)	2	532	280	—	+ 5	—	—	8	—	3	Gold medal.
G. Hill (3½ Scott)	2	532	280	—	+ 5	—	—	—	—	+ 5	Gold medal.
H. Green (4 Triumph)	1	550	280	—	+ 5	6	—	—	—	1	Gold medal.
F. G. Edmond (4 Triumph)	1	550	280	2	+ 5	6	—	—	—	3	Gold medal.
L. Crisp (4¼ Humber)	2	600	308	1	+ 5	—	—	—	—	+ 4	Gold medal.
H. F. O. Evans (4¼ Humber)	2	600	315	2	10	—	—	—	—	12	Gold medal.
E. R. Johnson (4¼ Humber)	2	600	336	3	5	2	—	—	—	10	Gold medal.
T. Peck (4¼ Ariel)	1	610	336	—	—	—	—	—	—	—	Retired Thursday.
L. Newey (4¼ Ariel)	1	610	322	—	+ 5	6	7	—	—	8	Gold medal.
Capt. J. L. Stocks (4¼ Ariel)	1	610	336	1	+ 5	6	—	—	—	2	Gold medal.
W. J. Chambers (4¼ B.S.A.)	1	557	322	—	+ 5	8	—	—	—	3	Gold medal.
R. E. Darnton (7-9 Indian)	2	997	420	—	—	—	—	—	—	—	Retired Friday.
V. Gayford (6 Zenith)	2	770	357	—	—	8	20	—	2	30	Silver medal.
Kaye Don (6 Zenith)	2	770	336	—	+ 5	6	13	—	—	14	Gold medal.
G. W. Lush (3 A.B.C. sc.)	2	400	420	—	—	—	—	—	—	—	Retired Monday.
E. E. Palmer (3 A.B.C. sc.)	2	400	420	—	—	—	—	—	—	—	Retired Friday.
P. Pehrson (4¼ Dunelt sc.)	1	499	476	—	25	6	—	2	3	36	Gold medal.
C. Williams (6 A.J.S. sc.)	2	748	560	—	10	—	—	—	—	10	Gold medal.
J. Cooper, Jun. (6 A.J.S. sc.)	2	748	616	—	10	—	—	—	—	11	Gold medal.
H. R. Davies (6 A.J.S. sc.)	2	748	588	—	5	2	—	—	—	7	Gold medal.
W. J. Montgomery (5-6 Rover sc.)	2	634	504	—	—	—	—	—	—	—	Retired Tuesday.
S. Wright (4¼ Humber sc.)	2	600	476	6	—	4	—	—	—	10	Gold medal.
A. L. Crouch (5 Rover sc.)	2	654	476	5	15	6	—	—	2	28	Silver medal.
E Williams (6 A.J.S. sc.)	2	748	567	—	5	—	—	—	—	5	Gold medal.
S. Sawer (4 Norton sc.)	2	633	448	—	—	—	—	—	—	—	Retired Tuesday.
O. Wade (6 A.J.S. sc.)	2	748	588	5	10	2	—	—	—	17	Gold medal.
A. Joynson (5-7 Coventry-Victor)	2	688	504	—	—	—	—	—	—	—	Retired Wednesday.
G. E. Stobart (7 James)	2	749	560	—	5	4	—	—	5	14	Gold medal.
G. Packman (8 Matchless sc.)	2	968	644	2	+ 5	2	—	—	3	2	Gold medal.
G. Nott (8 Matchless sc.)	2	992	616	—	5	2	—	—	—	10	Gold medal.
F. J. Watson (6 Ariel sc.)	2	798	504	—	—	—	—	—	—	—	Retired Tuesday.
F. J. Ellis (8 Matchless sc.)	2	992	658	—	5	—	—	—	—	5	Gold medal.
G. Hardee (8 Matchless sc.)	2	992	644	1	25	—	—	—	—	26	Silver medal.
H. Colver (8 Matchless sc.)	2	998	644	—	—	—	—	—	—	—	Retired Thursday.
L. G. Bachelier (8 Blackburne sc.)	2	998	588	—	—	—	—	—	—	—	Retired Monday.
J. H. Place (8 Dot-Jap sc.)	2	980	560	—	—	—	—	—	—	—	Retired Tuesday.
B. Bladder (8 New Imp sc.)	2	980	532	—	—	4	—	—	1	5	Gold medal.
H. E. Ashley (6 L.M.C. sc.)	2	842	476	—	—	—	—	—	—	—	Retired Tuesday.
H. F. S. Morgan (8 Morgan)	2	980	756	—	—	6	—	—	—	6	Gold medal.
T. James (8 Morgan)	2	980	784	—	—	—	—	—	—	—	Disqualified.
T. J. Ross (8 Matchless sc.)	2	992	644	—	+ 5	2	—	—	—	+ 3	Gold medal.
W. E. Smith (8 Enfield sc.)	2	998	532	—	—	8	—	1	—	9	Gold medal.
H. Jepson (8 Zenith sc.)	2	988	560	44	30	8	20	—	—	102	No award.
A. F. Knight (8 Clyno sc.)	2	925	644	—	—	—	—	—	—	—	Withdrawn Tuesday.
D. Alexander (8 Enfield sc.)	2	998	532	1	+ 5	8	—	1	—	5	Gold medal.
W. A. Fell-Smith (8 Blackburne sc.)	2	998	560	—	15	—	—	—	—	15	Gold medal.
Capt. R. Charlesworth (8 Zenith sc.)	2	976	588	4	5	6	—	3	—	18	Gold medal.
E. Foster (8 Dot-Jap sc.)	2	980	560	—	—	—	—	—	—	—	Retired Friday.
H. Reed (8 Dot-Jap sc.)	2	980	560	—	—	—	—	—	—	—	Retired Tuesday.
S. Hall (10 Morgan)	2	1000	756	2	+ 5	8	—	—	—	5	Gold medal.
F. James (10 Morgan)	2	1100	812	8	5	8	—	—	—	21	Gold medal.
F. Boddington (10 Morgan)	2	1100	812	—	—	—	—	—	—	—	Retired Tuesday.

SPECIAL AWARDS.

MANUFACTURERS' TEAM PRIZE.

	Marks Lost.
Scott Motor Cycle Co., Ltd.	+ 11
Triumph Cycle Co., Ltd.	5
Veloce, Ltd.	12
B.S.A., Ltd.	13
Harley-Davidson Motor Co., Ltd.	10
N.U.T. Motor Co., Ltd.	17
Humber, Ltd.	18
John Marston, Ltd.	22
A. J. Stevens & Co., Ltd.	22
Enfield Cycle Co., Ltd.	25
New Rover Cycle Co., Ltd.	25
Morgan Motor Co., Ltd.	22
Phelon & Moore, Ltd.	38
James Cycle Co., Ltd.	90
Zenith Motors, Ltd.	101

CLUB TEAM PRIZE.

Worcester and District M.C.C.	23
(No other club team qualified.)	

PRIVATE OWNERS' TEAM PRIZE.

1. R. W. Duke's team of Triumph riders (R. W. Duke, N. Rycroft, and W. Westwood)	10
2. F. J. Ellis's team of Matchless riders (F. J. Ellis, G. D. Hardee, and G. Nott)	41

N.E.A.A. SPECIAL PRIZE.

	Marks Lost.
1. F. Turvey (4¼ B.S.A.)	6
2. J. Cooper, Jun. (6 A.J.S. sc.)	11
3. F. J. Fieldhouse (3½ N.U.T.)	18

Ex-D.R.'s PRIZE.

1. W. Westwood (4 Triumph)	3
(Formula on hill-climb, 207.)	
2. H. Taylor (3½ Scott)	3
(Formula on hill-climb, 247.)	

HOLME MOSS RESULTS.

CLASS A.

	Marks
1. E. F. Goodman (2¾ Velocette)	144
2. G. Denley (2¼ Velocette)	156
3. J. F. Lidstone (2¼ James)	163

CLASS B.

1. F. J. Price (2¼ Diamond)	145
2. J. W. Wills (2¾ Verus)	175
3. R. B. Clark (2¾ Coulson)	192

CLASS C.

1. K. Robinson (3 A.B.C.)	138
2. T. C. de la Hay (3½ Sunbeam)	178
3. R. C. Winn (3 A.B.C.)	18

CLASS D.

	Marks.
1. G. Grinton (4 Harley-Davidson)	175
2. H. Pattison (4 Triumph)	186
3. F. Turvey, Jun. (4¼ B.S.A.)	198

CLASS E.

1. K. Don (6 Zenith)	216.6
2. V. Gayford (6 Zenith)	216.7

CLASS G.

P. Pehrson (4¼ Dunelt)	188

CLASS H.

1. G. E. Stobart (7 James)	170
2. E. Williams (6 A.J.S.)	183
3. J. Cooper, Jun. (6 A.J.S.)	185

CLASS K.

1. H. F. S. Morgan (8 Morgan)	165
2. G. Packman (8 Matchless)	202
3. T. J. Ross (7 Matchless)	220

CLASS L.

F. James (10 Morgan)	141

Mrs. O. M. Knowles (Norton) will be the recipient of a special prize subscribed for by fellow competitors.

CURRENT CHAT

Special Features.

A.C.U. SIX DAYS TRIALS
THE GRAND PRIX.
A RAG-BAG OF RECOLLECTIONS.

Times to Light Lamps

Sept.	2nd	... ...	8.14 p.m.
,,	4th	... ...	8.10 ,,
,,	6th	... ...	8.5 ,,
,,	8th	... ...	8.1 ,,

Reunion of 47th Division D.R.'s.

A meeting of D.R.'s who were with the 47th London Division Signal Co. is to be held on September 18th. All who desire to be there should write to Mr. J. C. Stuart Richardson, 8, Cemmaes Terrace, Hemel Hempstead, who will supply full particulars.

A.C.U. Midland Centre.

Delegates from eight clubs in the area of the proposed A.C.U. Midland Centre met in Birmingham recently. Maj. R. Vernon C. Brook was in the chair, and the following club delegates were present:

W. H. Egginton and E. W. Winckle (Birmingham M.C.C.), G. E. Roberts and J. F. Spencer (Coventry and Warwickshire M.C.), J. G. Nickson and W. H. Walker (Kidderminster M.C.C.), F. C. Dawes and F. J. Urry (M.C. and A.C.), H. S. Uzzell and H. Warden (S. Birmingham M.C.C.), S. F. Barnes and W. Douall (Stourbridge M.C.C.), W. Bishop and A. O. Haskins (Wolverhampton M.C.C.), J. Howell and J. A. Newman (Worcester and District M.C.C.).

The Centre also receives the support of the Nuneaton and District M.C.C., Redditch M.C.C., and the Sutton Coldfield and North Birmingham A.C. The Worcester club, however, through its delegates, stated that it wished to form a centre of its own, but after discussion it was decided that the time was not yet ripe for two centres within twenty-five miles of each other.

Mr. E. W. Winckle was elected secretary, and the Sutton Coldfield club was asked to nominate a member to act as treasurer.

The Late Mr. A. E. Walker.

We very much regret to have to announce the death of Mr. A. E. Walker, who was formerly designer to, and manager of, the motor cycle department of Messrs. Hobart, Bird, and Co., of Coventry. Mr. Walker was a brother of Miss May Walker, who is a frequent contributor of articles to this journal on motor cycle topics for ladies. The late Mr. Walker was in the A.S.C., M.T. during the war, and before and since he rode in numerous competitions, and gained three gold medals in three successive London to Edinburgh trials. It was after the last of these runs that he was taken seriously ill, and he never entirely recovered. Mr. Walker, who is brother of Mr. W. J. Walker, of St. Albans, a well-known builder of motor car bodies, and also an enthusiastic motor cyclist, was only twenty-nine years of age, and his death will be a sad shock to his many friends.

Surbiton Hill-climb.

On Saturday the 4th inst. a members' hill-climbing competition will be held on a gradient a mile outside Dorking. There are approximately eighty entries in the light classes. Prizes will be awarded for time and formula results.

Price of Petrol.

The opinions which were freely mooted at the time of the proposals to withdraw the tax on petrol are already being justified. On Monday last the announcement was made that spirit would be raised in price from sevenpence to elevenpence per gallon according to quality. No preliminary statement was made, and the new figures were charged at once. Benzole controlled by the petroleum companies has also been advanced by sevenpence per gallon. Such an unwarranted increase clearly shows how the future of the whole motoring movement is in the hands of a monopoly, and it is surely high time that the Government took steps to further the introduction of new, and the development of existing, home fuel supplies.

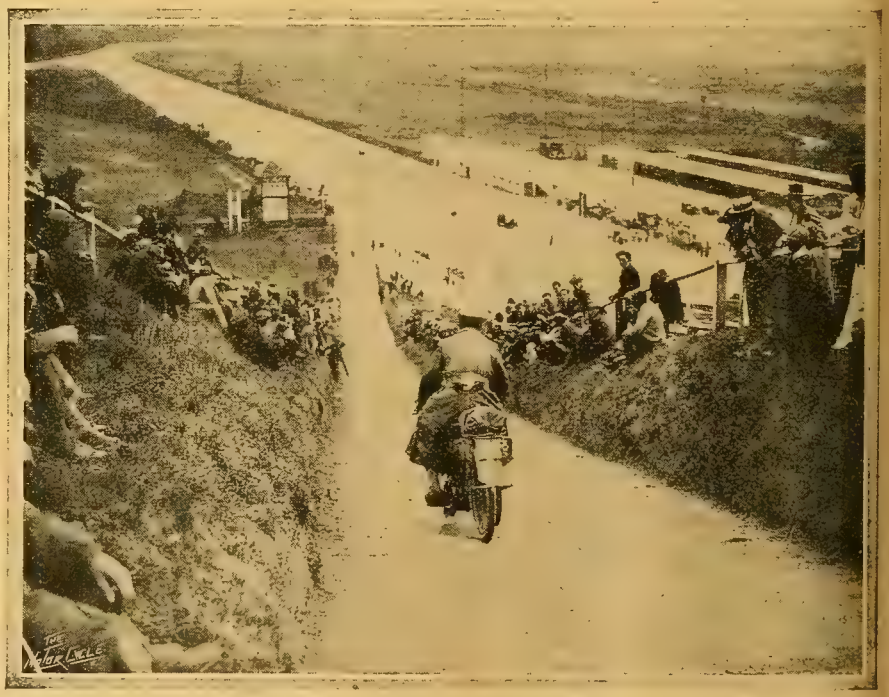
Singer take over Coventry Premier.

We are authoritatively informed that the Singer Co., Ltd., has purchased the entire undertaking of Coventry Premier, Ltd. The three-wheeled runabout will still be produced as heretofore under the name Coventry Premier, but the management will be under the control of the directors of the Singer Co. This new arrangement came into effect yesterday, the 1st inst.

The Scott Trial.

On Saturday many of the hills included in the recent Six Days Trials will be revisited by the competitors in the annual sporting event organised by the Scott Motor Cycle Co., Ltd. Instead of being given a 15 m.p.h. schedule over such sections as Park Rash, a speed of 20 m.p.h. must be maintained over a course which is infinitely worse.

Quite a sporting day is anticipated, as the event is one which appeals to those riders who enjoy rough country conditions. The start is from Otley, at 11 a.m., and the route is via Dob Park, Fewston, Blubberhouses, West End, Appletreewick, Grimwith Reservoir, Burnsall, Hebden, Coalgrove House, Grassington, Kilnsey, Malham Tarn, Darnbrook, Kettlewell, Park Rash, Carlton, The Scar, Pateley Bridge, Middletongue, Greehow, and Burnsall. The route can be followed easily on Sheet No. 6 of Bartholomew's "two-miles-to-the-inch" maps, and North Country riders should endeavour to see the fun at one or other of the points of interest.



IN THE A.C.U. SIX DAYS TRIALS.
The brake test in free engine on the 1 in 4 hill at Brooklands. F. J. Lidstone (2¼ James).

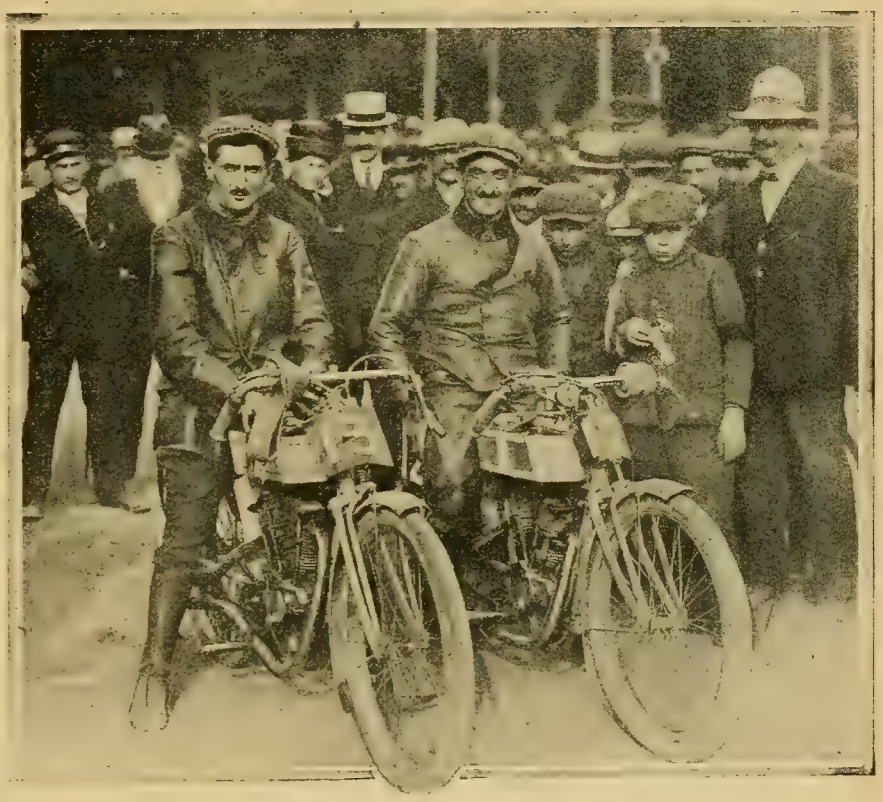
THE GRAND PRIX.

A Chapter of Accidents on the Circuit de la Sarthe at Le Mans. Only One Machine finishes in 500 c.c. Class.

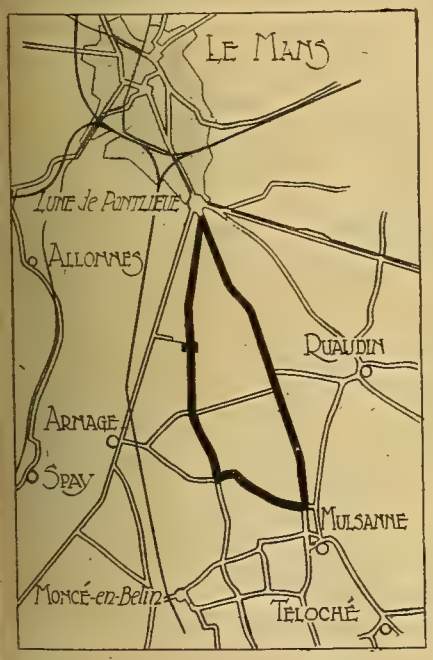
THE Grand Prix of the Union Motocycliste de France, held at Le Mans on Saturday last, was won (in the 500 c.c. class) by Jolly on an Alcyon, which covered the twenty-two laps (233 miles) in 5h. 16m. 13s. In the 350 c.c. class the winner was Bartlett, on a Verus, who covered twenty laps (212 miles) in the same time. The winner in the 250 c.c. class was Mourrier, on a Thomann two-stroke, which covered sixteen laps (170 miles) in 4h. 4m. 33s. Cleck, on a motosolo, took second place in 4h. 46m. 12s. No other machine finished the race within time allowance.

The course, which lies to the south of Le Mans, is triangular, and has a total length of about ten miles. Of the three classes, the 250 c.c. machines were required to make sixteen circuits (170 miles), the 350 c.c. machines twenty circuits (212 miles), and the 500 c.c. machines twenty-two circuits (234 miles), and the competitors were started in groups according to their classes, the smallest going away first at six o'clock, and other classes at intervals of one minute. In consequence, the start was a fine sight. Five minutes before his class was due to go Alexander, on one of new chain-driven Douglases, discovered a big nail in his rear tyre, and was left behind when his group started. He got away with a delay of about three minutes, but, riding magnificently, he got the lead after two laps.

Competition was very keen at the beginning of the race, particularly between the Peugeot, Alcyon, and Douglas teams; mechanical troubles, however, developed early. Devaux on a 3½ h.p. Peugeot, who had been in front on the first lap, broke his front fork, and had a bad spill, although he was not injured. After four laps, Péan, another Peugeot rider, who had been in second place, had to retire with a broken change speed gear, leaving only Perrin of this team in the race



Jolly, the winner of the 500 c.c. class in the Grand Prix. He rode an Alcyon, and is seen with his colleague, who rode a machine of the same make.



The Grand Prix course is a triangular circuit of about ten miles.

Franco-British Duel on Douglases.

For a considerable time there was a very keen contest between Jolly (Alcyon) and Alexander (Douglas), the latter's machine was slightly the faster, and kept the lead except for a short time after stopping to fill up. The Alcyon which got ahead then did not hold its advantage long, for Alexander again rode into first place, and after sixteen laps had a lead of about 20m. At this point, however, the second gear of the Douglas stripped, probably owing to the fact that these machines have no clutch. With this handicap, it was very difficult for Alexander to make hairpin turns, and after stalling on one corner he found it impossible to get away again unaided, and was ordered off the course after having been pushed. The machine had shown such remarkable speed and had been so well handled that this decision caused general regret.

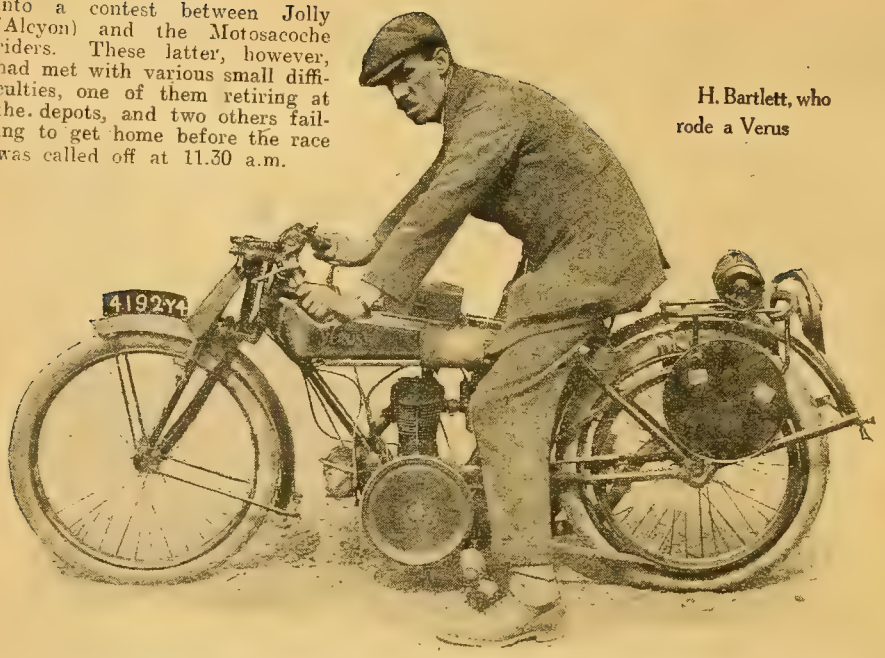
Kickham (Douglas) broke a valve early in the race, while Doisi, also on a Douglas, was held up at an early hour with stuck carburetter throttle, and later abandoned the race owing to a broken shock absorber. Of the three members of the A.B.C. team, only Borgotti covered the entire distance, but he came in one minute too late to get official recognition for the performance. Yenne fell, and Naas was eliminated by a flying stone from a competitor's machine, which broke his cylinder head and damaged a valve. Naas was also fined 100 francs for going round the course the wrong way. Vuillamy, on an Alcyon, abandoned the race at the replenishment pits, a statement being made that he was tired.

A New Vertical Twin.

The new Blériot machines, which appeared for the first time in a speed contest, met with ill luck. Paumier had to abandon very early with a broken clutch, Berlié broke his valve gear, and Brunet failed to finish within the time limit. The machines, while on the same general lines as stock Blériots, had special engines with two side-by-side cylinders having four overhead valves for each.

By reason of the mechanical accidents to Peugeot, Alcyon, and A.B.C. machines, the race resolved itself towards the end

into a contest between Jolly (Alcyon) and the Motosacoche riders. These latter, however, had met with various small difficulties, one of them retiring at the depots, and two others failing to get home before the race was called off at 11.30 a.m.



H. Bartlett, who rode a Verus

In the 350 c.c. class, the winner proved to be the Englishman, Bartlett, on a Verus machine. His companion, Copus, was put out with a broken gear box, while Lehmann, the only Alcyon rider in this class, had a nasty fall, due to a broken mudguard catching in the front wheel. Louis on the 250 c.c. Alcyon broke his rear mudguard stays, and fastened the wreckage on to the carrier; this being considered an infringement of the rules, he was disqualified.

This is the first time in the history of French motor cycle racing that only one machine out of nineteen finished in the 500 c.c. class. Such a result, however, may be attributed to the fact that the roads, while being very fast, had very rough surfaces, which were extremely destructive to machines.

The following is a list of machines which were entered, the driver's name being in parentheses:

250 c.c. CLASS.

Thomann (Marc).
Motosolo (Dubost).
Motosolo (Cleck).
Alcyon (Louis).

350 c.c. CLASS.

Alcyon (Lehmann).
Alcyon (Guiguet).
Motosacoche (A. Frey).
Motosacoche (F. Pélissier).
Motosacoche (Rolly).
Verus (H. W. Copus).
Verus (H. Bartlett).

500 c.c. CLASS.

Alcyon (Jolly).
Alcyon (——).
Rudge Multi (Pierre Duverne).
Rudge Multi (——).
Peugeot (Paul Péan).
Peugeot (Desvaux).
Blériot (Brunet).
Blériot (Berlié).
A.B.C. (Naas).
A.B.C. (Detruche).
A.B.C. (Borgotti).
A.B.C. (Emerson).
Motosacoche (A. Millaud).
Motosacoche (Pélissier).
Motosacoche (A. Robert).
Douglas (Diosi).
Douglas (Alexander).
Douglas (Kickham).
Peugeot (L. Perrin).
Blériot (Paumier).

TWO-STROKE SUCCESS IN CYCLE CAR RACE.

Promptly at noon, or only half an hour after the motor cycle race finished, the Cycle Car Grand Prix began, competitors being sent away in pairs at intervals of 30s. There were fifteen starters, the Soriano and Automobilette teams failing to appear.

Violet, on the 10 h.p. Major, set a very fast pace, gaining nearly 2m. on his nearest competitor, Ware (Grand Prix Morgan), on the first lap. The latter machine was well handled, however, and, although it was never first, it made a very good impression until half-distance, when, on being stopped for overheating, water was put in while the engine was too hot, thus cracking a cylinder jacket. About the same time one of the chains had to be replaced, and, although the cracked jacket was patched up, the machine failed to show again its original speed, and never recovered its lost position.

The cycle car competitors were soon thinned out. Saindford, on the other Morgan, disappeared on his initial lap owing to magneto trouble. Fournier, on a machine of his own make, retired on his first lap, as did Lucien Noel (Noel), who broke a wheel. Jourdain (Jourdain) was ruled off the course about half-distance after having lost all mudguards. The Tom Pouce machine, driven by Coquillat, abandoned the race very early. Erders (Major) pulled a tyre off the rim when cornering, and, getting on to rough ground, broke the steering gear before half of the sixteen laps (170 miles) had been run.

The race became a contest between three or four machines. Violet, who was formerly of the Violet Bogey Co. and who is now responsible for the Major cycle car, got the lead and was never seriously challenged after the Morgan's trouble with the water jacket and replacement of chains. The latter machine had not finished when the race was called off. Violet's victory was somewhat easy, but is remarkable by reason of the fact that this is the first time that a two-stroke cycle car has beaten four strokes in open competition.

The engine on this machine has two cylinders, having a common combustion chamber. Crank case compression is employed, and admission is by one cylinder and exhaust through the other; it is declared that the engine develops 30 h.p. The fuel consumption was rather high, being between forty-five and fifty litres for the entire distance (170 miles).

Leveque (Ruby) finished second. An exciting incident in connection with this car occurred after stopping at the pits. The driver, not noticing that his mechanic had failed to get into the seat, started away, while the mechanic clung to the side, and was dragged along the ground twenty to thirty yards.

Hawkes, on a G.N., appeared to be holding his car in reserve, and ran with considerable regularity, but never showed great speed compared with the French machines, and when the race was called off at five o'clock he still had a lap to go. Blanc (Tom Pouce) was also running at the end.

There were two machines in the 750 class, but both came to the pits and retired before the end of the race.

The results were as follow: Violet (Major), 3h. 37m. 39s.; Leveque (Ruby), 3h. 48m. 27s.; Louis Noel (Noel), 4h. 32m. 3s. Ware (Morgan), Hawkes (G.N.), and Blanc (Tom Pouce) were all running when the race ended.

A scene during the weighing in of the Grand Prix machines

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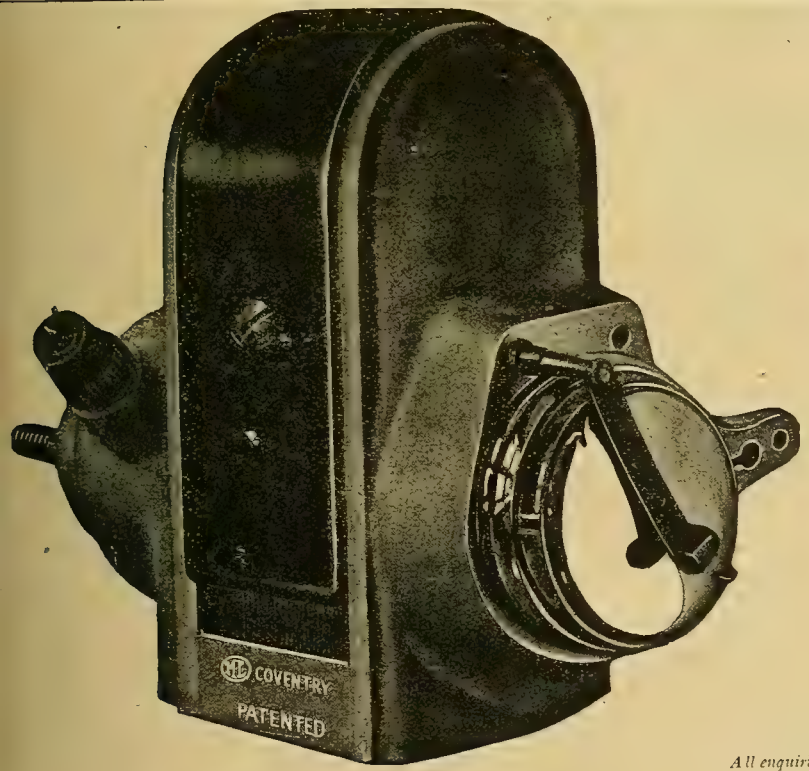

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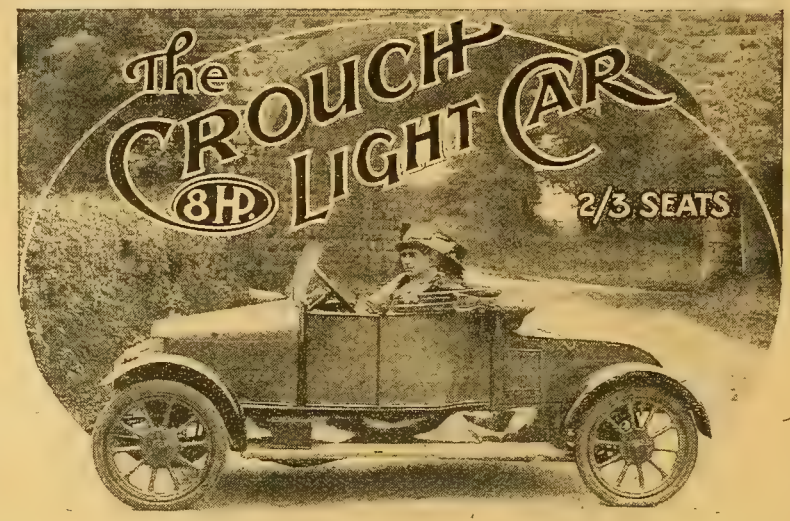

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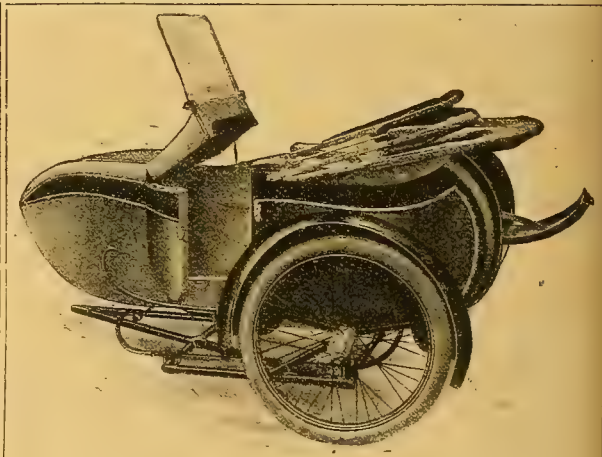

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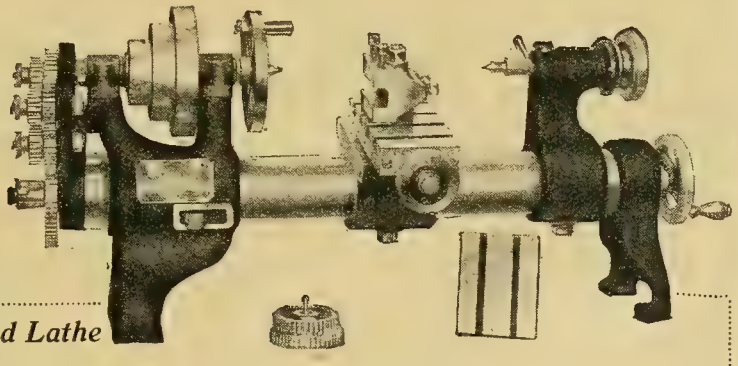

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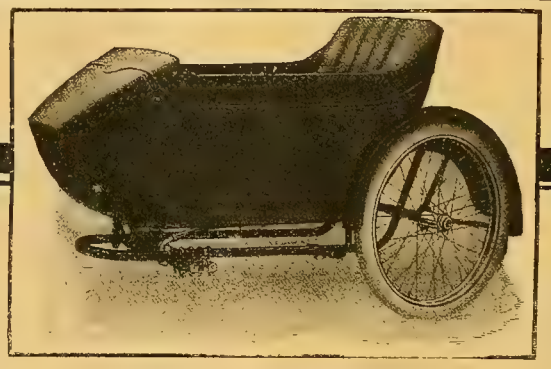

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MAUDE'S MOTOR MART

MOTOR CYCLES FOR SALE.

Ariel.

CYRIL WILLIAMS, for early delivery of Ariels.—Chapel Ash Depot, Wolverhampton. [2267

ARIEL 3½h.p. 1919 (Nov.) Combination, low mileage, as new; offers over 110.—Caley, Egham, Surrey. [5718

1920 Ariel Combination, luggage carrier, speedometer, lamps, etc.; £145.—62, Southgate St., Gloucester. [5061

ARIEL, all models, early deliveries; all parts stocked. —F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [7414

ARIEL, 3½h.p., 3-speed, countershaft, immediate delivery; list price.—F. Speakman, Ariel Expert, Harpurhey, Manchester. [5672

1920 6-7h.p. Ariel Twin, with or without sidecar unridden; accept nearest offer to makers' price. —Rogers, Baker, Pilton, Somerset. [5759

1918 Ariel Combination, fitted up complete, just been overhauled, and new parts fitted; bargain, £115; any trial.—Box 7,379, c/o *The Motor Cycle*. [5084

1920 6-7h.p. Ariel Combination, with hand and foot-controlled clutch; £178/10; delivery from stock.—Julian, 84, Broad St., Reading. 'Phone: 1024. [5236

ARIEL Motor Cycle Combination, 6-7h.p., brand new, unpacked; cost £183, will accept £160; customers unable to accept same; references.—Box 526, c/o *The Motor Cycle*. [5147

ARIEL Countershaft Models, solo or sidecar, in stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., N.W.1 ('Phone: 5476 Museum). [1096

ARIEL 1920 6-7h.p. Combination, 3 lamps, special bulbous back sidecar, insurance policy; £165, or offer; smaller power wanted; exchange for B.S.A.—Eagleton, Westgate, Mansfield. [6225

MAUDES'.—Latest 1920 6h.p. twin Ariel, 3-speed model, complete with sidecar; £172/10; ex actual stock; deferred payments arranged.—Maudes, 100, Gt. Portland St., W.1. [6208

GENUINE Bargain.—Ariel 1917 combination, electric lighting, 3-speed countershaft, clutch, kick starter, speedometer, new condition; £95, or part exchange furniture, player-piano.—30, Molewood Rd., Hertford. [6069

ARIEL 1917 5-6h.p., engine A6040, Henderson sidecar, tools, many spares, unused, 3 belts, 2 tubes, all lamps, Cameo apron, grid, petrol carrier, overalls, insurance, buying car, any trial, ride 100 miles; £135.—76, Hunter House Rd., Sheffield. [X0135

ARIEL 3½h.p., sidecar, believe 1914, Bosch, B.B., 3-speed hub, kick start, lamps, accessories, wind screen, perfect order, front wheel rebuilt and new piston December, 1919; £70.—Burns, Wall's Garage, 30, Aldenham Rd., Bushey, Herts. [6129

1920 Ariel Combination, delivered in June, condition as new, hand and foot clutch, large P. and H. head lamp, spares, complete tool kit, mileage about 1,200; owner going abroad; nearest offer to £145.—Apply, Cox's Shipping Agency, 16, Charing Cross. [5086

ARIEL (1919, September) 3½h.p. Combination, Watsonian £33 sidecar, new May, 1920, Easting, spring footboards, electric lighting, 7in. head, Lucas and mechanical horns, tools, many spares, valves, tube, new tyre; nearest £135.—Ellis, 46a, Stondon Park, S.E.23. [5484

ARIEL 3½h.p. C.B. Combination, Scottish Six Days gold medallist, complete with new Aug. 1920 3-speed clutch, kick start, gate change gear box, discs, toolbags, lamps, wind screen, spares, etc., fastest 3½ on the road, absolutely as new; £85.—Kett, 152, Peckham Park Rd., Peckham, S.E.15. (opposite Trafalgar Square). [5544

Auto-Wheels.

AUTO-WHEEL, B.S.A., perfect; £13.—J. Clare Sleaford. [5

B.S.A. Auto-Wheel, as new; £15/10, offers.—C7, Copenhagen Rd., Gillingham, Kent. [5027

WALL Auto-Wheel, de luxe, B.S.A., new tyre; £12. Bashforth, Hoylandswaine, Penistone, Sheffield. [X0057

AUTO-WHEEL, good condition, little used, recently overhauled; 10 gns.—N. Paine, Springfield, Scotstounhill, Glasgow. [X0032

AUTO Wheel, 1920 Model de Luxe, in stock; immediate delivery, £27/10.—Wilkins, Simpson, opposite Olympia, London. [3885

WALL 4h.p., 2-speed, hand or foot starting, nice running order, well equipped, with comfortable C.B. sidecar; sell £65; wanted, lightweight solo.—85, Church Rd., Willesden. [6295

Bat.

1920 Bat, Model 4, new, immediate delivery; £160. —Wright's Garage, Saffron Walden. Tel.: 16. [6193

BAT, Model Four, in stock, new, 6h.p.; £160.—Clark, 7 Exhibition Rd., South Kensington. [6169

BAT New Unused 8h.p. Combination; list price £205, offers.—Manley, Holmsleigh, Hessle, Hull [6268

BAT and Grindlay Sidecar, just arrived from works; £205.—Alex. Thom, 201, City Rd., Cardiff. [5102

MOTOR CYCLES FOR SALE.

Bat

5-6h.p. Bat, C.B. sidecar, Bosch, B. and B., good condition; £50.—Fruit Farm, Childerditch, Brentwood. [5279

BAT-J.A.P. 8-10h.p. Combination, 2-seater sidecar. —Pado. 2423. 89, Abbey Rd., St. John's Wood, N.W.8. [6197

BAT.—Immediate delivery 1920 6h.p. Countershaft, 3 speeds model.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0016

BRAND New 8h.p. Spring Frame Bat Combination, just delivered; list price, or near offer.—Locke, Blakesley, Northants. [5401

1920 8h.p. Bat-Jap Combination, electric light, too fast for owner; £200 right away.—16, Seldon St., Battersea, S.W. [5705

BAT 1920 Combination, spring frame, and sidecar, excellent condition; £170.—Clark, 7, Exhibition Rd., South Kensington. [6170

BAT-J.A.P. 8h.p. Racing Model, 90 bore, overhead valves, very fast, and just tuned up by Brooklands expert; £50.—Below.

BAT-J.A.P. 1920 6h.p. Twin, spring frame, 3-speed, chain drive, Henderson Elite sidecar finished to match, complete combination; £205; immediate delivery.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0070

5-6h.p. Bat-J.A.P., speeds, new tyres, condition excellent, lamps; £55; exchange lower power.—Hillside, Beechwood Rd., Leagrave, Luton. [6124

BAT-J.A.P. 1920 Combination, 6h.p., 3-speed, kick starter, clutch, T.T. bars, latest Easting wind screen; £185.—Pollard, Weston Rd., Stevenage. [5251

1920 Bat-Jap Combination, Swan sidecar, F.R.S. lamp set, speedometer, real sporting outfit; £170.—Grimes, 18, Bruton Place, Bond St., W.1. [5954

BAT-J.A.P. 6h.p. C.B. Combination, 2-speed, K.S., clutch, speedometer, lamps, horn, child's seat, everything good; trial; £70.—186, Greenford Av., Hanwell. [5185

NEW 1920 Bat Model No. 4, 6h.p., 3-speed, all-chain drive, immediate delivery from stock, £160; sidecar to match, £30.—Sole Birmingham agents, The Premier Motor Co., Aston Rd., Birmingham. [5548

8h.p. Bat-Jap Combination (September, 1919), Easting, Cowey, 3 lamps, 2 generators, spare chains, tyre, tubes, insurance until August, 1921, perfect; any trial; £170.—Battye, Mercer Lea, Deepcar, Sheffield. [5911

BRAND New 6h.p. Spring Frame Bat, 3-speed, countershaft gear, kick starter and clutch, all chain drive model; £160, solo; or can be fitted with any make of sidecar to order.—Wauchope's, 9, Shoe Lane, London. [2044

1920 6h.p. Bat Combination, extra large sidecar, Eastings wind screen, lady's tan saddle with back and footrests, finished in grey and nickel, a real smart turnout, delivered late in June; cost complete £216/10; only used for the holidays; will accept £190.—Woodward, South Av., Stourbridge. [X9880

BAT, 90×77½ o.h.v., in new condition, having new pistons, rings, gudgeons, bushes, ball bearings, valves, J.S.N. tyres, tubes, hubs, Zenith carburetter, saddle, lamps, etc., plated and stove enamelled black and gold, the overhaul costing over £40; open to critical expert examination and any trial; £86.—L., 4, Carlton Terrace, Child's Hill, N.W.2. 8390 Hampstead. [6405

Beardmore

BEARDMORE-PRECISIONS; delivery 7 days; £95. —Grandex, 138, Gray's Inn Rd., W.C. [1216

BEARDMORE-PRECISION 3h.p. 2-stroke, spring frame.—Longman, Fisherton, Salisbury. [6242

BEARDMORE-PRECISION, slightly soiled; £95 with hooter.—Turpin, 29, Preston Rd., Brighton. [0202

BEARDMORE Precision, just delivered, unregistered; what offers? Bought car.—Cook, Millfield, Grimsby. [X0072

BEARDMORE-PRECISION, ridden 20 miles, with horn, perfect condition; owner bought combination: £93.—Allport House, Cannock. [X0238

BEARDMORE-PRECISION, the perfect solo mount, deliveries from stock; £95.—Hewin's Garages, Ltd. the Real Service Firm, Taunton. [5391

Blackburne.

NEW 4h.p. Blackburn, immediate delivery; £135.—Maudes' Motor Mart, 100, Paris St., Exeter. [5965

NEW 4h.p. Blackburne, list price, immediate delivery.—Harper, Mount Pleasant Rd., Wallasey. [X9953

4h.p. Blackburne, 1920, unscratched, carefully run in, perfect order; £115.—Box 7,499, c/o *The Motor Cycle*. [6401

WAUCHOPE'S, 9, Shoe Lane, London.—Blackburne 8h.p., £180; with Grindlay sidecar, £225; 4h.p. model solo, £135. [6410

8h.p. Blackburne Combination from stock; list price. —A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214 [6381

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2¾ h.p. **NEW IMPERIAL**, with clutch and kick-starter £89 5
8 h.p. **NEW IMPERIAL** 3-speed Combination £186 18
3½ h.p. **LEA-FRANCIS**, 2-speed, M.A.G. engine £130 0
JAMES, 2-speed, 2-stroke £75 0
OLYMPIC, 2-speed, 2-stroke, with clutch and kick-starter £80 0
DIAMOND, 2-stroke, single-gear £55 10
4½ h.p. **B.S.A.**, 3-speed, all-chain, and Sidecar £152 0
3½ h.p. **RUDGE-MULTI**, Isle of Man model £110 5
ALLON, 2-speed, 2-stroke, clutch, and kick-starter £85 0
8 h.p. **ZENITH**, sports model £139 0
5-6 h.p. **JAMES** Combination £190 0

Second-hand Machines.

1915 2¾ h.p. 2-speed **DOUGLAS** £60
1916 2¾ h.p. 2-speed **DOUGLAS** £65
1915 2¾ h.p. 2-speed **DOUGLAS** £55
1917 4 h.p. **TRIUMPH** and accessories £100
1916 4 h.p. **TRIUMPH** and accessories £95
1915 4 h.p. **TRIUMPH** and accessories £90
1920 2-stroke 2-speed **JAMES** and accessories £72
1920 4 h.p. **DOUGLAS** Combination and accessories £162
1915 4 h.p. **TRIUMPH** and Sidecar £115
1917 4 h.p. **DOUGLAS** and Sidecar, and accessories £110
1915 4 h.p. **DOUGLAS** and Sidecar £90
1920 8 h.p. Dynamo **MATCHLESS**, fitted with hood, Tan-Sad, step, mirror, and speedometer as new £225
1920 8 h.p. Sports **ZENITH**, and Henderson Sidecar, with accessories £150
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CANOELET, for Harley-Davidson £40 0
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MOTOR CYCLES FOR SALE.

Blackburne.

1920 Blackburne 4h.p. Combination, all lamps, horn, tools, etc., delivered June; £155; exchanges.—2, Nightingale Rd., Lower Clapton. [6297

MAUDES'.—Verus, 4h.p. 3-speed Blackburne model, complete; with Canoelet sidecar £154, less sidecar £126; delivery ex actual stock. — Maudes' (below).

MAUDES'.—Latest 1920 2¾h.p. model; £110; ex actual stock; deferred payments arranged.—Maudes', 100, Gt. Portland St., W.1. [6205

BLACKBURNE Combination, 4h.p., 1920, absolutely faultless condition, 28×3 covers all wheels, completely fitted with lamps, etc.; £140.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [5394

BLACKBURNE 1920 4h.p. Combination or Solo and 8h.p. combination ready for immediate delivery.—The Layton Garages, London Rd., Bicester, and at 90, High St., Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0117

BLACKBURNE, 1920; immediate delivery from stock, 4h.p. solo, £135; combination, £164; 8h.p. twin solo, £180; combination, £212; extended terms if desired.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0071

1920 (April) 4h.p. Blackburne, Millford sidecar, lamps, mechanical horn,, spare tyres, chains, etc., insured, excellent condition; bought car; £133; consider 2-stroke part exchange.—Harrison, Victoria Hotel, Paignton, Devon [5898

Bown

F.O.C.H. have a Bown-Villiers, overhauled; bargain, £35.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5438

Bradbury.

4h.p. Bradbury, splendid order, very fast, Philipsons pulley; £42.—89b, Broad St., Canterbury. [5054

2¾h.p. Bradbury, mag., new tyres, running order; £23.—Write, Larchcroft, Ridgeway Rd., Redhill. [5795

BRADBURY.—Order now, to avoid disappointment.—The Walsall Garage, Wolverhampton St., Walsall. [5762

BRADBURY 4½h.p., 1920, done 1,000 miles, Easting wind screen, Cowey speedometer, F.R.S. lamps; £165.—36, New End Sq., Hampstead, N.W. [5367

BRADBURY 1920 4h.p., 3-speed, K.S., clutch, just delivered, unused, unlicensed, guaranteed perfect; £10/10 under list for quick sale.—31, Hightown, Crewe. [5098

BRADBURY 1920 4h.p. Combination, complete with all lamps, very low mileage, indistinguishable from new; £110.—Parker's, Bradshawgate, Bolton. [X0009

BRADBURY 4½h.p., N.S.U. 2-speed, hood, lamps, wind screen, good tyres, C.B. sidecar, pump and tools; £63; by appointment.—79, Pine Rd., Cricklewood. [5475

1920 Bradbury 4h.p. Combination, month old, all on, must sell; bargain, £110, or would sell solo. —304, Fulham Rd., S.W.10. 'Phone: Kensington 2372. [5645

BRADBURY C.B. Combination, 6h.p., 1915 model, 3-speed, C.S. gears, electric lighting; £55; evening appointment only; Edmonton.—Box 536, c/o *The Motor Cycle*. [6047

3½h.p. Bradbury Combination, 1912, Bosch mag., B. and B., kick starter, spare tyre (brand new), tools; £50, or near offer; Bournemouth.—Box 7,472, c/o *The Motor Cycle*. [6316

1914 Bradbury Combination, 4h.p., 3 speeds, clutch, handle start, lamps, etc., good condition throughout; £65.—Barraclough, Baxter Lane, Northowram, near Halifax, Yorkshire. [X0000

BRADBURY 1914 4h.p. C.B. Millford Combination, 3-speed, clutch, kick start, all accessories, condition and appearance practically as new, any trial; 65 gns.—Atheldene, Offington Lane, Worthing. [5674

BRADBURY 6h.p. C.B. Combination, 3-speed countershaft, chain drive, hand clutch, kick start, lamps, horn, spares, B. and B., Bosch, excellent running order and condition; £115.—Bate, Brook Lynn, Harvey Lane, Golborne, Warrington. [5257

1920 Bradbury Motor Cycle, 6h.p. twin, hand and foot clutch, kick start, 3 speeds, fast and powerful, done 1,200 miles, as new, also Watsonian coupe sidecar, 3-sided wind screen and dash (detachable), all perfect condition; £185.—Broadbank, 7, Commercial St., Harrogate. [6369

Brough.

1920 Brough, perfect, unscratched; £120 for quick sale.—57, Mandalay St., Basford, Nottingham. [X0197

1920 Brough, 5-6h.p., countershaft, aluminium discs, perfect condition; £110.—10, Gibbons Rd., Bedford. [4407

LATEST 1920 Brough, type G, brand new, 5-6h.p., 3-speed; £140; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [5549

1920 Brough, 5h.p., just delivered, unused; £140; would exchange for any lower power, cash adjustments.—Dr. Warren, 193, High St., Ponders End, N. 'Phone: Enfield 560. [6058

MOTOR CYCLES FOR SALE.

Clyno.

19 20 2¼h.p. Clyno 2-strokes, new, fitted with clutch and 2-speed gear, trade supplied; £75.—hone: 5777 Holborn.—Wauchope's, 9, Shoe Lane ndon. [2038

EW 2½ h.p. Clyno Lightweight, 2-speed and clutch, and to makers' specification; £75, or on easy yments 4% extra.—Harrods, Ltd., 118, Brompton ., London. [5819

LYNO Combination, 3-speed, kick start; clutch, spare wheel, interchangeable wind screen, lamps, rn, overhauled; nearest £120.—Smith, 16, Brown- Rd., Worthing. [5675

LYNO Combination, 6h.p., 3-speed countershaft, interchangeable wheels, spare wheel, lamps, in od order; price £90.—Apply, J. Farrell, 209, Saracen , Possilpark, Glasgow. [5043

LYNO Combination, 5-6h.p., 1917-18, 3-speed, kick starter, enamel and plating unscratched, 2-seater lls-Fulford, any trial and examination; £125.—697, mford Rd., Manor Park. [4125

LYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re amelling, and plating.—The Molineux Garage Co. d. Wolverhampton. Tel.: 1160. [3459

LYNO Combination, 3-speed kick start, 4 interchangeable wheels, lamps, speedometer, horn, d, and screen, recently overhauled and painted, in ellent condition; £125.—John C. Beadle Ltd., Dartd. [3821

h.p. 3-speed K.S. Renovated Clynos, 1916, interchangeable wheels, new tyres, new mags., new buretters; £75 each, solo; have only a few left this price.—J. J. Dooley, 33, Killyon Rd., Clapham; V.8. [6345

LYNO, 1920, one only slightly used lightweight model in stock, mileage negligible; at 60 gns. we not repeat this bargain.—The Layton Garages, ndon Rd., Bicester. T.A.: Integrity, Bicester. one: 35 Bicester. [X0120

h.p. Clyno Combination, overhauled, renovated, £40, sidecar upholstered coachbuilder, magneto, ks, tyres, electric lighting, all new, 4 detachables, res, trial, expert examination; £140; after 6.—9, ton Mews, Mayfair. [5823

LYNO 8h.p. 1921 Combination.—Batchelor and Co., East Surrey agents, have a new 8h.p. combination; demonstration runs given; orders booked for early delivery.—Batchelor's, Clarence St., Kingston-hames. 'Phone: 1809. [2874

18 Clyno 6h.p. Twin Combination de Luxe, hood, screen, aluminium discs, spare interchangeable el with new tyre, beautifully enamelled and plated it, 3-speed countershaft, kick start; rare bargain, 5.—591, Foleshill Rd., Coventry. [X0246

LYNO Lightweights, 1920, 2¼h.p., 2-speed, £75, or fully equipped with head lamp and generator, lamp and tubing, horn, L.C.C. registration, petrol, oil, £79/15.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [0281

20 2½h.p. Clyno, delivered in May, ridden 20 miles, good tyres, lamps, horn, and tools; any £60; bought Triumph and Sidecar. — Craven, den, Britwell Rd., Burnham, Bucks. [5535

LYNO-J.A.P. 8h.p. 1918 Combination, 4 interchangeable wheels, 28×3 Dunlops, accumulator ing, Amac, E.I.C., F.R.S. lamps, Lucas horn, speedometer, and many spares, excellent con- n, engine recently thoroughly overhauled; £150. 74, Primrose Mansions, Battersea Park, S.W.11. [5720

Connaught.

NNAUGHT 2-stroke, 2¾h.p., all on, in good order; £37.—Express Works, 2, Broadway, Friern Barnet N. [5244

NNAUGHT Motor Cycles.—2½h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. vans, 83-91, John Bright St., Birmingham.

Coulson.

ULSON B., 2¾h.p. Blackburne engine, 2 speeds, 1920 model, as new; £80.—103a, High St., dsworth, S.W 18. [6252

ULSON-B 4h.p. 2-speed Sports Model, lamps, horn, used demonstration only; £110.—E.D.G., East Hill, Dartford. [5666

ULSON B, all models in stock; 2¾h.p. 2-speed, 95 gns.; with clutch, 105 gns.—Clark, 7, Exhibi- Rd., South Kensington. [6171

.C.H. for the Coulson B. 2¾h.p. 2-speed, and 4h.p. 3-speed; list price.—Fair Offer Car House, 5, h St., Hampstead (near Hampstead Tube Station). ne: Hampstead 3752. Hours 9-7, including Satur- [5433

W Coulson-B 4h.p., with 3-speed clutch and kick starter, spring frame, etc.; 118 gns., or on easy ents 4% extra; only one-fifth deposit, balance 12 hly instalments.—Harrods, Ltd., 118, Brompton London. [5808

ULSON B. 2¾h.p., 1920, Blackburne engine, 2-speed, spring frame, electric lamps, trip speed- r, Klaxon, knee-grips, spare belt and valve, as mileage 120; £85.—Arnold, c/o Hucklebridge, 133, e St., London, S.W.1. [X9997 [0252

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MOTOR CYCLES FOR SALE.

Coulson.

NEW Coulson B.—2¾h.p., £99/15; 4h.p. models, £110/5; each fitted with 2-speed gear, spring frame, Blackburne engine; also 2¾h.p. model, with clutch and kick starter, £110/5; easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments. — Harrods, Ltd., 118, Brompton Rd., London. [5807

Coventry Eagle.

COVENTRY EAGLE 3½h.p. Combination, Sturmey 3-speed, new May; £130.—Meakin, 7, Shaw St., Newcastle, Staffs. [X0188

19 20 Coventry Eagle, J.A.P. 2¾h.p., Sturmey-Archer 2-speed gear, handle-bar clutch, kick start, mileage under 400; offers.—Slater, Stockil Rd., Doncaster. [6007

19 20 Coventry Eagle Combination, 1,500 miles, Lucas lamps unused, horn, Easting wind screen, spares, etc., condition new; first £140 secures.—Watson, 37, Waveley Rd., Coventry. [X0187

F.O.C.H. have a new Coventry Eagle, Model 7; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5444

19 20 3½h.p. Coventry Eagle, Sturmey-Archer 3-speed countershaft gear, Klaxon, P. and H. head lamp and generator, enamelling and plating perfect, mileage about 400; £116, offers. L. Holland, Handscombe, Stoneygate, Leicester. [5273

Dayton.

DAYTON 1917 2-stroke, open frame, engine wants slight repairs, otherwise complete; £12.—404, Garratt Lane, Earlsfield, S.W. [6148

De Luxe.

2½h.p. 2-stroke de Luxe, 2-speed, as new; £42.—Rogerson, Newtown, Wigan. [X9811

19 19 De Luxe 2¾h.p. 2-stroke, 2-speed, new Dunlops, lamps, leg shields; £53, or exchange.—Mackenzie, 63, Brigstock Rd., Thornton Heath. [5635

Diamond.

DIAMOND, 2-stroke Villiers, new; £63.—Clark, 7, Exhibition Rd., South Kensington. [6173

DIAMOND 2¾h.p., 1915; £50.—Padd. 2423. 89, Abbey Rd., St. John's Wood, N.W.8. [6198

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton [2266

LATEST 1920 Diamond 2¾h.p., 2-stroke, brand new, immediate delivery; £62.—The Premier Motor Co., Aston Rd., Birmingham. [5550

'19 19 Diamond-Jap, 2-speed, lamps, generators, spare cover, low mileage, good condition; £66.—Hill, 2, Wallbrook St., Coseley, Bilston, Staffs. [X0067

MAUDES'.—Latest 1920 Diamond 2-stroke model, Sturmey-Archer gear; £85; ex actual stock; deferred payments arranged.—Maudes', 100, Gt. Portland St., W.1. [6211

DIAMOND 2¾h.p., 1920 (April), 4-stroke, very fast, little used, excellent condition; accept £70, or near offer; owner having heavier machine.—Goodey, 34, Mill Rd., Wellingborough. [5016

Douglas

DOUGLAS.

INSTANT Delivery.

ALL Latest Models.

4h.p. Combination, £170; solo, £130; 2¾h.p., £100; clutch model, £105.

DEMONSTRATION Run and Every Facility for Examination; advice offered by Douglas specialists.—Lakeman, 26, Long Acre, London, W.C.2. [0268

MOFFAT, Douglas Expert, Yeovil.

NEW 1920 Models, 4h.p. combination £170, 2¾h.p. W. 20, £100 and £105.

IMMEDIATE Delivery. Why wait?

MOFFAT, Yeovil. Tel.: 50 Yeovil [5638

DOUGLAS, 1916, in good condition: £55.—26, Auckland Hill, West Norwood. [5211

2¾h.p. Douglas, 2-speed, lamps: £45; evenings.—41, Maple Rd., Anerley, S.E. [5423

DOUGLAS 2¾h.p., ride away; £55, offers.—10, Adolphus Rd., Finsbury Park, N. [5606

DOUGLAS 2¾h.p., late model, like new; bargain, £57.—45, Burton Rd., Brixton. [5181

19 11 Douglas, Bosch, perfect running order; £25.—84, Clarence Rd., Hackney, E. [5658

2¾h.p. 2-speed Douglas, splendid condition; £44.—40, Old Road West, Gravesend. [5923

4h.p. Douglas, 1918, 3-speed, clutch, K.S.; £80—10, Willes Terrace, Leamington Spa. [5620

DOUGLAS 2¾h.p., 1915, T.T., lamps, good tyres; £50.—Kew Road Garage, Richmond. [X9982

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 1918 C.B. Combination; £90, quick sale.—4, Cavendish Rd., Birmingham. [X0163

DOUGLAS 2¾h.p., late model, buffer forks, makers' colours; £55.—Matthews, Ockley, Surrey. [5789

1916 2¾h.p. Douglas, 2-speed, perfect condition; £60.—Bosworth, 50, Holly Rd., Northampton. [5324

BRIGHTON, Hove and district Douglas agents Turpins, 22 and 29, Preston Rd., Brighton. [0201

1920 Douglas Combination, perfect; nearest offer £150.—King, 5, Melrose Place, Chilton, Bristol. [5222

DOUGLAS 2¾h.p., 1918, very fast, long exhaust, must sell; £58.—54, Paddenswick Rd., W.6. [5617

DOUGLAS 4h.p., 1918, smart, plated, mechanically perfect; 70 gns. 14, Effra Parade, Brixton, S.W. [5630

DOUGLAS 2¾h.p. 3-speed, clutch; £105; in stock. Clark, 7, Exhibition Rd., South Kensington. [6172

2¾h.p. 1915 Douglas, engine No. 24896; £54.—Ridge Cottage, Coleridge Rd., North Finchley. [6085

1918 4h.p. Douglas Combination; £100, or nearest; only wants seeing.—Evans, High St., Beaconsfield. [6309

1918 Douglas Combination, splendid condition; £95.—Pope, 9, Pepys Rd., New Cross, S.E. [5378

IF you require a fast and really dependable Douglas, write to me. I supply under guarantee.—Robert Bamford (see below).

ROBERT BAMFORD.—I generally own, and always know of the best 2¾h.p. Douglasses in London. Every machine specially selected and tested. See under Consulting Engineers. [2127

DOUGLAS.—Immediate delivery 1920 4h.p. combination.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0017

DOUGLAS 1913 2¾h.p., 2 speeds, clutch, good condition; £40.—322, Canterbury St., Gillingham, Kent. [9560

DOUGLAS 1920 4h.p., new, with 3-speed, kick-start, solo; £130; in stock.—Herbert Robinson, Ltd. (below).

DOUGLAS 1920 4h.p., 3-speed, with latest type sidecar, finished in saxe blue; £170; in stock.—Herbert Robinson, Ltd. (below).

DOUGLAS 1920 2¾h.p., 3-speed, with hand-controlled clutch and kick starter, improved frame, forks, and tank; £105; in stock.—Herbert Robinson, Ltd. (below).

DOUGLAS 1920 2¾h.p., with improved frame, forks, and tank, less clutch and kick starter; £100; all the above actually in stock; can be despatched immediately. Second-hand Douglas, Triumph, and Sunbeam motor cycles entertained in part payment.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [5599

2¾h.p. Douglas, new from makers 1919, accessories, original tyres; £70.—Grice, Vilecroft, Cumberland. [X0186

1920 Douglas 4h.p. Combination; list price; immediate delivery.—E. T. Morriss, 139, Finchley Rd., N.W.3 [5194

DOUGLAS, immediate delivery, 1920 2¾h.p., 2 speeds and clutch.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0021

DOUGLAS 4h.p. 1916, Dunlops, discs, lamps, Klaxon; £85.—10, Crowborough Rd., Tooting, S.W.17. [5654

1920 2¾h.p. Douglas, 3-speed, all accessories, as new; offers over £96.—Monk, Gunmaker, Chester. [6287

OFFERS.—Douglas 1915-16, 2¾h.p., lamps, horn, tools Tan-Sad, insured.—243, Burdett Rd., Bow, E.3. [5925

COLMORE Depots, Birmingham.—Douglas motor cycles, all models; immediate delivery.—31, Colmore Row. [X9805

DOUGLAS 1914 2¾h.p., 2 speeds model, excellent condition throughout; £70.—Parker's, Bradshawgate, Bolton. [X0003

1915 Douglas, new tyres and accessories, splendid condition; sacrifice, £65, or nearest.—70, Manor Rd., Rugby. [5739

DOUGLAS Colonial Model, 2¾h.p., 3-speed, tip-top machine, snip; £70. Yates, 6, Park Parade, N. Finchley, N.12. [5293

1918 Douglas C.B. Combination, accessories, climb anything; £125 or offer.—41, Regina Rd., W. Ealing, W.13. [5291

DOUGLAS 1915 Combination, with lamps, etc.; £90.—Padd. 2423. 89, Abbey Rd., St. John's Wood, N.W.8. [6200

£25.—Douglas, about 1912, 2¾h.p., Bosch; good running order; trial arranged.—Jull, Fetcham Grove, Leatherhead. [5940

1918 4h.p. Douglas, 3-speed, in perfect order, condition as new; £85.—Lloyd, 115, Tuam Rd., Plumstead. [6089

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MOTOR CYCLES FOR SALE.

Douglas

DOUGLAS 2¾h.p., little used, splendid condition; £60, or near offer.—Fitt, Marine Hotel, Tankerton, Kent. [5832

DOUGLAS 2¾h.p., 2-speed, exceptionally fine condition, not W.D.; £60.—Winkworth, Riverside House, Staines. [5989

DOUGLAS 4h.p. Combination, lamps, horn, 500 miles, as new; £138.—Rhosha Motor Co., Bank Mews, Romford. [3397

4h.p. Douglas and Royal Blue Sidecar, 3-speed, equal new; 95 gns.; offer.—Adams, 120, Sutherland Rd., Croydon. [6260

1918 4h.p. Douglas Combination, guaranteed all on; £110, near offer. 84, Cold Bath St., Lewisham, London. [6139

DOUGLAS, 2¾h.p., 1915, new C.A.V. mag., just overhauled, very small mileage; £53.—60, Carthness Rd., Mitcham. [5510

1913 2-speed Douglas, re-enamelled, engine and gear overhauled; £50.—George Wray, 4, Virginia St., Southport. [6043

DOUGLAS 2¾h.p., 2-speed, 1915, engine No. 23359, lamps, horn, engine, guaranteed; £46.—Ford, Watchmaker, Redhill. [6073

DOUGLAS 1920 4h.p. Combination, brand new, just arrived from works; £170; immediate delivery.—Ginger, Motors, Banbury. [X0139

DOUGLAS, 1916, uncrated 1920, 2-speed, discs, all accessories, excellent condition, smart; £65.—Box 7,486, c/o *The Motor Cycle*. [6330

DOUGLAS 2¾h.p., like new, perfect; seen any time except Wednesday and Sundays; £70, or nearest offer.—Hall, Jeweller, Slough. [5760

DOUGLAS 2¾h.p., 1914, little used, fast, appearance like new, equipped; £48.—43, Brailsford Rd., Water Lane, Brixton, S.W. [5631

DOUGLAS 1915 2¾h.p., makers' colours, lamp set, splendid condition; 50 gns.—Home View, Thurlow Park Rd., West Dulwich, S.E. [5693

1915 2¾h.p. T.T. Douglas, long exhaust, knee grips, new Dunlop belt and cover; £60.—R. Foster, Station View, Hitcham, Taplow. [5309

DOUGLAS 1918 4h.p. Combination, perfect running order, new mag., tyres, tubes, and belt; any trial; £100.—13, Park Av., Mitcham. [5338

4h.p. Douglas Combination, 1917-18, all accessories, grand condition; £80, quick sale.—699, Seven Sisters Rd., Tottenham, N.15. [6255

DOUGLAS 1918 2¾h.p., 2-speed, lamps, horn, clock, speedometer, disc wheels, a real sporting mount; £75/10.—Chapman, Bromsgrove. [5499

DOUGLAS 2¾h.p., single gear, tyres and belt good, new Amac, rebushed; ride away; £28/10, or near.—37, Leamington Rd. Villas, W.2. [6075

BRAND New 1920 4h.p. Douglas Combination, never been ridden; £160.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [5736

DOUGLAS 1917 2¾h.p., buffer forks, renovated, new C.A.V., splendid condition; £53.—30, Crystal Palace Park Rd., Sydenham, S.E.26. [5691

DOUGLAS 1917-18 4h.p. Combination, splendid condition, lamps, speedometer, tools, etc.; £105.—67, Little Heath, Charlton, S.E.7. [5792

DOUGLAS 2¾ and 4h.p. 1920 models, new, at net list prices; immediate delivery.—Express Works, 2, Broadway, Friern Barnet Rd., N. [5245

4h.p. Douglas Combination, late 1918, electric lighting, tyres nearly new, all in excellent condition; 100 gns.—1, Park Lane, Cheam, Surrey. [5649

DOUGLAS 2¾h.p., late 1916, exceptional condition, little used, take 2 anywhere; snip, £55.—129, Beechcroft Rd., Upper Tooting, S.W. [5704

1920 2¾h.p. Douglas, horn, tools, as new, perfect, fully insured, good reason sale; £98; no dealers.—41, The Polygon, Southampton. [5854

1920 4h.p. Douglas, mileage 1,000, Lucas horn, tools; Norton or good solo part exchange; sell £155.—Pitchford, Creswell, Mansfield. [X0184

1916 4h.p. Douglas Combination, 3-speed, K.S., excellent condition, comfortable, wicker sidecar; £105.—50, Victoria Rd., Mill Hill, N.W.7. [5914

DOUGLAS Combination, 1914; £75; Binks, lamps, speedometer, horn, tyres good, very fast.—9, Grand Parade, Streatham Rd., Mitcham. [5509

1918-18 2¾h.p. Douglas, uncrated, W.D., like new; very fast 'bus; £75.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. 'Phone: Hamp. 7822. [6218

1919 (July) Douglas Combination, 4h.p., Easting screen, lamps, horn, insurance; £135. After 7.—Roberts, 111, Chamberlayne Rd., Willesden. [5150

DOUGLAS, 2¾h.p., 1915, in exceptionally good order, repainted; £55.—Watson, 36, Estreham Rd., Streatham, S.W.16. 'Phone: 335. [6049

DOUGLAS 1915 2¾h.p., makers' colours, fully equipped, splendid condition, any trial; 55 gns.—Paige, Croham Rd., Crowborough, Sussex. [5616

DOUGLAS Combination, 3-speed, kick starter, in excellent condition, any trial with 3 up; first cheque £88.—272, Green St., Forest Gate. [4127

MOTOR CYCLES FOR SALE.

Enfield.

EW 1920 Enfield 6h.p. Combination, Cowey speedometer, Easting screen, D.A. all lamps, horn, .; £175.—Hargreaves, 4, Warwick Crescent, Paddton, W.2. [6351

OYAL Enfield 2¾h.p. Twin, 2-speed, countershaft, all chain drive, finished black and gold, grand dition, accessories, photo; £35.—Decourcy, Frankt St., Birmingham. [6286

NFIELD 1915 Combination, excellent condition, spare new tyre, insurance, accessories; £105, a gain; private owner.—Seen at Garage. 100, High ., New Southgate, N. [5040

h.p. Enfield Combination, 1915, fully equipped, including speedometer, spare tyres, overhauled November, 1919; £115.—Cooper, 7, High Rd., Willesden een. (Private owner.). [5707

919 8h.p. Enfield Combination, fully equipped, lighting set, speedometer, wind screen, Tanl, mileage 2,700, excellent condition; £165.—153, ollys Rd., Streatham. [6357

NFIELD 1920 Combination, 8h.p., brand new, Magdyno lighting, just arrived from works; immediate very at makers' price, £202/2.—Wilkins, Simpson, posite Olympia, London. [3886

920 Enfield Combination, 8h.p., Lucas magdyno lighting, hood, screen, Cowey speedometer, Tan, in good condition, low mileage; £210.—Upton, , Broad St., Birmingham. [X0136

NFIELD Combination, late 1919, fitted Norton body, child's dickey seat in back, all new con, screen, Binks, fully equipped; 175 gns.—Barnes, stgate, Tickhill, Rotherham. [6279

h.p. Enfield Combination, hood, screen, lamps, horn, tools, luggage grid, Tan-Sad, excellent con, takes 4 anywhere; 100 gns. — 75, Herbert rdens, Kensal Rise, N.W.10. [6353

NFIELD.—£127/10 Combination, 1916, with dynamo lighting set, good condition.—Clifford son Mfg. Co., 70, Royal Hospital Rd., Chelsea, .3. Tel.: Kensington 7113 [5454

EW 2¾h.p. Royal Enfield 2-stroke Models, 2 speed, for immediate delivery form stock, low t, and ideal machine for traffic; £73/10 each.—ichope's, 9, Shoe Lane, London. [2026

918 Enfield 8h.p. Combination, Lucas lamp, indistinguishable from new, guaranteed perfect; no onable offer refused.—8a, Blue Ball Yard, St. James' Piccadilly. Tel.: Gerrard 6536. [6099

918 Enfield 8h.p., engine No. 61307, Enfield coachbuilt sidecar, all in really new condition, and ptionally smart; £138.—Beechenhurst, Crystal ace Park Rd., Sydenham, S.E.26. [5692

918 8h.p. Enfield Combination, sprung luggage grid, Easting, all lamps (electric), mechanical horn, all ery good condition; first offer over £135; appointt only.—259, Acton Lane, Chiswick, London. [4270

NFIELD Combination, 6h.p., war stored, thoroughly good condition, hood, screen, pillion, child's seat, ps, new tyres, tubes, spares, tools; £115, or near. en Harris, 194, Elthorne Rd., Hornsey Rise, N.19. [5404

NFIELD 1920 6h.p. or 8h.p. Combination, with or without Magdyno; delivery from stock at list e.—The Layton Garages, Bicester, near Oxford. .: Integrity, Bicester. 'Phone: 35 Bicester. [X0123

OYAL ENFIELD 6h.p. 1915 Combination, fitted 1915 engine, first-class running order, 2 unused lop tyres, coachbuilt sidecar, just re-enamelled; : reason for sale, too heavy.—Child, Shoe Works, ryn Bay. [5131

917 Royal Enfield Combination, 6h.p., Lucas dynamo lighting set, electric horn, luggage grid, dometer, tools, etc., fully equipped and in splendid ition, fine tourist's outfit; £140.—L. Bull, 44, Hills Cambridge. [6033

NFIELD 6h.p. Combination, 1915, good condition, 3 good 700×80 tyres, Cowey trip, speedometer, reo wind screen, Tan-Sad, electric accumulator lighthorn, tools, etc.; bought car; offers.—James, Hat, Mardy, Glam. [5137

NFIELD Combination, 6h.p., 1916, Lucas dynamo lighting, hood, screen, spare acetylene lighting, l new tyres, perfect condition, just been thoroughly hauled, new chains and spares; £160.—The Oaks, rington Rd., Croydon. [5343

NFIELD 1920 2-stroke 2-speed Lightweight, guaranteed as new, finish and condition per ridden few miles only; £62.—The Layton Garages, ster, near Oxford. T.A.: Integrity, Bicester ne: 35 Bicester. [X0122

920 (June) 8h.p. Royal Enfield Combination, perfect condition ready to drive away, Lucas lighting wind screen, and all accessories; owner unable to outfit for past month; will accept £205 cash.—L. Knight, Barnstaple, N. Devon. [5255

NFIELD Combination, 6h.p., 1916, new condition, just thoroughly overhauled, small mileage, hbuilt sidecar, hood, screen, lamps, horn, speedter, pillion seat, mirror, new tyres, tools, spares; 0; seen after 6.30.—11, Pleydell Av., Stamford ok, W.6. [6310

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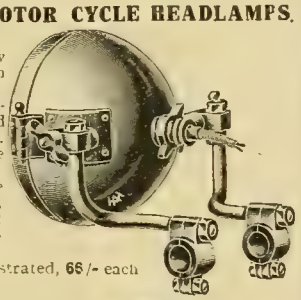
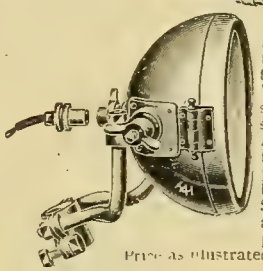


Fig. 895. Best quality finish throughout. Very massive and strong. Adjustable focus. Adjustable brackets. Special dust and weather-proof front. Price as illustrated, **65/-** each



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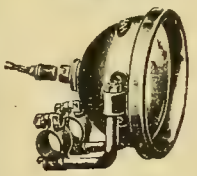

Fig. 886. **Sidecar Lamp.** Double nickel plated adjustable holder, screw front, and heavy side lug. Price as illustrated, **21/-**

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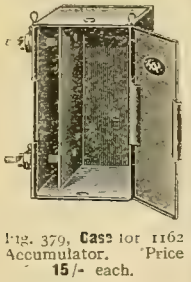

Fig. 379, **Case** for 1162 Accumulator. Price **15/-** each.

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MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD 6h.p. 1917 Combination, new Easting, speedometer (trip), Lucas lighting, Klaxon and bull horns, Tan-Sad pillion with back-rest, tyres perfect, 2 spare covers worn, spare tube and plugs, splendid condition; £140; seen after 6.—Talbot, 36, Waldegrave Rd., Ealing. [5430

NAVAL Officer ordered to China, desires to sell 1915 6h.p. Royal Enfield combination, Lucas acetylene lamps, mechanical and bulb horns, Jones speedometer, luggage grid, in very good condition owing to 2½ years' war storage, mileage nearly 5,000.—Write Heatherside, Belmont, Surrey. [5241

ENFIELD 1919 8h.p. Combination, complete with a full Lucas equipment and Easting wind screen, a very fine example of the special bargain class that has made Bicester famous; pricing this outfit at £160, we shall make the purchaser our friend.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester [X0124

Excelsior.

EXCELSIOR-J.A.P., 2-speed, £78; with clutch, £84; in stock.—Clark, 7, Exhibition Rd., South Kensington. [6174

1920 Excelsior 2-stroke, 2-speed, new, just delivered; list price.—Wright's Garage, Saffron Walden. Tel.: 16. [6188

EXCELSIOR Combination, 4½h.p., the new big single; from stock; £160.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [5392

7-9h.p. Excelsior, about 1914 model, just been thoroughly overhauled and painted, 2 speeds; £60, or near offer.—Boxer, Swingfield, Dover. [5902

EXCELSIOR 2¾h.p., 2-stroke, late model, 2-speed countershaft, clutch, all-chain, ample power, Mills-Fulford sidecar, appearance as new; £75.—J Folkard, Sand Hutton, York. [5451

NEW 1920 Excelsior Models in stock for immediate delivery: 2½h.p. 2-stroke, 2-speed, £67; 2¾h.p. 2-speed, J.A.P. engine, 4-stroke, £78; carriage paid to any address.—The Premier Motor Co., Aston Rd., Birmingham. [5551

Fafnir

3h.p. Fafnir, B. and B., Eisemann, clutch, ride away; £23.—Frost, 21, Park Av., Finchley, N.3 [5545

F.N.

F.N. T.T., fast overhauled; £35.—32, Balfern St., Battersea (Bell). [6160

CROW Bros., Guildford.—Immediate delivery 7h.p. 4-cyl. and 2½h.p. lightweight F.N. [5687

F.N., 4-cyl., 1914, 7-9h.p., 3 speeds, clutch, coachbuilt sidecar, and accessories, good condition; for cash.—Pearce, 90, Vaughan Rd, Harrow. [6105

4-CYL. F.N., 1912, 2-speed, coachbuilt sidecar, just overhauled, nice condition; offers; after 6 o'clock, 16, Archway Rd., Upper Holloway, N.19 [5700

F.N. 4-cyl., clutch model, Bosch, all accessories, spare tube, A1 condition, tyres as new; £45, offer.—11, Lonsdale Rd., Bedford Park, Chiswick, W.4. [5275

2½h.p. F.N., 2-speed, shaft, h.b. clutch, new Palmer 2/2 back tyre, first-class appearance and condition; £40, no offers.—3, Moreton Av., Harpenden, Herts. [5344

1914 F.N. 7-9h.p., 3-speed, multi-disc clutch, new tyres, lamps, cane sidecar, hood, screen; £120; bought car; Harrow district.—Box 7,461, c/o *The Motor Cycle.* [5582

SHAFT Drive F.N., 4-cyl., 5.6h.p., 2-speed, clutch, just overhauled, perfect throughout; £60; exchange Junior Triumph or Douglas.—W. Hart, 153, Upland Rd., East Dulwich, S.E. [5600

BRAND New 1920 F.N., 7h.p., 3-speed, shaft drive combination, 4-cyl. engine, coachbuilt sidecar, hood, wind screen; £205; free delivery to any address.—The Premier Motor Co., Aston Rd., Birmingham. [5555

Francis-Barnett.

1920 Francis-Barnett, 2¾h.p., J.A.P., clutch, 2-speed, kick starter; 78 gns.; seen after 6.—Lury, Trinity Vicarage, Reading. [5335

FRANCIS-BARNETT 1920 2½h.p., 2-speed, delivery from stock; 84 gns.; wonderful value.—Julian, 84, Broad St., Reading. 'Phone: 1024. [5231

FRANCIS-BARNETT 2¾h.p. J.A.P., 2-speed, kick starter, lamps, horn, speedometer, new June, 1920; £90.—Tameta, Epplebay Rd., Birchington. [4345

NEW Francis-Barnett, 2¾h.p. J.A.P., 2-speed clutch and kick starter; in stock at manufacturers' list price, £88/19; easy payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd. 118, Brompton Rd., London. [5809

Harley-Davidson

HARLEY-DAVIDSON 1919 Combination; £145.—Wauchope's, 9, Shoe Lane, London. [4931

NEW Mag. Model Harley; £186/9/6.—Maudes' Motor Mart, 100, Paris St., Exeter. [5961

HARLEY.—1915 Harley, dynamo lighting, guaranteed; £75.—125, High St., Woolwich. [6095

HARLEY 1918 7-9h.p., good order, lamps, horn, etc. £125.—7, Venner Rd., Sydenham, S.E.26. [5385

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY Sports Model in Stock, new; list price.—Clark, 7, Exhibition Rd., South Kensington. [6176

1918 Harley-Davidsons, fine assortment in stock; from £105.—Ross, 86, High Rd., Lee, S.E. [5079

HARLEY-DAVIDSON 1919 Combination, electric, as new, hardly scratched; £185.—384, Kennington Rd., S.E. [6350

COLMORE Depots, Birmingham. — Harley-Davidson motor cycle combinations and 4h.p. models in stock. —31, Colmore Row. [X9806

HARLEY-DAVIDSON, immediate delivery, 1920, 4 h.p., 3 speeds and clutch.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0020

HARLEY-DAVIDSONS, 1918-1919; £100 each, re-enamelled and overhauled, ready to ride away.—1, Wellesley Parade, Croydon. [3895

HARLEY 1915 Combination, good running order, 3 speeds, kick starter; gift, £85.—103a, High St., Wandsworth, S.W.18. [6248

1915 Harley-Davidson Combination, 2-seater sidecar, electric lamps, like new throughout; £190. —Central Garage, Southport. [X0193

HARLEY-DAVIDSON 1915 7-9h.p., electric model, mechanically perfect; trial; £95.—Tee, 142, High Rd., East Finchley, N. [6123

HARLEY-DAVIDSON 7-9h.p. and military canoelet, brand new, immediate delivery; £227.—Alex. Thom, 201, City Rd., Cardiff. [5108

7-9h.p. Harley-Davidson, Gloria sidecar, electric lighting, good tyres, 1915; £90.—Stonehouse, Hill Grove Crescent, Kidderminster. [X0169

1918 Harley Combination, all lamps, spares, insurance policy; £120; offer after 5.30 p.m.—R., 7, Thornbury Rd., Brixton Hill, S.W. [5724

1920 Harley, Model F, Harley sidecar, speedometer, horn, lamps, not done 50 miles; £225.—Edwards and Co., 50, Harrington Rd., S.W.7. [3404

HARLEY-DAVIDSON 1917, 7-9h.p., 3 speed countershaft, dynamo lighting, speedometer, etc., disc wheels; £65.—Carfax Motors, Ltd., Cobham, Surrey. [6111

HARLEY-DAVIDSON 7-9h.p., mag. model, 1918, first-class throughout; £115, with 40 gn. sidecar £150.—1, Townley Rd., East Dulwich, S.E.22. [6247

7-9h.p. Harley Combination, Dec., 1915, mag. model, tyres sound, large sidecar, child's seat, Cameo, insurance, accessories; £120.—Lambeth, 113, Francis Rd., Leyton. [5488

HARLEY-DAVIDSON, immediate delivery, 1920, 7-9h.p., electrical model, with Mills-Fulford or Henderson sidecars.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0018

1920 Harley-Davidson de Luxe, electric model, discs, Tan-Sad, screen, disappearing hood, all accessories, done 300 miles.—Write, 7, Richmond Mansions, Putney, S.W. [5290

LATE 1915 7-9h.p. Harley-Davidson Combination, lamps, wind screen, etc., excellent running order; £99, or close offer.—436, Whitehorse Rd., Thornton Heath, S.E. [5749

HARLEY-DAVIDSON 1920 7-9h.p., electric model and sidecar, discs, speedometer, mudshields, appearance as new; £225, or near offer.—2, Clarendon Place, Halifax. [5729

1918 Harley-Davidson Combination, Dunhill's limousette sidecar, Lucas dynamo lighting; £165; exchange for A.B.C.—A. Sprawson, 21, Holbeach Rd., Catford. [5949

1917 7-9h.p. Harley-Davidson Combination, khaki model, a perfect 'bus, will bear any examination and trial, genuine bargain; £127.—Green, Holmside, St. Catherine's, Lincoln. [X0056

HARLEY-DAVIDSON 7-9h.p., in top-hole condition, complete with lamps, mechanical horn, a real bargain; £95.—Hughes, Lyndhurst, Woodhouse Rd., North Finchley. [5514

HARLEY 7-9h.p., electric model de luxe combination, had very little wear and guaranteed in perfect order throughout, cheap; £170.—The Dairy, High St., Thames Ditton. [6185

HARLEY 1919 Combination, electric model, disc wheels, screen, perfect; £175, or near offer.—Etherington, 91, St. Margaret's Rd., Twickenham. 'Phone: Richmond 1745. [5934

HARLEY-DAVIDSON Combination, as new, perfect condition, fully equipped and guaranteed; any trial; £135, or near offer.—Harley, 75, Murdock Rd., Handsworth, Birmingham. [6056

HARLEY-DAVIDSON Late 1918 7-9h.p. Combination, splendid condition, carefully used, horn, tools, electric lights; £135, or exchange lower power. —17, Clonmel Rd., Fulham. [5896

GENTLEMAN Unable to take delivery of a new Harley-Davidson 4h.p. flat twin, ordered some time ago, will accept £10 less than list price from first applicant.—Box 7,456, *c/o The Motor Cycle.* [5577

HARLEY-DAVIDSON 1920 4h.p. Flat Twin, brand new, including speedometer, lamp set, mechanical horn; £164; delivery ex-stock.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0075

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Harley-Davidson.

HARLEY-DAVIDSON 1920 4h.p. Model, complete with Swan sporting sidecar, electric lighting, mechanically perfect and indistinguishable from new £200.—Parker's, Bradshawgate, Bolton. [X000

HARLEY-DAVIDSON, 1920, Henderson Elite sidecar, disc wheels, mileage 1,100, speedometer, lamps, and spares; first offer over £200 secures; as new.—Janes and Adams, East Finchley. [628

1920 Harley-Davidson 7-9h.p., electric model, combination, driven 100 miles, perfect condition complete; £210; transferable insurance.—Apply, between 9 and 12 a.m., 285, Green Lanes, N.4. [550

HARLEY-DAVIDSON, late 1918, not W.D., combination, £40 sidecar, and wind screen, fully equipped, as new; £140 offer, or exchange lower powers.—143, Ravensbury Rd., Earlsfield, S.W. [637

1920 Harley-Davidson 7-9h.p., model F., with sidecar, speedometer, Klaxon horn, lamps complete, only done 2,500 miles, guaranteed sound; £205, carriage paid.—Macrae, 37, Cockburn St., Edinburgh. [549

HARLEY-DAVIDSON, delivered Nov., 1919, spring sidecar, Mills-Fulford chassis, discs, electric lighting and horn, perfect condition; £200.—Write 'phone, call, Selby, 5, Heath Drive, N.W.3. [520

HARLEY 7-9h.p., late 1915, bought new in 1916 also stored 2 years, dynamo lighting, Klaxonett Tan Sad, tools, splendid condition; £88; offers; call after 6 evenings.—1, Seagrave Rd., West Brompton [537

HARLEY-DAVIDSON, 1920, June, 7-9h.p., and Henderson Elite sidecar, wind screen, discs, mileage 2,500, perfect order, owner bought car; £240 or near offer.—Logan, 32, Florenceville Av., Belfast. [554

HARLEY-DAVIDSON 1920 7-9h.p., with well sprung Swan Sidecar, compressed acetylene lighting, speedometer, Klaxon, Tan-Sad, perfect condition; best offer above 200 gns.—Blakey, 20, St. Bede's Terrace, Sunderland. [473

1920 Harley 7-9h.p., magneto model, mechanically perfect, luxurious Dunhill sidecar, lamps, horn, speedometer, leg shields, muffs, spares, practically unscratched, tyres unpunctured; £190.—Birch, Coltmore, Thame. [X018

7-9h.p. Harley-Davidson, 1920, June, and sidecar electric model, fully equipped, practically unscratched, speedometer, electric lamps and horn, just run in, splendid outfit; £215.—75, Cleave Rd., Gillingham, Kent. [546

HARLEY-DAVIDSON Combination, 1915, 5-6h.p. single, excellent condition, Bosch magneto lamps, horn, must sell, no reasonable offer refused exchange considered. — Montgomery, Victoria Rooms Bristol. [6090

1919 Harley-Davidson 7-9h.p. Combination, bulbous Harley-Davidson sidecar, magneto model, electric lighting, ticks over, in perfect condition; first offer over £155 secures.—Maitland, Brooklands, Birch Grove, Acton, W.3. [6018

HARLEY-DAVIDSON 7-9h.p., 1915, Phœnix sidecar, all lamps, Tan-Sad, Cowey, Klaxon, just fitted new tyres and tubes, spare new tyre and tube, only done 5,000 miles; experts invited; £145.—Welch, 45, Sutherland Rd., Tottenham. [5219

1919 Harley and Sidecar, adjustable semi-T.T. bars, touring if preferred, Bosch mag., good tyres, completely overhauled by our Mr. Baragwanath, not botched by some wartime muck-anic; £118; worth £160 if enamelled.—Below.

1918 Harley, as above, but with touring bars and Berling mag.; appearance of this one good; £109/10 with sidecar; will separate either; identical machines, but probably not as good mechanically, bring £130 solo in West End with only a dealers' overhaul. See Miscellaneous B.B. Garage.—40, Murray Mews, Murray St., Camden Town, N.W., near M.L. Railway. [6404

1920 Harley-Davidson Flat Twin, complete with makers' lighting set, speedometer, and horn, only done 700 miles, absolutely perfect condition; £150; owner bought car.—'Phone: Park 2168, or apply, 18, Holland Park Mews, W.11. [5742

HARLEY-DAVIDSON 1919, mag. model, mileage 800, 7-9h.p., perfect, £135; or late 1915 electric model, 1919 Remy, stored 3 years, khaki enamel, Easting, plating, etc., tyres as new, C.B. sidecar, perfect condition, any trial.—2, Dantzic Parade, Finchley, N.3. [5299

HARLEY-DAVIDSON Combination, late 1919, mag. model, 7-9h.p., 3-speed, very fine 1920 Derwent sidecar (cost £40 two months ago), the whole outfit is in splendid condition, and complete with all accessories, including speedometer; price £190.—Parry, Borrowash, Derby. [5111

Hazlewood

1919 Hazlewood-Jap Combination, little used, running excellently; £135.—Jalland, Limes, Highworth. [5118

HAZLEWOOD-J.A.P. 1915 2¾h.p., 3-speed, clutch, kick start, just been overhauled and rebushed, excellent condition, lamps; £53.—Grunnill, Clifton Grove, Skegness. [5162

1920 Hazlewood Combination, fully equipped, beautiful condition; £160, or exchange solo Triumph and cash.—Beauchamp, 27, West Park, Clifton, Bristol. [5974

MOTOR CYCLES FOR SALE.

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AMES 4½h.p., 3-speed, countershaft cancelet coachbuilt sidecar, nice condition; £75, bargain. Coffin, Holwell, Sherborne. [6082a

AMES.—Immediate delivery 1920 6h.p. combination, complete with 3 speeds and clutch.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0029

AMES 1920 Twin Combination, just delivered, all on, at net list price.—Express Works, 2, Broadway, Friern Barnet Rd., N.11. [5330

AMES 4½h.p. 1919 Combination, Easting, speedometer, lamps, horn, tools, spares; offers above 100.—Hutchins, Foster's, Sherborne. [5876

1920 James 6h.p. De Luxe Combination, all accessories, running and condition faultless; £170. 26, Webb's Rd., Battersea Rise, S.W. [6048

1919 James Combination, 4½h.p., all lamps, speedometer, etc., perfect order and condition; 37/10.—Stretton, Worcester St., Gloucester. [X0130

1920 James Solo, complete lamps, horn, speedometer, only done about 500 miles; £123.—Wright's Garage, Saffron Walden. Tel.: 16. [6191

AMES 1920 3½h.p. Twin, lamps, Klaxon, speedometer, tools, etc., perfect condition; £105, or best offer.—Moore, 10, Green Gardens, Richmond, Surrey. [4196

1h.p. James Twin, 1916, 3-speed, clutch, Binks 2 carburetter, electric lighting, Cowey speedometer, Klaxon, tools, spares; £85; ride away.—30, Ieham Gardens, Hampstead. [5686

AMES 2-stroke, 1920, 2-speed gear, Miller head lamp, electric rear lamp, horn, and all tools, splendid condition; £70, or near offer; Hants.—X 7,476, c/o *The Motor Cycle*. (D) [6320

1919 5-6h.p. James Combination, Millford sidecar, hood, wind screen, luggage grid, Cowey speedometer, lamps, etc., excellent condition.—Apply, Hales rage, St. Paul's Rd., Highbury, N.1. [5048

1914 4h.p. James Combination, C.B., 3-speed, clutch, Bosch, B. and B., good tyres, original enamel nd order, guaranteed; any trial; £58, bargain.—son, Ivy House, Thomas St., King's Lynn. [5875

IMMEDIATE Delivery 1920 James 6h.p. combination, Model de Luxe sidecar, £190; also new 1920 4¼ combination, Model de Luxe sidecar, £170.—The mier Motor Co., Aston Rd., Birmingham. [5554

1917 James 5-6h.p. Combination, Lucas dynamo lighting, electric horn, hand Klaxon, speedoer, hood, screen, overalls, excellent condition; 50; seen after 6 p.m.—Elgin, St. Stephen's Rd., wsley, Middlesex. [5265

O.C.H. have a 1919 4½h.p. James Combination, new condition, Volex electric set.—Fair Offer House, 5, Heath St., Hampstead (nr. Hampstead be Station). 'Phone: Hampstead 3752. Hours including Saturdays. [5447

1919 James 6h.p., 3-speed, chain drive, Montgomery sidecar, speedometer, 3,600 miles, tools, spares, ps, 2 generators, insurance policy; £128, immediate seen at Kensington.—Write Bosworth, 9, Grove k Gardens, Chiswick. 'Phone: Chiswick 855. [5056

J.A.P.

h.p. Twin J.A.P., 2-speed, kick start, Bosch, in good order; first cash £39 to clear.—Hill, 3, lford Rd., West Ealing, London. [6366

A.P. 2½h.p., ride away, Bosch, Druids, Brooks pan, excellent mudguarding, tyres as new, lamps, xon; £28; photo.—7, Orchard St., Newport, Wight. [5730

A.P. 6h.p. Coachbuilt Combination, 3-speed, new Dunlops, plenty of spares; £90; seen by appointt.—Apply, Turner, 37, Wrottlesley Rd., Harlesden, W.10. [4135

h.p. J.A.P., Sturmey 3-speed gear box, K.S., Druids, Amac, E.I.C. mag., Avon combination tyres, 650×, all new, ready for road; £120.—Wright, Mayfield, th Darley, Matlock. [5267

A.P. 8h.p. P.V., spring frame, hand clutch, earth switch, lamps, mechanical horn, registration, very too powerful present owner, worth seeing; sell, or exchange for car.—Fitt, Marine Hotel, Tankerton, ent. [5833

0 BORE 8-10h.p. o.h.v. J.A.P. Combination, 3-speed, clutch, kick starter, fast, sporting, inction, trial invited 6.30 or week-end; best offer r £130; private owner; must sell quickly.—R.B., rst, Alderley Edge, Cheshire. [5540

J.E.S.

E.S. Motor Cyclette, first-class order; £18.—Swaber, 52, Norfolk Rd., Erdington. [5158

E.S. on strong B.S.A. cycle, original tyres; £18.—Knight, West Crescent, Darlington. [5799

E.S., attached Humber cycle, just overhauled; £16. —Davies, Northbrook St., Newbury. [5155

E.S. Motorcyclette, good condition, but needs slight attention; £19, complete.—23, Milton Rd., Bourneith. [5421

Kerry

ERRY-ABINGDON 3½h.p., N.S.U. 2-speed gear, good and serviceable condition, with light C.B. car; £65.—85, Church Rd., Willesden. [6294

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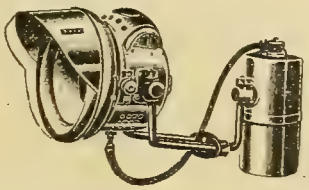

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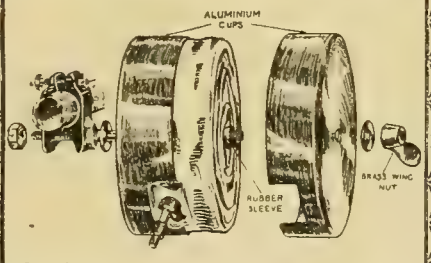

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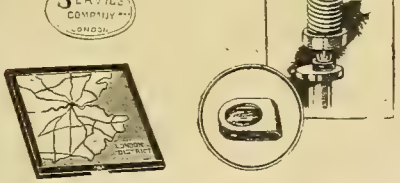

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3h.p. Lea and Francis, new 1920 model; £130; exchange arranged. — Waucaope's, 9, Shoe Lane, London [2033

LEA-FRANCIS, new, M.A.G. engine, just in; £150.—Clark, 7, Exhibition Rd., South Kensington. [6177

1920 4½h.p. Lea-Francis, must sell: £120; £10 under makers' list price.—J. Smith and Co., 16, Hampstead Rd., N.W. [6398

LEA-FRANCIS, 1920, J.A.P. engine, in splendid condition, speedometer, lamps; £122.—Elder, 46, Crossley Terrace, Newcastle-on-Tyne. [5317

1919 Lea-Francis Coachbuilt Combination, carrier, splendid machine; £120; owner going abroad.—Whitehead, Povey Cross, Horley, Surrey. [X0002

LEA-FRANCIS 3½h.p. Twin, M.A.G. engine, delivered last July, absolutely as new; £120.—Thornley, Radford Hall, Leamington Spa. [5498

LEA-FRANCIS.—Immediate delivery, 1920 twin-cyl., 2 speeds, hand-controlled clutch, M.A.G. engine.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0019

MAUDES'.—Latest 1920 3½h.p. model Lea-Francis, M.A.G. engine; £130; ex actual stock; deferred payments arranged.—Maudes', 100, Gt. Portland St., W.1. [6209

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 193, Gt. Portland St., W.1. [0099

LEA-FRANCIS, 1920, May, lamps, speedometer, with or without sidecar, little used, reason for selling; offers.—Plant, Wychdon Lodge, Hixon, nr. Stafford. [6283

LEA-FRANCIS 1917 3½h.p., 2-speed and clutch, recently overhauled and renovated, fitted with brand new 1920 3½h.p. J.A.P. engine; £90.—Parker's, Bradshawgate, Bolton. [X0007

1920 Lea-Francis, 3½h.p., twin J.A.P., lamps, horn, speedometer 400 miles, engine just run in, any trial; £115.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. 'Phone: Hamp. 7822. [6216

LEA-FRANCIS M.A.G. Combination, May, 1920, large P.H. lamps, horn, luggage grid, London-Edinburgh gold medal, machine perfect; £140, must realise.—14, Highgate Rd., Kentish Town. [6284

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5812

LEA-FRANCIS 1920 3½h.p., twin M.A.G. engine, all-chain drive, delivery from stock list price; £130; extended terms if desired; trade supplied.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0065

Levis.

NEW Levis in Stock; list price.—Fancourt's Garage, Stamford. [3701

LEVIS.—District agents, The Walsall Garage, Walsall. Tel.: 444. [5765

LEVIS Motor Cycle, brand new; immediate delivery. —Brook, Burnham, Somerset. [5561

1919½ Levis 2½h.p., 2-speed, equipped, speedometer; £64.—18, Holly Rd., Chiswick. [5490

LEVIS Popular, 1915, £38; lamps, etc.—Carter, 96, Merton Rd., Wandsworth, S.W. [5836

LEVIS 2¼h.p., new condition, fully equipped; £44, bargain.—55, Ballspond Rd., Islington. [6215

LEVIS, late 1919, in first-class condition, lamps, horn, etc.—99, Butler Rd., Harrow-on-the-Hill. [6133

1919 Levis 2¼h.p., good condition, accessories, P. and H. lamps.—H. Maw, East Stockwith, Gainsborough. [5339

1920 Levis Popular, done 100 miles, lamps and horn; £60, no offers.—Vincent, 82, Westlode St., Spalding. [5919

LEVIS Popular Models in Stock; £60.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. Phone: 214. [1097

LEVIS 2½h.p., 2-speed, fully equipped; £55; exchange 4h.p. 2-speed.—Mathews, 71, Kenyon St., Fulham, S.W. [5271

LEVIS 2¾h.p. Roadster, 1917, 1½ gallons, very fast, perfect running order, climbs everything; £35.—66, Crouch Hall Rd., N.8. [6077

LEVIS 1920 Popular Model, just arrived from works; immediate delivery at makers' price, £60.—Wilkins, Simpson, opposite Olympia, London. [3887

IMMEDIATE Delivery from stock of the new 2¼h.p. Popular Model Levis, £60; the master 2-stroke.—The Premier Motor Co., Aston Rd., Birmingham. [5556

LEVIS Late 1919 2½h.p., all-chain drive, Enfield 2-speed, lamps, accessories, perfect condition, very little used; £60, or nearest offer.—O. Andrews, Conway House, New Romney, Kent. [5784

1920 Levis Popular, guaranteed perfect, mileage under 200, P. and H. head lamp, etc., horn, all accessories; £61 cash; call after 6 p.m.—26, Bute St., Barlow Rd., Levenshulme, Manchester. [5862

MOTOR CYCLES FOR SALE.

Levis.

GENUINE Bargain, 1920, July, Levis Popular, P. and H. lamp set, electric rear light, Lucas horn, pump, tools, etc., cost altogether £65; accept £53, or exchange gent's cycle and cash; machine only in use fortnight, and is as good as new.—54, St. Charles Sq., North Kensington, W.10. [6348

Lincoln-Elk

LINCOLN-ELK 4¼h.p., single, Bosch, fast machine; £25.—Beldie, The Crescent, Sutton. [5425

LATE 1914 Lincoln Elk 4h.p. Combination; a bargain, £65.—Apply, 15, Rheidol Terrace, St. Peter St., Islington [5743

4¼h.p. Lincoln-Elk Motor Cycle, good running order, just been overhauled; £50, or nearest offer.—Gibbs, High St., Burnham, Bucks. [5051

L.M.C.

L.M.C. 1920 6h.p., 3-speed, hand clutch, Henderson Elite sidecar; £165.—Nichol, Beal, Northumberland. [5370

1919 L.M.C. 4¼h.p. Combination, Sturmey-Archer 3-speed, electric lighting, fully equipped, excellent condition; £110.—153, Cromwell Rd., Peterborough. [3802

L.M.C. 1920 model 6h.p., Millford sidecar, splendid combination, all accessories, had careful treatment, and very little used, must sell; £160, or nearest offer.—Barnes, Broadlands, Chesham, Bucks. [5623

L.M.C. 1920 6h.p. Combination, as new, cost £182; pricing this outfit, which we guarantee perfect, at £135, we ask you to show us equal value. Bicester is actually the very best market, and an ever-widening circle realises this.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0126

1920 L.M.C. 6h.p. Combination, only run 600 miles, complete with lamps, horn, wind screen, luggage grid, spare belt and tube, all tools, mechanically perfect, the property of an officer proceeding shortly to India; this represents over £190 at to-day's prices; £140, or near.—The Layton Garages, 90, High St., Oxford. 'Phone: 784. 'Grams: Integrity, Oxford. [5064

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MARTIN 1914 3½h.p., o.h.v., new roller bearings Senspray, discs, exceptionally smart; £65.—4, Market Sq., Stony Stratford, Bucks. [5853

Martinsyde.

MARTINSYDE-NEWMAN 1920 Combination, brand new; £170.—Folbigg, 84, High St., Stevenage. [5252

NEW Martinsyde-Newman Combinations, immediate delivery; £170.—Maudes' Motor Mart, 100, Paris St., Exeter. [5964

FRANK WHITWORTH, Ltd., 139, New St., Birmingham, for Martinsyde combination; immediate delivery free; £170. [X0061

MARTINSYDE-NEWMAN 6h.p. Combination, 1920 brand new, hood and Klaxon.—H. Glover, 57, St John St., Hanley, Staffs. [5334

MARTINSYDE-NEWMAN Combination, the cheapest on the market; £170. Sole agents for Kent; sub-agents appointed; deliveries from stock.—Motor Cycle Mart, Ltd., Fair Row, Chatham. [5985

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford; also Cornwall and Devonshire, for Martinsyde Newman combination, £170; deliveries now being effected; sub-agents appointed.—Maudes' Motor Mart 100, Gt. Portland St., W.1, and Paris St., Exeter. [6611

Matchless

MATCHLESS.

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STANDARD Model, fitted M.A.G. or J.A.P. engine £205; with dynamo lighting, £230.—Lakeman, 26 Long Acre, London, W.C.2 [0274

8h.p. Matchless and Sidecar; £70.—E. T. Morriss, 139, Finchley Rd., N.W.3. [5198

1919 Victory Model Matchless, hood, screen, acetylene lamps; £170.—Ross, 86, High Rd., Lee S.E. [5076

1920 Matchless Combination, as delivered; list price.—Wright's Garage, Saffron Walden. Tel.: 16. [6192

MATCHLESS M.A.G. Combination, 1920, Magdyno just delivered; offers.—Russell, 22, Meadowside, Dundee. [5304

3½h.p. Twin Matchless-Jap, 3-speed, C.B. combination, all on, good condition; £60.—147, Lymington Rd., Torquay. [X9999

1920 Model H Matchless Combination, delivery early September; accept list price.—Box 7,468, c/o *The Motor Cycle*. [5590

MATCHLESS Combinations at makers' prices; enquiries invited.—Wilkins, Simpson, opposite Olympia, London. [3891

1920 Matchless, Model 8, Magdyno lighting, hood, screen, step, etc., perfect; £198.—87, Lauriston Rd., South Hackney. [X0144

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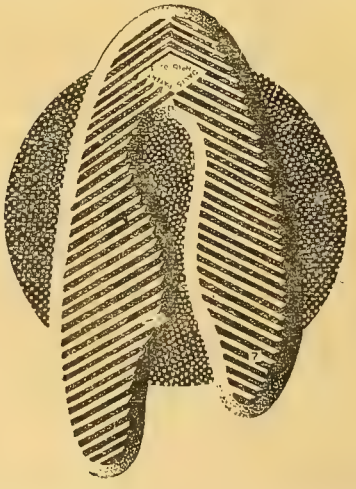

MOTOR CYCLES FOR SALE.

Matchless.

1920 Matchless, magdyno, speedometer, new, in stock; list price.—Edwards and Co., 50, Harrington Rd., S.W.7. [3405

MATCHLESS Victory Model, new tyres, perfect condition throughout; nearest £140, must sell.—123, Gray's Inn Rd., London, W.C. [6224

1920 Model H Matchless, Lucas dynamo lighting, horn, hood, leg guards; £215; exchanges.—2, Nightingale Rd. Lower Clapton. [6296

MATCHLESS Combination, 8h.p., J.A.P. engine, perfect condition; £95; bargain; after 7.—19, Fairmound Rd., Brixton Hill, S.W. [5722

£85.—Matchless C.B. Combination, 8h.p. J.A.P., 2 speed, K.S., splendid condition, all accessories.—Loxwood House, Meath Green, Horley, Surrey. [5376

MATCHLESS, 1920, Lucas dynamo, M.A.G. engine, hood, speedometer, spare wheel, unscratched, mileage 600; offers.—Janes and Adams, East Finchley. [6205

MATCHLESS 1920 Model H, fully equipped, insurance, coachbuilt pillion seat; £205, or reasonable offer.—32, Morrab Gardens, Water Lane, Seven Kings. [5626

VICTORY Model Matchless 8h.p., detachable wheels, 3-speed, usual accessories and spares, good condition; £150.—Tassell, 1a, Bloomfield Rd., Plumstead. [5893

MATCHLESS Model H Combination, 8h.p. J.A.P., hood, wind screen, lamps, horn, etc., perfect condition; £190.—Geo. Lewis, Timber Merchant, Reading. [5737

MATCHLESS Combination, beautiful condition, cheap; exchange lower power; cash adjustment.—57, Kenbury St., Coldharbour Lane, Camberwell. [5977

1920 Matchless Combination, Model H., M.A.G. Lucas horn, electric lighting, about 800 miles; £205.—Blenheim, Grosvenor Rd., Muswell Hill, N. [6074

1920 Matchless H Combination, hood, screen, all accessories; offers, and inspection evenings by appointment in writing.—22, Earlsthorpe Rd., Sydenham, S.E. [5179

MATCHLESS 1920 Model H Combination, used for about 500 miles only, guaranteed as new, complete with Lucas lighting set, horn, hood, etc.; £205.—Below.

MATCHLESS 1920 Model H Combination, new, in stock for immediate delivery at list price: £205.—Official agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0066

VICTORY Model Matchless, M.A.G. engine, Palmer cords hood, screen, lamps, and tools, mileage 1,500; £175.—3, Bolina Rd., South Bermondsey, London. [5307

1920 Matchless Combination, complete with lamps, Lucas horn, spare wheel, etc., mileage 500, as new; £220, or near offer.—Box 7,378, c/o *The Motor Cycle*. [5083

MATCHLESS Combination, 1920, Model H, done 1,065 miles, J.A.P. engine, insurance and all extras; £205, or near.—Jones, Te-Aro, Upper Tooting Park, S.W.17. [5065

1920 Matchless, Model H, M.A.G. engine, Lucas horn, lamps, speedometer, legshields, hood, perfect condition; 205 gns.—Edwards and Co., 50, Harrington Rd., S.W.7. [3407

1919 Victory Matchless Combination, spare wheel, accessories; £155.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [5457

MIDLANDERS.—Colmore Depots supply at once 1920 Matchless H. combination, spare wheel, luggage grid, and wind screen; £205.—Colmore Depot, 31, Colmore Row, Birmingham. [X9804

1920 8h.p. Mag. Dynamo Lighting Matchless Combination, new June, hood, speedometer, horn, legshields, sidecar step, M.A.G. engine; £220.—Ross, 86, High Rd., Lee, S.E. [5075

MATCHLESS, delivery from stock of new spring frame model, equipped to your requirements; replacements for Matchless models of all dates.—Tassell, 1a, Bloomfield Rd., Plumstead [1958

MATCHLESS, 8h.p., 1920, spring frame combinations, early delivery, with or without dynamo lighting; also a second-hand 1920 model, offers.—Wauchope's, 9, Shoe Lane, London. [4933

MATCHLESS.—Immediate delivery, 1920 Model H combination, complete with Lucas Magdyno electric lighting, M.A.G. engine, spare wheel and tyre.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0025

MATCHLESS Latest Model H Combination, spring frame, Lucas Magdyno, spare wheel and tyre, luggage grid, only done few hundred miles, equal to new; £230.—Parker's, Bradshawgate, Bolton. [X0004

MATCHLESS 8h.p. J.A.P. Victory Model Combination, lamps, horn, Easting wind screen, hood, interchangeable wheels and spare, complete set tools; any trial; £175.—46, Griffin Rd., Plumstead, S.E.18. [5897

MATCHLESS Combination, J.A.P. engine, racing model, with overhead valves, Gradua gear, new tyres and belt, with all accessories complete, coachbuilt sidecar.—Apply, J. W. Gibson, Gas Works, B. Salterton, Devon. [5127

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ATCHLESS-J.A.P. 1918 Combination, 8h.p., low mileage, turnout, including original tyres, excel- condition, hood, screen, spare wheel, Lucas lamps, tometer; £140.—Major Shelley, c/o Crow Bros., lford. [5125

).C.H. have a new Matchless-M.A.G. Combination, Lucas equipment; list price.—Fair Offer Car e, 5, Heath St., Hampstead (nr. Hampstead Tube on). 'Phone: Hampstead 3752. Hours 9-7, in- ng Saturdays. [5449

ATCHLESS-M.A.G. Combination, 3 speeds, clutch, Lucas dynamo lighting, electric and bulb horns, screen, speedometer, watch, and some spares, whole equal to new; £150.—Griffin, 53, Denmark Camberwell, S.E.5. [5699

16 Matchless Combination, 7-9h.p. M.A.G. en- gine, 3 speeds, kick start, enclosed chain drive, amps, horn, Watford, hood, screen, discs, extra 's seat and Tan Sad; £150; exchanges.—2, tingale Rd., Lower Clapton. [6300

ATCHLESS 1919 Victory Model Combination, 8h.p. J.A.P., special hood and screen, speedo- r Lucas lamps, spare wheel, excellent condition, ughly overhauled in every way; price £180.— am, 13, Champion Grove, Denmark Hill, S.E.5. r 5 p.m.) [6140

ATCHLESS Model 8b Combination, 1915, M.A.G. engine, frame C3152, very complete equipment, , speedometer, mechanical horn, luxurious sidecar hood, special dash and wind screen, all tools and , condition splendid, exceptionally powerful e; reason selling, new machine arrived; easily con- l to delivery outfit; seen and tried by appointment; st offer £150 gets a bargain.—Boyes, Park Lodge, ls Green, Sevenoaks. [6100

Metro

ETRO, 1916, condition as new; £42.—125, High St., Woolwich. [6097

ETRO-TYLER 2-stroke, 1920, new in April, per- fect order; £55.—Coombes, 62, London Rd., ton. [6365

ETRO-TYLER 1919 2¼h.p., 2-speed, plated ex- haust, new tyres, disc wheels, excellent condi- £49.—Yeoman, Lloyds Bank, Bristol. [5822

20 Metro-Tyler 2¾h.p., 2-speed, new Tan-Sad, horn, etc., done 600 miles; a bargain, 57 gns., fers.—136, Leamington Rd., Blackburn. [5883

TRO-TYLER 1920 Super 2-stroke.—We have one slightly soiled, Type A, 2-speed, all-red model, wheels; for sale at £65 cash; list price £77 17.6. ow. [6210

TRO-TYLER, latest Type S, enclosed drive, de livery from stock; £95; no extra for extended ; trade supplied.—City agents, Elce and Co., , Bishopsgate Av., Camomile St., E.C.3. [0067

TRO-TYLER, type S, latest model, brand new, 2¾h.p., 2-speed, with enclosed mag. and gear box; 3; delivery from stock.—P. J. Evans, 83-91, John St., Birmingham. [0260

UDES'.—Latest 1920 model Metro-Tyler, Type S, £95, ex actual stock: 1919 model, brand reduced price, £65, ex actual stock; deferred nts arranged.—Maudes', 100, Gt. Portland St., [6210

Minerva.

NERVA 2½h.p., coil ignition, B. and B., engine ebushed, good condition; £15.—Bakery, Ticehurst, [5764

.p. Minerva, m.o.v., U.H., Atmos, drop frame, new belt, smart appearance; ride away; stamp, ; £30.—Towler, 25, Friars St., King's Lynn. [5415

NERVA 3½h.p., in excellent running order, an ld machine, but one of the best, B.B. carbu- , m.i., tank aluminium and black, M-L mag., ards, lamp, horn, and tools; £18/10.—Hughes, bridge, Hants. [5857

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.p. Moto-Reve, 1911, cylinders reground, new pistons, mag., etc., requires timing; £18.— bes, Lockerley, Hants. [6379

Motosacoche

K. G. MUNDY.—Motosacoche 2½h.p., 1912, in ex- cellent mechanical order; £20.—1, Duke St., Rich- [5595

TOSACOCHE, 1¾h.p., running; cash offer; motor, 3½h.p., £15; auto-wheel, £10/10.—12, ire St., Bethnal Green. [5536

.—Motosacoche, 1914, 2¼h.p., overhauled, re- bushed, enamelled, lamps, Klaxon, etc.; ride —Bate, 43, Henshaw St., Stretford, Manchester. [5322

New Hudson.

W HUDSON, 3½h.p., 3-speed, K.S.; £47; trial. —122, Woodvale, Honor Oak. [5901

20 New Hudson 2-stroke, 2-speed, unused; will accept £67/10.—Webb, Bletchley. [6150

20 New Hudson 2-stroke, 2-speed, perfect; £70.— 18, George St., Dunstable, Beds. [5797

30 New Hudson 2¾h.p. 2-stroke, unused, list price £75; accept £72.—Colonial Motor Co., Finchley Rd., N.W.3. 'Phone: Hamp. 7822. [6217

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1920 New Hudson 2-stroke, very little ridden; 67 gns.; very grand value.—Julian, 84, Broad St., Reading. [5233

NEW HUDSON, immediate delivery, 1920 2¼h.p. 2 stroke model.—Parker's, Bradshawgate, Bolton Tel.: 1348. [X0014

1920 New Hudson 2¼h.p. 2-stroke, 2-speed, com- plete with lamps, horn, and accessories, excel- lent condition; £60.—Sorby, The Hall, Thorpe Salvin, Worksop. [5856

£49.—New Hudson 3½h.p., 3-speed, clutch, K.S., conchbuilt sidecar, excellent condition.—Booth, Hightown, Crewe. [5201

NEW HUDSON Combination 6-8h.p. Twin, 3-speed, perfect condition; offers.—Barber, The Cottage, Chelford, Cheshire. [5383

NEW HUDSON 2-stroke Lightweights, immediate delivery, spares stocked.—New Hudson Depot, 45, Grays Inn Rd, W.C.2. [1298

NEW HUDSON 3½h.p., 1914, Armstrong gears thoroughly overhauled; £43.—Garage, 39, Syden ham Hill, S.E.26. 'Phone: Syd. 704. [5690

1920 2¼h.p. New Hudson 2-stroke, with accessories not run 200 miles; owner retiring; £75.—Di. Chown, Townshend, Flayle, Cornwall. [5315

NEW HUDSON 4h.p. Combination, July, 1919, lamps, horn, screen, apron, completely overhauled, tyres unpuncture; £110.—6, Cleveland Mews, Lan- caster Gate. [5995

NEW HUDSON Lightweights, 1920, 2¼h.p., 2 speed, £75, or fully equipped with head lamp and gener ator, tail lamp, and tubing, horn, L.C.C. registration, petrol, and oil, £79/15.—Copped, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [0280

NEW HUDSON 1920 2¾h.p., 2-speed, Miller's lamps, Tan Sad, pump, tools, horn, etc., insured £80, only ridden about 200 miles, enamel, plating, and mechanical condition as new, cost fitted as above, £85; first £65 secures.—Collins, 82, Queen's Rd., Nuneaton. [5859

New Imperial.

NEW IMPERIAL 2¾h.p., 1920, kick start, clutch, small mileage; £86.—Bloxham, Sittingbourne. [5161

NEW IMPERIAL-J.A.P. 2¾h.p., believed 1917, 2- speed; £47/10.—Wall, 7, Lewisham Rd., S.E.13. [5192

NEW IMPERIAL 1920 Combination, brand new; 178 gn .—J. E. Lawes, Ltd., The Triangle, Alder- shot. [5287

1915 Imperial-Jap, 2¾h.p., 2-speed, perfect condi- tion; £43.—Lovatt, Dove House Copperhall, Crewe. [5349

NEW IMPERIAL-J.A.P., 1916, 2¾h.p., 2-speed, lamps, horn; £43.—2, Elmsleigh Terrace, Wands- worth, S.W. [6057

2¾h.p. New Imperial-Jap, 2 speeds, Bosch mag., 24 lamps, horn, good condition; £43.—Humphreys, Milton, Cambs. [5731

NEW IMPERIAL-J.A.P., 1917, 2¾h.p., 2-speed, ex- cellent condition, fast; 50 gns.—B., 41, Inverness Terrace, W.2. [5928

NEW IMPERIAL 2¾h.p., July, 1920, 2-speed, clutch, K.S., excellent condition; £72; evenings.—27, Holms- dale Av., East Sheen, S.W. [5403

2¾h.p. New Imperial-Jap, 2-speed, Bosch mag., lamps 24 and horn, good condition; £38/10.—J. Chambers, Preston Bissett, Buckingham. [5610

1917 2¾h.p. New Imperial, lamp, horn, tyres prac- tically new, splendid condition; £47.—Apply, Holmhurst, York Rd., Guildford. [5174

1918 8h.p. Imperial-Jap Combination, perfect con- dition, lamps, etc., ride away; £135, or nearest; cash wanted.—80, Clipstone St., Leicester. [5766

WAUCHOPE'S, 9, Shoe Lane, London.—2¼h.p. 1920 New Imperial-Japs, 2-speed clutch, and kick start models; £89/5; with 2-speed, only £80/17. [6414

MAUDES'.—Latest 1920 8h.p model New Imperia 140 gns.; complete with Millford sidecar, £179; ex actual stock.—Maudes', 100, Gt. Portland St., W.1. [6212

NEW IMPERIAL 2¾h.p., 2-speed, kick start, clutch, tyres good, lamp, horn, excellent condition, recently overhauled; £55; London area.—Apply, Box 7,374, c/o *The Motor Cycle.* [5071

1920 Lightweight New Imperial, clutch, kick starter, ridden 200 miles; £72, or exchange with cash for good make 1920 combination.—Rosling, Summerlands, Paignton [6034

8h.p. New Imperial Coachbuilt Combination, screen, electric lamps, accessories, condition and appear- ance perfect; photo; best cheque over £100.—Aspden, 6, Southport Rd., Chorley. [5758

NEW Imperial Solo, 8h.p. J.A.P., Brampton forks, 28×3in. tyres, totally enclosed chain drive, com- plete, brand new, unpacked; accept best cash offer round £135.—57, South St., Rugby. [X0132

1920 New Imperial, 6-8h.p. J.A.P., Sandum Elite sidecar, hood, screen, Lucas lamps and horn, small mileage, condition as new, very smart; £170.— Brooks, Hawthorns, Worting, Basingstoke [2442

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New Imperial.

1920 New Imperial 2¾h.p., 2-speed, semi-T.T. plated bars, Pedley rubber grips, horn, tools, insurance, perfect condition; £70, or near offer; deposit.—Dilworth, 108, Prescot Rd., St. Helens, Lancs. [5294

NEW IMPERIAL-J.A.P., late 1916, 2¾h.p., 2-speed, Druids, recently rebushed, stored 2 years, good condition, lamps, etc.; ride away; after 7: £48, or offer.—Baker, 83, Cornwallis Rd., Upper Holloway. [6063

1920 New Imperials, new 8h.p. combinations, also light tourist models, during this week; write or call to secure.—Clapham (Motors), 27, Stockwell St., Greenwich S.E.10, or 'phone: Greenwich 751. [2008

F.O.C.H. have a New Imperial Light Tourist, No. 2, list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5434

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £82/17; with clutch and kick-starter, £89/5.—P. J. Evans, 83-91, John Bright St., Birmingham. [0262

NEW IMPERIAL-J.A.P. 1919 Combination, 8h.p., fully equipped, Watford speedometer, grid, Klaxon, wind screen, insured to June, condition excellent, just thoroughly overhauled, reliable machine; £140, or very near offer.—Yorke, 51, Waterloo Rd., Bedford. [6066

NEW IMPERIAL 1920 Light Tourist Models, delivery from stock; 2¾h.p., 2-speed, £80/17; 2-speed, clutch, and kick starter, £89/5; one shop-soiled brand new machine offered special reduced cash price, £65.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0074

NEW IMPERIAL Late 1918 Model, 2¾h.p., 2-speed, clutch, kick start, acetylene lamps front and back, complete outfit tools, tyres as new, in excellent running condition; cost £80 new; accept best offer over £55; owner going abroad; can be seen by appointment.—H.D., 31, Sutton Court Rd., Chiswick, London, W.4. [5216

1920 (June) 8h.p. New Imperial, and Henderson Elite Sidecar, disc wheels, Watford Cameo, F.R.S. lamps, 3 sets, pillion seat, Lucas horn, small mileage, tyres unpunctured, exceptionally fast, 60 m.p.g.; price £180, including insurance.—J., 206, High St., Stoke Newington. 'Phone: 379 Dalston. [6038

Norbreck.

NORBRECK-VILLIERS 2¾h.p., 2-speed, 2-stroke, brand new; £66.—Valentine, 24, Finedon Rd., Wellingborough. [5114

Norton.

1920 (August) 3½h.p. T.T. Norton, hardly used, speedometer; £115.—64, Frederick St., Loughborough. [X0155

1920 T.T. Norton, Philipson, lamps; £105, or nearest offer; owner going abroad.—G. Wilson, Elmhurst, Kendal. [5754

NORTON 3½h.p. Sports Combination, knee-grips and all accessories, first-class condition; £120.—Clayton, Upholland, nr. Wigan. [5352

1920 T.T. Norton, delivery early Sept., £5 deposit paid; what offers for transfer?—R. Searle, Ruabon, Avondale Rd., Seaford. [5924

1920 Sports Norton, 600 miles, perfect condition, very powerful; £120; complete with accessories.—Tyrrell, 19, James St., Cardiff. [5463

NORTON.—Immediate delivery 1920 Big Four and 3½h.p. T.T. countershaft models.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0027

1914 Norton 4h.p. Combination, C.B. sidecar, 3-speed Armstrong hub gear, perfect condition; £75; after 6 p.m.—151, Ramsden Rd., Balham. [5502

1920 4h.p. Norton, Empire sidecar, lamps, horn, speedometer, knee grips, perfect condition; £175.—Bloss, Red House, Wimpole Rd., Colchester. [5757

NORTON 1917 3½h.p., B.R.S., hand controlled Philipson, fully equipped, spare belt, stored 2 years, very fast.—Heron, 16, Stanmore Rd., Stevenage, Herts. [5929

NEW Big Four Norton 4½h.p. Excelsior Combination, bulbous back sidecar, 3-speed; kick starter; immediate delivery; £160.—The Premier Motor Co., Aston Rd., Birmingham. [5552

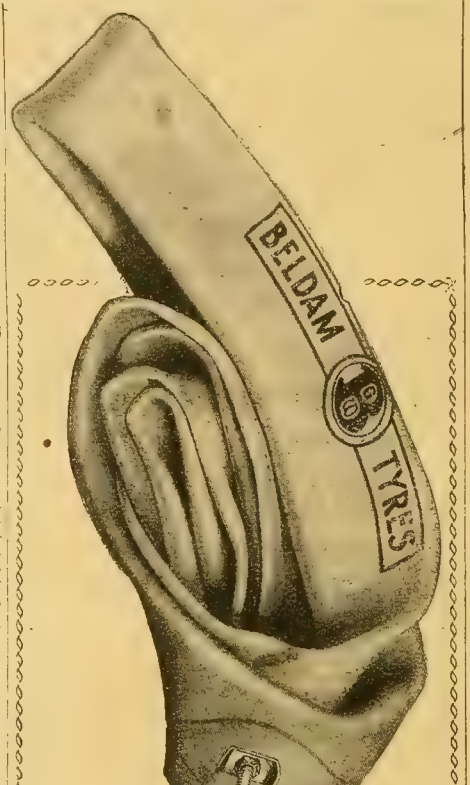
1916 Big Four Norton Combination, recently overhauled by makers, 3-speed, countershaft, kick start, speedometer, spares, etc., excellent condition; £120.—52, George Eliot Rd., Coventry. [X0112

NOVEMBER (1919) Norton Big Four, acetylene head, electric tail lamps, horn, 600 miles, as new, semi-T.T. bars, also touring bars; owner getting car; £135, or best offer.—Pyke, Hermitage, Netley Abbey. [5474

1920 Norton Big Four Countershaft, long exhaust, footrests (silencer and footboards, if required); £145.—Up to 6 p.m. at 15, Woodstock St., W.1. Tel.: Mayfair 1931. After, at 64, Gresham Rd., Brixton. [6084

1920 T.T. Norton, 500 miles, 6 to 60 m.p.h. tools, mechanical horn, knee grips, new inner tube, aluminium numbers, Brooks B220 saddle, aluminium disc wheels, trial; £100.—W.-B. Trethewey, Cuckfield, Sussex. [5748

1915-16 B.R.S. Countershaft Norton, Sturmey-Archer, complete, lamps, horn, pump, tools, plating enamel perfect, engine overhauled, new mains, etc., guaranteed over 60; £105, offers.—Richardson, Station Rd., Byfleet, Surrey. [5776



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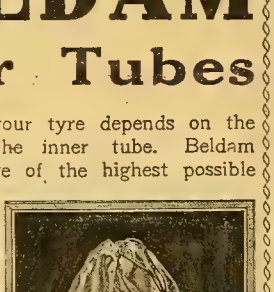

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N.S.U., good running order, with sidecar, less tyre £25.—Gibbs, High St., Burnham, Bucks. [503

N.S.U. 3½h.p., Bosch, B. and B., lately overhauled £24/10.—54, Halliford St., Essex Rd., N.1. [521

3½h.p. N.S.U., mechanically sound, runs ½d. mile £24.—54, Dundonald Rd., Wimbledon, S.W.19 [588

3½h.p. N.S.U., 2 speeds, C.A.V. mag., B. and B new tyres; bargain, £35.—159, Blagdon Rd., New Malden. [566

1914 N.S.U. 4¼h.p., 2-speed, F.E., Bosch, electric horn, fast and reliable; £55; Dartford district.—Box 7,481, c/o *The Motor Cycle*. [632

N.U.T.

1920 N.U.T., standard, 350 miles only, as new £150.—Tyrrell, 19, James St., Cardiff. [540

N.U.T., 8h.p. J.A.P., lamps, Klaxon, speedometer pillion seat, spares; £115.—Taft, Kidderminster [52

NEW N.U.T. Electric, immediate delivery; £165 Maudes' Motor Mart, 100, Paris St., Exeter. [59

BOLTON.—New 3½h.p. N.U.T., with dynamo lighting equipment; £165.—Grosvenor Garage, Bolton [X02

N.U.T., 1920, Lucas dynamo lighting, as new; £15 —Robson, 79, Thorpe Rd., Melton Mawbray. [56

FRANK WHITWORTH, Ltd., 139, New St., Birmingham, for N.U.T. motor cycles; immediate delivery. [X00

N.U.T. Motor Cycles from Stock.—A. J. Young & Co., Ltd., Heath Garage, Newmarket. 'Phone 214 [10

N.U.T.—Sole wholesale and retail agents for Staffordshire.—The Walsall Garage, Walsall. Tel. 444. [57

1920 (July) N.U.T., Lucas dynamo lighting, unscratched; first reasonable offer accepted.—Hughes, Abbey House, Cobridge, Stoke-on-Trent. [62

1920 N.U.T., Magdyno lighting, new, all complete with insurance; owner bought car; Lincs. district best offer over £160 secures.—Box 7,407, c/o *The Motor Cycle*. [52

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery. Write or 'phone for particulars—Tel. Yeovil 114. [60

1920 (Aug.) N.U.T., Lucas Magdyno set, watch, Bowniksen speedometer, knee-grips, spare valves, etc., all as new; best offer over £170.—Apply, Box 7,38 c/o *The Motor Cycle*. [51

N.U.T. Semi-T.T., 4h.p. twin J.A.P., Bosch, Amac, speed, clutch, K.S., lamps, very fast, good condition; any trial; £70, no offers.—James, 35, Stewart St Nuneaton, Warwickshire. [49

N.U.T. 1920 3½h.p. Twin, Lucas magdyno, delivery of this famous mount from stock; £165.—Sole wholesale and retail agents for city, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [00

LATEST Model 1920 3½h.p. N.U.T., 3 speeds, kick starter, Lucas dynamo lighting, brand new, from stock; £165; exchanges.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X00

N.U.T. 1914 2¾h.p., o.h.v., T.T., lamps, tools, grid, etc., sporting bike, excellent in appearance and condition, all on; £58; after 6.30 p.m.—26, Fairfield Rd, South Hampstead (Swiss Cottage Station). [55

N.U.T. 1920 3½h.p. Twin; 3 speeds, Lucas dynamo lighting set, disc wheels, mechanical horn, Cowey speedometer, run 300 miles, better than new; £1 first cheque secures.—Moffatt, 406, Garratt La Earlsfield, S.W.18. [62

O.K.

O.K. Junior Single and 2-speed Models.—Longm Fisherton, Salisbury. [6

O.K. Union, 1920, run 300 miles; £45.—Ranache Chalfont St. Peter's. [6

O.K.-VILLIERS 2½h.p., 1920, unused; £48.—10 High St., Wandsworth, S.W.18. [6

1920 O.K. Union, brand new, cost £51/5; acc £45/10.—38, Hawthorn Av., Louth. [X0

1920 O.K. Junior, lamps, horn, fully insured; £5 18, Eynsford Rd., Ilford. (D) [5

O.K. 2-speed 4-stroke, sound, reliable, economic £35.—3a, Standen St., Tunbridge Wells. [5

O.K. Union Models in stock at makers' price £5 —Eagles and Co., 275, High St., Acton, W.3 [X0

O.K. Union, as new, lamps, etc.; £47, barg any time.—38, Cavendish Drive, Leytonst E.11. [6

1920 O.K. Union 2-stroke; list price; immediate livery.—E. T. Morriss, 139, Finchley N.W.3. [5

O.K. Union, delivery from stock; 48 gns.; value.—Julian, 84, Broad St., Reading. 'Pho 1024. [4

O.K. 1917 2¾h.p., 2-speed, guaranteed perfect, new; bargain, £35.—44, Wargrave Av., Stam Hill, N.15. [5

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K. Junior; instant deliveries from stock; 48 gns. —Hewin's Garages, Ltd., the Real Service Firm, ton and Tones. [5388

K. Sporting Lightweight, o.h.i.v., very fast, reliable, ride 50 miles to buyer; £38, or higest offer.—27. Rd., Ealing, W.13. [5308

K. Lightweight 4-stroke, Albion 2-speed gear, new tyres, head lamp; £35, or offers.—Chauffeur, ington Park, Oxon. [5266

K. Junior 2½h.p., practically brand new, only ridden 20 miles; bargain, 45 gns.—P. J. Evans, 83-91, Bright St., Birmingham. [X0078

K. Juniors, just received from factory; £50/8; best value for money; also a few to spare for the —West, 42, Cranbrook Rd., Ilford. [5376

K. Juniors from Stock; 48 gns.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: and 75, Albany St., Regent's Park, N.W.1 ('Phone: um 5476). [1100

.C.H. for O.K. Unions and Juniors, list price.— Fair Offer Car House, 5, Heath St., Hampstead Hampstead Tube Station). 'Phone: Hampstead Hours 9-7, including Saturdays. [5436

Omega.

EGA-J.A.P.'s just arrived, Model B. £72, Model C. £80.—Washburn, Cheadle, Staffs. [5331

20 Omega-Jap, clutch, kick-starter, 2-speed; £70. —Curtis Wychbury House, Droitwich. [X0070

h.p. Omega-Jap, semi-T.T., 2-speed, long exhaust; nearest £54; must sell.—Argyle Lodge, Newton Burton-on-Trent. [5021

EGA-J.A.P. 1920 2¾h.p., 2-speed, clutch, and K.S., horn; £72, or near offer.—Sub.-Lt., H.M.S. eck, c/o G.P.O. [5109

.C.H. for Omegas; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Station). 'Phone: Hampstead 3752. Hours including Saturdays. [5440

P. and M.

IGHTON, Hove and district P. and M. agents.— Turpin's, 22 and 29, Preston Rd., Brighton. [0204

and M. Combination, in first-class condition, all accessories; £100.—Smith, 45, Town St., Batley. [5867

and M. 3½h.p., 2-speed, free engine, new chain, tyres good; £28.—Smith, 28, James St., North- on. [5276

and M. 3½h.p.p, coachbuilt sidecar, perfect order, tyres new, and spare; £60.—Martin, Headly Rd., hott. [5171

LMORE Depots, Birmingham.—1920 P. and M. motor cycles and sidecars; immediate deliveries.— Colmore Row. [X9808

and M. Combination, R.A.F. model, late type, accessories, fine running order; £75.—103a, High Wandsworth, S.W.18. [6249

18 P. and M., excellent condition, little used; £65; close offer considered; Staffordshire.—Box c/o *The Motor Cycle*. [6006

13 P. and M., 3½h.p., 2-speed, just overhauled, no accessories; £40; trial.—Midland Cycle Co., St. Clements, Oxford. [5270

18 P. and M. Combination, lamps, horn, new screen, tyres, tubes, private owner; £95.—26, ndra Rd., Englefield Green, Surrey. [5175

18 P. and M. 3½h.p., 2-speed, kick starter, good tyres, enamel almost as new, mechanically perfect; —Olphert, 66, Church Rd., Barnes, S.W. [6004

19 P. and M., delivered Jan., 1920, low mileage, condition almost as new, lamps, tools, and Tan- £106.—Willsmore, 46, Cromwell Rd., Luton. [5767

and M., 1918, new P. and H. lamps, Klaxon, pump, etc., excellent condition and appearance, s first kick; £80.—72, Longridge Rd., Earl's rt, S.W. [6053

IELON-MOORE, ex military stores, overhauled and sent on approval, £78; with Millford latest 1920 ar, £109; trade supplied.—Maudes', 100, Gt. Port- St., London; also Paris St., Exeter. [6203

18-19 P. and M., just completely overhauled and enamelled, mechanically perfect, all accessories, y to ride away; bargain, £70, rock bottom; trial ppointment.—D.L., 34, Whitehall Rd., Harrow. [5939

20 R.A.F. P. and M. Combination, not W.D., Lucas lamps, Watford speedometer, Tan-Sad, 2 tyres, 2 covers and spares, perfect mechanically, in appearance; trial; £122.—Tonge, 32, Henslowe E. Dulwich, S.E.22. [5938

and M. Combination, 1919 model, 2-speed, kick start, half-compression device, coachbuilt sidecar, e outfit as new, fast, economical; genuine bargain, 5, or solo £85; delivered.—Mason, 42, Glenthorn Jesmond, Newcastle-on-Tyne. [5166

19 P. and M. Combination, not W.D., condition practically equal to new, Mills-Fulford sidecar, be sent any distance in 24 hours; approval against : £115.—Langford's, 37, Cricklewood, Broadway, don ,N.W.2. 'Phone: Hampstead 8616. [5968

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LARGE Number P. and M. 1917 and 1918 W.D. Models, all-chain drive, 2-speed, kick starter, overhauled; original colours, ready to ride away, price £70; combinations, £98; the trade supplied.—Barnett, c/o Morris and Hall, Ridge Mews, Child's Hill, Cricklewood, N.W. 'Phone: Hampstead 7667. [3269

LATE 1917 3½h.p. P. and M., W.D. model, engine No. 5113S, 2-speed, clutch, kick start, all enclosed chain drive, enamel excellent, and machine in perfect mechanical condition, covers only 5 weeks old (Dunlop and Clincher), pillion seat, repair outfit, and tools; £75, or nearest; after 5 o'clock.—254, Manchester Rd., West Timperley, near Altrincham. [6236

P. and S.

NEW 2¾h.p. P. and S., fitted with the Villiers 2-stroke engine, 2-speed; £73.—Wauchope's, 9, Shoe Lane, London. [2047

Paragon.

1920 Paragon, 2-stroke, 2-speed, spring frame, just delivered, not unpacked; list price £70; our price for quick sale £57/10.—Short, 487, Upper Richmond Rd., East Sheen. 'Phone: Richmond 394. [5563

Peugeot

PEUGEOT 7-9h.p. Combination, speeds, K.S., Bosch, Binks, any trial; £52.—239, Beresford St., S.E. [5619

Precision.

2¾h.p. Precision, new tyres, tubes, Bosch, B. and B., plating as new, thorough running order; £26.— S.O., 177, Earlsfield Rd., Wandsworth. [5422

£48; Precision 4½h.p. combination, Binks, lamps, 2-speed, speedometer, good running order; or offer. —25, Percy St., Tottenham Court Rd., N.W. [6338

1914 4h.p. Precision C.B. Combination, 3-speed hub and clutch, Stewart speedometer, mechanically perfect; £75, or near.—73, Seymour Grove, Old Trafford, Manchester. [5258

PRECISION 3½h.p. Coachbuilt Combination, 3-speed countershaft, all chain drive, hand clutch; any trial; £75; by appointment.—Chambers, 4, Station Parade, Purley, Surrey. [5607

Premier.

3½h.p. Premier, 3-speed, sidecar, excellent climber; great bargain, £42; trial.—Orphanage, Turton, Bolton. [5369

PREMIER 3½h.p. Combination, 2-speed clutch, handle start, good condition; £50.—M. Kerron, Port Bannatyne, Scotland. [4113

PREMIER Lightweight, Bosch, B. and B., Dunlop, Michelin, excellent condition; best over £27.— Newman, Horton Rd., Gloucester. [6070

£78.—1916 Premier combination, 4h.p., 3-speed countershaft, £40 coachbuilt sidecar, hood, wind screen; seen any time.—20, Canterbury Rd., Croydon. [5485

PREMIER Combination, 3½h.p., 3-speed countershaft gear, Bosch, B.B., excellent condition, new 1915, stored 3 years; any trial; £64.—Griffin, Queen's Rd., Washford. [5126

PREMIER Combination, late model, 3-speed gear box, clutch, kick start, lamps, all accessories, new condition, sell cheap, or part exchange big twin.— Seen at Whitehorse Garage, 436, Whitehorse Rd., Thornton Heath. [5669

PREMIER 3½h.p., 3-speed, clutch, wicker sidecar, good tyres, speedometer, lamps, tools, fine mechanica condition; 50 gns., or exchange good lightweight; call Saturday afternoon or Sunday.—11, Brunswick Av., New Southgate, N.11. [5602

Pullin.

£5 Deposit on Pullin Motor Cycle; delivery anticipated daily.—21, Trafalgar St., Coventry. [X0178

PULLIN, delivery promised August; £5 deposit paid; offers for transfer.—Liddle, Springview, Bedlington, Northumberland. [5184

P.V.

P.V.-VILLIERS 1919 2¾h.p., lamps, Klaxon, perfect condition, spring frame; £57.—Cranford, 32, Mayon Rd., Sydenham, S.E.26. [6159

Quadrant.

1915 Quadrant 4½h.p., 3-speed S.A. hub, clutch, excellent mechanical condition, takes sidecar; bargain, £45.—Write, Harding, 4, Knoll Gardens, Sandgate. [5208

NEW 1920 4½h.p. Quadrant Combination, 3-speed, Sturmey-Archer countershaft gear, clutch, and kick starter; £145.—Wauchope's, 9, Shoe Lane, Fleet St., London. [2043

QUADRANT, 1920, 4½h.p., solo £115, combination £145; delivery from stock; extended terms; trade supplied.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0073

CLIFFORD WILSON Mfg. Co.—1920 solo Quadrant, complete with all accessories, guaranteed condition; £105.—70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [5460

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QUADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the only moderate-priced outfit left.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0277

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NEW 4½h.p. Quadrant Combination, to makers' specification; at list price, including carriage from works, £147/7/3, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5813

CLIFFORD WILSON Mfg. Co.—Quadrant. The premier wholesale and retail agents. We can give delivery from stock of solo (£115), and combination (£145) models, free delivery, and guarantee extended to 1 year on our responsibility, 14 years' experience with Quadrants.—70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [5458

Radco.

1917 Radco, 2-speed, clutch, kick start, trial; bargain 39 gns., nearest.—G. Toll, Stevenage, Herts. [X011

RADCO 2¼h.p., 2-speed, May, 1915, all accessories, decarbonised, new rings, spares, climb anything; £40.—303, Folkestone Rd., Dover. [5710

BRAND New 1920 Radco 2¼h.p., 2-stroke, £52; 2-speed model, £60/10; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [5557

Reading-Standard.

1920 Reading-Standard Combination, hardly soiled; bargain, £195.—Grimes, 18, Bruton Place, Bond St., W.1. [5957

TWO Late Model Reading-Standards, want few repairs, very cheap to clear.—Grimes, 18, Bruton Place, Bond St., W.1. [5958

READING-STANDARD Combination, 1915, lamps, fast, in good condition; £200.—Rich, 3, Brook Green, Hammersmith, W. [5505

READING-STANDARD 10h.p., 1916, splendid condition; seen after 6 p.m.; £100 or offer.—A. Creffield, 53, Idonia St., Deptford, S.E. [5277

READING-STANDARD 1920 Electric Combination, all accessories, mileage 560, superb outfit, cost £265, going abroad; sacrifice £210.—Pasmore, 39, Maida Vale, London. [4247

Regal.

REGAL 2-stroke, smart machine; £48.—20, Boston Rd., Hanwell, W.7. [5206

REGAL-PRECISION 4¼h.p., Grado gear, 1920 Amac carburetter, new tyres, lamps, horn, etc., very fast, first-class condition throughout; £60.—Pritchett, Stanhurst, Podsmead Rd., Gloucester. [5026

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REGENT 5-7h.p. Combination, 1920, just delivered; £180.—Tamplin, 20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [5130

Revere.

REVERE 1919 2-stroke, 2-speed, complete, lamps, etc.; £60.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [5389

Rex.

REX 3½h.p., Amac carburetter, new belt, new tube, less mag.; £7.—F. Rawson, Awkley, Doncaster. [5489

REX 6-8h.p. Combination, Bosch, B. and B., large well sprung sidecar; £70; after 6.—Overton, Peaslake, Gomshall. [5281

1912 6h.p. Twin Rex, Bosch waterproof, 2-speed, clutch, lamps, etc.; bargain, £36.—33, Station Way, Letchworth. [5636

8h.p. Rex Combination from stock; list price.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [6382

REX 6h.p., 2-speed, and wicker sidecar, really genuine old outfit, any trial; £40.—3a, Standen St., Tunbridge Wells. [5948

6h.p. Twin Rex C.B. Combination, Bosch, free engine, handle start, good running order; £65.—4, Gordon Terrace, Rochester. [5774

1913 4h.p. Rex Combination, 2 speeds, handle start; £55, or nearest offer; Nottinghamshire.—Box 7,460, c/o *The Motor Cycle.* [5581

1920 Rex-Blackburn Combination, Model 55, spare wheel; £218/18, or exchange.—Halifax Motor Exchange, Horton St., Halifax. [5411

REX 5-6h.p., F.E., Bosch, B. and B., new Dunlops and belt, Tan-Sad, lamps, etc.; ride away; after 5.—Smith, 27, Lismore Rd., Gospel Oak. [5135

REX 3½h.p., smart, low, powerful, perfect order, new tyres, all accessories, with coachbuilt sidecar; trial any time; bargain, £56.—45, Charles St., Stepney, E. [5930

1913 6h.p. Twin Rex, 2 speeds, perfect running order, smart appearance; £45; underslung coach sidecar for same; £10.—19, Stockwell Park Crescent, S.W.9. [X0066

REX 1907 6h.p. Twin, Roc 2-speed, engine perfect, new pistons, mag., springs; price £40, or offer; ample sidecar chassis; £2/10.—King, 27, Oxford Rd., Worthing. [5280

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REX 5-6h.p. C.B. Combination, guaranteed perfect condition throughout, Cameo, storm apron, speedometer, new P. and H. head lamp set, sidecar and rear lamps complete, any trial; bargain, £75.—Gilder sleeves, 24, Crimscott St., Bermondsey. [5834

1914 8h.p. Rex Combination, 3-speed countershaft gear, heavy chain drive, all parts replated and enamelled as new; this outfit in perfect condition throughout; only wants seeing; must be sold; best offer over £100.—Tarrington, Greystone, Newbridge, Mon. [5872

THE New Model 55 Rex Combination, with 8h.p. Blackburne engine, coachbuilt sidecar, cantilever springing, detachable wheels and tyres, now in stock for immediate delivery; £218/18; free delivery by road or rail.—The Premier Motor Co., Aston Rd., Birmingham. [5558

Rover.

WAUCHOPE'S, 9, Shoe Lane, London.—5-6h.p. Rover combination, 1918 model; £85. [6411

1918 5-6h.p. Rover Combination, little used; £145.—Fitt, Marine Hotel, Tankerton, Kent. [5831

1914 Rover, T.T., Philipson, equipped, perfect; £55.—164, Thornhill Rd., Tolworth, Surbiton. [5996

1919 6h.p. Rover, splendid condition; £125.—Wright's Garage, Saffron Walden. Tel.: 16. [6190

1919 T.T. Rover, complete, lamps, horn, good condition; £85.—Wright's Garage, Saffron Walden. Tel.: 16. [6189

MAUDES'.—Latest new 1920 Rover combination, 3½ h.p., ex actual stock; £206.—Maudes', 100, Gt. Portland St., W.1. [6204

1919 T.T. Rover, Philipson, speedometer, lamps, Cowey, tools, fast; appointment; £90.—Hawthorns, Hoddesdon, Herts. [5613

T.T. Rover, late 1919, very fast, perfect, new lamps and horn, etc., expert examination; £90.—4, West End Terrace, Southport. [5603

1920 Rover Combination, 3½h.p., wind screen, lamps, horn, as new, any trial; £142.—17a, Richmond Rd., Ilford, Essex. [5508

1920 Latest Model 5-6h.p. Rover Combination, mileage 250, new lamps, speedometer; £220.—Collier's Motories, Halifax. [5413

ROVER 3½h.p., 3-speed, lamps, horn, spares, etc., very fast, mileage 700; £125, or best offer.—Palmer, Wykin, Hinckley. [5917

ROVER Combination, or separate, 3-speed clutch, 1914, good condition, all on, £68; Triumph, £38, cheap.—1, Carline Rd., Lincoln. [X9979

1917 Rover 3½h.p., 3-speed, B. and B. carburetter, E.I.C., under 5,000 miles, first-class condition; £75.—Box 7,501, c/o *The Motor Cycle.* [6397

3½h.p. Rover C.B. Combination, clutch, 3 speeds; 100 gns., or exchange 2¾h.p. Douglas and cash.—13, King Edward's Gardens, Acton. [5095

ROVER 1912 3½h.p. Coachbuilt Combination, 2 speeds, Bosch, in splendid condition; £52; after 7 p.m.—Killarney, Colindale Av., Hendon. [5019

1919 (late) 3½h.p. T.T. Rover, H.C. Philipson, lamps, horn, accessories, excellent condition; £95, or near.—Clutten, E. Dereham, Norfolk. [5843

1918 Rover, 3½h.p., kick start, 3-speed countershaft clutch, little used, splendid condition, lamp, horn, accessories; £103.—Davies, Meadi, Thatcham, Berks. [5516

ROVER 1920 5-6h.p. Coachbuilt Combination, latest improvements throughout, just arrived; makers' price.—Eagles and Co., 275, High St., Acton, W.3. [X0175

1920 Rover 3½h.p. Combination, latest all-chain drive, bulbous back Rover sidecar, unpacked; list price, exchange, or solo.—Rose's Garage, Uxbridge. [5788

ROVER 1920 5-6h.p. Twin-cyl. Combination, coachbuilt sidecar, only done 200 miles, private owner buying car; £215.—Beaminster Garage Co., Beaminster. [5062

1920 3½h.p. Rover Combination, lamps, horn, tools, in excellent condition, mileage about 600, tyres unpunctured; £165.—James, 10, High St., Haverfordwest. [5139

3½h.p. Rover Combination, 1915, mileage 4,000, speedometer, Binks, lamps, horn, stored during war, splendid condition; £140.—Knight, West Crescent, Darlington. [5798

ROVER 1919 3½h.p. Combination, 3-speed, K.S., 1920 Millford sidecar, Easting wind screen, all lamps, horn, ride away; £120.—Ramsden, Cliffe Field House, Wakefield. [5880

1918 Rover Combination, W.D. model, run only 500, 3-speed, kick start, splendid condition, accessories, any trial; best offer accepted.—13, Kenilworth Gardens, Seven Kings. [5677

ROVER (Nov, 1919). 5-6h.p. C.B. Combination, 700 miles, speedometer, lamps, Easting wind screen, tools, spares, insurance policy, splendid condition; after 6.0.—40, Garthorne Rd., Forest Hill, S.E.23. [4995

MOTOR CYCLES FOR SALE.

Rover.

19 20 Rover Combination, 5 6h.p. J.A.P., 3 speeds, K.S., and clutch, Watsonian sidecar, 3 lamps, shields, Tan-Sad, Easting, hardly used; reasonable er; owner going abroad.—'Phone: Pndd. 1972. [5300

OVER 5-6h.p., March, 1920, unscratched, K.S., policy, Cameo, lamps, Low generator, spare tyre d tube, Stirling pillion seat, etc., mileage 500; arest £190.—51, Hertford Rd., Freezywater, Wal- am Cross. [5937

.O.C.H. have a 5-6h.p. W.D. Rover Combination, Easting, negligible mileage.—Fair Offer Car ouse, 5, Heath St., Hampstead (nr. Hampstead be Station). 'Phone: Hampstead 3752. Hours 7, including Saturdays. [5437

OVER 1918 5-6h.p. Combination, ex-Government stores, reconstructed and guaranteed sound, two ly left in stock of these splendid machines; £135, mplete with accessories.—Elce and Co., 15-16, Bishops- e Av., Camomile St., E.C.3. [0284

EW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick-starter, and with smart coachbuilt ecar; £180 or on easy payments 5% extra; one arter deposit, balance by 12 monthly instalments.— rrods, Ltd., 118, Brompton Rd., London. [5814

19 19 3½h.p. T.T. Rover, Lucas lamps, separate gener- ators, Cowey speedometer, mechanical horn, long ted exhaust, spares, 10 months' insurance, enamel, ting, and internal condition as new; any examination l trial; £98, or nearest.—10, Springfield Rd., Altrinc- m, Cheshire. [5431

Royal Ruby.

OYAL RUBY 3h.p., 3-speed, spring frame; £120. —Longman, Fisherton, Salisbury. [6241

9 20 Royal Ruby, 3h.p., 2-speed, spring frame, moderate mileage; £105.—Collier's Motories liffax. [5412

OYAL RUBY 2¼h.p. 2-stroke, single-speed, in good condition; £30.—Gradwick, Orange, Worth- r. [X0251

OYAL RUBY 3h.p., spring frame, brand new; £109.—J. E. Lawes, Ltd., The Triangle, Alder- ot. [5289

OYAL RUBY, 2¾h.p. Villiers, Albion 2-speed, splendid condition, accessories; £42.—Sims, 49, nor Rd., Rugby. [5416

OYAL RUBY 1916 2¾h.p., 2-speed, clutch, kick start, Dunlop tyres; £55; exchanges.—R. D. rty, Thundersley, Essex. [6416

9 20 3h.p. Spring Frame Royal Ruby, perfect con- dition, unscratched; list price £120, £105.— orge, Hambro Lodge, Datchet, Bucks. [5149

9 20 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydes- e Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

OYAL RUBY 2¾h.p., excellent condition, lamps, speedometer, etc., recently overhauled; £40.— ncer, Bury Green Cottage, Cheshunt. (D) [5199

9 20 Royal Ruby 3h.p., 2-speed, spring frame, kick start, perfect condition, mileage under 500; £110. linn, West Surrey Club, Farnham, Surrey. [5014

OYAL RUBY Combination, 8h.p., perfect condi- tion; any examination; fitted hood, screen, etc.; 5, lowest.—Masters, Claremont, Colnbrook. [5612

OYAL Ruby, nearly new, 8h.p. J.A.P. engine, 3 speeds, kick-starter, perfect condition; £105.— ffatt, 406, Garratt Lane, Earlsfield, S.W.18. [6273

9 20 3h.p. Spring Frame Royal Ruby, only run 100 miles, complete with accessories; £120, or rest offer.—Johnston Bros., Nethergate, Dundee. [6100

OYAL RUBY 1918 8h.p., all-chain, enamel and plating as new, with Mills-Fulford 2-seater side- any expert examination, 50 miles trial with 4 £140, or nearest.—272, Green St., Forest Gate. [4124

'AUDES'.—Latest 1920 3-speed model Royal Ruby, spring frame; £120; ex actual stock; easy ments arranged.—Maudes', 100, Gt. Portland St. [6207

OYAL RUBY 1919 Combination, Lucas lamps, Bluemel screen, speedometer, excellent condition; 5, or near offer.—Etherington, 91, St. Margaret's, Twickenham. 'Phone: Richmond 1745. [5935

ARGAIN.—Royal Ruby 1915 2¾h.p. 2-stroke, 2- speed, hand clutch, semi-T.T. bars, Pedley grips, minium footboards, hardly distinguishable from new, hanical condition perfect; £47.—Lieut. Northfield, rh. [5377

Rudge.

13 Rudge, T.T. clutch model; £40.—Ross, 86, High Rd., Lee, S.E. [5081

13-14 Rudge, single, good condition; £45.—Wall, 7, Lewisham Rd., S.E.13. [5193

UDGE I.O.M. Multi in Stock; £110.—Clark, 7, Exhibition Rd., South Kensington. [6179

MEDIATE Delivery 1920 T.T. Rudge Multi; 105 gns.—14, Kimberley Rd., Cardiff. [5877

20 I.O.M. Rudge in Stock; £110/5; exchanges.— —2, Nightingale Rd., Lower Clapton. [6302

UDGE.—All 1920 model, ex-stock; £110/5; easy payments.—125, High St., Woolwich. [6094

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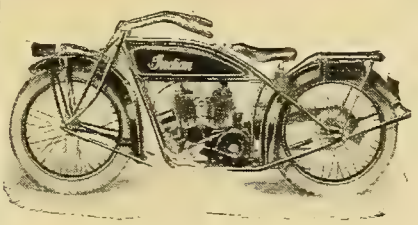

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MOTOR CYCLES FOR SALE.

Rudge.

RUDGE Multi, 1914, good condition, lamps, etc., £70.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [5393

LATEST 1920 Rudge Multi, I.O.M., pedal starter, unused; 95 gns.—84, Valley Rd., Streatham, S.W.16. [5802

19 20 I.O.M. Rudge Multi, 3½h.p., P. and H. lamps, Cowey, hand clutch; £95; trial.—150, Columbia Rd., Grimsby. [X9707

RUDGE Multi, 3½h.p., late 1919, mileage 200 miles only; must sell; £90, or nearest.—Wilks, Dash- wood Rd., Banbury. [X0137

RUDGE Multi 3½h.p., late 1916, clutch model, in per- fect order, lamps, tools, horn; £67.—Wakefield, Toppesfield, Essex. [5144

RUDGE, I.O.M. Model, list price; from stock.— A. J. Young and Co., Ltd., Heath Garage, New- market. 'Phone: 214. [1101

RUDGE Multi 3½h.p. Combination, good condition, everything on; £70; after 6 o'clock.—60, Chesnut Rd., Tottenham London. [5661

RUDGE Multi 5-6h.p., complete with all accessories, done about 200 miles.—Offers to Box 38, High St., Wellington, Somerset. [5357

19 14 3½h.p. Rudge, only done 3,000 miles, condition perfect; best offer over £55.—Pratt, 7, Brookfield Rd., Rushden, Northants. [5153

19 20 Rudge Multi, I.O.M. T.T., clutch, just de- livered; cost £110; offers; must sell.—Chemist, 268, Oxford Rd., Reading. [5697

19 20 Rudge Multi, T.T. I.O.M., Lucas lamps, horn, knee-grips, mileage 500, fast; offers over £105. —Hodson, Carrington, Boston. [5320

19 20 Rudge Multi 3½h.p., I.O.M. Model, in fine condition, not done 200 miles; £100, Lancashire Box 7,465, c/o *The Motor Cycle*. [5586

19 20 (bought July) 3½h.p. Rudge Multi, not done 600 miles, owner buying car; price £110.—Apply, Box 7,372, c/o *The Motor Cycle*. [5068

19 20 Rudge Multi, 3½h.p., June, mileage under 200, horn, tools, insurance, condition as new; £115.— Daniels, 30, Lion St., Abergavenny. [5332

19 15 Rudge Multi Combination, 5-6h.p., coachbuilt sidecar, lamps, horn, good running order; £80. 11, Plum St., Parkinson Lane, Halifax. [5347

19 20 T.T. Rudge Multi, absolutely as new, only run 250 miles, Cowey horn; nearest £95 accepted.— 2, Suffolk Rd. South, Bournemouth West. [5311

19 19 Rudge Multi Combination, perfect order, all accessories; £102; owner leaving country.—Lt. Whellock, Cleeve, High St., Old Southgate. [5202

RUDGE Multi and Sidecar, guaranteed perfect throughout; expert examination invited; first £65 secures, bargain.—Layton, Histon, Cambs. [X9816

19 20 Rudge Multi, T.T., delivered this week; list price.—Bickell and Sons, 247-251, Archway Rd., Highgate, N.6. 'Phone: Hornsey 1090. [0254

19 20 New I.O.M. Rudge Multi, correct model, with spoked belt rim, clutch, and pedal starter; list price.—Fancourt's Garage, Stamford. [3700

3½h.p. Rudge Multi, 1915, Gradua, any trial, ride away; £48.—Apply, 514, Kingston Rd., Wimble- don, S.W. Over Moffats, Drapers. After 6. [5282

RUDGE Multi 1920 3½h.p., T.T., brand new; just arrived; immediate delivery; at makers' price, £110/5.—Wilkins, Simpson, opposite Olympia, London. [3881

NEW Rudge Multi 3½h.p., fitted with smart coach- built sidecar; 143/10, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5817

FOR Sale, 7-9h.p. twin Rudge Multi combination, only ridden 100 miles; what offers? Reason for selling, owner buying car.—Apply, Box 433, c/o *The Motor Cycle*. [X8829

19 20 7-9h.p. Rudge Multwin Combination, lamps, horn, aluminium disc wheels, very fast, as new; any trial; £185.—Meech, Wanderwell, Bridport, Dorset. [5417

3½h.p. Rudge Multi, late 1919, and almost new canoe- let sidecar, excellent condition, lamps, speed- ometer, Klaxon, insurance; £110.—58, Bateman St., Cambridge. [5186

RUDGE 1920 Multwin Combination, unused; £189; exchange with cash for landaulet, Sunbeam, Austin, or similar.—Newnham, 223, Hammersmith Rd., W.6. [6181

19 19 Rudge Multi Combination 3½h.p., guaranteed in perfect condition, lamps, horn, had very little use; £115.—Langford's, 37, Cricklewood Broad- way, N.W.2. 'Phone: Hampstead 8616. [5970

19 20 Rudge Multi, I.O.M., electric lighting, long ex- haust, knee-grips, Klaxon, etc., very fast, and in new condition; price 96 gns.—Maxwelton, Chase Side, Southgate, N. 'Phone: Palmers Green 828. [5892

F.O.C.H. have a new I.O.M. Rudge Multi, 3½h.p.; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5445

A RUDGE T.T. Multi, 1920, 3½h.p., complete with every accessory and in perfect condition, will take a sidecar well, also fast; what offers?—Seen any time at 3, Lyncroft Gardens, W. Hampstead, N.W.6. [5608

MOTOR CYCLES FOR SALE.

Rudge.

3½h.p Rudge Multi, in good running order, new back wheel and multi pulley, complete with F.R.S. lamps, Stewart horn, and coachbuilt sidecar, all tyres as new; £58.—H. Judd, Fringford, Bicester. [6261

1920 Brand New I.O.M. Rudge 3½h.p., sloping tank, multi gear and free engine, £110/5; also second-hand Rudge, 1919 model, £85; another, single speed, 1914, £35.—Wauchope's, 9, Shoe Lane, London. [2040

RUDGE 7-9h.p., June, 1920, Henderson Elite sidecar, Easting, Cowey horn, electric lighting, spare new tyre and tube, mileage 500, fast and economical; 1197.—Rudge, 392, North Woodside Rd., Glasgow. [5042

RUDGE Multi, 1920, I.O.M. Model, fitted with large head lamp, speedometer, mechanical horn, copper exhaust pipe, ridden only 400 miles, cost £125; accept £92.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [6265

1920 I.O.M. Rudge Multi 3½h.p., pedal start, delivered May, Lucas lamps, Stewart horn, Bonniksen speedometer, comprehensive insurance policy; £120; better than new.—Batchelor, 15, Prince's Av., Church End, Finchley. [5387

F.O.C.H. have late model Rudge Multi and sporting coach sidecar, fine order; £65.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, inincluding Saturdays. [5439

3½h.p. Rudge Multi Combination, coachbuilt, 1915, thoroughly overhauled, tanks re-enamelled by makers, spares, all accessories, powerful, and looks like new; £70.—42, Freegrove Rd., Holloway, N.7. Apply after 6 p.m. [5398

3½h.p. Rudge Multi Combination, hand clutch, foot oiler, Cowey speedometer, Cowey horn, P. and H. lamps, done 1,200 miles, guaranteed to be in perfect order, and everything as new; £95 for quick sale.—S. Hammond, 15, Plumstead Rd., Woolwich, S.E.18. [5099

RUDGE 1920 7-9h.p. Multi, pedal start, hand clutch, semi-T.T. bars, Klaxon horn, oversize tyres, mileage 250, condition as new, cost £150 and worth £140 to-day; our price, however, is £120, and more honest value does not exist.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0127

7-9h.p. Rudge Multwin Combination, electric horn, head, side, and tail lamps, Cowey speedometer, Capac carburetter, h.b.c. to mag., leg guards, T.T. and touring bars, copper exhaust pipe, spare belt and tube case, spare Whittle belt and 2 tubes, Dinky sidecar with scuttle dash, special hood and screen, step and mat, the whole turnout finished black and gold, complete with many tools, spares, and extras, in perfect order; £200, or very near offer.—44, Roker Park Rd., Sunderland. [5007

Scott.

WAUCHOPE'S, 9, Shoe Lane, London.—New 1920 Scott, delivery from stock; £140. [4937

SCOUT Model Indian, unridden; list price.—J. Twigg, Tothby, Alford, Lincs. [5726

SCOTT, 1913, good condition; 49 gns.—Wood, 79, Fernhead Rd., Paddington, W.9. [6039

FOR Sale, just delivered, Scott combination; list price, £185.—Saltaire Motor Co., Shipley. [X0164

1915 Scott Combination, overhauled, lamps, Klaxon; cheap.—91, Hainault Rd., Leytonstone, E.11. [6009

1920 Scott, Bonniksen, 3in. Palmers, coachbuilt sidecar; £155.—Reginald Boase, Torrington. [5173

1915 Scott Combination, good order, 1920, Binks, electric light.—85, Hamilton Rd., Felixtowe. [6274

SCOTT 1920 Combination, new, just received from works; £185.—Alex. Thom, 201, City Rd., Cardiff. [5104

SCOTT, 1914, excellent condition, accessories, tyres excellent; £60.—Burn, Lovaine Place, North Shields. [X9957

1915 Scott Combination, green, new Palmers, 650×65, Fellows magneto; £60.—80, Connaught Rd., Cardiff. [X0157

1919 Scott and Scott Sidecar, wind screen, very little used; £148.—56, Longfellow Rd., Gillingham, Kent. [5982

SCOTT Combination, 1914, Canoelet, patent transfer port throttles, perfect; £70.—Osborne, 202, Foley Park, Kidderminster. [5874

SCOTT, deliveries from stock, solo or combination; £140 and £185.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [5390

SCOTT 3¼h.p., late 1919, practically as new; £110, bargain; cash or deferred payments.—Bunting's Motor Exchange, Weald-stone. [6275

1920 Scott (July), done 250 miles only, in perfect order, with sidecar; £150, or without £135.—Stebbings, Attleborough, Norfolk. [6221

SCOTT 1915 Combination, Gloria, Bosch, B. and B., splendid condition, complete, speedometer, etc.; £115.—Gillingham, Springfield, Chard. [5873

COLMORE Depots, Birmingham.—The silent Scott water-cooled twin and sidecar, complete; immediate delivery; £185.—31, Colmore Row. [X9807

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£184 SOLO Including Dynamo Lighting, all Lamps, Electric Horn.

With Bulbous Back, Military Model Canoelet Sidecar, Sidecar
£229 Lamp, Apron, etc. NO EXTRAS

As above, but with C. & M. Sidecar fitted with Disappearing Hood, Screen, Lamp, Apron, Step, etc.

£270-5-0 NO EXTRAS

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ABINGDON, 1919, 6 h.p. twin, fitted with Model D Canoelet, repainted, hood, Cameo screen, Watford speedometer, F.R.S. lamps. Perfect order. **£135 0 0**

P. & M., 1919, 3½ h.p., fitted with Kaye Sidecar, Cameo screen, dry battery lighting set, all lamps, horn, Stewart speedometer, handle-bar watch. Not a "W.D." reconstruct. **£115 0 0**

NEW HUDSON, 1920, July delivery, 2¼ h.p., T.T. bars, only done 10 miles **£69 0 0**

SCOTT, 1920, May delivery, lamps and horn complete, with Scott Sidecar, the outfit in lovely condition. **£147 10**

1920 **MATCHLESS** Comb., Magdyno, horn, screen, leg shields. In new condition. **£230**

A.B.C., 1920, done 100 miles only, all Lucas equipment. **£149**

J.H., 2¼ h.p., 1920, **VILLIERS** engine, 2-speed gear, splendid order. **£57.**

HARLEY-DAVIDSON, 1920, 7-9 h.p., July delivery, Electric Model, all lamps, Elect horn, MM4 Sidecar, speedometer, Coverall apron; a snip. **£238.**

OFFERS WANTED for genuine 1919 4-cylinder **HENDERSON**, complete with all Acetylene lamps, horn and speedometer, either Solo or fitted with Swan or bulbous back Sidecar. Any trial arranged. Privately owned.

NEW MACHINES IN STOCK AT LIST PRICES.

Include—**F.N.** 4-cylinder Combination. **DOUGLAS** 4 h.p. Combination. **HUMBER** 3½ h.p. Solo. **LEA-FRANCIS** 3½ h.p. Solo. **CLYNO** 2¼ h.p. Solo. **NEW HUDSON** 2¼ h.p. Solo. **RUDGE** 3½ h.p. Solo. **TRIUMPH** 4 h.p. Comb. **B.S.A.** 4¼ h.p. Comb. **ENFIELD** 8 h.p. Comb.

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MOTOR CYCLES FOR SALE.

Scott.

1920 T.T. Scott, complete with lamps, horn, tools etc., only run few miles; best offer over £120.—Dallaway, Fruit Merchant, Smethwick. [0275

1914 Scott, just overhauled, coachbuilt sidecar, Bosch one tyre new, others little used; £65; exchange considered.—Newton, 7, Boord St., Greenwich. [6013

SCOTT 1920 3¾h.p. Sports Model, full racing T.T. bars, very fast, done 100 miles only, quite equal to new; £130.—Parker's, Bradshawgate, Bolton. [X0011

SCOTT 1920 3¾h.p., water-cooled engine, immediate delivery can be given of these machines.—H. A. Saunders, Ltd., 182, Broad St., Birmingham. [4787

SCOTT Combination, late 1919, little used, good condition, fully equipped, spares; £130, or nearest; solo, £110.—Staite, Radford, Leamington. [X9814

SCOTT 1919 3¾h.p. Combination, lamps, horn, Bonniksen speedometer, only done 1,500 miles; £120.—P. J. Evans, 83-91, John Bright St., Birmingham. [X0077

SCOTT, about 1915, smart combination, 2 speeds, free engine, kick starter, speedometer, lighting set etc.; sacrifice £75; trial any time.—Dentistry, 769, Romford Rd., Manor Park, London, E. [5009

FOR Sale, Scott, 1920 model, fitted with Degory no-jet carburetter, Bonniksen speedometer, Lucas generator, Lucas 6in. head lamp, Lucas horn, mileage 2,900.—Brown, 75, Baddow Rd., Chelmsford. [5262

SCOTT and Coachbuilt Sidecar, recently overhauled, screen, lamps, etc., new parts and many spares, excellent condition; 60 gns., or any reasonable offer.—Robson, 71, Melbury Gardens, West Wimbledon. [5036

1915 Scott and Sidecar, splendid condition, good tyres, lamps, horn, speedometer, wind screen, spare set chains, accessories, ride away; £90, or exchange for B.S.A., Norton, Triumph combinations, cash adjustment.—Assiter, 24, Church Rd., Bexley Heath. [5341

SCOTT, 1919 (September), with sporting sidecar and complete equipment; £110; this outfit is priced to sell and at the same time to make us one more friend; we believe it is the best Scott bargain in England, so please don't judge it by the price.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0113

Singer.

SINGER 3½h.p. Clutch Model; £40.—Brook Bros., Burnham-on-Sea. [3949

1914 Singer 3½h.p., clutch, perfect, all accessories; £45.—Blake, 216, Westbourne Grove, W.11. [5791

SALE, 3½h.p. Singer, clutch, perfect condition, lamps, accessories; £35.—Pitt, Sandford Mill, Reading. [5380

2¾h.p. Singer, Bosch, B. and B., very special 'bus, real hot stuff and in good order, believed 1914; £36, first cash secures.—Hill, 3, Bedford Rd., West Ealing, London. [6367

SINGER Combination, 4¼h.p., new C.B. sidecar, C.S. gears, lamps, horn, tyres, very reliable, fine appearance; £85, or close offer.—Bartlett, 13, Barons Court Rd., W.14. [5779

Sparkbrook.

1920 Sparkbrook 2-speed, not registered; accept £72.—Vincent, 82, Westlode St., Spalding. [5920

SPARKBROOK, 1920, 2¾h.p., 2 speeds; at makers' price £75.—Eagles and Co., 275, High St., Acton, W.3. [X0176

1920 Sparkbrook, 2¼h.p., 2-speed, 500 miles, lamps, complete; £72.—Moggs, 38, Heslington Rd., York. [5418

SPARKBROOK, 1918, 2-speed, excellent condition, with lamps and tools; £55, or near offer.—43, Donovan Av., Muswell Hill. [5049

SPARKBROOK, 2-speed models, £75; from our showrooms.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., N.W.1. [1099

NEW 2¼h.p. Sparkbrook, 2-stroke, single-speed; £69; 2-speed, £75, in stock, or on extended payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5805

Sun.

SUN-VILLIERS 2¾h.p., good condition; £37.—147, Lymington Rd., Torquay. [X9999

SUN-VILLIERS, nearly new, 2¾h.p., 2 lamps; £35.—66, Church St., Edgware Rd., W. [6355

NEW 1920 Sun-Vitesse 2½h.p., 2-speed, kick starter, bargain, £65.—C. E. Mort, 4, Cheesehill St., Winchester. [6134

SUN 1916 2¾h.p., 2-stroke, 2 speeds, excellent condition, any trial, £40, or offer; also Scott 3¾h.p., minus rear chain and other deficiencies, offers; private owner.—Darlington, jun., Stoneley, Curry Rivel, Somerset [5766

Sunbeam

SUNBEAM Combination, brand new; £200.—Norman Whitehouse, Bridgtown, Cannock. [X0193

3½h.p. Sunbeam Combination, 1920, as new, perfect £185.—1, Grosvenor Rd., Rugby. [X0155

MOTOR CYCLES FOR SALE.

Sunbeam.

VAUCHOPE'S, 9, Shoe Lane, London.—8h.p. Sunbeam combination, 1919 model; 200 gns. [6409

1918 8h.p. Sunbeam Combination, spare wheel; £165.—Ross, 86, High Rd., Lee, S.E. [5077

1h.p. Sunbeam Combination, Easting, fine turn-2 out; £140.—69, London St., Southport. [X0192

1919 3½h.p. Sunbeam, fully equipped, good tyres, splendid machine; £128.—28, Minford Gardens, pherd's Bush. [6002

UNBEAM 2¾h.p. 2-speed, Bosch, kick start, hand clutch, accessories, fine condition; offers invited.—nn, 82, Gillibrand Walks, Chorley. [5351

1918 8h.p. Sunbeam Combination, fully equipped, as new; exchange lower power or sell £170.—Hestercombe Av., Fulham, S.W. [5643

UNBEAM 1917 3½h.p., kick starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; 10.—C. Barton, Clapham, Yorks. [0246

EW 1920 8h.p. Sunbeam-Combination, Lucas Mag-dyno lighting, in stock.—Moore, Motor Agent, lege St., Long Eaton. 'Phone: 300. [6112

UNBEAM 1919 8h.p. Combination, excellent condition, accessories; £175, or exchange.—Rossie, ucester Rd., Kingston Hull, Surrey. [6109

UGUST (1920) Sports Model Sunbeam, condition guaranteed as new, mileage 250; any trial or exination; £157/10.—37, Regent St., Rugby. [X0154

ATE 1916 3½h.p. Sunbeam Motor Cycle, with 1920 sidecar, screen, lamps, speedometer, horn, perfect dition; offers.—Coles, Garage, Wembdon, Bridgwater. [5057

UNBEAM Combination, 3½h.p., 1917, perfect condition, little used, Lucas equipment, legshields, edometer; £125.—109, Earlsfield Rd., Wandsworth. [5899

UNBEAM 8h.p 1919, hood, screen, spare wheel, Lucas lamps and horn, speedometer, new condin; £190, offers.—9, Eaton Mews South, Victoria, V. [5632

UNBEAM 8h.p. Combination (Dec., 1919), electric lighting, screen, horn, speedometer, spare wheel, eage 2,000, as new; £250.—95, Harwoods Rd., tford. [5587

UNBEAM 1919 3½h.p. Combination, W.D. model, only done small mileage, in splendid condition; 40, or near offer.—Mattock Motor Co., Mattock Lane, ling, W.5. [5890

UNBEAM 3½h.p., 1919, fitted speedometer, horn, Brooks weatherproof carrier case, splendid order, all mileage; near Norwich; £130.—Box 7,405, c/o e *Motor Cycle*. [5225

UNBEAM, 1919 (Nov.), excellent condition, little used, Lucas lighting, Dunlops, Tan-Sad, all spares, res, tubes, complete kit, insurance; £125.—9, Monunt Rd., Wigan. [5429

h.p. Twin Sunbeam Combination, black and gold, interchangeable wheels, 1 spare, Sunbeam sidecar, ly equipped, lively condition; 175 gns.—19, Streatley ., Brondesbury. [6028

UNBEAM 4h.p., 1919 French Military Model, excellent condition, special speed sprocket, lamps, ls, etc.; owner going abroad; £110.—Harrison, 46, eyne Walk, Chelsea. [6222

UNBEAM 1920 8h.p. Combination, hood, screen, 4 interchangeable wheels, electric lighting, Klaxon, edometer; £255; splendid condition.—C. V. Goddard, enue Rd., Leicester. [9809

1919 3½h.p. Sunbeam, countershaft, Cowey, Binks, aluminium hot air intake, knee-grips, Lucas lamps, ls, and spares; will ride 50 miles.—Glover, Beighton ange, near Sheffield. [5023

UNBEAM 3½h.p., 1914, 3-speed, clutch, K.S., in excellent condition, enamel as good as new, with achbuilt sidecar, lamps, horn, tools, etc.; £110.—ighes Stockbridge, Hants. [5858

1920 (August) 3½h.p. Sunbeam Combination, interchangeable detachable wheels, latest improvents, Lucas lamp set, horn, tools; first offer £200 tures.—Simpson, Chemist, Ibstock. [X0203

UNBEAM 1916 3½h.p. Combination, complete, speedometer, lamps, Klaxon, tools, and spares, autiful condition; any trial; evenings after 7; £145. 10, Berwick St., Victoria, S.W.1. [5637

1916 8h.p. Sunbeam Combination, M.A.G. engine, Swan sidecar, perfect condition, all spares; ial any time by appointment; £160.—Jackson, 24, James's St., S.W. 'Phone: Regent 383. [6040

UNBEAM Sporting Combination, 1919, delivered Jan., 1920, Cowey trip, Easting, Lucas horn, ols, etc., spares, beautiful condition, done 900 miles; 170 lowest.—Butterworth, 74, Sheriff St., Rochdale. [5951

UNBEAM Combination, 1920 3½h.p., absolutely faultless, unscratched, unpunctured, Lucas lamps, luemel's wind screen, etc.; bargain, £190; privately wned.—Hitch, 90, Mandeville Rd., Enfield Wash. [5744

UNBEAM 8h.p. Mag. Combination, Lucas lamps, speedometer; large double-seated coachbuilt sider, wind screen, etc., luxurious outfit, any trial, wner buying car; £215.—3a, Standen St., Tunbridge ells. [5947

NEW 1920 MODELS

NEW IMPERIAL 8 h.p. Combination, 3-speed, kick-start, all-chain drive ..... **178 gns.**
ZENITH 8 h.p. Combination, Model N, clutch, and kick-start **£205 0**
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ARIEL 3½ h.p. Combination . **£154 0**
COVENTRY ACME - J.A.P. 8 h.p. Combination, detachable and spare wheel **£213 15**
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QUADRANT Combination . **£145 0**
INDIAN Powerplus Combination, electrically equipped . **£223 14**
INDIAN Powerplus, solo ... **£181 14**
INDIAN Scout **£140 0**
ROYAL RUBY, 3 h.p., spring frame **£109 14**
CLYNO, lightweight, 2-speed. **£75 0**
CALTHORPE-J.A.P., 2-speed. **£74 11**
CALTHORPE, 2-stroke, 2-sp. **£71 8**
HOBART - J.A.P., 2-speed, kick-start **£90 0**
CONNAUGHT, 2-stroke, Sturmey 2-speed, kick-start .. **£80 0**
CONNAUGHT, 2-stroke, single gear **£68 10**
ALLDAYS-ALLON, 2-speed, kick-start **£85 0**
OMEGA-J.A.P., 2-speed, kick-start **£83 0**
IVY, all purpose, 2-speed **£75 0**

SIDECARS in STOCK with Fittings for any make of motor cycle — GRINDLAY, MONTGOMERY, CANOELET, MILLS-FULFORD INDIAN

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SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay (late Sunbeamland).—The Molineaux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

SUNBEAM Combination, black and gold finish, 8h.p., 1919-20, very little used, condition as new, Lucas lamps, spare wheel, screen, and apron; owner bought car; price £220, or near offer.—Bell, High Hedgefield House, Blaydon-on-Tyne, Co. Durham. (D) [5319

1920 (late) Sporting Sunbeam, low mileage, £20 worth accessories, Bonniksen speedometer, Lucas lamps, Cowey horn, watch, knee grips, etc., unscratched, absolutely perfect, would ride 50 miles; £175.—240, Sandwell Rd., Handsworth, Birmingham. [X0180

1917 T.T. Sunbeam, re-enamelled and plated, engine little used, all chains, case, tool roll, Fellows mag., etc., new, latest Capac, 100 m.p.g., high gears, fast, electric lighting, Stewart warner; any trial; £125, near offer.—Mellersh, Clarence Rd., St. Albans. [6244

1919 4h.p. Black-gold Sunbeam Combination, 3 acetylene, 3 electric lamps, usual accessories, insurance, Dunlops, discs, spare bulbs, rings, plugs, etc., recent overhaul; reasonable offer wanted.—Taylor, 65, Altenbury Gardens, Clapham Common, S.W. [5503

1920 (July 12th) 3½h.p. Sporting Sunbeam, fully equipped, F.R.S. largest lamp set, Lucas rear set, F.R.S. horn, knee grips, Cowey speedometer, carbide carrier, tools, and extras; mileage under 200; guaranteed perfect; £175.—Box 494, c/o *The Motor Cycle*. [4753

Thor.

1917 American Thor, 6-8h.p., 3-speed, K.S., stored 2 years, condition excellent; £100.—523, Gloucester Rd., Bristol. [5918

Triumph.

TRIUMPH T.T. Model, 1915; £55.—Brook Bros., Burnham-on-Sea. [3950

TRIUMPH 1920 4h.p. Model H., solo, in stock at makers' list price, £127/10.—Below.

TRIUMPH 4h.p., 3-speed countershaft, reconstructed model, just received from makers, guaranteed 3 months; £105.—Elce and Co., 15-16, Bishops-Av., Camomile St., E.C.3. [0068

TRIUMPH, 1915, and C.B. sidecar, perfect; £78.—109, St. Leonard's Rd., Mortlake. [5045

FOR Sale, Baby Triumph, 1918, excellent order; £60.—Maunder, 26, Highfield, Kendal. [4996

1919 Triumph, all accessories; £100; Yorkshire - Box 533, c/o *The Motor Cycle*. [X0148

JUNIOR Triumph, late 1918, very little used; £60.—Eagle House, Brislington, Bristol. [5010

2¼h.p. Baby Triumph 2-stroke, 1914; £55.—Wauchope's, 9, Shoe Lane, London. [2028

1919 Countershaft Triumph, splendid condition; £90.—Ross, 86, High Rd., Lee, S.E. [5078

3½h.p. Triumph, Bosch, B. and B., fine going order.—Double, Spencer's Wood, Reading. [5698

1919 Triumph Junior, all accessories, excellent condition; £60.—Cobby, Feltham, Begnor. [6118

4h.p. Countershaft Triumph, good condition; £80.—2, Fortune Gate Rd., Harlesden, N.W.10. [5801

TRIUMPH 4h.p., clutch model, good condition and order; 38 gns.—14, Arundel Rd., Croydon. [6235

TRIUMPH Model H 4h.p.; £127/10; brand new.—Norman Whitehouse, Bridgtown, Cannock. [X0191

TRIUMPH 1913 3½h.p., 3-speed, good order; offers.—Barber, The Cottage, Chelford, Cheshire. [5384

TRIUMPH 1920 Motor Cycles, at makers' prices - Wilkins, Simpson, opposite Olympia, London. [3813

COUNTERSHAFT Triumph, late model, fitted up; first cheque £105.—Box 7,380, c/o *The Motor Cycle*. [5085

1916 Triumph Countershaft and C.B. Sidecar, perfect; £95.—109, St. Leonard's Rd., Mortlake. [5045

3-SPEED Countershaft Triumph and Sidecar, lamps horn, etc.; £90.—H. Wright, Arlesey, Beds. [5531

TRIUMPH 2-stroke, 1920 model, brand new; £75.—J. E. Lawes, Ltd., The Triangle, Aldershot. [5288

3½h.p. Triumph, 1911, excellent engine, fast, reliable; £37/10.—Comber, Rodboro, Worthing. [5465

BABY Triumph, 1917, new condition, very little used; £55.—Secretary, Gas Company, Windsor. [6233

LATEST Triumph, brand new, unpacked; accept £125.—Elkington, 102, Queen's Rd., Peckham. [5912

4h.p. Triumph, countershaft model, fully equipped and perfect; £75.—Coffin, Holwell, Sherborne. [6082

WAUCHOPE'S, 9, Shoe Lane, London.—Renovated Triumph, countershaft gear and sidecar; £120. [6407

1919 Triumph, countershaft, engine No. 59250, fully equipped; £90.—37, Arlington Rd., Surbiton. [5782a

MOTOR CYCLES FOR SALE.

Triumph.

T.T. Triumph, late 1919, fully equipped, an exceptionally good engine; £95.—12, De Parys Av., Bedford. [5481

TRIUMPH 3½h.p., clutch, sidecar, lamps, horn, all spares; trial; £40.—Taunton, 17, Albion Grove, N.16. [5301

TRIUMPH 3½h.p., 3 speeds, perfect condition; £45.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [6270

TRIUMPH 4h.p., perfect condition, Dunlop heavy, Bosch, plated; £60; evenings.—119, Brecknock Rd., N.19. [5050

1913 Triumph Combination, 3-speed, clutch, good condition; offers.—149, Bolingbroke Rd., Stoke, Coventry. [5868

TRIUMPH Combination, C.B., lamps and horn, ex Triumph Co. 1920; £125.—21, Felix Av., Crouch End, N.8. [5990

TRIUMPH 4h.p., 1919, and sidecar, lamps and horn complete, in perfect order; £145.—Brook Bros., Burnham. [3948

TRIUMPH Junior, 1916, just overhauled, accessories; after 6; £58.—Roberts, 29, Clarendon Rd., Lewisham, S.E. [6012

1920 Triumph 4h.p., T.T., perfect running order, very little used; £100.—Pepper, 47, Abington St., Northampton. [5133

TRIUMPH 3½h.p., Grado gear, mechanical horn, powerful, just overhauled; £38.—58, Erlanger Rd., New Cross. [5673

1920 Triumph 4h.p., countershaft, lamps, horn, and accessories, complete; £125.—Checkley, 1, Lewis Rd., Coventry. [X0247

TRIUMPH 4h.p., countershaft, 1916, Sunbeam sidecar; £100.—Carter, 96, Merton Rd., Wandsworth, S.W. [5837

T.T. Triumph, unused 5 years, Bosch, grand condition; £33/10.—30, Mallinson Rd., Clapham Junction, S.W.11. [5534

TRIUMPH 3½h.p., 3-speed hub gear (just overhauled), clutch, excellent condition; £40.—31, Stockdale Rd., Battersea. [5318

1913 Triumph Coachbuilt Combination, 3-speed clutch, lamps, etc.; bargain, £54.—9, Isla Rd., Plumstead Common. [5517

TRIUMPH 3½h.p., clutch, adjustable pulley, Bosch, accessories; reasonable offer.—Billing, Main Gate, Arsenal, Woolwich. [5495

3½h.p. 1913 Triumph, 3 speeds, clutch, brand new engine, perfect; £60, offers.—Oswell, R.G.A., Shoreham-by-Sea. [6010

TRIUMPH 4h.p., brand new 1920, done 80 miles, perfect, unscratched; £116; no offers.—Box 527, c/o *The Motor Cycle*. [5145

TRIUMPH 3½h.p., T.T., guaranteed in perfect mechanical order; for quick sale, £35.—Seen at 135, Edgware Rd., W.2. [5261

TRIUMPH 1919, 3-speed countershaft (not W.D.), accessories, faultless condition; £100.—Hedger, 3, Cumberland Gate, Kew. [6110

TRIUMPH, 1918, countershaft, large Lucas lamps, horn, etc.; 85 gns.—3, Cluny Mews, Warwick Rd., Earl's Court, S.W. [6054

JUNIOR Triumph, late 1919, lamps, horn, spare belt, condition as new; £70.—King, Cleet Hill Farm, Ravensden, Bedford. [5017

TRIUMPH 3½h.p. and Coachbuilt Sidecar, 3-speed and free, all in good condition; £55.—28, Westfield Rd., Hornsey, N. [5640

1920 Baby Triumph, as new, perfect, only run about 300 miles; nearest £69 accepted.—2, Suffolk Rd. South, Bournemouth West. [5312

TRIUMPH 1919 Combination, fully equipped, good condition, complete; £126; after 6 p.m.—10, Mitcham Rd., Seven Kings. [6336

1920 Model Triumph Combination, perfect condition throughout, appearance as new; £150.—21, Russell Rd., Redland, Bristol. [5871

1920 Triumph, in perfect condition, low mileage, lamps, horn, etc., countershaft model; £120.—Box 7,377, c/o *The Motor Cycle*. [5082

TRIUMPH 1918 Combination, fully equipped, warranted sound; £110; a bargain.—Motor Cycle Marts, Ltd., Fair Row, Chatham. [5986

1915-16 4h.p. Triumph, Tan-Sad, lamps, etc., good condition, sporty machine; £53.—10, Allfarthing Lane, Wandsworth Common, S.W.18. [6289

1913-14 3½h.p. Triumph Combination, Sturmey hub gear, Bosch, Venus sidecar, all on, insured; £80.—Churchill, 7, Egerton Mews, S.W. [2474

BOOK Your Order now for early delivery of any model with the Triumph specialists, The Premier Motor Co., Aston Rd., Birmingham. [5559

TRIUMPH Gloria Combination, brand new, latest 1920 model H, 3-speed, 4h.p.; £190.—Webb, Foundry, Exning, near Newmarket. [5570

TRIUMPH Combination, good condition; any trial; owner given up riding; £85, or near offer.—H. Hicks, Green Farm, Bagshot, Surrey. [5094

Burlington Motor Cycle Co. Ltd

ADAM 'ADAM, BUT WE'VE GOT 'EM.

We challenge anyone to produce a finer reconditioned machine.

Appearance as new.

Re-enamelled and plated in makers' colours. Engine and gear box thoroughly overhauled in our own workshops, and guaranteed by us to be mechanically perfect.

DOUGLAS.

2¾ h.p. **£65**

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Machines in stock.

NEW MACHINES AT LIST PRICE

ALECTO, 3½ h.p., 2-stroke, 2-speed, clutch, kick-starter. The machines that broke 21 records at Brooklands.

We are the Sole Agents for these machines, and invite enquiries.

DIAMOND-VILLIERS, 2¾ h.p., 2-stroke, Sturmey-Archer gear box (2-speed), clutch, and kick-starter.

DIAMOND-J.A.P., 2¾ h.p., Sturmey-Archer gear box (2-speed), hand-controlled clutch, kick-starter. The first of the new machines as exhibited at Olympia.

SCOTT, sports model, 2-speed gear, kick-starter

NEARLY NEW.

1920 **COULSON-B.,** 4 h.p., 2-speed, complete with lamps and accessories **£110**

1920 **NEW IMPERIAL-J.A.P.,** 2-speed, clutch, and kick-starter, horn, and pump. Not run 100 miles **£82 10**

1919 **TRIUMPH** and new Speedy Model Sidecar, fully equipped, and ready for the road. A real sporty turnout **£140**

1920 **ARDEN,** 2-stroke, 2-speed gear, T.T. bars, pressed steel forks, in splendid order **£62 10**

1920 **PRIORY,** 2¾ h.p. Arden 2-stroke engine, pressed steel forks, hardly used, complete with headlamp and generator .. **£64**

1917 **B.S.A.,** chain-cum-belt, finished service green **£85**

1917 **B.S.A.,** all-chain, in splendid condition. Tyres as new **£92 10**
(This machine is not a W.D. model.)

Any Machines supplied on "The Motor Cycle" Deposit System.

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'Grams: "Burlington Motors, Clapham."

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MOTOR CYCLES FOR SALE.

Triumph.

WAUCHOPE'S, 9, Shoe Lane, London.—4h.p. 1920 Triumph combination, £182/10; solo Triumph, £127/10; also renovated Triumph, £105. [6413

TRIUMPH 1920 Model H with Montgomery Sidecar, 3 lamps, 3 generators, horn, unused; £164.—E.D.G., 80, East Hill, Dartford. [5667

TRIUMPH 3½h.p. 2-speed, F.E., lamps, good tyres, tip-top order, smart; £48, or offer; after 6 p.m. —66, West Side, Clapham Common, S.W. [5745

TRIUMPH, countershaft model, 3-speed, kick start, good tyres and belt; any trial; £75.—2, Kelton Villas, Hawkes Rd., Kingston-on-Thames. [6257

TRIUMPH 3½h.p., clutch model, just overhauled, splendid condition, good lamps, horn, etc.; 45 gns. —Wright, Sidbury, Warlingham, Surrey. [5329

1914 Triumph Coachbuilt Combination, 3-speed, engine 36237, new lamps, body, etc.; £75.—249, Selhurst Rd., South Norwood, S.E.25. [5769

3½h.p. Triumph, 3-speed, free engine, trial, £48; also 4h.p. countershaft Triumph, 3-speed, late model; £90.—Rogerson, Newtown, Wigan. [X9810

SPORTY Triumph, 1914 engine, tank, wheels, mag., carburetter, T.T. bars, almost new, lamps, spares 55 gns. nearest.—Stapleton, Langley, Bucks. [5840

TRIUMPH Combination, 1918, new tyres, perfect, all accessories, Millford sidecar (brand new); 110 gns.; after 6.—282, South Lambeth Rd., S.W.8. [6130

LATE 1919 Triumph Model H., perfect condition, luxuriously equipped, spares; £120, or nearest offer; after 7.—Rudd, 2, Schubert Rd., Putney. [6068

TRIUMPH, 1919, 4h.p., countershaft, P. and H. head light, speedometer, fully equipped, excellent condition; £105.—Green's, Stansted, Essex. [5894

1920 T.T. Triumph, Type D, P. and H. lamp set, Lucas horn, spares, mileage 1,000, as new; £95. —Braithwaite, 32, Winchester Rd., Colchester. [5763

1918 Triumph, bargain, new Henderson sidecar, guaranteed perfect, new lamps, accessories; £135.—Chignell, Woodhouse, Whitchurch Lane, Edgware. [6102

3½h.p. Triumph, in splendid condition, practically new tyres, lamp, generator, and horn; £45, or nearest offer.—C. May, 274, Baker St., Enfield. [5386

F.E. Triumph, 3½h.p., B.B. carburetter, Bosch mag., in good condition, not used last 4 years; first M.O. over £25 secures.—81, Hill St., Peckham. [5018

JULY, 1920, Junior Triumph, 2-speed, Bonniksen trip, P. and H. lighting, Klaxon, Brooks, tools, etc.; £76.—Stephenson, 71, Biccoter Rd., Aylesbury. [5292

TRIUMPH Combination, clutch, coachbuilt sidecar, speedometer, lamps, and accessories, splendid condition; £43.—67, Raleigh Rd., Richmond, Surrey. [6151

COUNTERSHAFT Triumph, latest gear change, fully equipped, lamps, done about 10 miles; £100.—Leighton, 62, Upper Tooting Rd., London. [5525

TRIUMPH 1920 Brand New Combination, lastest Gloria sprung wheel sidecar; makers' price, £182/10.—Churchill Cross Lane, Earlestown Lane. [5664

TRIUMPH 4h.p., countershaft 3-speed gear, kick start, hand clutch, nearly new and at concert pitch; any trial; sacrifice 87 gns.—61, Platt St., Leigh. [5361

1920 Triumph Combination (Gloria), disc wheels, electric light, tools, etc.; bargain, £165.—S. Symondson, Woodside, Southhill, Bromley, Kent. [5678

1920 All-chain Triumph and luxurious bulbous sidecar to match, brand new and unregistered; £185; exchanges.—2, Nightingale Rd., Lower Clapton. [6303

1919 Triumph, countershaft, C.B. sidecar, perfect order, tyres, etc., as new, accessories worth £10; price £115; no offers.—190, Divinity Rd., Oxford. [5382

TRIUMPH Late 1919 Gloria Combination, hood, wind screen, lamps, speedometer, etc., perfect condition; £150.—Write Long, 15, Westbourne Rd., Forest Hill. [5088

TRIUMPH, 3½h.p., 1913, free engine, Bosch, lamps, horn, Osborne gear, renovated, excellent condition; £45.—88, Winchester Rd., St. Margaret's, Richmond [5908

TRIUMPH Gloria Combination, Nov., 1919, little used, Lucas lamps, spares, tube, valve, etc., new condition; £165.—Rev. Stone, Sydenham Villas, Cheltenham. [5371

TRIUMPH 1919 4h.p. Combination, lamps, speedometer, Tan-Sad, in excellent condition; £135, or near offer.—Mattock Motor Co., Mattock Lane, Ealing, W.5. [5891

1920 Triumph Combination, Watsonian Monarch sidecar, Easting screen, electric lighting, all accessories; £165.—14, Shaftesbury Rd., Highgate, N.19. [6122

1919 Triumph Countershaft Combination, luxurious sidecar, fully equipped, heaps of spares, outfit perfect; £125.—60, Wallingford Av., North Kensington. [6037

TRIUMPH Countershaft, 4h.p., new September, 1919, fully equipped, unscratched, and perfect machine; £95.—60, Wallingford Av., North Kensington. [6036

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Two-strokes.

QUIETLY and unobtrusively the two-stroke is coming into its own. During the month of August its prominence was unusually marked, for in addition to the team prize in the Six Days Trials this type of engine won the Grand Prix—the cycle car race over the Sarthe circuit.

The Six Days Trials also brought to light the capabilities of the little two-strokes both as regards hill-climbing and endurance, as a glance at the tabulated results will show, while gold medals were awarded to both the solo and sidecar representatives of the two-stroke in the 500 c.c. class. It is no mean performance for a 500 c.c. engine to propel a sidecar and passenger over such a course as was selected by the A.C.U. for the 1920 trial, and that an air-cooled two-stroke of this size should accomplish the feat at its first public appearance is at least a proof that the big two-stroke can be cooled satisfactorily.

Contrary to the often-expressed opinion that anyone can make a two-stroke, this type of engine requires more careful study and design than the average four-stroke engine, especially since there is a regrettable lack of data with regard to many vital points; yet the two-stroke is already one of the commonest types of motor cycle on the road, and its popularity is steadily increasing. Its faults are outweighed by its advantages, chief amongst which may be placed its high power output at low revolutions, its even torque, and the fact that it is an easy manufacturing proposition when once the design has been finally laid down.

It is probable that, when motor cycles are used more for utility and less for pleasure purposes, the proportion of two-strokes will become even larger, and it is not unlikely that the chief disadvantage usually laid to the door of the type—high petrol consumption—will be overcome, or, at least, considerably mitigated, by further research.

The Price of Petrol.

ONCE again the petrol companies have seen fit to make a considerable increase in the price of petrol. Justification for the rise is, of course, forthcoming from the vendors, but, justification or no justification, it is the motorist who is hit, and he is beginning to ask when this state of affairs will cease. The answer is a hard one, and is complicated by the fact that the price of benzole has been raised by a similar amount. It is easy to say that the solution of the whole question lies in the production of a home-produced substitute at a competitive price, but so far such substitutes have failed to materialise in sufficient quantities to be of any practical value. There are immense shale beds in this country capable of supplying enormous quantities of motor spirit, and herein lies a cheering hope, though the necessary plant for the production of a suitable fuel has yet to be installed and developed to a workable state. Benzole can be produced in sufficient quantities and at a reasonable price only by the aid of the Government, and it is to be hoped that, profiting by war experience, the Government will refuse to allow the country's road transport to be controlled by foreign influence.

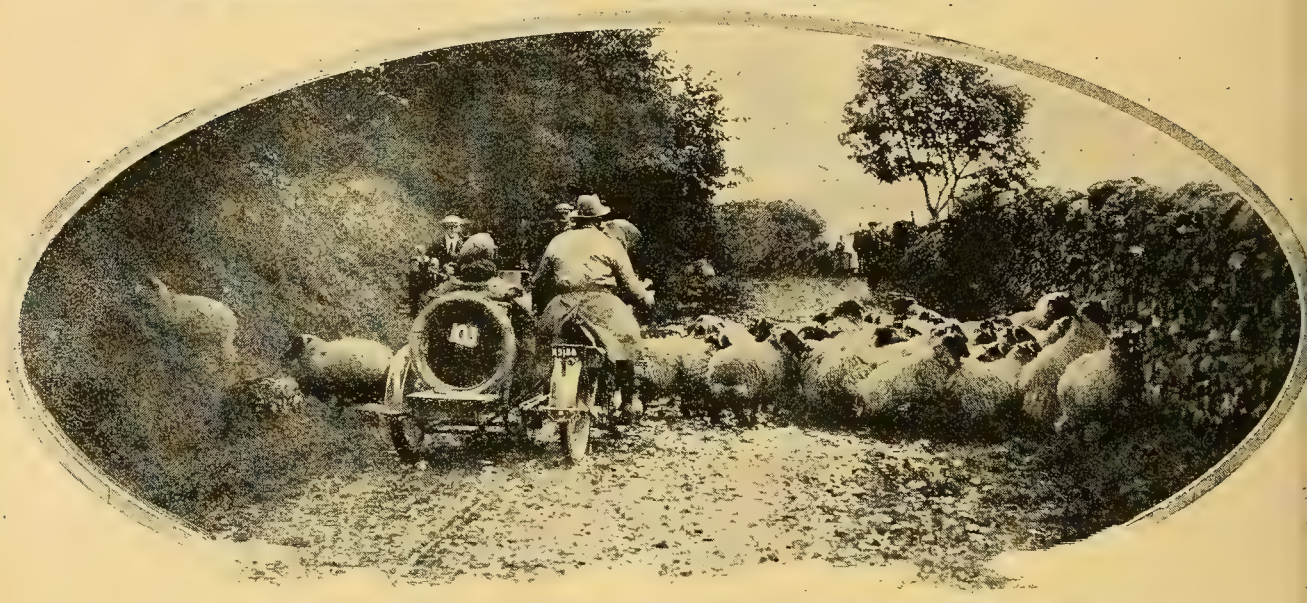
There is little doubt, as *The Autocar* says, that the true gravity of the whole matter will become apparent to the public when the rise in the cost of fuel is reflected in enhanced 'bus fares and increased charges of carriage of goods by road.

In spite, however, of the increased price, the motor cycle is still the cheapest form of long-distance road travel, and a gallon of fuel will go a long way if the machine is carefully tuned and handled, and the popularity of the machine which is cheap to run will be increased rather than otherwise, though it behoves all economical motor cyclists to see that they waste no drop of the precious liquid by flooding carburetters and too large jets.

An Index to the advertisements in this issue will be found on the page facing the back cover.

OCCASIONAL COMMENTS.

BY IXION.



A "Six Days" scene at Beatgate Bank, leading from the Reeth-Muker road to Barnard Castle.

The "Star" Engine.

HERE are two incidents, which go some way to prove that manufacturers use "Star" engines rather than "special" engines in competition work. The manager of one firm decided to enter a lightweight. A month before the trial he met his testers as they came off the road one evening with an unusually large batch of machines. "Which is the best engine in this bunch, boys?" He took it, tuned it up, and put it in the Six Days. Another firm prefers the dynamometer to a road test, and their acceptance standard is that the power curve must not begin to flatten until 2,600 r.p.m. are attained. Most of their engines "flatten" at that figure—they know the reason, but an alternative method of construction which would give a higher "peak" is too expensive for commercial purposes. A few engines show curves which continue to rise after 2,600 r.p.m. They look out for such engines and put them in the Six Days. Just at present they are full of glee because one miraculous engine has topped 3,500 r.p.m. without flattening. That engine is being jealously reserved for the 1921 T.T. On the other hand, a surprising number of firms are quite content to use engines selected at random, for the modern gear box permits even Park Rash to be climbed with lots of power in hand—it is generally steering which constitutes the main difficulty.

Testing Weak Spots.

ONE rider had an experience in the Six Days which alone suffices to prove the worth of the event. He was straddling a thoroughly good 'bus, which developed a small, but puzzling defect, on the first morning. In the scanty time at his disposal he failed to track the cause, and was therefore compelled to overdrive his engine relentlessly in order to keep to schedule time and climb the hills. This overdriving warped his cylinder so seriously that by Tuesday morning the valve guides and seats were permanently untrue, and the valves no longer seated round the full circumference of their heads. The designer concerned will naturally make alterations of an externally invisible character. Meanwhile, the moral for ordinary riders is that if you overdrive an engine which is out of tune, you may run your cylinder.

A Variable Factor.

ONE of the main objections to the inclusion of freak hills in the Trials has never yet been printed. The first and main essential to success is *previous acquaintance with the hill*. On nearly all such hills there is a certain track—it may be on the right, or on the left, or serpentine—which offers an easy climb with steady steering for solos or rational tyre grip for passenger machines. To some extent the A.C.U. outwitted the cute men who had practised over the course, by sending up the sidecars with the lightweights, so that the easy track was often blocked. Anyhow, the man who tackles such hills as a stranger is generally handicapped very severely. When you know the hill, the next thing is to avoid banging open the throttle, which may set the back wheel spinning and is sure to make the steering plungy. Use the minimum of gas, and pick your way delicately, dodging the big stones and the higher reefs of rocks. If you have to look far ahead to pick your path on an unknown precipice, you'll be lucky to get up without footing.

Footing and Foot-slogging.

WHILE the Trials are fresh in all our memories, I should like to direct the attention of trials organisers in general to a common inconsistency. There is a marked difference between using the feet to help a flagging engine and using the feet to steady a plunging bicycle. I had to do the former

casional Comments.—

Summer Lodge and the latter on Harden Bank. ow the A.C.U. observers were inconsistent in this spect. On one hill a member of our staff was seated tween two of these officials (why *two* were posted one hairpin, I cannot say). Mr. A. marked a ilure against every rider whose feet touched ground r any reason. Mr. B. discriminated as far as a man uld between those who footed for steadying pur-ses and those who foot-slogged from want of engine wer. Further, as the reports came in to H.Q., did e judges ever know that Messrs. A. and B. were porting *at the same point*? Or did they suppose at A.'s note "failure" and B.'s note "O.K." ferred to *different* sections of the hill? Finally, the fusal to publish the exact locations of all the served hills made it very difficult for any rider who ay have suffered at the hands of a stupid observer to it in an effective protest. I hasten to add that this as at the worst one of the very few defects of lministration in a brilliantly organised event.

The Plucky Lightweight.

NO stay-at-home student of this journal can conceive the frightfulness of the ordeal to which the lightweight machines were subjected to. mall tyres, small saddles, light fork springs, and, in me cases, 24in. wheels, provide the minimum of sulation against road shocks. The extent to which extra hundredweight or so steadies a machine was vious to any spectator who watched a baby two-roke and a 500 c.c. roadster tackle any rough hill. uite a number of the lightweight jockeys were tyros the game, and had little or no reserve of speed with hich to make up time after a tyre stop. We all ow that the speed of many baby two-strokes up ch easy climbs as Moss Bank is not terrific at the st. Moreover, some of the makers concerned had ared far too high. Even such old birds as the Levis owd put their gears down appreciably at the last inute after one look at Park Rash. The consequence f these factors was that most of the lightweights had very exhausting week, and in some cases the strain as almost past bearing, riders having to employ asseurs every night. I particularly admired cheery axter, whose Radco was overgeared for the job. He kept going, and came up smiling at every control. Luckily, the cooling of his engine was beyond suspicion and its power output at low r.p.m. wonderful, so that he could walk alongside up any hill for which his gear ratio was ridiculously high.

"Seeing a Noise!"

DURING the A.C.U. Trials a few pressmen were given the opportunity of trying Dr. Low's famous "audiometer," which aroused such keen controversy after the silence tests in the 1919 trial. It is a simple and ingenious piece of mechanism. A tiny mirror, ⅛in. square, is so delicately mounted that it vibrates in response to sound waves. The light of a six volt electric bulb is caught by the mirror and reflected on to a ground glass screen. The observer watches this spot of light on the screen. If it merely flickers when a machine passes, the engine gets its O.K.; but if the spot of light tries to jazz off the screen, there is trouble. The apparatus was in rather a sulky mood when we examined it, and no very conclusive opinion of its value could be formed. I rather suspected that it would fail to distinguish ground vibrations from sound waves. Apart from that, it includes no precise means of definitely registering variations in noise—the screen is not plotted in squares by which the jazzing of the light spot can be measured for purposes of comparison. It merely substitutes the eye of the observer for the ear which he would use if he leant against a fence and listened to the machines.

Bump, Brothers, Bump!

WHEN the trial ended, there were many who had corns on a portion of their anatomy where corns seldom form—rowing men only excepted. Early in the week the crew of the passenger machines displayed a certain hesitation about bouncing on their machines in order to get tyre grip. But quite a brief experience of the course banished their nervousness. By Tuesday they were all bumping experts. As soon as an observed hill loomed in sight, the passenger usually swung out on the carrier, and took his time from the driver, the two bumping manfully in unison until saddle pillars wilted and carrier bars creaked. By Thursday there was an unseemly scramble for the best padded chairs at the various hotels.

Start of the last test in the Six Days Trials. Half-an-hour's run at speed on Brooklands track showed that the majority of the engines had retained their power remarkably well.

THE FAMILY SIDECAR

How Economical Holidays may be Spent Independent of Trains

IT is not so many years since the first sidecar appeared on the road. The pioneers who introduced them have but few more grey hairs than when they defied the criticisms of theoretical engineers, and produced the prototypes of what is to-day the most popular vehicle on the road.

Like all inventors and designers, they were confident of the success of their productions; but probably no one realised the great potential popularity of this type of vehicle.

Theory and Practice.

The meticulous engineer in viewing them in learning of their remarkable efficiency, can be likened to the farmer who, on seeing the giraffe at the Zoo, remarked that there was no such animal. Here we have a vehicle which violates many of the laws of mechanics, and yet grows in popularity and utility as the years go by.

The high brows of the mechanical world continue to tell us of a hundred and one reasons why sidecars do not follow sound mechanics. According to them, no sidecar should support much more than its own weight; yet a hundred odd thousand motor cyclists owning sidecar outfits can answer "But it does."

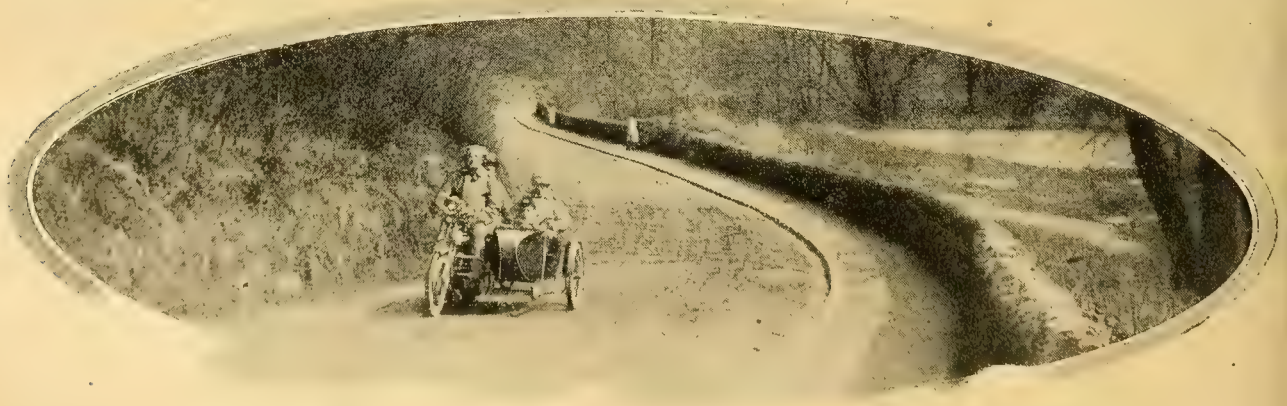
Theory and practice do not always go hand in hand. What does it matter to the thousands who derive pleasure and profit from the sidecar, whether the sidecar is theoretically sound or not. They know that in practice they are entirely practicable, and provide the most economical means of transportation for two or three persons. The sidecar seems to have set up mechanical laws of its own. One cannot gainsay that it is the lightest passenger machine on the road. If it were unmechanical, from the point of view of strength, it would break; it does not. If it were unmechanical from a propelling standpoint, it would require a very large engine and a large amount of petrol to drive it; again, it does not. The writer last year covered over 3,000 miles with a single-cylinder sidecar and family (and an Easting windscreen to add to their comfort) at an average consumption of 83 m.p.g.—and 83 m.p.g. is little less than the average solo rider obtains on 3,000 miles of running.

The Seal of Usage.

Unmechanical or not, the sidecar serves the purpose of over a hundred thousand motor cyclists who, had they the wish, are unable to name a substitute as cheap to buy, and as economical to run.

The one answer to the sidecar critic is "Count them on the road." Any week-end they are abroad in their hundreds, carrying whole families into the country, trips which were unknown to the children who are now men and women.

The accommodation of a sidecar outfit seems to be limited only by the ingenuity of the owner. Fathers of six are not dismayed by the problem. There is no



Independent of trains and free from objectionably crowded railway carriages, the sidecarist enjoys to the fullest extent the open country, and is able to tour outlying districts which, without the sidecar, would be debarred to him.

The Family Sidecar.—

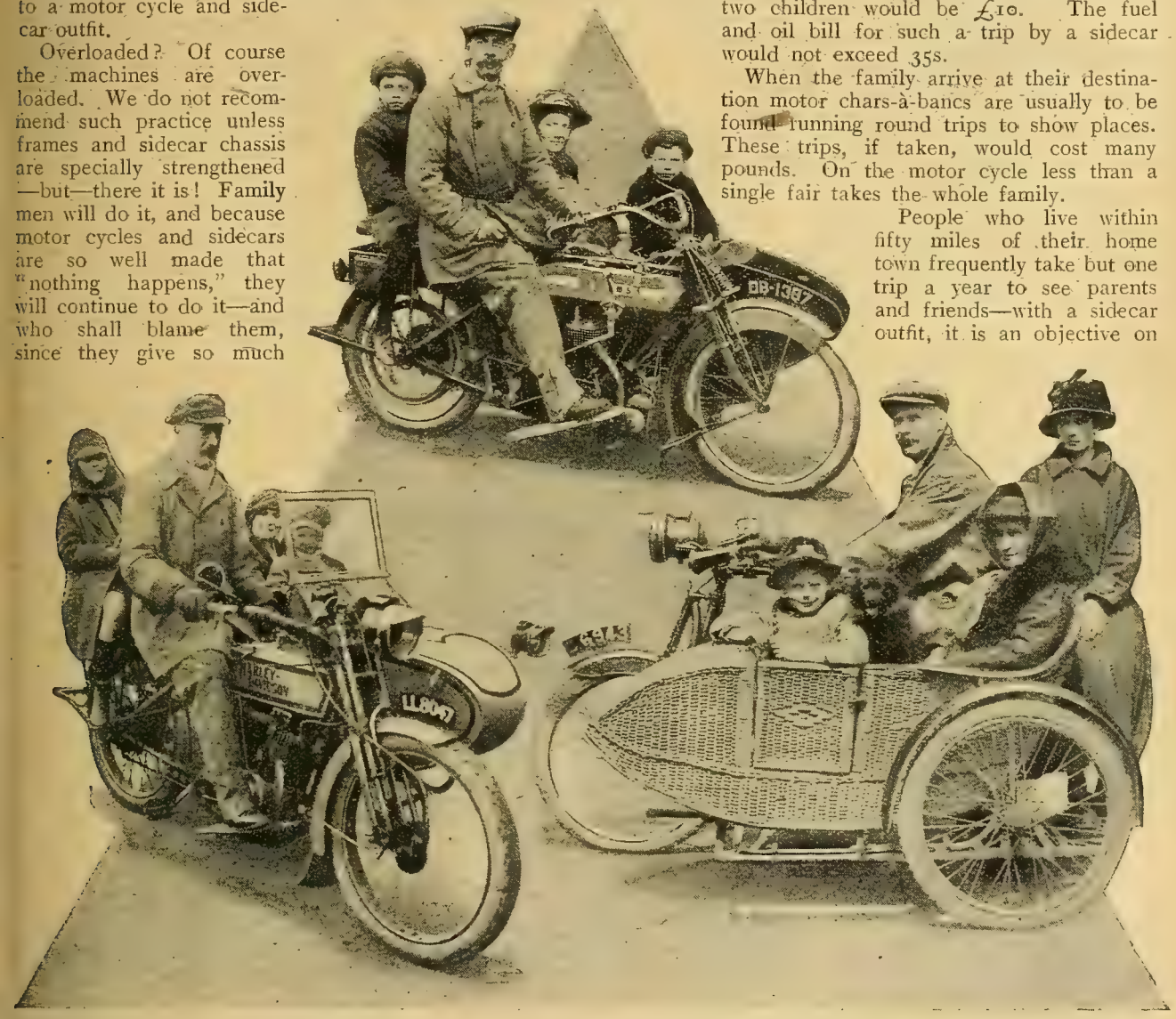
such thing as letting the youngsters "take it in turns" to share the joys of motoring with their parents. Such large families mean a little more ingenuity, and a little bigger engine. Offspring in bunches of two and three are comparatively easy to accommodate without even resorting to a pillion seat to take the eldest. Four youngsters are not an uncommon number, and even larger numbers are occasionally to be seen packed on to a motor cycle and sidecar outfit.

Overloaded? Of course the machines are overloaded. We do not recommend such practice unless frames and sidecar chassis are specially strengthened—but—there it is! Family men will do it, and because motor cycles and sidecars are so well made that "nothing happens," they will continue to do it—and who shall blame them, since they give so much assistance in their school studies as well as enlarging their outlook. Again, there must be hundreds of fathers who could not afford to take a family to the seaside, and give them all such a good time, were it not for the motor cycle and sidecar.

The railway fares for a family of four is a big item these days, especially if the journey be a long one. Take for example a trip of 200 miles each way—the fares alone—at 2d. per mile—for two adults and two children would be £10. The fuel and oil bill for such a trip by a sidecar would not exceed 35s.

When the family arrive at their destination motor chars-à-bancs are usually to be found running round trips to show places. These trips, if taken, would cost many pounds. On the motor cycle less than a single fair takes the whole family.

People who live within fifty miles of their home town frequently take but one trip a year to see parents and friends—with a sidecar outfit, it is an objective on



Why the sidecar is the most popular passenger vehicle on the road! Consider its carrying capacity. Even light cars would have difficulty in accommodating such a number of passengers.

pleasure to so many human beings at so little cost. It is not only the pleasure side of sidecarring that should be considered. There are other points having great influence upon life and happiness. The wife who can forget her household worries at the week-end, and enjoy a few hours in the open-air, is better fitted to face the week that follows. The husband spends his spare time in a hobby which improves his mind, where such close indoor pastimes as billiards and cards might tempt him. The children receive any afternoon or Sunday—or even evening in the summer.

Surely the time has come when the mechanics of the sidecar need not be compared with the ideals of theorists. Sidecars serve their purpose, splendidly and economically. Not only do they do all that for which they were designed, but more—a lot more, and give satisfaction to hundreds who otherwise might be compelled to pay high railway rates and suffer the inconvenience of a set time table and a stuffy railway.

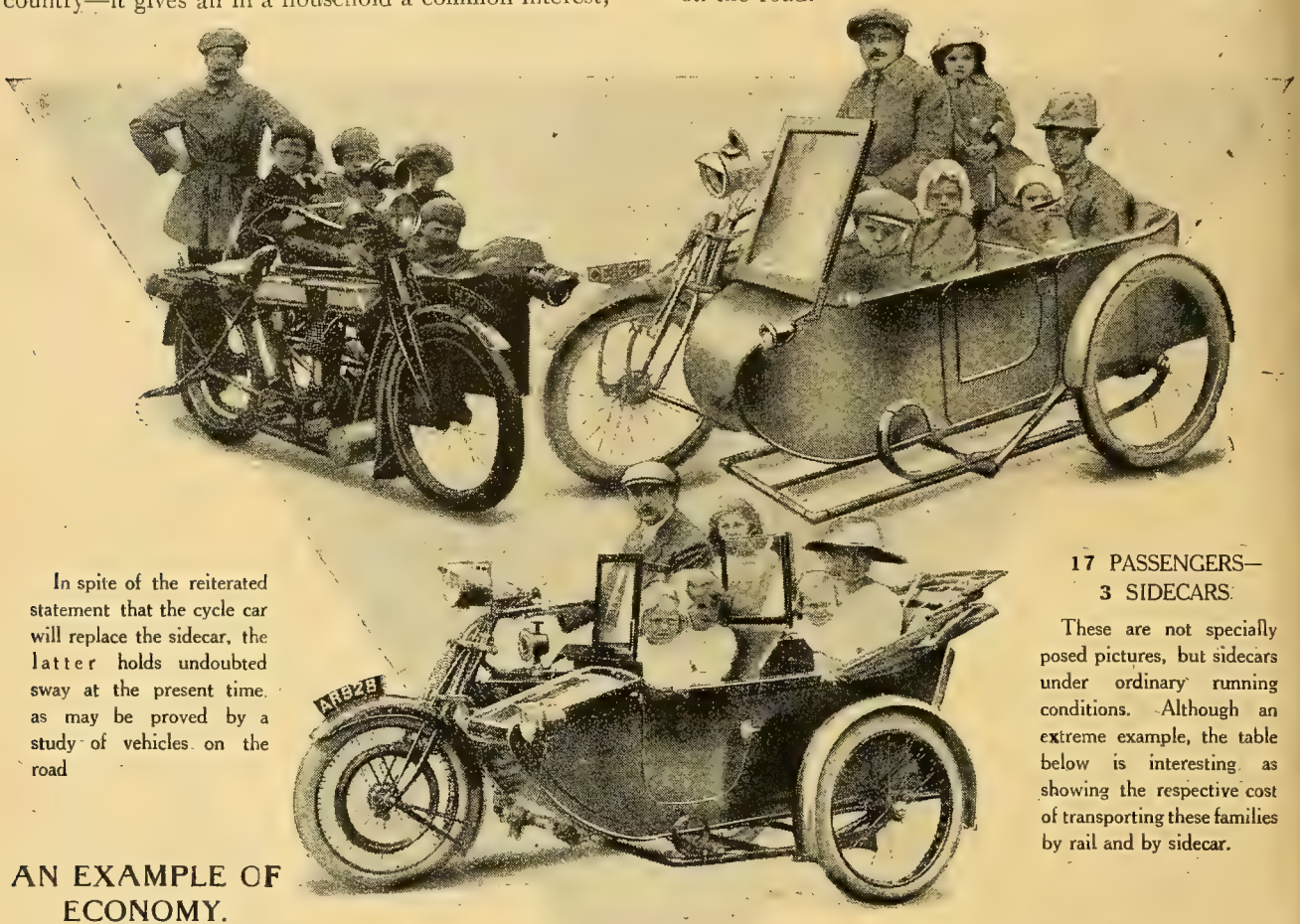
The Family Sidecar.—

carriage when they travelled, which would not be nearly so often.

The sidecar now forms part of family life in this country—it gives all in a household a common interest, and knits ordinary parental affection into companionship.

It will take a great deal to shake the sidecar from its present high position as the most popular vehicle on the road.

VEDETTE.



In spite of the reiterated statement that the cycle car will replace the sidecar, the latter holds undoubted sway at the present time, as may be proved by a study of vehicles on the road

17 PASSENGERS—3 SIDECARS.

These are not specially posed pictures, but sidecars under ordinary running conditions. Although an extreme example, the table below is interesting as showing the respective cost of transporting these families by rail and by sidecar.

AN EXAMPLE OF ECONOMY.

SIDECAR—100 MILES.

Petrol, 4s. 3½d. per gallon, fifty miles to the gallon.
Oil, 100 miles, approximately 1s. 5d.
Cost for the three sidecars .. £1 10 0

TRAIN—100 MILES.

Five adults at 2d. per mile; ten children under twelve years old, 1d. per mile; two children under three years old, free.
Total cost £8 6 8

STANDS PLACED AMIDSHIPS.

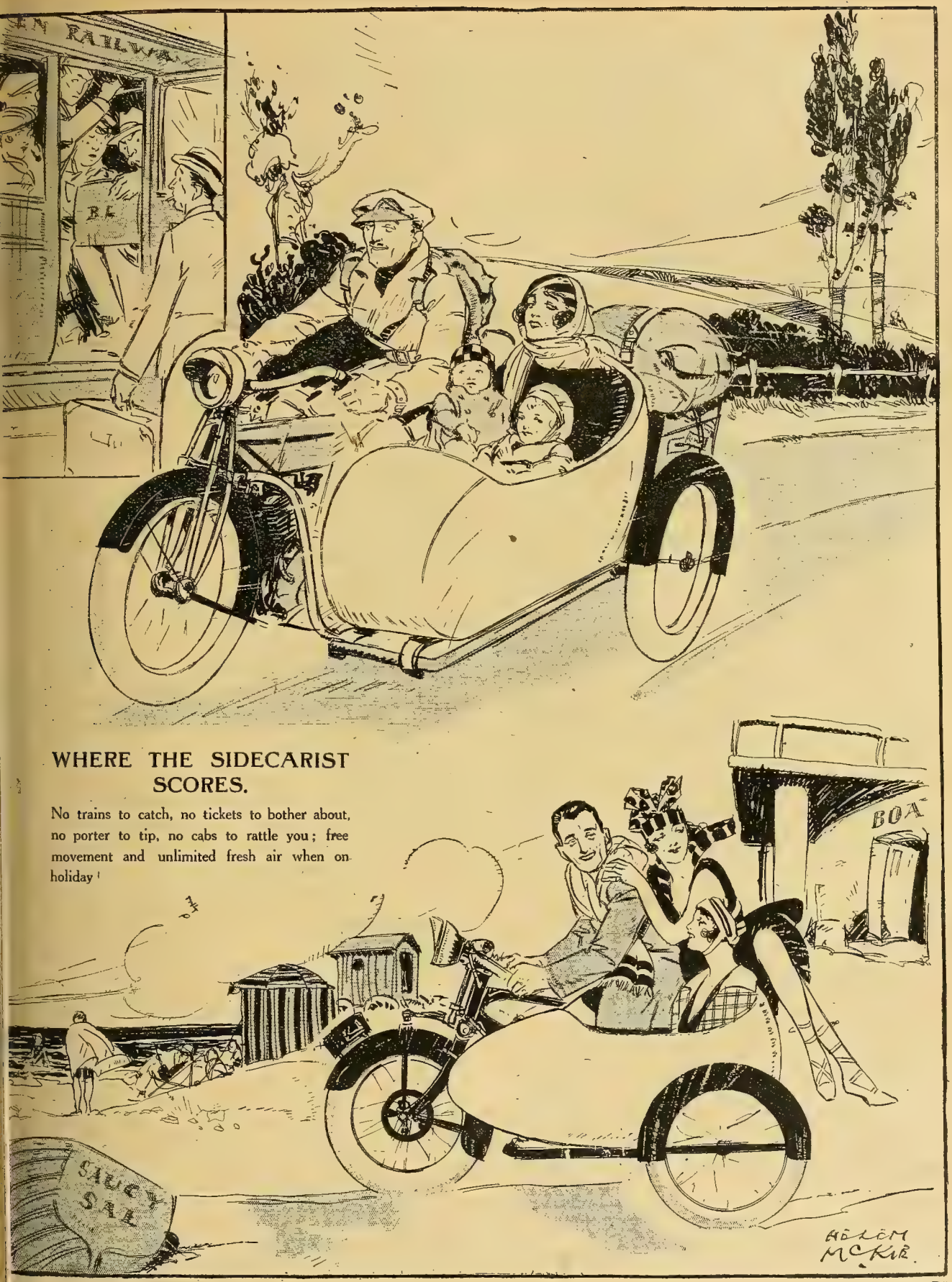
THERE is something to be said for the stand placed beneath the countershaft or somewhere thereabouts—a position which seems likely to become more or less popular, though it is not particularly novel. Such a stand was to be seen on the Midget Bicar, a motor cycle made by Brown, of Reading, having a pressed steel frame and several other points to recommend it. Such a stand makes it very easy to raise the front wheel when it is desired to test the bearings of the head for purposes of adjustment, or to raise the wheel for tyre repairs. The latter can, of course, be done by means of the usual front wheel stand, but the former cannot, as the use of the stand prevents the free swinging of the wheel from side to side.

The central stand should be spring-operated, and it is then very unobtrusive in appearance, no matter whether up or down. Owing to the fact that but little weight is left upon the front wheel, this is somewhat apt to swing round when the machine is placed upon the stand, and some may consider this a slight disadvantage, but it is certainly not a serious one.

On the Fitting of Stands.

While on the subject of stands may I enquire why some stands make it necessary to lift the machine to so great a height. This is a real feat of strength on some powerful 'buses which I could name. If it is only possible to remove the back wheel when it is lifted some six inches clear of the ground, then I think some redesigning of that machine is required. A rear mudguard which can be quickly removed bringing the carrier with it, such as is found upon the Enfield, is a real boon in this respect.

J.H.W.



WHERE THE SIDECARIST SCORES.

No trains to catch, no tickets to bother about, no porter to tip, no cabs to rattle you; free movement and unlimited fresh air when on holiday!

THE A.C.U. AND TRIALS IN THE FUTURE. By B. H. Davies.

CONTROVERSY will doubtless rage for weeks to come about the "freak hill" policy of the A.C.U. and the wisdom of including such hills as Park Rash, Summer Lodge, and Rosedale Abbey in an event which is a commercial advertisement no less than it is a technical test and a sporting ride. I cannot personally excuse the weakness of the stewards in accepting entries for a published course, and then yielding to popular pressure, converting Park Rash into a "bonus" hill, pretending they had "not observed" Summer Lodge, and dodging meekly round the back of Rosedale Abbey at the eleventh hour. The Union ought to have the courage of its opinions. Having announced these hills, it should have stood or fallen by them. If the trade had taken umbrage, private owners would have kept the trials going in 1921, as private owners have always kept the Scottish Six Days going. If the A.C.U. had felt penitent after the event, it could have selected easier going for 1921. But weakness in a governing body is always fatal; and whatever policy may be adopted next year, all sensible motor cyclists surely hope there will be no vacillation about it.

The Demands of Export Trade.

This preamble leaves untouched the fundamental question of whether an ideal trial's route should include hills of the Park Rash calibre or not. On this point, too, I speak for myself alone. We have talked very big since the Armistice about our export trade. If we want export trade, we must design and build machines to suit it, and we must test those machines over roads approximating to overseas conditions. I take it that such runs as Friday afternoon's course, from Huddersfield to Warwick, are useless for the purpose; but that many a colonial rider would feel quite at home in the Scott Trial of September 4th, when a total distance of 100 miles includes not more than a dozen miles of proper road, and the very worst surfaces which the promoters could discover were gleefully included. If this is true, I do no see how an industry which desires export trade ca limit its chief test to hills with hard, smooth surfaces the trials must surely be of an "all in" character?

Two Lines of Development.

But I should append two riders to this conclusion We want to develop machines fit for the Sout African veldt and the Australian bush; we also wan perfect machines for the home user. Home require ments and overseas requirements are not necessaril identical. It is a confusion of thought which subject all machines to identical tests. At the very outset w may admit that the scooter, the motor assisted bicycle and, to a less degree, the sidecar combination and th Morgan, are not intended for the rougher types o oversea service at any rate. These are the very model which are specially handicapped on a hill like Par Rash. No tourist would take them there. Such surfaces bounce a lightweight all over the road, an deny tyre grip to the passenger machine. In a futur Six Days I see no objection to sending the babie and the passenger outfits round the freak hills by switch route.

I go even further than this. It is arguable that th 1920 type of course tends to develop the wrong sor of machine for 90% of our home riders. Let m particularise. I have just been riding a special single cylinder machine developed for reliability trials o the current pattern. It is almost an ideal mount fo jobs of that kind. Indeed, such trials have definitel begotten it, and it invariably emerges from them wit great credit. When any part has broken or give trouble in such events, it has been stiffened up; an if anybody wants a no-trouble ride in such a trial a we have just concluded, he could hardly do bette than enter on the machine I have in mind. But it i entirely destitute of refinement. Comfort is hardl considered in its make-up. Its weight is formidable to a degree. It is a great, heavy, powerful, sturdy,

Impressions of the Six Days Trials.—

bullocky sort of machine, and one that I would not select for pleasure on a summer tour with my wife and family.

Thus the impression is slowly taking shape in my mind that we ought to organise future trials on a dual or "home and colonial" basis. I doubt whether two entirely separate events are practicable. But by dint of switch routes and certain classified awards, the two ideals might be simultaneously fostered in a single event. For example, all lightweights and all passenger machines might be *compelled* (not allowed) to dodge the roughriding sections by means of switch routes. All machines intended primarily for the home market or for the easier spheres of overseas service might be subjected to special tests of refinement, from which the colonial models would be immune. Such tests might include silence, springing, light weight, cleanliness, premiums on low cost, and any other points which a committee of experts considered desirable. Anyhow, whatever solution is finally adopted, it will be a calamity if we cease to develop the "bullocky" type of machine for overseas work: and equally will it be a calamity if we enforce the home user to accept the kind of machine which enjoys Park Rash.

It is necessary in this connection to reconsider Park Rash and Summer Lodge from the special standpoint of solo mounts of 500 c.c. and over. Given a clear course, devoid of baulking, and a dry day, any decent rider so mounted can climb such hills. But such machines ought *not* to be sent up these hills compulsorily. The inevitable result is to produce solo machines for home use which are:

(1) Too heavy,
(2) Undergeared,
(3) Overpowered.

Only sporting riders want to tackle such going. Sporting riders do not compose more than 5% of our community. The remainder will be well suited with a far lighter, less powerful, and more refined machine. If the dual trial which I have outlined were ever organised, and I were a manufacturer catering for both the home and the colonial trade, I should hope to enter a 150 lb. 3¼ h.p. machine in the "home" class and send it round the switch routes: and to enter a 300 lb. 4 h.p. mount in the "colonial" class, and send it up all the precipitous river torrents.

In two respects the results of the trial are deceptive. The route was so intensive that continuous bad weather would have produced disaster, and very few golds could have been won if the going had been uniformly wet. The kind aloofness of Jupiter Pluvius saved the A.C.U. from red revolution. On the other hand, low be it spoken, sheer bad driving prevents many men from doing even better. Too many riders charged the bad hills at speed on open throttle. I select two entrants as models in this respect. Mrs. Knowles did no better than some of the crack men, but her sex gives her pride of place. She took the rougher hills just fast enough to get steering way: not so fast that her Norton plunged out of control: not so fast that she could not deliberately pick out the best going: not so fast that her back tyre began to spin. Of the passenger entries Hall on the Morgan was superb. No one had a harder task, for his central driving wheel could seldom use the hard track at the side open to solo and sidecar machines alike; moreover, he had overturned on the eve of the trial, and drove in considerable pain at times. He handled his throttle like a master, and suffered less from tyre spin than any other three-wheeled driver.

The brake test was almost a farce. Whatever imperfections our brakes have, inability to hold a

A SIX DAYS TRIAL SCENE.

A string of competitors on Carlton Hill. The leading riders are G. Kuhn (Levis) and E. E. Palmer (A.B.C. sc.)

Impressions of the Six Days Trials.—

machine which starts down a precipice at a crawl is not one of them. I doubt whether we shall get a satisfactory test of brakes or of comfort until we employ official testers like the Air Ministry test pilots: and that means limiting the entries plus a lot of back-chat from disgruntled entrants about "personal opinions." Still, when every practised rider is well aware that a few makes stand head and shoulders above the ruck in respect of steering excellence and riding comfort, it seems a pity that they receive no credit whatsoever for these vital qualities in the supreme technical test of the year.

The inclusion of so many water-splashes has justified itself, if only from the "colonial" standpoint. Water-splashes are unduly hard on belts, which still have a limited future on the lighter solo machines. But this year they have brought into relief defects in ignition and carburation which are certainly unpardonable on overseas models, and are undesirable on home models, seeing that many owners besides leaving their machines out of doors in heavy rain during business dismounts, are often very careless of their machines in other respects.

Deserting the area of controversy, the net effect of the Trials is to prove that the modern British motor cycle need fear no comparisons. It has emerged with distinct triumph from a most searching ordeal; and on level financial conditions is fit to compete with any rival in any country.

A COMPETITOR'S IMPRESSIONS. By H. Mortimer Batten.

UNDOUBTEDLY one's opinion as to the severity of a reliability trial is governed to a large extent by the machine one rides and the degree of luck one experiences. Given the right machine and a no-trouble run one's impressions of the severest event afford nothing but peaceful retrospect, while the reverse applies with equal vigour; but all this granted, practically everyone who competed in this year's Six Days was of the opinion that it was unprecedented in its seductive properties. Friday was, I suppose, the alleged easy day, but Friday morning left everyone in a state more or less bordering on hysterical collapse. Having scaled Harden Bank and ricochetted over miles of broken moorland track, interspersed by a liberal sprinkling of Yorkshire cobbles and the surprise right-angle bends for which these small manufacturing towns are unequalled, we at length struck good road a few miles from Huddersfield, when a casual glance at the watch surprised almost everyone into the realisation that nothing but a colossal blind could save the situation at the lunch control. For the last few miles into Huddersfield practically everyone was riding at full throttle; fortunately the police were there to receive us in good spirit—probably labouring under the prevalent impression that it was a race.

Nervous Anticipations.

Monday was a sporting day, the first feature of note being the steep descent into Pateley Bridge—a fine opportunity for the rush to burn out their brakes at the outset. At the top of this hill I gravitated to a standstill in order to await a team mate, and discovered too late that my right legging was hitched up in the kick starter! There was nothing for it but calmly to lie down in the centre of the road with the machine on top, and wait for some good Samaritan to come by and relieve the situation, which simple procedure was carried out to the letter.

An excellent lunch at Ilkley was not appreciated as it might have been, for everyone was in a state of quivering excitement owing to the sinister proximity of Park Rash. We absently munched lettuce with our jelly, or helped ourselves to mustard with the apple pie, for Park Rash has only one point in its favour—its shortness! Never was it in worse condition than as we were destined to find it—the Morgans and sidecars having chewed up the only "rideable" track—and though this climb might be considered a fair hill in a one-day trial, the ascent is so much a matter of luck that its inclusion in an important six days event would not have been just to the competitors. After all, the object of the trial is to prove the machines, not merely to weed out all but the trick cyclists, who might be better employed in a circus.

A little later in the day one rider shot into a side road and performed a marvellous stunt climb of an unknown freak hill. Reaching the summit he was injured by the absence of observers and fair spectators to witness his performance, then discovered that he was on the wrong road! Later still, nearing Darlington, the representative of a well-known tyre ran into a black and tan pig, and knocked a rasher of bacon off it!

An Impossible Test.

One endeavours to accept the choice of Trials' organisers with all the charity and good sportsmanship available, knowing the difficulties of their lot, but the inclusion of Crackpot Gill or Lodge Hill (on Tuesday it was called a variety of names) was in every way absurd. The most serviceable machine ever built for ordinary use might prove utterly incapable of such a climb, and beyond completely exhausting the majority of the competitors at the very outset of the day, and fostering a spirit of revolt already at boiling point, one fails to see that the inclusion of this freak served any useful purpose whatever.

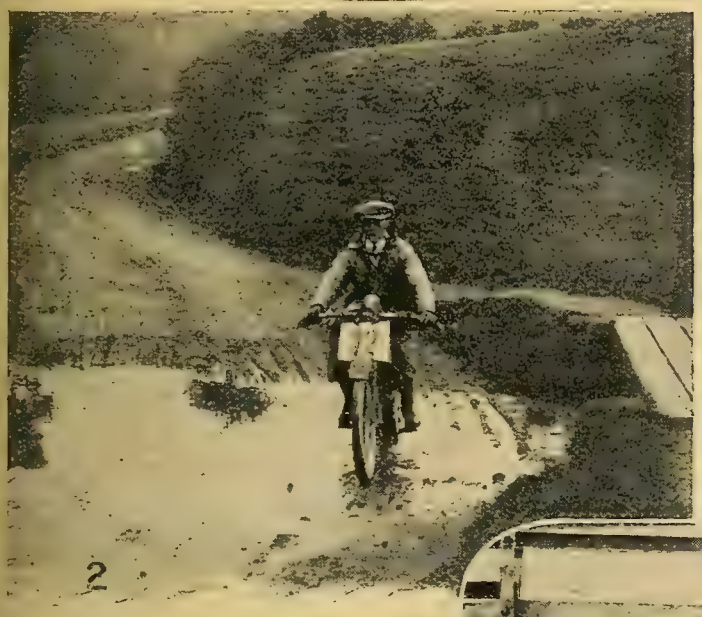
Crackpot Gill is an ascent too rough and severe for the use of carts. Sledges are used on it. It is a climb only fit for an antelope in its prime. True that Alexander, Clark, and one or two others got up it somehow, but personally I was among the ninety-nine who pushed, skidded, and sprawled from the foot to the summit. At the top of the hill riders were to be seen in every stage of exhaustion, some with their knees aspiring heavenwards while they voiced their views to the infinite, while one of the three-wheelers, owing to the absence of help or the intellectual inability of those who *were* present to lend a hand, took one and a half hours to gain the summit.

Naturally this hill was washed out, as also were Park Rash and Dent Hill, though the last-named was certainly more reasonable than was Park Rash; but the question on the lips of everyone was: "Why include hills which merely involve a diversion from the rules, besides annoying everyone?"

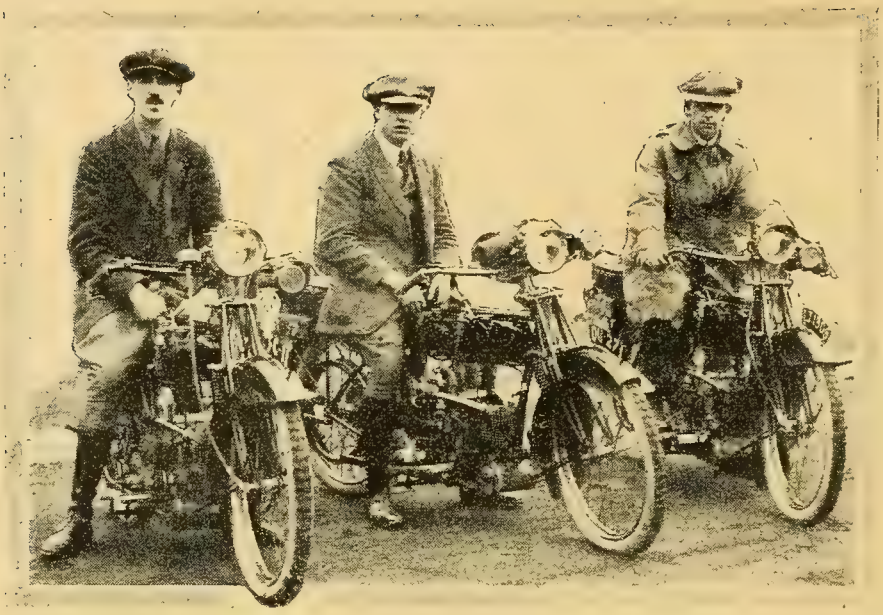
With the exception of Park Rash and Crackpot, there was really very little in the trial at which a sporting rider could complain. On the whole the

WATERSPLASHES IN THE SIX DAYS TRIALS.

The watersplashes on the whole gave but little trouble, the belt-driven machines naturally suffering most, especially in cases where a gradient followed the splash.



(1) How S. Wright (Humber) avoided wetting his feet at Hutton-le-Hole. (2) J. W. Wills (Verus-Blackburne). This splash at Gunnergate did not alarm any competitor. (3) G. M. Townsend (P. and M.) approaching Boltby Bank, on the Hambleton Hills, near Thirsk. (4) A solo rider and a sidecarist negotiating the splash at Hutton-le-Hole.



FLAT TWINS THAT PROVED THEIR WORTH IN THE SIX DAYS.
Three Humber riders: H. O. Evans, L. Crisp, and E. Redvers Johnson, all gold medal winners.

route was very ingeniously laid out, as one was apt to be caught napping on any portion of it, and an unreliable machine was bound to go under. The route marking was excellent, but one was constantly misled into the impression of having any amount of time in hand, only to experience a rude awakening a little further on.

How the Machines Performed.

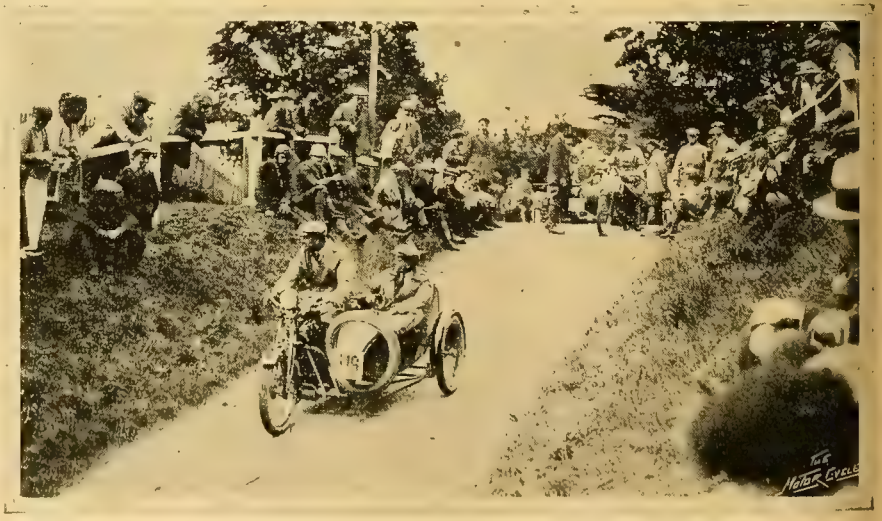
As regards the machines, one of the most striking impressions was the vigour of the single-cylinder mounts, though the Scotts made very light work of the trial, and appeared to land their riders home each evening with a minimum of fatigue. Alan Hill spoke of his machine as ideal for the work. One of my riding companions was Dudley Barton on a 4½ h.p. Dunelt, two-stroke. His machine appeared quite capable of the gruelling, and did not overheat, though it seemed rather hard to start. The Sunbeams, Triumphs, and Ariels were all fast and powerful, while as usual the B.S.A. team ran like clocks. The P. and M.'s experienced very unusual carburetter troubles early in the week, and had not improved their engines by the time that the trouble was located; the A.B.C.'s ran very sweetly and were decidedly fast, but again the luck of this little sidecar outfit was out.

All things considered, however, the Velocettes were perhaps the surprise of the trial so far as competitors' comments showed. These little two-strokes seemed to have vim enough for all comers, and watching them lap at Brooklands one could not but admire their lively tune. Indeed, practically all the two-strokes were surprisingly lively and capable, and certainly they did more than hold their own against the four-strokes of the same c.c.

Tuesday was the star turn of the trial, and leaving Crackpot and its friends of a feather we ran across one observed hill after another, while in places the road was strewn with derelict sidecars. Wednesday was a holiday compared with it, the weak omission of Rosedale resulting in a morning of deadly main road monotony, broken only by occasional water-splashes. One of these was of exceptional depth, and Archie Cox, riding a Beardmore-Precision, lay down in the middle of it. As one of the dailies observed: "He appeared to be very angry." I think that the organisers were right in observing certain splashes, as, though this caused some indignation among the belt drive merchants, it goes without saying that a transmission system that will not stand wet should not be allowed to live. (Cheers from the Colonials!)

At Brooklands a good many competitors wore themselves out by anxious waiting, for incidentally there was more waiting than anything else. Would valves and transmissions stand this crowning test? Judging from the number of derelicts seen ultimately on the track, a good many did *not*, but on the whole the machines did exceedingly well.

One cannot help but feel that the organisation at Brooklands was not up to Scottish standard. Dr. Low did his best, like the sportsman that he is, but Dr Low could not do everything and get his Audiometer going at the same time. The track test had to wait till Dr. Low had finished the brake test, and I fail to see



G. E. Stobart satisfying the judges that the brakes of his 7 h.p. James sidecar were in perfect order at the end of the Six Days testing.

Impressions of the Six Days Trials.—

that it required a very scientific mind to judge the braking results. This test, by the way, would have been more to the point had we been compelled to descend the 1 in 4 portion with brakes "off," then bring our machines to a standstill at the bottom of the hill. It requires very little braking effort to retain a speed of 4 m.p.h., which most of us did, but it is quite a different matter to have to check the inertia of a rapidly moving machine on a steep gradient. I imagine that everyone complied with the conditions, excepting one sportsman, who had no brakes at all, and who called a cheery "good-bye" as he shot past the judges.

Then, when Dr. Low had finished on the track, we had to wait for Dr. Low for the final examination. When Dr. Low ate and slept no man can say. We waited for endless hours. We sat on our machines, we lay down on the concrete, we squatted on hard bits of fencing, we speculated and indignated, and finally it was well after lighting-up time ere the writer, together with a bunch of others, all intent on catching the 10.30 from King's Cross, were free to go. We charged off at terrific speed, lost ourselves in the grounds, and found ourselves ultimately riding round a cleared patch in the forest, where the timber had recently been felled. Ploughing our way through ferns, moths, dead leaves, and branches, we eventually found another road, and finally proceeded in massed formation for London. This, I think, was the most thrilling part of the whole trial. Riding head light to tail light, we careered into the city of cities, thirty in a bunch. Once or twice non-competitors became accidentally involved in the crowd, and were observed modestly to retire. The London police were taken completely by storm. Some luckless copper on point duty was suddenly overwhelmed by a whole bunch of motor cyclists, riding in circles round him, and all inquiring frenziedly for different stations.

Anyway, we caught the 10.30, and aboard it swore a solemn if breathless oath never again to indulge in the mad folly of competition riding. We always take this oath. It means exactly nothing, beyond the realisation that a memorable event is at an end, and that one year hence we shall again set out on another light-hearted adventure of the same kind.

DEFECTS IN BABY TWO-STROKES.

An Appeal to Manufacturers to Eliminate Present Weaknesses.

THERE is no type of motor cycle whose virtues one appreciates more fully than the baby two-stroke. That it has shortcomings we all admit, but such shortcomings, far from being inherent to the breed, are chiefly within the power of manufacturers to eliminate. The foremost of them are noise, high fuel consumption, irregular firing, flimsy fittings, saddles, and finish.

The noise problem is the foremost defect in all present designs—I know of no noteworthy exceptions. Those of us who are somewhat elongated in the limb always feel absurd when perched on the top of a lightweight, and, what is more, we look it. There are few things more laughter-provoking than, on hearing a noise almost equivalent to the starting up of a big rotary, to turn and observe a little two-stroke dribbling up the quiet village street at 15 m.p.h., with a huge rider perched on the top of it.

Recently I have been riding a 7-9 h.p. twin and a baby two-stroke alternatively. On the 7-9 h.p. twin one glides quietly through the traffic with never a hitch. On the tiny two-stroke, however, the milkman's horse stands straight on end immediately I appear.

I have possessed two-strokes which, as rural riders' knockabouts, could not be beaten for general utility, but I have become disgusted of late as regards the noise question. If manufacturers wish to net in that huge army of riders who, like myself, are sensitive to ridicule, they must first hit upon some better system of silencing than they have employed hitherto.

Fuel Consumption.

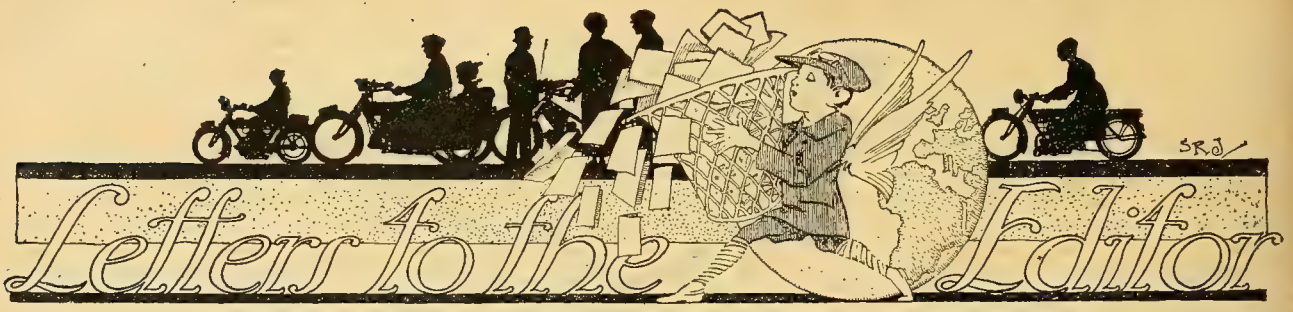
This is another absurd point regarding most two-strokes. Not only are they more noisy than the largest and heaviest of motor cycles, but usually they are more costly in fuel. In fact, they compare unfavourably with a big twin outfit. I have found that with the heavy twin I could make a long journey on less petrol than it was possible to make in riding solo on the lightweight—and in considerably shorter time!

This also is a matter that manufacturers must remedy even if at a slight loss of power, for no one who rides a two-stroke is out for speed impressions. If he were he would not ride a two-stroke. What he wants is steady pulling, reliability, and economy—above all the latter, since the baby is essentially an economy mount. That the weakness can be overcome is shown by the performances of a small number of two-strokes on the market, which, while answering all the purposes of the normal two-stroke rider, regularly accomplished 160 m.p.g., and on straight runs 180 m.p.g.

Irregular Firing.

This is difficult to overcome, and will probably continue to exist till radical alteration in the design takes place. The chief cause of it is that the volumetric efficiency of the crank case and that of the cylinder do not always coincide to suit the fluctuations of the mixture. With the throttle half closed, the crank case may draw in too small a charge to explode at the pressure attained when it gains the cylinder and the spark occurs—the mixture not being correct for the pressure to which it is subjected. This is such a knotty point that I can only say that until it is overcome manufacturers must make allowances in their transmission systems for periodical irregularities in torque. This done, and the engine properly silenced, the four-stroking trouble would not be so great a grievance.

So much for a candid opinion of the chief weaknesses of the popular two-stroke. That it is popular and deserves to be is a fact one need not emphasise, but my contention is that it might be infinitely more so were some of the weaknesses common to the class, though not applying to all, overcome. CHINOOK.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

2 M.P.G.—A CHALLENGE.

Sir,—As petrol consumption challenges appear to be in the air, I should like to ask if anyone can outdo me on one pint or gallon of petrol on any make of machine of the same power. My machine is an A.J.S. 2¾ h.p., about 1914, and after draining the tank I measured in one pint of petrol, and on this I ran twenty-four miles. This I can do again. S. COOK.

A BENZOLE-PARAFFIN MIXTURE.

Sir,—For some time lately I have been running my 1920 4 h.p. Triumph on a mixture of three parts benzole to one part paraffin. The experiment has been a wonderful success. I get more power, slower running, better acceleration, and about the same, or slightly better, m.p.g. It runs equally well on a mixture of half and half. A friend of mine has run his 4 h.p. 1914 Triumph on it also, as has another friend on his 2¾ M.A.G.-O.K. Both of them endorse my above remarks. C. C. KING.

COURTESY ON THE ROAD.

Sir,—A few days ago I was riding my motor cycle on the Horsham Road with a little girl on the Tan-sad. Unfortunately we had a very bad speed wobble, and eventually came to earth. My passenger lay unconscious for many minutes. Miss Ruby M. Ayres, who was being driven to Brighton in her car, on seeing what had occurred, had the car stopped, and at once helped my passenger to the cushions. She had the car driven very slowly to a doctor, and had the wounds dressed immediately, with the result that my little friend is A1 again.

I feel very grateful to this lady, as without her help it might have been serious. M. BURCHATT.

MYSTERIOUS NOISES.

Sir,—I heard a mysterious noise on my 8 h.p. Sports Zenith the other day.

It took the form of a sort of twang as if something was hitting a spoke of the front wheel. It only happened when the machine was in top gear, and then only occasionally. The explanation is simple, yet curious. I have just fitted a Cox "Atmos" carburetter, and this projects rather further than the original, and the petrol pipe came out rather farther than before.

The noise was formed by the belt fastener touching the pipe when the belt vibrated slightly above its normal level.

Shrewsbury. A.W.7723.

Sir,—Noises and their elimination are always interesting. I have spent weeks in finding some on the various machines I have owned and ridden since 1910. The last I traced only this week, after nearly twelve months of mystery. Perhaps "Puzzle" may find his noise comes from a similar source. In my case, the rear mudguard appeared to be the offending portion. I bound this up and wedged it everywhere without result. I packed and unpacked the tool cases dozens of times. I wired the stand firmly to the mudguard, and bound everything movable near the rear of the machine with insulating tape, but still the annoying rattle at low speeds over any roads would be heard. Being on holiday and having nothing better to do, one morning recently I took off the back stand completely to see if the bolts could possibly be a slack fit, though I had tightened them and felt them dozens of times. As I laid the stand aside I heard my old friend the "mysterious rattle" on the bench. On giving the stand a shake I had the feeling that I had got hold of a baby's rattle, or else the braziers had left a few tools inside the tubes of the stand. On closer investigation, and after drilling a ⅜in. hole in one foot of the stand, I was able to extract piece after piece of brazing solder. About ten pieces in all came out, some over 2in. in length. How they got there, or if brazing is usually accompanied by such internal deposits I do not know, but I have since been able to enjoy my riding without that unsatisfactory feeling of listening to a mysterious noise and being quite unable to locate it.

Paignton. A.S. (CJ 2340).

THE SIX DAYS TRIALS.

Sir,—I am sure that I am not alone when I say how disgusted I feel that the A.C.U. should have allowed themselves to be intimidated to the extent of the elimination of one of the tit-bits in the way of hills in the trials.

To anyone who has been following the account of the trials as reported in a certain daily paper, it did not come as a surprise.

True to its ordinary policy—dark hints were dropped early on, as to the impracticability of some of the climbs—rumours of protest meetings amongst the competitors, etc., etc. Thus public opinion was worked up—and doubtless all those who failed to climb these hills remarked something about its "an ill wind," etc. As a spectator at Park Rash on Monday, I say that the hill was by no means unclimbable, and most of the failures were simply due to bad driving.

Bolton. DISGUSTED.

MOTOR CYCLE LIGHTING.

Sir,—I have been interested in the lighting problem of motor cycles for some years, and I notice that every time the subject is mentioned, what to my mind is the nearest solution to the problem is overlooked.

I find there is nothing more simple than the Low acetylene generator for a great number of very short runs on one charge of carbide; it is true that the working pressure varies considerably—but once the stored up gas is used, and the water valve starts working, the pressure remains constant. This requires a little tap turning, but would be hardly noticeable on a short run.

I found two disadvantages in this generator (which I notice they apparently have not rectified on their latest model). Vibration causes the tin of the carbide to wear a groove in the container which would get worse; this can be cured by fitting a tin washer round the inside of the container. The top of the generator after a time gets out of shape owing to the pressure of the three wing nuts which clamp it on, and the internal pressure. A specially cut rubber washer, to allow for the top not being quite flat with the top of the container, will cure this, and the top once having set, this should not occur again.

My ideal lighting outfit would undoubtedly include a Low generator and a Fallolite head lamp. I understand, however, that a new Fallolite generator is being made, a model of which I was shown, and it appears to be the neatest yet on the market, and most simple. The original generator sold with this lamp would not hold enough carbide (the Fallolite burner consumes seven litres only per hour).

I fail to see anything more simple and ready at a moment's notice than the above—can anyone suggest one better?

I might mention that I have no interest in either of the firms concerned. H. E. CLEEVE.

ISLE OF WIGHT STEAMERS.

Sir,—I have just had a trip through the Isle of Wight, all around making up 108 miles. The roads are very good except at Brading to Sandown, very bad, also from Shalfleet to West Cowes. I had difficulty in getting petrol at Seaview, but able to get plenty everywhere we called throughout the island. I came back through Yarmouth to Lymington by boat to the New Forest, making up my run to 136 miles all told. On the Southampton Company boats, from Portsmouth Clarence Pier, you are not asked to empty your petrol tanks; the same at Lymington. But if you travel by Portsmouth Harbour Rail Company boats you must empty your tanks. It costs 4s. 4d. for rider and motor cycle from Clarence Pier to Ryde, all pier tolls included. From Yarmouth to Lymington 5s. 6d. all told, therefore my fares and running costs, less food and lodgings, on 2¾ Douglas for 136 miles tour, cost me 19s. only. I don't think anyone wants a better three days' tour than this.

E. MARTIN, Junr.

SPRING CARRIERS.

Sir,—We are interested in your article under the above heading in the issue of *The Motor Cycle* for August 26th.

It is of little good using a pillion seat which is merely a cushion or a board on springs: it is asking for trouble, as experienced by "Wharfedale." A spring set that vibrates in any direction and gives unchecked vibration is sure to give unsatisfactory results.

A pillion seat such as the Tynesider has a set of rebound springs, which comes into action immediately unnecessary vibration occurs in the principal springing. Also four pistons prevent swaying; this adds to the even working of the whole spring set.

It is surprising the indifference shown in the selection of a pillion seat, whereas the matter is of some importance The safety of the passenger, or the goods carried, depends on the scientific principles on which the spring set is constructed. A good many purchasers are satisfied with a mere spring seat or cushion. It is imperative that the springs should not sway, as this causes the passenger to throw the steering out of balance, which is often the cause of accidents.

T. E. HENDERSON.

ECONOMY.

Sir,—I feel sure many of your readers are unable to appreciate the advantages to be obtained from many of the good things advertised. My present 3½ h.p. machine until recently consumed one gallon of petrol per 100 miles. I determined to improve on this by the following means, and herewith give results:

I first fitted a "Blank" carburetter, guaranteed to use 20% less petrol than any other. The result was 100 miles per .8 gallon.

I then fitted the "Blank" inlet valve stem lubricator and air leak preventer, guaranteed to give an extra 25 m.p.g. Result, 100 miles per .64 gallon.

I next used "Dots" for mixing with my petrol, giving 25% per gas. Result, 100 miles per .51 gallon

Afterwards I fitted the "Blank" economy valve to inlet pipe, and mixed "Boildag" with my lubricating oil. Result 100 miles per .45 gallon.

On changing over from petrol to benzole I got a still further improvement—100 miles to .4 gallon.

By fitting a streamline tank, disc wheels, aeroplane footboards, and mudguards this was further reduced to 100 miles per .35 gallon.

By fitting a Brooks saddle and wearing Beacon oilskins I got it down to 100 miles per ¼ gallon.

I also understand that by using the "Blank" three-speed gear I can save a further .25 gallons per 100 miles, after which by fitting "Blank's" petrol magneto and plug I expect to reach the producing stage, and hope to produce about one quarter of a gallon per 100 miles, from the sale of which I should be able to cover cost of tyres and lubricating oil, thereby practically cutting out all working costs. Also, with the prospect of prices continuing to soar at their present rate, the factor for depreciation may also be eliminated—in fact, I am anticipating, if I am able to put in sufficient mileage, making a small, but steady, income out of it.

King's Lynn. MOONSHINE.

SANS MAGNETO.

Sir,—On reading the very interesting letters in your paper regarding engines sometimes running sans magneto, I am a little inclined to disagree with the one in your issue of August 19th by Mr. J. Milner.

In my opinion, his theory of spontaneous combustion on the Diesel principle, being the cause of an engine sometimes running on for a short period, when its usual ignition system is disconnected, cannot very well be sound. As he pointed out, the Diesel system is an established fact, certainly, but only when the conditions are suitable, and the engine is designed for it.

As it is only when an engine is very hot that the point in question has been known to take place, one would take the theory of incandescent carbon or plug points, as being more likely the cause.

Considering that even if the engine were only running slowly, the induction stroke is performed in a fraction of a second, it is unlikely that incandescent points could be cooled down by an already hot gas in such a short period.

I have seen quite low compression car engines run for a short period (when run out of water) with their magnetos switched off.

I can assure your correspondent that some of the engines were by no means new, nor had they anything like the compression that would be needed to bring the Diesel system into action.

Again, when an engine is overheated, the mixture is much more rare, owing to the sudden expansion on entering the hot cylinder, thus again making his theory still less likely to be correct.

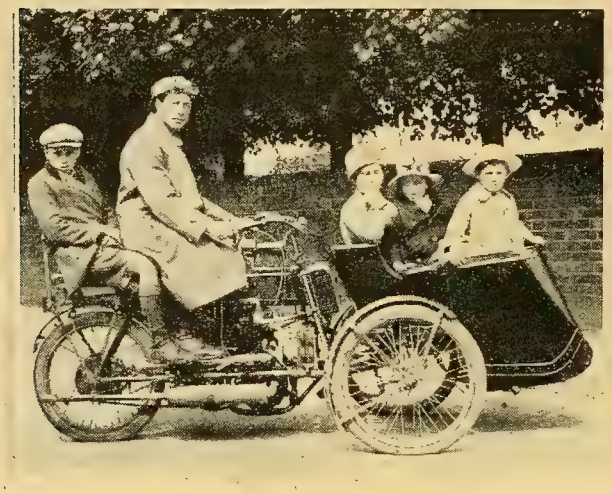
Like Mr. Milner, I am quite open to be corrected, and I shall be only too pleased to read other views on the subject.

Urmston, Manchester F. C. RIDINGS.

Among the Rover riders were some of the youngest and most enthusiastic competitors in the Six Days Trials. Out of nine Rovers entered five gained gold medals. Here are seven of the riders, reading left to right: W. J. Montgomery, D. A. Atkin (gold), W. Brandish, jun. (gold), W. Danskin (gold), G. Featherstonhaugh (gold), G. L. White (gold), and E. S. Astley.

A SIXTEEN-YEAR-OLD TRICAR.

Sir,—Knowing your readiness to publish anything of interest to your readers, perhaps the accompanying photograph comes within that scope.



Sixteen years old and still going strong. (See letter, J. W. Fosker.)

The picture represents a tricar made in 1905 and still going strong. It was made by the Wolf Co., is propelled by a 4½ h.p. A.J.S. water-cooled engine, fitted with their gear box and clutch, and is chain-driven. Carrying the load shown it can average 15 m.p.h. The rear tyre, which is an Avon, was fitted in 1912, and has had one retread. We ran 200 miles recently, climbing a hill 1 in 22 one mile long with load shown in the photograph. J. W. FOSKER.

TOURIST TROPHY RACES, 1920.

Sir,—There appears to be a fairly general impression that accessories and other items used by competitors in the 1920 T.T. were all of a special nature, and not as sold to the public.

We would advise you, therefore, that our Summer Huile de Luxe, as supplied to and used by successful competitors in these events, was identical in every way with that supplied to the trade and to the public throughout the United Kingdom and abroad.

Summer Huile de Luxe was used by the first, second, and third in the 250 c.c. Class; by the second, third, and fourth in the Junior Race; and by the second and fourth in the Senior Race.

We venture to make the suggestion that in future races, everything used, including accessories, should be standard, or such as is or can be supplied to the "man in the street." It should be possible for officials of the Auto Cycle Union to purchase, on behalf of competitors, all the equipment necessary, which we think would result in events considerably more interesting than as at present.

In view of the tendency towards the development of the touring side of motor cycling, the Tourist Trophy Races should in the future be considered more as a test of touring motor cycles and tourist accessories than of almost purely racing equipment.

J. W. G. BROOKER,
For Price's Co., Ltd.

SHOULD TWO-STROKES BE HANDICAPPED?

Sir,—In a letter replying to "A.L., Glasgow," Messrs. Veloce, Ltd., mentioned that "two-stroke capacity is really much less than the stated capacity," owing to the exhaust port cutting out a percentage of the effective stroke by its early opening.

This is frequently mentioned as handicapping the two-stroke, when comparing it with four-stroke engines, and I have looked many times to see this popular error corrected, for, as a matter of fact, the whole of the piston displacement of the two-stroke is useful for induction, just as in the four-stroke, but *via* the compression chamber or crank case, the time element being the same in both engines, and shortened or lengthened equally in either case by the amount of lag permitted. This lag will, of course, have the effect of limiting the charge volume to something less than the amount of piston displacement in *both* types of engine.

On the power stroke *both* engines lose approximately the same proportion of the stroke. In the one case by the port being uncovered by the piston, and in the other by the port being uncovered by the valve.

Contrary to popular opinion, therefore, the two-stroke engine does not suffer from ineffective piston travel any more than the four-stroke does. There are, however, other obstacles to efficiency, and difficulties to be overcome which do not exist in the four-stroke, and one cannot but appreciate the manner these have been tackled, and largely eliminated by some two-stroke makers.

As an instance, I was picnicking on Bwlch-y-Groes some days ago when three little Velocettes came humming up the hill (which was in very bad condition), and without a pause or falter went clean over the top. This was repeated three times by the trio, and the last ascent was faster than the first. It was quite inspiring. When I get too old for my "big 'bus" I must seriously consider getting a Velocette.

JAS. L. NORTON.

AN ADAPTATION FROM AERO PRACTICE.

Sir,—As one of the large number of motor cyclists who have been connected with the R.A.F. during the last few years, I was very interested in the description in *The Motor Cycle* of July 29th of an attempt by Mr. A. W. Doyle to embody the principle of the Gnôme "Monosoupape" aero engine in a motor cycle power unit.

All those who have had any experience with this type of engine will agree, I think, that the necessity of enclosing the exhaust, if used for road work, is one of the least of the difficulties met with in any such daring attempt to utilise the "one-valve" principle.

As will be obvious to anyone who thinks of the cycle of operations in the "Monosoupape" engine, there can be no question of even reasonable flexibility, as there is no induction effect proper on the carburetter employed, and all that has been possible in the past in this direction has been a very complicated variable timing.

Again, the "Monosoupape" has been very liable to catch fire in the crank case, and, as far as I can see, any attempt to achieve comparative flexibility by a system of variable timing will only increase the chances of a fire taking place. The very principle employed entails having the ports in the cylinder walls uncovered during part of the firing stroke, and the excessively long exhaust period was the only safeguard against the rich mixture in the crank case catching fire.

Before Mr. Doyle's engine would be of any use at all in a motor cycle he would have to devise some entirely new method of controlling the speed of this type of engine, and preventing a fire in the crank case at every change of running conditions.

REVS.

Beckenham.

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Garage Owner's Responsibility.

If a motor cycle and sidecar is taken to a garage, and stolen during the owner's absence, is the garage proprietor liable for damages, assuming, of course, that the garage of the machine is to be paid for?—R.J.

The garage proprietor is not liable for the loss of his customer's motor cycle and sidecar through its being stolen while in his charge, unless it can be shown that the garage proprietor was himself guilty of negligence, such as leaving the premises improperly secured.

A Question of Date.

About eight weeks ago I purchased a machine which was advertised as a 1917 machine, but a few weeks later I advertised it again quoting the same date. Now the man who bought it from me finds that the machine was made in 1916. Of course, I had no idea that it was a 1916 machine, otherwise I should have specified the proper date. May I ask you if you consider me responsible for the error, or is the person from whom I bought it?—N.D.

As you apparently advertised the machine in good faith as a 1917 model, there is very little possibility of the buyer succeeding in any proceedings against you. Before advertising a definite date, however, you should take steps to ensure that it is correct.

Converting Motor to Dynamo.

I have a 6-8 volt electric motor. (1.) Could I convert this into a dynamo for lighting my Triumph combination? (2.) Would it be cheaper to buy a dynamo? (3.) Is there any necessity to run the current *via* an accumulator to the bulbs? (4.) Could it run straight from the dynamo, there being dry batteries to switch on to when stationary? I intend driving dynamo off inside of belt rim.—H.V.M.

(1.) No doubt it would be possible to convert the motor into a dynamo, but we cannot offer any opinion as to its suitability for motor cycle lighting. (2.) In all probability it would be both cheaper and more satisfactory to obtain a dynamo specially designed for this purpose. (3 and 4.) Unless provision is made for regulation of output in such a way that it does not rise unduly when the speed of the motor increases, it is necessary to use an accumulator in circuit; even then its fluctuations in output would seriously affect the bulbs.

Low Maximum Speed.

(1.) When I am on the road with my 1¾ h.p. machine the throttle is fully open. I only travel at about 10 m.p.h., and yet as soon as I lift the exhaust lever (so that I just take the weight of the valve) I get twice the speed. How is it that the machine runs so slowly? (2.) How is it that I can only run with half air? (3.) When I come to mount a hill, no matter how slight, the engine stops. I have had new bushes and new piston rings, and I could not get better compression if I tried. The inlet valve is automatic, and a single-lever carburetter with an air tap at the front is fitted.—G.W.

(1.) In all probability the exhaust valve stem or the tappet is badly worn, and requires renewing; also, an improvement might be effected by fitting a stronger exhaust valve spring. Air leaks in the induction pipe should also be eliminated. (2.) A larger jet in the carburetter would no doubt allow you to open the air control more. (3.) It is likely that the exhaust valve closes too early, and this will happen if the wear mentioned in answer No. 1 has taken place.

Magneto for Opposed Two-stroke.

I have a two-stroke flat twin engine. As both cylinders fire together: (1.) Could I use the magneto of a single four-stroke by running it at engine speed and splitting the high-tension lead? (2.) If not, is there any other method of utilising this magneto?—W.J.H.

(1.) A single-cylinder magneto will not fire two plugs simultaneously. (2.) If you obtain a double pole plug, and fit this in one cylinder, and fit an ordinary pattern plug in the other cylinder, you will be able to utilise the magneto, but this method is not altogether satisfactory, and has been abandoned in favour of a special two-spark magneto.

A BROOKLANDS SCENE.

The last control in the Six Days Trial. Two of the N.U.T.'s entering the Paddock. The riders are F. J. Fieldhouse and R. C. Winn.

Adjustment of Automatic Carburetter.

[?] I have a new 4 h.p. 1920 Blackburne motor cycle, Amac single lever, 29 jet, air set to No. 3. On low speeds, either gear, the engine misses badly, but anything over 15 m.p.h. is perfect. Any opening or closing of the throttle, at any speed, causes a pause of two or three seconds, when the engine fires again and runs perfectly until another opening or closing becomes necessary. What is the correct combination of jet and air intake for this machine? I find if I set the air to No. 0 or 6 it makes practically no difference to the running of the engine. Two experts have tried to put the machine right, but without success. The plug, magneto, and carburetter are clean, and appear correctly adjusted.—R.J.P.

From the symptoms you describe we should imagine that you are getting too rich a mixture, since opening of the extra air holes should make a considerable difference. Probably a 26 jet would improve matters, but it is possible that this might be too small. We would recommend you to try numbers 26, 27, and 28 jet, and if you are unable to obtain satisfactory results, it would be wise to write to the makers, who will put you right in the matter of choke tubes.

READERS' REPLIES.

Defective Drip Feed.

I note in your issue of the 19th ult., that one of your readers is having trouble with the Best and Lloyd oil pump, fitted to his B.S.A., the oil being blown back into the sight feed glass by crank compression, owing to the non-functioning of the pen steel disc. A similar trouble occurred with mine upon reassembling after cleaning. Investigation proved that I had mislaid the Thackray spring washer, thus causing pen steel disc to lodge in the clearance caused by omission of this washer, between the non-return valve housing and screwed boss of sight feed. This can be remedied by the insertion of an ordinary piece of bell wire (one thickness) bent to the internal dimension of the valve housing in which it is placed before putting back the pen steel disc seating. An examination of the sectional drawing of this type of oil pump, which is included in the literature issued by the makers, will make the action clear.—C.G.C.

Another Mysterious Noise.

Re "O.W.'s" trouble with the Ariel. If he takes his engine down and removes the ball races from the crank case, washes them well in petrol and then holds them up to the light, he will probably find one or two of the balls skinned. I had the same noise in my B.S.A., and also a friend's P. and M., and found that was the trouble. If it should be so, and he cannot obtain a new race, new balls can be fitted quite easily by knocking out the small rivets which hold the side plates in place. Ball race can be removed quite easily by laying the crank case over a gas ring, inner side towards gas; the race will fall out when the case gets fairly hot.—J.M.S.

Bad Pick-up.

With reference to your correspondent, "R.J.P.'s" letter in the issue of *The Motor Cycle* for August 26th, I had a single lever "Amac" carburetter fitted to a 1920 "Martinsyde" combination, and have also noticed that if you "open out" too much the engine is inclined to pause for an instant, then pull splendidly. I have found that with this type of carburetter it is only necessary to open out very gradually, when the machine answers the throttle admirably. M.M.G.

RECOMMENDED ROUTE.

EDINBURGH TO KENDAL.—J.D.G.

Edinburgh, Penicuik, Leadburn, Romano Bridge, Broughton, Moffat, Beattock, Lockerbie, Kirkpatrick, Carlisle, Penrith, Shap, Kendal.

BLACKBURN TO LLANDUDNO.—W.F.R.

Blackburn, Hoghton, Heapey, Chorley, Wigan, Ince, Hindley, Abram, Warrington, Daresbury, Frodsham, Dunham, Chester, Queensferry, Flint, Mostyn, Prestatyn, Rhyl, Abergele, Colwyn Bay, Llandudno.

LICHFIELD TO NEWPORT.—C.H.T.

Lichfield, Sutton Coldfield, Birmingham, Selly Oak, Longbridge, Bromsgrove, Droitwich, Worcester, Malvern Link, Great Malvern, Malvern Wells, Ledbury, Ross, Walford, Monmouth, Raglan, Usk, Caerleon, Newport.

THE A.C.U. SIX DAYS TRIAL.

All the going was not on moorland tracks; on rare occasions competitors were favoured with stretches of good tar macadam roadway F. J. Price (Diamond) and R. B. Clark (Coulson) near Stockton

SPARKLETS

Going to America.

As a fitting gift at parting, the directors and staff of Messrs. Tuck and Blakemore, Ltd., of Coventry, presented a Coventry made gold watch to Mr. Heetor P. Tuck, who is taking up an important position in the tool and machinery business in the U.S.A.

Unibus Address in London.

Those who are interested in the Unibus, which was described in *The Motor Cycle* of August 19th, should note that the Service Motor Company, Limited, who are the sole concessionnaires, have moved into new premises at Service House, 94, Great Portland Street, London, W.1.

The Automobile Industry and the University of Bristol.

Messrs. W. H. Dorman and Company, Ltd., of Stafford, have presented to the Automobile Engineering Department of the Merhant Venturers' Technical College in the University of Bristol, a standard 10 h.p. petrol engine, complete with all details, to be used in investigations on the use of fuels and trials on various types of carburetters, etc.

A Machine of Moderate Price.

Quantity production is the secret of low price, provided that it is allied with simplicity of design. A perusal of the leaflet we have recently received from Messrs. Humphries and Dawes, Ltd., Hall Green Works, Birmingham, which describes the forty-eight guinea model 2¾ h.p. O.K. Junior, shows that the above qualities have been kept constantly in view.

A Specialist in Tanks.

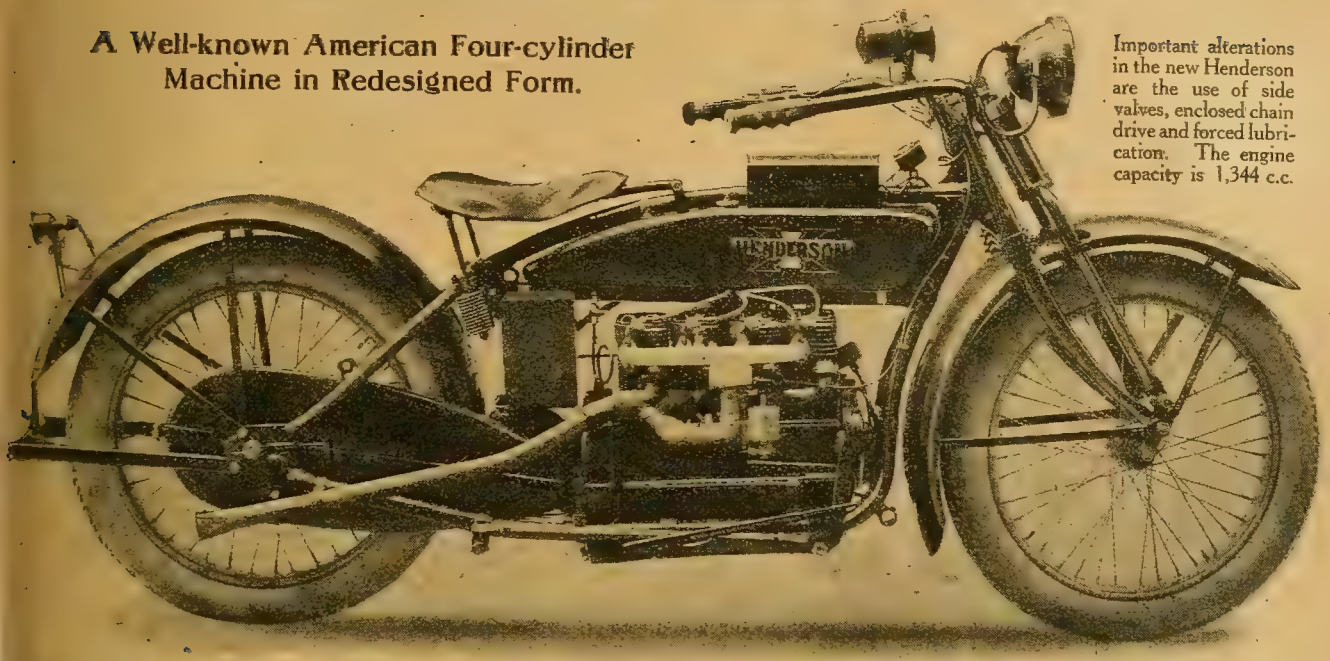
Riders who intend to do their own overhauling during the coming winter months should consider the advisability of entrusting their motor cycle tanks to an expert for any necessary repairs and re-enamelling, as an amateurish finish is most obviously betrayed on this part. In the case of an old model it might be worth while to consider the fitting of an entirely new tank with up-to-date equipment. Both classes of work are catered for by Mr. A. Green, of Water Street, Salford, Manchester, who issues a useful little booklet illustrating a variety of motor cycle tanks.

Amateur Rider Joins Trade.

To all who have followed Midland competitions during the past two seasons, the name of Mr. H. Boynton is familiar, and many "private owner" awards have fallen to his lot, thanks to his successful handling of the 5-6 h.p. James outfit, which he has invariably ridden. Having now accepted the position of sales and advertisement manager for the Tan-Sad specialities (F. H. Headley, Freeman Street, Birmingham), we may hope to see this rider continuing his competition successes in his new connection

THE MODEL K HENDERSON.

A Well-known American Four-cylinder Machine in Redesigned Form.



Important alterations in the new Henderson are the use of side valves, enclosed chain drive and forced lubrication. The engine capacity is 1,344 c.c.

THE Henderson was the first four-cylinder American motor bicycle to make its appearance on the English market, and is now handled by Messrs. Melchior, Armstrong, and Dessau, Ltd, of 14, Great Marlborough Street, London, W.1. It is considerably different from the previous model, which was referred to in *The Motor Cycle* of July 17th, 1919, for it has been entirely redesigned.

The engine is now fitted with side by side valves, while considerable alterations have been made in the inlet and exhaust manifolds, which are now one above the other. An American-made Zenith carburetter (the first of its kind to be seen on a motor bicycle) has been fitted. A hot air muff surrounds the exhaust manifold, and the air pipe to the carburetter is provided with a movable sleeve so that cold air may be drawn in instead of hot in very warm weather. There is also a butterfly valve for restricting the air supply in order to secure an easy start.

Car-type Lubrication.

The whole lubrication system has been completely altered, and a car system of forced lubrication has been introduced, namely, the oil, instead of being carried in a separate tank, is now stored in the sump at the bottom of the crank chamber, and the oil is delivered through a drilled crankshaft to the principal bearings. The big-ends are lubricated by dipping into troughs formed in the tray, which acts as a lid to the sump.

On the reverse side of the engine is the Berling magneto, which is gear-driven, while above it is installed the Splitdorf dynamo for the lighting installation. This is driven by a belt from a pulley running on the magneto-shaft.

The oil pump is carried on the forward end of the timing gear, from which it is driven.

Enclosed Final Drive.

So far as clutch and transmission are concerned, these closely follow the design of previous models, namely, a multiple-disc clutch, while the drive from the crankshaft to the gearshaft is by bevel. One important item in the transmission is the adoption of a chain case, so that the final chain drive is now completely enclosed.

When we first made mention of the new Henderson, it was stated that a reverse would be supplied for sidecar work, but this is not the case with the model at present being delivered in this country.

The bore and stroke are 69 mm. × 90 mm., giving a total cubic capacity of 1,344 c.c., while the pistons used are 3in. long. All-wearing parts, such as crankshaft, gudgeon pin, and bearings, are of ample size. The crankshaft bearings are 1¼in. in diameter, and three of these support the crankshaft.

The Model K frame is of the duplex variety. Among its notable features is the triangular construction at the bottom of the down tube. The tubular cross member at the bottom of the inverted Y completes the triangle, and serves as a sidecar lug. The rear ends of the forks are closed, and the wheel is withdrawn by means of a knock-out spindle. The spring forks are of the enclosed plunger type; but, beyond their great strength, call for no special comment.

Since the Henderson is made by the manufacturers of the American X, it is not surprising to have to record that the type of brakes employed upon the last-named machine are also to be found on the Henderson. The brake most commonly used is that on the offside of the machine controlled by means of a pedal; this is of the band variety, while the internal expanding brake is controlled by a pedal on the near side, and is provided with a lock which may be instantly engaged or released.

Oil Circulation Gauge.

The weight of the latest model Henderson is 420 lb.

Among the refinements to be found on this machine are the ammeter, which shows whether the dynamo is charging or not, and the oil gauge forward of the crank case shows whether or not the oil is circulating.

SPEED TRIALS IN ULSTER.

THE third of the series of speed trials at Magilligan Strand, under the auspices of the Ulster Centre of the Motor Cycle Union, was marked by a number of accidents, one of which may prove serious. Owing to a dense fog, which came on during the progress of the races, two of the riders collided at the turn. W. J. Sheils had his leg broken in four places, and T. Stewart sustained a broken wrist. In another of the races H. Chambers got into some loose sand while riding with one hand on the handle-bar, and fell heavily.

The chief event of the meeting was a race between Ferguson on a 30-98 h.p. Vauxhall car, and a selected number of motor cyclists. The race was run over a distance of five miles with one turn. The Vauxhall car won easily, covering the distance in 4m. 16s., and beating J. W. Shaw (3½ h.p. Norton) by 35s. S. M. Adams (2¾ h.p. Verus) won the scratch race for lightweights, and the scratch race for 600 c.c. machines was won by J. W. Shaw. Owing to the incoming tide, the 100 miles handicap was reduced to one of twenty-five miles, and was won by H. McGimpsey (3½ h.p. B.S.A.).

NOTES ON THE SIX DAYS TRIAL.

Oddments Gathered during the Four Days on the Yorkshire Moors and during the Brooklands Tests.

The Humber team ran very consistently, and S. Wright's performance with a sidecar machine was one of the best amongst the passenger machines.

Most of the Cleveland hills are scarred by deep stone gulleys, laid at an angle across the road to carry off storm water. In ascents they are trying enough, as one dare not shut down too far up a freak hill, and the risk of smashing a crank case is always present. But a deep and unexpected gulley in a descent is an abomination: the front wheel dives into it and chocks.

The L.M.C. retired through a broken cam gear. Greig (Sunbeam) charged a wall in avoiding a child, and so damaged his machine that it was impossible to carry on. The Clynos and Reed's Dot were withdrawn as a protest. Read (2¾ Ready) was forced to retire through the rider's illness.

Fearful stories were current in advance of the "tunnels" on Tuesday's run. They were said to be situated on a 1 in 5 grade, measure half a mile in length, and be very greasy. Even the men who had electric lighting would be lucky to climb them. Actually they were not very steep and so short that one could easily steer by the light from the two ends. The surface felt rather sticky, but nobody came over.

Overheard on Harden Bank.

First Local Operative: "It's worth dropping a day's wage to see this."

Second Local Operative (with great contempt): "A day's wage! Ah've missed all t'week to see the Trials here and there."

The Scott Sociable on Harden Bank.

Two Scott sociables visited the route at various points during the week. They were known to the crowd as the Scott "crabs." One of them made a neater, quieter, and faster ascent of Harden Bank than any competing three-wheeler; but *didn't* it smoke!

Towards the close of each day's run, it was amusing to see competitors cleaning up their mounts. Two well-known passenger-carrying teams were particularly noticeable in this respect. This cleaning-up process was quite a desirable hobby, since it gave an impression of smartness, and deceived no one as to the mudguarding of the machines.

Packman (Matchless sc.) broke a handle-bar after all the hard work of Friday's run was over. However, he decided to attempt a finish with an extemporised arrangement fixed to the forks.

A Northcountryman on Thursday night proffered some kindly hints about the rough surface on Hardon Bank in Friday's run. "Ca canny, lads, and mind your rims." One shaken competitor retorted, "Mine is an irregular dodecahedron already."

George Dance had neat cast aluminium valve spring covers, which he told us effectually excluded all grit and consequently saved wear on the valve guides.

Much credit is due to Mr. T. W. Moffat, the manager of the motor cycle department of the Cleveland Car Co., Ltd., for the garage arrangements. Mr. Moffat is an old six days competitor, and had business permitted he would have ridden again this year. The remainder of the machines were housed in a spacious building attached to Smith's garage.

The omission of Rosedale Abbey Hill caused grievous disappointment to the public. One man had come 200 miles to see the climb, and altogether about 1,000 spectators had assembled. Some of the crowd were so disgusted that they threw their A.C.U. badges over the hedges.

Some of the passenger machines took from one to three hours to climb Summer Lodge. It is freely questioned whether any of the solo machines made a technically clean ascent. Certainly no man attempted to keep his feet on the footrests. On the other hand, Douglas Alexander is reported to have achieved a miraculous ascent on his Enfield.

Organisation of the Trial.

The organisation of the trial reflects great credit on the A.C.U. Its policy is doubtless open to criticism; but, whatever opinions may be held on that point, the trial was excellently planned and run. The provisions for the riders' convenience and comfort were most successful, the route marking was flawless, and both the trade and the public owe the Union a substantial debt of gratitude for the furtherance of the sport and industry.

In recognition of the plucky performance of Mrs. O. M. Knowles (Norton), who was run into by a non-competitor on the fifth day of the trial, the competitors are presenting her with a special prize. The suggestion emanated from T. C. de la Hay and G. Dance, whose numbers were near that of Mrs. Knowles, and they were therefore able fully to appreciate this intrepid lady's fine riding. The Editor of *The Motor Cycle* was invited to carry the matter through, and over a hundred subscribers were readily forthcoming.

On Thursday evening there was nearly a shortage of checkers at the finish, but by the help of a steam lorry and a hectic ride on the carrier of Egginton's 8 h.p. Sunbeam, Alec Ross reached Darlington to time.

At Chapel-en-le-Frith the Ferodo people had a banner across the road, and handed the riders souvenirs as they passed.

Before the men reached Harden Bank some of the spectators began to remove loose rocks from the best track. A rival party replaced them. There is one famous loose boulder, weighing some 60 lb. Its proper place is in the middle of the second hairpin, and the local clubmen always see that it is in position before any competition takes place on the hill.

The A.C.U. officials have missed some glorious openings for climbing tests. They never noticed the gigantic slag-heaps near Nenthead. These have a gradient rather worse than 1 in 1, and a surface so loose that even the Parsons chains used by the Morgan team would fail to make tyres grip.

Park Rash, the ascent of which troubled so many on Monday, had to be descended on Friday. The burning question in the official garage on Friday morning was, "Do we have to make clean descents of Park Rash?"

Tom Peck had the misfortune to damage a fork on Thursday on the top of a lonely moor.

The Triumph team was equipped with a new front mudguard deeply valanced behind the forks and having wide mud channels formed in the front part of the guard. These channels terminate in a blank end, but a drain is provided by channel section stays which project downwards well below the wheel spindle.

A Scott rider, whilst accompanying the Trials, saw a point policeman put up his hand, and stopped. "Excuse me, sir," said Robert; "can you tell me how to get such a healthy crackle on a Scott? I've got one myself, and it doesn't sound a bit like yours." Quoth the rider, "Well, the fact is I've shed my exhaust pipe!"

Darnton, the popular Indian rider, had engine trouble on Friday, and retired. Colver (Matchless-M.A.G.) had a gudgeon pin work loose, and forced him to retire.

Brooklands.

F. W. Applebee's gear lever on his Levis went wrong on The Snake on Friday, leaving him with top gear only. He got to Brooklands, however.

It was distinctly hard luck for Stobart's James to develop engine trouble on Brooklands.

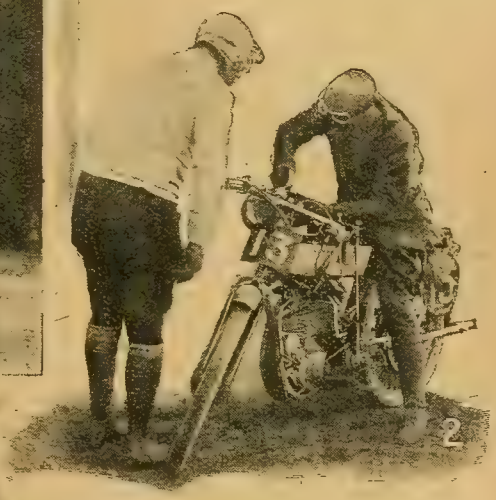
A large number of spectators and fellow competitors sympathised with Kaye Don for his bad luck in having one cylinder go "groggy" on Brooklands. He did most of his speed test on one cylinder.

Redvers Johnson (4½ Humber) developed a speed on Brooklands which was too high for proper control with touring bars. He fell and badly cut his hands.

A Cowey horn lay in the centre of the track, and actually caused a competitor to fall.

Scenes in the French Grand Prix.

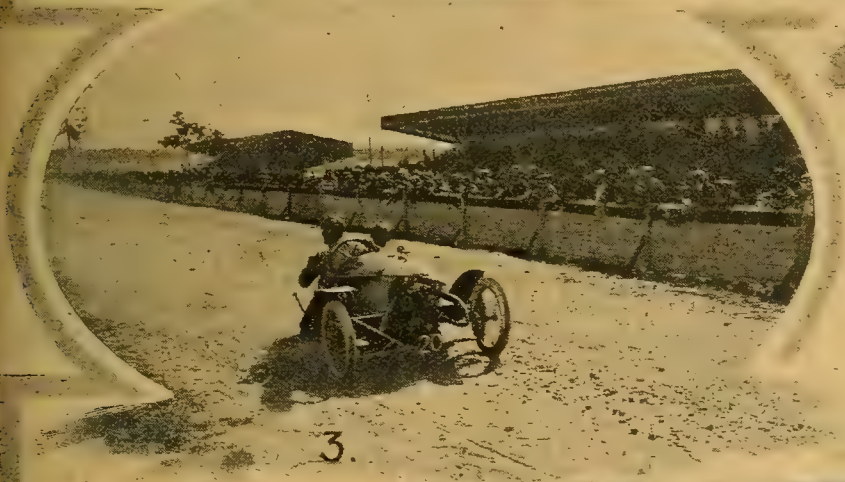
Held on the Circuit de la Sarthe at Le Mans. The winning Machines were an Alcyon Motor Cycle and Major Cycle Car, both French Productions.

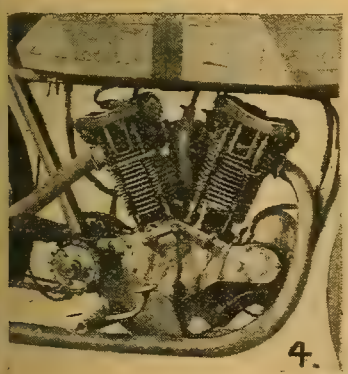


(1) The winner of the cycle car Grand Prix (Violet) rounding a bend on his Major, a machine engined with a 10 h.p. two-stroke motor.

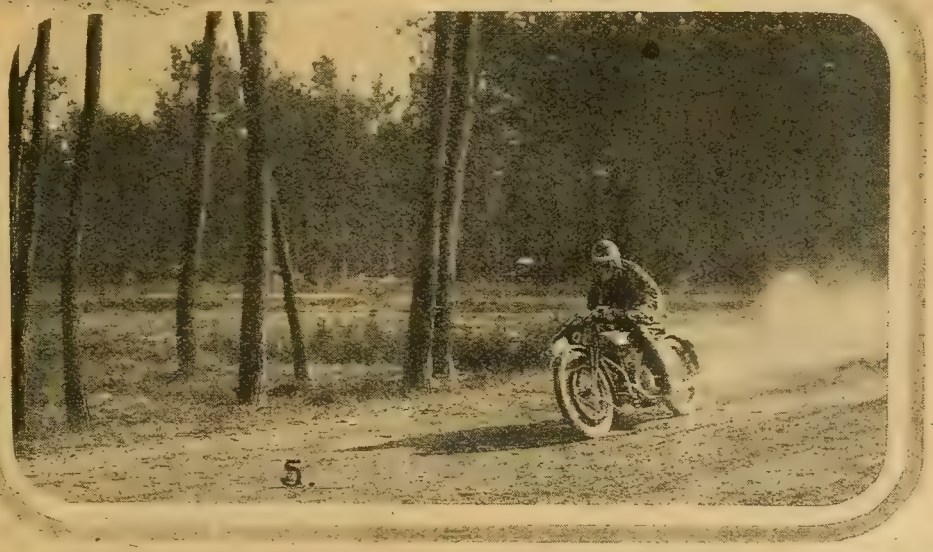
(2) Lucky 13. The winner of the 500 c.c. class, Jolly (Alcyon) filling up with petrol.

(3) E. B. Ware passing the grandstand on his Morgan. He made fast time until assailed by engine trouble.





(4) The overhead valve engine of the winning Alcyon.



(5) An English competitor at speed. Alexander on his Douglas.

CURRENT CHAT

Special Features.

POPULARITY OF THE SIDECAR.

IMPRESSIONS OF THE SIX DAYS TRIALS.

WEEK-END EVENTS.

Times to Light Lamps.

Sept.	9th	... ...	7.58 p.m.
,,	11th	... ...	7.54 ,,
,,	13th	... ...	7.50 ,,
,,	15th	... ...	7.45 ,,

Clyno Deliveries Unaffected.

We understand that the Clyno Co. has gone into voluntary liquidation, but that this will not interfere with deliveries.

Motor Cycles in Germany.

The first international motor cycle races in Germany will be held at Dresden on the 18th and 19th.

Australian Motor Spirit.

A company is being formed in Australia to purchase the rights to manufacture the South African motor spirit "Natalite." It is estimated that the fuel can be produced to sell at 2s. per gallon retail.

Trade in Chili.

The editor of a Chilian journal advises us that motor cycles made in his country are now moving rapidly, and that several clubs are already in existence. Unfortunately British manufacturers are not taking full advantage of the possibilities of trade in this distant South American republic, with the result that most of the machines entering the country are products of the U.S.A.

Weights.

The lightest machine in the Six Days Trials was Bischoff's 2½ Clyno which weighed 175 lb. The majority of the other two-strokes weighed under 200 lb., but those of the four-stroke variety varied from 200 to 252, while the little three-cylinder radials were just 2 cwt. F. A. Applebee's A.B.C. scaled 294 lb., the Triumphs were under, and the Sunbeams just over 300 lb. A full list of the weights was given in the table of results in last week's issue.

Hill-climbing to Musical Accompaniment.

Quite an innovation in the management of club events was introduced by the Bradford M.C. and L.C.C. at a hill-climb on Rosedale Abbey Bank, which was held on the day following the Six Days Trials. In order to provide continuous entertainment for the 2,000 spectators who were present, the club specially engaged the Great Ayton Prize Band to give selections during the afternoon. This method of making a club event a "popular" one, with an appeal to others than motor cyclists, is a delightful example of useful propaganda. Although the hill was deleted from the Six Days Trials at the last moment, thirty-two competitors ascended it in the Bradford Club event. The results were as follow: Solo class.—1, W. Gilyard; 2, H. Dawson; 3, G. Townsend (all on P. and M.'s); 4, A. Holdroyd (3¾ Scott). Sidecar Class.—1, J. Conchar (8 New Imperial sc.); 2, P. Shaw (6 P. and M.).

Liverpool Reliance Cup Trial.

Entries for this popular annual one-day reliability run close on Saturday morning, and riders who wish to compete should write at once to the hon. sec., Mr. N. C. Sclater, 1, Earlston Road, Wallesey. As usual, the route is directed towards North Wales.

Taking Numbers.

The annoying pastime of number taking by children unfortunately appears to be on the increase, and likewise the accidents caused by youngsters who are too intent on their observation of passing vehicles to notice other traffic. The impression that a collection of two hundred motor car numbers is entitled to a reward should be removed from the minds of children, the easiest way being for the headmasters of all schools to announce this fact; it may save lives in the future.

Reminiscences.

Receiving the other day a catalogue from Veloce, Ltd., for review, we noticed embossed on the envelope a Kelecom engine. It may be recalled by our older readers that this engine was fitted to the Ormonde motor bicycle, one of the very early makes which was on the market from 1902 to 1904, and, in its day, extremely popular.

The early model had the engine between the saddle tube and the rear forks, with the sparking plug projecting in a forward direction. In those days pedal assistance was frequently required, and this little engine, which was 2¾ h.p. (75×80 mm.), drew one of the first sidecars seen on British roads, and which was made by Components, Ltd. Naturally much more pedal assistance was needed when a sidecar was fitted, and as the rider pedalled, unless he were very careful, he got violent shocks in the leg from the sparking plug terminal.

The frame to which the Kelecom engine was fitted was designed by Mr. Percy J. Goodman (the designer of the present-day Velocette and the older 2½ h.p. four-stroke Veloce), who was then a boy. Many years ago Messrs. Veloce, Ltd., purchased the goodwill of the Ormonde Cycle Co., and that is why the Kelecom engine is still embossed on their envelopes.

A Dastardly Trick!

A delightful piece of evidence was forthcoming in a recent case heard before the Kingston bench. The defendant was a motor cyclist who was called upon to stop owing to his rear lamp being out. Instead of so doing he callously "*opened his exhaust valve and rode away at an increased pace.*" Reminiscent of the old discussions on "does a machine go faster with exhaust valve partly raised?"

£200 Reward for a Motor Cycle.

One of the specimen Pullin Groom motor cycles has been stolen in France. Only a few have been made, one of which was sent to America and another to France. It was while the latter machine was at the Gare du Nord that the theft took place. Anyone giving information which may lead to the recovery of the machine is asked to address communications to the A.A. and Motor Union, 39, Rue de la Chasseur-d'Antin, Paris.

Dangerous Cross Roads near Worcester.

Very dangerous cross roads exist at the village of Ombersley just outside Worcester. There have been many accidents, of which a number have been fatal, and there has recently been several cases of prosecutions for passing these cross roads by motor at high speed. On Tuesday five motorists had inflicted upon them, at Worcester, fines varying from 50s. to £5 for this offence.

A Scottish Club Team Trial.

The Glasgow Western M.C.C., as trustee of the "John Bull" Challenge Cup, has organised a club team trial, which will take place on Saturday. Each team will consist of two solo and two sidecar machines, and a circular course of thirty miles must be completed twice non-stop at an average speed of 18 m.p.h. The route is as follows: Amulree Hotel, Glen Quaich, Kenmore, Aberfeldy, Amulree Hotel. The start is at 1.30 p.m.

Dutch Interest in the Six Days.

That sporting Dutchman, M. Nic Jannink, president of the Dutch M.C.C., in a chatty letter redolent of motor cycle enthusiasm, says the Dutch boys followed with the keenest interest the Six Days Trials. He says: "The trial demanded from the riders greater mastership of the handle-bars and controls than did the Dutch Trial with its split minutes and stopping watches, and I am sure next year the Dutch team will make strange eyes." If any of the Six Days hills are included in the Anglo-Dutch Trial next year, the Dutchmen will certainly have some fun.

The rose bowl presented to Mrs. Knowles by her fellow competitors in recognition of her plucky performance in the recent Six Days Trial.

Two-stroke Consumption.

The petrol consumption of the winning Major two-stroke cycle car in the Grand Prix is said to have been twenty-nine miles to the gallon over the course of 170 miles, a fine performance for a two-stroke engine of 10 h.p. under high-speed racing conditions.

A Works Trial.

On the 26th of this month the motor cycle section of the Levis Athletic Club will hold a one day reliability trial for single geared belt drive Levis machines. The course will be in the Birmingham district, and, while sporting will not be impossible, it will be decidedly interesting to observe the manner in which the personal element affects the performances of a number of riders using identical machines.

Amended Six Days Results.

The following amendments have been issued by the A.C.U. with regard to the results of the Six Days Trials. Our readers will remember that these preliminary results were published in *The Motor Cycle* of September 2nd:

G. L. White (5 Rover), stop on hill, 5; total marks lost, 5. W. L. Guy (3¾ Scott), +5. W. Westwood (4 Triumph), lost 8.

Club Team Prize.—Worcester and District, 26 marks. No other club qualified.

N.E.A.A. Special Prize.—D. Robb, +5 marks; W. C. Thomson, —4; S. Turvey, —6.

D.R. Special Prize.—C. P. Wood, +5 marks; H. Taylor, —3; A. F. Guthrie and E. Williams, —5 (equal).

Private Owners' Prize.—R. W. Duke's team, —15 marks; Ellis's team, —41.

The Grand Prix.

We had recently an interesting conversation with E. B. Ware after his return from Le Mans. He had indeed hard luck during the Grand Prix. He started last, but in the third lap he was only two minutes behind the leader. In the fourth lap Ware led the field, and was doing over seventy-five miles an hour when misfiring developed, and on stopping he found that a lump of metal was blown clean out of one cylinder. He then returned to the Grand Stand, cut out the defective cylinder, and covered ten laps on the other one at an average of forty miles an hour and finished the race.

1921 London-Edinburgh.

The 1921 London-Edinburgh run will take place over a course still more difficult than that traversed during this year's run. The Motor Cycling Club is aware of the necessity for restricting the entries for these competitions, which are becoming so enormous as to be practically unwieldy. For next year's event the entry fee will be £2 2s., and there will be but a short interval between the issuing of the announcement of the run and the dates of closing the entries and for electing new members who join the club specially for this competition.

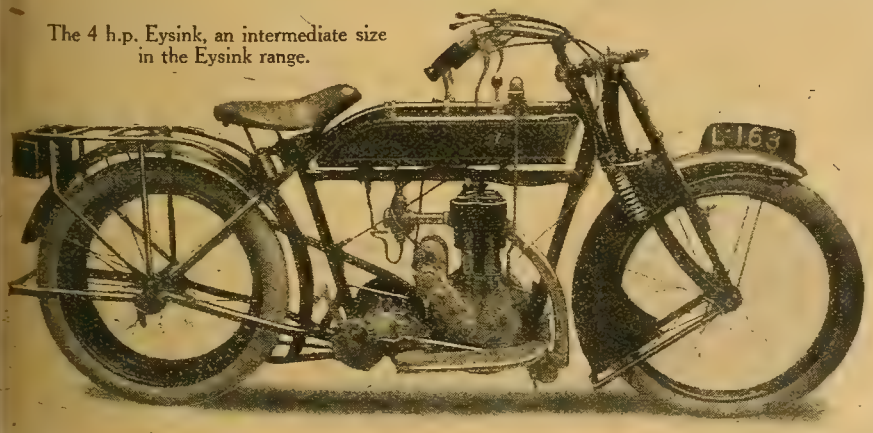
The Motor Cycling Club regrets that it is unable to make any arrangements as regards hotel accommodation or feeding *en route*, and it will be left entirely to competitors to cater for themselves.

AT ST. ANDREWS.

The youngest competitor in the Scottish Speed Championships, held at St. Andrews last Saturday, R. J. Mackie (2¼ h.p. Royal Enfield). He put up a plucky ride.

The 1920 Eysink Motor Cycles.

Three Models manufactured by a Well-known Dutch Firm.



The 4 h.p. Eysink, an intermediate size in the Eysink range.

HOLLAND has a very large number of motor cyclists in proportion to its population, and perhaps in no other land does one see so many countries represented by the machines used. British and American motor cycles predominate; there is also a fair sprinkling of Belgian, French, and German productions, and last, but not least, are those manufactured in Holland. Among the latter the Eysink is one of the best known, and the three models representing the house of D. H. Eysink, of Amersfoort, more closely follow the lines of British machines than those of Holland's nearer neighbours.

The smallest of the trio is a 3 h.p. machine, having a single-cylinder engine of 74 mm. and 85 mm. bore and stroke respectively. The piston displacement is 365 c.c. The tyres fitted are 26×2¼in.

All Single-cylinder Models.

Next in order of size is the 4 h.p. model, which has a bore and stroke of 80 mm. and 85 mm. respectively, which gives a capacity of 427 c.c., and 26×2½in. tyres are used.

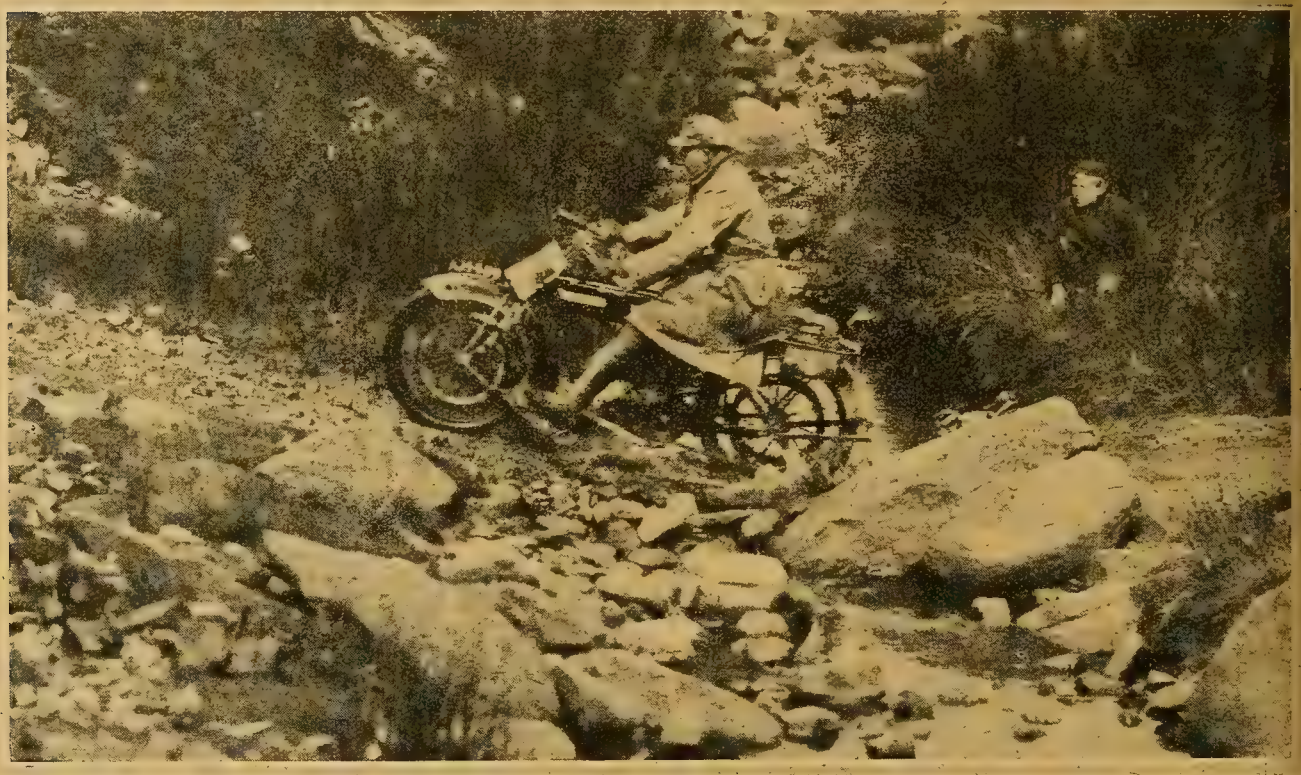
The largest model is nominally rated as 5 h.p., and has a bore of 85 mm. and a stroke of 95 mm., the capacity being 539 c.c.

All models have outside flywheels, and are fitted with a two-speed countershaft gear and a front fork of Eysink design.

Amac carburetters are among the British accessories embodied.

A SCRAMBLE ROUND YORKSHIRE.

Impressions of the Scott Trial, by a Competitor. Entries, 132; Starters, 86; Finishers, 60.



H. E. Ellis (B.S.A.) between Hebden and Grassington The "road" at this point is narrow and rough.

"THIS is not a race but a tragedy." Such is the description of the event on the official programme. Fortunately, the description was applied in the spirit of cheerful good fellowship which pervades everything pertaining to the Scott trial. The organisers are frankly out to provide a day's sport, and to prove what *can* be done by man and motor cycle. One might say that the test is admirable as an Overseas trial, but, though equally villainous or worse tracks undoubtedly exist in other parts of the world, it is certain that they are not used by motor cyclists, except in cases of very special need. These remarks do not, of course, apply to the whole route, parts of which are rideable, and parts even are excellent main road, but such sections as that near Grimwith Reservoir and the moor tracks near the cupola works (disused lead mines) must be experienced even to be imagined.

Shortly before ten o'clock competitors gathered in Burnsall in a steady wetting mist, and all the cheery optimism of the organisers was needed to save the spirits of the competitors from becoming unduly damped. The depth of the watersplashes grew till one began to think of lifebelts. The surface of Darnbrook was so slippery as to be unclimbable. Park Rash and the Scar raised our deepest fears, and it was pointed out that only two riders had got across the Nid with engines running in the previous year.

Such is the atmosphere at the start of most big trials, and everyone knows that the Scott trial is the stiffest of the lot.

A glance round the competing machines revealed that Scotts and Triumphs were easily in the majority, though P. and M.'s, Wilkins, and Kingsburys each had three or four representatives. Manufacturers, with the exception of those from Yorkshire, were conspicuously absent, for a trial of this description brings out the sporting rider rather than the stock trade teams.

Stakes to denote the route.

At 10 sharp away went Donald Moore on his Scott, followed at minute intervals by the next men. Waddington's Triumph was barely out of sight before his belt fastener gave trouble and caused a stop. Soon it was our turn to get away, and in a few moments the start, from our point of view, lost all interest, and only the road ahead mattered. The good roads soon deteriorated, and a long rough descent had its climax in Dob Park splash. A pack bridge—on which spectators crowded—spans the stream, and the splash is entered and left by steep paved banks. Added to this there are boulders in the bed. A competitor was firmly embedded in the stream when we arrived, only to keep him company, but Waddington came through safely, though his belt caused trouble on the subsequent hill. Shortly after this some of the early numbers went astray, as there were not sufficient wheel tracks to act as a guide, and some of the arrows had been destroyed during the night by wind and rain. The route-marking as a whole was excellent, and it was purely bad luck that the effects of the elements caused a certain amount of trouble.

Grease was abundant and horrid, and hills, well, one lost count of them, though the descents were perhaps the most trying, and the moorland ruts and wet grass caused many spills. Lashed by the strong wind there were white capped waves on Grimwith reservoir, but this same wind blew away the rain clouds and helped to dry the course.

After skirting the end of the reservoir, all signs of a track disappeared, and the course was indicated by stakes driven into the ground at intervals. At first the route was merely grass, but it became rougher and boggier until it appeared that neither man nor machine could stand another jolt; added to this, a very slight deviation from the staked course inevitably led to a bogged machine. The stretch culminated in two observed mud splashes of such a depth that machines dropped on to their crank cases and balanced precariously on the edge until shoved off into the slimy depths.

Next came more grass and stones and a welcome descent to Burnsall for lunch and an hour's rest. By this time the sun was shining brightly, and competitors arrived hot and weary after much hard

E. Sykes (Triumph) in Dob Park watersplash. Observe the boulders.

exercise amongst the rough. C. P. Wood's time for the morning section was spoken of with bated breath; but not a few machines arrived with bent footrests, burst silencers, and other minor defects.

Hebden Ghyll! How is it to be described? Picture to yourselves a river bed partly filled up with stones, heather roots, and an assortment of rubble—all this on a steady upward grade with intervening bits of the genuine river, water and all. It was at such a spot that a cinematograph operator chose to do his worst, and he at least must have had much amusement. At one place one climbed a slag heap sideways! Further on the track entirely disappeared, amidst the ruins of some old lead mines, and stakes once more showed the way. Hills followed. Grass hills, stony hills, long hills, steep hills, all sorts of hills, plus many gates and much three-rut track. Park Rash was almost a relief. The hill was in good condition, and one wondered how it ever came to be a bonus hill in the A.C.U. Six Days Trials.

Darnbrook and Deadman's Hills.

Darnbrook belied the prognostications of the pessimistic, and proved an easy climb, and the crossing of the Nid was nothing like so terrifying as its approach down Deadman's Hill. For sheer discomfort this was perhaps the worst bit of the course, a really steep descent and crossed by innumerable gulleys, so deep that if taken slowly the wheels "chocked" and stopped the machine.

After the Nid comes the Scar, a hill of terrifying aspect and rough, rutty surface. It includes one hairpin which is the genuine article, and brings one back on one's tracks on a stiff gradient. This hairpin, by the by, is invisible until the last moment, being hidden by a bank.

There followed a stretch of good, but twisty road, over which we had been warned that the police were active; then a selection of grease, a watersplash, and Middletongue, the last observed hill. Grease and ruts, followed by loose stones, formed the surface of this final test, and we can vouch for the fact that one competitor at least tested the solidity of the stone wall on the left of the road and found it firm.

A grand road to the finish and a strong head wind completed the most strenuous trial ever held, and a jolly party sat down to tea and discussion of the day's events.

As reports from the observed spots came in, the energetic officials worked out results, and to relieve the tedium of the wait, C. P. Wood, W. L. Guy, and one or two others, afforded much amusement to the crowds by crossing and recrossing the Wharfe below Burnsall Bridge. So quickly were results worked out that the main awards were announced at Burnsall before the party broke up, and Maj. Watling made a popular speech alluding to the excellent organisation and the sporting spirit of the competitors, also to the fact that over £35 had been cleared for St. Dunstan's Hostel by the sale of programmes. This sum was considerably augmented later on by the sale of other items (including a policeman).

In the evening the Scott Co. entertained many of the riders at a dinner and sing-song at the Middleton Hotel, Ilkley: a few speeches, a few stories, and a few songs. So ended a happy, sporting, and well-organised event.

AWARDS.

SCOTT TROPHY (FOR BEST AMATEUR TEAM).

Sheffield and Hallamshire: F. C. Waites (4 Triumph), E. H. Wheatley (4 Triumph), and J. O. Vessey (4 Triumph).

MYERS TROPHY (FOR BEST TRADE TEAM).

Scott Team No. 1: C. P. Wood (3¾ Scott), W. L. Guy (3¾ Scott), and H. Langman (3¾ Scott).

BEST TEAM TRADE AND AMATEUR MIXED.

Harrogate: A. Hill (4 Triumph), W. E. Grange (4 Triumph), and G. Hill (3¾ Scott).

VINTER CUP (BEST AMATEUR PERFORMANCE).

W. Moore (3¾ Scott).

SCOTT STAFF CUP (BEST TRADE PERFORMANCE).

C. P. Wood (3¾ Scott).

MELANO CUP (BEST PERFORMANCE UNDER 350 c.c.).

G. W. Wilkin (2¾ Wilkin).

CONSOLATION PRIZE.

C. J. Nicholls (4 Triumph).

B. Hill (Scott) passing through the roads of the ruined lead works, which constituted part of the route.

A Scramble Round Yorkshire.—

Finishers, showing total Marks gained.

SCOTT.

C. P. Wood, 243 marks gained; H. Langman, 235; W. Moore, 229; W. L. Guy, 222; G. Hill, 218; A. Holdroyd, 210; G. Clapham, 206; R. W. Stanfield, 199; E. Wasling, 192; A. E. Budd, 188; J. S. Duxbury, 187; G. A. Reed, 185; P. Moore, 182; T. P. Galway, 181; W. Smith, 170; T. Twentyman, 166; B. Rigg, 166; A. Mercer, 164; G. A. Nunneley, 151; Capt. Oliver, 148; A. C. Verity, 137; F. B. Roper, 132; S. Ashby, 121.

TRIUMPH.

H. Pattison, 223 marks gained; W. E. Grange, 221; D. Hoggarth, 206; H. S. Moorhouse, 203; W. Backhouse, 201; A. Hill, 201; F. C. Wates, 195; W. T. Brand, 186; E. H. Wheatley, 181; M. Sykes, 175; E. Jones, 168; H. D. Teage, 166; C. R. Waddington, 162; G. Grundy, 159; T. O. Veasey, 158; B. S. Dewhirst, 157; C. M. Green, 148; E. C. Ecroyd, 146; A. R. Naylor, 141; T. Baxter, 135; C. B. Sangster, 135.

P. AND M.

G. Townend, 182 marks gained; T. G. Bullus, 167; W. Drake, 156; H. Dawson, 130.

DOUGLAS.

S. R. Wright, 145 marks gained.

WILKIN.

G. W. Wilkin, 160 marks gained; T. C. Coney, 157; F. E. Palmer, 135.

A.B.C.

L. A. Runton, 150 marks gained.

ARIEL.

A. C. Thornton, 171 marks gained.

B.S.A.

H. E. Ellis, 224 marks gained; S. A. Fernley, 167.

NORTON.

T. A. Whalley, 168 marks gained.

BLACKBURNE.

S. Kirkham, 104 marks gained.

SUNBEAM.

—. Moffett, 156 marks gained.

Competitors were supposed to average 20 m.p.h. over the course, and, marvellous to relate, five men accomplished this feat. Fifty marks are awarded for this speed, and one mark deducted for each minute in excess of schedule time. Needless to say, in many cases the whole fifty marks disappeared.

A paucity of protests and grumbles is a welcome feature of such sporting events as the Scott trial. To "finish" is the one idea of most competitors, and, if this is achieved, the resulting glow of satisfaction is sufficient to remove all idea of complaint.

G. W. Wilkins's win in the 350 class is a fitting prelude for his "round the coast" ride, which is fixed for September 8th. Any 350 c.c. machine which can finish in the Scott trial deserves much praise

A.C.U. SIX DAYS TRIALS.

Speeds Accomplished in the Half-hour Test at Brooklands.

IN our last issue the provisional results of the 1920 Six Days Trials formed an appendix to the complete report. The medal winners have now been confirmed by the A.C.U.

The Motor Cycle table showed the weights of the machines, marks gained or lost on hills and in the silence, speed, and brake tests, also marks deducted under the heading of "condition" at the finish of the trial. It will be recalled that 133 competitors started, and that eighty-eight gold, five silver, and a bronze medal were awarded. Below will be found the speeds attained by the individual riders during the half-hour speed trials which took place on Brooklands on the last day. It should be borne in mind that these speeds were attained after 918½ miles of most difficult going in Yorkshire and Northumbria.

CLASS A.—MINIMUM SPEED 25 M.P.H.

A speed of not less than 25 m.p.h. had to be maintained by the 275 c.c. machines for half an hour. This was easily done by all except one; indeed, the speed of the miniature machines was exceptionally high. The Velocettes did extraordinarily well, E. Goodman exceeding 40 m.p.h., while G. Kuhn (2¼ Levis) averaged 36.5 m.p.h.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
R. H. Baxter (2¼ Radco)	30.68	—
S. Jones (2¼ Velocette)	32.52	—
H. L. Hanks (2¼ Royal Enfield)	29.72	—
G. Denley (2¼ Velocette)	32.31	—
W. L. Handley (2¼ O.K.-Junior)	26.29	—
G. Kuhn (2¼ Levis)	36.56	—
J. F. Lidstone (2¼ James)	21.60	20 (15 min., only 2 laps)
E. Goodman (2¼ Velocette)	40.63	—
E. Porter (2¼ Levis)	30	—
H. P. Knowles (2¾ Hobart)	31.91	—

CLASS B.—MINIMUM SPEED 30 M.P.H.

Here again only one machine failed to average the required speed, but none were noticeably faster than the preceding "baby" class. J. W. Wills' (2¾ Verus) performance is noticeable, however, and speaks well for the tune maintained by his outside flywheel Blackburne engine.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
B. Kershaw (2¾ Verus)	36.12	—
F. J. Price (2¾ Diamond)	40.36	—
R. B. Clark (2¾ Coulson)	36.34	—
J. Wills (2¾ Verus)	40.07	—
L. A. Bees (3½ Beardmore-Precision)	27.54	8
L. Tonks (2¾ New Imperial)	33.50	—
A. G. Cocks (3½ Beardmore-Precision)	36.28	—
H. Greaves (3½ Beardmore-Precision)	35.60	—

CLASS C.—MINIMUM SPEED 35 M.P.H.

The 500 c.c. machines were required to do 35 m.p.h., which speed the majority exceeded with a fairly large margin. Collectively, the Sunbeams made the best showing in this class, two of their number exceeding 44.5 m.p.h.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
F. A. Applebee (3 A.B.C.)	43.14	—
N. Rycroft (4 Triumph)	42.91	—
G. Dance (3½ Sunbeam)	44.79	—
F. Townshend (3½ Sunbeam)	40.16	—
A. S. Guthrie (3½ Sunbeam)	42.21	—
F. J. Fieldhouse (3½ N.U.T.)	41.46	—
R. C. Winn (3 A.B.C.)	41.14	—
E. A. Edwards (3½ N.U.T.)	39.70	—
W. C. Thomson (3½ N.U.T.)	44.31	—
T. C. de la Hay (3½ Sunbeam)	44.51	—
D. Robb (3½ N.U.T.)	42.69	—
G. Featherstonhaugh (3½ Rover)	26.11	14
H. F. Edwards (3½ B.S.A.)	37.57	—
G. A. Strange (3½ James)	40.15	—
W. G. Harrison (3½ Sunbeam)	33.05	20 (19 min. only)
H. M. Batten (3½ P. & M.)	39.70	—
F. A. Longman (3½ Ariel)	40.70	—
G. M. Townsend (3½ P. & M.)	38.58	—
J. J. A. Dias (3½ P. & M.)	39.76	—
Capt. D. Barton (4½ Dunelt)	35.09	—

CLASS D.—MINIMUM SPEED 38 M.P.H.

The average speed demanded of the 750 c.c. solo class was quite high enough for comfort, since it is (*pace* the local speed merchants!) somewhere in the neighbourhood of maximum with the average touring machine. Actually 44 m.p.h. would not have been too high, for the best speed in the class was attained by G. Hill (3¾ Scott), who did 47.73 m.p.h., and this was almost equalled by H. Pattison (4 Triumph), who accomplished 47.27 m.p.h.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
G. L. White (5 Rover)	44.23	—
D. H. Davidson (4 Harley-Davidson)	45.68	—
Capt. C. P. Wood (3¾ Scott)	46.50	—
W. Brandish (5 Rover)	43.14	—
J. A. O. Sullivan (4 Harley-Davidson)	41.32	—
B. Alan Hill (3¾ Scott)	46.67	—
E. S. Astley (5 Rover)	44.07	—
D. H. Noble (5 Rover)	46.99	—
G. Grinton (4 Harley-Davidson)	41.42	—
G. J. Shemans (4 Triumph)	43.18	—
W. H. Owen (5 Rover)	45.85	—
L. T. Gilson (5 Zenith)	42.21	—
A. Colcombe (4 Indian Scout)	43.10	—
W. Edwards (4½ B.S.A.)	43.52	—
H. Langman (3¾ Scott)	45.72	—
C. Moser (4 Triumph)	42.13	—
E. Cross, M.B.E. (4 Triumph)	43.02	—
D. A. Atkin (5 Rover)	46.19	—
W. L. Guy (3¾ Scott)	43.60	—
R. W. Duke (4 Triumph)	43.25	—
H. Pattison (4 Triumph)	47.27	—
L. L. Sealey (4½ B.S.A.)	40.63	—
W. Westwood (4 Triumph)	42.76	—
F. Turvey, Junr. (4½ B.S.A.)	44.67	—
H. Taylor (3¾ Scott)	43.56	—
G. Hill (3¾ Scott)	47.73	—
H. Green (4 Triumph)	43.01	—
F. G. Edmond (4 Triumph)	45.21	—
L. Crisp (4½ Humber)	44.59	—
H. S. O. Evans (4½ Humber)	46.15	—
E. R. Johnson (4½ Humber)	39.51	—
L. Newey (4½ Ariel)	36.75	7
J. L. Scott (4½ Ariel)	40.03	—
W. Chambers (4½ B.S.A.)	41.85	—

CLASS E.—MINIMUM SPEED 40 M.P.H.

Neither of the 1,000 c.c. solo machines qualified.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
V. Gayford (6 Zenith)	40.77	20 (2 laps only, 8 min.)
Kaye Don (6 Zenith)	32.56	13

CLASS G.—MINIMUM SPEED 24 M.P.H. (SIDECAR).

Only one sidecar machine below 500 c.c. capacity competed, and it qualified for full marks in the speed test with the greatest ease; a splendid result for the smallest engined sidecar outfit in the trials.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
P. Pehrson (4½ Dunelt)	31.43	—

CLASS H.—MINIMUM SPEED 28 M.P.H. (SIDECAR).

All the 750 c.c. sidecars seemed capable of exceeding the demands made upon them; their speeds were very uniform, ranging from 32 to 35 m.p.h.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
Cyril Williams (6 A.J.S.)	32.24	—
J. Cooper, Junr. (6 A.J.S.)	33.62	—
H. R. Davies (6 A.J.S.)	34.69	—
S. Wright (4½ Humber)	35.40	—
A. L. Cranoh (5 Rover)	32.15	—
E. Williams (6 A.J.S.)	34.79	—
A. Wade (6 A.J.S.)	32.44	—
G. E. Stobart (7 James)	35.29	—

CLASS K.—MINIMUM SPEED 32 M.P.H. (SIDECARS AND THREE-WHEELERS).

Some of the big twins did not exceed their required margin very widely; this, of course, being intentional in all probability. G. Packman's Matchless sidecar and D. Alexander's Enfield both deserve mention for being able to do ten miles more than the stipulated 32 m.p.h.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
G. Packman (8 Matchless)	42.46	—
G. Knott (7 Matchless)	35.81	—
F. J. Ellis (7 Matchless)	34.89	—
G. D. Hardee (7 Matchless)	37.66	—
B. Bladder (8 New Imperial)	35.76	—
H. F. S. Morgan (8 Morgan)	41.07	—
T. J. Ross (7 Matchless)	37.90	—
W. E. Smith (8 Enfield)	38.56	—
H. Jepson (8 Zenith)	—	20 (Did not complete one lap)
D. Alexander (8 Enfield)	42.28	—
W. A. Fell-Smith (8 Blackburne)	35.40	—
R. Charlesworth (8 Zenith)	35.24	—

CLASS L.—MINIMUM SPEED 33 M.P.H.

The two 10 h.p. Morgans both exceeded the speed required.

Rider and Machine.	Speed, m.p.h.	Marks Lost.
S. Hall (10 Morgan)	36.95	—
F. James (10 Morgan)	42.61	—

THE 1920 OLYMPIA SHOW.

A Preliminary List of Exhibitors. The Trend of Design for Next Year's Market.

IT does not seem long since we were last in the throes of "The Show," and yet in a little time we shall again be in the midst of its hectic days.

Glancing over the preliminary list of exhibitors, we may indulge in a little forecasting of the general lines on which we may expect the design of the machines displayed to run. Reviewing the names of those firms wholly, or almost wholly, devoted to the production of motor cycles or motor cycle power units, we find that, out of a total of seventy-six, forty-two concentrate on the four-stroke types, while the two-stroke, despite its increasing success, is the single string of only twenty-two firms. In addition to these firms there are twelve manufacturers who are catholic in their selection of power units, and fit both two and four-stroke engines to their products. These figures are based, of course, on existing programmes, but (as is usually the case) there may be one or two designers with a carefully guarded change of policy.

When we come to the other forms of vehicles associated with the motor cycle field—the scooters, three-wheelers, and motorised bicycles—we find that the four-stroke engine again predominates. There are three makers of scooters; two favour the two-stroke engine and one the four-stroke. In the three-wheeler class there is one supporter of the two-stroke amongst six firms showing the runabout type of vehicle. Only two exhibitors are concentrating on motorised bicycles; and while one favours the four-stroke, the other evidently considers that for this simple type the valveless engine is to be preferred.

Detail Improvements.

So far as new developments are concerned, it is rather early to speak without "letting the cat out of the bag," but we may expect that although there will be few changes in engine design since the 1919 exhibition, there will be a general refinement of details. Chain drives may be seen in hitherto steadfast strongholds of the belt. Several manufacturers of lightweights will "cut in" to the light dual-purpose market. Detachable wheels, round-base rims, and efficient mudguarding will be seen in quarters where these fitments are long overdue; while last, but by no means least, the front rim brake will be almost universally discarded in favour of more satisfactory designs.

A Welcome New Comer.

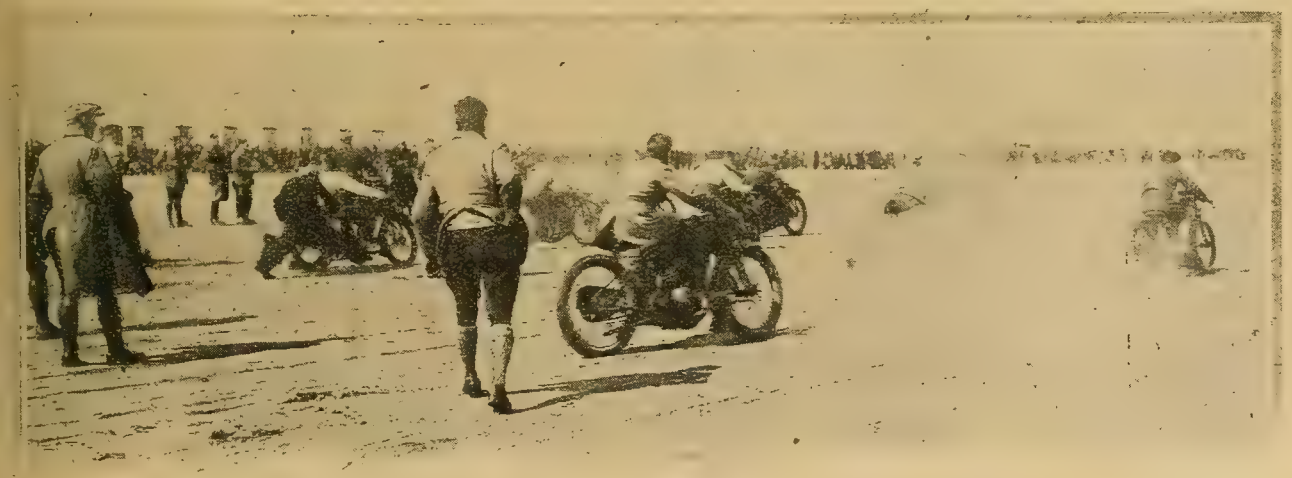
Last Show introduced several newcomers to the industry, but this year there is only one name which is uncommon to the general mass of the motor cycling public; this is the Scott Autocar Co., Ltd., the presiding genius of which is Alfred A. Scott, and this exhibit will be visited with the greatest interest and curiosity by those who have heard of the brilliant designer's work on the Scott Sociable during the past five years.

Athough 1919-20 has been a period of trouble and unrest, the trend of development is now proceeding along more settled lines. Wild schemes have been dropped, pre-war influences and patterns have almost disappeared, and the few remaining "scooters" have all adopted seats! 1920 will really give us the *first* post-war Olympia Show!

The Principal Makes of Complete Machines and Sidecars (with Stand Numbers) at Olympia, November 29th to December 4th, 1920.

Stand		Stand		Stand		Stand	
35.	A.B.C.	28.	Dot.	70.	L.M.C.	137.	Royal Leicester Sidecars.
142.	A.B.C. Scooter.	126.	Douglas.	163.	Martinsyde.	13.	Rudge.
144.	Abingdon.	138.	Dunelt.	24	Massey Arran.	23.	Sandum Sidecars.
119.	A.J.S.	103.	Dunhills Sidecars.	68.	Matchless.	19.	Scott Sociable.
147.	Alecto.	145.	Edmund.	57.	Metro-Tyler.	35.	Sidecar Body Co.
62.	Allon.	45.	Elswick.	63.	Mills-Fulford Sidecars.	18.	Simplex Attachment.
97	Ariel.	118.	Enfield.	46.	Montgomery Sidecars.	148.	Scott.
22.	Armis.	139.	F.N.	93.	Morgan.	122.	Sparkbrook.
21.	Autoglider.	34.	Francis Barrett.	75.	New Hudson.	65.	Sun.
59.	Bat.	50.	Grindlay Sidecars.	91.	New Imperial.	129.	Sunbeam.
72.	Blackburne.	29.	Harley-Davidson.	130.	New Scale.	73.	Swift.
60.	Bradbury.	96.	Hazlewood.	44.	Norton.	40.	Sykes and Sugden Three-wheeler.
64.	Brough.	30.	Henderson Sidecars.	140.	N.U.T.		
67.	British Excelsior.	102	Hobart.	101.	O.K.	31.	T.B. Three-wheeler.
69.	B.S.A.	51.	Hoskison.	27.	Omega.	114.	Triumph.
112.	Calthorpe.	86.	Humber.	74.	P. and M.	123.	Velocette.
143.	Canoelet Sidecars.	100.	Indian.	56.	Paragon.	161.	Verus.
42.	Castle Three.	124.	Ivy.	115.	Precision.	127.	Victoria.
36.	Cedos.	160.	Ixion.	41.	Quadrant.	37.	Watson, S. J.
90.	Chater-Lea.	88.	James.	61.	Radco.	146.	Wilkin.
141.	Clyno.	111.	J.E.S.	99.	Raleigh.	76.	Wolf.
95.	Connaught.	43.	Kingsbury.	38.	Regent.	162.	Wooler.
85.	Coventry Acme.	128.	Kynoch.	84.	Rex.	92.	Watsonian Sidecars.
94.	Coventry Premier.	58.	Lea-Francis.	89.	Rover.	71.	Williamson.
98.	Diamond.	121.	Levis.	125.	Royal Ruby.	87.	Zenith.

SPEED TRIALS ON THE SANDS AT ST. ANDREWS.

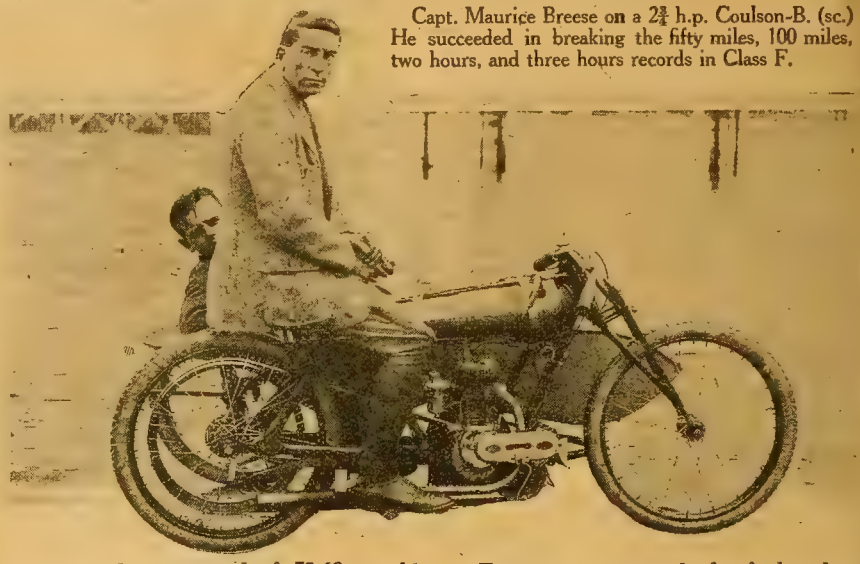


The start of the heavy weight class in the Scottish speed championships last Saturday.

Four Records Established in the Rain.

Success of the 2¾ h.p. Coulson-B. with Sidecar on Brooklands.

A VERY creditable performance was made by Capt. Maurice C. Breese at Brooklands track on Thursday last, September 2nd, when, riding a 2¾ h.p. Blackburne-engined Coulson-B. and sidecar, he established four new records in Class F for motor cycles and sidecars not exceeding 350 c.c. In view of the fact that during the three hours ride the rain fell incessantly, and that this attempt was the first appearance of the Coulson machine on the track, the average speed of 38.25 m.p.h. for that time must be considered to be exceptionally good.



Capt. Maurice Breese on a 2¾ h.p. Coulson-B. (sc.) He succeeded in breaking the fifty miles, 100 miles, two hours, and three hours records in Class F.

A Standard Engine.

The engine was a standard production, as also were the frame and components, while the only deviation from usual practice was the special single-geared transmission. A countershaft was slung between an extension of the front engine plates, and accommodated the chain sprocket and belt pulley, both of which were mounted on the near side. The gear reduction was 6 to 1, and the long belt, necessitated by the disposition of the pulley, did not, in the rain, show any appreciable signs of slipping. Starting at 12.15 p.m., Capt. Breese first established the 50 and 100 miles records. The former distance was completed in 1h. 14m. 30s. at an average speed of 40.26 m.p.h., whilst the latter distance was covered at a speed of 39.69 m.p.h. in 2h. 31m. 10⅘s.

The two hours run was covered at a speed of 39.53 m.p.h., and constituted a distance of 79 miles 122 yards, whilst in three hours a distance of 144 miles 1,344 yards was completed at an average speed of 38.25 m.p.h.

Two stops were made for fuel and one for a broken chain. The fastest lap speed was 42.35 m.p.h. Amongst the equipment used were the following: Canoelet sidecar, Flexi carburetter, Wood-Milne tyres, John Bull belt, Wakefield Castrol oil, Shell spirit, Cooke plugs, and E.I.C. magneto.

HILL-CLIMBING AT STILE KOP.

A Record Crowd and Fine Performance at the Birmingham M.C.C. Hill-climb.

STILE COP, near Rugeley, on the borders of Cannock Chase, was the scene of the Birmingham Club's twelfth annual hill-climb on Saturday last. The event attracted no fewer than 107 entries, notwithstanding the fact that it was open to club members only. Many of the best known riders in the sporting motor cycle world were competing, so there is little wonder that the crowd which lined the hill was a record one of from 1,500 to 2,000 persons.

Doubtless, having in mind last year's climb, the officials very wisely had the finishing tape 200 or 300 yards from the actual crest of the hill, in order to allow competitors plenty of time to pull up before reaching the bend and descending the other side.

A Three-cornered Struggle.

As the events were run off, it was realised it was a Sunbeam, A.J.S., and Norton afternoon, the various riders of these makes of machines trying their hardest to beat one another. So closely were they matched, that in class 6 G. S. Boston on a 2¾ A.J.S., and G. Dance on a 3½ Sunbeam, both climbed the hill in 39⅕s., being beaten by Graham Walker on a 3½ Norton by three-fifths of a second only. The event for the four fastest machines of the day would have been very exciting, as it was proposed to run the machines up the hill in pairs, in two heats. The police, however, unfortunately tabooed the idea, and the event had to be run off against the watch. G. S. Boston 2¾ A.J.S., G. Dance 3½ Sunbeam, H. W. Hassall 3½ Norton, and G.W. Walker 3½ Norton, were the four eligible to compete. Boston won the event in 40s., with Dance second in 40⅕s., Hassall third in 40⅘s., and Walker fourth in 42⅖s. Close times, but curiously enough all slower than the previous best made by each rider.

Fifths of Seconds.

The distinction between Boston and Dance was very fine, amounting to fifths of a second in each class, but Boston just managed to get the lead, and his bag for the afternoon amounted to four firsts and three seconds, whilst Walker took three firsts and one second. Dance took one first and four seconds.

The climb was over just after 5.30, and the officials of the Birmingham M.C.C., particularly Mr. W. H. Egginton, the hon. sec., are to be congratulated, as indeed they were on the hill, for the splendid organisation which enabled such a big entry to be run off so promptly. The detailed results are as follow:

CLASS 1 (for scooters).—1, J. E. Chamberlain (2¼ Autoglider), 69⅖s.; 2, C. R. Townsend (2½ Autoglider), 89⅖s.

CLASS 2 (for solo machines up to 250 c.c.).—On time: 1, R. E. Pugh (2¾ Levis), 55⅗s.; 2, F. J. Price (2¼ Diamond), 59⅕s.; 3, E. Smith (2¼ Cedos), 64⅘s. On formula: 1 and 2, same as on time; 3, H. R. Lane (2¾ Levis).

CLASS 3 (solos up to 300 c.c.).—On time: 1, R. E. Pugh (2½ Levis), 60⅗s.; 2, F. J. Price (2¼ Diamond), 61⅗s.; 3, A. Haden (2½ New Comet), 66⅕s. On formula: 1, R. E. Pugh; 2, J. F. Lidstone (2¼ James); 3, A. Haden (2½ New Comet).

CLASS 4 (for solos up to 350 c.c.).—On time: 1, G. Dance (2¾ Sunbeam), 41⅕s.; 2, G. S. Boston (2¾ A.J.S.), 44s.; 3, R. E. Pugh (2½ Levis), 53s.

CLASS 5 (for solos up to 499 c.c.).—On time and on formula: 1, G. W. Walker (3½ Norton), 39s. On time: 2, G. Dance (3½ Sunbeam), 39⅗s.; 3, H. W. Hassall (3½ Norton), 41s. On formula: 2, H. W. Hassall; 3, H. Petty (3½ Norton).

CLASS 6 (for solos up to 600 c.c.).—On time: 1, G. W. Walker (3½ Norton), 38⅗s.; 2, G. S. Boston (2¾ A.J.S.) and G. Dance (3½ Sunbeam), both 39⅕s.; 3, H. W. Hassall (3½ Norton), 39⅗s. On formula: 1, G. J. Baragwanath (4 Triumph); 2, R. A. Fawsett (4¼ B.S.A.).

CLASS 7 (for solos up to 750 c.c.).—Time awards only: 1, G. W. Walker (3½ Norton), 38⅗s.; 2, G. S. Boston (2¾ A.J.S.), 39s.; 3, H. W. Hassall (3½ Norton), 39⅗s.

CLASS 8 (for solo machines, unlimited c.c.).—On time: 1, G. S. Boston (2¾ A.J.S.), 38s.; 2, G. W. Walker (3½ Norton), 39⅕s.; 3, G. Dance (3½ Sunbeam), 39⅗s. On formula: 1, L. Darton Cuxon (5-6 Zenith); 2, G. J. Baragwanath (8 Zenith); 3, R. Bond (8 Zenith). Formula awards open only to machines over 750 c.c. in this class.

CLASS 9 (for the four fastest solo machines of the day). It was intended to run this class on the knock-out principle, but the police would not allow this; therefore times only were taken.—1, G. S. Boston, 40s.; 2, G. Dance, 40⅕s.; 3, H. W. Hassall, 40⅗s.; 4, G. W. Walker (3½ Norton), 42⅖. It is interesting to note that each competitor made better time in previous classes.

CLASS 10 (for sidecar machines up to 499 c.c.).—On time: 1, G. S. Boston (2¾ A.J.S.), 47⅗s.; 2, G. Dance, 47⅘s.; 3, L. Paynter (3½ Norton), 57s. Graham Walker broke a chain. On formula: 1, G. S. Boston; 2, G. Dance.

CLASS 11 (for sidecar machines, unlimited capacity).—1, G. S. Boston (2¾ A.J.S.), 46⅖s.; 2, G. Dance (3½ Sunbeam), 47⅘s.; 3, G. W. Walker (3½ Norton), 48⅗s. On formula: 1, G. E. Stobart (5-6 James); 2, F. W. Giles (6 A.J.S.); 3, R. Bond (8 Zenith).

During the event over 200 tickets were sold for the gymkhana which is to be held at the "George-in-the-Tree," Berkswell, on Saturday, September 18th, all proceeds from which will be given to the *Daily Mail* Christmas Tree Fund.

Helensburgh M.C.C.

The results of the last speed-judging contest are as follow :

D. R. Tullis (3 A.B.C.), error 15s.; W. Colvin (2¾ Diamond-Jap), error 25s.; G. Malcolm (4 Triumph), error 31s.

Keighley M.C.

The first trial organised by this new North Country club was held during the last week-end in August, twenty competitors starting on a stiff course through Pateley Bridge and Grassington. Greenhow Hill was climbed twice, and thirteen riders finished. Full marks were obtained by the following : J. Stansfield (2¾ Douglas), H. E. Philpotts (8 Morgan), G. Shore (3½ P. and M.), E. Emmott (5 Rudge), and W. Scott (3¾ Scott sc.).

Glasgow Western M.C.C.

A members' team trial (teams consisting of three riders selected by lot) was held recently over a thirty-three and a half mile non-stop circuit, which had to be covered twice. The winners proved to be :

A. D. S. Burr (2¾ B. and S.), 32 miles.
G. H. Lennie (2¾ Douglas), 67 miles.
J. Johnston (6 A.J.S. sc.), 67 miles.

The second team, consisting of M. Fraser (8 Enfield sc.), L. C. Hilger (3½ Ariel), and G. Munro (6 A.J.S. sc.), covered 152 miles non-stop against the 166 completed by the winners.

Macclesfield and District M.C.

The last hill-climb organised by the above club was held on Axe Edge, near Buxton, over a measured course of 1,584 yards (nine-tenths of a mile, standing start), with results as follow :

CLASS 1. Members (350 c.c. solo).—1, S. Holland (2¾ A.J.S.), 1m. 40s.; 2, A. Bayley (2¼ Levis), 1m. 49⅘s.; 3, C. J. Hudson (3½ New Scale), 1m. 55⅘s.

CLASS 2. Members (600 c.c. solo).—1, W. Hudson (3 A.B.C.), 1m. 12⅘s.; 2, J. L. Cruickshank (3½ Norton), 1m. 15⅘s.; 3, G. W. Lowe (3½ Norton), 1m. 19⅘s.

CLASS 3. Members (1,000 c.c. solo).—1, J. L. Cruickshank (3½ Norton), 1m. 10⅘s.; 2, F. Bolton (7-9 Indian), 1m. 11⅘s.; 3, W. Hudson (3 A.B.C.), 1m. 12⅘s.

CLASS 4. Members (600 c.c. sidecars).—1, W. M. C. Preston (3½ Sunbeam), 1m. 58⅘s.; 2, J. Dale (4¼ B.S.A.), 1m. 58⅘s.; 3, J. Hopwood (4¼ B.S.A.), 2m. 15⅘s.

CLASS 5. Members (1,000 c.c. sidecars).—1, T. H. Davenport (4 Norton sc.), 1m. 49s.; 2, W. Cumberlidge (6 B.S.A. sc.), 1m. 53⅘s.; 3, J. Dale (4¼ B.S.A. sc.), 1m. 58⅘s.

CLASS 6. Open (600 c.c. solo).—1, T. Simister (3½ Norton), 1m. 6⅘s.; 2, J. L. Cruickshank (3½ Norton), 1m. 10⅘s.; 3, S. A. Crabtree (2¾ A.J.S.), 1m. 10⅘s.

CLASS 7. Open (1,000 c.c. solo).—1, T. Simister (3½ Norton), 1m. 6⅘s.; 2, G. Cowley (3½ Norton), 1m. 7⅘s.; 3, F. Bolton (7-9 Indian), 1m. 8⅘s.

CLASS 8. Open (unlimited sidecars).—1, T. Simister (3½ Norton sc.), 1m. 22⅘s.; 2, G. Cowley (3½ Norton sc.), 1m. 23⅘s.; 3, V. Robinson (8 New Imperial sc.), 1m. 53⅘s.

Special prize for the fastest time of the day presented by T. Simister was won by T. Simister (3½ Norton), who has resigned in favour of the fastest private owner, F. Bolton (7-9 Indian).

Special prize for the best performance of a two-stroke not exceeding 275 c.c. presented by Mr. F. Bayley, was won by A. Bayley (2½ Levis).

Future Events.

Sept. 9.—Eastern Valley M.C.C. Non-stop Trial.
Sept. 9.—Bedford and District M.C. and L.C.C. Club Run.
Sept. 10.—Essex M.C. Twenty-four Hour Reliability Trial.
Sept. 10-11.—N. Wilts. M.C. and L.C.C. Run to Clifton.
Sept. 11.—Plymouth and District M.C. and L.C.C. Hill-climb at Hucaby Tor.
Sept. 11.—Public Schools M.C.C. Route Competition.
Sept. 11.—Edinburgh and District M.C. Car Hill-climb.
Sept. 11.—Dublin and District M.C.C. Paperchase.
Sept. 11.—North London M.C.C. Supper Run to Essendon.
Sept. 11.—Luton and Beds. A.C. Hill-climb.
Sept. 11.—Leeds and District M.C. Speed Trial.
Sept. 11.—Sheffield and Hallamshire M.C.C. Speed Trial.
Sept. 11.—Bury and District M.C. Run to Chester.
Sept. 11-12.—Dewsbury and District M.C.C. Week-end Run.
Sept. 12.—West Birmingham M.C.C. Run to Malvern.
Sept. 12.—Ilkley M.C. and L.C.C. Social Run.
Sept. 12.—Birmingham M.C.C. Captain's Day.
Sept. 12.—Westmorland M.C.C. Social Run.
Sept. 12.—Exeter M.C. and J.C.C. Run to Teign mouth.
Sept. 12.—Harrogate and District M.C.C. Paperchase.
Sept. 12.—Stalybridge and District M.C. Social.
Sept. 12.—Reading and District M.C. and L.C.C. Run to Bognor.
Sept. 12.—Northern M.C. Gymkhana, Rothbury.
Sept. 12.—Woolwich, Plumstead and District M.C. Picnic.
Sept. 12.—Scarborough M. and M.C.C. Run to Falling Cross.
Sept. 12.—N.M.C.F.U. (Portsmouth). Run to Cocking Causeway.
Sept. 12.—Loughborough and District M.C.C. Run to Lutterworth.
Sept. 15.—N. Wilts. M.C. and L.C.C. Picnic.
Sept. 16.—Dorchester M.C. and L.C.C. Paperchase.
Sept. 18.—Southampton and District M.C. Hill-climb.
Sept. 18.—West Birmingham M.C.C. Run to Stratford.
SEPT. 18.—LIVERPOOL M.C. OPEN RELIANCE CUP TRIAL.
Sept. 18.—Exeter M.C. and J.C.C. Gymkhana.
Sept. 18.—Ilkley M.C. and L.C.C. Liverpool Trial.
Sept. 18.—Edinburgh and District M.C. Rally.
Sept. 18.—Eastern Valley M.C.C. Club Run.
Sept. 18.—Bedford and District M.C. and L.C.C. Club Run.
Sept. 18.—Cumberland County M.C.C. Social Run.
Sept. 18.—N. Wilts M.C. and L.C.C. Run to Bath.
Sept. 18.—Dewsbury and Dictrict M.C.C. Competition.
Sept. 18.—Worcester and District M.C.C. Flexibility Trial.
Sept. 18.—Southampton and District M.C.C. Hill-climb.
Sept. 18.—West Birmingham M.C.C. Run to Stratford.
Sept. 19.—Dewsbury and District M.C.C. Surprise Run.
Sept. 19.—Fleet and District M.C.C. Secret Run.
Sept. 19.—North London M.C.C. Surprise Run.
Sept. 19.—Westmorland M.C.C. Club Trial.
Sept. 19.—Essex Motor Club. Standard Run Final.
Sept. 19.—Harrogate and District M.C.C. Run to Kirkham Abbey.
Sept. 19.—Reading and District M.C. and L.C.C. Run to Crookham Common.
Sept. 19.—Stalybridge and District M.C. Speed Trials.
Sept. 19.—N.M.C.F.U. (Portsmouth). Run to South Harting.
Sept. 19.—N.M.C.F.U. (Wolverhampton). Run to Brewood.
Sept. 19.—N. Wilts M.C. and L.C.C. Run to Salisbury.
Sept. 19.—Sheffield and Hallamshire M.C.C. Club Trophy.
Sept. 19.—Bury and District M.C. Run to Blackpool.
Sept. 19.—Loughborough and District M.C.C. Reliability Trial.
Sept. 20.—Edinburgh and District M.C. One Day Trial.
SEPT. 25.—WOLVERHAMPTON M.C.C. OPEN RELIABILITY TRIAL.

Loughborough and District M.C.C.

A reliability trial is to be held on the 19th inst, the chief award being a trophy presented by Messrs. W. and A. Bates, Ltd., of Leicester. Mr. K. S. Topping, hon. sec., 64, Frederick Street, Loughborough, would be glad to hear from any local motor cyclists who would act as marshalls or observers.

Coventry and Warwickshire M.C.

A hill-climb will be held at Stile Kop, near Rugeley, on Saturday next. Nearly one hundred entries have been received, including those of many well-known riders. The start will take place at 2.30 p.m.

Leeds and District M.C.

The results of the hill-climb held at Brogden Hill, Lindley, on August 29th, were as follow :

CLASS 1 (350 c.c. solo).—Cawthorne (Autoglider), 56⅘s.

CLASS 2 (600 c.c. solo).—Backhouse (Triumph), 50⅘s.

CLASS 3 (1,000 c.c. solo).—Cawthorne (Indian), 48⅘s.

CLASS 4 (600 c.c. sidecar).—Backhouse (Triumph), 1m.

CLASS 5 (1,000 c.c. sidecar).—Thornton (Ariel), 1m. 0⅘s.

CLASS 6 (cars).—Stanhope (Stanhope), 59⅘s.

Pembrokeshire A.C.

Although only recently formed, this club had a very satisfactory entry for its first meeting, which took the form of a hill-climb. Machines were timed over a threequarter mile stretch of road, known as Arnold's Hill, between Haverfordwest and Narbeth. The results were as follow :

MOTOR CYCLES OF 350 C.C. OR UNDER.—1, Miss D. Batte (2½ Cedos), 85.2s.; 2, N. V. Robinson (2½ Clyno), 105s.; 3, Miss B. Morris (2¾ Alldays), 90.4s.

MOTOR CYCLES OF 500 C.C. AND UNDER.—1, S. Green (3 A.B.C.), 50.2s.; 2, W. Ludwick (3½ Sunbeam), 50.2s.; 3, W. Roch James (3 Ivy-Precision), 61s.

E. Perkins also rode and passed the post in 47s. on his 3½ Triumph.

MOTOR CYCLES OF OVER 500 C.C.—1, S. Green (3 A.B.C.), 51.8s.; 2, W. Ludwick (3½ Sunbeam), 50.6s.; 3, G. T. Kelway (4 Triumph), 49s. Other competitors were: V. McKenzie (4 Triumph), 46s.; J. R. Thomas (4 Triumph), 56.4s.; E. Perkins (3½ Triumph), 46s.; H. Lewis (8 Zenith), 50.4s.; Capt. Wilson (8 Zenith), 47s.; Capt. Simpson (7-9 Indian), 46.2.

CUP, PRESENTED BY MESSRS GREEN'S MOTORS, LTD., FOR BEST PERFORMANCE OF CYCLES ON FORMULA.—S. Green.

CUP, PRESENTED BY SIR W H. WALTERS, FOR FASTEST TIME OF THE DAY (CYCLES).—McKenzie and Perkins tied with 46s. each, but in the ride off Perkins, whose machine was not doing well the first time, easily won, with 42s. against 46.4s.

MOTOR CYCLES AND SIDECARS (ANY CAPACITY).—1, R. T. Batte (3½ Sunbeam), 87.2s.; 2, King (6 Enfield), 71s.; 3, Capt. Cardew (10 Morgan), 81.6s.

A race meeting will be held on Pendine Sands in about two weeks' time. Full particulars may be obtained from the hon. secretary, Mr. W. L. S. Ludwick, 10, High Street, Haverfordwest.

Club News.—

Fleet and District M.C.C.

A hill-climb was successfully held at the end of August, and some good performances were made. Fastest time of the day was accomplished by M. Chawner, riding a 3½ h.p. Sunbeam. In the 550 c.c. class, S. Julian skidded, and, losing control of the machine, fell and sustained slight concussion; he is not seriously injured, however. The winners of the various classes are as follow :

275 c.c. (solo), W. Julian (2¼ Cedos); 350 c.c. (solo), A. Love (2¾ Douglas); 550 c.c. (solo), M. Chawner (3½ Sunbeam); 1,000 c.c. (solo), M. Chawner (3½ Sunbeam); sidecars (unlimited), W. Julian (4 Norton sc.)

Kidderminster and Redditch M.C.C.'s.

Organised by the Kidderminster M.C.C., a series of speed trials took place recently in the grounds of Lea Castle, Wolverley, Kidderminster, by kind permission of Mr. G. M. Brown-Westhead. Fine weather favoured the large entry. The following are the final results :

CLASS II. UP TO 350 C.C. ON TIME.—1, L. Hanks (2¾ Enfield), 26s.; 2, H. Morris (2¾ Viper), 29s.; 3, G. Carter (2¾ Viper), 32⅗s.

CLASS III. UP TO 600 C.C. ON TIME.—1, H. Poole (4¼ B.S.A.), 22s.; 2, N. E. Smith (3½ Norton), 22⅕s.; 3, C. Brown (4 Triumph), 23⅘s.

CLASS IV. SOLO (UNLIMITED) ON TIME.—1, N. E. Smith (3½ Norton), 22s.; 2, C. Brown (4 Triumph), 22⅘s.; 3, F. W. Giles (6 A.J.S.) and H. Poole (4 B.S.A.) 22⅘s.

CLASS V. SIDECARS ON TIME UP TO 600 C.C.—1, C. Brown (4 Triumph), 26½s.; 2, — Gibbs (4 B.S.A.), 28½s.; 3, C. Rhodes (3½ Sunbeam), 31⅘s.

CLASS VI. SIDECARS (UNLIMITED) ON FORMULA.—1, F. W. Giles (6 A.J.S.), 27s.; 2, — Gibbs (4 B.S.A.), 28⅕s.; 3, C. Rhodes (3½ Sunbeam), 32s.

Fastest time of the day was made by N. E. Smith (3½ Norton), after he had previously tied with H. Poole (4¼ B.S.A.) in 22s., his new time being 21⅕s. The record for the course is still held by the Kidderminster club, the captain, Mr. J. E. Nickson, doing it in 19⅖s. in 1914.

Southport A.C.

Six thousand spectators were attracted to view the speed trials which took place over a one-mile course on the foreshore at Southport on August 28th. There were 139 entries, and the event was carried through expeditiously until a mist from the sea temporarily held up the running off of the car classes. The winners on time were as follow :

CLASS 1 (Scooters).—P. C. Hoyle (2¾ Autoglider), 5m. 28½s.

CLASS 2 (275 c.c. Solo).—W. Ball (2¼ New Hudson), 91½s.

CLASS 3 (300 c.c. Solo).—H. F. Brockbank (2½ Diamond), 80s.

CLASS 4 (350 c.c. Solo).—S. Marks (2¾ Douglas), 66⅘s.

CLASS 5 (500 c.c. Solo).—V. Horsman (3½ Norton), 57⅘s.

CLASS 6 (600 c.c. Solo).—V. Horsman (3½ Norton), 58⅘s.

CLASS 7 (750 c.c. Solo).—V. Horsman (3½ Norton), 58⅘s.

CLASS 8 (Unlimited Solo).—V. Horsman (3½ Norton), 56⅕s. (fastest time of day).

CLASS 9 (600 c.c. Sidecars).—G. E. Cowley, junr. (3½ Norton sc.), 75⅕s.

CLASS 10 (Sidecars Unlimited).—G. E. Cowley, junr. (3½ Norton sc.), 72s.

The Bristol Sports Club.

The Bristol Sports Club has arranged a one-day reliability run to take place on September 19th for the Club Challenge Vase and gold medals. A record entry is expected. Full particulars and entry forms may be obtained from Mr. Percy Gibbs, Bristol Sports Club, Eastville, Bristol.

Brighton and Hove M.C.C.

The newly-formed B.H.M.C.C. recently held an interesting and well attended run. The members were split up into two parties. The sporting fraternity ran out to Barcombe Mills, being timed over a measured distance, the prizewinner being H. Hampton (6 Zenith), C. Volk (3 A.B.C.) being second.

The second party ran out at an easy pace to Ditchling Common, where they were met by the first party, and some interesting competitions were run off.

The "bun-biting" competition was productive of much mirth; only one competitor (Mrs. Volk) was successful.

The secretary, Mr. W. Hawker, 54, Lorna Road, Hove, will be pleased to hear from any intending members.

The Liège-Paris-Liège Trial.

British Machines win the Majority of Classes in French Event.

THE results of the Liége-Paris-Liège trial have now been announced by the Royal Liège Motocycle Club. Marks were lost as follows : For being late at the controls of Dinant, Mezières, Rethel, Reims, Château-Thierry, Joinville, Meaux, Soissons, Rethel, Bouillon, Laroche, Liège, one mark a minute. Competitors arriving at a control after it had been closed lost sixty marks. So far as hill-climbs and speed trials were concerned one mark was deducted for every fraction of 500 metres below the set speed, while marks were also lost for failure to start from cold.

In the classification given below, competitors' names against which there is no loss of marks are those who did not take part in the speed trials or who arrived after the official closing of the Liège control.

Motor cycles up to 250 c.c.: 1, Debroog (James), 1 mark; 2, Nebel (Triumph), 7 marks.

Motor cycles up to 350 c.c.: 1, Feyen, jun. (Ivy); 2, Laguesse (Gillet), 1 mark; 3, Serneus (Gillet), 169 marks; 4, Reinartz (Gillet), 349 marks.

Motor cycles up to 500 c.c.: 1, Desterbecq (Rudge Multi); 2, Ferdy (Rudge, 2 marks; 3, Scorneaux (Rudge), 11 marks; 4, Dachaineux (Frera), 357 marks; 5, Lambrecht (Saroléa).

Motor cycles up to 750 c.c.: 1, Charley (Saroléa); 2, Dehaybe (Saroléa); 3, Melotte (Saroléa), 3 marks; 4, Dewandre (Saroléa), 10 marks; 5, Vierney (Harley-Davidson), 16 marks; 6, Pirard (Triumph), 17 marks; 7, Aimé (Saroléa), 23 marks; 8, Leclercq, Alphonse (Saroléa), 25 marks; 9, Leclercq, Arthur (Saroléa), 26 marks; 10, Thezera (Indian), 32 marks; 11, Brown (James), 44 marks; 12, Verlaine (Saroléa) 63 marks; 13, Polet (Saroléa), 72 marks; 14, Tilon (Saroléa), 73 marks; 15, Gilson (Indian), 104 marks; 16, Gerard (F.N.), 195 marks; 17, Halleux (F.N.), 200 mark; 18, Gina (F.N.), 241 marks; 19, Servais (Saroléa), 478 marks; 20, Thomas (Saroléa), 522 marks; 21, Olivier (Saroléa), 524 marks; 22, Bernard (Saroléa).

Charley and Dehaybe having both finished without loss of marks it was decided to take into account their consistency up hill and on the level in order to differentiate between them. Charley had a difference of 8 kil. 373 metres against 9 kil. 430 metres by Dehaybe.

Motor cycles up to 1,000 c.c.: 1, Porta (Harley-Davidson), 2, Biront (American X), 24 marks; 3, Duchateau (Harley-Davidson), 24 marks; 4, Erodue (American X), 315 marks; 5, Dewael (Harley-Davidson), 319 marks.

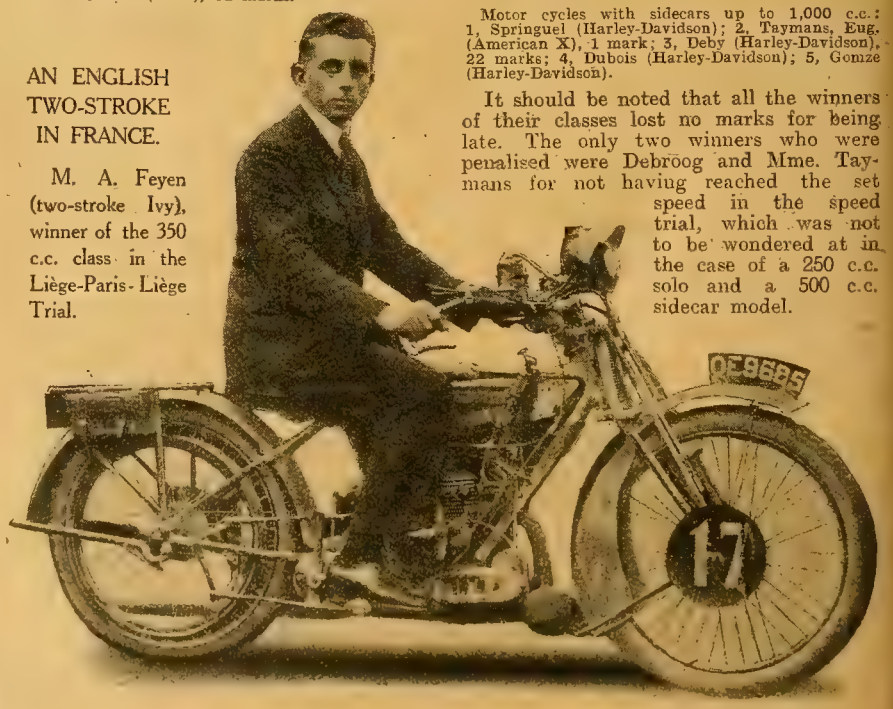
Motor cycles and sidecars up to 500 c.c.: 1, Mme. Taymans (Ariel), 32 marks.

Motor cycles and sidecars up to 750 c.c.: 1, Milhoux, J. (G.L.); 2, Claessens (Saroléa); 3, Taymans, J. (Triumph), 7 marks; 4, Hanley (F.N.), 34 marks.

Milhoux and Claessens were equal, but the differentiation was made between them according to their consistency up hill and on the level. Milhoux had 3 kil. 546 metres against 4 kil. 825 metres by Claessens.

Motor cycles with sidecars up to 1,000 c.c.: 1, Springuel (Harley-Davidson); 2, Taymans, Eug. (American X), 1 mark; 3, Deby (Harley-Davidson), 22 marks; 4, Dubois (Harley-Davidson); 5, Gomze (Harley-Davidson).

It should be noted that all the winners of their classes lost no marks for being late. The only two winners who were penalised were Debroog and Mme. Taymans for not having reached the set speed in the speed trial, which was not to be wondered at in the case of a 250 c.c. solo and a 500 c.c. sidecar model.



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M. A. Feyen (two-stroke Ivy), winner of the 350 c.c. class in the Liège-Paris-Liège Trial.

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ENTRIES—1 Combination Machine
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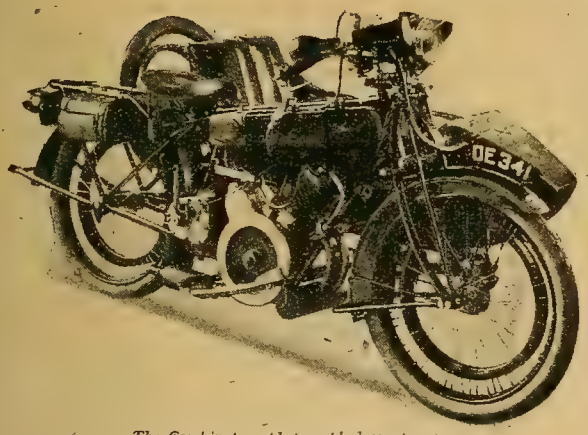

The Combination photographed on its return.

Also Special Award for best performance in Class G for Timed Hill Climb.

Note also the following points—

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The first public competition our riders have ever participated in.

The lowest powered combination machine to come through successfully.

The only two stroke combination in the trial.

The only survivor of its class.

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Black Rubber Combination Motorist's Suits, complete with sou'wester	25/- „	New Khaki Cycling Breeches, very best	15/6 pair
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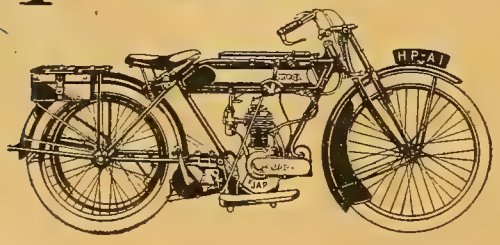

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You can buy much heavier sidecars, but you cannot buy one which will give you better service

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Three Entries—Three Awards

A consistent performance———as usual!

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BEST PERFORMANCE in Timed Hill Climb. Class H. sidecars between 500 c.c. and 750 c.c

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Parent Applied for Regd.

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Wishing you every success,
Yours faithfully,
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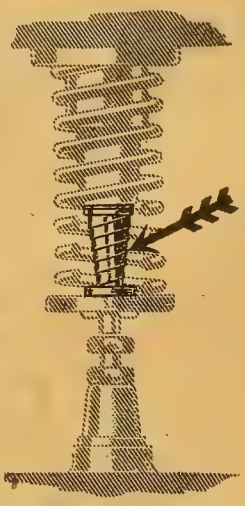

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Obtainable through Garages or direct from the Patentee & Sole Manufacturer;
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Why pay excessive Train or Tram Fares?
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Have your Push Bike Fitted with a

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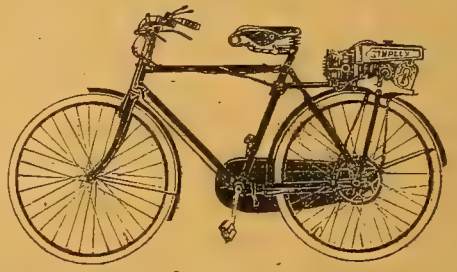

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Send postcard for particulars, and testimonials from riders after 200 to 2,000 miles' use.

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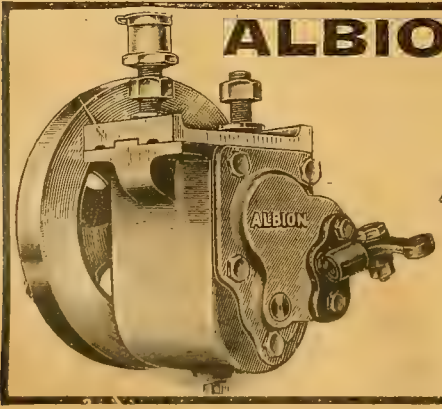

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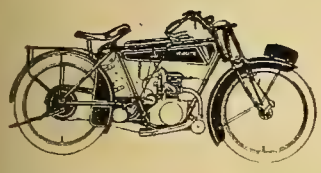

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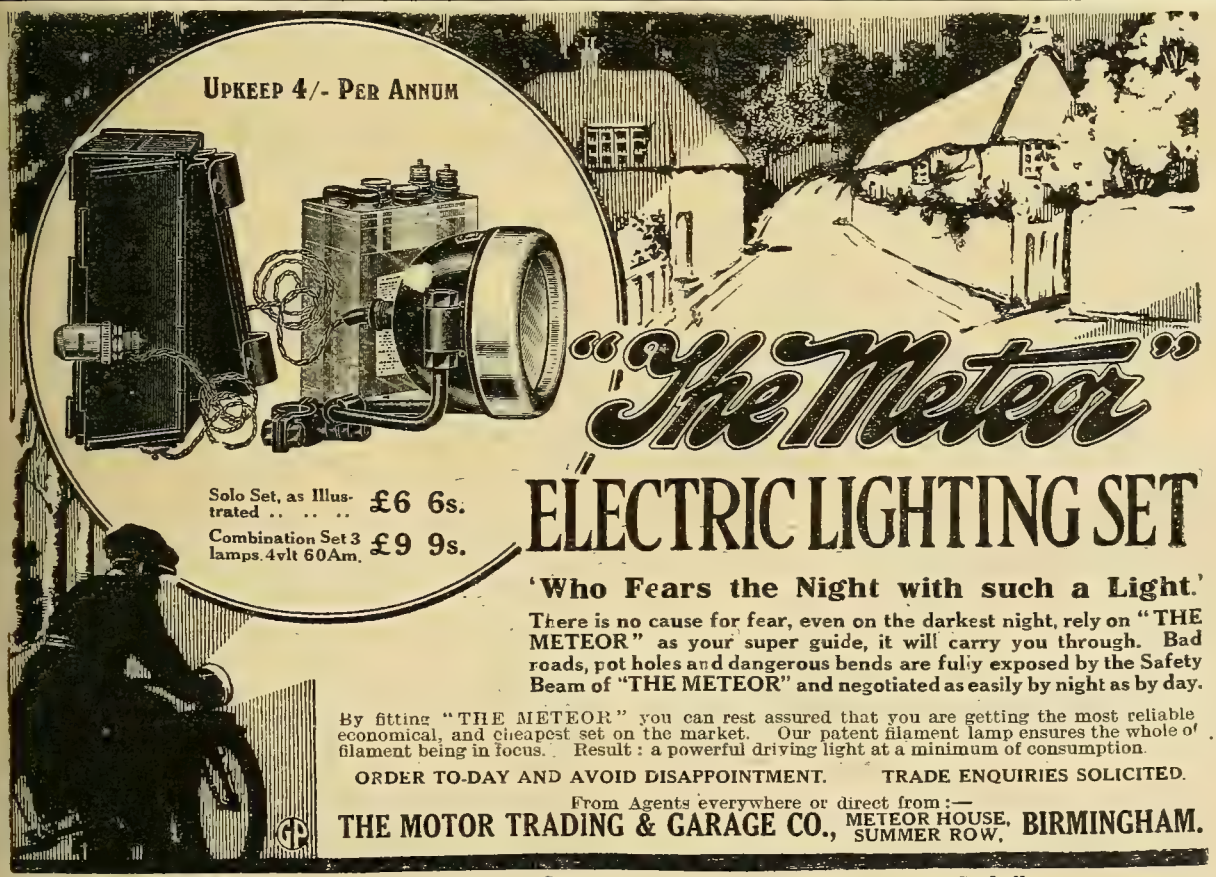

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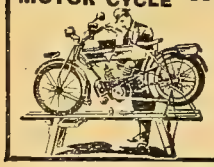

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Service Celluloid Motor Cycle Foot Pumps, 15in. long, XP154 .... **6/-**
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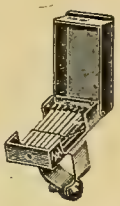

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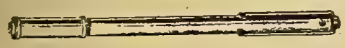

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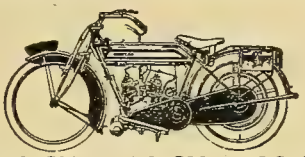

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In Tan, Unlined.
47/6
In Tan or Mole, lined smart check material,
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Seatless Trousers, **21/-**; Sou'-Wester, **6/6.**

State height and chest measurement.

Also stocked in Ladies' and Gents' full length coats. Colour Mole, lined smart check material,
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Ideal for walking and Sidecar use.

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ZENITH Gradua, twin, 1914, 3½ h.p. ... £75 0
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P. & M., W.D., 3½ h.p., 2-speed, clutch, and kick-starter, thoroughly overhauled and renovated £84 0
SUNBEAM Combination, black and gold, Lucas accessories, speedometer, windscreen, stored 4 years, 1914, 3½ h.p. £125 0
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BRAND New 3½h.p. Ariel Combination; £140, or nearest.—The Rectory, Cockhayne-Hatley, Potton, edfordshire. [7313

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ARIEL Combination, 1920, Lucas horn, lamps, wind screen, speedometer, spares; £150, cost £175.—eo. Taylor, 28, Lower Addiscombe Rd., East Croydon. [7544

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1920 Ariel Combination, delivered in June, condition as new, hand and foot clutch, large P. and H ad lamp, spares, complete tool kit, mileage about 200; owner going abroad; nearest offer to £145.—pply, Cox's Shipping Agency, 16, Charing Cross. [5086

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h.p. Arno, 3-speed clutch, new rings, rebushed, 2 new Clinchers, re-enamelled; £50.—Osmond, 110, ascoed St., Windsor. [6672

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BAT-J.A.P. 8h.p. C.B. Combination, engine 1916 N.S.U. 2-speed; £100, or nearest offer; mechanical inspection invited; must sell.—Lewis, 9, Stepney Rd., Burry Port, Carm. [6826

BAT-J.A.P. 6h.p. Twin, 3-speed, K.S., clutch, Bosch, just been rebushed, painted aluminium sidecar, all in good condition, privately owned; £125.—Seen at Bailey's Garage, Manor Rd., Wallington. [6514

NEW 1920 Bat Model No. 4, 6h.p., 3-speed, all-chain drive, immediate delivery from stock, £160; sidecar to match, £30.—Sole Birmingham agents, The Premier Motor Co., Aston Rd., Birmingham. [5548

BAT 8h.p. Combination, 3-speed countershaft all-chain driven, Southwell sidecar and wind screen, luggage grid, Stewart speedometer, lamps, etc., insurance paid until March; £120.—55, Clements Rd., East Ham, E.6. [6478

BRAND New 6h.p. Spring Frame Bat, 3-speed, countershaft gear, kick starter and clutch, all-chain drive model; £160, solo; or can be fitted with any make of sidecar to order.—Wauchope's, 9, Shoe Lane, London. [7726

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1920 6h.p. Bat Combination, extra large sidecar. Eastings wind screen, lady's tan saddle with back and footrests, finished in grey and nickel, a real smart turnout, delivered late in June; cost complete £216/10; only used for the holidays; will accept £190.—Woodward, South Av., Stourbridge. [X9880

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BEARDMORE-PRECISION 3h.p. 2-stroke, spring frame.—Longman, Fisherton, Salisbury. [6242

BEARDMORE Precision, ridden 20 miles, with horn, perfect condition, owner bought combination; £93.—Allport House, Cannock. [X0339

BEARDMORE-PRECISION, the perfect solo mount, deliveries from stock; £95.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [6779

Blackburne.

BLACKBURNE 4h.p., delivery from stock; £135.—Maudes' Motor Mart, 100, Paris St., Exeter. [6872

1920 4h.p. Blackburne, horn, lamps, Tan Sad, insurance, perfect; £125.—Carter, 23, Granville St., Aylesbury. [6840

WAUCHOPE'S, 9, Shoe Lane, London.—Blackburne 8h.p., £180; with Grindlay sidecar, £225; 4h.p. model solo, £135. [7747

8h.p. Blackburne Combination from stock; list price.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [6381

4h.p. Blackburn, 1920, Burman box, Bonniksen speedometer, Cowey horn, P. and H. lamp set, complete with tools, etc., done under 3,000 miles; £118.—Rootes, Maidstone. [6709

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BLACKBURNE Combination, 4h.p., 1920, absolutely faultless condition, 28×3 covers all wheels, completely fitted with lamps, etc.; £140.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [6782

1920 Blackburne 4h.p., 3 speeds, kick starter, all lamps, horn, tools, etc., with coach sidecar, delivered in June, as new; £155; easy payments or exchanges.—2, Nightingale Rd., Lower Clapton. [7575

BLACKBURNE 1920 4h.p. Combination or Solo and 8h.p. combination ready for immediate delivery.—The Layton Garages, London Rd., Bicester, and at 90, High St., Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0780

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BLUMFIELD 5-6h.p. Twin, Jardine 4-speed gear, Rambler coachbuilt sidecar, lamps and generator, Klaxon horn, 3in. tyres; £120, or nearest.—Slocombe, Photographer, Bridgwater, Somerset. [7273

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1920 6h.p. Bradbury and Henderson Elite Sidecar, with screen, slightly shop-soiled; list £205, accept £195.—J. Hebden and Son, 149, St. James St., Burnley. Tel.: 488. [7563

BRADBURY 4¼h.p. Combination, opposed horizontal twin, K.S., Bosch, 3-speed, hand clutch, lamps complete, recently overhauled; £115, or nearest.—Fennell, 79, Hyde St., Winchester. [6574

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3½h.p. Twin Brough, spring forks, good tyres, low, fast; £28, or offer.—Ashworth, Greens Mount, Stacksteads, Lancs. [7352

LATEST 1920 Brough, type G, brand new, 5-6h.p., 3-speed; £140; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [5549

LATE 1919 Brough, 5-6h.p., perfect condition, owner buying car; price £135, or nearest offer; Edinburgh.—Box 7,610, c/o *The Motor Cycle*. [6611

1917 Brough 3½h.p. Horizontal Twin, o.h.v., Sturmey-Archer countershaft, new Dunlops; £85; exchange lightweight.—39, Hungerhill Rd., Nottingham. [6450

LATEST Type G Brough, brand new, 5-6h.p., 3-speed, £140; semi-T.T. or standard handle-bars, Montgomery sidecar to match, £27.—Sole Midland agents, The Premier Motor Co., Aston Rd., Birmingham. [7754

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2¾h.p. Brown, T.B. mag., B. and B., W.S.R., Grado, new tyres, good condition; £30.—Wait, North End, Newbury. [6526

B.S.A.

B.S.A., 1912, 3½h.p., foot starter, clutch, fast; £35.—8, The Avenue, Eastbourne. [7219

BOLTON.—New B.S.A. twin and 4¼h.p. models in stock.—Grosvenor Garage, Bolton. [X0249

B.S.A. 1920 Model H., not done 100 miles; £110, or best offer.—33, Curzon Rd., Southport. [6673

B.S.A. 1913, clutch, lamps, horn, splendid condition; £45.—106, Chatham St., Walworth, S.E. [7541

B.S.A., 1916, Millford sidecar, perfect condition; £115.—Badger, 4, Colbeck Terrace, Tynemouth. [7447

B.S.A., 4½h.p., 1920, as new, accessories, spares, £105; sidecar, £10.—43, Bowerdean St., Fulham. [7306

B.S.A. Combinations from stock at list prices.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [1095

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B.S.A. Combination, late 1919, sidecar recently fitted, handsome outfit; £140.—Bunting, Motor Exchange, Wealdstone. [7648

B.S.A. 4¼h.p. Combination, late 1914, not used during war, perfect condition; 90 gns.—16, Low Hall Lane, Walthamstow. [6920

B.S.A., 4¼h.p., C.B. sidecar, 2-speed kick start, Bosch, lamps, screen, running order; £78, evenings.—7, Moyers Rd., Leyton, E. [6986

1915 Countershaft B.S.A. 4¼h.p. Combination, 1920 sidecar and cylinder, both done less than 500 miles; £95.—Cox, Lodsworth, Sussex. [6643

B.S.A. 3½h.p., 3-speed, 1914, speedometer, complete accessories and spares, splendid condition, done only 6,000; £90.—93, East St., Epsom. [7098

1919 B.S.A. Combination, K, splendid condition, speedometer, Cameo screen, lamps; 115 gns., close offer.—11, Rockhall Rd., Cricklewood. [6975

1919 B.S.A. 4¼h.p. K Model, low mileage, perfect condition; £95, including plenty of spares; no offers.—Perry, 22, Western Rd., Brighton. [7407

B.S.A. Late 1916 All-chain Model, Canoelet sidecar, insurance, 3 lamps, horn, excellent condition; £110.—Jesty, 23, The Green, Calne, Wilts. [6524

B.S.A., 1919, June, all-chain, Montgomery tandem sidecar, fully equipped, excellent condition; £130.—Cook, Poplars, Penn, Wolverhampton. [7261

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B.S.A. 4¼h.p., 3-speed, K.S., and nearly new C.B. sidecar, new tyres, lamps, Klaxon, excellent condition, like new; £100.—Hudson, Water St., Stamford. [6605

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B.S.A.—£100, with 1920 sidecar, chain-cum-belt model.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [5453

6-7h.p. B.S.A., just delivered, unscratched, full guarantee, Lucas lamps, electric horn; bought car; best offer over £145.—Wales, Ltd., Lozells St., Birmingham. [6770

1920 B.S.A. Combination, K model, Easting screen, speedometer, lamps, Klaxon, tools, etc.; bargain turnout, £160.—Underwood, 110, Fleet St., E.C.4. [6884

B.S.A. 1914 4¼h.p., countershaft, kick, speedometer, Klaxon, coachbuilt sidecar, tyres good, 2 almost new; £95; bargain.—20, Fordhook Av., Ealing. [7143

B.S.A. 4¼h.p., 1920, brand new, model H, chain drive, just delivered, fitted with B.S.A. No. 2 sidecar; £152.—Eagles and Co., 275, High St., Acton, London. [X0682

B.S.A. Late 1916 Combination, C.B. Speedwell S.C., countershaft, 3-speed, all-chain, clutch and K.S., like new; nearest offer £115.—Box 7,644, c/o *The Motor Cycle*. [6956

1920 B.S.A., Model H, magdyno, solo; also Model H standard combination or solo, new, in stock; list price.—Edwards and Co., 50, Harrington Rd., South Kensington. [7657

B.S.A. 1919 4¼h.p., 3-speed clutch, K.S., splendid condition, equipped; 90 gns.; exchange C.S. Triumph or Douglas or similar.—12, Cornwall Mews, Gloucester Rd., S.W.7. [7698

B.S.A. 1914 Combination, 4¼h.p., K.S., electric lights, wind screen, speedometer, overhauled last week, all spares; any trial; £85.—Noble, Nelson House, Station Rd., Aldershot. [6774

B.S.A. 4¼h.p., late 1916, 3-speed gear box, Bonnick seen, pillion, lamps, spares, large Mills-Fulford sidecar, underslung, seats child of 8, perfect; £115.—278, Narrow Lane, Coventry. [X0582

1920 B.S.A. 4¼h.p. Combination, chain driven, Model K, Dunlop, Lucas lamps, horn, Easting wind screen, spare tyre, tubes, etc.; £130.—Haywood, 46, Hinckley Rd., Leicester. [6559

B.S.A. 1920 Model H and the New Twin 6h.p. Model for immediate delivery from stock.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0782

B.S.A. 4¼h.p., 1917, model H, chain drive, 3 speeds, kick starter, as new, fitted with brand new 1920 Millford Skiff sidecar; £117/15, or separately.—Eagles and Co., 275, High St., Acton, London. [X0683

1919 4¼h.p. B.S.A. and luxurious sidecar, bulbous back, triple electric lighting set, fully equipped with all accessories, enamel and plating like new; £140.—Davies, 9, Park Rd., Enfield Wash. [7380

NEW 1920 4¼h.p. B.S.A. Combination, fitted with B.S.A. No. 2 sidecar, brand new combination, all chain drive model; £152; immediate delivery from stock.—Wauchope's, 9, Shoe Lane, Fleet St., London. [7234

B.S.A. 3½h.p. Combination, Chater frame, Grado gear, Bosch, B.B., wicker car with child's seat, lamps, tools, etc.; £65, or nearest; seen after 5 o'clock.—Manning, 34, Norfolk Rd., Ponders End, Middlesex. [6581

OWNER Going Abroad, must sell for best offer newly overhauled 1915 B.S.A., 4¼h.p., all-chain, Cowey lamps, mechanical horn, spares, tools.—101, Shaftesbury Rd., Ravenscourt Park, District Station, London. [6751

B.S.A. Combination, excellent condition, 2-speed clutch, K.S., all-chain, handsome sidecar, nearly new Dunlops, lamps, horn, wind screen; bargain, £85.—40, Sherndale Rd., Brook Green, Hammersmith, W. [6587

B.S.A. 4¼h.p. Combination, 3-speed countershaft K.S., underslung C.B. sidecar, perfect running condition, lamps, tyres, plating and enamel as new; £110, after 6 p.m.—126, Upton Park Rd., Forest Gate, E.7. [7470

1920 (March) 4¼h.p. B.S.A. Combination, Model H, all-chain drive, 3-speed, condition as new, small mileage, carefully driven, fully insured; £140.—Bompas, 6, The Exchange, Palmers Green, N.13. [7149

B.S.A. 1919 Combination, in perfect condition, speedometer, lamps, spare petrol can, Easting screen, etc.; any examination; privately owned.—Apply in first instance, Molesey Motors, Bridge Rd., East Molesey. [6489

4¼h.p. B.S.A. 1915 and Montgomery Sidecar, accessories, tools, lamps, horn, luggage grid, spare tube, driving suit, all good condition; £120, or near offer.—8, Christchurch Villas, Cheltenham. [6445

MOTOR CYCLES FOR SALE.

Diamond.

DIAMOND-J.A.P., Enfield 2-speed, Tan-Sad, lamps, etc., 1920, nearly new; cost £90, will sacrifice, offers.—Duff, 10, Manor St., Bolton. [7484

LATEST 1920 Diamond 2¾h.p., 2-stroke, brand new, immediate delivery; £62.—The Premier Motor Co., Aston Rd., Birmingham. [5550

IMMEDIATE Delivery 2¾h.p. Diamond-Jap, Sturmey-Archer 2-speed, kick starter, £90/6; also 2-stroke model, £62/3.—Jones' Garage (Lichfield), Ltd., Lichfield. [6566

DIAMOND 2-stroke, very latest model, 2-speed, clutch, kick start, mileage 500, perfect; trial against full deposit; £80, or best offer.—11, Lyndhurst St., Burslem, Staffs. [7374

Douglas.

DOUGLAS.

INSTANT Delivery.

ALL Latest Models.

4h.p. Combination, £170; solo, £130; 2¾h p., £100; clutch model, £105.

DEMONSTRATION Run and Every Facility for Examination; advice offered by Douglas specialists.—Lakeman, 26, Long Acre, London, W.C.2. [0268

THE Great Douglas Agent, J. W. Gourlay, Followfield, Manchester. [6947

DOUGLAS 1920.—All models actually in stock.—Herbert Robinson, Ltd., below.

DOUGLAS 1920 4h.p., 3-speed, with latest type sidecar, finished in saxe blue; £170; in stock.—Herbert Robinson, Ltd. (below).

DOUGLAS 1920 4h.p., new, with 3-speed, kick start, solo; £130; in stock.—Herbert Robinson, Ltd (Below).

DOUGLAS 1920 2¾h.p., 3-speed, with hand-controlled clutch and kick starter, improved frame, forks, and tank; £105; in stock.—Herbert Robinson, Ltd. (below).

DOUGLAS 1920 2¾h.p., with improved frame, forks, and tank, less clutch and kick starter; £100; all the above actually in stock; can be despatched immediately. Second-hand Douglas, Triumph, and Sunbeam motor cycles entertained in part payment.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [6963

£35; Douglas, 2-speed, lamp, horn, seen evenings.—24, The Park, Mitcham. [7339

NEW 1920 2¾h.p. 3-speed Douglas; £100.—Bounds Garage, 223, High Rd., Kilburn. [6652

1912 Douglas, good condition, ready for road; £27.—Bridge House, Crayford, Kent. [7433

1917 2¾h.p. Douglas, perfect; first cheque over £60.—26, Knotts Lane, Colne, Lancs. [X0641

DOUGLAS 2¾h.p., good running order, 2-speed; £55.—13, Elm Park Gardens, N. Acton. [6472

DOUGLAS 2¾h.p., 2-speed, in good condition; £45.—Alpha Works, Northfield, Birmingham. [6667

NEW 1920 4h.p. Douglas Combination; £170.—Bounds Garage, 223, High Rd., Kilburn. [6653

DOUGLAS, 1915, £46; 1916, £55, like new; both guaranteed.—Ford, Watchmaker, Redhill. [7134

DOUGLAS 2¾h.p., 2-speed, 1919, very fast; 70 gns.—Frank Lucking, 28, Church St., Rugby. [7377

DOUGLAS 2¾h.p., 2-speed, fast, excellent condition; £50.—205, Isledon Rd., Finsbury Park, N.4. [6862

2¾h.p. Douglas, 1916, 2-speed, perfect order; £55.—20, Thornton Av., Streatham Hill, London. [6759

BRIGHTON, Hove and district Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

1918 4h.p. Douglas Combination, only wants seeing; £100, or nearest.—Evans, High St., Beaconsfield. [6488

DOUGLAS W.D. Model, 2-speed, late type; £38.—Speechley, 1, Gunnersbury Lane, Acton, W.3. [6850

1920 Douglas Combination, fully equipped, condition as new, any trial; £145.—9, Melville Rd., Barnes. [7664

DOUGLAS 2¾h.p., 1914, Bosch, condition, order, perfect, equipped; £44.—14, Effra Parade, Brixton [7676

IN Stock, all 1920 Douglas models; trade supplied.—Moffat, Town Hall Garage, Yeovil. 'Phone: 50.—[7559

DOUGLAS, 1914, 2-speed, completely overhauled, tank re-enamelled; £45.—183, Castle St., Luton. [6749

1919 Douglas 2¾h.p., excellent condition; what offers?—King Edward Garage, Church End, Finchley. [6766

DOUGLAS 2¾h.p., 1916, P. and H. lamps, smart, perfect condition; £65.—56, Ormeley Rd., Balham. [6984

DOUGLAS 2¾h.p., 2-speed gear box, just overhauled, fine condition; £45.—Norman, Walton St., Long Eaton. [6542

Indian

MOTOR CYCLES

1920 INDIAN POWERPLUS, electrically equipped:

Combination	£223 14
Solo	£181 14
Indian Scout	£140 0

NEW 1920 MODELS.

NEW IMPERIAL 8 h.p. Combination, 3-speed, kick-start, all-chain drive	173 gns.
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HUMBER, 4½ h.p., flat twin, 3-speed, kick-start, all-chain drive, Grindlay de Luxe Sidecar	£179 10
ARIEL 3½ h.p. Combination .	£154 0
COVENTRY ACME - J.A.P. 8 h.p. Combination, detachable and spare wheel	£213 15
SCOTT 3½ h.p. twin 2-stroke Combination	£185 0
QUADRANT Combination ...	£145 0
INDIAN Powerplus Combination, electrically equipped .	£223 14
INDIAN Powerplus, solo	£181 14
INDIAN Scout	£140 0
ROYAL RUBY, 3 h.p., spring frame	£109 14
CLYNO, lightweight, 2-speed .	£75 0
CALTHORPE-J.A.P., 2-speed.	£74 11
CALTHORPE, 2-stroke, 2-speed.	£71 8
HOBART-J.A.P., 2-speed, kick-start	£90 0
CONNAUGHT, 2-stroke, Sturmey 2-speed, kick-start	£80 0
CONNAUGHT, 2-stroke, single-gear	£68 10
ALLDAYS - ALLON, 2-speed, kick-start	£85 0
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IVY, all purpose, 2-speed	£75 0

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Douglas.

OFFERS wanted, Douglas 1912, 1915, 1917, guaranteed.—Frederick, 3, Priory Plain, Gt. Yarmouth. [7351

2¾h.p. Douglas, 2-speed, 1913, Bosch, Amac, in perfect condition; £43.—18, Ranelagh Av., Barnes, London. [6989

DOUGLAS 2¾h.p., lamps, accessories, speedometer, perfect condition, trial anywhere.—364, Old Kent Rd., S.E. [7279

DOUGLAS, 1920 2¾h.p., as new, lamps, horn, etc., 600 miles; £95. — 52, Conway Rd., Leicester. [7426

DOUGLAS, 2¾h.p., 2-speed, clutch; £105; in stock —Clark, 7, Exhibition Rd., South Kensington Ken. 4096. [7238

DOUGLAS 1914 2¾h.p., makers' colours, excellent condition, fast; price £55, or near offer.—22, High St., Romford. [6504

DOUGLAS 2¾h.p. W.D. Model, purchased new Aug., 1919, mileage under 1,000; £55.—Virgo, 156, High St., Hounslow. [7514

1916 2¾h.p. Douglas, overhauled, perfect throughout, makers' colours; £55.—72, Longridge Rd., Earl's Court, S.W. [7343

IF you require a fast and really dependable Douglas, write to me. I supply under guarantee.—Robert Bamford (see below).

ROBERT BAMFORD.—I generally own, and always know of the best 2¾h.p. Douglasses in London. Every machine specially selected and tested. See under Consulting Engineers. [2127

IMMEDIATE Delivery 1920 Douglas models; all spare parts stocked.—Moffat, Town Hall Garage, Yeovil. 'Phone: 50. [7560

DOUGLAS 4h.p., 1918 (late), overhauled, replated, and enamelled, in all respects good as new; £75.—Dowell, Byfleet, Surrey. [6833

1920 4h.p. Douglas Combination, P. and H. lamps, Stewart horn; £155, or nearest.—Wright, Lion Hotel, Uttoxeter, Staffs. [7247

2¾h.p. Douglas, 2-speed, rebuilt model, perfect order, replated and enamelled; £55.—Ash Lodge, Junction Rd., Brentwood. [7156

DOUGLAS 2¾h.p., new Aug., 1919, fully equipped; a bargain, £75, no offers.—76, Palmerston Crescent, Palmer's Green, N.13. [6538

DOUGLAS Combination, 1918, equipped, Douglas sidecar (not W.D.), mechanically perfect; £85.—14, Effra Parade, Brixton. [7675

2¾h.p. Douglas, Bosch, Amac, fitted new crankshaft and flywheel; £28/10; ride away.—Platts, 602, King's Rd., Fulham, S.W.6. [6971

DOUGLAS 1915 2¾h.p., makers' colours, excellent condition, fast machine; 50 gns.—30, Crystal Palace Park Rd., Sydenham. [7086

DOUGLAS 2¾h.p., 1917, thoroughly overhauled, fitted new controls, etc., perfect order throughout; £45.—Dowell, Byfleet, Surrey. [6832

DOUGLAS 4h.p. 3-speed, clutch and kick start, late model, perfect condition, ride away; £68.—1, Larkhill Rise, Clapham, S.W. [6979

DOUGLAS 4h.p., nearly new, with Henderson light car, first-class outfit; £135, or nearest offer.—Hammond's Garage, Cricklade. [X0592

DOUGLAS 2¾h.p., 1917, excellent condition, appearance as new, accessories; £59.—64, Framfield Rd., Hanwell, London, W. [7161

DOUGLAS 2¾h.p., 1916, lamps, horn, tools, spare chain, valve, etc., excellent throughout; £60.—271, Camberwell New Rd., S.E.5. [7511

DOUGLAS Combination, 1918, unused (not W.D.), Douglas sidecar, fully equipped, condition perfect; £95.—14, Effra Parade, Brixton. [7674

FOR Sale, 1919 4h.p. Douglas combination, electric lamps, Easting, undershield, full accessories; £140.—Leech, Pownall St., Macclesfield. [7368

1919 4h.p. Douglas Combination, 3 lamps, Klaxon, tools, accessories; £130; death cause of sale.—L., 29, Lea Bridge Rd., Clapton, E.5. [6598

DOUGLAS 1915 2¾h.p., 2-speed, P. and H. lamps, tools, spares, running order; 56 gns.—121, Chetwynd Rd., Highgate, London, N.W.5. [6932

1918 4h.p. Douglas, overhauled, enamelled, plated, undershield, semi-T.T. bars, splendid condition; £95.—Lynn, 37, Radcliffe Rd., Hitchin. [6835

4h.p. Douglas Combination, 3-speed, royal blue, sidecar new condition, going abroad; 95 gns., complete.—Adams, 120, Sutherland Rd., Croydon. [7164

DOUGLAS, 2¾h.p., 1915, makers' colours, first-class condition, tyres as new, horn, lamps, etc.; sacrifice, £67.—8, Westboro' Rd., Westcliff. [7192

DOUGLAS, Oct., 1919, 2¾h.p., perfect condition, lamps, horn, tools, long exhaust, good tyres, belt; £70.—Angier, Avenue Elmers, Surbiton. [7149

IMMEDIATE delivery 4h.p. Douglas and sidecar, £170; 2¾h.p. models in stock, £105.—Colmore Depots, 31, Colmore Row, Birmingham. [X0614

MOTOR CYCLES FOR SALE.

Douglas.

1919 Douglas 4h.p. Combination, engine No. 7433, complete outfit, speedometer, lamps, hood, screen; £125.—Virgo, 156, High St., Hounslow. [7513

1920 Douglas, 2¾h.p., lamps, Cowey horn, spare oversize cover, all accessories, low mileage; £90.—Bullock, 38, Frederica Rd., Bournemouth. [7725

DOUGLAS 4h.p. Coach Combination, splendid running order, lamps, accessories; cash wanted; £85.—103a, High St., Wandsworth, S.W.18. [7689

DOUGLAS Combination, 3-speed, kick starter, in excellent condition, any trial with 3 up; first cheque £88.—272, Green St., Forest Gate. [4127

2¾h.p. Douglas, 1916, 2-speed, thoroughly overhauled, re-enamelled, new tyres, belt, equal new; £57.—89, Oak Lane, Bradford. Tel.: 2190. [7508

1915 Douglas, re-enamelled, replated, thoroughly overhauled, in beautiful order and very quiet; £70.—G. P. Bailey, 73, Gt. Portland St., W.1. [5567

LATE 1914 4h.p. Douglas, thoroughly overhauled, in very good running condition, lamps, horn; £90.—Pollit, Rusby Beck, Binley-in-Wharfedale, Leeds. [2727

DOUGLAS 1920 4h.p. Combinations, 2¾h.p., 3-speed models, with clutch; 2¾h.p. 3-speed, less clutch; list prices.—Longman, Fisherton, Salisbury. [6238

1920 Douglas 4h.p. and Sidecar, £170; 2¾h.p., 3-speed, clutch model, £105; at once, no waiting.—Colmore Depots, 31, Colmore Row, Birmingham. [6966

DOUGLAS, 2 speeds, perfect order, tyres as new, 1920 Amac carburetter, lamps, horn, tools; £60, or offer.—Preston, 38, Durban Rd., Beckenham, Kent. [6838

DOUGLAS 1915 2¾h.p., 2-speed, excellent running order, lamps, tools, policy; seen any time; any trial; £60.—Hutton, 163, Parish Lane, Penge, S.E.20 [6683

DOUGLAS 1919 4h.p. Combination, 3-speed clutch, kick starter, not W.D., accessories, excellent condition; £105.—Carfax Motors, Ltd., Cobham, Surrey. [7063

DOUGLAS 1918 4h.p. 3-speed Combination, lamps, hood, wind screen, spare wheel, tools, like new; any trial; £120.—Sibley, 106, Market Place, Romford. [7088

4h.p. Douglas Combination, about 1917, electric lights, Easting wind screen, all tools, condition as new; sacrifice £95.—198, King St., Hammersmith. [7609

1915 Douglas, 2¾h.p., P. and H. lamps, horn, Tan-Sad, excellent condition; what offers?—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [7244

DOUGLAS 2¾h.p., semi-T.T., lamps, horn, tools, knee grips, unscratched, low mileage; £95, or near offer.—Smith-Owen, 29, Broad St., Newtown. [7335

DOUGLAS, 4h.p., 1917, C.B. sidecar, lamps, horn, grid screen, nearly new tyres, new spare belt and chain; £105.—Killarney, Cecil Rd., Sutton, Surrey. [7302

DOUGLAS 2¾h.p., 1916 T.T. (not W.D.), 2-speed, discs, lighting equipment, horn, fully insured, smart and fast machine; £55.—5, Norwich Rd., Ipswich. [7331

DOUGLAS 2¾h.p., 1920, 3-speed, without clutch, guaranteed unscratched and as new, approval with pleasure; £95.—Gibb, Douglas Expert, Gloucester. [6340

1918 Douglas 4h.p. Combination, 3 speeds, clutch, starter, lighting set, etc., appearance as new; sacrifice £97.—769, Romford Rd., Manor Park, London, E. [5785

2¾h.p. Douglas, in first-class condition, climb anything, original Douglas colours, lamps, and horn; £30.—William Drummond, Blockridge, West Lothian. [X0665

DOUGLAS 2¾h.p., W.D., delivered 1919, good condition; sold to anyone in perfect running order, £60 cash, or what offers.—Rowland Wilson, Gorefield, Wisbech. [6649

LATE 1919 2¾h.p. Douglas, as new, mileage under 500, C.A.V., mag., spares, and lamps; £75, owner bought car.—198, Wellingborough Rd., Rushden, Northants. [6645

DOUGLAS 2¾h.p., 2-speed, plating as new, long polished copper exhaust, lamp, horn, good tyres, fast, excellent machine; £60.—38, Gratton Rd., West Kensington. [7099

DOUGLAS Combination, late 1919, as new, mileage 1,900, guaranteed perfect, any trial, £40 worth spares and accessories; £140.—44, Park Rd., Hockley, Birmingham. [X0712

DOUGLAS 1915 4h.p. Combination, 3-speed, kick start, splendid condition, recently overhauled, lamps, accessories, spares; any trial; £100.—82, Mersey Rd., Widnes. [6829

DOUGLAS 2¾h.p., 1912, Bosch mag., been stored away during war, fast and perfect; £25; write for appointment.—Nightingale, 181, Manor St., Clapham, London, S.W.4. [6800

1919 4h.p. Douglas Combination, 3 lamps and generator, speedometer, horn, wind screen, beautiful condition; £150, or near offer.—W. J. Bladder, Sidbury, Worcester. [X0674

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NEW MACHINES IN STOCK.

HARLEY-DAVIDSON, 7-9 h.p., electric	£199	10
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CALTHORPE, 2-stroke	£74	19 6
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ARIEL, solo	£120	0
NEW HUDSON	£75	0
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ROVER, 3½ h.p., T.T., 3-speed	£149	10
JAMES Combination, 4½ h.p.	£170	0
JAMES, 2¼ h.p., 2-speed	£75	0
BLACKBURNE and Sidecar, 4 h.p.	£165	0
DIAMOND-J.A.P., 2⅞ h.p.	£84	3
DIAMOND, single-speed, 2½ h.p.	£63	5
O.K. JUNIORS, single speed	£50	8
O.K., 2-speed	£65	0
CLYNO, 2½ h.p.	£75	0
SCOTT, 3½ h.p.	£140	0
MATCHLESS, dynamo	£230	0
A.B.C., solo	£150	0
B.S.A., 6-7 h.p.	£150	0
B.S.A. 4½ h.p. all-chain Combination	£152	10
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NEARLY NEW.

1919	**DOUGLAS** 4 h.p. Combination (late), and accessories	£147	10
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1920	**TRIUMPH** and Sidecar, and access.	£185	0
1920	**COULSON,** 2¾ h.p., and accessories.	£85	0
1920	**COULSON** 4 h.p. Combination	£130	0
1919	**HARLEY-DAVIDSON** and bulbous H.-D. Sidecar	£160	0
1919	**ENFIELD,** lightweight	£65	0
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1919	**JAMES,** 2¼ h.p.	£63	0
1920	**ROVER** 5-6 h.p. Combination	£210	0
1920	**WOOLER,** 2¾ h.p.	£120	0
1920	**N.U.T.,** solo	£185	0
1920	**COVENTRY-EAGLE**	£85	0
1920	**P. & M.** Combination	£135	0
1920	**QUADRANT**	£135	0
1919	**RUDGE,** I.O.M., sporting Canoelet Sidecar, and accessories	£120	0
1920	**DOUGLAS,** 2¾ h.p.	£97	10
1919	W.D. **HARLEY-DAVIDSON**	£110	0
	W.D. **DOUGLAS**	£65	0

SECOND-HAND.

1916	**ENFIELD** Combination	£135	0
1916	**ENFIELD** Combination, 6 h.p.	£160	0
1917	**ENFIELD,** 6 h.p.	£140	0
1916	**ENFIELD,** dynamo lighting	£150	0
1915	**ENFIELD,** dynamo lighting	£140	0
1916	**HARLEY-DAVIDSON** and H.D. Sidecar	£140	0
1917	**LEVIS**	£47	10
1914	**NEW IMPERIAL,** 2-speed	£47	10
1915	**HARLEY-DAVIDSON** and sporting Sidecar	£120	0

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'Phone: Walthamstow 169.

'Grams: "Cyclotomo, Phone, London."

50, HIGH RD., WOOD GREEN, N.22.

'Phone: Hornsey 1956.

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MOTOR CYCLES FOR SALE.

Douglas.

1915-16 2¾h.p. Douglases, renovated, new C.A.V. mags., new belt, snips; only a few left; £50 each; carriage extra.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [7634

DOUGLAS 1915 2¾h.p., new 3-speed gear box, splendid condition, enamelling and plating unscratched; £62/10.—Hewin's Garages, Ltd., the Real Service Firm, Totnes. [6786

DOUGLAS 2¾h.p., 1914, 2-speed, recently overhauled, new tyres, tube, pistons, connecting rods, lamps, tools; £55, or near offer.—W. Attlesey, Southery, Downham Market, Norfolk. [5191

DOUGLAS Combination, May, 1920, done 1,500, P.H. lamps, Lucas horn, spare tube, valve, plug, tools; £150.—Shew, Wynnstay, Alexander Rd., Southbourne, Bournemouth. [6738

DOUGLAS 2¾h.p. new May, completely equipped throughout, perfect running order, unscratched; bargain, £75; seen by appointment.—Cooke, 33, Kirkstall Rd., Streatham Hill. [6982

2¾h.p. Douglas, 2 speeds, 1916-17, large saddle, footboards, lamps, mechanical horn, tools, etc., perfect, not run 300 miles; £70, or offer.—Hall, Old Mill, Monxton, Andover, Hants. [7105

1919 (Sept.) 4h.p. Douglas Combination, latest clutch, undershield, Easting screen, speedometer, Cowey horn, lamps, 2 spare tyres, Tan-Sad, all perfect; £135.—Broomhall, Eynsford, Kent. [6593

DOUGLAS Spares: 4h.p. and 2¾h.p. connecting rods, 15/-; mag. wheels, 7/6; crankshaft, £1; 2¾ sprocket wheels, 6/-; all clutch spares, back wheel, etc.—14, Effra Parade, Brixton. [7677

JULY, 1919, Douglas Combination, H.A.H. electric lighting, speedometer, Easting, well fitted out with spares, unused spare tyre, etc.; £130.—Nield, 275, Stockport Rd., Cheadle Heath, Stockport. [X0585

DOUGLAS 1916 2-speed, free, lamps, new spare belt, etc., tyres, plating and enamel all as new; 60 gns. for quick sale.—10, Windermere Villas, Tottenham Lane, Hornsey. 'Phone: 2145. [7206

DOUGLAS 2¾h.p., late 1917, 3-speed clutch, kick starter, 1920 cylinders, pistons, blue discs, new chain, tyres good; price £80; first-class order throughout.—Norton, Wall Heath, near Dudley. [X0700

DOUGLAS Combination, 1919, enamel and plating as new, copper-plated cylinders, disc wheels plated, lamps and horn, smartest Doug. on the road; £120.—272, Green St., Forest Gate. [4126

1920 Douglas Combination, done less than 400 miles, horn, spare chain, belt, valve, etc.; £150, or best offer; seen any time by appointment.—Watson, Glebe House, Whitton Rd., Twickenham. [7153

DOUGLAS 1915 3½h.p. Motor Cycle Combination, recently overhauled, new Senspray carburetter, good tyres, coachbuilt sidecar, just painted; seen by appointment; price £110.—Swift, Ledbury. [6525

2¾h.p. 1918 W.D. Douglas, recently overhauled, appearance as new, very fast machine; sole reason for selling, owner returning to college; £65, or offer.—Breach, Motor Cycle and Light Car Agency, Sidmouth. [6635

DOUGLAS 1920 4h.p., Saxe blue, combination, equipped as new, 145 gns.; ditto, 4h.p. 1917 combination, £95; Douglas 2¾h.p., 3-speed, Colonial model, 75 gns.—12, Cornwall Mews, Gloucester Rd., S.W.7. [7701

IT Appears Ridiculous to Advertise when you have no stock, but we are giving deliveries to the early birds. Place your order at once if you want delivery.—Eli Clark, Douglas Agent, 196, Cheltenham Rd., Bristol. [0016

MAUDES' Overhauled W.D. 2¾h.p. 1916 Model Douglas, tanks re-enamelled, new tyres, belt, mag., etc., absolutely like new; £60; trade supplied.—Maudes', 100, Gt. Portland St., London, W.1., and Paris St., Exeter. [7624

1919 4h.p. Douglas Combination, completely equipped, 3 lamps, Smith's trip speedometer, mechanical horn, tools, spares, belt, and clutch, lately overhauled; £160.—Jacques, Orlingbury Hall, Wellingborough. [6445

1920 Douglas 4h.p. Combination, lamps, horn, speedometer, Orto hood, side curtains, wind screen, Tan-Sad seat, back, footrest, owner leaving England; £150, or near offer.—A. J. Curgenven, I.C.S., St. Claire, Lingfield, Surrey. [6592

DOUGLAS, 4h.p., and coachbuilt sidecar, 1916, 2 speeds, free engine, clutch, good order, and guaranteed throughout, with accessories; trial any time; bargain, £80, offers.—Owner, 77, Salmon Lane, York Rd., Stepney Station. [7216

WAUCHOPE'S, 9, Shoe Lane, London.—2¾h.p. 1920 Douglas, 3-speed models, new, £100; 2¾h.p., 3-speed, clutch, and kick start models, £105; combinations, 4h.p., £170; trade supplied.—'Phone: Holborn 5777. Easy terms. [7728

F.O.C.H. have a late 1919 Douglas combination, latest clutch, many accessories, condition as new.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6811

1918 Douglas 4h.p. Combination, perfect condition, enamel and plate as new, lamp, Klaxon, speedometer, wind screen, sidecar reupholstered, coach painted, numerous spares; £135, offer; any time.—Fry, Windsor Racecourse. [7130

MOTOR CYCLES FOR SALE.

Douglas

NEW Douglas Combination, 4h.p., to makers' specification at list price, including carriage from works; £173/10; easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7013

1916-17 2¾h.p. T.T. Douglas, 2 speeds, buffer forks, original enamel and transfers (unscratched), blue aluminium tank, excellent tyres, latest 1920 C.A.V., Amac, Pedley grips, accessories, brand new condition; £56.—G., 63, Solon Rd., Brixton, S.W.2. [7549

DOUGLAS (October, 1919) 4h.p. Combination, complete, horn, speedometer, hood, glass wind screen, lamps, mileage 1,900, decarbonised lately; £150; seen daily Cooper and Chalk, 84, Holland Park Av., Kensington.—Williams, Kingsclere, Sheringham, Norfolk. [7163

DOUGLAS 4h.p. Combination, Oct., 1919, 3-speed, clutch, K.S., lamps, speedometer, etc., new Dunlop heavy, extra heavy Dunlop month old, and Clincher, extra tube and repaired Clincher cover, good running order; £130.—12, Chepstow Crescent, W.11. Park 236. [7713

DOUGLAS 1920 4h.p. Combination, complete with lamps and horn, run 1,000 miles only, £145; 1920 Douglas 2¾h.p., 3-speed, complete with lamps and speedometer, horn, run 1,500 miles, perfect, £92/10; Douglas, 1916, buffer forks, perfect order, £60.—Batchelor, 36, Clarence St., Kingston-on-Thames. [7282

1919 (late) 4h.p. Douglas Combination, dark blue sidecar, acetylene head light, electric rear and side, Cameo screen, speedometer, horn, reflector, tools, spares, thoroughly overhauled, perfect condition, luxurious turnout, trial willingly; £135, or near offer.—Currie, 263, Clifton Rd., Rugby. [X0591

2¾h.p. Douglas, 1915, 2-speed, engine No. 22191, Amac carburetter, C.A.V. mag., footboards, touring handle-bars, horn, mirror, electric lighting set, spare valve spring, large toolbag, long exhaust, in good running order; 60 gns.; good reasons for selling; no dealers; write for appointment.—25, Santos Rd., Wandsworth, S.W.18. 7048

DOUGS., real Dougs., not Slough dug-outs. Our Dougs. are completely overhauled and renovated as new, stove enamelled makers' colours, plated, new tyres, belts, and guaranteed in perfect mechanical condition; nothing offered to touch them at the price; £60, with new head and rear lamp complete.—Hubert Turner and Co., 4-5, Crawford Passage, Ray St., Farringdon Rd., E.C. [7395

Edmund.

EDMUND 2¾h.p., spring frame, 3 models; you simply float.—Gourlay, Fallowfield. [6933

1920 New Edmund 2½h.p., 2-speed, spring frame; £92/8, or exchange.—Halifax Motor Exchange, Horton St., Halifax. [6791

EDMUND.—The lightweight with the laminated spring frame 2¾h.p. Jap model, £92/8; 2-stroke model, £86/10; both fitted with Enfield 2-speed gear —P. J. Evans, 83-91, John Bright St., Birmingham. [0251

EDMUND-J.A.P. 1920 2¾h.p., 2-speed, laminated spring frame, registered, and ready for use, mileage negligible, condition guaranteed; cost £92, offered at £75, one of the best bargains in England. Those who miss Bicester frequently pay much more for a worse article.—The Layton Garages, Bicester, Oxon. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0784

Enfield.

6h.p. Royal Enfield Combination, 1916 model; £165. —Wauchope's, 9, Shoe Lane, London. [7750

1918 8h.p. Enfield Combination, fully guaranteed; £120.—Ross, 86, High Rd., Lee, S.E. [6900

NEW 1920 6h.p. Enfield Combination; £175.—Bounds Garage, 223, High Rd., Kilburn. [6651

ENFIELD Combination, 1917, 6h.p., fully equipped, perfect.—165, Hitchin Rd., Luton, Beds. [7274

6h.p. Enfield Combination, lamps, screen, speedometer; £110.—62, Southgate St., Gloucester. [5060

3h.p. Enfield, 1916, 2-speed, K.S., new condition; £68.—Seen Obey's Garage, Heath Rd., Twickenham. [6570

ENFIELD 2-speed 2-stroke, June, 1920; £67/10.—Rodgers, 65, Main St., St. Bees, Cumberland. [X0586

ENFIELD Combinations, 6h.p. 2¼h.p. 2-stroke models; list prices.—Longman, Fisherton, Salisbury. [6239

1919 Royal Enfield 2¼h.p. 2-stroke, in first-class order; £60.—Autoveyors, Ltd., 84, Victoria St., S.W.1. [6492

1919 Enfield 2-stroke, fully equipped, like new; £58/10.—12, The Quadrant, Winchmore Hill, N.21. [6621

ENFIELD Combination, 6h.p., perfect; £87/10.—Mosedale, 30, Canterbury Rd., West Kilburn, N.W.6. [6717

ENFIELD 2-stroke, delivered July, only done 200 miles; £65.—P. Dewhurst, Tilstone, Tarporley, Cheshire. [6637

ENFIELD Lightweight, twin M.A.G., 2-speed, excellent appearance; best over 45 gns.—46, High St., Uxbridge. [7200

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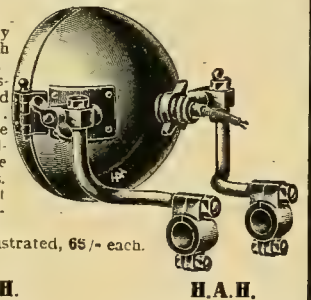

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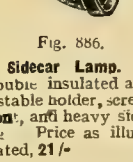

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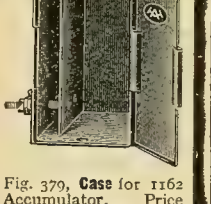

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ENFIELD 8h.p. Combination, fully equipped, 3 electric lights, new; £195, bargain.—55, Bexley Rd., Belvedere, Kent. [6590

1920 8h.p. Enfield Combination in Stock, new; list price.—Edwards and Co., 50, Harrington Rd., South Kensington. [7655

ENFIELD Combination, 1915, war stored, as new, hood, screen, speedometer, lamps; £108.—Lambert, 1, Pitlake, Croydon. [7081

ENFIELD Combination, 1916, lamps, horn, speedometer, splendid condition; £130.—98, Westcombe Hill, Blackheath. [7383

ENFIELD 1916 Combination, 6h.p., good condition, all accessories, Bosch mag.; £130, or nearest.—Dr. Dudley, Caxton, Cambs. [6630

1920 Enfield 6h.p. Combination, arrived too late, owner bought; quick sale £170, unregistered.—35, Bishop St., Shrewsbury. [X0651

1920 Enfield 2-stroke, 2-speed, accessories, and all risk policy, perfect condition; £62.—Dickinson, 64, Princes Sq., Bayswater. [7059

ENFIELD 2¾h.p., in running order; £30, or near offer; can be seen every day except Thursday or Sunday.—41, King's Rd., Chelsea. [6557

1920 Enfield 2¼h.p., 2-speeds, 2-stroke, in stock at list, £73/10; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton. [7571

ENFIELD.—1915-16 Enfield combination, 1920, sidecar, appearance, condition as new; £130, or offer.—125, High St., Woolwich. [6096

1918 Enfield 8h.p. Combination, lamps, horn, and all accessories, like new, hardly used.—Grimes, 18, Bruton Place, Bond St., W.1. [5956

1920 Enfield 2-stroke, 2-speed, free engine, as new, lamps, etc.; £70, or nearest offer; must sell.—Cole, 108, Priory Park Rd., Kilburn. [7248

1919 Enfield 2-stroke, 2-speed, under 600 miles all accessories, unscratched; accept £57.—Soden, 18, Parkshot, Richmond, S.W. [7419

1920 Enfield Combination, 8h.p., Magdyno, screen, Cowey speedometer, Tan-Sad; £210.—Rodway, 143, Beulah Hill, Upper Norwood, S.E. [7041

ROYAL ENFIELD 1920 2¾h.p., 2-speed, P. and H. lamp set; 65 gns.—Talbot, Heron Court, Richmond, Surrey. 'Phone: Richmond 1697. [7636

6h.p. Enfield Combination, lamps, screen, speedometer, horn, spare chains, new appearance; £128; after 7.—3, Landsrock Rd., Crouch End, N. [7151

1919 (August) Enfield 2¼h.p., mileage 3,000, Lucas lamps, horn, speedometer, perfect condition; £65. —C.J., 5, Riseldine Rd., Honor Oak Park, S.E.23. [6641

NEW 1920 Royal Enfield, 2¼h.p., 2-stroke; price £73/10; delivery from stock.—D. J. Shepherd and Co., Enfield Highway, Waltham Cross 31. [0242

3h.p. Twin Enfield, delivered 1920, Millers head light, Lucas horn, Watford speedometer, enamel unscratched, perfect order; £76.—4, Hanover St., W.1. [6938

1920 6h.p. Enfield Combination, 1,500 miles, lamps, Klaxon, Easting, spare chain; £165; seen Saturdays and Sundays.—Write Coryn, Hornchurch, Essex. [7458

ROYAL Enfield Combination, 8h.p., excellent condition, complete with spares; £150, or offer.—Enfield, 24, Palmerston Rd., Walthamstow, E.17. [6988

ENFIELD 1918 2-stroke, 2-speed, lamps, horn, pump, tools, condition and appearance as new; genuine bargain; £48; Tooting.—Box 573, c/o *The Motor Cycle*. [7043

ENFIELD Combination, 8h.p., late 1919, not run 1,000 miles, Lucas lamps and horn, condition as new; £165, or nearest.—Hawley, Goodall St., Walsall. [X0608

ENFIELD 1920 2-stroke, been used fortnight, as new; £68.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [5455

ENFIELD 6h.p. Combination, 1918, perfect condition, new appearance; £140; Easting screen.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [7239

ENFIELD Combination, 1914, 6h.p., lamps, horn, spares, and tools, Bosch mag., in splendid condition; £130.—Hall, 13, Alice St., Southwick, Sunderland. [7400

ENFIELD Combination, 1916, 6h.p., excellent condition, all accessories, wind screen, tyres good; nearest £135.—Enfield, Page's Garage, Acre Lane, Brixton, S.W. [6941

ROYAL ENFIELD 6-8h.p. Combination, 1914, coachbuilt sidecar, Bosch mag., Binks, recently overhauled, new tyres; £140.—32, Firth Park Rd., Sheffield. [7483

1917 Enfield Combination, exceptionally nice engine, guaranteed sound, new car tyres, chains, etc.; £135.—3, Cluny Mews, Warwick Rd., Earl's Court, S.W. [7345

ENFIELD, 2¾h.p., single speed, perfect condition, new tyres and tubes, just re-enamelled and overhauled; bargain, £50.—Hodkinson, Star, Oakamoor, Staffs. [7426

MOTOR CYCLES FOR SALE.

Enfield.

1918 Royal Enfield Combination, new sidecar, Easting screen, all tyres as new; cheap lot; quick sale, £145.—Reeves, 4, Denmark Terrace, Fortis Green Rd., East Finchley, N.W. [X0570

LATE 1919 6h.p. Enfield Combination, electric light, perfect condition, any trial, owner going abroad; price £160.—Seen at Wood's Garage, Daws Lane, Mill Hill, N.W.1. [7661

1919 8h.p. Enfield Combination, fully equipped, lighting set, speedometer, wind screen, Tan-Sad, mileage 2,700, excellent condition; £160.—153, Knollys Rd., Streatham. [7696

1920 Enfield 2-stroke, 2-speed, chain drive little used, splendid condition, Lucas front and rear lamps, Klaxon horn, all accessories; £70.—Morris, 2, Seaview Terrace, Holywell. [6892

ENFIELD Combination, 1918, 6h.p., condition perfect, mechanically perfect, all accessories, and fully insured, complete; £155; 7 p.m.—6, Alconbury Rd, Upper Clapton, E.5. [7715

ENFIELD New 1920 8h.p. Combination, Lucas mag. dynamo lighting, horn, luggage grid, Tan-Sad, and tools, registered, complete; £215.—Welling, 13, Tarring Rd., Worthing. [7194

ENFIELD.—£127/10 Combination, 1916, with dynamo lighting set, good condition.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113 [5454

ENFIELD, 3h.p., Sept., 1917, done 500 miles only, absolutely as new mechanically and appearance; £68, or nearest.—30, Harold Rd., Upper Norwood, S.E. 'Phone: Sydenham 1284. [7076

ENFIELD Combination, 6h.p., hood, screen, luggage grid, lamps complete, and accessories; £130, or offer.—Apply between 1 and 2 o'clock or Thursday afternoon, 25, Barton St., W. Kensington. [6675

NEW 2¼h.p. Royal Enfield 2-stroke Models, 2-speed, for immediate delivery form stock, low built, and ideal machine for traffic; £73/10 each.—Wauchope's, 9, Shoe Lane, London. [7739

1917 Enfield Combination, 6-8h.p. J.A.P., Lucas dynamo lighting, electric horn, wind screen, hood, overhauled and repainted as new, guaranteed perfect.—Collins, Swineshead, Lincolnshire. [7501

1919 (Sept.) Enfield 8h.p., 2-seater sidecar, hood, screen, side curtain, speedometer, new condition, £165; also new Enfield single-seater sidecar, with apron, £14.—Forrest, 1, Townsend St., Haslingden. [6676

ENFIELD Combination, 6h.p., August, 1919, low mileage, perfect, car tyres, Lucas dynamo lighting, hood, speedometer, electric, mechanical bulb horns, child's seat; £200.—24, Lakehouse Rd., Wanstead. [4986

ENFIELD 1920 6h.p. or 8h.p. Combination, with or without Magdyno; delivery from stock at list price.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0786

ENFIELD Combination, 1920, 8h.p., Magdyno lighting, horn, Smith trip speedometer, only done 600 miles, perfect condition; cost £235, sell £200 cash.—Van der Beten, Ecclesbourne, Lea Bridge Rd., Shipton Cross, E.10. [6452

1919 (new December) 8h.p. Enfield Combination, Lucas dynamo lighting, nearly new Palmer car tyres, Klaxon, speedometer, low mileage, perfect condition; £190.—Highfield, The Chase, Coulsdon, Surrey. Tel.: City 3917. [X0334

ENFIELD 1920 2-stroke 2-speed Lightweight, guaranteed as new, finish and condition perfect, ridden few miles only; £62.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0785

1920 6h.p. Royal Enfield Combination, luxuriously equipped with hood, Easting wind screen, Tan-Sad, £24 worth of accessories and spares, beautiful condition; any trial; low mileage; £185.—Waring, 57, Trent St., Burton-on-Trent. [X0345

1920 6h.p. Enfield Combination, Magdyno equipment, locker to sidecar, luggage carrier, all tools and spares, appearance and mechanical condition absolutely as new, mileage negligible; £195.—Kays, 8, Bond St., Ealing, W.5. 'Phone: 1827. [7121

ENFIELD 1919 8h.p. Combination; complete with a full Lucas equipment and Easting wind screen, a very fine example of the special bargain class that has made Bicester famous; pricing this outfit at £160, we shall make the purchaser our friend.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. [X0787

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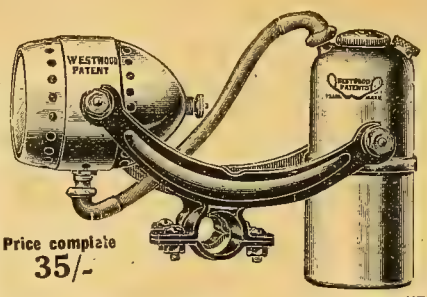
8h.p. 1920 British Excelsior de Luxe Combination, Lucas Magdyno lighting, spare wheel and tyre, screen, luggage grid, all accessories; £225.—5, Alstone Rd., Heaton Chapel, Stockport. [7533

1920 8h.p. British Excelsior, family sidecar, detachable wheels, spare wheel, unused, Easting, Klaxon, lamps, sprung luggage carrier, tools, spares, as new; £237/10.—20, Redlam, Blackburn. [X0648



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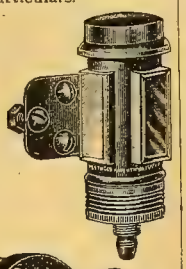

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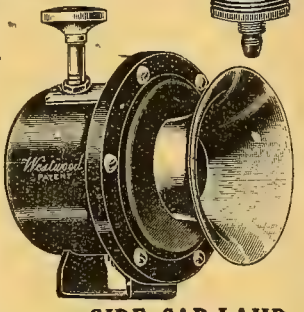

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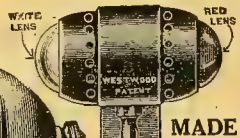

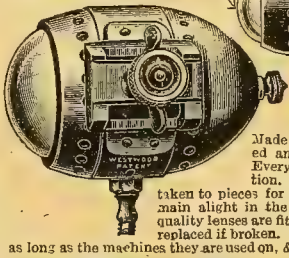

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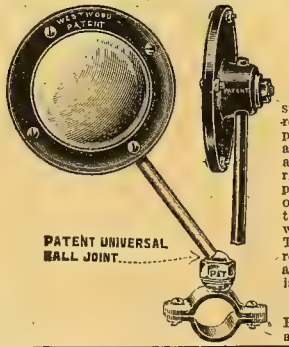

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F.N., 4-cyl. overhauled. Bosch, Binks, new tyres, splendid order; £50.—Schurch, Morton Hotel, Russell Sq., London. [7271

SPECIAL 1913 5h.p. F.N., 2-speed, condition as new; offers; photo 2d. stamp.—Pettman, Castle Hotel, Newcastle, Staffordshire. [6640

1914 F.N. 7h.p., m.i.v. model, new pistons and bearings, lamps, horn; solo £95, combination £115.—Philpot, Motors, Canterbury. [6897

F.N. Lightweight, shaft, 2-speed, clutch, Binks, Bosch, re-enamelled, mechanical horn; ride away; £29; exchange single gear.—23, Radipole Rd., Fulham. [6807

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GRANDEX-PRECISION 2½h.p., 2 speeds, overhauled; £26.—Jones and Tapley, St. Anne's-on-Sea. [X0709

GRANDEX-PRECISION 2¾h.p., 2-speed, F.E., good tyres, lamps, etc.; £32, or near offer.—56, Abbeville Rd., Clapham. [7034

Harley-Davidson.

HARLEY-DAVIDSON 1919 Combination; £145.—Wauchope's, 9, Shoe Lane, London. [7743

HARLEY.—1915 Harley, dynamo lighting, guaranteed; £75.—125, High St., Woolwich. [6095

1920 Harley-Davidsons; immediate delivery all models from stock.—Kemp's Garage, Louth, Lincs. [X0724

HARLEY-DAVIDSON Combination, late 1915, splendid lot, compelled sell before lady day.—Roy Glossop, Ambergate. [6647

HARLEY, sports model, in stock, new; list price.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [7240

HARLEY-DAVIDSON Combination, guaranteed, 1919, electric, perfect; £180.—237, Clapham Rd., S.W.9. [7691a

HARLEY-DAVIDSONS 1920.—All models in stock, with or without sidecars.—Macrae Bros., 37, Cockburn St., Edinburgh. [6466

HARLEY-DAVIDSONS, 1918-1919; £100 each, re-enamelled and overhauled, ready to ride away.—1, Wellesley Parade, Croydon. [3895

1915 7-9h.p. Harley Combination, in practically new condition throughout, extra fast one; sacrifice £105.—Else, Dimple, Matlock. [X0671

HARLEY-DAVIDSON, 1918, electric model, disc wheels, speedometer; 85 gns.; exchange entertained.—Sinclair, East Molesey. [7451

HARLEY-DAVIDSON Swan Combination, 7-9h.p., 1916-17; 100 gns.; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [7703

HARLEY-DAVIDSON 1918 7-9h.p. Mag. Model, fitted with luxurious sidecar; £130.—158, Norwood Rd., West Norwood, S.E.27. [7454

1915 Harley-Davidson Combination, 7-9h.p., 3-speed; £135.—Talbot, Heron Court, Richmond, Surrey. 'Phone: Richmond 1697. [7638

HARLEY Combination, 1915, electric, recently overhauled and enamelled latest colour, receipts shown; £135, offers.—136, Evering Rd., N.16. [X0569

HARLEY-DAVIDSON 1920 4h.p. Flat Twin, very little used, condition like new, all fittings; £150.—Box 7,645, c/o *The Motor Cycle.* [6957

MOTOR CYCLES FOR SALE.

Harley-Davidson.

1916 7-9h.p. Electric Model Harley Combination, with speedometer, overhauled, condition good; £135.—Harkness, Broughton, Huntingdon. [6726

HARLEY-DAVIDSON Combination, 1918, new sidecar, good running order, £125; machine only, £95.—Owen, 59, Scholefield Rd., Holloway. [X0729

HARLEY-DAVIDSON, W.D. models, re-enamelled, 1918-1919, good running order; first cash secures, £85 and £90.—113, Rectory Lane, Tooting, S.W. [7190

HARLEY 7-9h.p., 1918, D.A. lighting, new speedometer, Tan-Sad, horn, spare cover, fully insured, excellent throughout; £128.—271, Camberwell New Rd., S.E.5. [7512

1918 Harley-Davidson, new condition, £110, trial given; also 1920 4h.p. Harley, with sporting sidecar, all accessories, £160.—Ross, 86, High Rd., Lee, S.E. [6901

1920 Harley, Model F and Harley Sidecar, new, list price; also slightly used ditto, £218, fully equipped.—Edwards and Co., 50, Harrington Rd., South Kensington. [7658

HARLEY-DAVIDSON 7-9h.p. 1915 Model Combination, good running order; gift, £85, or exchange Douglas or Triumph countershaft.—103a, High St., Wandsworth, S.W.18. [7688

HARLEY-DAVIDSON, late 1918, not W.D., and £40 sidecar and wind screen, equipped as new; £140; offers, or exchange lower power.—143, Ravensbury Rd., Earlsfield, S.W. [7652

7-9h.p. Harley-Davidson Combination, electric model, electric horn and lights, luggage carrier, petrol carrier, bulb horn, spares; £120.—Bell, 25, Fortescue Av., opposite Well St., Hackney. [7457

HARLEY Combination, 1915, electric light, Cameo screen, perfect running order, seen by appointment, owner buying car; a bargain, £100.—402, Romford Rd., Forest Gate, London. [6951

HARLEY-DAVIDSON, delivered Nov., 1919, sporting sidecar, Mills-Fulford chassis, discs, electric lighting and horn, perfect condition; £200.—Write, phone, call, Selby, 5, Heath Drive, N.W.3. [5204

7-9h.p. Harley-Davidson, 2-speed, kick start, disc wheels, tyres as new, recently enamelled grey; reason for selling, owner bought car; first £70 secures.—Rawson, 14a, Melrose St., Scarborough. [6576

HARLEY-DAVIDSON Combination, bought new 1916, real good condition and mechanically perfect, lamps, horn, everything, any trial; sacrifice, £110.—Collett, Church Farm, Wixford, Alcester. [X0719

1919 Harley Combination, mag. model, electric lighting mechanical horn, tyres and condition generally perfect; price £170, o. take late 4h.p. solo part exchange.—Ash Lodge, Junction Rd., Brentwood. [7154

HARLEY-DAVIDSON 7-9h.p., 1915, just overhauled, lamps, horn, wind screen, speedometer, shields, etc., 3 new tyres, Binks carburetter; £130.—Hewin's Garages, Ltd., the Real Service Firm, Tunton. [6784

HARLEY-DAVIDSON 1920 4h.p. Flat Twin, speedometer, lighting set, brand new; list price, including accessories, £164; immediate delivery from stock.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0066

1920 Harley Combination, 7-9h.p., electric model, special £85 sidecar, fitted dash, hood, screen, disc wheels, speedometer, watch, etc.; £220; seen any time.—Dyson, 6, Abbey Rd., Bush Hill Park, Enfield. Phone: Dalston 1417. [7057

1919 (Nov. approx) 7-9h.p. Harley-Davidson Combination, engine No. 5058, large bulbous-back sidecar, splendid running order; price £155; any trial.—Major Norris, c/o Stevens' Garage, 184, Pentonville Rd., King's Cross, London. [7427

HARLEY, 7-9h.p., 1919, with Matchless sidecar, electric light, Easting wind screen, speedometer, horns, spares, running perfectly; £200; owner buying car.—Seen at Monro's Garage, Oakleigh Rd., Whetstone, N. Tel.: Finchley 56. [7197

1920 Harley-Davidson Combination, 7-9h.p. M.A.G. Model, extra fine large sidecar, hood, wind screen, Klaxon horn, speedometer, mirror, electric lighting set, first-class outfit, in tip-top tune; £220.—45, Nightingale Rd., Hitchin, Herts. [7204

HARLEY-DAVIDSON, 1919, mag. model, with James Model de Luxe sidecar, Easting screen, Tan-Sad pillion seat, lamps, luggage carrier, accessories, all tools, splendid condition; trial and examination after 5 p.m.; £155.—4, Edwin Rd., Twickenham. Richmond 1293. [6993

HARLEY-DAVIDSON Khaki Combination, electric light, model large bulbous back sidecar, apron, mirror in locker facing seat, painting and plating as new, handsome outfit; £160; 2¾h.p. 1920 Douglas good lightweight as part payment.—Apply, 129, Seven St., Eastbourne. [7109

HARLEY-DAVIDSON, late 1916, electric lights and horn, Stewarts horn, disc wheels, pillion seat, bulbous back sidecar, hood, screen, new tyres on all wheels, enamelled buff, new Blick magneto, recently overhauled by Harleys, bills shown, mechanically and externally excellent, any trial; £160; or exchange Royal Enfield or similar.—1, Pilgrim Hill, West Norwood, S.E. [7202

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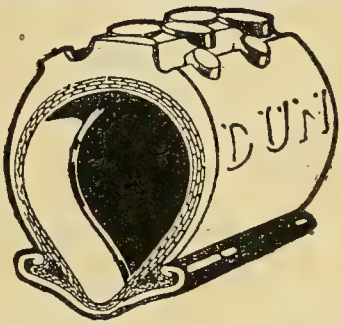

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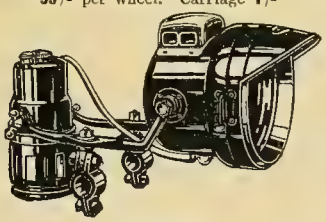

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HARLEY-DAVIDSON 7-9h.p., 1919, with 1920 Mills-Fulford de luxe model sidecar, recently overhauled, plating and enamel as new, luxurious outfit, completely equipped throughout, lamps, Klaxon, pump, Easting wind screen, sprung luggage grid, etc., fully insured; £185, for quick sale; seen by appointment, any reasonable trial given.—Cooke, 33, Kirkstall Rd., Streatham Hill. [6981

Hazlewood.

1920 Hazlewood-Jap Combination, demonstration model, 5-6h.p., 3-speed countershaft, kick start, clutch, tools, mileage very low; exceptional opportunity, £188.—Lythalls Lane Garages, Foleshill, Coventry. [X9538

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch, and kick starter; a thoroughly reliable outfit; Harrods have a large number of these in stock for sale at £186 each (list price £204/12), or on easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7009

Henderson

1920 Henderson, 4 cylinders, solo motor cycle, done 100 miles; £160.—F. Bossutt, French Consulate, Southampton. [7461

NEW Hendersons, solo and combination, electrical models in stock.—W. H. Grimes and Co., 18, Bruton Place, Bond St., W.1. [5955

4-CYL. Henderson Royal Blue Combination, discs, electric lighting, fine order, overhauled; £110, insured £120; exchange.—322, Dudley Rd., Birmingham. [X0713

HENDERSON 1920 10h.p., 4-cyl. model, fitted with Langford special sidecar, brand new; 220, or near offer.—Lloyd, 9, South Molton St., W. Mayfair 1011. [0282

HENDERSON Combination, 1915, 10h.p., 2-speed, clutch, handle start, black and gold, very smart, powerful, equipped; bargain, 135 gns.; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [7702

1920 Henderson, in perfect condition and guaranteed, fitted with smart 2-seater sidecar, hood, screen, etc., a most luxurious outfit; £250.—Barker's Motors, 194, Balham High Rd., London, S.W.12. [7000

1920 Henderson Combination, delivered end of July, special 2-seater sidecar, hood, D.A. lighting, Cowey horn and speedometer, disc wheels, not run 150 miles; £245, or nearest offer; trial or examination. Tel.: Hampstead 6964.—A.B.K., 32, The Pryors, East Heath Rd., Hampstead. [6719

ORDERS Now Booking for early delivery of the new 1921 Model K. Henderson with improved engine, frame, forks, etc., finished deep blue with gold lines; the aristocrat of motor cycles: first bath will arrive in September.—Sole Midland distributers, The Premier Motor Co., Aston Rd., Birmingham. [5553

Hobart.

1920 2¾h.p. Hobart, J.A.P., 2-speed and clutch; £90.—Ross, 86, High Rd., Lee, S.E. [6904

HOBART 2½h.p. 2-stroke, excellent condition, go anywhere; £40.—Norman, Walton St., Long Eaton. [6541

£50.—1916 2¾h.p. Hobart-Villiers, 2-speed, Amac, M-L, lamps, Klaxon, accessories, new condition.—63, Solon Rd., Brixton. Exchange. [7535

1920 Hobart-Jap, delivered May, 2¾h.p., 4-stroke, Sturmey-Archer, kick start and clutch, accessories, including large Miller's head and rear lights and Klaxon; £87/10.—76, Commercial Rd., Swindon, Wilts. [7080

NEW 2½h.p. Hobart Lightweight, 2-speed models in stock at manufacturers' list price; £75; 4% extra for easy payments; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7014

Humber.

1920 4½h.p. Flat Twin Humber Combination, in stock; £173/12/6.—Gray's Garage, Watford. [7524

1914 3½h.p. Humber Combination, just overhauled, new sidecar; £75.—39a, Dickham Rd., Bockley. [7679

1918 3½h.p. Humber Twin, all-black, perfect condition; trial by appointment.—Millward, 26, Morland Rd., Croydon. [6764

HUMBER Lightweight 2¼h.p., 3-speed, complete; £28; good condition.—Eveleigh, Chapple, Launceston, Cornwall. [7316

HUMBER 3h.p., perfect running order, early model; £18, after 7.—W., 37, Leathwaite Rd., Clapham Common, S.W.11. [7255

3½h.p. Humber, 2-speed, F.E., handle start, B.B., Bosch, good condition, ride away; 36 gns.—J. Sadler, Gladstone St., Winsford. [X0707

MOTOR CYCLES FOR SALE.

Humber

HUMBER 3½h.p., 2-speed, clutch and starter, in splendid condition throughout; £38.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [7386

HUMBER 3½h.p., 2 speeds and free, new gears, and recently overhauled, wicker sidecar; £55.—Davey, 152, Katherine Rd., East Ham, London. [6522

1920 4½h.p. Humber Combination, Millford 4-point, unused; cost £173, no reasonable offer refused; trial; seen Midlands.—Box 567, c/o *The Motor Cycle*. [X0664

HUMBER 3½h.p. Combination, C.B. sidecar, new condition, 2-speed, handle starting; bargain, £75; after 6 p.m.—15, Wentworth Mansions, Hampstead. [7138

1919 Humber 3½h.p. Flat Twin Combination, electric lighting, all accessories, overhauled by makers; £110, nearest offer, or sell solo.—Pearce, 31, Cleveland St., Doncaster. [6455

1920 Flat Twin Humber, 4½h.p., with Mills-Fulford sidecar, not ridden more than 200 miles, splendid condition, any trial; 147 gns.—'Phone: 1024.—Julian, 84, Broad St., Reading. [7722

HUMBER and Bramble Sidecar, 1915, 3½h.p., S.A. 3-speed hub gear, speedometer, wind screen, plenty of spares, just overhauled, excellent condition; seen by appointment; £85.—Brooks, 35, Jenner Rd., Stoke Newington, N.16. [6927

Imp

IMP Lightweight, Bosch, running order, good tyres; first cheque £22.—59, Somers Rd., Southsea. [4825

Indian.

1919 Powerplus Indian, fine condition; any trial; £112.—Rootes, Maidstone. [6710

INDIAN 7-9h.p., clutch, sidecar, perfect; ride 40 miles; £80.—Pemberton, Sutton-on-Sea. [7364

1919 Indian Combination, dynamo lighting; £160. Bounds Garage, 223, High Rd., Kilburn. [6654

1916 Spring Frame Indian, 2-speed, K.S., clutch, as new; nearest £95.—10, Butler St., Blackpool. [7481

INDIAN 7 9h.p., good condition, tools, accessories; any trial; £75, or offer.—14, Gloucester Rd., Ealing, W.5. [7026

INDIAN 3½h.p. Clutch Model, good condition, Dunlops, as new, lamps; £45.—17, Norris Rd., Reading. [7201

INDIAN 1914-15, clutch model, 7-9h.p., lamps and horn, perfect running order; £48.—172, Thorold Rd., Ilford. [6695

RED Indian, 1919, 3-speed, Powerplus, practically unused; sacrifice £110, or offer.—3, Courtlands Av., Lee, S.E.12. [7333

INDIAN 3½h.p., single, very fast, splendid tyres; trial here; stamp, particulars; £53.—Bartlett, Milford-on-Sea, Hants. [6628

INDIAN Combination, 5-6h.p., late 1915, very little ridden, excellent condition; £110.—Mudd, Fishmonger, Kettering. [6569

NEW Powerplus W.D. Indian, fitted with latest Indian de Luxe sidecar; £165.—Jones and Tapley, St. Anne's-on-Sea. [X0708

INDIAN 1915 7-9h.p. T.T., enamelled and plated, perfect order, all accessories; £72/10.—Sibley, 106, Market Place, Romford. [7089

INDIAN 5-6h.p. Combination, excellent condition; £75, nearest offer.—F. A. Crips, 11, Friern Barnet Rd., New Southgate, N.11. [6665

INDIAN Scout, new, in stock; £140.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0788

7-9h.p. Indian Combination, spring frame, 2 speeds, etc., electric lighting, very fine condition; gift, 95 gns.—30, Talbot St., Burnley. [X0702

INDIAN 7h.p. Coachbuilt Combination, 1915, 3-speed, re-enamelled and plated, overhauled; after 6 p.m.—19, St. George's Rd., Kingston, Surrey. [6808

1920 Indian Combination, electrically equipped, Millford sidecar, new condition; £195.—Motor Cycle Mart, Ltd., Fair Row, Chatham. [7562

BRAND New 1920 7-9h.p. Indian Combination, just delivered; list price.—Brown, Indian Specialist, 3 and 7a, Parker Lane, Burnley. Tel.: 1032. [X0703

1917 Indian Powerplus, 3 speeds, spring frame combination, in good running order; 115 gns.; any trial by appointment.—G., 73, Carlton Vale, Kilburn. [6848

7-9h.p. 1919 Indian and Swan Sporting Sidecar, £175, latest improvements; also a solo 7-9h.p. Powerplus Indian, £85.—Wauchope's, 9, Shoe Lane, London. [7748

1920 7-9h.p. Powerplus Indian Combination, practically brand new, dynamo lighting complete, perfect condition.—Motor Supply Company, King St., Huddersfield. [6973

1920 Indian Powerplus Combination, dynamo lighting throughout, insurance policy, just been overhauled; £175 for quick sale.—Graham, Whitley, nr. Coventry. [X0675

1920 Indian 7-9h.p. Combination, dynamo lighting, latest large-valved engine, mileage under 2,000; £190.—162, High St., Walthamstow. 'Phone: Walthamstow 347. [7398

Reconstructed Government Motor Cycles.

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Motor Engineers,
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1920 Indian Combination, electric sidecar lamp, Cameo screen and side curtain, spare tube, mileage 3,400, excellent condition; £200. — Lee, Caerwent, St. Albans. [X0688

5-6h.p. Indian, 1915-16, 3 speeds, clutch, kick start, speedometer, lamps, horn, special Binks carburetter, sound and fast; bargain, £70.—Godley, Red House Hotel, Woking. [7272

TWIN Indian Combination, electric lighting, only wants seeing; offers. Twin N.S.U., free engine, and sidecar, offers.—Wilson Engineering Co., 20, High St., Kingston. 'Phone: 762. [6633

INDIAN.—For early delivery of the famous powerplus motor cycles and sidecar combinations with electrical equipment write to P. J. Evans, 83-91, John Bright St., Birmingham. [0173

1915 Indian Combination, 7-9h.p., 3-speed, spring frame, kick-starter, electric lights and horn, insured; £130, best offer, after 6 p.m.—27, Normans Buildings, Old St., E.C.1. [6981

£95.—1915-16 5-6h.p. Indian, 3-speed, etc., original enamel, Swan sidecar (red), new heavy Dunlops, lamps, Klaxon, accessories, new condition.—63, Solon Rd., Brixton. Exchange. [7536

INDIAN Late Powerplus Millford Combination, 3 speeds, discs, Lucas dynamo lighting set, luggage grid, perfect in every way, like new; £125.—C., 12, Station Parade, Muswell Hill. [7137

INDIAN 7-9h.p. Clutch Model 1919, excellent condition, complete with lamps, tools, horn, spare chain, any trial; £60, or near offer.—Basement Flat, 5, Leinster Gardens, Bayswater. [7165

1920 Indian Combination, dynamo lighting, spring frame, Easting screen, speedometer, perfect; this week's bargain; £170; exchange or easy payments.—2, Nightingale Rd., Lower Clapton. [7577

INDIAN 1914 Combination, 7-9h.p., spring frame, clutch, just overhauled, 2 new tyres, hood, screen; £85; electric lighting, horn, speedometer, £10 extra.—Marks, 85, Deodar Rd., Puntey. [7438

INDIAN Late 1919 Powerplus, came over on "Renown," electrically equipped, very little run, and absolutely as new; £145, or with Montgomery sidecar £160.—E., 18, St. Peter St., Winchester. [7101

1920 Indian Powerplus Combination, 7-9h.p., dynamo lighting, electric horn, Easting wind screen, splendid condition; £165 for quick sale.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [7387

INDIAN Powerplus Combination, 1919 (Oct.), electric model, Binks, Easting, spare tyre, valves, etc., mileage 1,400, splendid condition; £160.—Apply after Sept. 18th, Hawley, 51, St. Fillans Rd., Catford, S.E.6. [7406

7-9h.p. 1915 T.T. Indian, clutch, lamps, Klaxon, long exhaust, just overhauled, tyres practically new, 2 valves, several plugs, and extras; what offers?—Apply by letter, Sargeaunt, Canterburys, Ingatestone, Essex. [7479

F.O.C.H. for Indian Combination, 1916 and 1920, dynamo lighting.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6818

INDIAN, red, 7-9h.p., 2 speeds, free engine, clutch, electric lighting, new Dunlops, splendid condition, guaranteed throughout, and Indian 32 gn. coach sidecar, all accessories; bargain, £78.—45, Charles St., Stepney. [7217

INDIAN Combination, 1916 7-9h.p., 3-speed, dual clutch, 3 lamps, light car generator, Tan Sad, speedometer, spare valve and chains, tools, good condition, under 9,000 miles; £125.—172, Whippendell Rd., Watford. [6845

1919 Indian Powerplus Combination, brand new Grindley spring wheel sidecar, ridden 1,000 solo only; exchange for lower power with cash adjustment, or sell £195.—Boulton, Avenue Rd., Whittington Moor, Chesterfield. [6624

1920 7-9h.p. Indian Combination, delivered May, mileage 1,600, tyres unpunctured, with dynamo lighting, head, tail, sidecar, speedometer, electric horn, few spares, perfect outfit; £200.—Greenfield House, Whieldon Rd., Fenton, Staffs. [6767

1920 Indian Powerplus Combination, Mills-Fulford bulbous sidecar, fitted Easting's screen, leg shields, muffs, spares, mileage under 2,000, splendid condition throughout; any trial, any examination; must sell; price £175.—'Phone: Purley 828. [7517

5-6h.p. Indian Combination, 1915-16, 3 speeds, hand and foot clutch, kick starter, sporting Canoelet sidecar, excellent Dunlops, 3 lamps, special generator, hooter, pump, apron, etc., brand new condition; £90.—G., 63, Solon Rd., Brixton, S.W.2. [7548

1916 7-9h.p. Indian Combination, 3 speeds, kick start, spring frame, electric lights, new tyres, hood, screen, luggage grid, spare tyre, tube, and chain, etc., fine condition, any trial; £105.—Dyer, 31, Upper Tooting Park, Balham, S.W.17. [7397

INDIAN Powerplus Combination, May, 1920; this is beautifully fitted up with every possible accessory, including Easting wind screen and many spares, has only run 1,375 miles, the very latest model; owner returning to India; £220, for immediate sale.—Seal and Ball, Southport. Tel.: 163. [6828

MOTOR CYCLES FOR SALE.

Indian.

1920 (May) 7-9h.p. Indian Combination, dynamo lighting, speedometer, electric and Cowey horn, lasting, tyres unpunctured, mileage 900 odd, perfect condition; reason for selling, owner taking delivery of; any trial; cost £235, price £205, or near offer.—Lord, Monkmoor, Beechwood Av., Weybridge. [6508

INDIAN Combination, 7-9h.p., spring frame, Henderson De Luxe C.B. sidecar, wind screen, electric lighting, new tyred all round, spares, disc wheels, luggage grid, and Tan-Sad, condition as new, fitted up regardless of cost; £140, or first nearest offer.—H. Walker, 22, Memorial Rd., Walkden, near Manchester. [6802

Invicta.

INVICTA-J.A.P. 2¾h.p., Sept., 1919, 2 speeds, good condition, fast; £59.—Urquhart, Fire Station, Waltham Green. [7045

KING Dick Invicta 4h.p., 1919, S.A. countershaft, 3-speed model, beautiful machine; bargain, 80 gns.—Bunting, Wealdstone. [7646

1920 Invicta, 2¾h.p. J.A.P. engine, 2-speed, quite as new, done only 100 miles, with lamp, horn, pillion fit, etc.; £90, or near offer.—Dossa, 1, Ravenna Rd., Putney, S.W.15. [6618

NEW Invicta-Jap 2¾h.p., 2-speed clutch and kick-starter, a thoroughly well built and reliable mount; £89/5, or on easy payments 4% extra; one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7019

Ivy.

IVY 2-speed 2-stroke in stock.—Rothwell and Mill, Bourne. Cowleigh Garage, Malvern. [6186

IVY 2¼h.p., 2-speed, smart machine; £43.—Burrows, Highfield, Golders Green Rd., London. [6748

IVY Combination, 8h.p. J.A.P., new wind screen and tyres; £140; perfect.—Frank Lucking, 28, Church St., Rugby. [7376

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Daly and Co., London and District Agents, 91, Gt. Portland St., W.1. Mayfair 4084 [0022

Ixion

1920 Ixion 2¾h.p.; £60.—Talbot, Heron Court, Richmond, Surrey. 'Phone: Richmond 1697. [7637

James.

1920 James 3½h.p. Twin; delivery from stock; list price.—Philpot, Motors, Canterbury. [6898

1920 James 6h.p. Combination at list price, plus carriage.—Taylor's Garage, Falmouth. [0249

JAMES 4¼h.p. Combination, just overhauled, 3-speed countershaft gear; £85.—100, Richardson, High Wycombe. [7531

1920 James De Luxe Combination, lamps, horn, tools, mileage under 3,000, excellent condition; £.—Box 7,579, c/o *The Motor Cycle*. [6501

1920 6h.p. James Model de Luxe Combination, Watford, Miller, luggage grid, perfect order; £.—L.B., 28, Chaplin Rd., Wembley. [6891

1919 James 4¼h.p. Combination, 3-speed, K.S., clutch, Klaxon, Cameo screen, P. and H. lamps; £.—Normanhurst, Chatfield Rd., Croydon. [7209

JAMES 4¼h.p. Combination, 3-speed, countershaft, Cameo screen, lamps, horn, splendid order; £—15, Russell Rd., Hall Green, Birmingham. [X0634

1920 James Combination. 4h.p., Cameo screen, P. and H. lamp set, Klaxon; 170 gns.—Talbot, Heron Court, Richmond, Surrey. 'Phone: Richmond [7635

JAMES 1915 3½h.p. Twin, 3-speed, kick-starter, handle-bar control, clutch, speedometer, and lamps, new; price £85.—Fawn and Archer, Ltd., Motor Engineers, Aldershot. [6699

1919 James Model De Luxe Combination, accessories, excellent condition; owner buying car; £5, or near offer.—W. A. Low, St. Thomas's Hospital, London, S.E.1. [7706

END of Season's Snip.—1920 Magdyno 5-6h.p. James combination, £20 of extras, all like new; £195, including insurance till May.—J., 206, High St., N.16. 'Phone: 379 Dalston. [7292

JAMES 2-stroke, 2-speed, 2¼h.p., 1920, June (proof), Lucas lamps, tools, pillion, splendid condition, perfect order; £85, or near offer.—Apply, before 2, 14, Elm Rd., Leytonstone. [7079

JAMES 4¼h.p. (late 1914), 3-speed countershaft and C.B. sidecar, splendid condition and appearance, perfect, nothing to buy, ready for anywhere; £90.—St. Alban's Av., Bedford Park, W.4. [6475

IMMEDIATE Delivery 1920 James 6h.p. combination, Model de Luxe sidecar, £190; also new 1920 4¼ combination,—Model de Luxe sidecar, £170.—The Premier Motor Co., Aston Rd., Birmingham. [5554

1919 (Aug.) James Combination, 4¼h.p., 3 speeds, chain drive, electric lighting, Easting horn, etc., etc., in perfect condition, mileage 1,500, engine 8177; best over £125.—Bolt, Chesterfield House, Mock. [7265

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James.

1916-17 James Standard Combination, 4¼h.p., 3-speed gear box, clutch, kick, chain drive, speedometer, lamps, hood, screen, apron, child's seat, new tyres, spares, insurance; £97/10.—Davie, 1, Old Bedford Rd., Luton. [6509

F.O.C.H. have a 1919 4¼h.p. James Combination, new condition, Volex electric set.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6823

1920 James 5-6h.p. Combination de Luxe, new, has only done 50 miles for tuning up, Lucas Magdynamo and lighting set, leg shields and luggage grid, B. and B. carburetter; bargain, £215.—L. Baker, 28, St. Paul's Sq., Birmingham. [X0566

JAMES 1919 5-6h.p. Twin Combination, Lucas lamps with separate generators, Easting leg-shields, horn, luggage grid, speedometer, every possible accessory, real bargain; £145.—Healey, 174, Mansel Rd., Small Heath, Birmingham. [7492

1919 James 4¼h.p. Combination, 3-speed, kick-starter, Cowey horn, speedometer, P. and H. lighting set, full set tools and spares, including spare tube, rings, 2 pair goggles, petrol filter, etc., in splendid condition; a bargain £120.—Bannister, Railway St., Chatham. [6720

4¼h.p. James Combination, 3-speed, all-chain drive, K.S., just overhauled, all new Renolds chains, sprockets, engine, new piston, rings, and bushed by makers, puncture-proofed tube on rear, new screen and apron, spares, excellent condition; after 6; £75.—16, Tuscan Rd Plumstead, S.E. [7389

J.A.P.

SPORTING 4h.p. J.A.P., Druids, Bosch, B. and B., fast, excellent engine; £33.—Willson, Widmore, Bromley, Kent. [7005

4h.p. J.A.P. Combination, good condition, Bosch, Amac; nearest to £50.—B.F., 142, Church St., Stoke Newington, N.16. [7036

2¾h.p. J.A.P. Motor Cycle, countershaft 2-speed, 24 in excellent running condition; trial; £30.—Bedford, Sunnyhill Rd., Streatham, S.W.16. [6516

J.A.P., sporting, dropped T.T., fast, C.A.V. mag., wants slight adjustment; first cheque £22 secures.—Mills, 54, St. Edward St., Leek, Staffordshire. [7530

J.E.S.

J.E.S. 1h.p. Motor Set, complete, requires slight adjustment; bargain, £7.—Coppen, Biddenden, Kent. (D) [7263

Lea-Francis.

3h.p. Lea and Francis, new 1920 model; £130; exchange arranged. — Wauchope's, 9, Shoe Lane, London. [7727

LEA-FRANCIS, new, M.A.G. engine, just in; £130.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [7241

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 193, Gt. Portland St., W.1. [0099

LEA-FRANCIS, June, 1920, M.A.G. engine, small mileage, coachbuilt sidecar, Cowey horn, P and H. lamps, wind screen, accessories; £155; insurance; private advertiser.—41, Glebe Rd., Hornsey. [6490

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7015

1920 3½h.p. Lea-Francis, M.A.G. engine, perfect mechanical condition, mileage under 3,000, enamel excellent, T.T. bars, long exhaust pipes, many special fittings for competition work, special lubrication system, new tyres, spare sprocket, guaranteed over 60 m.p.h.; will sacrifice £115, for quick sale; or would exchange for Norton, Sunbeam, or Zenith.—Newall, Ongar, Essex. [7251

Levis.

NEW Levis in Stock; list price.—Fancourt's Garage, Stamford [3701

LEVIS 2¼h.p., new condition, lamps, etc.; £43.—29, Derby Rd., Southport. [7439

LEVIS Motor Cycle, in stock; list price.—Brook Bros., Burnham, Somerset. [7555

LEVIS 1920 2¼h.p., 200 miles, as new; £59.—Grover, 46, St. Leonard's Rd., Hythe, Kent. [6550

LEVIS 2¼h.p., in excellent condition, lamps and horn; £35.—124, Mile End Rd., South Shields, Durham. [6530

LEVIS 2¼h.p., Model E, 1917, Enfield gear, 600 miles; £52; perfect.—Ernest Smart, Brackley, Northants. [7096

LEVIS Popular Models in Stock; £60.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. Phone: 214. [1097

1916 Levis, just overhauled by makers, not ridden since, good condition; £40.—Mead, Draper, Amersham, Bucks. [7268

MOTOR CYCLES FOR SALE.

Levis.

2¾h.p. Levis, late 1917, T.T. bars, knee-grips; any trial here; £55, no offers.—A. Hand, 83, Sleaford Rd., Boston, Lincs. [7366

1915 Levis 2½h.p., very powerful, with accessories, seen by appointment after 7 p.m.; £48.—Maycot, Alexander Rd., Epsom. [6739

LEVIS 1919 2½h.p., Enfield 2-speed, all-chain drive, just overhauled by makers; £60.—Oakfield, Warwick Rd., Olton, Birmingham. [X0344

1920 Levis, 2¼h.p., mileage 300, Cowey horn, electric lamps, etc., perfect condition; £58.—Dowsett, 6, Ringwood Rd., Eastbourne. [7218

IMMEDIATE Delivery from stock of the new 2¼h.p. Popular Model Levis, £60; the master 2-stroke.—The Premier Motor Co., Aston Rd., Birmingham. [5556

1920 Popular Levis, complete with spare belt, horn, etc., done 1,600 miles, perfect condition; nearest offer to £50 accepted.—R. J. Routh, Longparish, Hants. (D) [6859

LEVIS 1920 Popular Model, delivered from makers May (receipt shown), ridden 250 miles, usual accessories, including P. and H. lamps, horn, licence, insurance, owner bought sidecar outfit; £53/10 for quick sale; genuine bargain, no offers; seen by appointment.—Lance, 192, Northumberland Park, Tottenham, N.17. [6916

Lincoln-Elk.

1914-15 4h.p. Lincoln-Elk Combination, 2-speed clutch, kick start, just overhauled.—151, Kingston Rd., Teddington. [7068

PRACTICALLY New T.T. Lincoln-Elk, 3h.p., Philipson pulley, lamps, generators, accessories; £38.—63, Solon Rd., Brixton. Exchange. [7537

L.M.C.

1919 L.M.C. 4¼h.p.; £100, or offer; mechanically perfect, T.T. bars, lamps, and Klaxon, tyres unpunctured, spare inner tube, any trial; after 5.30.—Gardiner, Icknield, Penrith Rd., Basingstoke. [7167

1919 L.M.C. 4¼h.p. Combination, Sturmey-Archer 3-speed, electric lighting, fully equipped, excellent condition; £110.—153, Cromwell Rd., Peterborough. [3802

1920 L.M.C. 6h.p. Combination, mileage under 1,000, lamps, speedometer, etc.; nearest to £130 secures; could arrange terms.—Bunting Motors, Wealdstone, Harrow. [7650

L.M.C. 1920 6h.p. Combination, as new, cost £182; pricing this outfit, which we guarantee perfect, at £135, we ask you to show us equal value. Bicester is actually the very best market, and an ever-widening circle realises this.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X0789

Martinsyde.

MARTINSYDE-NEWMAN Combination, delivery from stock; £170.—Maudes' Motor Mart, 100, Paris St., Exeter. [6877

MARTINSYDE 6h.p. Combiantion, just delivered, insurance policy, horn, etc.; £173.—C. J. Mead, 176, Berkhampstead Rd., Chesham. [6847

6h.p. Martinsyde-Newman Combination, chain drive, 3-speed countershaft, kick start; £170; delivery from stock.—Lythalls Lane Garages, Foleshill, Coventry. [X0643

FRANK WHITWORTH, Ltd., 139, New St., Birmingham, sole district agents for Martinsyde, £170; dynamo lighting; £200, free delivery from stock. [X0622

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford; also Cornwall and Devonshire, for Martinsyde-Newman combination, £170; deliveries now being effected; sub-agents appointed.—Maudes' Motor Mart, 100, Gt. Portland St., W.1. and Paris St., Exeter. [6618

Marloe.

MARLOE Blackburne 2¾h.p. Solo, brand new, immediate delivery; 100 gns.—Autoveyors, 84, Victoria St., S.W.1. [6494

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STANDARD Model, fitted M.A.G. or J.A.P. engine, £205; with dynamo lighting, £230.—Lakeman, 26 Long Acre, London, W.C.2. [0274

1920 Matchless, Model H, delivered March; £205.—104, Brewery Rd., Plumstead, S.E.18. [6860

MATCHLESS 1920 Model H. Combination, done 300 miles; £195.—93, Vauxhall St., Kennington Lane. [6940

MATCHLESS Combination, 6h.p., recently overhauled, like new; offers.—Sutton, Bagshot, Surrey. [6889

MATCHLESS, Model H, fully equipped, mileage 2,000, guaranteed perfect; £216.—125, High St., Woolwich. [7551

MATCHLESS Combination, 6h.p. J.A.P., 3 speeds, clutch, horn, perfect; £50.—Steward, 17, Woollett St., Poplar. [6093

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1920 Matchless, brand new M.A.G. engine, electric light; list price, S.E. district.—Box 7,648, *The Motor Cycle.* [69

1920 Matchless 8h.p. Model H Combination, brand new, uncrated; £10 under list.—Box 7,667, *The Motor Cycle.* [75

MATCHLESS Combination, Lucas magdyno; £23 delivery from stock.—Maudes' Motor Mart, 10 Paris St., Exeter. [68

7-9h.p. Matchless Mag. Combination, splendid condition, 3-speed; £150.—Welsh, Farmer, H Village, nr. Durham. [X03

MATCHLESS 1920 Combination, Model H, lamp horn; £185.—Clark, 7, Exhibition Rd., Sou Kensington. Ken. 4096. [72

1920 Matchless Combination, complete equipment, new, mileage 2,800; £175.—Greenwood, 5, St Michael's Rd., Croydon. [69

TWIN Matchless Combination, beautiful turnout, ki starter, 3 speeds, fully equipped; £150, or neare —Maldon Cycle Co., Essex. [65

MATCHLESS Combination, Model H., spring fram speedometer, week old; £215; fully guaranteed. Bennett, Dentist, Morecambe. [74

1920 Matchless, Model H, absolutely as new, on been few miles; any trial; £185, or best offer. 32, North St., Bishop's Stortford. [72

MATCHLESS Coachbuilt Combination, 6h.p. J.A.P. 2-speed, kick start, splendid running condition £85.—J. W. Rutter, Esh, Durham. [73

MATCHLESS 1920 Model H Combination, only us for a few miles; £195.—Elce and Co., 15-1 Bishopsgate Av., Camomile St., E.C.3. [007

MODEL H Matchless, magdyno and acetyle model, in stock, new; list price.—Edwards a Co., 50, Harrington Rd., South Kensington. [76

1920 Matchless, Model H, new, driven from Lond only, lamps, spare wheel, hood, owner (privat has two; £215.—83, Montague St., Kettering. [74

1920 Matchless Model H Combination, standa equipment, lamps, and horn, splendid con tion; £200.—Webb, 145, Eastgate, Rochester. [71

MATCHLESS Model H Combination, complete lamp horn, hood, legshields, etc., low mileage; £19 appointment only.—29, Gladstone Rd., Watford. [77

1920 Matchless Spring Frame Combination, spa wheel, luggage grid and wind screen; £205.—C more Depots, 31, Colmore Row, Birmingham. [69

MATCHLESS Combination, 8h.p. J.A.P., 2-spe and kick start, completely overhauled, new tyr £65.—Union Lodge, Overseal, Ashby-de-la-Zouch. [73

MATCHLESS 1920 Model H, fully equipped, insu ance, coachbuilt pillion seat; £205, or reasonab offer.—32, Morrab Gardens, Water Lane, Seven King [56

MATCHLESS Model H Combination, 8h.p. J.A.P. hood, wind screen, lamps, horn, etc., perfect co dition; £190.—Geo. Lewis, Timber Merchant, Read [57

1920 Matchless, Model H, dynamo lighting, hor hood, leg-guards, at £215; easy payments exchanges.—2, Nightingale Rd., Lower Clapton. [75

1920 Model H Matchless Combinations, wind scree luggage grid, and spare wheel; £205; can deliv at once.—Colmore Depots, 31, Colmore Rd., Birmin ham. [X06

MODEL H 1920 Matchless, electric lighting, hoo special wind screen, guaranteed perfect ord mileage under 1,000; £225.—Box 7,630, c/o *The Mot Cycle.* [67

8h.p. Matchless, o.h.v. engine, very fast, with m mag., carburetter, and saddle, in excellent con tion; £85; after 7 p.m.—25, Earl's Court Garde London. [65

1919 Victory Matchless Combination, spare whe accessories; £155.—Clifford Wilson Mfg. C 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: K sington 7113. [54

MATCHLESS 7-9h.p. Combination, 1914, fu equipped, excellent running condition; any exp examination; £115; owner buying car.—A. M. Book Walberton, Arundel. [67

MATCHLESS Combination, 8h.p. J.A.P., engine gears just overhauled, new back tyre, lam horn, etc.; £110; inspection evenings.—Elliott, Delamere Rd., Wimbledon. [74

MATCHLESS Combination, late 1919 Victory mod nice condition, little used, original tyres; acc £160; consider Douglas or Triumph part.—Maisonet Aldwick Rd., Bognor, Sussex. [68

MATCHLESS, delivery from stock of new spr frame model, equipped to your requiremen replacements for Matchless models of all dates.—Tass 1a, Bloomfield Rd., Plumstead. [19

MATCHLESS, 8h.p., 1920, spring frame combi tions, early delivery, with or without dyna lighting; also a second-hand 1920 model, offer Wauchope's, 9, Shoe Lane, London. [7

6h.p. Matchless Combination, 2-speed, pedal star in good going order, just been thoroughly o hauled and repainted, Lucas lamps and horn; a bar £/5.—Bannister, Railway St., Chatham. [6

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Matchless.

1920 Matchless Combinations, Model H, fine assortment in stock, with M.A.G. or J.A.P. engines, from £200; also 1919 Victory model, new condition, 0 gns.—Ross, 86, High Rd., Lee, S.E. [6902

1920 Model H Matchless, M.A.G. engine, Lucas lamps, horn, speedometer, screen, hood, leg-ields, perfect condition; £195.—Edwards and Co., Harrington Rd., South Kensington. [7660

MATCHLESS 6h.p., 1912, new sidecar, new tyres, new valves, new rings, new Amac, 5 tubes, 2 new nerators, 3 lamps, spare tyre, new Klaxon; what ers?—Gill, 15, Wharlton Rd., Peckham Rye. [7054

VICTORY Matchless, Aug., 1919, exceptionally good condition, new cover back wheel, spare eel unused, Lucas lamps, horn, mirror, Tan Sad. y trial allowed; £170.—Hugh Penfold, Ashford, nt. [7326

MATCHLESS Combination, J.A.P. engine, racing model, with overhead valves, Gradua gear, new res and belt, with all accessories complete, coachbuilt lecar.—Apply, J. W. Gibson, Gas Works, B. Salterton, evon. [5127

MATCHLESS 1920, H. Eadie screen, leg shields, electric equipment, spare wheel, valves, equip-nt complete, available after 20th Sept., going abroad; 20.—Major Kempthorne, St. John's Lodge, Crow-rne, Berks. [7401

M.O.C.H. have a new Matchless-M.A.G. Combination, Lucas equipment; list price.—Fair Offer Car ouse, 5, Heath St., Hampstead (nr. Hampstead Tube ation). 'Phone: Hampstead 3752. Hours 9-7, in-ding Saturdays. [6825

1916 Matchless, 7-9h.p. M.A.G., all enclosed chain drive, 3 speeds, all lamps, Watford, clock, es, hood, screen, extra child's seat in sidecar, also n-Sad, perfect; £150; easy payments or exchanges. 2, Nightingale Rd., Lower Clapton. [7573

1920 Matchless Combination, the bargain of the year, M.A.G., Lucas dynamo lighting, screen, ire wheel, leg shields, sidecar step, etc., recently de-ered, as brand new; cost £235, accept £200; write pointment.—Ward, 35, Gartmore Gardens, Goodmayes, ord, Essex. [7540

MATCHLESS Combination, 1920, Model H, M.A.G. engine, all possible accessories, including Talbot ad light, D.A. cylinder in case, special seat made child on carrier, very comfortable, all in perfect ndition; by appointment or any evening.—c/o Mallett, e Common, Ruislip, Middlesex. [6721

1920 (July) Matchless M.A.G. Combination, Lucas lamps and horn, speedometer, Easting, mud-elds, complete set unused spares, spare wheel used), mileage 450, indistinguishable from new, ier receiving car, any trial by appointment; price 25.—Apply Box 7,646, c/o *The Motor Cycle* [6958

-8h.p. O.H.V. Racing Matchless-Jap, specially high compression, light reciprocating parts, not run) miles since £28 overhaul, including new heads, res, pistons, completely stove enamelled blue with tank, brand new T.B. magneto, the whole being thoroughly sound condition and capable of exceeding m.p.h., presents a unique opportunity for person hing to take up competition riding; £75.—Newall, gar, Essex. [7250

Metro.

METRO, 1916, condition as new; £42.—125, High St., Woolwich. [6097

1920 Metro-Tyler 2-stroke, nearly new; £42.—157, Burntwood Lane, Earlsfield, S.W.18. [7384

METRO, late 1919, almost new, lamps, etc.; £55. —Chilvers, Waterland, Cranleigh, Surrey. [6663

METRO-TYLER, type S, latest model, brand new, 2¾h.p., 2-speed, with enclosed mag. and gear box; 5/18; delivery from stock.—P. J. Evans, 83-91, John ght St., Birmingham. [0260

METRO-TYLER, 1919 model, 2¼h.p., 2-speed, delivered May, 1920, shop-soiled, fitted com-te with lamps and horn, price £69, bargain; also 20 Super S type model, 2-speed, enclosed magneto l gears, fitted complete with lamps and horn, shop-ed; price £95, bargain.—Fawn and Archer, Ltd., tor Engineers, Aldershot. [6700

Minerva.

MINERVA 3½h.p., new C.A.V., good tyres, running order; £17.—Etherington, 98, Bruce Grove, Tot-ham. [6438

3h.p. Minerva, Bosch, B. and B., spring forks, foot 4 brake, wants enamelling; £15.—Bond, 13, Shoot-Hill, N.W.2. [7405

1h.p. Minerva, mechanical valves, good running 2 order; £5.—Middleton, 35, Millias St., Albany , Camberwell, S.E. [6434

MINERVA 5-6h.p. Twin, Indian sidecar, electric lighting, new tyres and belt, running order; 5.—Wilmer, Soothill, Batley, Yorkshire. [7270

MINERVA 5-6h.p. Twin, 2-speed, F.E., overhauled and re-enamelled; a perfectly sound machine; o cane sidecar for same; room wanted; £50.—36, gh St., Hampstead. [7432

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MOTO-REVE 2¾h.p. twin, thoroughly overhauled, running order, fast machine; £25, or near offer.—Apply, A.J., 31, St. Peter's Square, Hammersmith, W.6. [7050

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MOTOSACOCHE, 2½h.p., £35; lamps, speedometer, tools, horn, spares, improved variable gear, sound Dunlops, belt, a very neat, comfortable, and economical lightweight, good condition; trial given here.—Angus, Coleshill Vicarage, Birmingham. [X0692

MOTOSACOCHE, October, 1919, 3½h.p. twin, M.A.G. engine, de Lissa valves, shaft drive, mag., Enfield 2-speed and clutch, all-chain drive, Hutchinson tyres, rubber-studded, T.T. bars, light sporting machine; price £85, or near offer.—Invicta Garage, Slough. Tel.: 217 Slough. [6505

New Hudson.

1920 New Hudson 2-stroke, very little ridden; 67 gns.; very grand value.—Julian, 84, Broad St., Reading. [5233

NEW HUDSON 1919 2¾h.p., unscratched, lamps, and horn; £60, offers.—S. Brewin, Rothley, Leicester. [6583

NEW HUDSON, 2¾h.p. J.A.P., 3-speed, clutch, Bosch mag., heavy Dunlops, lamps, horn.—Brazier, Goodwins, Galleywood, Chelmsford. [6670

NEW HUDSON 3½h.p. Combination, nice sidecar. Armstrong 3-speed; £70; cash or exchange.—Bunting Motors, Wealdstone. [7647

NEW HUDSON 2-stroke Lightweight, demonstration model, perfect condition; £55.—New Hudson Depot, 45, Gray's Inn Rd., W.C.2. [7025

NEW HUDSON Combination for Sale, 1914 model, kick start, countershaft, 3-speed gear, new tyres and tubes and tools; 60 gns.—Longstaff, Warcop, Westmorland. [6487

NEW HUDSON Late 1919 4h.p., 3-speed countershaft, K.S., lamps, horn, tools, spares, rebushed, splendid condition; £95.—Green, 136, Invicta Rd., Sheerness. [7112

NEW HUDSON, 3½h.p., 3-speed, new tyre, belt, Klaxon, all accessories, excellent condition, your funeral guaranteed; £55.—9, Hamilton Gardens, St. John's Wood. [7186

NEW HUDSON 2½h.p., 2-stroke, 1916, nearly new tyres and belt, just been completely overhauled, re-enamelled, brand new lamp set and mechanical horn; £35.—R. Watson, 132, High St., Aldeburgh, Suffolk. [6935

NEW HUDSON (Nov., 1919) 6h.p. Combination, fully equipped, lamps, horn, speedometer, wind screen, etc., tyres unpunctured, perfect condition.—Further particulars from, or may be seen at, Amies, Rowley Bank House, Stafford. [6806

NEW HUDSON Lightweights, 1920, 2¼h.p., 2-speed. £75, or fully equipped with head lamp and generator, tail lamp, and tubing, horn, L.C.C. registration, petrol and oil, £79/15.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [0280

New Imperial

1920 New Imperial, new 2¼h.p., 2 speeds, in stock; 77 gns.—Rose's Garage, Uxbridge. [7303

NEW IMPERIAL-J.A.P. 8h.p. Solo, very fast; £90.—12, Blenheim Gardens, Brixton Hill, S.W.2. [6705

2½h.p. New Imperial-Jap, 2-speed, free engine, 1914, in good order.—46, Gough St., Poplar, E.14. [7139

NEW IMPERIAL-J.A.P., 1917, 2-speed, good condition; £45, or offer.—2, Chase, Green Av., Enfield. [7488

IMPERIAL-J.A.P. 2¾h.p., 1917, 2-speed, clutch, lamps, insured; £50.—Whittingdale, General Hospital, Nottingham. [6867

NEW IMPERIAL-J.A.P. 2¾h.p., countershaft, Bosch, Capac, condition as new; £50.—L. Bennett, High St., Wargrave, Berks. [7295

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, handle-bar clutch, kick starter, lamps, Klaxon, mirror; £55.—Prynne, Penn, Bucks. [7128

1916 2¾h.p. Imperial, 2-speed, new piston, sprockets, pulley, etc. (£10), overhaul, discs; 50 gns.; fast.—Oak Villas, Station Rd., W. Byfleet. [6470

8h.p. New Imperial Combination, only delivered 14 days ago, not ridden 200 miles; £180; owner bought car.—81, Clarence Place, Newport, Mon. [7334

WAUCHOPE'S, 9, Shoe Lane, London.—2½h.p. 1920 New Imperial-Japs, 2-speed clutch, and kick start models; £89/5; with 2-speed, only £80/17. [7736

NEW IMPERIAL, Jan., 1920, 2¾h.p., Cowey horn, lighting set, accessories, perfect condition; £78.—A. Burgess, Hill View, Winnington, Northwich, Cheshire. [7496

NEW IMPERIAL 2¾h.p., 2-speed, engine and gears recently overhauled and rebushed by makers, powerful, economical; £48.10.—Ombersley, Baring Rd., Beaconsfield, Bucks. [7324

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL 1920 2¾h.p., 2-speed, brand new, shop-soiled only; list price, £80/17; reduced special price for cash, £65.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

NEW IMPERIAL-J.A.P. (1919) 8h.p. Combination, electric lighting, complete tool kit, fully insured until May, 1921; £135, or offer; seen Urmston, Manchester.—Box 7,632, c/o *The Motor Cycle*. (D) [6744

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £82/17; with clutch and kick-starter, £89/5.—P. J. Evans, 83-91, John Bright St., Birmingham. [0262

F.O.C.H. have a New Imperial Light Tourist, No. 2, list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6810

1919 (July) 2¾h.p. New Imperial-Jap, 2-speed, clutch, K.S., splendid condition, engine overhauled, fast, good climber, complete lamps, horn, spare belt, tools, new tyre; highest over £65.—Briscoe, Broughton, Hants. [6631

NEW IMPERIAL (March, 1920) 6 h.p. Combination, 800 miles, delivery of car, Lucas lamps, speedometer, screen, carrier, M-L mag., B.B. needle carburetter, new; bargain, nearest £190.—Imperial, 73, Chilwell Rd., Beeston, Notts. [X0556

1920 2¾h.p. New Imperial, with K.S. and clutch, bought in June, as good as new, complete with lamps, horn, speedometer, with trip and accessories, mileage 700; paid £105, accept £95; bought combination.—Apply, Box 7,636, c/o *The Motor Cycle*. [6746

COMBINATION, 8h.p. New Imperial, W.D., 1919, Canoelet sidecar with rear locker, F.R.S. Major head lamp, etc., horn and Easting wind screen, perfect order, very little used; £140; appointment evenings.—Barley, 29, Langley Drive, Wanstead. 'Phone: City 2374. [6922

1920 New Imperial 2¾h.p., 2-speed, kick starter and clutch, new lamps and horn, in perfect condition in every way, very powerful and speedy, repeatedly climbed Amulree and Cairn o' Mount test hills; inspection invited; £80.—Edward, Bungalow, Carnoustie, Forfarshire. [7110

New Ryder

NEW RYDER, J.A.P. 2¾h.p., 2 speeds; £45.—A. Edney, 180, Colliers Wood, Merton. [6682

Norton

NORTON 3½h.p., 1914, splendid condition throughout; £68.—70, Camden Rd., N.W. [7169

NEARLY New Norton, T.T., lamps, horn, absolutely perfect; £89; first caller.—32, High St., Reigate. [7266

1919 3½h.p. Norton, Sturmey-Archer, all-chain, accessories; £135.—Golding, Barbon, Kirkby Lonsdale. [X0689

NORTON B.R.S., just delivered, lamps, horn, exceptionally fast; £118; exchange combination.—203, Newland Av., Hull. [7323

1920 Norton Big Four, countershaft, low mileage, absolutely perfect condition; £140.—McVall, Llandogo, Chepstow. [7758

3½h.p. 3-speed Countershaft Norton, 161410, torpedo sidecar, perfect condition, all on; £100.—Manor Farm, Little Bookham, Surrey. [6797

NORTON 1916 Sports Combination, overhauled, repainted, and replated 1920; seen by appointment; £100.—C. D. Skinner, Ash Lodge, Hayes, Kent. [7056

1920 Norton Big Four, delivered 27th July, not run 250 miles, perfect; reasons for selling given; best offer over £130.—Payne, 2, Park Bank, Duffield Rd., Derby. [6678

NEW Big Four Norton 4½h.p. Excelsior Combination, bulbous back-sidecar, 3-speed, kick starter; immediate delivery; £160.—The Premier Motor Co., Aston Rd., Birmingham. [5552

1920 3½h.p. T.T. Norton, Philipson, Lucas lamps and horn, Smith's speedometer, 1,500 miles, as new; cost £120, accept £110.—J. Hebden and Son, 149, St. James St., Burnley. Tel.: 488. [7565

1920 Norton Big Four Combination, Watsonian R34 sidecar, knee-grips, Klaxon, tyres 650×65 all round, condition perfect, quite the smartest outfit on the road; any trial; owner bought car; £155, or near offer.—F. R. Waddington, Thornton Steward, Bedale, Yorks. [6769

NORTON Big Four Combination, late 1916, Canoelet sporting sidecar, mileage under 6,000, all chain, 3-speed, hand clutch, over-size heavy tyres, Cowey speedometer, Lucas horn and mirror, acetylene lamps, generator, spare new valves, inner tube, complete toolkit, etc., splendid mechanical order; any trial; £115 cash, no offers.—14, Elmhurst Mansions, Clapham Station. [7037

I HAVE for Disposal a Specially Good 1920 Big Four Norton Combination with De Luxe Sidecar, only used few times for experimental purposes and in every way equal to new, fitted Binks carburetter, extra tyres, etc.; price £172/10, a thorough good machine; I will take £5 less to anyone who will purchase, unseen or untried, on my recommendation to save valuable time.—Chas. Binks, Phoenix Works, Eccles, Manchester. [X0621

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You have no need to disturb this, as we can supply you with any type of Motor Cycle upon the deferred payment system at a nominal charge of 7½ per cent. No trouble. No bother. And strictly confidential. Our selection of over 100 Machines is beyond dispute the largest and most varied in North London.

One of our specialities is the well-known **O.K.-JUNIOR, 48 gns.** By its aid it is possible to travel all over England at a very low running cost. These machines can be purchased from stock upon the deferred payment system. Special discounts allowed for 1, 3, or 6 monthly payments. Trade supplied.

THIS WEEK'S BARGAINS.

1920 **BEARDMORE-PRECISION,** 3½ h.p., 2-speed, spring frame. List price, £95 ..... Our price	£90 0
1919 **SUNBEAM** (late)	£127 0
1919 **SUNBEAM** (late), as new	£142 10
1919 6 h.p. **JAMES** Combination (late) ..	£145 0
1919 4 h.p. **TRIUMPH** Combination (late)	£150 0
1919 **P. & M.,** like new, all lamps	£140 0
1920 shop-soiled **ALLDAYS ALLON**	£82 10
1920 shop-soiled **ARIEL,** 3½ h.p.	£115 0
1920 shop-soiled **ARIEL** Combination, 3½ h.p.	£152 10
1914 special racing **RUDGE-MULTI,** I.O.M. Winner of T.T., 1914	£70 0
1920 3½ h.p. shoo-soiled **ARIEL** Combination, Magdyno fitted	£177 10
1920 6-7 h.p. **ARIEL** Combination, shop-soiled	£172 10
1920 **A.B.C.,** Magdyno model, T.T. bars .	£173 7
1920 **DIAMOND-J.A.P.,** 2-speed model .	£82 10
1920 **DIAMOND-VILLIERS,** 2-speed mod.	£84 3
1920 **WOOLER,** 2¾ h.p., 2-speed, wonderful machine	£103 0
1920 8 h.p. **BLACKBURNE** and Sidecar, detachable wheels	£220 0
TRIUMPHS, renovated and guaranteed by makers	£105 0

CYCLE CARS.

BLERIOT-WHIPPET, as new, £20 worth of accessories	£265 0
EARL Cycle Car, 2-speed and reverse, like new	£85 0

Plenty of others at very low prices, including: **B.S.A., DOUGLASES, ENFIELDS,** Lightweights and Combinations, **ROVERS,** etc.

PLEASE SEND FOR BIG LIST.

Delivery from Stock of new 1920 Machines. Large assortment.

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Note addresses:

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'Phone: Hornsey 252.

and at

4, WOODSIDE PARADE, NORTH FINCHLEY.

'Phone: Finchley 2334.

MOTOR CYCLES FOR SALE.

N.S.U.

N.S.U. 6h.p. twin, 2-speed, clutch, any trial; £30.—104, Mitcham Rd., Tooting. [7051

1914 N.S.U. 6h.p. Combination, 2-speed, Bosch, coachbuilt sidecar, electric lighting, wind screen, speedometer; £75; trial.—After 6, 9, Northolme Rd., Highbury, N. [7231

N.S.U. 3½h.p., 1913, 2-speed, free, sprung frame, in excellent condition, fast and reliable, any trial, £38; with Fulford sidecar to suit, £42; Clyno coachbuilt sidecar body, 40/-.—Robins, 97, Latchmere Rd., Battersea, London. [6521

N.U.T.

N.U.T. 3½h.p. Electric for immediate delivery; £165.—Rootes, Maidstone. [6714

BOLTON.—New 3½h.p. N.U.T., with dynamo lighting equipment; £165.—Grosvenor Garage, Bolton. [X0248

1920 N.U.T., dynamo lighting, practically new; £155 or offer.—Box 7,660, c/o *The Motor Cycle*. [7594

N.U.T. Motor Cycles from Stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214 [1098

FRANK WHITWORTH, Ltd., 139, New St., Birmingham, for N.U.T.; £165, free delivery from stock. [X0623

N.U.T. 2¾h.p., o.h.v., 3-speed, in excellent condition; £65.—Green, 2, Howard Rd., Morpeth, Northumberland. [7319

N.U.T. 3½h.p. Twin, magdyno lighting, delivery from stock; £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [6870

N.U.T. 1920, ridden under 1,000 miles, dynamo lighting, discs, all accessories and spares; best offer.—The Gables, Monkham's Drive, Woodford Green, Essex. [6428

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery. Write or 'phone for particulars—Tel.: Yeovil 114. [6023

£145, or Near Offer.—1920 N.U.T., 3-speed, Lucas magdyno lighting, indistinguishable from new, only needs seeing, trial, fully insured.—Kendall, Jubilee Villas, Stavely Town, Chesterfield. [X0649

N.U.T., 1920, latest pattern, Lucas Magdyno lighting set with electric horn, Cowey speedometer, Pedley cushion grips, knee grips, numerous spares, tyres good, mileage small, very fast; £157.—Craig, Dunkeld, Darwen, Lancashire. [7453

O.K.

O.K. Junior Single and 2-speed Models.—Longman, Fisherton, Salisbury. [6243

O.K.-UNION Models in Stock at makers' price; £50.—Eagles and Co., 275, High St., Acton, London. [X0636

O.K.-VILLIERS, brand new; your present crock taken part payment.—103a, High St., Wandsworth, S.W.18. [7690

O.K. Junior; instant deliveries from stock; 48 gns.—Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes. [6776

1920 O.K. Junior, 2½h.p., better than new, not ridden 50 miles, wonderful bargain; 42 gns.—'Phone: 1024.—Julian, 84, Broad St., Reading. [7723

O.K.-UNIONS, delivery from stock, list price; the most marvellous lightweight; demonstration with pleasure.—Meeten Motors, O.K. Agents, Dorking. 'Phone: 163. [7620

O.K. Juniors from Stock; 48 gns.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., Regent's Park, N.W.1 ('Phone: Museum 5476). [1160

O.K. 2-speed, Thomson-Bennett, Senspray, disc wheels, green, long exhaust, accessories, new plating, overhauled, very sporty; 50 gns.—H.B.A., 3 Cotham Side, Bristol. [6844

F.O.C.H. for O.K. Unions and Juniors, list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6811

Omega.

OMEGA-J.A.P.'s just arrived, Model B. £72, Model C. £80.—Washburn, Cheadle, Staffs. [5331

1920 Omega-Jap, clutch, kick-starter, 2-speed.—£70.—Curtis Wychbury House, Droitwich. [X0070

1919 Omega-Jap 2¾h.p., 2-speed, perfect order £60.—40, Salford Rd., Streatham Hill, London. [6741

1920 Omega-Jap (June), 2-speed, mileage 50, perfect; £65.—Andrews, South St., Wellington, Somerset. [6451

OMEGA-J.A.P., late 1919, Model C, clutch, kick starter, good accessories; snip, 60 gns.—Bunting Motor Exchange, Wealdstone. [7641

BRAND New 1920 Omega-Jap, 2-speed, clutch and K.S., long plated exhaust, 2½ tyres, specially tuned engine; best offer.—Loch, Preston, Cirencester. [7370

F.O.C.H. for Omegas; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6811

MOTOR CYCLES FOR SALE.

Omega

NEW Omega-Jap 2¾h.p. Model C, 2-speed, kick-starter, handle-bar control, clutch; price 79 gns., rriage paid nearest railway station.—Fawn and rcher, Ltd., Motor Engineers, Aldershot. [6702

Overstone.

VERSTONE, 1920, 2-speed 2-stroke; owner bought Scott; 59 gns.—Greenbank, Newlands Place, Brad-rd. [6799

P. and M.

BRIGHTON, Hove and district P. and M. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0204

). and M. 1920 Model, delivery from stock; £115.—Maudes' Motor Mart, 100, Paris St., Exeter. [6871

). and M. Combination, 1917, good condition; £63. —Markada, New Park Rd., Ashford, Middlesex. [7113

1h.p. P. and M., in perfect condition, lamps, etc.; 2 any trial; £45.—32, Aspland Grove, Hackney station. [7114

). and M., Canoelet, stored during war, excellent condition; £85.—Turner, 86, Northbrook St., ewbury. [7119

918 P.M. Combination, accessories, good enamel and condition; £85, offers.—Adeney, Blackness, cowborough. (D) [7185

920 P. and M. and Sidecar, £155; also solo models in stock, £115.—Colmore Depots, 31, Colmore ow, Birmingham. [6965

). and M. 1920 Combination, nearly new fully equipped, must sell, accept any offer.—Box 7,647, o *The Motor Cycle.* [6959

). and M., delivered May, 1920, as new, perfect running condition; £87/10.—M. H. Press, The dars, Aylesford, nr. Maidstone, Kent. [6740

). and M. Combination, coachbuilt screen, grid, kick-starter, speedometer, lamps, horn; £75, view enings.—251, Archway Rd., Highgate. [6724

). and M. Combination, R.A.F. model, late type, perfect order; cash offers or exchanges con-idered.—103a, High St., Wandsworth, S.W.18. [7687

). and M. Combination, 1914, private owned, v.g. condition, fully insured; £90, or offers; letters, pointment.—Selway, Nazeing, Waltham Cross. [7578

920 P. and M. Motor Cycle, mechanical oiling, etc., £115; with P. and M. sidecar, £155; in ck.—Colmore Depots, 31, Colmore Row, Birmingham. [X0617

918 P. and M., new P. and H. lamps, Klaxon, pump, etc., excellent condition throughout; 0.—3, Cluny Mews, Warwick Rd., Earl's Court, V. [7344

920 P. and M. Combination, only run 850 miles, 3 best lamps, Cowey, and many spares, extras worth 5; a bargain, 132 gns.—Egbert Spearman, Bishops rtford. [6606

919 P. and M. Combination, bought direct from manufacturers, all on, spares with spare cover, fect condition; £110.—Crompton, 176, Corporation Stafford. [7486

920 P. and M. Combination, May, latest model, ratchet brake, Stewart signal, spare Kempshall er, mileage 400; £140.—Write, Turner, Pall Mall, alley, Staffs. [6994

65, or Offer.—P. and M., eSpt., 1916, 2-speed, clutch, K.S., all chain (2 new), good tyres, horn, erful, takes sidecar easily; trial.—Aitken, 7, Sussex dens, Eastbourne. [6432

919 P. and M. Combination, delivered March, 1920, only done 450 miles, carefully used, fine condi-, spare tube, etc.; Barnsley district; £126.—Box 11, c/o *The Motor Cycle.* [6612

920 P. and M., latest model, Watsonian tourist car, sprung back and seat, Lucas lamps, sed, Stewart horn, perfect condition; £145, or offer. t, Knighton Church Rd., Leicester. [7257

919 P. and M. Combination, new back wheel, new tyre, mudshields, wind screen, luggage grid, spares, tools; £110, or offers.—Lawson Walton, nge Colliery, Dropping Well, Rotherham. [7260

914 6h.p. Twin P. and M. Combination, in very nice condition throughout; marvellous puller the last word in reliability; £85; exchanges con-red.—Lambert, 343a, Finchley Rd., Hampstead ck of Langfier's Studios). [7717

ARGE Number P. and M. 1917 and 1918 W.D Models, all-chain drive, 2-speed, kick starter, over-led, original colours, ready to ride away, price £70; binations, £98; the trade supplied.—Barnett, c/o ris and Hall, Ridge Mews, Child's Hill, Crickle-d, N.W. 'Phone: Hampstead 7667. [3269

918 P. and M. Combination. This machine has been completely reconditioned, all worn parts aced, and re-enamelled and plated in 1920 colours, s nearly new, complete with all chain covers and dard fittings, and equipped with head lamp set, car and rear lamp, and guaranteed for 3 months; registration, appearance and condition almost al to new; first cheque for £110 secures; ready to e away.—Hubert Turner and Co., 4-5, Crawford sage, Ray St., Farringdon Rd., E.C. [7394

THE Pytchley AUTOCAR C° Ltd

We have a large stock of 7-9 Powerplus Indian Machines of recent date.

The whole of these have been thoroughly overhauled and are ready to ride away.

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LONDON, W.

'Phone No.: Mayfair 4535.

MOTOR CYCLES FOR SALE.

P. and S.

NEW 2¾h.p. P. and S., fitted with the Villiers 2-stroke engine, 2-speed; £73.—Wauchope's, 9, Shoe Lane, London. [7733

Paragon.

PARAGON, never been used, 2-stroke, 2-speed, spring frame, urgent sale; £57/10.—Thomas, 24, Townley Rd., E. Dulwich. [7289

Precision.

1914-1915 4½h.p. Precision, countershaft, speeds, kick, luxurious coach sidecar; accept £68, carriage paid.—Smith, 72, Zetland St., Southport. [6865

Premier.

PREMIER 3½h.p., 2 speeds, lamps, etc.; £28.—Speechley, 1, Gunnersbury Lane, Acton, W.3. [6849

PREMIER Lightweight, B. and B., splendid condition throughout; bargain, £29.—15, Dallin Rd., Plumstead. [7553

3½h.p. Premier Combination, coachbuilt, 2 speeds, good condition, new tyres; £49.—7, Rockery Rd., Horsforth, Leeds. [6625

£65.—Premier combination, 2-speed gear box, clutch, Dunlops, excellent condition.—63, Solon Rd., Brixton. Exchange. [7538

PREMIER 3½h.p. Combination, 2-speed clutch, handle start, good condition; £50.—M. Kerton, Port Bannatyne, Scotland. [4113

PREMIER 3½h.p. Coach Combination, 2-speed, pedal start, screen, speedometer, 3 lamps; £55; after 7.—11, Kilmartin Av., Norbury. [7477

3½h.p. Premier Combination, Bosch, B.B. lamps, good tyres, good running order, must sell; £25—76, Western Rd., Southall, Middlesex. [6735

£78.—1916 Premier combination, 4h.p., 3-speed countershaft, £40 coachbuilt sidecar, hood, wind screen; seen any time.—20, Canterbury Rd., Croydon. [6485

3½h.p. Premier Combination, 1914, coachbuilt, 3-speed clutch, splendid condition; £54, or nearest offer; £46 solo.—Robinson, Sunderland St., Tickhill, Rotherham. [7264

PREMIER 3¾h.p., 1914, 3-speed Sturmey-Archer gear, thoroughly overhauled, including new cylinder, piston and rings, gudgeon pin and connecting rod, new tyres and tubes, re-enamelled throughout, pedal start, footrests, a splendid machine, appearance as new, condition as stated above guaranteed; £70.—Alpha Works, Northfield, Birmingham. [6666

PREMIER 7-9h.p. Combination, just thoroughly overhauled, cylinders ground, new pistons fitted, latest B. and B., totally enclosed Bosch, gear box, 2-speed and clutch, handle starting, Smiths speedometer and watch, electric lighting, tyres good, coachbuilt sidecar just done up, tools and spares, a really first-class outfit; £125.—Urech, Woodlands, Biggin Hill, Kent. [6853

Quadrant.

IN Stock, 1920 Quadrant combination, absolutely it; £145.—Sheldon, Wheatley, Oxon. [7350

QUADRANT Combination, 4½h.p., delivery from stock; £145.—Maudes' Motor Mart, 100, Paris St., Exeter. [6874

3½h.p. Quadrant, fast, powerful; ride away; £27, offers. Evenings 7, Saturdays 1.—10, Boundary Rd., Merton. [6674

4½h.p. Quadrant Combination, 2-speed, kick starter, countershaft, perfect order; £85.—49, Woodfield Rd., Ealing. [7102

1920 Quadrant Combination, 4½h.p., speedometer, all accessories, as new; £125.—Julien, 12, Portland Rd., Finsbury Park, N.4. [7033

NEW 1920 4½h.p. Quadrant Combination, 3-speed, Sturmey-Archer countershaft gear, clutch, and kick starter; £145.—Wauchope's, 9, Shoe Lane, Fleet St., London. [7740

3½h.p. Quadrant, 1914, Armstrong 3-speed, clutch, accessories, sound, reliable; £48; after 6 (not Saturdays or Sundays).—Dudley, 34, Cartwright Gardens, Tavistock Sq., W.C.1. [6918

QUADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the only moderate-priced outfit left.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0277

4½h.p. Quadrant Combination, 1915-16, B.S.A. 3-speed gear box, 3 lamps, horn, speedometer, Easting, spares, 3,000 miles only, perfect; £85.—Harwood, 71, Burnt Ash Hill, Lee, S.E.12. [7707

NEW 4½h.p. Quadrant Combination, to makers' specification; at list price, including carriage from works, £147/7/3; or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [7016

QUADRANT 4½h.p. C.B. Combination, 3-speed countershaft, K.S., all accessories, speedometer, etc., in perfect condition throughout, low mileage, fast and most reliable; £110.—Williams, 20, Edgar Rd., Winchester. [7516

QUADRANT 1920 4½h.p. Combination, brand new, immediate delivery; £145; no extra for extended terms, half cash down, balance 12 months. One shop-soiled combination at £130.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0069

MOTOR CYCLES FOR SALE.

Quadrant.

CLIFFORD WILSON Mfg. Co. offer several bargains in second-hand and nearly new Quadrants; delivery from stock can also be given of new solo and combination models; price £115 and £145; delivery free, one year's guarantee given with all machines of this make. We are Quadrant specialists with fourteen years' experience of these machines; all spares and accessories stocked.—70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [7752

Radco.

RADCO, 1916, perfect, lamps, Klaxon, insurance; £40.—79, South Norwood Hill, S.E. [6987

BRAND New 1920 Radco 2¼h.p., 2-stroke, £52; 2-speed model, £60/10; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [5557

Reading-Standard.

1920 Reading-Standard Combination, hardly soiled; bargain, £195.—Grimes, 18, Bruton Place, Bond St., W.1. [5957

TWO Late Model Reading-Standards, want few repairs, very cheap to clear.—Grimes, 18, Bruton Place, Bond St., W.1. [5958

READING-STANDARD 1920 (July) Combination, fine lot, dynamo equipped, speedometer, screen, done 480 miles; nearest £200, bargain, cost £242, or exchange solo and cash.—Green, 31, Silverdale, Sydenham, S.E.26. [7100

Regent.

REGENT Combination, 5-7h.p. flat twin, dynamo lighting, complete, brand new; list price.—E.G., 119 Broad St., Hanley, Staffs. [6446

1920 Regent 5-7h.p. Combination, electric lamps, tools, Cowey speedometer, mileage 500; £170.—Anderson, 110 Knights Hill, West Norwood. [7253

Revere

REVERE 1919 2-stroke, 2-speed, complete, lamps, etc.: £60.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [6777

2½h.p. 2-stroke 2-speed Revere, late 1916, new condition internally and externally, tools, lamps, horn, spares; £55, offers.—40, Sherburn Terrace, Consett, Co. Durham. [X0710

Rex

REX 6h.p., 2-speed, powerful, reliable, nice appearance; £48.—42, Southsea Av., Watford. [X0691

REX 3½h.p. all complete, good going order, new Palmers; £25.—Fox, Belgrave, Pulford, Wrexham. [7207

8h.p Rex Combination from stock; list price.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [6382

1920 Rex-Blackburn Combination, Model 55, spare wheel; £218/18, or exchange.—Halifax Motor Exchange, Horton St., Halifax. [6793

REX 4h.p., Bosch mag., B. and B. carburetter, new tyres, good running order; £25.—Murray, 37a, Charles St., Hatton Garden, Holborn. [X0612

REX 6h.p. C.B. Combination, late 1913, 2-speed, free engine, recently overhauled, splendid condition, ride away; £70, or nearest offer.—Below.

4h.p. Rex, 1913, 2-speed, free engine, splendid condition, any trial; £40, or offer.—182, Old Bank Rd., Dewsbury. [X0652

REX 3½h.p., T.T. bars, huge exhaust, sloping top tube, discs, Bosch, m.o.v., adjustable pulley, new belt, fast, sporty 'bus; £24.—18, Finsbury Rd., Wood Green, N.22. [6928

THE New Model 55 Rex Combination, with 8h.p. Blackburne engine, coachbuilt sidecar, cantilever springing, detachable wheels and tyres, now in stock for immediate delivery; £218/18; free delivery by road or rail.—The Premier Motor Co., Aston Rd., Birmingham. [5558

REX T.T. 5-6h.p. Speed King Model, overhead inlet valves, racing frame and handle-bars, two riding positions, long open twin exhausts, just completed thorough overhaul, new tyres, tubes, belt, and horn, in splendid condition, extremely fast and powerful, photograph on request; £48; any trial; seen any time, 'phone 36, after 6.—Rose, Highfield, Gainsborough. [X0658

Rex-Jap.

4h.p. Rex-Jap, splendid engine, variable gear, racing cam, Bosch, Senspray, automatic oil feeds, tyres, tubes, tank, legshields, bearings, belt, footboards, gear, toolbags and most accessories new, spares include valves, plugs, tubes, fully equipped; price £60, or near.—Eyers, 1k, Garden City, Ebbw Vale, Mon. [7360

Rover.

WAUCHOPE'S, 9, Shoe Lane, London.—5-6h.p. Rover combination, 1918 model; £85. [7746

ROVER New 1920 6h.p. and Grindlay sidecar, never ridden; £195.—Everson, The Dingle, Stourbridge. [7618

1920 Twin Rover Combination, lamps and horn, new August; £215.—Villain, 20, Leam Terrace, Leamington. [6556

T.T. Rover, 1919, 3½h.p., Philipson, discs, little used; nearest £85.—F. R. Webb, Church Sq., Leighton Buzzard. [6439

YOU CAN STICK

a pair of Ustikon Soles to your shoes as easy as you can stick a stamp on your letters. No tools are required, neither screws nor rivets. The method is simplicity itself. What can be easier?

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This quick, wide demand for a new product can be explained only by the tremendous *need* for it. These soles resist slipping, thus making walking safe. They are flexible and easy to the feet of men and women, and permit proper growth to younger feet.

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Ustikon

SOLEPIECES

GENTS', ALL SIZES, 3/9
LADIES', ALL SIZES, 2/9

Complete with Sol-fix and full directions.

Please state size when ordering, and remit 6d. extra towards cost of postage to Dept. E.

ELITE RUBBER CO., LTD.,
264-66, Vauxhall Bridge Road,
LONDON ——— S.W.1.

MOTOR CYCLES FOR SALE.

Rover.

ROVER 3½h.p., 1914, single speed, Bosch, B. and B.; bargain, £38.—Carr, 40, Rockmount Rd., Upper Norwood. [7092

1920 Latest Model 5-6h.p. Rover Combination, mileage 250, new lamps, speedometer; £220.—Collier's Motories, Halifax. [6795

ROVER 8h.p. Single-cyl., late model, in excellent condition; £125.—Barker's Motors, 194, Balham High Rd., London, S.W.12. [7001

ROVER 1914 C.B. Combination, 3-speed clutch, hood, screen, lamps, speedometer, excellent condition; £85.—202, Trinity Rd., S.W. [6939

IF You are thinking of buying a motor cycle, why pay £60, when I have the goods (Rover) for £30. Private owner.—2, Halows Rd., Eltham. [7322

1917 Rover 3½h.p., 3-speed, B. and B. carburetter, E.I.C., under 5,000 miles, first-class condition; £75.—Box 7,501, c/o *The Motor Cycle*. [6397

ROVER 1918 5-6h.p. Combination, renovated as new, guaranteed sound; £125.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0070

ROVER 1920 Brand New 5-6h.p. Combination, latest improvements; £235.; exchange entertained.—Eagles and Co., 275, High St., Acton, London. [X0680

ROVER 5-6h.p., 1920, and Middleton large size side car, with hood and screen, excellent condition, all complete; offers.—155, Bromyard Rd., Worcester. [645

ROVER, T.T., 1912, Bosch, latest type B. and B. new semi-T.T. bars, very fast, external appearance excellent; £42.—Gray, Broadway, Watford. [752

1919 Rover Combination, 3 new extra heavy Dunlop covers, lamps, tools, etc., tip-top condition; price £145, or near offer.—Setchfield, Baker Manea. [652

ROVER 5-6h.p., W.D., bought Jan., 1920, Easting Volex electric, Stewart, luggage grid, horn, tool spare tube, perfect; £145.—Smith, 70, Kitchener Rd East Finchley. [668

1914 3½h.p. Rover, stored during war, condition a new, Bosch mag., 3-speed, clutch, tyres new spare new belt, lamps, and accessories; £70.—Clark, Vicarage St., Frome. [X066

1916 T.T. Rover, with Philipson pulley, Lucas horn and lamp set, mechanical condition perfect examination invited; £60.—Kays, 8, Bond St., Ealing W.5. 'Phone: 1827. [712

1919 3½h.p. Rover Combination, 3-speed countershaft, electric and acetylene lighting, horn, speedometer, run 2,000 miles; £135, or near offer.—Box 390, Morgan's Library, High St., Purley. [728

1920 Rover Combination, 5-6h.p., purchased March, beautiful and silent machine, lamps and horn new; bargain, £180, no offers; seen by appointment.—Bracey, Penygrang Terrace, Cumfields, Pontypool. [65

ROVER 1918 5-6h.p. W.D. Combination, complete with wind screen, hood, speedometer, Klaxon, lamps, clock, luggage grid; £150; owner going abroad, can be seen any time.—Apply, 55, Holland Rd., Kensington, W.1. [69

F.O.C.H. have a 5-6h.p. W.D. Rover Combination, Easting, negligible mileage.—Fair Offer C House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hou 9-7, including Saturdays. [68

3½h.p. 3-speed Rover, 1919 (Christmas), Cowey ho and speedometer, Lucas lamps (2 generator original tyres unpunctured, indistinguishable fr new, numerous tools and spares, any trial; best off —89, Palmerston Rd., Bowes Park, N.22. [70

NEW 3½h.p. Rover Motor Cycle, fitted with 3-spe clutch and kick-starter, and with smart coachbu sidecar; £180 or on easy payments 5% extra; quarter deposit, balance by 12 monthly instalments Harrods, Ltd., 118, Brompton Rd., London. [7

ROVER 1914 3½h.p. Combination, 3-speed, ex lent condition and appearance, engine and ge recently overhauled, lamps, hood, screen, new ex heavy Dunlop, fast machine; £60; privately owne Seen at Clarke's Garage, South St., Romford, Esse [7

ROVER 1919 (Dec.), 5-6h.p. J.A.P., special co built sidecar, Lucas dynamo lighting, Bonnik tip speedometer, wind screen, side curtains, tools, pl and enamel as new; seen after 6 p.m.; price £2 offers.—Apply, Molenkamp, 38, The Avenue, Grove Pa S.E. [7

ROVER 5-6h.p., 3-speed, all-chain combination, from makers Oct., 1919, mechanical condition appearance practically as new, special roomy side speedometer, lamps, hood, screen, 28×3in. Dunl unpunctured); £170; trial.—Legg, 17, Pepys Rd., W Wimbledon. [6

Royal Ruby.

ROYAL RUBY 3h.p., 3-speed, spring frame; £1 —Longman, Fisherton, Salisbury. [6

1920 Royal Ruby, 3h.p., 2-speed, spring fra moderate mileage; £105.—Collier's Moto Halifax. [6

ROYAL RUBY 1915 2-stroke, new tyres, accesso unscratched; offers.—Sibley, 106, Market Pl Romford. [7

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ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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Trials and their Effects.

THERE has been considerable discussion of late as to whether present day trials are developing the type of motor cycle required by the buying public. This is a subject which requires serious consideration, for as soon as this object is lost to view, a reliability trial, however well organised, becomes merely an empty show or a sporting event without serious intent to improve machines in any way.

It is an undoubted fact that the inclusion of freak hills and surfaces tends to develop a heavy under geared machine, and thus we frequently find motor cycles, primarily designed for passenger work, entered as solo mounts in important trials. This is defeating the object of the event, and though it may produce a suitable machine for heavy solo work in countries where roads are bad or do not exist, we must not lose sight of the fact that the greatest market is in our own country where roads are comparatively good.

Therefore there is but little necessity for the low gear ratios which have come to be fitted as standard. The solo rider of a motor cycle of 3½ h.p. or over scarcely ever uses the lowest ratio of his three-speed gear box, and is consequently paying for something he does not require, and is carrying about unnecessary weight and complication. In this connection it is curious to note that most machines of 3½ h.p. and over are fitted with three-speed gears, while the smaller fry are content with two ratios only. From the solo rider's standpoint this is obviously a reversal of what is required, and points to the fact that the sidecar is having an undue influence on his favourite type of mount. On the other hand, the man who uses a moderately powered sidecar outfit derives little benefit from modern trials, since most of the machines in which he would be interested are ridden solo.

A contributor has suggested that certain features in big trials should be reserved for certain types only, and the idea is at least worth consideration. The question, too, of petrol consumption might well be considered. In fact, at the present juncture petrol consumption in relation to weight and horse-power is the most vital point for designers to consider.

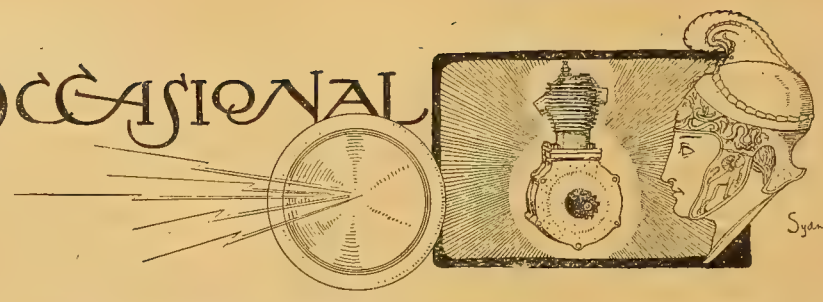
The State of the Trade.

JUST as one swallow does not make a summer so one frost does not make a winter, though there are pessimists abroad who may give it that interpretation. The voluntary winding up of the Sopwith Aviation Co., Ltd., following upon the liquidation of the Clyno Engineering Co., Ltd., is regarded ominously by certain sections of the Daily Press who take it as an indication that the motor trade is stagnant. Such a statement is apt to be misleading, since enquiries addressed to most of the well-known manufacturers show that order books are almost as full as ever. Some amount of stagnation there may be, but trade is not lacking.

Clearly there is always a slight falling off in orders at this time of the year, since fine weather motor cyclists have already purchased their mounts and others are awaiting the forthcoming Olympia Show before definitely placing their orders. Many manufacturers also have been hedged about with serious difficulties since the Armistice. Some of them laid out optimistic programmes for production in large quantities, and installed expensive plant for the purpose, but were subsequently handicapped by rising prices of materials and labour troubles. It has been difficult, also, to obtain the necessary material for the projected programmes, for labour has not exhibited energy since the war, and many other minor causes have contributed to rendering the lot of the manufacturer difficult. The result is in some cases that available capital has been expended before output has been brought to a level that will enable deliveries to be made in numbers sufficient to relieve the situation. This position, happily, is not general.

An index to the advertisements in this issue will be found on the page facing the back cover.

OCCASIONAL COMMENTS



By "IXION"

Metal Seam for Leggings.

NOT long ago I drew the attention of motor cycling tailors to the possibilities of a patent metallic seam for leggings. I have since been informed that the seam was originally invented by a Parisian dressmaker for the benefit of chic demoiselles who wished to wear umpteen frocks per day. It served this purpose well, but when applied to motor cycling leggings by an English tailor in 1910, the metal used to rust, and the unfortunate rider had to be debagged with the aid of a tin opener. Having already plenty of personal enemies, I hereby retract my previous advice.

Service Depots.

I HAVE been spending a few days' vacation with a rider who lives 250 miles from the factory where his machine originates, and is compelled to rail his 'bus that distance whenever it requires any major attention. The freight charges in such a case amount to nearly £2 10s., and, worse still, the machine is liable to damage *en route*. I remember reading that the Ford people, when they decided to attack the market in Morocco and Algiers, transported their local agents to the Ford factory for a fourteen days' "school," as we used to call it in the Army. I do not suggest that the smaller provincial agents could leave their businesses in charge of their wives whilst they went to Coventry for a thorough training in the repair and adjustment of the machines which they intend to sell. But I do say it is absurd that a rider living at Carlisle or Penzance should have to forward his machine (or a big component of it) to Coventry, or Wolverhampton, or Bristol, or London, when it needs really skilled attention. As the reconstruction of the motor cycle industry proceeds, the aim of the trade will doubtless be to establish service depots so distributed that no home buyer is more than 100 miles distant from a depot. At such depots a full supply of spares will be carried, and a staff of mechanics familiar with the machine will be maintained.

Car Type Tyre Valves.

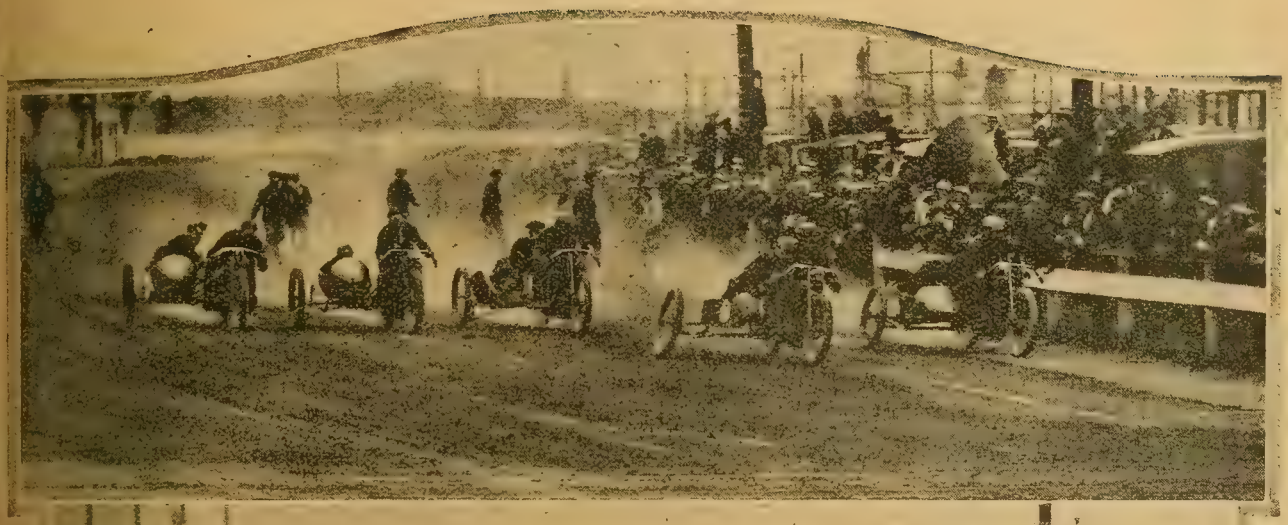
I WISH to become something of a public benefactor by warning innocent purchasers of cycle cars that the car type of tyre valve, commonly fitted to large inner tubes, wants a bit of knowing. It is an old heresy of mine that the invention of a better tyre valve is long overdue; but let that pass. Anyhow, Jones bought his first four-wheeled projectile, and all went well till he noticed in the book of the words that tyres should be kept inflated to a given pressure. He whipped off the valve covers and applied a pressure gauge. All well. Jones went to bed, dreaming of the morrow's run. The sun was shining when Jones arose at six a.m. on Saturday and hied him garagewards. Both back tyres flat. He feverishly searched the treads of both covers, but found no puncturesome objects embedded therein. However, off came the covers, whilst Mrs. Jones hung timidly round with a washbasin full of water. The leakage was presently traced to the valves. Having no spare valve bits Jones was about to postpone the gleeful drive, when an ex-M.T. happened along. In five minutes both tyres were board hard.

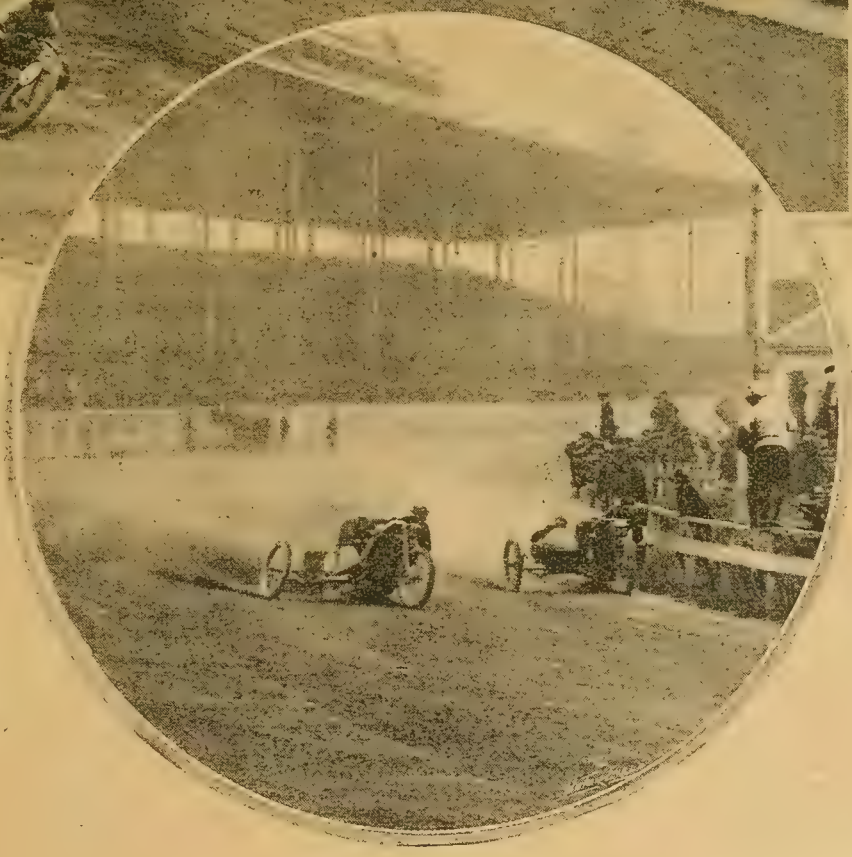
The Morals.

NO. 1 is an ancient moral, and amounts to no more than putting a tyre valve at 12 o'clock, and immersing it in a tumbler or a test tube of water according to its girth. This simple precaution will often prevent the dismounting of a cover where no nail can be seen. Moral No. 2 is familiar to car owners, but not to those who meet car type tyre valves for the first time. These valves have two pressure seals. The battle zone is in the neighbourhood of a pear-shaped blob of rubber mounted on the end of a metal pin; this replaces the rubber tube found in motor cycle valves. The pear generally leaks, but seldom leaks at all fast. Its petty leakages are staunched by a rubber washer inside the small helmet cap on the top of the valve. Jones had unscrewed these caps to test his pressures, and had omitted to tighten them home again properly. Hence the petty leakage past the pear had let his tyres down during the night. There are other points at which such valves may leak, but I spare you. Perhaps it is worth adding that the pear generally leaks furiously when there are only a few pounds of pressure in the tube, *e.g.*, in the course of investigation or re-fitting; but that it generally beds down to its work pretty decently when working pressure is approached. Some riders do not know that garages stock small packets of replacement parts for these valves, of which a supply should always be carried.

The Conscientious Agent.

SAILORS hold that there is a little cherub who sits up aloft and watches over poor Jack. I know a motor cycle agent whose theology is of a more cynical type. Anxious to oblige a hungry customer, he paid another agent something near full retail price for a 'bus which is in great demand; and fearful of the M.T.A. he disposed of his purchase at list price. In order that his client should meet no trouble, he carried out a road test of the machine prior to delivery, seeing that in factory tune it did not start too easily. In his three mile tuning spin the back tyre picked up an enormous rusty staple, which perforated both tube and cover in two places. By the time he had fitted a brand new tyre, as in duty bound, his meagre profit had evanesced. This agent is now poring over the book of Job.





TRACK RACING IN CANADA.

These striking photographs, taken in Toronto, convey a good idea of the public interest in motor cycle racing in Canada, the lower picture depicting a big grandstand packed with spectators. That the actual racing can be seen in progress all round these small dirt tracks no doubt accounts in some degree for the amount of public support shown. Sensational finishes on such tracks are certainly more frequent than they are on the great course at Brooklands.

Drifting clouds on the flanks of Ben Lomond; a scene on the twenty mile stretch of loch-side road

A Tour in the Highlands

A Lonely Tour of Twelve Hundred Miles from the Midlands to Scotland with a Two-stroke Sidecar Outfit, described by "Wharfedale."

MY weekly duties entail the observation of innumerable reliability trials and the like, which involve me in much hard riding.

In consequence I might have conscientiously decided to take my holidays in peace, away from motors and motoring, but my 'bus and I are inseparable, and so my vacation had, indeed, to be of the 'busman's variety.

June was the month I selected, and one fine day, I started out from Coventry, heading northwards.

A new aluminium body made to suit my own ideas by the Willowbrook Co., of Leicester, had been hurriedly fitted to the sidecar chassis of my Scott, and it was packed with spares, a heavy photographic outfit, suit cases, and benzole. The engine, having already 6,000 miles to its credit (without decarbonisation!), purred away contentedly, and Kendal was reached in the evening.

The main road *via* Warrington, Wigan, and Preston, was found to be quite good, only a few miles between the last two places remaining to remind one of its former terrors. Kendal was full to overflowing, and having sought shelter at a small inn, an hour was spent chatting over rotary valves and other things with that ardent Scott enthusiast, L. S. Parker. In the morning the switchback road to Bowness, *via* Crook, was taken; much the best way to Windermere from Kendal. The ascent to Kirkstone provided some hard low-gear work, but the descent to Patterdale was taken fast with an idle engine. Ullswater looked well in the morning sunlight, and the Lake District was a temptation to dally. However, Loch Lomond was the objective, far to the north.

From Penrith to Carlisle is a lovely speed road, and much time was gained by keeping a wide throttle. North of Carlisle one does not realise that Scotland has been reached until the word "Ecclefechan" (in large "caps" on an A.A. plaque) smites the eye; of course I at once commenced to practise the guttural "ch"

A Tour in the Highlands.—

Through Beattock the scenery improves, and over the moors towards Abington the winding of road and railway is interesting. Shortly after leaving the latter place a small shock-absorbing spring beneath the sidecar body collapsed, and not having a spare it was replaced with a bundle of sacking secured with string. Towards Hamilton the surface deteriorated, and into Glasgow became indescribably bad. Arriving in the capital an S.O.S. to the works for more sidecar springs was despatched. No time was lost in getting on, and Balloch was reached at nine in the evening; overwhelming hospitality was found at the Balloch Hotel.

Morning broke dull and grey, and after breakfast I found my engine sulky, only to discover that the magneto chain spring clip had dropped off, thus allowing the chain to become detached. Once traced the trouble was immediately righted, and a glorious run of twenty-five miles beside Loch Lomond soothed my ruffled feelings. The low banks of cloud on the shoulders of Ben Lomond added to the charm of the scenery. From Ardlui to Crianlarich the road increases in roughness, but is nowhere bad. Crianlarich comes rather as a surprise, its excellent hotel, the village shop, and the many new villas appearing incongruous in such a barren setting; the road towards Killin, after leaving the dark and silent Loch Dochart was excellent, and the gentle ascent over to Glen Ogle was taken famously "on top."

To be Envied.

On the descent, through charming scenery, to Lochearnhead, I noticed, with considerable envy, a 3 ton lorry converted into a splendid caravan—a truly delightful habitation for the summer months. The run through Crieff to Perth was devoid of incident, but the roads in Perthshire are almost universally bad, and though a warm welcome awaited me I only spent two days in the "smallest city in the world," what time my spare sidecar springs arrived.

Heading further northwards I took the main Highland road over the Grampians, *via* the Pass of Killiecrankie, whereafter my luck, as regards weather, ran out, for over the mountains I encountered blinding rain, which lasted until long after I had received an excellent cold lunch late in the afternoon at Loch Ericht. By Kingussie, however, the sun came out again, and I was favoured all the way to Inverness. Tempted by the fine evening, I carried on towards Dingwall, but the pot-holes were trying, and as the skies threatened I decided to stay at Muir of Ord. Rain fell all the night, and I delayed my start until ten in the morning, then on through Dingwall and Strathpeffer, with its magnificent hotel and pretty little shops, to Garve. Here the road deteriorates, and in the north-westerly direction, aiming for Dundonnel, it becomes a mere track, in many places raised on a high banking. At one of these spots a motor-mail van of antiquated vintage juggernauted me off the road, and my sidecar wheel slipped off the banking, and only the chassis saved me from dropping entirely on to the moor. I was now on an old, six days route, and although the hills are of no account the surface was decidedly rough and loose in places.

This part of the country is terribly lonely, no villages are touched at all, and Dundonnel only consists of an hotel and a few scattered cottages two or three miles away. Alongside Loch Droma I disturbed a finely antlered stag drinking at the waterside.

The Dundonnel Hotel, lonely and windswept as it is, provides a real traveller's meal, and much refreshed, I pressed on into the strong sea breeze coming up Little Loch Broom.

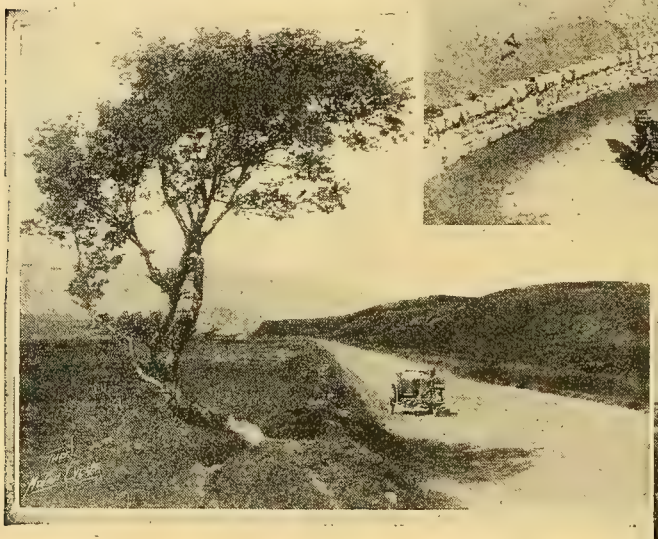
I cannot do justice to the beauty of that wild coast, but Gruinard Bay, Poolewe and Gairloch will stay long in my memory. At the first named the road hangs on the face of the cliffs in quite an appalling way, and the gradient was the first I had encountered to demand the low gear.

Turning inland I found Slioch with his head in the clouds behind Loch Maree, and early in the evening dropped down the hills into Achnasheen, where in this seeming desolation, I found the hotel proprietor busily installing a petrol storage tank and delivery pump!

Loch Maree, claimed by many as the most beautiful loch in Scotland, and beyond dispute a fisherman's paradise.

A Tour in the Highlands.—

Achnasheen has a reputation for rain to which it did not fail to live up, and I left it in the morning in a steady downpour, which lifted as Garve was neared and ceased altogether as I entered Strathpeffer again. From Muir of Ord I turned due south through Beauly and struck Loch Ness and Drumnadrochit; I nearly did this literally, as my brake refused to hold on the descent of a very steep hill down which was indicated by a stone-



SCENES OF MOUNTAIN, LOCH, AND SEA.

(Top) At Gruinard Bay the road hangs on the cliff face, with a sheer drop to the sea behind the wall.

(Left) On the southern border of Inverness-shire, the main north road looking towards Kingussie.

(Right) Wild scenery is the order on the western coastline of Ross and Cromarty. The terrible road surface near Poolewe (on Loch Ewe) tried the Scott frame and chassis to the utmost.

breaker. For some yards the machine was quite out of hand, and only by cutting out the ignition and engaging the low gear against the stationary engine was the machine stopped.

Lumber Camps.

All the way down the Caledonian Canal the roads are cut up by timber hauling, indeed, the extent of the wood-cutting activity and the hutments of the lumbermen give a very Canadian aspect to the scenery. The road on the southern bank of Loch Oich is frightfully loose, being cut through by the floods which bring down tons of débris from the mountain sides.

Hereabouts, I encountered numbers of encampments of "tinkers," those gipsy-like people who are said to have wandered the Highlands homelessly since the massacre of Glencoe. Whether this is so or not, it seemed that their picturesque appearance was best studied at a distance and to windward!

Despite pot-holes near Fort William, the road was excellent as far as North Ballachulish, where I peacefully stayed the night, having watched a motor car taken across the well-known ferry, and decided that I would best do the crossing in the morning.

Before retiring heavy rain commenced to fall, and it continued all night, as I have reason to know, since I paraded my bedroom floor without ceasing, being racked with neuralgia.

At nine o'clock in the morning I trundled down to the pier, and noticed with consternation that the motor-ferry, safely moored the previous night, had disappeared. Rain fell without ceasing, and I passed a dismal hour and a half, watching the boat beat its way up the Loch against a strong tide. Having paid five shillings for the favour, I was duly deposited at the other side of that little neck of water, which is just too wide (and much too deep) to ford, and I proceeded with all speed towards Glencoe.

A Woeful Pass.

The cross-head refers more to my own state than to any historical associations connected with the famous defile which I now entered, but I lost interest in the scenery—my face ached, my chain came off twice owing to tremendous skids and swerves in the loose and shingly surface, and two more sidecar springs broke. From the top of Glencoe the road increased in roughness, and feeling very tired I appreciated to the full the thoughtfulness of whoever placed the Iveroran Hotel in the midst of the wilderness. Here I lunched, at the usual reasonable charge, with an enthusiast who was pedal-cycling in the opposite direction—it was a relief to find that I was not the only one taking my pleasure sadly.

(To be concluded.)

ROAD TESTS OF NEW MODELS

Sidecarring with a Small Two-stroke—the 2¾ h.p. Connaught on the Road.

The Possibilities of the Present-day £100 Touring Outfit for Two.

THIS is not a story of terrific gradients and hair-raising speeds, rather is it a tale of an ordinary every-day tour, such as anyone might undertake at a moment's notice, and without undue preparation.

There is, however, a point to the yarn, in that two persons with a week's luggage enjoyed a very pleasant tour of 380 miles, stopping where they willed, and visiting many friends and relations, at the total expenditure of fuel and oil of 18s. 8d., a sum which certainly cannot be considered extravagant in these days of expensive railway fares.

But, to begin at the beginning. A short time ago Messrs. The Bordesley Engineering Co., of New Bond Street, Birmingham, offered us one of their new £100 sidecar outfits for an extended trial. As we were due to take a holiday the week following the offer, suitable arrangements were made, and the little 2¾ Connaught, fitted with a two-speed Sturmey-Archer gear box with clutch and kick-starter, duly arrived, towing a coach-built sidecar of no mean proportions. Being enthusiastic as the rider of a fast solo machine, it was with some misgivings that we contemplated the size of the engine (73 × 70 mm. bore and stroke = 293 c.c.) and the load which it would have to carry.

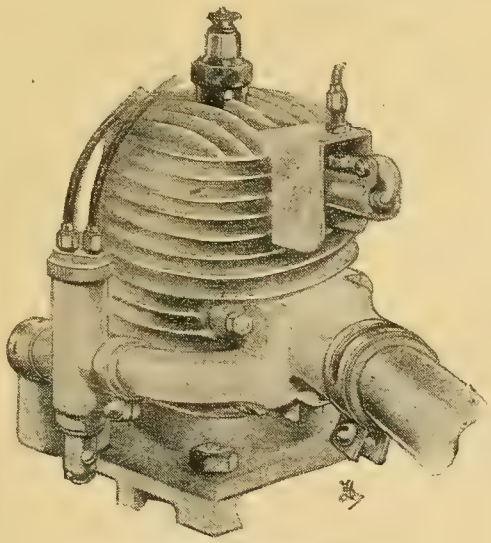
However, having summoned up the necessary courage, the engine was started, and in the six miles run home it became very apparent that the Connaught was no joke, but a serious touring proposition, and developed a power output quite surprising for so small an engine. On the following morning, having carefully bestowed a wife and various packages in the sidecar, and two large parcels on the carrier, the serious business began, and we set out with the light heart and heavy load that betokens the first day of a motor cyclist's holiday. The run from Kenilworth to a spot not very far from St. Albans was accomplished at an average running speed of just under nineteen miles per hour, and after a little practice it was found that the machine pulled well down to the last gasp, with the exception of Braunston all the London road hills being taken on top gear (5¾—1). It is quite possible that the long slope from Braunston village could also have been climbed on top gear, but the rider had not become quite accustomed to the wonderful slow pulling, and changed down unnecessarily early.

There followed a series of trips to Tring, to London, and to Shepperton, thence to Ascot to visit more friends, and then to Shillingford for a couple of days on the river, and finally a run home *via* Oxford, Banbury, and Stratford-on-Avon. On returning to the starting point, the mileage worked out at 380, and the petrol consumption at just over four gallons, or well over 90 m.p.g. On this trip, it is true, no really severe hills were encountered, but the routes were never altered to avoid hills, and such as were met with were climbed with ease. This with an engine of under 300 c.c., gear ratios of 5¾ and 10½ to 1, and a total load of 700 lb.

A Smooth-running Engine.

And now to details and criticisms. The running of the engine was smooth and steady throughout, and the mechanical troubles were covered by a change from an unsuitable plug to a more suitable type and one shortening of the belt.

The engine "four-stroked" extremely little, and this probably is partly accounted for by the combined inlet and exhaust manifold, which warms up the mixture before reaching the crank case.



Combined inlet and exhaust manifold of the Connaught engine.

Petroil lubrication is used, and functioned admirably throughout. The advantage of a foolproof lubrication, combined with an automatic increase of oil supply to the engine governed by the throttle opening, easily outweighs the slight messiness inherent in the system. On the machine supplied to us no cover was arranged for the driving chain, but this omission has since been rectified on all standard machines by fitting a neat cast aluminium cover plate.

The sidecar springs were rather too stiff, the sidecar mudguard stays erring the other way and

Road Tests of New Models.—

broke; both these troubles, however, have been since tackled and overcome. A slightly lower top gear, say 6 to 1, would be an improvement for sidecar work, especially on heavy roads and against head winds. An average speed of over 20 m.p.h. can be maintained with a loaded sidecar on good roads, but 19 m.p.h. is a more suitable speed for this little outfit. The engine may be driven all out up long hills with no apparent detriment and no signs of drying up, but it is not desirable to attempt to maintain high speeds on the level. At the conclusion of the above-mentioned trip, the outfit was driven for a further fifty miles, including a comfortable ascent of Stoneleigh Hill with an eleven stone passenger. On returning to the works the cylinder was removed for examination, and extremely little carbon deposit was found except in the exhaust ports, which were somewhat choked due to over-lubrication. The top piston ring was slightly gummed up, but all bearings were in perfect condition. Our conclusions are that the $2\frac{3}{4}$ h.p. Connaught and sidecar forms a most sporting and thoroughly reliable little outfit, which will undoubtedly attract a large *clientèle* owing to its low cost and upkeep. H.D.T.

THE SCAR, a hill that was included in the Scott Trial. The photograph conveys a good idea of the scenery, which was little appreciated by the majority of competitors. Most of the enthusiasts were too fully employed negotiating the tortuous course to admire the many fine panoramas. Observe the acute hairpin bend on the right and the ribbon of road in the valley leading up to the hill.

A CONFESSION.

THIS is a story with a moral. During the rainy month (July), I was returning home after a trip South to see my brother and had occasion to remove the carburetter of my machine to clean it. Before I had finished this job, it began to rain, so I put my tools away in a hurry and endeavoured to get a start. Nothing doing! I then took out the plugs and cleaned them; they were a bit oily, but nothing to signify. Again no result! Next I tested the spark and found it excellent, but there was no result in spite of priming the cylinders. Readers may think that I should have attended to all these matters in the first place, but let me hasten to say that nothing seemed to be wrong when I stopped except a scarcity of petrol at the jet; moreover, it was raining, and I was anxious to get away. Now my carburetter is well tucked away under the rather wide tank, and it is fitted with a revolving barrel throttle and a detachable control wire in lieu of the usual type, which passes through the top of the carburetter and raises a plunger throttle. After wasting many minutes in futile attempts to start, I remembered this wire, and a glance showed that it was still unfastened, and I had been trying to start with a well fitting throttle tightly shut. The lever on the handle-bar works so smoothly and easily that this did not reveal the fault. A moment later the wire was in place, and the machine was off, but only to stop suddenly fifty yards or so further on. While the wire was detached, the outer casing had slipped from its socket and the throttle was again shut. This was remedied without any difficulty, and no further trouble was experienced, but I paid for my stupidity later on by encountering more rain.

J.H.W.

The Experiences of a "Motor Cycle" Man in the Six Days.

MY own rough-riding machine began a fit of sulks a week or so before the Six Days, and the manager of a leading factory very kindly came to the rescue with the loan of his own private mount. I took delivery of it in Coventry on the Saturday before the Trials, and it provided a most interesting problem en route to Darlington, for it was guilty of a single terrific misfire once in every 400 yards. The puzzle was solved accidentally, for beyond Newark the engine grew loth to start, and when the magneto rocker arm had been eased, the misfire evaporated. The next disagreeable thing was the frightful bumping received from the record pot-holes between Doncaster and Wetherby—a route to be avoided by every rider who loves his machine. Finally, outside a smithy at Brotherton, the engine became permanently free, and I found that the key of the forward sprocket of the rear chain had sheared. A pushbike spindle was soon heated, flattened, cut off, and filed to size; but by this time a cold rain was falling in torrents, darkness had set in, and the electric lighting set evinced a bad short in the tail lamp wire between the core and the concentric return path. The inns were full, and the police and the elements had to be defied; but finally a little inn at Bramham did me very proud for 8s. 6d.

Good Samaritans.

Sunday saw the ride to Darlington completed without incident, and Monday morning saw me setting out with the boys, rather anxious about the capacity of my machine after the vicissitudes of the week-end. The morning's run showed that I had a magnificent engine under me, for the stiff climb out of Pateley Bridge asked for no more than second gear with the throttle in practically the tick-over position. It was quite clear that bottom gear would take me up any gradient possessed of a steerable surface. After a lightning lunch I left Ilkley just ahead of the first man—local yarns suggested that Park Rash was a hill on which non-competitors should not risk baulking the entrants, and my colleagues astern could bring up the rear. Exactly opposite the smithy at Bolton Abbey the improvised key in my countershaft sprocket sheared, and the prospects of seeing the fun on Park Rash looked black, when D. H. Noble came up on an Overland car, and very handsomely took me along, though he represented a rival interest. At Park Rash the preliminary difficulty was to arrange all the spectators' motors clear of the road, for the approach is merely a farm lane of rutted turf. Presently, what a variety artiste would term the "knockabout business" began, for the men's chances of getting up depended wholly on two factors—whether they knew the hill, and how badly they were baulked. When the wrecks had been swept up and the laggards pushed above the hairpin, the problem of salving my derelict 'bus became imminent. Fortunately Jesse Baker came to the rescue with his Scottish Trials Scott—and a very "hot" Scott at that. He took me back twenty miles on his carrier, and incidentally proved in those crowded, twisting, dust-wreathed lanes how safe pillion riding is in the control of a master; exchanged machines with me; drove off on my newly-keyed single whilst I took his Scott to Darlington.

Some Freak Hills.

On Tuesday my instructions were to start ahead of the boys, and report White Shaw Moss, then reputed the worst ascent of the week, leaving the earlier climbs to the rearguard of the staff. After Reeth the blue trail on the road led me into the comic farm lanes which always suggest breakers ahead, and before long I found my engine inclined to dislike top gear. Presently the track degenerated into a mere trail of stones and earth, zigzagging up through the woods,

Round the Trials.—

with no grippable going to be seen, a precipice skirting one on the left, and boulders which played cup and ball with the front wheel. None of us had heard any fearsome tales about Summer Lodge, and I was as much taken by surprise as the competitors who followed hard on my tracks. As soon as one realised that it spelt lots of throttle on low gear, plus hanging on to the bars by one's eyebrows, the climb was possible with a clear road; but it must have been a horrid experience in the crowd, with baulked passenger machines on all the blind corners. I longed to wait and see the fun, but orders were orders, and I pushed on to White Shaw Moss, which was a much easier lottery of the same kidney, facilitated by a wider road and the fact that the latter hill goes up in steps, so that the landings give the men a chance to sort themselves out. Still, a hill which can make Sam Wright ram a wall is not child's play, is it?

On the Stake.

The afternoon run would have produced a Caporetto if rain had fallen. Thanks to the dry going, bad driving was chiefly responsible for the few failures which occurred. For instance, the "turf hill" (Darnbrook) commences with a grassy hairpin in softish order. Several sidecars "cut" this corner, and so dug their back wheels well in. On the Stake I learnt how not to restart a machine on a soft surface. I stopped halfway up in order to watch a few men, and, when I was ready to complete the climb, I felt bound to leave the better going clear for the boys, and so attempted to restart off grass. As the grade was steep, I gave my willing engine moderate throttle, and she flung me bodily round in a circle while the rear chain jumped its sprocket. I was grateful for the lesson, which came in handy repeatedly during the week. On the run in I debated fiercely with P. W. Bischoff the ethics of withdrawing his Clyno team as a protest against the roads; his baby Clyno will evidently bark along all day on undulating roads at 35 m.p.h.

The Effect of Watersplashes.

Wednesday morning, bereft of Rosedale Abbey Bank after much wobbling on the part of the stewards, was a picnic, and the keen Yorkshiremen were extremely irate about the change of route. The afternoon was more interesting. Boltby was a very fair hill, and the machine which cannot climb it with certainty deserves no pity. I had felt inclined to deprecate the succession of watersplashes included in the route, for they seemed to be unnecessarily hard on the belt, which still has its uses on the lighter types of machine; but when I saw how many magnetos and sparking plugs still go "dud" after a ducking, I changed my mind. I was using porcelain plugs on the Scott, and cracked two of them in deep splashes, whilst quite a lot of magnetos temporarily gave up the ghost. Seeing how many fords figure in overseas riding, it seems desirable that future trials should include plenty of deep splashes; but the penalties should not apply to light belt-drivers not designed for the export market.

Thursday's run was a pleasant tour, containing nothing strenuous except the rather unpleasant and dangerous drive through mining villages in the concluding stage.

Friday brought a machine-smashing morning, followed by a long afternoon tour. The surfaces in the morning was well calculated to complete the fracture of any weak component which had been well stressed by previous bucketings. If any reader wants to break his frame, let him procure a copy of the A.C.U. programme, turn up Friday morning's route, and ride the last twenty miles before lunch. Harden Bank is a veritable machine smasher—a sure climb every time when once you know it, but about the most unpleasant hill in England to tackle at first acquaintance; several first-class riders fell or failed on it, and many more made ascents of a kind which they regarded as personal humiliations. For myself I scrabbled up anyhow. One had to look upward and onward in order to pick out a rideable path, for large patches of the hill would unsaddle anybody; whilst one's eyes were busy path-picking, some great reef or boulder set the machine wobbling, and by the time it was steadied, it was usually yards wide of the less nobbly bit which had been selected from below as the track to make for. Most of us utilised the good going in the afternoon as an opportunity for speed bursts, each of which provided a little subsequent leisure for cleaning up or minor adjustments.

Ideal for the Work.

Saturday morning provided a gentle tour to Brooklands, followed by a rather hot and boring afternoon for the spectators. The universal opinion was that there were no flies on a machine which completed this searching week without serious discredit. I ought to add a word in appreciation of my borrowed Scott. In two special respects it is a specially fine mount for a job of this kind. The first is its simply beautiful steering; no machine is safer to ride or easier to handle on difficult going of any kind. No motor cyclist really enjoys riding over bad grease or deep ruts, or reefs of rock or loose stones; when we have to do it from any kind of compulsion, the perfect steering of a Scott alleviates the task incredibly. Its second special excellence in service of this character is its exceptional comfort. Its spring fork fears comparison with no rival, and the 3in. Palmer cord tyres, blown rather soft, and used in conjunction with a fine saddle, afford as much comfort as is possible under the riding circumstances, and materially reduce the fatigue of a week at speed over vile roads. Baker's engine was timed with the full retard where the full advance should be, but was never short of power on any of the hills, and in five days the only trouble consisted of a couple of plugs sooted up through too generous lubrication, and a couple more cracked in watersplashes.

SIDECAR STEERING.

WHY were some sidecars answering their steering on bad surfaces in the Six Days so much better than others? It was noticed on the freak hills that many outfits had their front wheels set at quite a sharp angle to the line along which the machine was advancing, so that the wheel was really acting as a sort of skid brake, and absorbing much engine power. Others by contrast were really following their front wheels obediently—the Enfields notably so.

Reminiscences of the Scott Trial.

Over boulders and grass tracks. A silhouette of a competitor in the Scott trial.

Whose was the footboard discarded on Dead Man's hill?

By-the-by, what a suitable name. Loose stones and heather roots are bad enough on a 1 in 4 descent, but the addition of cross gulleys, of which there appeared to be hundreds, was the limit.

Manufacturers' teams did not turn up in large numbers, and the P. and M. were one of the few firms to prove that they had sufficient faith in the rough-riding capabilities of their men and machines. This faith was justified by results.

There was much discussion anent Dob Park watersplash, some riders maintaining that no one could guarantee a clean crossing since the boulders shift with every "spate," others were prepared to pack themselves to cross without trouble every time.

Five riders succeeded in accomplishing the set speed of 20 m.p.h.: four Scotts and a Triumph. It is noticeable that all these riders were well acquainted with the course, a point which is of some value in a trial of this description.

OVERHEARD IN BURNSALL.

First Competitor: "Well, 'old bean,' how did you get on?"

Second Competitor: "Often!"

The stretch of bog and moorland after Grimwith reservoir was truly frightful, and many competitors cast longing eyes at the horses ridden by two spectators. At least one offer of a swap was made and declined.

All sporting riders will thank the Scott Company for throwing open to them a trial which was originally organised for Scott employees only.

Bent and missing footrests, broken footboards, squashed silencers, and dented exhaust pipes and rims, were common objects at the finish, while not a few competitors walked with a limp.

One frequently heard the question, "What is the object of such a trial?" Ask the competitors. They did not grumble, and, anyhow, it showed what a man and motor cycle can do!

There were crowds of observers at many of the points of interest, but, unfortunately, from their point of view, some of the tit-bits were inaccessible to the average motor cyclist.

One or two competitors ran out of petrol near Middletongue, and lost valuable time in refilling. Beyond this, and a few tyre troubles, failures were largely confined to optimists who attempted the course with too little power or too high gears.

That some sixty riders finished speaks well for the construction of British machines. The twin two-stroke and the 4 h.p. single easily outnumbered all other types, both as regards entries and finishers. Unfortunately, the big twins, which have a reputation for Overseas work, were unrepresented, and were thus unable to prove their merits to British roughriders.

The following awards are in addition to those mentioned last week.

SET OF PALMER TYRES (presented by Mr. E. Mitchell, London), for best individual performance of any machine of 350 c.c. or under: G. W. Wilkin (Wilkin), 160 marks.

SAPEY PRIZE (set of lamps and horn presented by Mr. A. E. Sapey, Birmingham), for second best trade performance: H. Langman (Scott), 235 marks.

GOLD MEDAL (presented by the Scott staff), for best performance by rider from Scott works, outside prize-winners: A. Holdroyd (Scott), 210 marks.

GOLD MEDAL (presented by W. A. Dovener, secretary of Scott Co. and of the Bradford Motor Cycle Club), for best performance by a member of the Bradford M.C.C. other than above awards: Geoff. Hill (Scott), 218 marks.

GOLD MEDAL (presented by the Scott staff), for fastest time after prize-winners: H. S. Moorhouse (Triumph), 203 marks.

CONSOLATION PRIZE (case of pipes, presented by Mr. E. Cummins): Carl Mitchell (Triumph), 145 marks (before retiring owing to accident).

THE MELLANO CUP was awarded to H. E. Ellis (B.S.A.).

CERTIFICATES OF MERIT will be issued by the Scott Motor Cycle Co., Ltd., to all competitors who completed the course and were checked at all observed points.

£35 8s. was collected for St. Dunstan's Hostel by sale of programmes, etc.

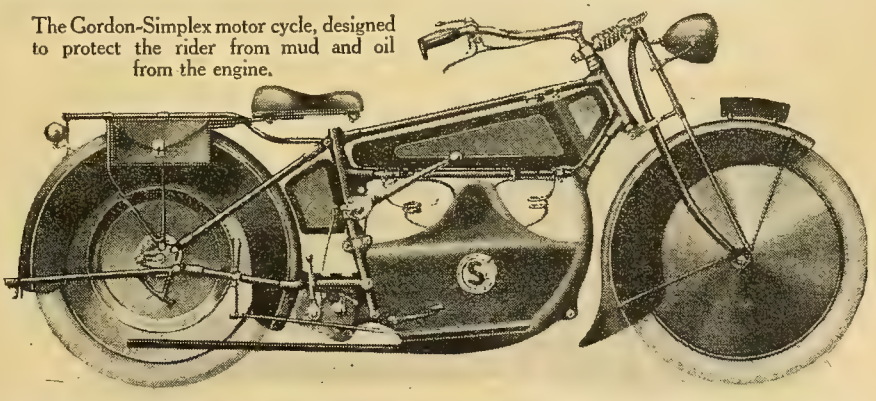
An Enclosed Flat Twin.

Comfort and Cleanliness the First Essentials in the New Gordon-Simplex Design.

A SERIOUS attempt to produce a machine on which the rider is protected from mud and oil from the engine has been made by the Gordon Simplex Engineering Co., of Aylesbury and Bournemouth. To attain this end the engine is enclosed in a cowl which gives to the mount a somewhat heterodox appearance, but without any tendency to freakishness. In addition to the engine cowl, large mudguards, leg guards and disc wheels are fitted which combined make the machine of the "hosable" type so long the ideal of many riders.

The engine is a Coventry Victor flat twin, which is fitted with a Lamplugh mechanical oil pump driven directly from the camshaft, by means of which the engine, gear box and entire transmission are automatically lubricated. Several interesting features are embodied in this machine, with which we hope to deal more fully at a later date. These include a cantilever sprung seat and a theft-preventing device.

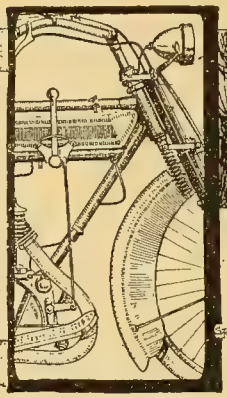
The Gordon-Simplex motor cycle, designed to protect the rider from mud and oil from the engine.



Every effort appears to have been made to give many of those luxuries that have long been desired.

Some Thoughts on Two-strokes.

Concerning Carburation and Ignition.



I PROPOSE in this article to touch lightly upon some aspects of modern two-stroke motor cycle engines, and to plead for the interrelation of Carburation and Ignition control.

The basic problem which renders this difficult is the insistence by the makers of relatively low cost of production, and fear on the part of the general public of anything that savours of complication.

Now, assuming that the present crank case pump type of engine is to be the standard for some time to come, let us consider how overall efficiency can be increased by modification of the existing methods of carburation, lubrication, and ignition. Carburation and ignition are interelated, inasmuch as they govern (1) speed of combustion, and (2) moment of maximum pressure relative to crank pin position. The faster the crank pin is passing the top dead centre, the quicker and earlier we may allow these two to take place, resulting in higher speed. This brings us to a few considerations upon

Ignition.

A weak mixture fires quicker than a strong one, so, therefore, we may consider that advancing the spark or weakening the mixture have the same effect. Now, the mixture upon which a two-stroke runs has to be on the rich side, as, owing to the heavy dilution with spent gases, only a comparatively small volume of fresh fireable gas is compressed at the end of the stroke. This mixture is slow burning, and we can, therefore, set the point of ignition far earlier than with a four-stroke.

I submit that the arc of advance and retard on present-day magnetos is too small for two-strokes. It is sufficient for fours; but it should be realised that it has only half the effectiveness upon a two. Assuming that the arc of advance and retard is 15°, this means that it is possible upon a four to cause the spark to occur at any predetermined point over 30° of the crank pin movement, the crank pin travelling at twice the speed of the armature, but on a two-stroke where the armature and crank pin speeds are equal only the 15° are available. Thus we see that, although a wider range of advance and retard is urgently called for, the very fact that the magneto is run at engine speed actually reduces this arc. A makeshift way out of the difficulty would be to run an 180° magneto at half engine speed, using each spark alternately. A truer solution will be found, I think, in the development of types of magnetos, such as the Mea, on which the field rotates with the contact breaker cams causing the points always to break when the armature cuts the maximum lines of force, or polar inductors such as the Dixie, or an adaptation of the Ford system, on all of which a far wider range of advance and retard is possible (I believe there is nothing to stop it going all round the clock on all three). The logical sequence would then be the inter-connection of the throttle and spark control with some spring controlled device which it would be necessary to hold out during the time one desired to retard the spark for a hill when full throttle was necessary, otherwise let spark advance follow throttle opening. It would then be possible to use firing points of 12 mm. to 16 mm. before top dead centre at from 35 to 45 m.p.h., with the certainty of coming back to 5 to 7 mm. for slow running and traffic work. Acceleration would also be found to be vastly improved.

Carburation.

As will be seen from the foregoing, ignition presents some pretty problems to the designers of the future, but, compared to those which arise when the problem of carburation is even casually examined, its state may be considered nearly perfect. In endeavouring to deal with one or two aspects of the carburation problem I am aware I am on very controversial ground, and am perfectly prepared upon further research and better understanding to modify the views I now hold. The conclusions set forth here are based upon a series of experiments I was privileged to undertake under the direction of a leading English authority upon carburation. The fundamental difficulties in the path of successful two-stroke carburation are two. (1.) Half the carburetter, *i.e.*, the crank case, has to be designed primarily to house the crankshaft and its bearings, its function as half the carburetter being absolutely ignored. (2.) The tacking on of a carburetter which has been developed through long years for service on four-strokes on which it functions passably well. But on a two-stroke some of the very features which have been painfully developed as absolutely essential to four-stroke service become positive drawbacks. One may cite the enrichment of the mixture at slow speeds as a definite instance.

The principal resultant defects of the foregoing are low thermal efficiency and four-stroking.

Four-stroking.

When this occurs at low and medium speeds, the cause is too rich a mixture; when at high speeds, bad scavenging is more often to blame except in those cases where a long period of port opening is accompanied by a small induction port which causes the air

Some Thoughts on Two-strokes.—

speed to get too high despite the fully opened throttle, and one comes back again to too rich a mixture.

Four-stroking will be noticed to commence when the load is lightened beyond a certain point or removed altogether. It will be naturally asked "How has the removal of the load power to enrich the mixture?" I humbly advance the following thesis for the consideration of the experts.

There is to a carburetter with a fixed jet size a certain air speed which is productive of the best results for drawing the correct amount of petrol per unit of time. Upon the ratio of air speed to jet size depends the quality of mixture supplied to the engine. Air speed is governed by the two factors piston speed and throttle opening. If piston speed remains constant, air speed becomes higher as the throttle is closed, and lower as it is opened. Inversely, if throttle opening remain constant, air speed will follow piston speed, rising and falling with it.

Air Speed and Petrol Flow.

There is, therefore, an absolutely definite ratio between the jet size, which governs the fuel supply, the "air speed," the "throttle opening," and the "piston speed." These four factors must be proportioned according to the load against which the engine is working to produce the correct quality of mixture. Load controls piston speed, and when, with the three other factors having been set against load, it is lightened or removed, the four factors become disproportionate, the "piston speed rising" out of proportion to the throttle opening, which in its turn causes the air speed to rise and the mixture to become too rich to fire until the resultant brake effect results in a momentary return to normal conditions.

The quality of mixture called for is governed by the crank case compression ratio, the cylinder compression ratio, and the port timings which govern the amount of spent charge left in the cylinder. The margin between the rich mixture required to function successfully upon a two-stroke and that which is over-rich is very slight.

Varying the Jet Size.

The answer to the foregoing problem should be sought for in the possibility of obtaining infinite variation of jet size (otherwise fuel supply) to the variations of air speed. I do not wish to infer that the mixture should remain constant in quality, but the carburetter should be so arranged that as the load falls the mixture weakens. The trouble with modern automatic and semi-automatic carburetters is that they have to be on the unduly rich side in order to climb well without reducing the air, and they cannot, therefore, give a two-stroke a sufficiently weak mixture for low speeds. When the air is partly cut off at the same time as the throttle, the enrichment of the mixture is altogether disproportionate, and the effect is that of a small carburetter fully opened with a big jet in it. This is brought strongly home to one when experimenting with such carburetters as the Wilkinson twelve-jet or the Zeta, or fixes a handle-bar control to the first variable jet pattern B. and B., in any of which the fuel supply can be controlled from the handle-bars. With very delicate manipulation and expert handling extraordinary results can be got; four-stroking can be induced or banished at every and any speed at the will of the user. But only the most expert or others after long practice could do this. For ordinary easy everyday driving they are out of the range of practical motoring.

The nearest approach to the ideal two-stroke carburetter as offering the greatest possibility of variation of mixture in the hands of the ordinary user is, to my mind, the Cox "streamline". The single-lever Amac also gives promise of being adaptable by variation of the size of the top vapour hole in the adapter. Both

One of the smallest of two-strokes, the Velocette, negotiating Harden Bank. Both in hill-climbing and speed events the two-stroke engine has this year done remarkably well

Some Thoughts on Two-strokes.—

these carburetters, by hooding their jet after the Claudel-Hobson principle, deliver the fuel to the main air stream in an atomised condition, which assists better results by providing gas, drier and less likely to recondense. One ideal to be sought for is delivery to the crank case of a perfectly dry gas which would be incapable of recondensation owing to the large surface exposed to the rush of cold air. Under present conditions matters would be considerably helped by the crank case being shrouded and warmed.

The Position of the Float Chamber.

Another complicating factor of the problem is that the pull or suction exercised by the engine upon the carburetter is, in the case of a two-stroke, infinitely more sudden and violent than on a four. On the uncovering of the induction port the carburetter is suddenly exposed to the pull of the maximum vacuum effect of which the engine is capable. On a four-stroke the carburetter is not exposed to the effect of a high vacuum immediately the valve is opened, it is exercised more gradually by the descent of the piston. It is but very little exaggeration to say that a two-stroke pulls more fuel out of the jet than it can assimilate at one moment, and flings the surplus out of the carburetter the next.

Another entirely unnecessary aggravation of the four-stroking trouble is the fitting of the carburetter with the float chamber to the rear of the machine. This practice on the part of the assemblers of motor cycles has the disastrous effect of enriching the mixture just when one wants it weakened, *i.e.*, when descending an incline, and weakening it when one wants it enriched, when ascending a hill. Convenience of fitting surely cannot be held to be an excuse for deliberately making a machine four-stroke more than is necessary. It is certainly not the fault of the carburetter manufacturers. Many other sins can be laid at their door, but not this one. They are, I know, universally insistent on the float chamber assuming a forward position when the power unit is assembled. The improvement that fitting the float chamber thus will make to some machines is astounding. Frequently a smaller size jet can be fitted, as the level rises on hills, which is as it should be.

There is, I submit, an enormous opportunity for the invention of a carburetter designed solely to overcome the inherent shortcomings of the design of the present-day two-stroke, which would make four-stroking as much a thing of the past as misfiring is to-day upon a four-stroke.

When four-stroking at high speeds is due to bad scavenging much can be done to remedy matters by carefully thought out silencer arrangements. Not only in the direction of the entire elimination of back pressure, but in the induction of a partial vacuum which would assist in drawing the gases from the cylinder. Has anyone ever tried leading the exhaust pipe to the narrowest part of a large tube of ventural form, say, 3ft. long and perhaps 5 to 6in. in diameter, at the ends so placed that the air would rush through it whilst the machine was travelling? A very strong extractor effect should be capable of being created thus, and with practically no loss of power owing to resistance as is the case with fan extractors.

Lubrication.

I feel I cannot conclude without paying a mark of respect to the excellent system of lubrication on the Velocette of which I have never heard a complaint, and to the efforts of certain French designers to embody mechanical oilers in their units. Both are much needed steps in the right direction. V.C.R.

Accessibility—Brakes on Wheels.

WHETHER it is more desirable to make the wheel detachable without interfering with the brake or the brake without removing the wheel admits of some argument. I am referring more particularly to rear wheels which have their brakes applied to the belt rims, dummy or otherwise.

If the brake be applied to the inside of the V it in no way hinders the removal of the wheel for tyre repairs, but it is by no means easy to remove the brake itself for cleaning, and it is so placed that in wet weather it is likely to collect much mud, some of which, finding its way into the bearings, may militate sadly against the easy working of the brake—until the wheel is taken out. This is especially the case when the dummy belt rim is placed on the same side as the final transmission in a chain-driven machine. On the other hand, if the brake be applied on the inside of the belt rim instead of on the inside of the V, it can be removed without difficulty, but is very much in the way when it is necessary to take out the wheel. In the case of front brakes, when the choice lies between the rim brakes fitted to act upon the wheel rims, as on pedal cycles, and the belt rim brake as introduced by Messrs. Lea and Francis, there can be no two opinions. Wheel rim brakes are practically useless on motor cycles and should be obsolete. Some firms are certainly trying to make them so by sending out the most inefficient examples. During the last few months I have seen front rim brakes which, if the riders were so ill advised as to try to use them, turned round at the first application and caught in the spokes at the next.

Brakes on the Hubs.

Internal expanding brakes come into a different category; these are a part of the wheels themselves, and the whole must be removed together. This is but little extra trouble—just the removal of the controls and probably the taking off of the bolt which secures the anchoring arm to the frame. True, the brakes cannot be dismantled for cleaning without taking the wheels out of the frame, but this is seldom—if ever—necessary. I have been riding a machine so fitted for the last few months, and have not found it necessary to remove either wheel or brake. Now and then a bit of grit gets between the revolving drum and the stationary cover and makes its presence known by a slight tinkling noise, but it is easily got rid of by running a piece of paper or thin card round the brake between the drum and the expanding parts—the work of a moment only. J.H.W.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

THE TWO-STROKE AS A TELL-TALE.

Sir,—May I thank "Two-Stroke Enthusiast" for his kindly appreciation of my article. He is quite correct in supposing that in my remarks on perfect mixture I was referring to the four-stroke engine; in a two-stroke the effect of using a larger jet would be precisely as he describes when the petroil method of oiling is employed.

I, too, have had great satisfaction from the use of a W.S.R. variable jet with an Amac carburetter. J.H.W.

OUR CROWDED INNS.

Sir,—Our friend "Ixion," in the issue of September 2nd, gives his moral, "Book accommodation ahead at holiday times." Personally, I have not found this necessary, even in these times of limited accommodation. During my recent twelve days' tour in the south-west of England I experienced comparatively little difficulty in securing rooms, even though my holiday covered three days in Bank Holiday week.

I agree that a wash at the garage is not a bad idea if wishing to stay at the Hotel Superb or Hotel Splendide, so as not to give the commissionnaire any undue shocks. On two occasions, however, I was gladly received, wet through and well mudded up, at old push-cycle hostelries.

R. GYLL.

STANDARD MACHINES IN TRIALS.

Sir,—The man in the street is apt to find present-day competition very misleading. For instance, a manufacturer wins a race with a freak, which gives one very little chance of summing up the merits of his standard model.

Everyone knows the necessity of racing experimental machines, but prospective buyers want to see how the goods supplied to the general public go on. They would have a chance if in future T.T.'s manufacturers had to enter one machine of the committee's selection for every one of their own selection.

The race officials would have the right to select their machines haphazard from any stock they fancied, and keep them locked up till the start of the event.

This would also ensure stuff being turned out in a serviceable condition, which is not always the case nowadays.

Sheffield. WANTED A GOOD MACHINE.

A MYSTERIOUS ACCIDENT.

Sir,—While passing through Savernake Forest, on the Bath Road, recently I had an accident, the probable cause of which raised much argument among my motor cycling friends. Not having arrived at a satisfactory explanation, I venture to submit the details to your readers, one of whom, perhaps, has had a similar experience.

I was riding at an easy touring speed when suddenly I lost consciousness. When I regained my senses I was on my way to hospital in the car of a gentleman who saw me fall. The policeman, who later recovered my machine, informed me that I had wobbled from side to side about six times, and then collapsed in the middle of the road.

The result of the accident, of course, has rendered me *hors de combat* for about a month

The possibility of falling asleep in the saddle is eliminated by the fact that I had only done about fifty-five miles. In addition to this, my health at that time was normal. I have never fainted in my life, and I felt no blow. I am therefore at a loss to understand why I petered out like that.

My mount is a 4 h.p. Triumph, solo, which is not damaged in any way. F. A. BOYCE.

WHAT IS HAPPENING TO THE TRADE?

Sir,—Although venturing upon a very threadbare subject, I cannot allow "Pedestrian's" letter to go unchallenged. From my numerous conversations with owners of well-known makes, I gather that only one or two give cause for *general* complaint, most of the other grouses being admittedly accountable for by the difficulties under which the manufacturers are working.

Last year, in ordering spare parts from the Triumph works, I obtained extremely prompt and courteous attention. This year, the Ariel works have overhauled a gear box for me (damaged by a faulty ball-race covered by no guarantee of theirs), replaced whatever was necessary, and returned the box by passenger train, *without making any charge whatever.*

That there *are* offenders, even among high-priced makers, seems unfortunately true, but not to the extent of justifying "Pedestrian's" sweeping claim that good service is the exception. With the usual disclaimer,

ALAN GOODFELLOW.

THE SILENCE TEST IN THE SIX DAYS.

Sir,—May I be permitted to express the opinion of an ordinary touring motor cyclist as regards the awarding of marks in the A.C.U. Six Days Trials?

I understand this to be a reliability trial, with the special object of testing machines as regards their general reliability, hill-climbing capabilities, simplicity, and easy handling for general touring purposes.

I consider that the A.C.U. method of deducting marks under the heading "Silence" puts a severe handicap, and means injustice to the single cylinder. The Sunbeam, P. and M., and Triumph have all suffered from this cause, although it is a well-known fact that the first mentioned is one of the quietest of touring machines, whilst the majority of twins have scored heavily on this point.

I notice that the team (composed of two-stroke twins) winning the "Manufacturers' team prize" did not lose a single mark under the silence heading, whilst the second team (composed of four-stroke singles) lost eighteen marks for this cause. As there is only a difference of sixteen marks between the two teams, the award would have gone to the latter team if it had not been so unfairly handicapped.

Trusting you can spare the valuable space for this effusion,

Didsbury. SINGLE-CYLINDER ENTHUSIAST.

THE MOTOR CYCLE AND INDIAN EXCHANGE.

Sir,—Having been in India since 1917 until quite recently, I am naturally interested in the references to that country in the letters on page 243 of your issue of August 26th, 1920.

I endorse what is said in the first letter, namely, "Take your own machine to India." It follows from what is said in the next letter (to which I refer) from "India" that it is sound advice. Nearly every motor cyclist out there would say the same.

In the letter from "India," under the heading "Manufacturers' Treatment," there is a statement to the effect that £206 13s. 4d. is equivalent to Rs. 1,600; or, in other words, that the exchange is 2s. 7d. per rupee. I do not think that this statement can be considered exactly accurate at present.

It is true that the exchange was as high as 2s. 7d. for a short time, but that was at least eight or nine months ago, if my memory is correct. It has fallen considerably since then, and is now, I believe, between 1s. 10d. and 1s. 11d. So

I would ask whether your correspondent is certain that the exchange was as good as 2s. 7d. when the Indian agents he refers to paid for these English machines. For, if they were not so fortunate as to reap the benefit of this high rate, one can hardly expect them to sell their goods as if they had.

Thus, it appears to me an exaggeration on the part of your correspondent to suggest, or say, that the exchange is still as high as 2s. 7d.

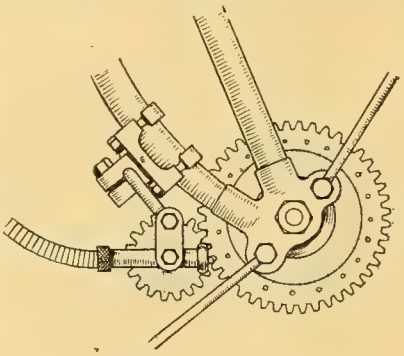
However, I do not deny that they are terrible profiteers, and think that some form of "Profiteering Act" would be beneficial in India, if it were possible, for the motor cycle agents are not the only culprits; a great many other shopkeepers are just as bad. ANOTHER INDIA.

Ryde.

SPEEDOMETER FITTING.

Sir,—We notice in your issue of Thursday, August 19th, a letter from a correspondent respecting some trouble he has had with his speedometer.

For obvious reasons he does not say the make, but unfortunately this is apt to be misleading to a large number of people. We should like "Speedometerless" to know that for a considerable time we have been supplying motor cycle speedometers, the fitting of which in no way interferes with the spindle nuts, as the brackets are secured on the fork by special clips, which in no way interfere with the front wheel.



A Watford speedometer fitting which does not interfere with the spindle nuts.

The same arrangement is also utilised for certain machines necessitating rear wheel drive, and the illustration will show you our method very simply.

ALFRED E. TRENAMAN.
NORTH AND SONS, LTD. (Watford Speedometers).

Sir,—With reference to a letter about speedometer fitting by "Speedometerless," in your issue for August 19th, it may be of interest to some of your readers to know that on August 17th I had a somewhat similar accident. My machine, also, was a B.S.A. and sidecar, with speedometer fitted by the agents. The first warning I had of trouble was, after fifty-eight miles, to find the machine making diagonally for the right-hand side of the road, and myself apparently unable to control the steering.

The damage sustained by the front fork was just as "Speedometerless" described, viz., near side of front fork bent outwards, off side quite true, wheel spinning truly on the spindle, and apparently undamaged, the nut belonging to the off side of the spindle missing, and spindle thread undamaged.

The motor cycle agent who came to my rescue discovered and explained the cause of the accident. I now quote an extract from "Speedometerless's" letter: "The front spindle nut is so shaped that it has a collar which fits into a circular rebate in the fork end for the purpose of preventing the spindle from coming out of the slotted fork end unless screwed back several threads. The agents, in fitting the speedometer, had merely slipped the clip holding the smaller toothed wheel over the collar on the nut, and then screwed up. The thickness of the speedometer clip is such that the collar of the nut, instead of projecting well into the rebate, was only in to a depth of about $\frac{1}{50}$in. The result was that the function of the rebate in the fork end and the collar on the nut was completely destroyed. The retention of the spindle in the slotted fork end must now rely entirely on the non-slipping of the nut when screwed up."

My speed was about 20 m.p.h. I was fortunately thrown clear, and sustained only slight injuries. The cost of repairs to the machine will be about £25, fortunately covered by insurance. Had there been an occupant in the sidecar the results must have been fatal, for the machine, after colliding, ricochetted back into the middle of the road and turned upside down. I hope that the warning of these two accidents will prove sufficient to cause all owners to inspect their speedometer fittings, if such are used.

N. P. TOWNLEY.

THREE SHIRES CENTRE A.C.U. TO BE FORMED.

Sir,—Regarding the paragraph in your issue of September 2nd, headed "A.C.U. Midland Centre," by the united request of all our members, coupled with similar requests from several clubs in this locality, we have decided to form another centre, for which the title at head hereof might be a suitable one.

All the delegates who attended the meeting in Birmingham were representative of clubs either in or near that city, and, although the Birmingham Centre presumes to cover four counties, the meeting was in no way representative of them.

Worcester was, I think, the only provincial club represented in the true sense of the word, so that if a decision was arrived at by the meeting to the effect that the time was not yet ripe for the formation of another centre, then this decision was arrived at by representatives of clubs from either in or near Birmingham only, who have no authority whatever to come to such decisions.

J. A. NEWMAN,
Hon. Trials Sec. Worcester and Dist. M.C.C.

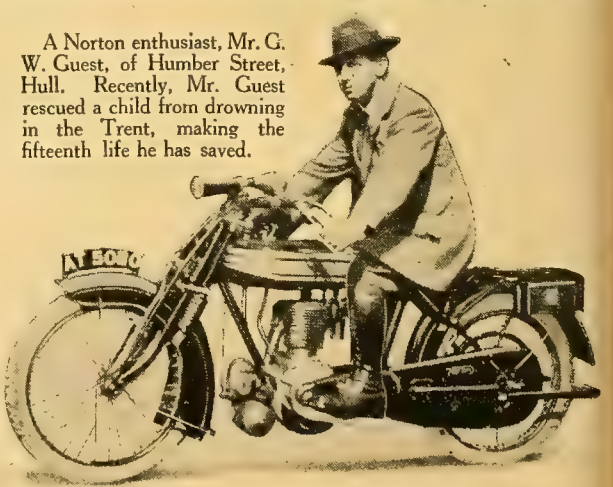
PETROL CONSUMPTION.

Sir,—In my letter which appeared in *The Motor Cycle* for September 2nd, stating that my customers got from 50 to 70 m.p.g. on the Scott, I omitted to mention that these mileages were with sidecar, and also, of course, that the carburetter was quite automatic, and all the fine variations of speed are obtained by the movement of one lever only.

C. BINKS.

Sir,—I note with interest Mr. Binks's challenge to Scott riders, but would like to point out that he is not offering them conditions equal to those under which he proposes to ride himself. In the first place, he reserves the right to set the pace. Now, with this in itself, one has no quarrel, but his opponents would naturally like to know what this pace is likely to be in order to tune their machines for economy at that speed. In the second place, Mr. Binks makes it a condition that the competitor keeps within ten yards of him. This is really a bad handicap (but I do not wish to infer that it was suggested with that intent), as it is common experience that when one tries to keep a given distance behind another rider one has to accelerate and brake very much more suddenly than one would otherwise when doing the same average.

As destructive criticism is of little value, I would like to suggest the following conditions as being fairer. They also have the advantage that a win under them would be more conclusive, and I am sure that this is what Mr. Binks would wish. Competition to take place over a settled course, which should be the shortest road distance between two points. A minimum *average* speed to be set (= a time limit); low, if



A Norton enthusiast, Mr. G. W. Guest, of Humber Street, Hull. Recently, Mr. Guest rescued a child from drowning in the Trent, making the fifteenth life he has saved.

this is purely a freak test; higher, say, some speed between 18 and 30 m.p.h. if a test under normal conditions, for most Scott machines habitually put up a decent average. If possible, candidates should each be escorted by an unimpeachable representative of any well-known club (and, if necessary, the suggested £10 diverted towards paying their expenses). If there is to be no escort, the test will have little interest to the average rider, unless the start and finish be observed by club officials, the petrol tanks being sealed on top and at the drain, and both unions on the petrol pipe sealed. If any competitor elects to use petroil, his oil pipes should be first removed.

Under this scheme any number of competitors could take part, whereas it would be impossible for more than two to try and keep within ten yards of a pace-setter.

If Mr. Binks could do a really good mileage under these conditions, I think most riders would accept the figures as such, and a score would have been made for his carburetter; but I am sure he would be disappointed if the result were not received with more faith than are the results of a dark spiritualistic seance by the average man; and this is how most of us view an incompletely checked petrol consumption test.

I note that Mr. Gordon wishes to know why a Scott gives a better mileage with plugs in the cylinder head than with them in the side. When the plug is in its standard hole it is pocketed about ¼in. deep, and also the flame of combustion has to pass from it right to the exhaust port before all the gas is burnt. When the plug is on top the points actually project into the combustion chamber, and also the flame can pass in all directions, and has not to travel so far to complete the process. This has two results. First, the machine is much faster (in my case maximum speed increased from 40 to 53 m.p.h. with everything else standard); and, secondly, less unburnt gas is exhausted, and so the petrol mileage improves. However, such a change has its disadvantages, the greatest of which is that the machine will not pull so smoothly at slow speeds (for the spark is further from the transfer ports, and therefore takes place when the new charge is somewhat diluted with unburnt gas from the last). I am about to try and lessen this by using dual ignition plugs. Also, the plugs soot up quicker in this position; but, with the magnetos fitted, this does not matter if one point plugs are used. I find an ordinary Lodge with two of the points turned back to be ideal, but when all three gaps are set as sent out, the Scott is no longer a machine of which one may be proud. A. B. K. WATKINS, M.B., B.S.

Sir,—Further to my letter which you kindly published a few weeks ago. In view of the recent increase in the cost of petrol, I am very sorry that "Not Infallible" has not come forward with further information about his machine, particularly as I have had no reply from Messrs. Degory. That a great improvement can be made in the consumption of these machines by fitting a suitable carburetter—I am certain, especially after the performance of the winning team in the A.C.U. trial.

I agree with Mr. C. Binks's remarks about "fake" driving with his carburetter. This instrument can be made very sensitive, and remarkable results obtained, but on a long run I for one do not wish to bother with the micrometrical adjustments of the air lever necessary every time I move my throttle.

Regarding his challenge, I would suggest a run from his works to, say, Glasgow, sealed tanks, and an average speed of 20 m.p.g. When I get a carburetter to suit my 'bus I will take him on these terms.

Will Messrs. Scott give further particulars of Amac carburetters fitted to their trial machines? 75 M.P.G.
Manchester.

Sir,—*Re* Mr. Binks's petrol consumption challenge. The conditions laid down by Mr. Binks would debar some of us from accepting this, as, unfortunately, we cannot all afford to give £10, owing to other responsibilities.

Personally, I have not a Scott machine, but I have a carburetter which, I think, will equal Mr. Binks's instrument, both as regards economy and power. It is my own invention, and if Mr. Binks is prepared to alter the conditions of his challenge I should be pleased to accept.

The following would seem to me the best way of testing the instruments, and fair to both parties. An experienced driver (selected by the Editor) should have the instruments handed over to him (after tuning), and should be used on the same machine, under the same conditions, and roads, and the results published in *The Motor Cycle*.

My instrument is rather crude, being hand-made, but has been thoroughly tested on a 4 h.p. single-cylinder combination for the last two years, and patent has been applied for. All that I should require to know would be the make and horse-power of the machine to be used, so that I may tune the instrument to that particular model.

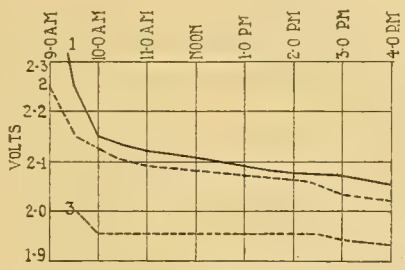
F. ACKROYD.

VARIABLE JETS.

Sir,—I am much interested in a letter in your issue of the 2nd inst., signed "Two-stroke Enthusiast," Manchester, especially as to his praise of the W.S.R. variable jet. I ride a Levis, and have fitted a W.S.R., but do not so far find any decrease in petrol consumption, as I expected. Certainly, I notice an improvement in two-stroking at low speed. Would your correspondent kindly give me some useful hints on the subject? (Colonel) G. WIEHE.

ELECTRIC LIGHTING.

Sir,—I was much interested in "One Who Has Had Some's" letter in *The Motor Cycle* for April 15th. I can sympathise with your correspondent in his experience with accumulators. I wonder if he has ever tried accumulators fitted with wood separators. This is one of the points which I think would tend to eliminate spilt acid. Then, again, a Coventry firm turns out accumulators packed with glass wool, which absorbs all free acid. That reduces spilling to a minimum. The best method in my experience is not to have any liquid in the accumulator at all. This may sound rather strange. Nevertheless, I have accumulators working which are impossible to spill. They are filled with a mixture which, when set, forms a paste. I have made exhaustive tests, and find that the electrolyte, being practically a solid, gives increased support to the plates, and the danger of short circuits due to the paste from the plates falling through vibration is practically non-existent. Acetylene is very good in a way, but look at the trouble compared with accumulators.



1. Paste in cell 5·1 mixture at 1250 sg.
2. " " 6·1 " " 1250 sg.
3. " " 6·1 " " 1190 sg.
Cells discharging at approx ·75 amps.

Graph showing the discharge of a 2-volt accumulator.

I am enclosing the results of a test which I and others have taken on some two volt paste filled accumulators. W.B.P.
Doncaster.

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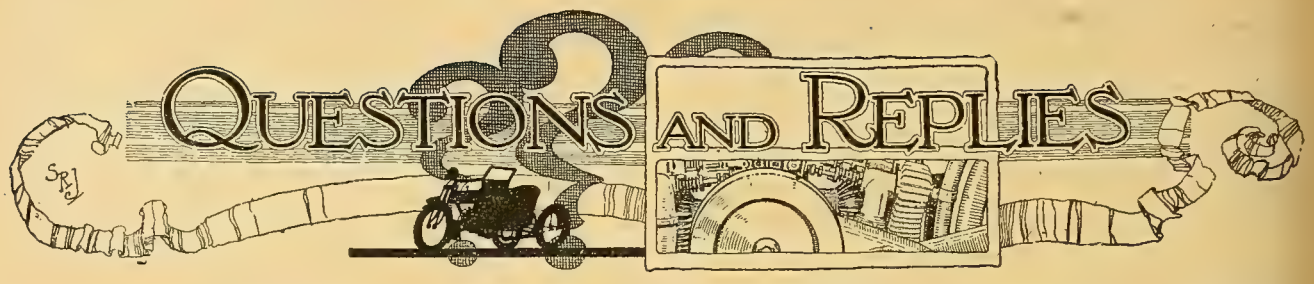


A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Excessive Exhaust Noise.

Is it absolutely necessary that every motor cycle should have a silencer on? I am in possession of a 2¼ h.p. two-stroke, and have an exhaust pipe extending from the engine to the back forks with a fish tail end. The reason for my enquiry is that I was pulled up recently by a constable who asked if I had a silencer on. I explained the exhaust pipe as above described, and as he was ignorant of the regulation he made further enquiries of a motor engineer, and I fear he will charge me for using a noisy machine.—J.B.B.

A long exhaust pipe (if a silencer is not fitted) does not necessarily comply with the law. At the same time, however, the legal requirements are rather vague, as even if a machine is fitted with a silencer you may be proceeded against if, in the opinion of the police, the engine is unduly noisy. We would suggest that you make such alterations to the exhaust arrangement as will ensure the machine being reasonably silent.

Changing Magneto Direction.

(1.) Is there any reason why a magneto should not be run in the reverse direction to that intended by the makers, except that the action of the contact breaker wipe and heel would be reversed? Is it likely that any damage would be caused to the windings or condenser? The machine in question is an early type two-cylinder Bosch with plain bearings. This has for a short time been driven at half engine speed in the "wrong" direction (*i.e.*, counter-clockwise). The magneto works well, however, and I do not feel disposed to alter it unless there is some likelihood of damage to the windings, etc. (2.) Could the above-mentioned machine be used on a single-cylinder engine with advantage by removing one heel of the contact breaker?—G.B.S.

(1.) There is no objection to running the old type Bosch magneto in the reverse direction, except that the contact breaker is not mechanically suited to this alteration, and another one designed to run in the opposite way should be fitted. (2.) If you desire to use the magneto on a single-cylinder engine, you should remove one of the cams from the contact breaker and also the corresponding high-tension carbon brush. An improvement would be effected by lengthening the remaining cam so that the points remained open through approximately half a revolution, as is done on the single-cylinder models.

Fitting a Variable Gear.

I wish to fit to my machine (a fixed gear, belt-driven Triumph, a 1907 model) some suitable gear. Probably you can suggest the best kind of (hub) gear suitable, and the most durable, as the roads in this country (Newfoundland) are open for great improvement.—C.L.C.

Hub gears are no longer manufactured in this country, and we regret that we cannot recommend any suitable form of two or three-speed gear which you could fit on your machine to bring it in line with the latest models. Two gears which, however, we can recommend for light solo use are the Bradbury epicyclic two-speed pulley and the Philipson automatic governor pulley. Either of these can be fitted without structural alterations when the standard adjustable pulley is removed from the engine-shaft.

Using Magneto as Dynamo.

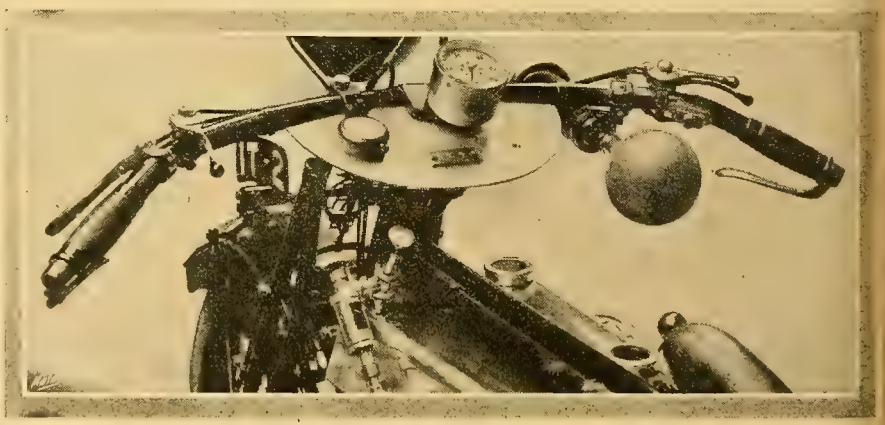
(1.) Having a Bosch magneto type A2, I wish to know whether I could turn it into a dynamo? (2.) Should I get a direct current by joining the primary and secondary ends of windings to a two-section commutator? (3.) What would be the voltage? (4.) Would the condenser on or off make any difference? (5.) What speed would be required?—G.A.H.

(1.) It would be possible to use the magneto as a dynamo, but it will not be particularly efficient. (2.) You could get a direct current by removing the existing windings and rewiring the armature with 22g. insulated wire, connecting both ends to a two-section commutator. (3.) The voltage would depend upon the amount of wire used. You would probably get from four to six volts, according to speed. (4.) The condenser would not be necessary. (5.) 1,500 to 2,000 r.p.m.

No Power.

I own a Wolf machine fitted with a T.D.C. two-stroke engine, no gear box, and Senspray carburetter. I have thoroughly overhauled the engine and all bearings. The piston and rings are A1. In assembling, I seccotined all joints, filled the tank with fresh petrol and oil (1 to 12). But although the engine fires regularly it develops no power, for directly I mount the machine the engine stops. The compression is good, and the magneto gives an excellent spark. The most doubtful thing is the carburetter. I have a No. 28 jet. Can you help me to solve the trouble? I purchased the machine second-hand, and it has never developed any power.—E.H.

The details you give are very incomplete, and we cannot give you anything more than general suggestions. Possibly the timing is too far retarded. The spark should occur when the piston is on top dead centre, with the ignition control fully retarded. If the magneto is not of the variable type, the spark should occur about 6 mm. before the piston reaches the top of the stroke. The lack of power may be due to the piston having been refitted with the deflector at the wrong side. It should be nearest the transfer port.



INSTRUMENT BOARDS FOR MOTOR CYCLES.

As a means of carrying the speedometer, watch, and switches, Mr. L. Keith Clayton, an enthusiastic Sunbeam owner, of Castle Bromwich, has fitted a polished aluminium "dash" to the handle-bar of his machine. The tank is silver-plated.

THE OWERS CARBURETTER.

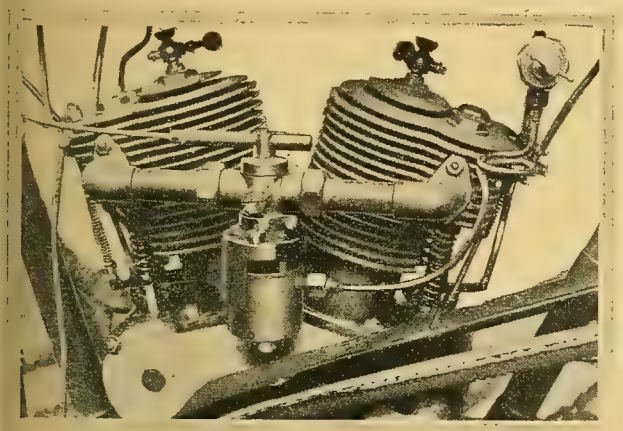
An Unusual Type of Single-lever Instrument.

At a time when the single lever carburetter is making considerable strides in the public favour, it is interesting to study the device which has been produced by Mr. J. Owers, of 10, Calthorpe Road, Banbury, since his design differs very considerably from the general run of automatic carburetters.

In the carburetter under discussion, a serious attempt has been made to vary the rate of fuel delivery to suit the speed of the engine as well as the throttle opening. Briefly the instrument consists of a mushroom throttle controlled by a cam rod, and an air valve operated by engine suction. The air valve contains a tapered needle, the travel of which is limited by a rod passing through the throttle spindle and actuated by a groove in the cam rod before mentioned. It is, however, in the detail of this air valve and needle that the main feature of the carburetter lies.

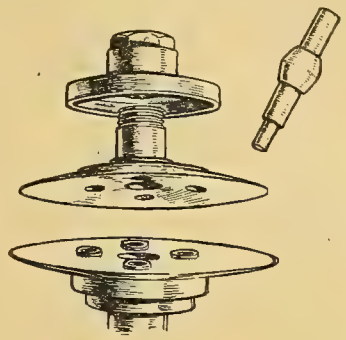
Annular Float Chamber.

Petrol is fed from an annular float chamber up a tube, which forms a guide for the main air valve past the regulating needle valve, and finally to the mixing chamber through a narrow space left between the two discs which form the air valve.



The Owers carburetter fitted on an engine designed and built by the owner ten years ago.

The top of the needle valve forms a subsidiary air valve and lies in a chamber formed in the top portion of the upper disc.



Construction of the Owers jet and vacuum chamber, with an enlarged view of jet needle.

This chamber is in communication with the atmosphere through a series of ports, which are acted on by the relative position of the air valve to the needle. Thus, when the throttle is opened, the main air valve—and with it the needle valve—is raised by engine suction; when, however, the travel of the needle valve is arrested by the control rod, a further raising of the main air valve causes the ports in communication with the vacuum chamber to be first partially closed, and then opened, so increasing and diminishing the rate of petrol flow. Now, as the action of the air valve is controlled by the speed of the engine and the movement of the jet needle by the opening of the throttle, it is possible to obtain almost ideal mixture conditions, and we may state from seeing the carburetter in action that it provides wonderfully low revolutions, instant acceleration, and smooth and steady running at all speeds.

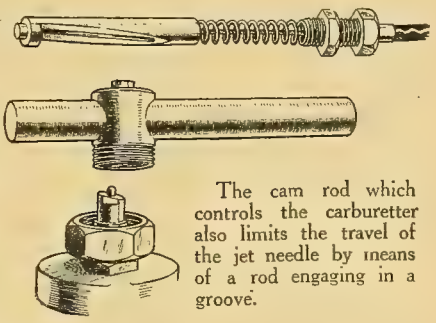
So much for the principle of the carburetter. The instrument, however, includes several other interesting features. For instance, the guide of the air valve extends below the level of the petrol in the float chamber. At its lower end it is enlarged to form a dashpot, and being always submerged it is, of course, dustproof.

A Carburetter Safety Valve.

Another unusual feature is the fitting of a safety valve to save any possible damage due to a blow-back. The carburetter is thoroughly well made, and we understand that Mr. Owers desires to get into communication with anyone interested.

The motor cycle on which this carburetter was demonstrated is particularly interesting, in that it was designed and manufactured throughout by Mr. Owers more than ten years ago. The engine is a narrow angle V twin of about 500 c.c. Two camshafts are employed, and each operates the inlet and exhaust valves of one cylinder. Ignition is by low-tension magneto, and the firing point is variable by varying the "tweaker" cam.

In addition to the usual controls means are provided for lifting either or both exhaust valves, which forms a handy device for testing purposes.



The cam rod which controls the carburetter also limits the travel of the jet needle by means of a rod engaging in a groove.

WANTED: A SIMPLE DYNAMO.

THE autumn is upon us, and shortly the evenings will be closing in, and some thought must be given to the lighting equipment of our machines.

In my own case, I travel but seldom after dark, the limit of my ordinary riding by lamplight being perhaps a two-mile run once per week. Occasionally, however, I have to do an all-night trip in order to return to the office post haste with the report of some distant trial.

Hitherto, I have persevered with acetylene, which has given me excellent service. Electric lighting is out of the question in its present forms: the accumulator system (without dynamo) cannot be depended on for two ten hours' continuous rides in the darkness on consecutive nights, while the high capital cost of a dynamo or magneto-dynamo outfit cannot be justified for the few night journeys involved.

My new machine, therefore, must be fitted with an acetylene set, and I must still endure the irritation of generator charging and cleaning before each of the occasional ten-minute runs which I take; for the all-night journeys I am fully content with the system.

An Alternative Lighting Set.

What I *should* like to fit, however, is a miniature screw-bulb electric adapter, in each acetylene lamp, connecting them all to one of those small friction-driven dynamos such as appear to give excellent service on pedal cycles. I doubt if one of these devices would function satisfactorily when driven from the outside flywheel, used at odd intervals throughout the winter, as they appear to be somewhat lightly constructed.

A simple permanent magnet type of dynamo of this description might be made and sold for quite a modest sum, and while it would not supplant the powerful acetylene head lamps with which my outfit is equipped, it would justify the expenditure by its convenience on brief and intermittent outings. The light given need not be greater than is necessary to comply with the law, and the adapters could be so placed in the head lamps that the acetylene burners need not be moved.

WHARFEDALE.

CURRENT CHAT

Times to Light Lamps

Sept. 17th	... ...	7.41 p.m.
,, 20th	... ...	7.34 ,,
,, 22nd	... ...	7.29 ,,
,, 23rd	... ...	7.27 ,,

Postal Rates—a Reminder.

Readers are reminded that the new postal regulations are now in force, and that surcharged letters are often delayed as to delivery. We mention this on account of the large number of insufficiently stamped letters that still reach this office.

The Motor Police.

The County Police of Lancashire, who have acquired a Triumph and sidecar, provide another example of the new speed control, *i.e.*, by following the suspected vehicle and noting speedometer readings. When the proposed abolition of an arbitrary speed limit is carried into effect, this form of activity will be rendered futile, but no doubt the outfit will be used for road patrol duties.

A Two-stroke Trial.

Evidently the Leicester and District M.C.C. have touched a responsive chord in the competition world, for they are receiving so many outside enquiries regarding their forthcoming two-stroke trial that they have decided to throw it open to all, making non-member entrants honorary members for the day. This event, which takes place on the 26th September, has an attractive prize list, and is confined solely to two-stroke machines. Particulars may be had from Mr. J. O. Randall, 37, Little Holme Street, Leicester.

Imports and Exports for August.

Importation of motor cycles is on the up grade. There was in August an increase of £14,705 in the value of imported machines over the previous month, the total amount being £65,884.

IMPORTS.

	1913.	1919.	1920.
Number of motor cycles	80	166	684
Value of machines and parts ...	£13,536	£12,985	£65,884

EXPORTS.

There is a slight decline in the exportation of motor cycles for August compared with July. But even so, it is satisfactory to observe that the high level of last month is so heavily maintained. The figures for July were £271,078, against recorded the previous month.

	1913.	1919.	1920.
Number of motor cycles	1,130	849	2,659
Value of motor cycles alone	£49,445	£58,748	£202,363
Value of parts and accessories ...	£15,888	£26,106	£63,203

A Protest.

A letter from F. J. Watson, the well-known Ariel rider, informs us that he withdrew his 6 h.p. sidecar outfit from the recent A.C.U. six days trials, merely as a protest against the conditions, and not for any mechanical reasons.

IMPORTANT DATES.

Sat., Sept. 18th—
Liverpool M.C. Open Reliance Cup Trial.

Sat., Sept. 25th—
West Midland Open Reliability Trial, organised by the Wolverhampton, Redditch, and Kidderminster M.C. Clubs.

Sun., Sept. 26th—
Leicester and District M.C.C. Two stroke Trial.

Sat., Oct. 9th—
M.C. and A.C. Open Reliability Trial.

Nov. 29th Dec. 4th—
Olympia Motor Cycle Show.

Next Year's England-Holland Trial.

The rules of the Anglo-Dutch Trial provide that next year's contest shall take place in England. Already the provisional programme is being considered. The Dutch team will be entertained to lunch or dinner by the Birmingham M.C.C., the enterprising committee of that body having already extended an invitation to them. Likewise the Coventry and Warwickshire Motor Club will again take a part in the entertainment of our visitors from Holland in 1921, whilst the Worcester Cup has been put up by the Worcester and District M.C.C. for the best performance by a Dutch team rider. The Surbiton and District M.C.C. offered a cup immediately after the conclusion of the trial in Holland last month, and there is also the cup again offered by *The Motor Cycle*. Thus, early, next year's event to be organised by the Auto Cycle Union promises well, and, so far as club assistance is concerned, the Worcester and District M.C.C. is keenly anxious that the trial be held in the hop district, and will gladly assist in finding a suitable course. Already we have heard from correspondents in Holland that our fellow motor cyclists over there are keenly looking forward to their visit.

Special Features.

A TOUR IN THE HIGHLANDS.

SOME THOUGHTS ON TWO-STROKES

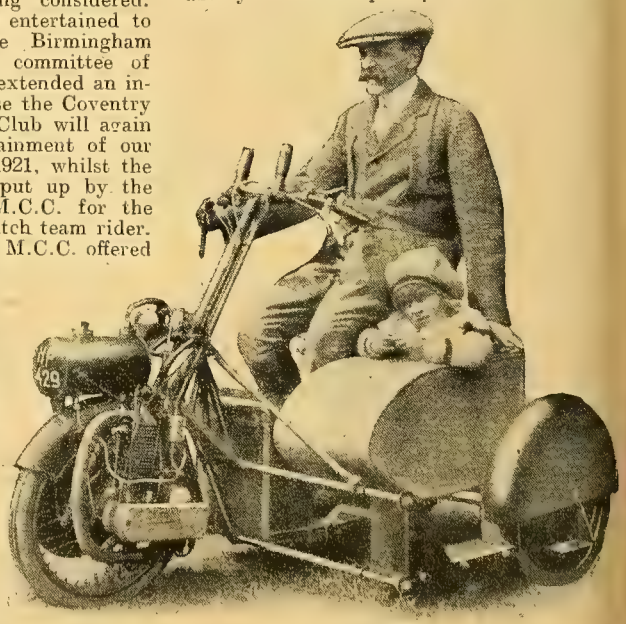
ROAD TESTS OF NEW MODELS.

An Echo of Chatsworth Park

The team event postponed at the East Midland Centre A.C.U. speed trials will be run off on September 25th on Clipstone Drive (North Notts.). The event is being held in conjunction with the Mansfield M.C. speed trials, and starts at 1.30 p.m.

Trade in British West Indies.

A letter has been received by the Department of Overseas Trade from His Majesty's Trade Commissioner in Trinidad. He states that an agent in Port of Spain is anxious to get in touch with the British motor cycle manufacturers, with a view to taking up an agency. It is pointed out that there are 206 motor cycles in Trinidad, the majority of which are of American manufacture, and that the main trouble which causes the absence of British machines, is due to the inability to obtain spare parts.



A 1½ H.P. AND SIDECAR.

Sooner or later the scooter and sidecar was bound to come. Here we have a miniature sidecar attached to a Mobile Pup, and although it is the last thing we should advocate, it serves its purpose very well.

Midland Police Activity.

The police were again active on Saturday and Sunday last examining licences and taking the names and addresses of drivers.

Police Traps.

Several notorious speed traps that have been active of late round about London were not working last week end.

Scotland Yard and the Abolition of the Speed Limit.

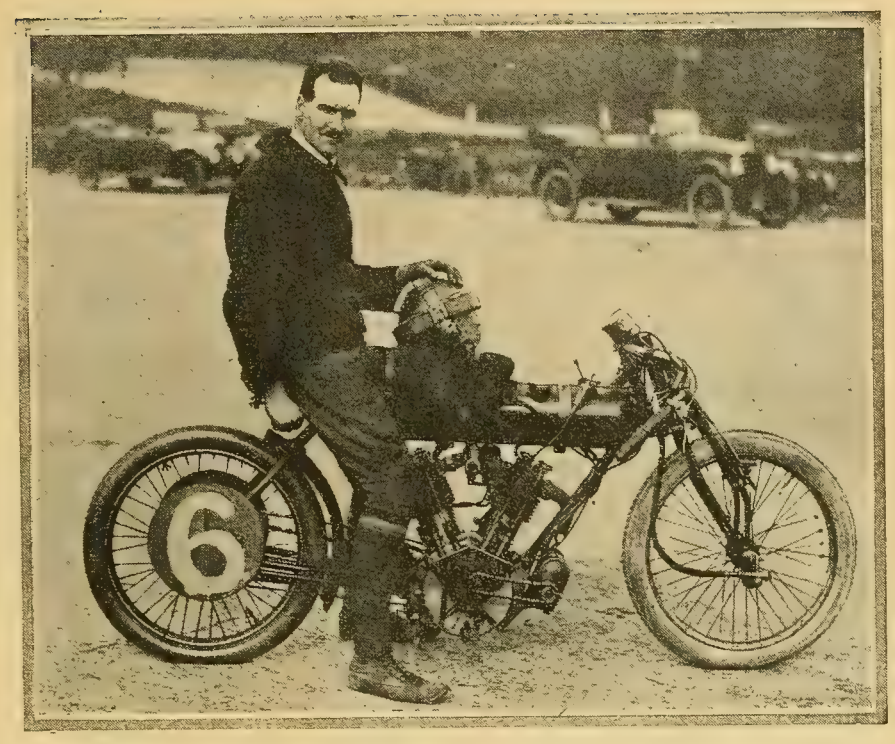
Daily paper assertions that the 20 m.p.h. limit is to be abandoned and motorists summoned for negligible and reckless driving are not confirmed by Scotland Yard. This subject will be discussed in *The Autocar* on sale to-morrow (Friday).

The Levis Trial.

The reliability trial which is being organised for September 26th by the Levis Athletic Club will be open to all riders of single-geared models of this make, provided that those who are not attached to the club become honorary members. Entry fee in the trial is 1s. (plus 4s. for honorary membership of the club). Entries close on Saturday next, and full particulars may be had from Mr. W. S. Banner, Levis Works, Stechford, Birmingham.

Ulster Two Days Trial Abandoned.

As was generally anticipated would be the case, the two days trial of the Ulster Centre of the Motor Cycle Union, which was fixed for Wednesday and Thursday of last week, had to be abandoned owing to the disturbed state of affairs in Belfast. As a fact, Belfast had resumed its normal dignified calm by the time fixed for the trial, but the decision to abandon the event had already been made. It was almost ironical that the trial should have had such an ending in view of the fact that it was intended as a substitute event for the End-to-End competition, which had been abandoned because of the disturbed state of affairs in the South of Ireland in July. Ireland's little civil war has made the lot of the trial-promoting bodies a somewhat difficult one during the past season, and the wonder is that so many events are held.



E. Remington (Nut-Jap), who attained 79·71 m.p.h. in the ten mile race at Brooklands on Saturday last, thus creating a new record in Class E.

The Clyno in the Scott Trial.

According to programme F. E. Palmer had entered a Wilkin in the Scott trial; he rode instead a 2½ h.p. Clyno. Although the smallest machine in the trial, he completed the course—a creditable performance.

Char-a-banc Speed.

At Hereford, a driver of a char-à-banc was fined £10 recently for driving a char-à-banc at a rate of twenty-five miles per hour. The Chief Constable said the char-à-banc when turning off one portion of the street to another nearly collided with a motor cyclist. Only the control which the motor cyclist had over his machine averted a collision.

A.A. and Increased Petrol Prices.

At a meeting of the executive committee of the A.A., a resolution was adopted protesting against the continued rise in the price of petrol and the neglect of the Government to take any steps either to control the existing supplies or to encourage alternative sources for the production of motor fuel. Following on this resolution, the Automobile Association is taking further steps to impress upon the Government the vital necessity for immediate action for the protection of the public, and the chairman, Sir William Joynson-Hicks, M.P., is urging the Prime Minister to fix a definite date to receive a petition recently signed by upwards of a million and a quarter persons.

A Scott rider, A. J. C. Lindsay, negotiating Amulree during the Glasgow Western M.C.C. Team Trial.

A SCOTTISH TEAM TRIAL

That included Two Ascents of Amulree.

CLUB members from many parts of Scotland gathered at the Amulree Hotel last Saturday to take part in the trial organised by the Glasgow Western M.C.C. Each club had to be represented by four members, two riding solo machines and two riding sidecars. The course was a difficult one to be covered non-stop, as it included the ascent of Amulree and the descent of Kenmore. The length of the circuit was thirty miles, *via* Kenmore, Aberfeldy, and back again to the Amulree Hotel, the distance being covered twice. The Edinburgh and District M.C.C. proved to be the winners of the "John Bull" Challenge Cup, which was the principal award.

A RECORD WEEK AT BROOKLANDS.

The Norton establishes New Records. Wooler and A.B.C. Successes.

THREE machines figured in the latest records established last week on the track at Brooklands, which has quite regained its old-time condition, and where one may see, every day, machines practising or actually attempting to raise the pre-war speed figures which are, in many cases, comparatively low.

On Tuesday, September 7th, H. H. Beach (3½ h.p. Norton and sidecar), broke and established several new records in Class G for sidecar machines not exceeding 500 c.c., and also altered the existing figures in Class H for motor cycles and sidecars not exceeding 750 c.c. His new records are as follows :

CLASS G.—MOTOR BICYCLE AND SIDECAR, NOT EXCEEDING 500 C.C.

	Time.	Speed. m.p.h.	Previous Speed. m.p.h.
200 miles	4h. 1m. 59⅘s.	49.59	10.66
250 miles	5h. 2m. 53⅘s.	49.57	-
300 miles	6h. 1m. 29⅗s.	49.79	---
4 hours	198mls. 492yds.	49.59	42 62
5 hours	247mls. 965yds.	49.51	10.71
6 hours	298mls. 1,204yds.	49.79	41.20

Amongst the details used on his machine were the following : Avon tyres, Pratt's spirit, Speedon oil, Philipson pulley, John Bull belt, Forward plugs, and Middleton sidecar.

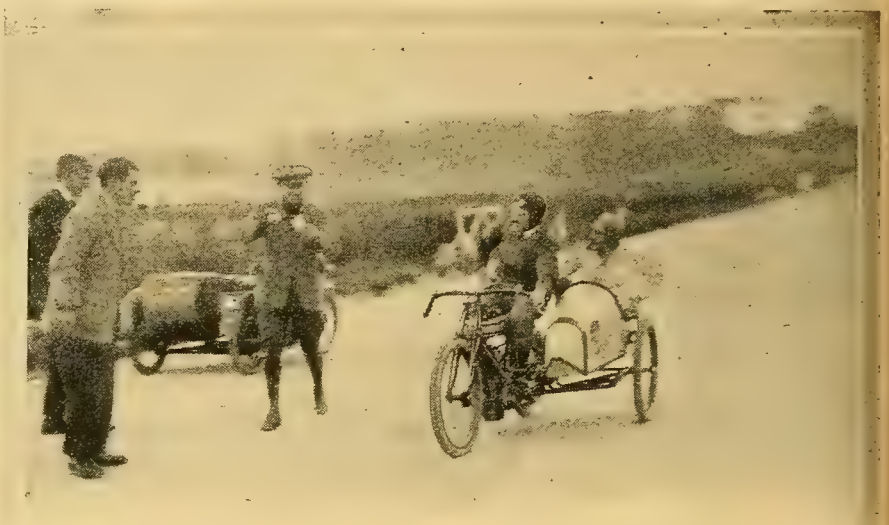
Two Flat Twins.

A hot sun throughout the day on Thursday last, September 9th, provided ideal conditions for a record day, and Mr. A. V. Ebblewhite, the official timekeeper, was kept very busy checking two machines, a 3 h.p. A.B.C. piloted by J. L. Emerson, and a 2¾ h.p. Wooler ridden by F. A. McNab, who succeeded in raising his previous speed in the eight-hour and 350 mile records in Class B (for solo machines not exceeding 350 c.c.), by 1.93 miles per hour in the former, and .84 mile per hour in the latter. Exceptionally bad luck befell him, for during his ten hours' running he broke a tappet, a piston, and a valve, whilst an oil leak in his rear cylinder caused considerable belt slip, which component he was obliged to change for a leather one. His new records are as follows :

CLASS B.—FOR MOTOR BICYCLES NOT EXCEEDING 350 C.C.

		Speed. m.p.h.	Previous Speed. m.p.h.
8 hours	319mls. 1,123yds.	43.70	41.77
350 miles	8h. 0m. 25⅕s.	43.70	42.86

Emerson (A.B.C.) put up a splendid show and, with the exception of a burst tyre, he had no other trouble. His speed was consistent and, in the second lap, worked out at 72.35 m.p.h.

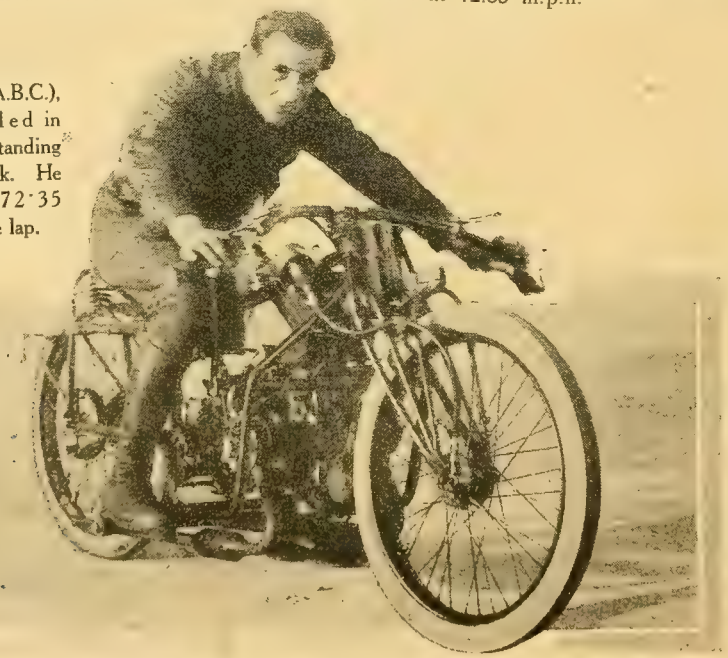


H. H. Beech (3½ Norton sc.) after lowering several records last Tuesday at Brooklands.

CLASS C.—FOR MOTOR BICYCLES NOT EXCEEDING 500 C.C.

	Time.	Speed. m.p.h.	Previous Speed. m.p.h.
50 miles	42m. 36⅕s.	70.40	69.43
100 miles	1h. 26m. 13⅗s.	69.58	68.47
200 miles	3h. 10m. 19⅘s.	63.05	61.61
250 miles	3h. 57m. 14⅘s.	63.22	59.73
300 miles	4h. 49m. 51⅕s.	62.10	59.72
350 miles	5h. 40m. 3⅘s.	61.75	59.72
1 hour	70mls. 787yds.	70.44	67.93
2 hours	130mls. 500yds.	65.14	63.68
3 hours	188mls. 482yds.	62.75	61.57
4 hours	252mls. 1,308yds.	63.29	59.88
5 hours	310mls. 991yds.	62.10	59.71
6 hours	371mls. 574yds.	61.88	59.77

The following equipment was used on his machine : Palmer tyres, E.I.C. magneto, Flixi carburetter, Wakefield Castrol and Pratt's spirit.



J. L. Emerson (A.B.C.), who succeeded in lowering many standing records last week. He accomplished 72·35 m.p.h. on one lap.

An Italian Championship.

A LONG distance race was held in Italy on September 5th to decide the "championship of the road." The course was a circuit of 24 km. (15 miles), commencing and finishing at Gallarate, and it had to be covered ten times, making a total distance of 240 kms. (150 miles). British machines performed well, securing one first, one second, and one third place, out of the four classes. American machines secured one first and one second place, whilst a Swiss make obtained another first. The remaining first place, two seconds and one third were taken by Italian models. The results tabulated are as follow :

350 c.c. CLASS.—1, Pietro Calvi (Motosacoche), 3h. 44m. 14s.; 2, Carlo Barioni (James), 3h. 47m. 5s. Winner's average speed 63.886 km.p.h. (40 m.p.h.).

500 c.c. CLASS.—1, Biagio Nazzaro (Della Ferrara), 3h. 11m. 21⅖s.; 2, Luigi Gilera (Gilera), 3h. 45m. 32⅖s. Winner's average speed 75 km.p.h. (47 m.p.h.).

750 c.c. CLASS.—1, Virginio Appiano (James), 3h. 33m. 31⅘s.; 2, Giovanni Bestelli (Gilera), 3h. 40m. 51s.; 3, Rinzo Castegneto (Frera), 3h. 47m. 25s. Winner's average speed 67.159 km.p.h. (42 m.p.h.).

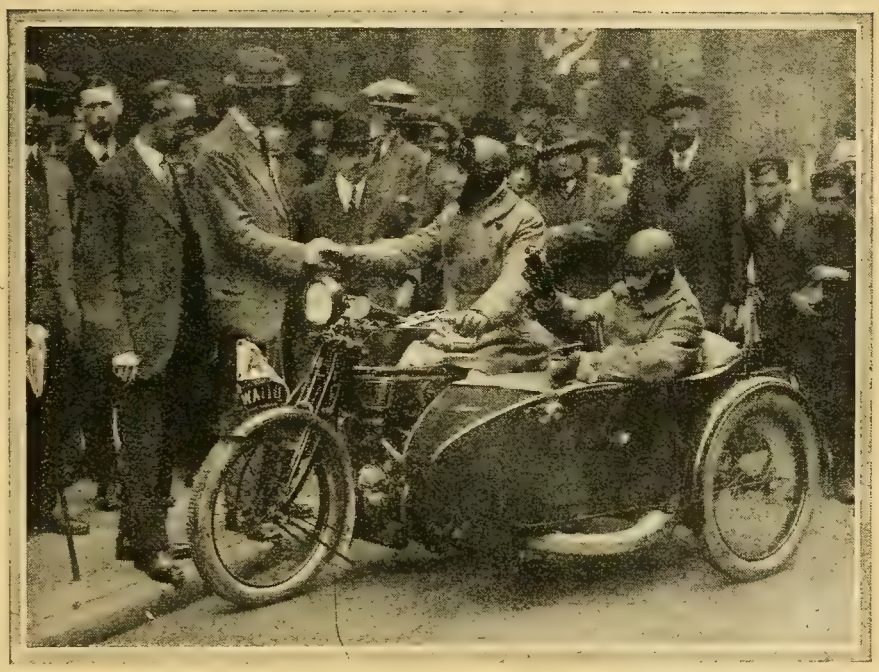
1,000 c.c. CLASS.—1, Edoardo Winkler (Harley-Davidson), 3h. 0m. 14⅘s.; 2, Miro Maffeis (Indian), 3h. 7m. 12⅘s.; 3, Erminio Visioli (New Imperial), 3h. 15m. 58⅘. Winner's average speed (fastest time of the day and championship) 79.559 km.p.h. (49.7 m.p.h.).

Round the Coast of Britain.

A Long Ride on a Single-cylinder Sidecar Outfit; 3,500 Miles in Twenty Days.

ON Wednesday, 8th inst., Mr. G. W. Wilkin (designer of the motor cycle bearing his name) started off from the premises of Messrs. J. Blake and Co., Bold Street, Liverpool, on an officially observed trial round the coast of Great Britain. He is riding a 4 h.p. Wilkin, with Mr. Barr, who has been appointed observer by the A.C.U., in the sidecar. The run is being carefully and impartially observed for general performance of the engine on all the various types of road encountered, hill-climbing, braking, lubrication, tyre wear, petrol consumption, and so forth. A great deal of useful data anent running costs and efficiency should be obtained from this trial. The rider is confident that his mount will justify his most sanguine hopes. Something like 3,500 miles will have to be covered, and Mr. Wilkin is hopeful of being able to complete the journey in about twenty days, despite any militating weather and road conditions.

Our latest news from Mr. Wilkin is that all is going well, and we wish him the best of good luck on his strenuous reliability trial.



Mr. G. W. Wilkin about to embark on his long coast ride. The complete journey will be in the neighbourhood of 3,500 miles.

London-Bala-Dunstable.

A Twenty-four Hours Trial held by the Essex Motor Club.

THE following members of the Essex Motor Club started at one minute intervals from 7 p.m. from the Old Gatehouse Hotel, Highgate, on a twenty-four hours' trial last Friday evening to Bala (Wales) and back to Dunstable: A. C. Rhodes (3½ N.U.T.), V. E. Leverett (8 Zenith), R. E. Humphreys (2½ Kingsbury), R. Weatherell (3 R. W. Scout), A. Stanger (5 Stanger), J. Stanger (5 Stanger), J. McBirnie (7 Indian), F. W. Applebee (2¼ Levis), V. Olsson (7 Indian), W. Simpson (7 Indian sc.), E. A. Bridgman (7 Indian sc.), D. S. Parsons (5 Rover sc.), P. D. Walker (4¼ B.S.A. sc.), Eric Porter (3 A.B.C. sc.), F. Savage (4 Indian sc.), E. J. Pittoch (5-6 James sc.), W. C. Hemy (6 A.J.S. sc.), W. A. Fell Smith (8 Blackburne sc.), J. W. Wills (2¾ Verus sc.), while S. R. Axford (3 A.B.C. sc.) and H. Lush (3 A.B.C. sc.) were non-starters.

The route lay through Dunstable, Daventry, Atherstone, Tamworth, Wellington, Shrewsbury, Welshpool, Llanfair, Dinas Mawddwy, Bwlch-y-Groes (observed hill), Bala, and thence back over Rhosgwalian (observed hill) to Lake Vyrnwy, Cann Office, Llanfair, and homewards over the previous road to the finish at Dunstable. Although the entry list was somewhat small, the trial was a sporting success for those members of the Essex Motor Club who entered, and good weather added considerably to the run.

Large Percentage of Finishers.

Five competitors failed to finish on time: R. Wetherell, J. Stanger, J. McBirnie, P. D. Walker, and F. Savage. The two observed hills—Bwlch-y-Groes and Rhosgwalian—gave a good deal of trouble to the riders and machines, the former being a very stiff ascent, and the latter full of cross gulleys and ruts.

McBirnie dropped out of the run on the outward journey owing to engine seizure. J. Stanger (5 Stanger) had gear box trouble on Rhosgwalian, and had perforce to retire; while R. Weatherell was reported to have broken the frame of the R.W. Scout machine entered by him. A trouble common in long trials befell A. Stanger in falling to sleep while actually riding his two-stroke Stanger. Both rider and machine overturned on the road, but it appears that Stanger only became fully aware of the happening after someone had sent him on his way again. Stanger's face swelled a good deal owing to the fall, but he finished at Dunstable on time.

One of the features of this trial was the finishing to schedule of the 2¾ Verus sc.—an excellent performance for this little machine.

The trial was well organised and enjoyed by the small body of enthusiasts who competed. The awards are gold, silver, and bronze "milestones" given by the club.

An Echo of the Six Days Trials—Mrs. Knowles's Thanks to the Competitors.

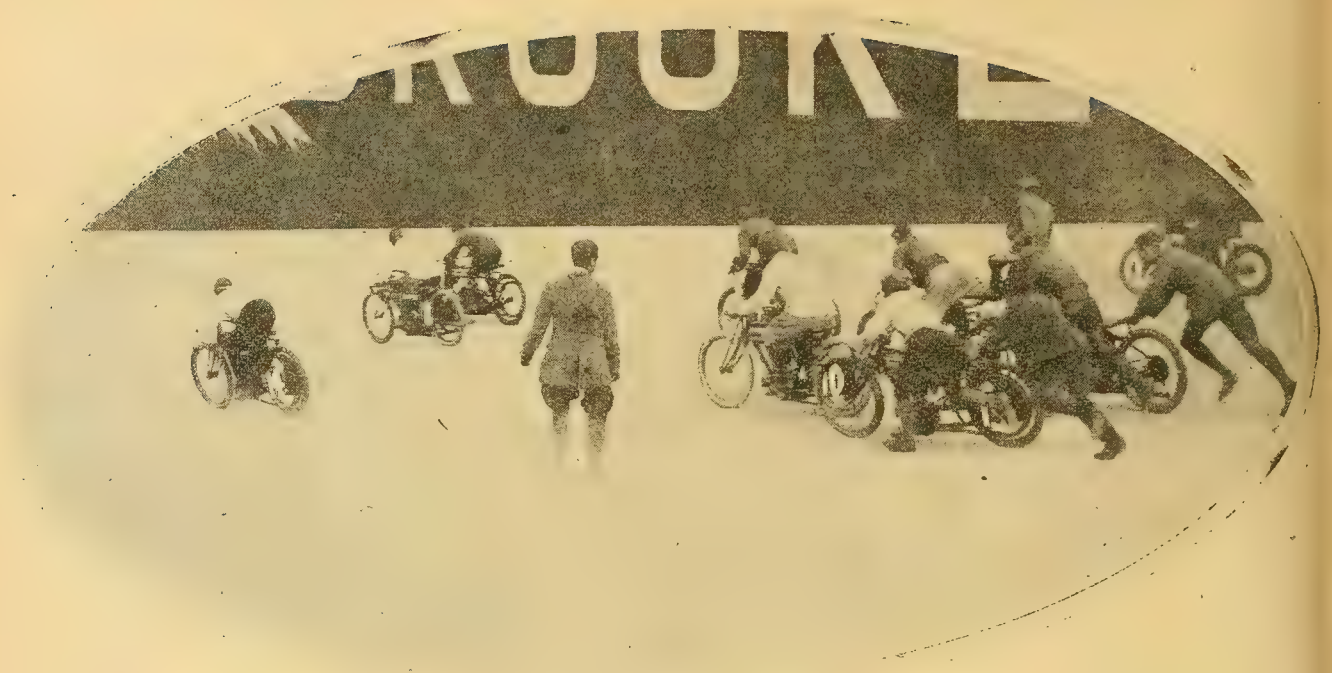
To the Editor of "The Motor Cycle."

SIR,—May I make use of your journal to convey my very grateful thanks to my fellow-competitors in the A.C.U. Six Days Trial for the most beautiful silver rose bowl which I have received from them to-day? I cannot possibly express my feelings adequately. I am more pleased than I can say, and it will be one of my most valued possessions, and a memento of a very enjoyable week. It more than makes up for the loss of a "Gold," which I might have received if I had not unfortunately been prevented from completing the trial. I should like to take this opportunity of saying how very good to me all the competitors were during the trial. It would be hard to find a more sporting and pleasant lot of fellows anywhere, and I much hope I shall have the pleasure of meeting them all again next year, and of thanking them in person for their noble present. Especially I should like to thank Mr. T. C. de la Hay and Mr. G. Dance, who, I see from your paper, were the originators of the proposal to give me a souvenir.

My thanks are also due to you for the trouble you have taken about it.

OLIVE M. KNOWLES.

Gissing Hall, Norfolk,
Sept. 10th, 1920.



Start of the one hour race for machines not exceeding 500 c.c.

BROOKLANDS ACTIVITY.

The Hour Record twice broken in one Week.

LAST week was a feast of records broken and re-established with bewildering rapidity. On Tuesday new 500 c.c. sidecar figures for 200, 250 and 300, and four, five and six hours were set up by H. H. Beach (3½ Norton sc.). Then on Thursday F. A. McNab (2¾ Wooler) again made another attempt on the 350 c.c. class and succeeded in improving the 350 mile, and eight-hour figures while at the same time J. L. Emerson (3 A.B.C.) established new times and speeds for all records up to 350 miles and six hours in the 500 c.c. His distance for the first hour was 70.44 miles, but this record was of short life, for on Saturday the remarkable speed of 71.68 miles in the hour was attained by Victor Horsman on a 3½ h.p. Norton, who competed in the hour race for solo motor cycles for engines up to 500 c.c.

The sequel to this race may rightly be termed the most sensational performance of a 3½ h.p. solo machine on the track this season.

A few minutes before the conclusion of the hour race Mr. Norton held a hasty consultation with Mr. A. V. Ebblewhite, and, since the meeting was over and the track clear, it was agreed that Horsman should be allowed to continue in an attempt to break other records. The Norton rider was stopped, and, after refilling his tank, he rapidly sped away.

All went well for the next threequarters of an hour. Lying low on the tank he swallowed up the miles at an exceptionally consistent speed, at times exceeding 80 m.p.h.

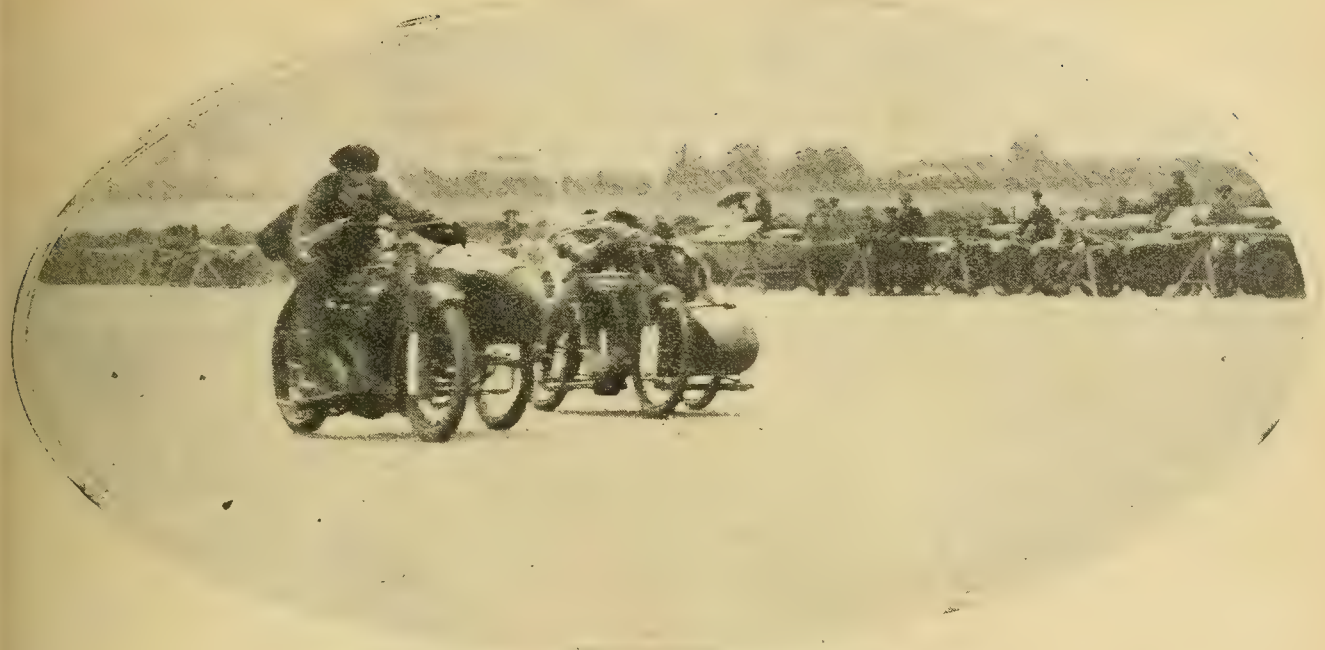
Many anxious faces were turned towards the clock dial, which, synchronised with the timekeepers' watch, slowly crept towards the second hour.

Slight anxiety swept over the excited crowd as Horsman's Norton, speeding by, showed signs of spasmodic misfiring. Pulses quickened as members of the Norton team ran out to stop the rider.

Horsman, at first, failed to heed the gesticulating figure, but later, persuaded by Mr. Norton, rapidly applied his brakes, and, followed by the eager crowd, was provided with fuel.

A few seconds, and he was off again. The tune of his exhaust note removed any doubts as to the condition of his machine. Three laps to go for the 150 miles! The

V. Horsman (Norton) filling up after breaking the one hour record. Mr. J. L. Norton will be observed busily filling up the oil tank.



A duel between O. de Lissa (Motosacoche) and R. E. Dicker (Norton).

diminutive figure, almost horizontally poised on the banking, suddenly crawled down and stopped! The thought of failure when so near the goal aroused much sympathy for the plucky rider, and a sidecar outfit was at once despatched to his rescue. Off again, but many minutes passed before he hove in sight, and when he appeared he was wobbling dangerously from side to side with a flat rear tyre. Nearing the group of admirers, he signalled his determination to carry on, and, escorted by two sidecar outfits, he finished at the railway straight, Col. Lloyd observing from the timekeepers' box.

One fall during the last memorable laps caused a wound on the head, and on his return he was greeted with cheers from the anxious crowd, provided with stimulant, and "chaired" to the sidecar, which carried him back to the paddock the holder of a series of magnificent records.

Official results subject to confirmation.

CLASS C.—MOTOR CYCLES NOT EXCEEDING 500 C.C.

50 miles	41m. 45⅘s.	= 71.84 m.p.h.
100 miles	1h. 26m. 52⅕s.	= 69.07 ,,
150 miles	2h. 17m. 28⅘s.	= 65.47 ,,
1 hour	71mls. 1,173yds.	= 71.68 ,,
2 hours	138mls. 1,258yds.	= 69.36 ,,

A hot sun shone down on the seven starters for the first race, the All Comers Solo Handicap, and a fine day at Brooklands proved a pleasant change.

This race, in which a distance of three laps had to be covered, was marred by several bad starts. The first man off (F. A. Simpson), Metro-Tylor, led for the first lap, followed by E. Longman, J. F. Hull, and F. A. McNab (2¾ Wooler), whilst the scratch men were signalled to start as the sixth man crossed the starting line on his second lap.

E. Longden, on a Dot-Jap, took the lead in the second lap, and kept his place, winning easily ahead of E. Longman (Wooler), while V. E. Horsman (Norton) followed, pursued by F. J. Hull Wooler. Results:

	Handicap. m.	s.
1. E. Longden (Dot-Jap 61×60, 350 c.c.) ..	3	15
2. E. Longman (2¾ Wooler 60⅝×60, 346 c.c.)	3	39
3. V. E. Horsman (Norton 79×100, 490 c.c.)		36

Winner's speed, 56.55 m.p.h.

The 2.30 p.m. race, a handicap for three-wheelers attracted fourteen starters, and the use of the clutch in preference to a standing start made an appreciable difference to the "get away."

H. J. Rowe (4 Triumph sc.) led in the first lap, followed by the winner of the previous race, this time seated in a Morgan, whilst Crossthwaite (James sc.), J. Chater-Lea (Chater-Lea sc.), and R. E. Ricker (Norton) followed. Chater-Lea was going well, and creeping up to Eric Longden (Morgan) who overhauled him in the last lap. O. de Lissa (Motosacoche sc.) came in third, followed by R. E. Dicker (Norton sc.). Results:

	Speed.
1. J. Chater Lea (Chater Lea sc. 86½×85, 999 c.c.)	57.14
2. Eric Longden (Morgan 90×77½, 998 c.c.) ..	—
3. O. de Lissa (Motosacoche sc. 82×94, 990 c.c.)	—

The following event, a race open to members of the Public Schools M.C.C., proved a very sporting contest, and amongst the thirteen starters we noticed a new M.A.G. engined Martin with redesigned valve gear, ridden by Capt. A. G. Miller. Many varying designs of heat distributors in the combustion heads were to be seen on these machines.

H. B. Browning (Scott) got away well, and the first lap showed H. V. Prestwich (Nut-Jap), D. Crawford (Zenith sc.), and L. P. Openshaw, on a similar machine, well to the fore.

L. P. Openshaw gradually overhauled all the other competitors, and roared in at the finish at a speed of 61.8 m.p.h. Results:

	Handicap. m.	s.
1. L. P. Openshaw (Zenith sc. 90×77½, 986 c.c.)	1	48
2. H. V. Prestwich (Nut-Jap 60×61, 380 c.c.)	1	57
3. J. P. Riddock (Zenith 70×64½, 496 c.c.) ..	1	42

Six starters only lined up for the ten miles scratch race limited to motor cycles in Class E. The competitors were started from the railway straight, and, as they passed the grandstand, O. M. Baldwin Matchless-Jap), E. Remington (Nut-Jap), and H. P. Harveyson (Indian), were well ahead of L. A. Cushman (Zenith). Remington crept up to first place, and, Harveyson following, left Baldwin in rear. In this order they finished. Remington's speed of 79.71 m.p.h. creates a new record in Class E, the old figures standing at 77.95 m.p.h. Results:

	Speed.
1. E. Remington (Nut-Jap 90×77, 998 c.c.) ..	79.71
2. H. P. Harveyson (Indian 82.5×90, 994 c.c.)	—
3. O. M. Baldwin (Matchless-Jap 90×77.5, 996 c.c.)	—

The last race for 3½ h.p. solo machines in Class C (over 380 c.c. and not exceeding 500 c.c.) was, as previously stated, marked by V. E. Horsman's remarkable performance. Eleven riders faced the starter at 4 p.m., and all got away well, with the exception of L. E. Pope (Matchless M.A.G.) and M. Latezi (Rudge).

Pope's carrier came loose in his first lap, which necessitated a temporary halt, whilst Kennedy (Rudge) was misfiring badly.

At the end of the first quarter of an hour, the laps covered by the foremost riders were as follows: V. Horsman and J. S. Patterson (Nortons), six laps; W. Edmondson (Triumph) and H. P. Harveyson (Indian), five laps. Of these, Harveyson retired.

The field now ran as follows: V. Horsman (well ahead), J. S. Patterson, L. E. Pope, and Tudor Thompson (Douglas). These places remained unchanged to the finish, showing an easy victory for V. Horsman, who won by twenty-one miles. Results:

	Distance. mls.	yds.	Speed. m.p.h.
1. V. Horsman (Norton 79.5×100, 498 c.c.)	71	1,173	71.68
2. J. S. Patterson (Norton 79×100, 490 c.c.)	50	496	50.23
3. L. E. Pope (Matchless-M.A.G. 64×77, 496 c.c.).....	46	353	46.20

Coventry and Warwickshire M.C. Hill-climb.

A Three-cornered Contest.

STILE KOP was again the scene of a hill-climbing contest on Saturday last, the Coventry and Warwickshire Club holding an event for members. Exceptional interest was taken in the event, hundreds of spectators lining the hill sides. The series of events enabled a mere handful of competitors to show up conspicuously, and this group secured runaway wins. The two most notable performers were H. W. Hassal (on a 3½ Norton) and T. C. Greenwood (on a 4 Sunbeam). These two riders showed magnificent judgment, and each time got off the mark in splendid style, and flashed over the finishing tape at mile-a-minute speeds. On their first solo climbs, each rider clocked 31s. for the course of five-eighths of a mile, and, as a cup was offered for the fastest time of the day, it was necessary that they should run off the tie. Besides the two named, T. C. de la Hay (3½ Sunbeam), whose time had been recorded as 41s. (although his speed at the top, to all appearances, was certainly equal to the other competitors), at his own request was granted another run. This three-cornered contest, sandwiched between the car events, proved the tit-bit of the day. On the second ascent, Greenwood improved upon his previous time by ⅗s., whilst Hassal duplicated his previous time. De la Hay was 3s. slower than Hassal, and was undoubtedly slowed by a slight speed wobble. Thus Greenwood was left the winner of the cup. It may be remarked that both Greenwood and Hassal are youngsters whose fathers are prominently engaged in the motor cycle industry, and were actually present at the event on Saturday to see their sons perform so well. Provisional results:

Considerably over a thousand spectators viewed the hill-climb of members of the Coventry and Warwickshire M.C. at Stile Kop last Saturday. Some good riding was witnessed and fast times recorded.

FASTEST TIME OF DAY (Amateur and Lightweight): T. C. Greenwood (Sunbeam).
FASTEST SIDECAR: H. W. Hassal (3½ Norton), 44s.
CLASS 1: J. E. Chamberlain (2¼ Morris), 1m. 9s.
CLASS 2: T. C. Greenwood (2¾ Sunbeam), 48s.
CLASS 3: S. R. Philpot (2¾ Douglas), 1m. 6s.
CLASS 4: C. E. Starling (3½ Norton), 39⅕s.; W. Worral (3½ Sunbeam), 40⅗s.
CLASS 5: H. W. Hassal (3½ Norton), 31s.; W. Worral (3½ T.C.D.-J.A.P.), 39s.
CLASS 6: T. C. Greenwood (4 Sunbeam), 31s.; L. Crisp (4½ Humber), 42⅗s.
CLASS 7: H. W. Smith (7-9 Indian), 41⅗s.
CLASS 9: T. C. Greenwood (4 Sunbeam), 59s.
CLASS 10: H. W. Hassal (3½ Norton), 44s.
CLASS 11: W. F. Davenport (8 A.V.), 51⅗s.
CLASS 12: J. P. Black (9.76 Hillman), 63⅗s.
CLASS 13: C. Bedford (9.76 Hillman), 44s.
CLASS 14: W. F. Davenport (8 A.V.), 48s.

T. C. Greenwood (Sunbeam), who made fastest time of the day. He is the son of the designer of the Sunbeam.

LIVERPOOL MOTOR CLUB.

THE 'open Reliance Cup Trial' which takes place next Saturday has received a large and representative entry, both from private and trade riders. The start will be at 9.30 am. from the Hawarden Castle Hotel, Queensferry. The Reliance Open Challenge Cup and the Reliance Amateur Challenge Cup are the principal awards, but there are three other trophies confined to members, including one for ex-D.R.'s. A hill-climb on the formula $\frac{C \times T^2}{W}$ is included, but will only be used to decide a tie for the first place or any of the special awards.

H. W. Hassal, jun. (Norton), and his father. He tied with T. C. Greenwood for fastest time of the day, the latter lowering his time, however, on the re-run.

RACING THROUGH A SANDSTORM.

Trying Weather Conditions reduce Speeds in the Scottish Championship Meeting at St. Andrews.

THE speed championships decided on the sands at St. Andrews might be termed the blue riband of Scottish motor cycle racing, and this year the meeting proved to be one of the most successful events yet held, both as regards the entries and the various other features which go to constitute the successful speed trial. There was but one factor which detracted from the complete success of the day, namely, the wind, which on September 4th surpassed itself in vigour and continuity even for Scotland. Both riders and onlookers were subject during the day to a merciless sandblast, and in the official inner circle it was noticeable that the wisest of the officials had equipped themselves with goggles. A great many of the competitors rode without such protection, and consequently suffered considerably with their eyes. The weather conditions, therefore, prohibited the establishment of very fast times, but on the whole the performances were good.

There were twelve classes, in which no fewer than 194 entrants competed. Results :

CLASS 1. Scottish lightweight speed championship. Not exceeding 350 c.c. Ten laps, approximate distance twenty miles. Fourteen entrants: 1, A. Alexander (2¾ Douglas); 2, H. Mason (2¾ N.U.T.). Alexander took this event by storm, winning by at least one and a half laps. This was really a remarkable performance. Mason rode exceedingly well, but obviously his machine had not the turn of speed which decided Alexander as a winner.

CLASS 2. Scottish mediumweight. Engines exceeding 350 c.c. and not exceeding 550 c.c. Distance, twenty miles. Thirty entrants: 1, A. Alexander (2¾ Douglas); 2, P. S. Milner (3½ Sunbeam). In this event A. Alexander again swept the board, winning by nearly two laps.

CLASS 3. Engines exceeding 560 c.c. and not exceeding 1,000 c.c. Distance, twenty miles. Thirteen entrants: 1, G. Grinton (7-9 Harley-Davidson); 2, A. Alexander (7-9 Indian). This was the first really exciting run of the day, as during the first five laps G. Grinton and H. Fairley, riding Harley-Davidson and American Excelsior respectively, ran neck and neck, and were constantly passing and repassing each other. At the end of the fifth lap Grinton obtained a slight lead, and on the very last lap of all Fairley, who was holding Grinton with apparent ease, had the misfortune to crash at the last corner of the race. This mishap caused him to lose at least a minute, but it would be unfair to suggest that had not misfortune befallen him Fairley would have won, as Grinton rode with splendid dash and good judgment.

CLASS 4. Private owners. Engines not exceeding 350 c.c. Distance, six miles. Nine entrants: 1, J. Beveridge (2¾ Douglas); 2, R. D. Somerville (2¾ Douglas).

CLASS 5. Private owners. Engines exceeding 350 c.c. and not exceeding 560 c.c. Distance, six miles. Seventeen entrants: 1, J. W. Walker (3½ Norton); 2, E. Napier White (3½ Edmund-Moser). Walker won by a slight lead, White continuing to press him till the finishing line was crossed.

CLASS 6. Private owners. Engines exceeding 560 c.c. and not exceeding 1,000 c.c. Distance, six miles. Eight entrants: 1, B. G. Valentine (7-9 American Excelsior); 2, G. R. Arnot (7-9 Harley-Davidson). This race was not so hotly contested as some of its predecessors, and the long row of spectators that lined the outer ropes appeared to derive a good deal more excitement from witnessing an unfortunate spectator pursue his hat, which blew off and proceeded across the sands towards the sea at terrific speed. It was a very close finish as to whether the spectator caught the hat or the hat reached the sea. The spectator won.

CLASS 7. Engines not exceeding 350 c.c. Distance, six miles: 1, D. Alexander (2¼ Royal Enfield); 2, J. M. Russell (2¼ Levis). Russell's machine was not in very healthy tune, and during the race his engine began to misfire, and refused to fire evenly for half a mile or so.

CLASS 8. Open. Engines not exceeding 350 c.c. Distance, two miles: This event was run off in two heats. 1, A. H. Alexander (2¾ Douglas); 2, H. Mason (2¾ N.U.T.).

CLASS 9. Open. Engines exceeding 350 c.c. and not exceeding 560 c.c. Distance, two miles: 1, A. H. Alexander (2¾ Douglas); 2, A. B. Fairley (3 A.B.C.). There were four heats, during which Milne, who had ridden well hitherto, had the misfortune to break his clutch after running second in his heat.

CLASS 10. Engines exceeding 560 c.c. and not exceeding 1,000 c.c. Distance, two miles: 1, F. W. Dixon (7-9 Harley-Davidson); 2, G. Grinton (7-9 Harley-Davidson).

CLASS 11. Inter-club team race, confined to clubs affiliated to the Scottish A.C.U. Distance, ten miles: So far as public interest was concerned, this was undoubtedly the most closely followed race of the day, though, unfortunately, one or two of the club teams, including the Glasgow Western M.C.C., did not materialise. The event was, at any rate, exceptional in the feature that all the competitors got well off the mark. A. Alexander, from some obscure reason, fell out during the race. At the end of the first lap, G. Grinton, who rode in the Edinburgh team, obtained a good start, and Edinburgh won the race with only two competitors finishing. G. Grinton (Harley-Davidson), A. Alexander (3½ Douglas), and H. E. Fairley (A.B.C.) composed the team.

CLASS 12. Open. One mile sidecar race. Engines not exceeding 600 c.c.: 1, J. W. Walker (3½ Norton sc.); 2, T. J. Wright (3½ Indian Scout sc.). Interest was now beginning to flag, owing to the increased fury of the sandstorm, and the last event was run amidst the dispersing of the crowd.

CLASS 13. One mile sidecar race. Engines exceeding 600 c.c. and not exceeding 1,000 c.c.: 1, F. W. Dixon (7-9 Harley-Davidson sc.); 2, G. Grinton (7-9 Harley-Davidson sc.).

CLUB NEWS.

Northern M.C.

The winner of the Rudge-Whitworth cup in the 250 miles reliability trial is Mr. A. Stothard (2¾ Diamond). Mr. O. L. Rutter (8 G.N. cycle car) and Mr. J. Orde (3½ N.U.T.) respectively take second and third prizes.

N.M.C.F.U. (Leeds and District).

The results of the reliability trial of 164 miles are now to hand. The winner receives a gold medal and holds the Great North trophy for one year. 1, A. Bannister, jun. (3½ Invicta sc.); 2, J. H. Calvert (7-9 Indian sc.); 3, E. Preston (7-9 Harley-Davidson sc.).

Bedford and District M.C.

At a recent general meeting of the Bedford and District Motor Cycle and Light Car Club, it was decided to abbreviate the title to the Bedford and District Motor Club. A successful twenty-four hour reliability trial was held at the end of last month, and thirty riders of solo machines, sidecars, and cars competed in the run to York and back. Only three failed to complete the double journey, the results being as follow: Sanders Cup (for cars).—J. Cocker (10 Crouch). Allen Cup (sidecars).—A. Collins (6 Martinsyde sc.). Humphries Cup (solo).—J. Knight (3 A.B.C.). The team prize was won by H. Hartrop (7-9 Harley sc.), W. Holland (6 A.J.S.), and G. D. Johnson (8 Zenith sc.).

Berwick and District M.C.

The following are the results of a hill-climb held on September 5th: Class 1 (350 c.c.).—A. Paton (2¾ Verus-Blackburne). Class 2 (500 c.c.).—C. F. Brown (4 Triumph). Class 3 (1,000 c.c.).—W. Murray (3½ Sunbeam). Class 4 (unlimited).—G. Watson (8 Bat-Jap). Best time of the day: W. Murray (3½ Sunbeam).

Norwich and District M.C.

The results of this club's recent hill-climb at Ringland are as follow:

560 c.c. CLASS.—H. F. Mase (3 A.B.C.), 17s. (Mr. Howe's cup).
350 c.c. CLASS.—W. G. Barnes (2¾ Wooler), 30s. (the Secretary's cup).
750 c.c. CLASS.—H. F. Mase (3 A.B.C.), 18s. gold medal).
UNLIMITED SIDECARS.—H. F. Mase (7-9 Harley-Davidson), 25⅘s.
SCOOTERS.—O. K. Utting (Skootamota), 49⅘s.
SLOW RACE.—H. F. Mase (3 A.B.C.).

Just off. A Harley-Davidson rider starting in the recent Keighley M.C. Reliability Trial.

lub News.—

North London M.C.C.

Ladies and gentlemen joining the club after September 1st will be entitled to full membership throughout next season without payment of an additional subscription. It is hoped that this concession will induce many to join forthwith and thus participate in the last three events of this season. Full particulars are obtainable from Lieut. Alan W. Day, "Lynton," Park Crescent, Finchley, N.3.

Stockport M.C.

A reliability trial was held in the last week-end of August under perfect weather conditions, and supported by a large entry. Results: 1, Solo Club Medal and Talbot Cup, H. J. Scale; 2, Solo Club Silver Medal, A. Waterhouse and D. Vine (tie). Special prize for best lightweight performance, W. Bryans. 1, Sidecar Club Gold Medal, T. Davies. Special prize, Miss Cowley.

Public Schools M.C.C.

The reliability brake and acceleration trial of September 4th resulted as follows: 1, C. S. Burney (3½ Blackburne); 2, H. B. Browing (3¾ Scott); 3, P. Davey (3½ Norton). Class winners were: 350 c.c., A. A. ——— (2¾ Diamond); 500 c.c., C. S. Burney (3½ Blackburne); 600 c.c., H. B. Browning (3¾ Scott); 750 c.c., L. T. Gibson (5 Zenith); 1,000 c.c., P. S. Malone (7 Harley-Davidson).

Cardiff M.C.C.

Great local interest was shown in the hill-climb at Rhubina on September 4th. Results on time:

350 c.c. solo—1, R. Morel and A. Sgonina (tie, 49⅘s.); 2, E. G. Lawson (54s.). 500 c.c. solo—1, C. Sgonina (41s.); 2, F. J. Boshier-Jone (43s.). 750 c.c. solo—1, C. Sgonina (40⅘s.); 2, R. E. Toms (41⅘s.). Unlimited solo—1, B. E. Toms (39⅘s.); 2, C. Sgonina (42s.); 3, Reg. Brown and Jack Thomas (tie, 43s.). 750 c.c. sidecars—1, Reg. Brown (51s.); 2, Handel Davies (52⅘s.). 1,000 c.c. sidecars—1, A. Cook (47s.); 2, A. Thom (49⅘s.). Unlimited passenger machines—1, Reg. Brown (49⅘s.); 2, Handel Davies (50s.). Miss M. Burrell made fastest time in the Ladies' Class; the A. B. Wade Cup went to R. E. Toms; the *Evening Express* Cup to A. Cook; and the Cardiff Garages Cup to C. Sgonina.

Surbiton and District M.C.C.

Redland Hill, near the famous Leith Hill, Dorking, was, on Saturday, September 4th, the scene of a very successful and well-attended hill-climb organised by the above club. Considering the nature of the climb the times and speeds, as follow, are excellent:

CLASS A (350 c.c., solo).—1, D. S. Powell (2½ Metro-Tyler), 1m. 6⅘s.; 2, F. E. Salter (2¾ Zenith), 1m. 11⅘s.; 3, L. S. Pinder (2¼ Triumph), 1m. 27⅘s.. Winner's speed, 30.8 m.p.h.

CLASS B, provisional results (500 c.c., solo).—1, Kaye Don (3 A.B.C.), 36⅘s.; 2, Maurice C. Breese (3½ B.S.A.), 40⅘s.; 3, Reg. A. Green (3 A.B.C.), 41⅘s. Winner's speed, 55.88 m.p.h.

Class C (750 c.c., solo).—1, René Dequin (6 Zenith), 38⅘s.; 2, W. R. Hobbs (6 Zenith), 40⅘s.; 3, Geo. E. Payne (3½ Norton), 42⅘s. Winner's speed, 53.26 m.p.h.

CLASS D (1,000 c.c., solo).—Results not confirmed owing to a time query.

CLASS E (750 c.c., sidecar).—1, D. H. Davidson (4 Harley-Davidson sc.), 47⅘s.; 2, René Dequin (6 Zenith sc.), 54⅘s.; 3, H. F. Edwards (3 A.B.C. sc.), 55⅘s. Winner's speed, 42.97 m.p.h.

CLASS F (1,000 c.c., sidecar).—1, J. A. Masters (7-9 Harley-Davidson sc.), 46⅘s.; 2, René Dequin (6 Zenith sc.), 48⅘s.; 3, B. Crawford (8 Zenith sc.), 55⅘s. Winner's speed, 44.08 m.p.h.

UNLIMITED SOLO CLASS.—1, V. Gayford (5 Zenith), 35⅘s.; 2, Kaye Don (3 A.B.C.), 36⅘s. Winner's speed, 57.13 m.p.h.

UNLIMITED SIDECAR CLASS.—1, F. W. Barnes (8 Zenith sc.), 39⅘s.; 2, J. A. Masters (7-9 Harley-Davidson sc.), 45⅘s. Winner's speed, 51.65 m.p.h.

Week-end Club Events.

Sept. 16.—Dorchester M.C. and L.C.C. Paperchase.
Sept. 18.—Southampton and District M. and M.C.C. Hill-climb.
Sept. 18.—Glasgow M.C.C. Open Reliability Trial.
Sept. 18.—N.M.C.F.U. (Coventry Branch). Hill-climb.
Sept. 18.—Berwick and District M.C. Speed Trials.
Sept. 18.—B.M.C.R.C. and Essex Motor Club. Brooklands Meeting.
Sept. 18.—West Birmingham M.C.C. Run to Stratford.
SEPT. 18.—LIVERPOOL M.C. OPEN RELIANCE CUP TRIAL.
Sept. 18.—Exeter M.C. and J.C.C. Gymkhana.
Sept. 18.—Ilkley M.C. and L.C.C. Liverpool Trial.
Sept. 18.—Edinburgh and District M.C. Rally.
Sept. 18.—Eastern Valley M.C.C. Club Run.
Sept. 18.—Bedford and District M.C. and L.C.C. Club Run.
Sept. 18.—Cumberland County M.C.C. Social Run.
Sept. 18.—N. Wilts M.C. and L.C.C. Run to Bath.
Sept. 18.—Dewsbury and District M.C.C. Competition.
Sept. 18.—Worcester and District M.C.C. Flexibility Trial.
Sept. 19.—North London M.C.C. Captain's Surprise Event.
Sept. 19.—Dewsbury and District M.C.C. Surprise Run.
Sept. 19.—Fleet and District M.C.C. Secret Run.
Sept. 19.—Westmorland M.C.C. Club Trial.
Sept. 19.—Essex Motor Club. Standard Run Final.
Sept. 19.—Harrogate and District M.C.C. Run to Kirkham Abbey.
Sept. 19.—Reading and District M.C. and L.C.C. Run to Crookham Common.
Sept. 19.—Stalybridge and District M.C. Speed Trials.
Sept. 19.—N.M.C.F.U. (Portsmouth). Run to South Harting.
Sept. 19.—N.M.C.F.U. (Wolverhampton). Run to Brewood.
Sept. 19.—N. Wilts M.C. and L.C.C. Run to Salisbury.
Sept. 19.—Sheffield and Hallamshire M.C.C. Club Trophy.
Sept. 19.—Bury and District M.C. Run to Blackpool.
Sept. 19.—Loughborough and District M.C.C. Reliability Trial.
Sept. 20.—Edinburgh and District M.C. One Day Trial.

Berwick and District M.C.

The club held a reliability run to Peebles, *via* St. Mary's Loch, on August 29th. Three competitors "tied" for first place, having lost no marks. The usual course was followed and a draw made for places. Result: 1, Capt. G. F. Steven, 5-6 Hazlewood, solo; 2, Tom Lilburn, 4¼ h.p. B.S.A. and sc.; 3, Capt. J. Cumming, 7-9 h.p. Harley-Davidson, solo.

Westmorland M.C.C.

The Westmorland Motor Cycle Club held its first speed trials on the sands near Arnside. All the events were well contested, and some very good sport was witnessed. The sand was in moisty condition, and consequently several riders were thrown, tyres being completely wrenched from the rims. In no case, however, were these accidents attended with any personal injuries beyond bruises. S. A. Marks, of Preston, on an Indian, won the Milnthorpe and District trophy, which was the principal prize. The results were as follow:

Machines not exceeding 350 c.c.: 1, B. Houlding (2¾ Douglas); 2, G. C. Ion (2¾ Douglas); 3, M. Parkinson (2¾ Douglas).

Not exceeding 500 c.c.: 1, R. O. Hodgson (Norton); 2, B. Houlding (2¾ Douglas); 3, J. Whalley (3 A.B.C.).

Not exceeding 750 c.c.: 1, R. O. Hodgson (4 Norton); 2, B. Houlding (2¾ Douglas); 3, J. Whalley (3 A.B.C.).

Unlimited: 1, R. O. Hodgson (4 Norton); 2, S. A. Marks (Indian); 3, J. Whalley (3 A.B.C.).

Handicap: 1, S. A. Marks (Indian); 2, R. O. Hodgson (4 Norton); 3, J. Whalley (3 A.B.C.).

Sidecars: 1, Caldwell (4 Norton sc.); 2, F. A. Ireland (American X sc.); 3, A. J. Moffat (4 Norton sc.).

Bury and District M.C.

The Blake Cup Trial, which was run over a very sporting little course amongst the Yorkshire moors, was not as well supported as one could wish. The results were: 1, Cup winner, H. Crompton (3½ Sunbeam); 2, J. Whittaker (4 Triumph, sc.); 3, W. Ratcliffe (4 Triumph).

Basingstoke and District M.C. and L.C.C.

At the Comrades of the Great War *fête*, held on September 4th, a successful gymkhana provided much amusement to the large crowds. Prizes on the points for each event basis went to: 1, A. Osmond (4 Triumph); 2, W. Osmond (4 Triumph); 3, W. Julian (Cedos, A.B.C., and Norton).

Plymouth and District M.C.C.

The Plymouth and District M.C.C. held a hill-climb at Huccaby on Saturday last. The hill, which was used in the course of the Arbuthnot Trial last year, was in excellent condition. The gradient is not severe, but the number of hairpins mitigate against fast climbs.

The fastest time was made by J. Spooner on an A.B.C. (solo), his time being 57s.

In the sidecar class two competitors tied with 76s.: A. Ash (Enfield) and Holmes (Harley). The formula used was the well-known *Motor Cycle*.

Leeds and District M.C. Speed Trials.

Last Sunday the Leeds and District Motor Club held a series of speed trials over a flying half mile in which some good sport was witnessed. The venue selected was Penny Pot Lane, about four miles from Harrogate, where nearly a mile of straight level road with a good surface is available.

There were about forty entries in the various classes, and the fine weather brought out a goodly number of spectators. Considerable delay was caused, however, by numerous vehicles claiming a right of way, and also by spectators straying over the course and obstructing the timekeeper's view of the signalling flags.

The speeds were quite good for a closed event in which no very special machines were entered, the most spectacular performance being that of Cawthorne (Autoglider), who sang down the course in 35⅖s. like a miniature aeroplane, and would have done even better if he had not been troubled with intermittent missing. A mishap occurred to Parr (7-9 Rudge), who started riding with play in his front forks, with the result that he developed a wobble at speed, and crashed. R. Brown, the able assistant trials secretary, rushed up the course on his Indian and administered first aid in a very capable manner.

The fastest time of the day was made by Thornton (6 Ariel), and Backhouse (4 Triumph) put up the next best performance in the solo class. In the sidecar class R. Brown (7-9 Indian) was easily the fastest. Results:

600 c.c. SIDECAR.—1, W. Backhouse (4 Triumph), 36⅘s.; 2, B. Mitchell (3½ Norton), 36⅘s.; 3, L. Chappell (4 Triumph), 38⅘s.

1,000 c.c. SIDECAR.—1, R. Brown (7-9 Indian), 32⅘s.; 2, O. Brooks (11 J.A.P.), 34⅘s.; 3, C. Thornton (6 Ariel), 35s.

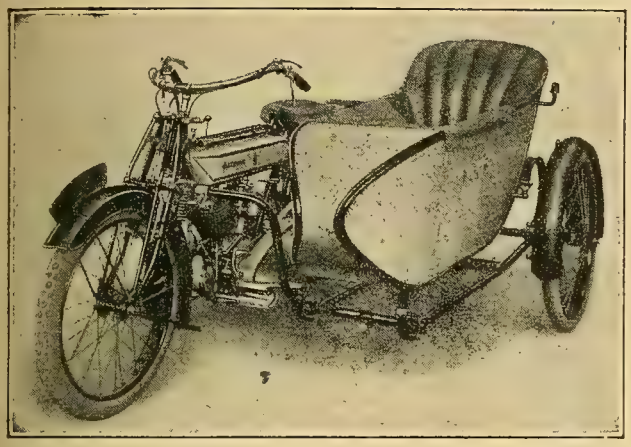
300 c.c. SOLO.—1, R. Cawthorne (Autoglider), 37⅘s.; 2, E. Smith (New Imperial), 52⅘s.

400 c.c. SOLO.—1, R. Cawthorne (Autoglider), 40⅘s.; 2, E. Smith (New Imperial), 52⅘s.

600 c.c. SOLO.—1, W. Backhouse (4 Triumph), 29⅘s.; 2, L. Chappell (4 Triumph), 29⅘s.; 3, B. Mitchell (3½ Norton), 30s.

1,000 c.c. SOLO.—1, C. Thornton (6 Ariel), 28⅘s. (fastest time of day); 2, W. Backhouse (4 Triumph), 31s.; 3, Almond (4 Triumph) and Waterman (6 Zenith), 31⅘s. (tie).

CARS (HANDICAP).—1, H. Stanhope (8 Stanhope), 33⅘s.; 2, P. Cockroft (8 Morgan), 39⅘s. (received 5s.).



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EVER since the 5-6 h.p. J.A.P. Hazlewood Combination made its debut, it has met with unequalled success, earning the popularity and goodwill of the motor cycling world.

It is a Combination that has completely fulfilled the requirements of the sidecar driver, every detail of design and construction being of the highest order, combining efficiency and comfort with lasting service.

The past record of the "Big H" Combination proves its marked superiority.

Let YOUR next combination be a

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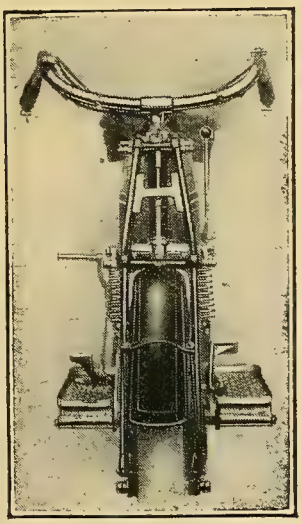
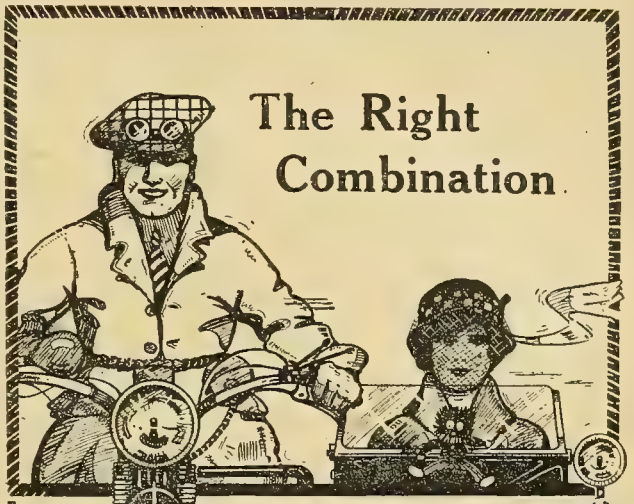
Established 1876.



"Look for the Big H, always in the front"

HAZLEWOODS, LTD., COVENTRY.



The Right Combination.

We have dealers everywhere; Why not call on your nearest.

The right passenger—the right machine, shod with the right tyres; and you are assured of a successful run.

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Interesting tyre booklet free on request.

Bates Tyres and Belts are built for successful service—built to take you there and back without a hitch. Fit them now and be convinced.

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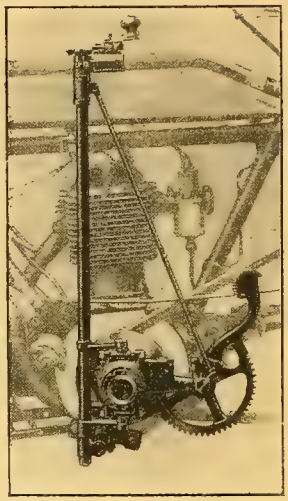
GRADO Multi-Gear
WITH FREE ENGINE

JUST THE THING for motor cyclists with single gear machines.

Gives gear ratios from 4 to 1 to 1 to 1 free engine, and kick-starter.

Think what it means to be able to start your engine from the saddle.

IN TWO HOURS the pulley can be fitted by anyone to Triumphs, Bradburys, Precisions, Nortons, B.S.A., T.D.C., etc.



PRICES for 1920 Kick Starter Models.

We can now supply for J.A.P. and other engines requiring a recessed pulley.

For Machines up to 4½ h.p., **£12 0 0** Postage, 4/6 extra
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Special Models for Jap Engines, 10/- extra.

Full instructions for fitting supplied with each pulley.
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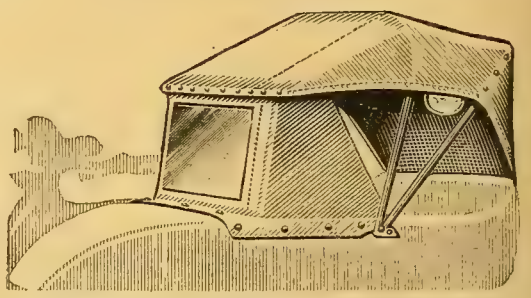

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The Highways and Byways of England
— THEIR HISTORY AND ROMANCE. —
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THE SUIT THAT BECAME FAMOUS
"Service" No. 1 BELTED SUIT (as illustrated) made in extra stout Double Texture Cape Car Hood Material, interlined pure rubber. All seams stitched and solutioned, giving *absolute* weather protection. Jacket D.B. 40in. long, belted, fitted wind cuffs and storm collar, four roomy pockets. Seatless trousers, fasten round waist with heavy chrome strap. Neatly shaped spats, openings have gussets inserted to exclude wet and mud. Adjustable leather foot straps. Overalls have gussets, etc. Exceedingly strong and smart outfit.

Jacket **60/-**
Seatless Trousers **38/6**
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State height and chest measurement.

GAUNTLETS GALORE.
With strap wrist. Extra large gauntlet, lined wool, **27/6.** Ditto, without strap wrist, smaller gauntlet, **25/-**

Finest quality "ASBESTOL" with mammoth gauntlet. Auto slide fastener at back. Double stitched seams. Colours, black or tan.
Price: Unlined, **45/-** Lined, **47/6**
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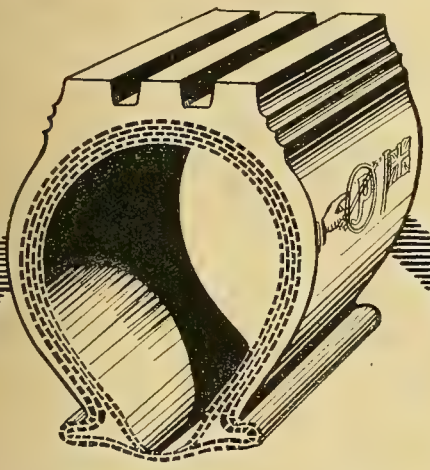

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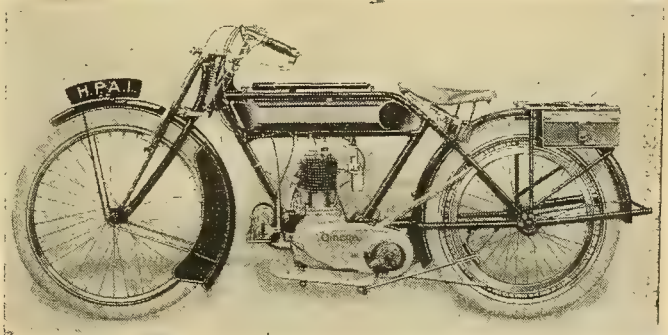

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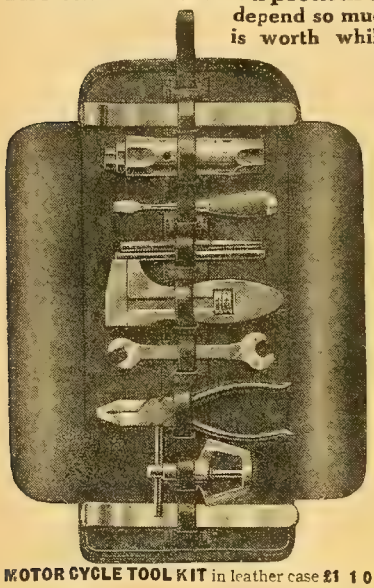

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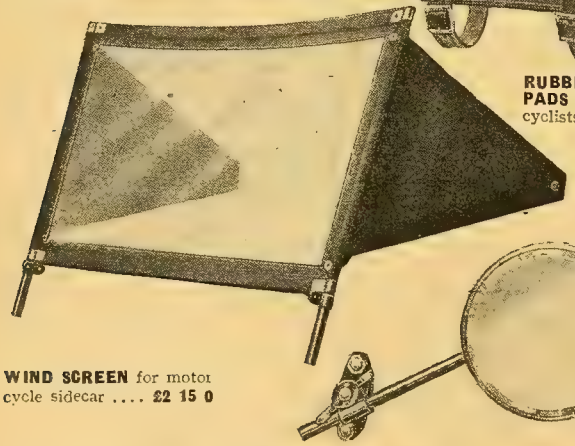

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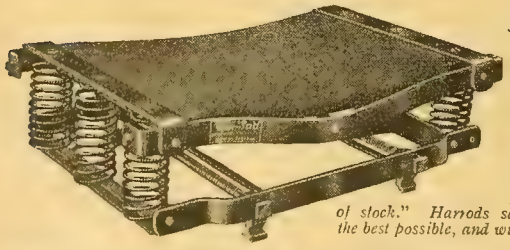

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A.B.C., 1915, 4-speed, spring frame, first-class condition; £75.—198, Gt. Portland St., W.1. [8525

A.B.C., unused, Lucas dynamo lighting, £165; cost £177.—43, Grove Rd., Sparkhill, Birmingham. [X0168

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1920 8 h.p. **ZENITH,** countershaft, kick-starter model, immediate delivery, **Maker's list price**
1920 **A.B.C.,** 4 speeds, brand new, immediate delivery ..... **List price**
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1920 A.B.C., in new condition, only done 500 miles £140.—H. Clayton, Crown Point, Denton, Lancs [X1091

1920 A.B.C., new, unridden, completely equipped; £145.—Walton, 14, Claremont Hill, Shrewsbury. [8743

A.B.C. Solo Machines always in stock at list price.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0278

SPECIAL T.T. A.B.C. 3½h.p., mileage 600; £80.—Webster, Albert Park, Lower Broughton, Manchester. [7850

A.B.C. Motor Cycle from stock; list price.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [6384

A.B.C., 1920, only carefully ridden 50 miles, Lucas lamps and horn; £142 lowest.—Box 7,901, c/o *The Motor Cycle.* [9072

CLIFFORD WILSON Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113.—A.B.C., all models. [8920

1920 A.B.C., absolutely as new, only run about 200 miles; 126 gns.—'Phone: 1024.—Julian, 84, Broad St., Reading. 7718

1920 A.B.C., better than new, only run about 200 miles; 118 gns.—'Phone: 1024.—Julian, 84, Broad St., Reading. [7802

A.B.C., 1920 model, in perfect condition, speedometer, lamps, horn; £145.—7, Station Parade, Muswell Hill, London, N.10 [8335

A.B.C., latest model, mileage under 200, machine as new; £245, or near offer.—Greenwood's Garage, Pangbourne, Berks. [7792

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—A.B.C., with kick starter, £150, with dynamo lighting £173, from stock. [X1221

1920 A.B.C. 3h.p., 1,500; taken delivery of car; acetylene lamps, tools, spare tyre (new).—Capt. Routh, Farringdon, Alton, Hants. [7900

1920 T.T. A.B.C., P. and H. lamps, all accessories, very fast; seen any time; £125.—E. F. King, Heatherton, Pembury, Tunbridge Wells. [7960

1915 A.B.C. 3½h.p., spring frame, 4-speed, recently overhauled by makers; price, including horn and speedometer, £75.—69, Redland Rd., Bristol. [8682

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A.B.C., 1920, latest model, with kick starter, only used for a few miles, guaranteed sound; £135.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0065

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A.J.S. new Combination, delivery from stock; £210.—Jones, Garage, Droitwich. [X1347

A.J.S. 6h.p. 3-speed Combination, 1913-14; £80.—J. Beck, 92, Cedar St., Glasgow. [8259

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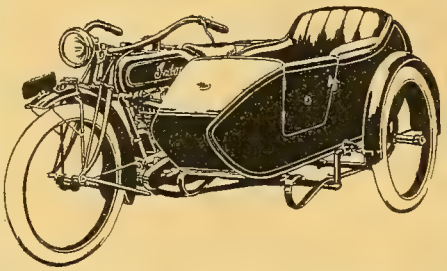

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1920 2½h.p. Clyno, lamps, horn, spares, splendid condition; £70, or offer.—Pace, Trafford Rd., Wisbech. [8511

CLYNO Combination, 1917, perfect condition, fully equipped; £130, near.—70, Franciscan Rd., Upper Tooting. [7769

CLYNO 8h.p. Combinations, 1921 models, now ready for delivery; £250, ex works.—Alexander, Hale, Altrincham. [3744

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B19

MOTOR CYCLES FOR SALE.

Clyno.

1919 (Oct.) Clyno, 2-stroke, 2-speed, lamp, horn, excellent condition; £52.—S. J. Hawkins, Ash Vale, Aldershot. [8506

1920 2½h.p. Clyno, run about 100 miles, better than new; 66 gns.—'Phone: 1024.—Julian, 84, Broad St., Reading. [7721

1919 Clyno Lightweight, 2-speed gear and clutch, perfect condition; £60.—Kays, 8, Bond St., Ealing, W.5. 'Phone: 1827. [7120

STANDARD 1921 Clyno Combination, unique opportunity, delivery from stock; £250.—Maudes' Motor Mart, 100, Paris St., Exeter. [8986

CLYNO.—Sole Bristol and District Agents. Lightweight models in stock.—S. J. Fair, 201, and 203, Cheltenham Rd., Bristol. [X7406

1914 Clyno Combination, with lamps, horn, etc., 4 interchangeable wheels, not W.D.; £88 for quick sale.—15, Summerhill Rd., Dartford. [7848

1920 Clyno 2½h.p., run about 100 miles, better than new; 60 gns., wonderful value.—'Phone: 1024.—Julian, 84, Broad St., Reading. [7805

CLYNO 1918 6h.p., lovely turnout with bulbous back sidecar, disc wheels and spare; £130.—59, Palmer Place, Dorset Rd., Clapham Rd., S.W.8. [8489

CLYNO Lightweight in stock. Orders booked in rotation. Clyno combination orders booked in rotation —Rothwell and Milbourne, Cowleigh Garage, Malvern [6185

CLYNO Torpedo Combination, just overhauled, aluminium discs, large plated exhaust, splendid condition, accessories; £75, offers.—The Holt, Beaconsfield. [8414

CLYNO Big Six Combination; £250; in stock.—Lamb's, 50, High Rd., Wood Green; 151, High St., Walthamstow; and 387, Euston Rd., London, N.W.1. [8199

1920 2½h.p. Clyno 2-strokes, new, fitted with clutch and 2-speed gear, trade supplied; £75.—'Phone: 5777 Holborn.—Wauchope's, 9, Shoe Lane London. [7744

£88.—Clyno 1917 6h.p., 3-speed, kick start, all chain, re-enamelled and plated, and C.B. sidecar, excellent condition, only wants seeing.—697, Romford Rd., Manor Park. [8235

NEW Clyno Lightweight, 2½h.p., 2-speed and clutch, and to makers' specification; £75, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [8401

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3459

CLYNO 1921 Coachbuilt Combination, electric lighting, horn, speedometer, hood, screen, detachable interchangeable wheels, spare wheel, tyre and tube; list price; £250.—Girling, Maldon, Essex. [9029

5h.p. 3-speed K.S. Renovated Clynos; 1916, interchangeable wheels, new tyres, new mags, new carburetter; £75 each, solo; carriage extra.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [7633

1920 Clyno Lightweight, new August, only used about 30 miles, lamp, generator, horn, cost £81; owner going abroad, and, for quick sale, will sacrifice for £65.—Alexander's, 115, Lothian Rd., Edinburgh. [7878

CLYNO, 1920, one only slightly used lightweight model in stock, mileage negligible; at 60 gns. we cannot repeat this bargain.—The Layton Garages, London Rd., Bicester. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X1395

CLYNO 8h.p. 1921 Combination.—Batchelor and Co., East Surrey agents, have a new 8h.p. combination; demonstration runs given; orders booked for very early delivery.—Batchelor's, Clarence St., Kingston-on-Thames. 'Phone: 1809. [2874

CLYNO Lightweights, 1920, 2¼h.p., 2-speed, £75, or fully equipped with head lamp and generator, tail lamp and tubing, horn, L.C.C. registration, petrol, and oil, £79/15.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [0281

CLYNO 5-6h.p., W.D. late models, 3-speed, kick start, foot clutch, re-enamelled, replated, new carburetters and magnetos, rebuilt as new, practically unused, a few available from £75.—Hearn, 117, Loughborough Park, Brixton, S.W. 'Phone: Brixton 2888. [6600

CLYNO Combination, 5-6h.p., 3-speeds, kick start, four interchangeable wheels, lamps, speedometer, accessories and spares, including complete outfit for Bosch mag., after 8 p.m. or 3.30 p.m. Saturday.—2, Palace Mansions, Colney Hatch Lane, Muswell Hill, N.10. [8605

CLYNO 1917 Combination, 3-speed, countershaft, kick start, interchangeable and spare wheels, 700 × 80 tyres, lamps, Klaxon, Auster screen, Amac, hood, tools, spares, round back sidecar reupholstered scarlet, powerful and fast, trial by appointment Streatham Hill district; £135.—Box 7,881, c/o *The Motor Cycle*. [8961

Connaught.

CONNAUGHT 2¾h.p. 1915 2-stroke, all on; ride away; £42.—6, Langley Rd., Elmers End, Beckenham. [7961

Vivian Hardie & Lane Limited

DOUGLAS

4 h.p. Combination Model B.20 **£170**
Delivery from stock.

2¾ h.p., Solo, Model W.20, with clutch **£105**
Delivery from stock.

2¾ h.p., Solo, Model W., without clutch **£100**
Delivery from stock.

2¼ h.p. LEVIS POPULAR MODEL, in stock .. £60

3½ ALECTO 2-stroke, solo, in stock £87 10

8 h.p. ZENITH Sporting, solo, in stock £139

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BOND ST., LONDON, W.1.
Telegrams: IVHARDILAN, WESDO, LONDON
Telephone: Mayfair 6559.

MOTOR CYCLES FOR SALE.

Connaught

1920 Connaught, kick start, clutch model, lamps, horn, very little used; nearest £75.—38, Hawthorn Av., Louth, Lincs. [X1275

FOR Sale, 2¾h.p. Connaught, 2-stroke, 3-speed, and clutch, in splendid condition; £50, or nearest.—G. Donald, Derbyhall, Fraserburgh. [X1229

CONNAUGHT Motor Cycles.—2½h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. J. Evans, 83-91, John Bright St., Birmingham. [0252

Coulson.

COULSON B, all models in stock; 2¾h.p. 2-speed, 95 gns.; with clutch, 105 gns.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [8553

COULSON B. 2¾h.p., 1919, 2-speed, new belt and spare, 1920 type, tank and stand, Klaxon and lamps; £73, offers.—Box 7,878, c/o *The Motor Cycle*. [8958

1920 4h.p. Coulson-B 2-speed, spring frame, an ideal solo mount, not ridden 500 miles; £90, for quick sale; top hole condition.—Bannister, Railway St., Chatham. [6728

LATE 1920 Coulson B., 2¾h.p. Blackburne, electric lights, Klaxon, knee-grips, speedometer, and spares, only done 200 miles, as new; £95.—15, Broadway, Maidenhead. [8481

F.O.C.H. for the Coulson B. 2¾h.p. 2-speed, and 4h.p. 3-speed; list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8142

NEW Coulson B 4h.p., with 3-speed clutch and kick starter, spring frame, etc.; 118 gns., or on easy payments 4% extra; only one-fifth deposit, balance 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [8390

NEW Coulson B.—2¾h.p., £99/15; 4h.p. models, £110/5; each fitted with 2-speed gear, spring frame, Blackburne engine; also 2¾h.p. model, with clutch and kick starter, £110/5; easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments. — Harrods, Ltd., 118, Brompton Rd., London. [8389

Coventry Eagle.

1920 Coventry Eagle 3½h.p., 3-speed, and Henderson sidecar, long exhaust, disc wheels; £140, or good offer.—O'Hanlon, Oak Dell, Hale, Cheshire. [7995

COVENTRY Eagle 2½h.p., 2-stroke Villiers, Roc 2-speed, fitted canolet sidecar, electric lighting, tools, perfect condition, just overhauled; £85.—Ellis, "Azalea," Portugal Rd., Woking. [8738

1920 Coventry Eagle 2¾h.p., 4-stroke, 2-speed, K.S., lamps, horn, all accessories, not ridden 100 miles, as new, insured £90, will accept £80, or near offer.—Apply, P.E.B., 75, Canadian Av., Catford. [8007

F.O.C.H. have a new Coventry Eagle, Model 7; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays [8152

Dalm.

1915 3h.p. Dalm, 2-stroke, pillion seat, 2-speed, lamps, tools, Klaxon horn, fine condition; £42.—Windmill, 17, Winslow Rd., Fulham, W.6. [8079

De Luxe.

1919 De Luxe, 2¾h.p., 2-stroke, 2-speed, new Dunlops, lamps, leg shields; £49/10.—Mackenzie, 63, Brigstock Rd., Thornton Heath. [9048

Demos.

DEMOS 2¾h.p., 4-stroke, overhauled, new tyres, tubes, complete, less mag.; £12, bargain.—Greenfield, 16, Temperley Rd., Balham. [8030

Diamond

DIAMOND Single-speed Models in stock.—Taylor's Garage, Wednesbury. [7310

DIAMOND-J.A.P. 2¾h.p., 1920, 2-speed, run 700; £70.—Gripper, Stansted, Essex. [8267

1917 Diamond 2¾h.p., 2-speed, new condition; 50 gns.—Williams, 34, Larch St., Southport. [8118

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton [2266

DIAMOND, 2-stroke Villiers, new; £63.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [8554

DIAMOND 2¾h.p., condition new, little used, lamps, horn, tools; £50.—Pendlebury, Wolseley Rd., Rugeley. [X1232

DIAMOND, 1920, new, £56; with new lamp and horn, £58.—Clarke, 56, Bilston St., Wolverhampton. [8724

DIAMOND-J.A.P. 1919 2¾h.p., 2-speed, as new, all on; £67.—63, Dollis Park, Church End, Finchley. [8749

DIAMOND-J.A.P., Model F, Sturmey-Archer gear, kick starter, in stock; £90/6.—Taylor's Garage, Wednesbury. [7309

1920 Diamond 2-stroke, hardly used, tyres unpunctured, condition perfect; £53.—No. 3, Market St., Lichfield. [6615

MOTOR CYCLES FOR SALE.

Douglas

DOUGLAS, W.D., 2¾h.p., 1915, uncrated June, 1920, excellent running, and new condition, P. nd H. lamps, mechanical horn, complete; bargain, 65.—42, Queen's Rd., Fisbury Park, N. [9038

1919 4h.p. Douglas Combination, 3-speed, K.S., lamps, horn, speedometer, wind screen and ood, insurance, tools, good running order; £145.— apt. Blackett, 4, Sheen Park, Richmond. [8806

1920 2¾h.p. Douglas. 3-speed, T.T. bars, lamps, horn, tools, spares, insurance, cost £110; accept £98, ttle used, perfect condition throughout; bought car.— ughy, Box 498, c/o *The Motor Cycle*. [X1317

BIRMINGHAM.—Frank Whitworth, Ltd., 139, New St., have a remarkable bargain in 1920 4h.p. ouglas combination taken in exchange; it's as new nd fully equipped, including screen; £160. [X1218

h.p. Douglas, late 1918, enamel and plating as new, engine perfect, having been thoroughly overhauled, tted new controls and everything necessary, lamps, orn, tools, etc.; £75.—Dowell, Byfleet, Surrey. [8246

"T Appears Ridiculous to Advertise when you have no stock, but we are giving deliveries to the early irds. Place your order at once if you want de very.—Eli Clark, Douglas Agent, 196, Cheltenham Rd. ristol. [0016

1915 2¾h.p. Douglas, recently plated and enamelled, new Dunlop and tubes, Bosch mag., new Amac, w belt, mudshield, long nickelled exhaust, grand bike. ing at £55.—Lawson, 391, Lordship Lane, E. Dulwich, E. [8367

MAUDES' Overhauled W.D. 2¾h.p. 1916 Model Douglas, tanks re-enamelled, new tyres, belt, mag., c., absolutely like new; £60; trade supplied.—Maudes', 00, Gt Portland St., London, W.1., and Paris St., xeter. [8628

DOUGLAS 4h.p., 1918, 3-speed, clutch, kick starter, overhauled, re-enamelled and plated, all new, ccessories, belt, back tyre as new; any trial; £95.— 05, Elmhurst Mansions, off Manor St., Clapham, ondon. [8683

M.O.C.H. have a late 1919 Douglas combination, many accessories, as new.—Fair Offer Car House, 5, eath St., Hampstead (near Hampstead Tube Station). hone: Hampstead 3752. Hours 9-7, including Satur ys. [8144

1920 Douglas 4h.p. Combination, the property of a naval officer, perfect condition, mileage 1,300, Wat rd speedometer, horn, mirror, etc.; any trial: £150.— uthsea Motor Engineering Co., King's Rd., Ports outh. [7914

1919 Douglas Combination, in first-class condition, sidecar, recently repainted and machine over uled, lamps, etc., complete; best offer over £130; dy to ride away.—Bouverie, Longford Castle, Salis ury. [7966

DOUGLAS 2¾h.p., nearly new, only done 2,000 miles, unpuncturable tyres, speedometer, lamps, ols, etc., long exhaust; bargain £65; appointment ly by 'phone. Chingford 113—4, Eglinton Rd., ingford, Essex. [7882

1919 4h.p. Douglas Combination, 3 speeds, kick start, in perfect condition, enamel and nickel most unsoiled, Cameo wind screen, lamps, and acces ries; £125; preferably appointment.—182, Sherrard l., Forest Gate. [8412

DOUGLAS 4h.p. Colonial Model, 3 speeds, splendid engine, Binks, special Streamfort cream sidecar, se, Easting, speedometer, lamps, horn, spares, 2 tyres, tubes, 2 belts, chain, valves, very smart; £105.—15, reset Rd., Wimbledon. [8352

DOUGLAS 4h.p. Combination, luxuriously equipped with hood, screen, speedometer, all lamps, echanical horn, etc., condition indistinguishable from w; £140, privately owned.—Seen at Venus Motors, ashet Lane, Upton Park. [7881

h.p. Douglas Combination, 1919, Lucas horn, lamps, etc., really smart turnout, plating, enamel, up olstery, perfect, Saxe blue sidecar, mechanically und; bargain, £110.—Railway Arch Garage, Denmark d., Camberwell, London. [8064

NEW Douglas Combination, 4h.p., to makers' speci fication at list price, including carriage from orks; £173/10; easy payments 4% extra; only one fth deposit, balance by 12 monthly instalments.— arrods, Ltd., 118, Brompton Rd., London. [8392

DOUGLAS 4h.p. Combination, 1917 model, 3 speeds, kick start, completely overhauled and done in all eather colours (green and black), just done 300 mile ial run with great success; sacrifice for quick sale, 0 gns.—Robinson, Plumber, Railway Rd., Leigh. [9034

DOUGLAS 2¾h.p., 1920, 3-speed, mileage 1,500, Lucas lamps, Cowey speedometer, Cowey horn, ols, spare plugs, etc., insurance to Aug., 1921, con tion as new; best offer £110; evenings after 6 p.m. C. Ridd, The Hostel, Chatham St., Walworth, E. [8442

SIX 2¾h.p. Douglases, £55 to £60; two 4h.p. side car combinations, £100; all thoroughly over uled, re-enamelled and rebuilt, and new mags. fitted, me with new tyres; no more at these prices when ese sold.—S. Sawyer, Sherlock Works, Wrentham, ffolk. [8725

Accessories. H.A.H. Complete Electric Lighting Sets. Write for Catalogue.

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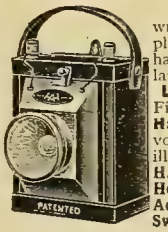
Gerson & Co., 48, Blackett St., N'castle-on-Tyne.
Polkinghorne, Newquay, Cornwall.
Ware & Co., 10, Quiet St., Bath.



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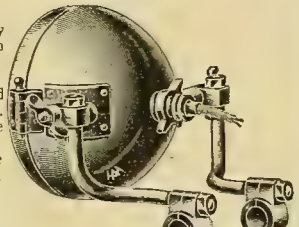


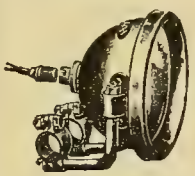
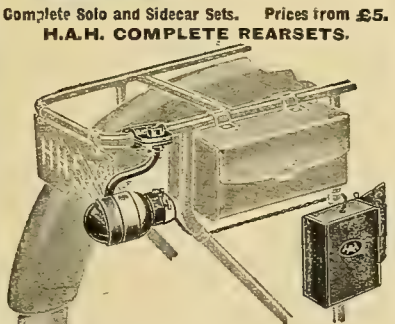


Fig. 878. Similar to Fig. 895, but smaller, and with special "pull on" front. Rubber ring casting for glass. Price as illustrated, 54/- each.

Complete Solo and Sidecar Sets. Prices from £5.
H.A.H. COMPLETE REARSETS.



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With an Acetylene Headlamp use an Electric Rear-lamp Set, which cannot blow out, and is always ready to be switched on at a moment's notice

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Telegrams: "Keyage, Croydon."

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 4h.p. Combination, late 1917 with 1920 C.B. sidecar, 2 new tyres and belt, clutch, countershaft, 3 speeds, makers' colours, plating, enamel good condition, lamps, horn, tools, spare parts, luggage grid, new Easting; £115; after 6 p.m. —Havengore, Tudor Rd., New Barnet. [7797

DOUGLAS 2¾h.p., 1916, special engine, super-tuned, speed cam, exceedingly fast, brand new oversize Dunlop tyres, tubes, and belt, long exhaust, largest P. and H. set, also independent electric lighting, full kit, horn, spares, absolutely perfect throughout; £66, offer.— 10, Ambleeote Rd., Grove Park, S.E. [8415

2¾h.p. Douglas, 1915, 2-speed, engine No. 22191, Amac carburetter, C.A.V. mag., footboards, touring handle-bars, horn, mirror, electric lighting set, spare valve spring, large toolbag, long exhaust, in good running order; £60; good reasons for selling; no dealers; write for appointment.—25, Santos Rd., Wandsworth, S.W.18. 7048

COMPETITION 2¾h.p. Douglas, specially tuned at Brooklands, forced induction, special no jet racing carburetter, straightaway exhausts, tank in scarlet with black panels, usual plated parts, whole mechanically perfect, new tyres; a distinct and exceptional bargain at £72, or, with 1920 sporting Rennoc sidecar, £88. —Bamford, see under Consulting Engineers. [7908

DOUGLAS 4h.p. Combination, new October, 1919, G.L. boat-shaped sidecar, wind screen, hood and side flaps, completely weatherproof, beautifully sprung, just repainted, cycle just overhauled, in first-class running order, three lamps, generator, horn, and all tools, a smart and reliable outfit, owner just bought car, any trial; best offer over £130.—Apply, Dr. Vincent Bates, High St., West Malling, Kent. [8943

1920 Douglas 4h.p. Combination (Douglas sidecar), electric lighting, Cameo wind screen, reserve tank, horn, spare tyre, spare tube, spare belt. This combination is in perfect order throughout, and has been most carefully and sympathetically driven. It is the property of the Rev. F. Paget, of Oxford, who has placed it in our hands for sale, prior to his return to Africa; a bargain at £155.—The Layton Garages, 90, High St., Oxford. 'Phone: 784. [7896

Edmund.

EDMUND 2¾h.p., spring frame, 3 models; you simply float.—Gourlay, Fallowfield. [6933

EDMUND-J.A.P. 2¾h.p., spring frame, 1919 model; £80.—Balchin, Wisborough Green, Sussex. [8607

2¾h.p. Edmund, Levis engine, spring frame, Enfield 2-speed; £55; ride away.—Platts, 602, King's Rd., Fulham, S.W.6. [8483

1920 Edmund-Jap, mileage 2,000, speedometer, Klaxon, powerful, comfortable, 140 m.p.g., perfect condition; £80.—Lee, 71, Saxon Rd., Southall. [8429

EDMUND.—The lightweight with the laminated spring frame 2¾h.p. Jap model, £92/8; 2-stroke model, £86/10; both fitted with Enfield 2-speed gear. —P. J. Evans, 83-91, John Bright St., Birmingham. [0251

EDMUND-J.A.P. 1920 2¾h.p., 2-speed, laminated spring frame, registered, and ready for use, mileage negligible, condition guaranteed; cost £92, offered at £75, one of the best bargains in England. Those who miss Bicester frequently pay much more for a worse article.—The Layton Garages, Bicester, Oxon. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X1396

Enfield.

NEW 2¼h.p. Enfield 2-stroke, just received; £73/10. —Rose's Garage, Uxbridge. [9007

ENFIELD 2¼h.p., 2-speed, new; £63/10.—Caeco, 21, Hobson St., Cambridge. [8914

6h.p. Enfield Combination, lamps, Klaxon; £75.— 424, High Rd., Leyton, E.10. [8519

NEW Enfield 8h.p. Combination, just received; £177.—Rose's Garage, Uxbridge. [9008

6h.p. Royal Enfield Combination, 1916 model; £165. —Wauchope's, 9, Shoe Lane, London. [7750

ENFIELD 2¼h.p., 2-stroke, new machine; £69, nearest offer.—134, Bargery Rd., Catford. [8812

NEW 1920 6h.p. Enfield Combination in stock; £175. —Bounds' Garage, 223, High Rd., Kilburn. [8856

ENFIELD 1919 2¼h.p., in perfect condition; for quick sale, £48.—Seen, 135, Edgware Rd., W.2. [7888

2½h.p. Twin Enfield, Bosch, B. and B., running order; cheap, £33.—2, Hope St., Norton, Malton. [8119

ENFIELD Combinations, 6h.p. 2¼h.p. 2-stroke models; list prices.—Longman, Fisherton, Salisbury. [6239

ENFIELD 2¼h.p., 2-speed, nearly new, ridden 600 miles only; bargain, £65, cost £75.—Hayes, Aylesbury. [8133

£60.—1917 Enfield 3h.p., 2-speed, clutch, K.S., new condition.—Keen, 23, Hamilton Rd., Gillingham, Kent. [8668

ROYAL ENFIELD 3h.p., 1916, lamps, horn, good tyres and condition; £45.—2, Madrid Rd., Barnes, S.W.13. [8523

1920 Enfield, brand new, unregistered, list £73/10; sacrifice, £66/10.—Reynolds, Waterbeach, Cambs. [9027

MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD Combination, 1914; cheap, quick sale.—On view at Godfreys, Ltd., 208, Gt. Portland St., W.1. [8310

ENFIELD, immediate delivery, 1920 2¼h.p. 2 speeds model; £73/10.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0938

1915 3h.p. Twin Enfield, 2-speed, good condition; £45, or nearest.—12, Gardener Lane, off West Derby Rd., Liverpool. [X1224

ENFIELD 6h.p. Combination; a bargain, £65; ready to drive away.—Wilkins, Simpson, opposite Olympia, London. [8637

ENFIELD 3h.p., 2-speed, electric light, good condition; £57/10, offer, must sell.—3, Bloomfield Rd., Bromley, Kent. [8275

ENFIELD 2¾h.p. twin, 2-speeds, chain drive, splendid condition, after 6; £40.—101, Upper Kennington Lane, S.E.11. [8699

ENFIELD Combination, 1918, Bosch mag., hood, screen, Tan-Sad, Lucas lamps; £145.—30, Church Rd., Southgate Rd., N.1. [8776

ENFIELD Combination, 1916, 6h.p., hood and screen; sacrifice, £120, lowest; after 7.—F.F., 73, First Av., Walthamstow, N.E. [9047

ENFIELD 3h.p. Twin, delivered 1920, 2-speed clutch, kick start, 9in. acetylene head light, as new; £77.—4, Hanover St., London, W.1. [8114

1920 8h.p. Royal Enfield Combination, perfect condition, lamps, etc.; £190 cash.—S. Gaskin, Swanage, Prestatyn, N. Wales. [8669

1920 Enfield 2-speed, 2-stroke, nearly new; £65.—Geo. Smith, 268, Lavender Hill, Clapham Junction, opposite Arding and Hobbs. [8966

1918 Enfield 8h.p. Combination, lamps, horn, and all accessories, like new, hardly used.—Grimes, 18, Bruton Place, Bond St., W.1. [5956

ENFIELD.—1915-16 Enfield combination, 1920, sidecar, appearance, condition as new; £130, or offer.—125, High St., Woolwich. [6096

1917 6-8h.p. Enfield Combination, hood, screen, speedometer, little used; 128 gns.—Spurling, 8, Courthope Rd., Hampstead, N.W. [7855

ROYAL ENFIELD 6h.p. Combination, 1916, almost new condition, guaranteed; 135 gns.; A.C.U. policy.—Slade, 290, Brixton Hill, S.W.2. [8646

1914 Enfield 6h.p. Combination, in first-class running condition, wicker sidecar, any trial; £90.—Rowe, 17, Whitegate Rd., Huddersfield. [8372

1920 Enfield Combination, delivered June, dynamo lighting, hood, screen, horn, perfect condition; £200.—32, Redston Rd., Hornsey, N.8. [8357

1920 Enfield 2¼h.p., 2-stroke, 2 speeds, new, in stock; £73/10; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [9084

ROYAL ENFIELD Combination, 6h.p., only rode Thursdays and Sundays, first-class running order; £65.—Cooke, 39, Conduit St., Leicester. [8572

ENFIELD 1920 8h.p. Combination, just delivered, in stock; makers' price.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [8875

ENFIELD 1920 2-stroke, brand new; just arrived; at makers' price; immediate delivery; £73/10.—Wilkins, Simpson, opposite Olympia, London. [8038

ROYAL ENFIELD 3h.p. Lightweight Twin, 1919, electric, only done 400 miles; bargain, £90; as new.—C.M.W., 17, Gloucester Place, Brighton. [7864

ROYAL ENFIELD 6h.p. Combination, 1916, all lamps, oversize tyres, in perfect order; bargain, £115.—C.M.W., 17, Gloucester Place, Brighton. [7863

NEW 1920 Royal Enfield, 2¼h.p., 2-stroke; price £73/10; delivery from stock.—D. J. Shepherd and Co., Enfield Highway. Waltham Cross 31. [0242

ROYAL ENFIELD C.B. Combination, 6-8h.p., late 1915; £120, or offer.—Winterbottom, Council Offices, Irlam, Manchester. 'Phone: Urmston 208. [7964

ENFIELD (late 1915) 3h.p. twin, K.S., 2-speed, clutch, new Dunlops, lamps, Klaxon, excellent condition; £55.—17, Eastern Rd., East Finchley. [8703

ENFIELD Combination, 1918, 8-10h.p., W.D. colour, no war service, mileage 800; £120, or offer, real bargain.—27, Storey Rd., Walthamstow. [8408

1920 8h.p. Enfield Combination, Magdyno lighting, excellent condition; any trial; £190.—Bowden, 1, St. Hilary Terrace, Beaumont Rd., Plymouth. [8850

ENFIELD Dynamo Combination, 1916; £125; excellent condition.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd, Chelsea, S.W.3. Tel.: Kensington 7113. [8921

ENFIELD 6h.p. Combination, 1918, perfect condition, new appearance; £140; Easting screen.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [8557

ENFIELD 2-stroke, 2-speed, almost new, cost £73/10; £68; exchange combination, cash adjustment.—57, Kenbury St., Coldharbour Lane, Camberwell. [8542

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1914 2¾h.p. Enfield, M.A.G. twin, 2-speed, K.S., Bosch, Amac, overhauled, re-enamelled makers June, cost £40, lamps horn; £65.—16, Carr St., Swindon. [8460

ENFIELD 6h.p. Combination, screen, speedometer, gas and electric, pillion, overhauled makers, perfect; £130; bought car.—26, Fountayne Rd., Stoke Newington, London. [9069

ENFIELD 1920 Combination, 8h.p., brand new, Magdyno lighting, just arrived from works; immediate delivery at makers' price, £202/2.—Wilkins, Simpson, opposite Olympia, London. [8045

ENFIELD 6h.p. 1918 Combination, excellent condition, dynamo lighting, Easting, all accessories, first-class outfit; £165, or exchange lower power.—164, Broadfield Rd., Catford, S.E.6. [8158

1920 (June) Enfield Combination, 6h.p., Cowey speedometer, Easting screen, D.A. lighting, 3 lamps; £165; must be sold; seen any time.—Hargreaves, 4, Warwick Crescent, Paddington, W.2. [9052

ENFIELD Combination, 6h.p., 1914, guaranteed perfect throughout, massive lighting set, speedometer, £10 worth spares; owner buying car; £110.—Hett, Hilcote, near Alfreton, Derbyshire. [7992

ENFIELD Combination, 8h.p., Colonial Model, spring handle-bars, perfect order, with small car tyres, leg guards, wind screen, all tools, lamps, etc., new this year; bargain £160.—Gill, Florist, Falmouth. [7894

ENFIELD.—Several fine combinations in stock, from £120 to £200, or ½ down and 11 payments.—Lamb's, 50, High Rd., Wood Green; 151, High St., Walthamstow; and 387, Euston Rd., London, N.W.1. [8196

ENFIELD 1920 6h.p. or 8h.p. Combination, with or without Magdyno; delivery from stock at list price.—The Layton Garages, Bicester, near Oxford. T.A.; Integrity, Bicester. 'Phone: 35 Bicester. [X1398

ENFIELD 6h.p. Combination, Bosch, Amac, Lucas accessories, electric lighting, speedometer, Tan-Sad, Easting, oversize tyres, condition as new; £140.—Wright, 350 Shaftmoor Lane, Hall Green, Birmingham. [8649

ENFIELD 6h.p. 1914 Coachbuilt Combination, war stored, overhauled, re-enamelled this season by makers, Easting, electric light, new tyres, tubes, spares, etc.; £115, or near.—Rosebank, 32a, Hornsey Rise, N.19. [8272

1917 6h.p. Enfield Combination, Lucas dynamo lighting set, electric horn, luggage grid, etc., all accessories and in splendid order; £135; Douglas taken part exchange.—Apply, L. Bull, 44, Hills Rd., Cambridge. [8905

ENFIELD Combination, 1920, 8h.p., Magdyno lighting, horn, Smith trip speedometer, only done 600 miles, perfect condition; cost £235, sell £200 cash.—Van der Beken, Ecclesbourne, Lea Bridge Rd., Whipps Cross, E.10. [6452

1917 Enfield 6h.p. Combination, complete with Lucas lamps and horn, etc., new light car tyres and chains, engine guaranteed mechanically perfect, any trial; £135.—3, Cluny Mews, Warwick Rd., Earl's Court, S.W.5. [8625

ENFIELD Combination, 1919, 8h.p., speedometer, 3 lamps, 2 horns, mirror, pillion, perfect order, unscratched, not done 3,000 miles; buying car; any trial; £145, no offers.—Apply, 29, Loampit Vale, Lewisham, S.E. [7933

ENFIELD Combination, late 1919, 8h.p., Lucas lamps and horn, speedometer, hood, special screen, mud-splash, 700×80 tyres, spare tyre, Tan-Sad, spares, tools, used week-ends only, £175.—M., 181, Upper Richmond Rd., Putney. [8330

ENFIELD 1920 2-stroke 2-speed Lightweight, guaranteed as new, finish and condition perfect, ridden few miles only; £62.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X1397

RECENT Model 6h.p. Enfield and Sidecar with hood, P. and H. head lamp, rear lamp, mechanical horn, tyres good, and general condition excellent; great bargain, only £120.—Can be seen at Julian's, 84, Broad St., Reading. [9076

ENFIELD Coachbuilt Combination, 1914, 6h.p., overhauled, £28, receipt shown, all accessories, large head lamp, tools, grid, original enamel, plate in excellent condition; £96 cash wanted.—54, Connop Rd., Enfield Wash, Middlesex. [8438

£45.—1914 3h.p. Enfield, 2-speed, twin, fitted new tyres, Bosch mag. and electric lighting, enamel perfect, any expert examination allowed, real snip, no offers; first come, first served.—Bresler, 67-69, City Rd., E.C. 'Phone: City 8575. [8720

1920 6h.p. Enfield Combination, Magdyno equipment, locker to sidecar, luggage carrier, all tools and spares, appearance and mechanical condition absolutely as new, mileage negligible; £195.—Kays, 8, Bond St., Ealing, W.5. 'Phone: 1827. [7121

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INDIAN and Sidecar, 7-9h.p., 1915, spring frame, sporting sidecar; bargain, £85.—198, Gt. Portland St., W.1. [8528

1920 Indian Combination, Powerplus model, dynamo lighting, low mileage; £155.—406, Garrett Lane, Earlsfield, S.W.18. [8793

INDIAN 7-9h.p. C.R. Combination, 75 gns.; also Dunlop cover (new), 26×2½, 30/-.—Fuller, 19, Trafalgar Sq., Chelsea. [8106

INDIAN Scout, new, in stock; £140.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X1399

1920 Indian Solo, complete electrical equipment, speedometer, extra good condition; £150.—Horswill, 42, Bridge St., Chester. [7924

1914 7-9h.p. Indian, 2-speed, clutch, spring frame, speedometer, lamps; £65, bargain.—Letters, 16, Burton St., Gorton, Manchester. [8509

INDIAN Powerplus Combination, late model, Swan sidecar, electrically equipped, splendid condition; £145.—Mee, Chatham St., Leicester. [7778

INDIAN 1914 7-9h.p. Combination, complete with electric lighting, first-class condition throughout £90.—Parker's, Bradshawgate, Bolton. [X0935

LATEST Model 1920 7-9h.p. (large valves) Indian Combination, fully equipped; £220.—Horswill, 42, Bridge St., Chester. 'Phone: 943. [7925

1915 7-9h.p. Indian, spring frame, 3-speed, just replated, enamelled by makers, accessories; £70.—Cranleigh, College Slip, Bromley, Kent. [8700

1920 Indian Scout, mileage 300, speedometer, horn, spare chain, valve, etc.; £148, or near offer.—W. J. Lord, Whitley Villa, London Rd., Coventry. [X1348

7-9h.p. 1919 Indian and Swan Sporting Sidecar, £172 latest improvements; also a solo 7-9h.p. Powerplus Indian, £85.—Wauchope's, 9, Shoe Lane, London [7744

INDIAN Scout 4h.p. Twin, as new, speedometer, horn, etc.; £145; before 6 p.m., or 'phone Mayfair 4337 for appointment.—Desoutter, 51, Baker St., London W. [8220

£98.—7-9h.p. Indian combination, 2-speed, clutch, kick start, tools, speedometer, electric horn and lamps; condition guaranteed.—Hudson, Brook Rd., Redhill. [8744

1916 Powerplus Indian Combination, electrically equipped, overhauled and enamelled, splendid appearance; £115.—3, Cemetery Rd., New Brumby, Scunthorpe. [7897

BARGAIN, 1916 Powerplus Indian combination fully equipped, perfect condition; best over £100 or exchange for Douglas.—Reynolds, Waterbeach Cambs. [9026

1915 3½h.p. Indian Twin, 3-speed, kick start, electric lighting, long exhaust pipe; a bargain, £70.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport Tel.: 607. [8897

1916 Indian Spring Frame 7-9h.p. Combination 3-speed, kick, electric horn and lights, Easting; £130, best offer; after 7.30 p.m., or write.—6, Sirdar Rd., Wood Green. [8717

1920 (June) Indian Combination, unscratched, mileage 986; having finished tour, will sell cheap; seen Saturday, Sunday.—175, Camberwell Grove Phone: Brixton 286. [8815

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1915 Indian Combination, 7-9h.p., 3-speed, spring frame, kick-starter, electric lights and horn, insured; £130, best offer, after 6 p.m.—27, Norman Buildings, Old St., E.C.1. [6983

1919 Indian Powerplus Combination, electrically equipped, inspection lamps, petrol and luggage carrier, rear seat, in perfect order; £170.—219, Aston Lane, Perry Bar, Birmingham. [8737

INDIAN 7-9h.p. Clutch Model, 1915, excellent condition, complete with lamps, tools, horn, spare chain, any trial; £60, or near offer.—Basement Flat, 3, Leinster Gardens, Bayswater. [7165

1920 Indian Combination, 7-9h.p. Powerplus, mileage 3,500, dynamo and accumulator, Easting screen, perfect order; doctor buying car; price £180.—Dr. Macdonald, Botesdale, Diss. [8077

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INDIAN Combination, 1914, 84E630, 7-9h.p., 2-speed, K.S., all-chain, spring frame, coach body, stored 5 years, mileage 2,000 only, drive away; £80.—Potter, Westfield, Henlow, Beds. [8569

1916 Indian 5-6h.p. Combination, 3-speed, 3 lamps and generators, full kit of tools, tube, valve, small mileage, any examination; £110 nearest; private.—King St. Garage, Watford. [8903

1914 3½h.p. Indian, hand and foot control, 2 speeds, electric lighting and horn, accessories, just overhauled for £27, well cared for; 60 gns.—G. C. Hartley, Ridgemead, Englefield Green, Surrey. [7834

1920 Powerplus Spring Frame Electric Indian Combination, Easting and speedometer, only done 400 miles; must sell, financial reasons; £195; South London.—Box 7,856, c/o *The Motor Cycle*. [8931

LATE 1915 5-6h.p. Indian Combination, 3-speed, kick start, Easting screen, just overhauled, £95; take small solo as part exchange; trial and examination.—11, Alexandra Rd., Wednesbury, Staffs. [X1191

INDIAN Powerplus, 7-9h.p., 3-speed, H. and F. clutch, Magdyno, electric lamps, horn, speedometer, new chains, new spares, large sidecar, wind screen, new condition; £155.—Preston, 29, Kingsley Place, Moston, Manchester. [X1096

1920 Indian Powerplus Combination, electrically equipped, Cameo wind screen, aluminium disc wheels, in very fine running order and condition; first offer nearest to £185.—Moore, Castle Rd., Wellingborough. [8695

F.O.C.H. for Indian Combination, 1916 and 1920, dynamo lighting.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8150

INDIAN Combination, 1919 7-9h.p. Powerplus, kick start, 3-speed, spring frame, perfect mechanical condition and new appearance, handsome sidecar; £140, offer considered.—Martin's Garage, 10, Herbiand St., Russell Sq., W.C. [8333

1920 Indian Combination, 7-9h.p., spring frame, dynamo lighting, speedometer, hand and foot clutch, Tan-Sad, mileage 1,900, splendid condition, spare valves and tube; £190, or best offer.—Bramble, 9, Cambridge Av., Lincoln. [8166

1916-17 Indian Combination, 6h.p., 3-speed, kick start, new Millford sidecar (red), disc wheels, all lighting set, speedometer, tools, horn, complete, perfect in every way, too fast for owner; £75, snip.—J. Ogden, 11, Thomas St., King's Lynn. [8498

LATE 1915 7-9h.p. Indian, little used, spring frame, 2-speed, dual clutch, kick start, recently enamelled and overhauled, electric lighting set, mechanically perfect, tyres almost new, valued at £100; accept best over £90.—38, Edward St., Abingdon, Berks. [8369

INDIAN 1920 (July) 7-9h.p., very sporting, Swan combination, spring frame, big valve model, racing bars, dynamo lighting, 80 m.p.h. speedometer, as new, unpunctured, mileage about 1,200, very fast and powerful on hills, spare tube and valves, etc., mascot, all tools, pump, etc.; too powerful for owner; £210, or offer; must sell.—Davies, 80, Sloane St., S.W.1. [8653

1914 7-9h.p. Indian Combination, 2-speed and clutch, handle starter, guaranteed in perfect condition, magnificent Campion sidecar, coachbuilt, with double chassis and 5-point connection, with electric lamp, horn, etc., but no accumulator, all tyres practically new and perfect; in fact, the whole turnout is in practically new condition; any trial; £85/10.—J. A. Mills, Bell's Yard, West Gate, Mansfield. [X1379

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1920 James 6h.p. Combination at list price, plus carriage.—Taylor's Garage, Falmouth. [0249

1915 3½h.p. 3-speed James and accessories, in good condition; £70.—Bounds, 223, High Rd., Kilburn. [8858

4¼h.p. James Combination, speedometer, etc.—Drever, Hazelcroft, The Grove, Finchley, N.3. 'Phone: 1331 [8594

JAMES 1920 4¼h.p. Combination, wind screen, horn, speedometer, mirror; £145.—1, Church Rd., Erdington, Birmingham. [8832

LATE 1919 4¼h.p. James Combination, been carefully used, screen; £130:—James, Schools, Great Grandsden, Sandy, Beds. [X1294

JAMES 1920 5-6h.p. Combination, in stock; makers' price.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [8877

JAMES 1920 Countershaft Twin Coach Combination, 28in. wheels, beautifully equipped, as new; £145.—5, Victoria Av., Surbiton. [9045

1914 James 4¼h.p., fitted with new Montgomery No. 2 sidecar, all accessories; £95, or best offer.—Dents, Stonegate, York. [8097

JAMES Brand New Combinations, for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [9000

1920 James 2-stroke, 2¼h.p., immediate delivery; £75.—Geo. Smith, 268, Lavender Hill, Clapham Junction, opposite Arding and Hobbs. [8964

JAMES 3½h.p. Combination, 2-speed, kick start, in perfect condition; can be seen any day after 6 p.m.; £70.—1, St. Paul's Rd., Foleshill, Coventry. [X1385

1917 4¼h.p. James Combination, countershaft, leg shields, screen, 3 lamps, spares, in good order; £95 cash.—T. Barker, Merryland, St. Ives, Huntingdonshire. [8486

1919 5-6h.p. James Combination, privately owned, wind screen, lamps, luggage grid, £10 spares; any trial; £140.—Pinnington Bros., Water St., Wallasey. [7794

3½h.p. Twin James, brand new, with insurance policy; list price or near offer for quick sale, must sell.—Bevan, West Heath, Northfield, Birmingham. [8548

4¼h.p. James Combination de Luxe, May, 1920, small mileage, lamps, Cameo, Tan-Sad, Klaxon horn, splendid condition; £145.—4, Chesterfield Gardens, Harringay, N.4. [8297

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1920 (August) James 6h.p. De Luxe Combination, Magdyno lighting, Tan-Sad, Easting wind screen, done 150 miles; owner getting car; £220, or nearest offer; Norfolk.—Box 7,806, c/o *The Motor Cycle*. [7976

F.O.C.H. have a 1919 4¼h.p. James Combination, new condition, large electric set.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8155

JAMES 1920 2¼h.p., 2 speeds, only delivered Aug., mileage under 300, specially tuned, and only used for demonstration purposes; £70.—Apply, W. Sparrow Ltd., Osborne Garage, Yeovil. [8495

IMMEDIATE Delivery 1920 James 6h.p. combination, Model de Luxe sidecar, £190; also new 1920 4¼ h.p. combination, Model de Luxe sidecar, £170.—The Premier Motor Co., Aston Rd., Birmingham. [5554

1919 James 4¼h.p. Combination, 3-speed, kick-starter, Cowey horn, speedometer, P. and H lighting set, full set tools and spares, including spare tube, rings, 2 pair goggles, petrol filter, etc., in splendid condition; a bargain £120.—Bannister, Railway St., Chatham. [6729

JAMES 4¼h.p. 1915-16 Combination, 3-speed countershaft, clutch model, with efficient kick start, Luca dynamo lighting set, overhauled and generator converted to 1920 model, Lucas electric and Smith's mechanical horns, Stewart trip speedometer, wind screen and cover, luggage carrier, C.B. bucket pillion seat, insured for £120 till May; £110. 211, Queen's Rd., Wimbledon. [9043

J.A.P.

2½h.p. J.A.P., 1914, Bosch, B. and B., lamps, horn, spare cover, ride away; £35; after 6.30.—59, Gaisford St., Kentish Town, N.W.5. [8773

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J.A.P.

1914 4h.p. J.A.P., 2-speed countershaft, fast and sporty, £42; exchange twin needing slight repair; wicker sidecar, £3.—58, Tustin St., Old Kent Rd. [8697

4½h.p. Special J.A.P. with Millford Sidecar, 3-speed Chater-Lea gear box, chain drive, handle starting, electric lighting, new tyres throughout, recently overhauled, perfect condition; £125.—Graystone, 124, Eton Rd., Burton-on-Trent. [7893

J.B.S.

J.B.S., specially fitted to Lea-Francis, smart appearance; best offer secures.—30, Storrs Rd., Chesterfield. [7903

Kerry.

KERRY 2¾h.p., Senspray, Splitdorf, overhauled, re-enamelled; ride away; £20.—5, Dennett Rd., West Croydon. [8233

Lea-Francis.

LEA-FRANCIS, 1919, J.A.P. engine, all accessories; £90.—198, Gt. Portland St., W.1. [8538

LEA-FRANCIS, 1920, J.A.P. engine, absolutely as new; £100.—198, Gt. Portland St., W.1. [8532

LEA-FRANCIS, 1920, M.A.G. engine, lamps, horn, speedometer; £120.—198, Gt. Portland St., W.1. [8531

LEA-FRANCIS, mag. engine; immediate delivery; £130.—Maudes' Motor Mart, 100, Paris St., Exeter. [8989

LEA-FRANCIS, new, M.A.G. engine, just in; £130.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [8559

3h.p. Lea and Francis, new 1920 model; £130; exchange arranged; extended payments.—Wauchope's, 9, Shoe Lane, London. [7727

LEA-FRANCIS.—Immediate delivery 1920 twin-cyl., 2 speeds, hand-controlled clutch, M.A.G. engine; £130.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0922

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0099

1919 Lea-Francis, completely overhauled, new tyres, chains, Lucas lamps, speedometer, horn, spares, insurance, excellent condition; £100.—Box 7,877, c/o *The Motor Cycle*. [8957

LEA-FRANCIS 3h.p. Twin, 1915, 3-speed gear box and clutch, all chain drive, in perfect mechanical order, and good tyres; £69.—Bedford, Downe, Kent. Tel.: Bromley 1007. [8706

LEA-FRANCIS 1917 3½h.p., 2-speed and clutch, recently overhauled and renovated, fitted with brand new 1920 3½h.p. J.A.P. engine; £90.—Parker's, Bradshawgate, Bolton. [X0932

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [8394

LEA-FRANCIS, late 1913, 3½h.p. twin J.A.P. engine, 2-speed gear, Bosch mag., recently enamelled and new B. and B. carburetter fitted, machine in first-class order; price £75, or offer.—Box 7,847, c/o *The Motor Cycle*. [8385

Levis.

NEW Levis in Stock; list price.—Fancourt's Garage, Stamford. [3701

LEVIS Motor Cycle, in stock; list price.—Brook Bros., Burnham, Somerset. [7555

LEVIS 2¼h.p., new, immediate delivery; £60.—Caeco, 21, Hobson St., Cambridge. [8913

LEVIS, Model E, 1919, 2½h.p., 2-speed, perfect; £55.—Sherratt, Bank Close, Uttoxeter. [8774

1920 Levis Popular, only done 200 miles; £53; call after 6.—14 Flat, 118, Long Acre, London. [7817

1916 Levis 2¾h.p., 2-speed, perfect; £48.—Hickling, Moorfield, Croft Bank Rd., Urmston, Manchester. [8640

LEVIS 2¼h.p., condition and appearance as new, Miller lamps; £38.—Battersby, 38, Park Av., Kendal. [7823

LEVIS, £36, or exchange with cash first-class combination.—18, Berkeley Av., Rusholme, Manchester. [8673

LEVIS 2¼h.p. Model E, Enfield gear, 600 miles, exceptional bargain, £50.—Ernest Smart, Brackley, Northants. [8225

1920 2¼h.p. Levis, Popular Model, very low mileage; £52/10.—Kneen, 21, Guy's Cliffe Terrace, Warwick. [X1161

LEVIS 1920 2¼h.p., accessories, little used; best over £50.—Rendell, 138, Brondesbury Villas, Kilburn, N.W.6. [8704

LEVIS Popular Models in Stock; £60.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. Phone: 214. [1097

1914-15 Levis, single gear, in perfect running order; £35.—J. A. Mills, Bell's Yard, West Gate, Mansfield. [X1381

MOTOR CYCLES FOR SALE.

Levis.

LEVIS, the finest 2-stroke in the world, delivery from stock; £60.—District agents, The Walsall Garage, Walsall. Tel.: 444. [9001

LEVIS 1920 Popular Model, just arrived from works; immediate delivery at makers' price, £60.—Wilkins, Simpson, opposite Olympia, London. [8046

IMMEDIATE Delivery from stock of the new 2¼h.p. Popular Model Levis, £60; the master 2-stroke.—The Premier Motor Co., Aston Rd., Birmingham. [5556

1920 Levis 2¼h.p., lamps, etc., mileage 600, first-class condition, low petrol consumption; £50.—McKenzie, 97, Forest Drive West, Leytonstone. [8663

1920 Levis 2-stroke, splendid condition, ready to ride away; £65.—Geo. Smith, 268, Lavender Hill, Clapham Junction, opposite Arding and Hobbs. [8965

£46, or Best Offer.—Splendid conditioned Levis, 2-speed, clutch, all-chain drive, lamps, Klaxon, V.S.R. jet, speedometer, spare cover, excellent appearance.—670, High Rd., Tottenham, N.4. 'Phone: 889. [8513

Lincoln-Elk

LINCOLN-ELK 3½h.p., Bosch, Amac, Druids, pump, horn, fast, sporty; £45, or offer.—6, Stirling Mansions, Canfield Gardens, N.W.6. [7957

LINCOLN-ELK 2½h.p., good order, tyres unpunctured, ready to ride away; £25.—3, Yorke Terrace, California Rd., East Mistley, Essex. [7946

L.M.C.

L.M.C., 6h.p.; delivery from stock; £148.—Maudes' Motor Mart, 100, Paris St., Exeter. [8988

L.M.C. 1917 6h.p. Combination, twin, 3-speed, clutch.—Richardson, 28, Skinner St., Thornaby-on-Tees. [7953

L.M.C. 1920 6h.p. Combination, as new, cost £182; pricing this outfit, which we guarantee perfect, at £135, we ask you to show us equal value. Bicester is actually the very best market, and an ever-widening circle realises this.—The Layton Garages, Bicester, near Oxford. T.A.: Integrity, Bicester. 'Phone: 35 Bicester. [X1400

Martinsyde.

MARTINSYDE-NEWMAN Combination, delivery from stock; £170.—Maudes' Motor Mart, 100, Paris St., Exeter. [8985

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Martinsyde combination, £170, with Lucas dynamo lighting £30 extra, free delivery. [X1219

6h.p. Martinsyde-Newman Combination, chain drive, 3-speed countershaft, kick start; £170; delivery from stock.—Lythalls Lane Garages, Foleshill, Coventry. [X0643

1920 Martinsyde 6h.p. Chain Drive Combination, guaranteed in perfect order, not ridden 100 miles, insurance; accept £165; no offers.—Barratt, High St., Newtown, Mont. [8756

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford, also Cornwall and Devonshire, for Martinsyde-Newman combination, £170; deliveries now being effected; sub-agents appointed.—Maudes' Motor Mart, 100, Gt. Portland St., W.1, and Paris St., Exeter. [6618

Matchless

5-6h.p. Matchless Coachbuilt Combination, perfect condition; any trial; bargain, £95.—4, Ardgowan Rd., Catford. [8480

MATCHLESS Combination, Lucas magdyno; £230; delivery from stock.—Maudes' Motor Mart, 100, Paris St., Exeter. [8984

1920 Matchless Combination, as delivered, with accessories; list price.—Wright's Garage, Saffron Walden. Tel.: 16. [9009

1920 H. Model Matchless, all accessories, perfect condition; £30 below list price.—57, Mount Nod Rd., Streatham Hill, S.W. [8011

MATCHLESS Combination, 1915, 7-9h.p. M.A.G., complete; £115. 'Phone before 10 a.m. Gerrard 7717. Seen at Richmond. [8336

MATCHLESS 1920 Combination, Model H, lamps, horn; £185.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [8560

1920 Matchless, M.A.G. model, screen, hood, speedometer, Magdyno, step, delivered July; offers.—34, Evelina Rd., Nunhead. [8124

1920 Matchless, standard equipment, no lamps; any trial; £185, or best offer.—Smith, Herschel, Burnage Lane, Didsbury, Manchester. [7835

VICTORY Model Matchless Combination, 3 speeds, detachable wheels, spares and accessories; £145.—Tassell, 1a, Bloomfield Rd., Plumstead, S.E.18. [8469

1920 Matchless, Model H, new, driven from London only, lamps, spare wheel, hood, owner (private) has two; £215.—83, Montague St., Kettering. [7499

MATCHLESS Model H Combination, 8h.p. J.A.P., hood, wind screen, lamps, horn, etc., perfect condition; £190.—Geo. Lewis, Timber Merchant, Reading. [5737

1914 Matchless-Mag 8h.p. Combination, lamps, horn, wind screen, excellent running order, 60 m.p.g.; £110.—Berry, Grenville, Manor Rd., Cheam, Surrey. [8264

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,,	Beldam Ex. Heavy	**39/6**	64/-
,,	Wood-Milne Ex. Hy.	**39/6**	59/6
,,	Hutchinson T.T.	**39/6**	59/-
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,,	Beldam Ex. Heavy	**42/6**	68/6
,,	Wood-Milne Ex. Hy.	**42/6**	63/9
,,	Hutchinson T.T.	**42/6**	61/6
,,	Avon Tricar R.S.	**39/6**	72/6
26×2½	Clincher de Luxe Ex. Hy.	**50/-**	72/6
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Matchless.

MATCHLESS Combination, magneto, kick start, lamps, hood, speedometer, etc., any trial by appointment; £135.—18, Wallwood St., London, E.14. [8373

1920 Matchless Combination, Model H (new July 29th), M.A.G. engine, Magdyno; £220.—K., 11, Dulwich Wood Park, S.E.19. Tel.: Sydenham 696. [8224

MATCHLESS Combinations at makers' prices, just arrived from works; immediate delivery; ready to drive away.—Wilkins, Simpson, opposite Olympia, London. [8048

MATCHLESS H in stock; £215; exchanges entertained.—Lamb's, 50, High Rd., Wood Green; 151, High St., Walthamstow; and 387, Euston Rd., London, N.W.1. [8193

1920 Matchless, delivered Aug. 1st, M.A.G. engine, Lucas magdyno and lamps, owner taking delivery of car.—Offers to H. G. Ansell, 4, Warwick Terrace, Leamington Spa. [X0911

1920 Matchless, Model H, M.A.G. engine, dynamo lighting, horn, hood, rear drive speedometer, as new; £230; exchange or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [9087

MATCHLESS, delivery from stock of new spring frame model, equipped to your requirements; replacements for Matchless models of all dates.—Tassell, 1a, Bloomfield Rd., Plumstead. [1958

6h.p. Matchless Combination, 2-speed, pedal starter, in good going order, just been thoroughly overhauled and repainted, Lucas lamps and horn; a bargain £ 5.—Bannister, Railway St., Chatham. [6730

1920 Matchless Combination, C.A.V. lighting, Easting, speedometer, back rest, and absolutely everything, cost £253; going abroad; £190, or near.—Holt, 353, King St., Hammersmith, W.6. [8679

MATCHLESS-J.A.P. 1919 (late) 8h.p. Combination, spare wheel, tyre, acetylene lamps, screen, luggage and petrol grids, pillion seat, excellent running; £160.—Poulton, 146, Ashley Gardens, London, S.W. [7839

MATCHLESS 1920 Combination, fully equipped, nearly new; £190; after 2 o'clock. Clyno wanted.—25, Davisville Rd., Shepherd's Bush, London. [8073

MATCHLESS, Model H, Magdyno, electric horn, hood, speedometer, mud shield; £215.—J. Howland, 86a, Herbert Rd., Plumstead, S.E.18. 'Phone: 288 Woolwich. [8071

MATCHLESS.—Immediate delivery 1920 Model H combination, complete with Lucas Magdyno electric lighting, M.A.G. engine, spare wheel and tyre; £230.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0926

MATCHLESS Combination, J.A.P. engine, racing model, with overhead valves, Gradua gear, new tyres and belt, with all accessories complete, coachbuilt sidecar.—Apply, J. W. Gibson, Gas Works, B. Salterton, Devon. [5127

MATCHLESS-M.A.G. 7-9h.p. Combination, 1914, re-enamelled throughout last May, Bosch mag., Lucas dynamo lighting, wind screen, etc.; £150.—Seen, McCarthy, Pindock Mews, Maida Vale, nr. Warwick Av. Tube. [7891

MATCHLESS Latest Model H Combination (spring frame), complete with Lucas magdyno, spare wheel and tyre, luggage grid, only done few hundred miles, equal to new; £225.—Parker's, Bradshawgate, Bolton. [X0923

MATCHLESS 1920 Model H, speedometer, Lucas set and horn, hood, pillion seat, legshields, insurance, tyres perfect; £205; no reasonable offer refused, write appointment.—32, Morrab Gardens, Water Lane, Seven Kings, Essex. [8459

F.O.C.H. have a new Matchless-M.A.G. Combination, fully equipped; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8157

1920 Matchless Combination, spring frame, interchangeable wheels, dynamo lighting, speedometer, hood, screen, mirror, done 500 miles; £235; lightweight or lower power combination taken part.—H. Almond, Shepperton. [7829

NEW Matchless Combination 8h.p., with detachable wheels and dynamo lighting outfit, etc.; easy payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments; £231/17/6.—Harrods, Ltd., 118, Brompton Rd., London. [8404

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Matchless combination, dynamo lighting model, also standard model, new, immediate delivery from stock, £230 and £205 respectively; also a second-hand 1920 model, J.A.P. engine, offers. [9080

1916 Matchless, 7-9h.p. M.A.G. engine, enclose chain drive, 3-speed and kick starter, lamps, Watford, disc wheels, hood, screen carrier, extra childs seat in sidecar, also Tan-Sad; £145; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [9088

MATCHLESS Combination, 8B, M.A.G., countershaft, 3 speeds, Bosch, chain drive, luxurious 2-seater sidecar, 2 wind screens, hood, side curtains, lamps, horn; bargain, £138.—Browne, 11h, Avenue, Royal Arsenal, Woolwich. Main Gates, 12.30 till 1.30, 5 till 8 p.m. [8571

MOTOR CYCLES FOR SALE.

Metro.

METRO, 1916, condition as new; £42.—125, High St., Woolwich. [6097

METRO-TYLER 1920 2½h.p., 2-stroke, perfect.—£47. —10, Baronsmead Rd., Barnes, S.W.13. [8033

METRO-TYLER (late 1919), 2½h.p., 2 speeds, lamps, horn, not done 600 miles; £50.—30, Phanos St., Fleetwood. [8814

METRO-TYLER 1919 2½h.p., 2-speed, plated exhaust, little used; bargain, £50.—37, Bishop St., Shrewsbury. [X1340

1920 2¼h.p. Metro-Tyler, S type; list price £95/18. R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [8886

1920 2¼h.p. Metro-Tyler, standard model; list price, £74.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [8887

METRO-TYLER, S type, lamps, Lucas horn, etc., demonstration model, only done 75 miles; best offer over £90 secures.—Dents, Stonegate, York. [8095

METRO-TYLER, type S, latest model, brand new, 2¾h.p., 2-speed, with enclosed mag. and gear box; £95/18; delivery from stock.—P. J. Evans, 83-91, John Bright St., Birmingham. [0260

Minerva.

3½h.p. Minerva, mag., ride away, £17; wicker sidecar, £4/10.—27, Princess Rd., West Kilburn. [8726

Motosacoche.

£17/10, railed.—Lightweight Motosacoche, battery ignition.—Singleton, Brook Lane, Sarisbury Green, Hants. [7951

MOTOSACOCHE, October, 1919, 3½h.p. twin, M.A.G. engine, de Lissa valves, shaft drive, mag., Enfield 2-speed and clutch, all-chain drive, Hutchinson tyres, rubber-studded, T.T. bars, light sporting machine; price £85, or near offer.—Invicta Garage, Slough. Tel.: 217 Slough. [6505

New Hudson.

NEW HUDSON 2¼h.p., 2-speed, new; £73.—Caeco, 21, Hobson St., Cambridge. [8917

NEW HUDSON Combination, or would separate; £55.—Manor Farm, North Cray, Sidcup, S.E. [7791

1917 6h.p. New Hudson, luxurious outfit, fully equipped, new condition; £120.—Stainers Dairy, Ryde. [8286

NEW HUDSON Combination, 6h.p. twin, 1920, perfect condition; offers.—Benrose, 91, St. Peter's St., Derby. [7912

NEW Hudson 4h.p. Combination, 3-speed clutch, excellent condition; £55.—63, Arlingford Rd., Brixton. [8456

1914 New Hudson C.B. Combination, 3 speeds, lamps, new tyres; 55 gns.—176, South Ealing Rd., W.5. [8712

NEW HUDSON, J.A.P. 2¾h.p., Bosch mag., B.B.; £24.—Gibbs, 31, Wimbolt St., Barnett Grove, Bethnal Green. [8261

NEW HUDSON 1920 2-stroke, mileage 500, £65; Autoglider scooter, £45.—Metcalf, Ashover Hydro, near Chesterfield. [X1087

NEW HUDSON 1920 2¼h.p., 2 speeds model, immediate delivery; £75.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X0913

1920 New Hudson, 2-stroke, 2-speed, with lamps, horn, small mileage, excellent condition; £72. —29, Regent Rd., Lowestoft. [X1270

NEW HUDSON 2¼h.p., 2-stroke, 1916, 2-speed, good condition, Lucas lamps; £41, or offer.—Apply, 6, Winscombe Crescent, Ealing. [8861

NEW HUDSON 2-stroke Lightweight, demonstration model, perfect condition; £55.—New Hudson Depot, 45, Gray's Inn Rd., W.C.2. [7025

1920 New Hudson 2¼h.p., 2-speed, practically new in every respect, fully equipped; £68, cost over £80.—97, Nightingale Rd., Wood Green, London. [8577

NEW HUDSON 4h.p. Combination, 1916, Bosch, countershaft, clutch, K.S., 3-speed, powerful, and in perfect condition.—Parry, Llys Cynval, Groes, Colwyn Bay. [8864

1916 New Hudson, 2-stroke, 2-speed, engine recently overhauled by the makers, good tyres and belt, all accessories, good condition; £45; Stafford district. —Box 7,780, c/o *The Motor Cycle*. (D) [7868

NEW HUDSON 2-stroke, 2-speed, enamel, plating, and mechanical condition perfect, model de luxe, beautifully equipped, lamps, all accessories; £60 evenings.—Miller, 37, Stormont Rd., Clapham Common. [8500

1914 4½h.p. New Hudson, Douglas sidecar, or separate, 2-speed hub and clutch, Bosch, B. and B., Klaxon, good tyres, splendid J.A.P. engine, reliable, smart; £58; trial appointment. 10, Granville Rd., Finchley, London. [8423

NEW HUDSON Lightweights, 1920 2¼h.p., 2 sp ed/ £75, or fully equipped with l end lamp and generator tail lamp, and tubing, horn, L.C.C. registration, petrol, and oil, £79 15. Copper, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [0280

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MOTOR CYCLES FOR SALE.

New Imperial.

1920 New Imperial 8h.p., solo; £135.—Barrell, 10 Queen Victoria Rd., Coventry. [X116

NEW IMPERIAL-J.A.P. 2¾h.p., 2 speeds, good running order; first £42.—Boyd, Shelve, Lenham, Kent. [7813

IMPERIAL-J.A.P. 1916 8h.p. Combination, all fittings perfect; £130.—Caeco, 21, Hobson St., Cambridge. [8918

1920 2¾h.p. New Imperial, 2-speed, complete, perfect; what offers?—Jarvis, 80, Talbot Rd., Bayswater, W.2. [X122

1920 New Imperial 8h.p. Combination; 187 gns. ex works; immediate delivery.—Parsons' Garage, Winchelsea. [777

1920 2¾h.p. New Imperial-Jap, 2-speed, unregistered; cost 77 gns., sacrifice best offer.—Box 7,861, c/o *The Motor Cycle*. [8938

1920 8h.p. New Imperial Combination, splendid condition, tyres unpunctured; sacrifice £142/10 —W. J. Bladder, Sidbury, Worcester. [8937

1919 (Late) 8h.p. New Imperial, khaki, 3-speed countershaft, kick start, absolutely perfect; no dealers; £115.—Gray, Eastgate, Barnsley. [8831

1920 2¾h.p. New Imperial, 2-speed, brand new, done under 400 miles, lighting set, all accessories £70.—Bishop, 35, Princes Rd., Wimbledon. [8006

1919 New Imperial 6h.p., Sunbeam sidecar, hood screen, luggage grid, ideal tourer, never given trouble; £130; seen after 6.—Potter, 128, Maida Vale [822

WAUCHOPE'S, 9, Shoe Lane, London.—2½h.p. 192 New Imperial-Japs, 2-speed clutch, and kick start models; £89/5; with 2-speed, only £80/17. [773

NEW IMPERIAL-J.A.P., 2-speed, countershaft, overhauled, new tyres, pan seat, complete, including lamps and overalls; £52/10.—Bestoe, Holton-le-Moor Lincoln. [828

1920 New Imperial 8h.p. Models, solo or combination, just arrived.—Clapham (Motors), 2 Stockwell St., Greenwich, S.E.10. 'Phone: Greenwich 751. [899

2½h.p. New Imperial-Jap, 2-speed, mechanically perfect, just overhauled, tyres good (1 new) speedometer, horn, tools; £55, or nearest.—Poppleton Hensall, Yorks. [781

2¾h.p. New Imperial, Sept., 1916, new cylinder piston, valves, 2 new Dunlop heavy covers, lamps horn, spare chain, belt; £52, or nearest.—Crawford 105, Wilton St., Northwich. [820

F.O.C.H. have a New Imperial Light Tourist, No. list price.—Fair Offer Car House, 5, Heath St Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [814

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £82/17; with clutch and kick-starter, £89/5. P. J. Evans, 83-91, John Bright St., Birmingham. [026

DISABLED Officer finds can't ride 8h.p. New Imperial combination, wishes to sell, late 1918, done 150 miles, 3 new oversize Dunlops, head and tail lamp complete, and tools; will accept £150.—Lt. H. Rhodes 4, Percival Terrace, Brighton. [878

NEW IMPERIAL-J.A.P. Lightweight, about 191 2-speed, free, just overhauled, rebushed, perfect condition, smart, economical, footboards, lamps, generators, horn, tools, spares, fully insured; £52/1 offers.—6, Powis Villas, Brighton. [85

Norton.

FOR Sale, Norton combination, big four, 1920, perfect order; £165.—Eastwood, Groehurst, Horsmonden. [80

1921 Sports 3½h.p. Isle of Man Type Norton Lucas lamps and horn, just delivered; London —Box 605, c/o *The Motor Cycle*. [88

NORTON 1920 Big Four De Luxe Combination lamps, horn, hardly used, condition perfect; £1 Knott, Tobacconist, Devizes, Wilts. [86

1919 3½h.p. T.T. Norton, Philipson, engine just overhauled, fast, P. and H. lamp, etc.—Cruickshank 240, Stockport Rd., Levenshulme, Manchester. [81

NORTON Big 4 Combination, sporting model body, 1917, in good condition, lamps, speedometer; 95 gns.—J. Prismall, 30, London St., Basingstoke. [77

1920 Big Four Norton and Sidecar, lamps, horn, speedometer, knee grips, very good condition £170, or offer.—Bloss, Red House, Wimpole Rd., Chichester. [82

NORTON Big 4 De Luxe Combination, late 19 new tyres, belt, and mag., electric lighting, mechanically sound; £128.—Spencer, 50, Chapel St., Liverpool. Tel.: 1526 Central. [80

NORTON Big 4, delivered Jan., 1920, not ridden 700 miles, very fast and powerful, as new, T. bars, silencer, long plated exhaust, also muffler; £1 —Bulpin, Newton Abbot, Devon. [77

MOTOR CYCLES FOR SALE.

Norton.

1920 Sporting Norton, specially constructed for hill-climbs and speed work, Big 4 engine, variable gear, Mead and Deakin Canoelet sidecar, aluminium discs, head lamp set, mechanical horn, etc.; 150 gns.; as new, mileage 500.—'Phone: 1024.—Julian, 84, Broad St., Reading. [7801

NORTON 1919 (July) Big Four, special engine, side-car painted and lined to match tank, 3 disc wheels, speedometer, electric lighting, 2 horns, wind screen panes, one of the fastest and smartest combinations on the road, in absolutely new condition throughout; £175.—Hill, Union St., Bristol. [8479

N.S.U.

N.S.U. 5-6h.p., clutch, Bosch, new B.B., good condition, ride away; £37.—Lees, 17, Fairbridge Rd., Highgate, N.19. [7853

N.S.U. 3½h.p., 2-speed, F.E., pull anywhere, T.B. mag., B.B.; first £20.—Duff, Roslin Hall, Fraddon, Cornwall. [8517

3½h.p. N.S.U., 2-speed, Amac, Bosch, good running order; £38.—34, Helen St., off Grecian St., L. Broughton, Salford. [7775

N.S.U. 6h.p. 1911 Combination, in perfect running order; £35, or near offer.—Hatcher, Elm Cottage, West Wellow, Romsey, Hants. [7898

FOR Sale, 3½h.p., N.S.U. mag., 2-speed, new Dunlops and tubes, re-enamelled, fine condition; first £32 secures.—Denniss, 82, Fairmont Rd., Grimsby. [8845

N.U.T.

1920 N.U.T. Solo, condition as new; £150.—Wright's Garage, Saffron Walden. Tel.: 16. [9012

N.U.T. Motor Cycles from Stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214 [1098

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—N.U.T., £165, from stock, free delivery. [X1220

N.U.T. 3½h.p. Twin, magdyno lighting, delivery from stock; £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [8979

1920 N.U.T., Lucas dynamo lighting, accessories and spares, better than new; Warwickshire; 150 gns. —Box 593, c/o *The Motor Cycle*. [X1089

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery. Write or 'phone for particulars—Tel.: Yeovil 114. [6023

1920 N.U.T., dynamo lighting, 3½h.p. twin, ridden only few miles; £140, complete with £14 worth of accessories.—Moffatt, 157, Burntwood Lane, Earlsfield, S.W.18. [8791

1914-15 2¾h.p. N.U.T., twin, overhead valves, new tyres and belt, long exhaust pipes, excellent condition; £65.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [8896

N.U.T.—Delivery from stock of these models, equipped with magdyno lighting, price £165; sole wholesale and retail agents for Staffordshire, the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [9002

O.K.

O.K. Junior Single and 2-speed Models.—Longman, Fisherton, Salisbury. [6243

O.K. 2¾h.p., 2-speed, splendid condition; £38.—124, St. Alban's Rd., Dartford, Kent. [8472

O.K. Unions, 2¾h.p., just received from factory; 48 gns.—Kemp's Garage, Louth, Lincs. [X1273

O.K.-UNION Models in Stock at makers price; £50. —Eagles and Co., 275, High St., Acton, London. [X1291

O.K. Junior; instant deliveries from stock; 48 gns. —Hewin's Garages, Ltd., the Real Service Firm, Taunton and Totnes [8134

1920 O.K. Junior 2½h.p., better than new, not ridden 50 miles; wonderful bargain, 42 gns.—Phone: 1024.—Julian, 84, Broad St., Reading. [7807

O.K. Junior, 48 gns.; £26 down and 11 payments.—Lamb's, 50, High Rd., Wood Green; 151, High St., Walthamstow; and 387, Euston Rd., N.W.1. [3197

1920 O.K. Junior, 2½h.p., better than new, not ridden 50 miles, wonderful bargain; 42 gns.—Phone: 1024.—Julian, 84, Broad St., Reading. [7723

O.K. Juniors from Stock; 48 gns.—A. J. Young and Co., Ltd., Heath Garage, Newmarket ('Phone: 214), and 75, Albany St., Regent's Park, N.W.1 ('Phone: Museum 5476). [1100

O.K. 2¾h.p. 2-stroke, new piston, belt, and heavy Dunlop tyre, all on, excellent running order; will ride 10 miles; quick sale, £28.—2, River St., Old Brompton, Chatham. [8838

F.O.C.H. for O.K. Unions and Juniors, list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8145

Omega.

OMEGA-J.A.P.'s just arrived. Model B. £72, Model C. £80.—Washburn, Cheadle, Staffs. [5331

Reconstructed Government Motor Cycles.

Douglas 2¾ h.p. £65

Douglas 4 h.p. £85

Douglas Combinations £110

Thoroughly overhauled, stove enamelled, replated, tanks in makers' colours, good tyres, guaranteed mechanically sound.

Triumph 4 h.p.,

3-speed countershaft, kick-start, overhauled as above, but not enamelled or plated,

£85

Enamelled and plated, as new,

£95

TRADE SUPPLIED.

Crabtree & Son, Ltd.,
Motor Engineers,
WISBECH.

MOTOR CYCLES FOR SALE.

Omega

1920 Omega-Jap 2¾h.p., 2 speeds, perfect condition; £65.—6, Avenue Park Rd., S.E.27. [8080

2¾h.p. Omega-Jap, 2-speed, original front tyre, fully equipped; nearest £52; trial.—Argyle Lodge, Newton Rd., Burton-on-Trent. [8810

1919 Omega-Jap 2¾h.p., 2-speed, lamps, horn, complete outfit spares and tools; £65, or best offer.—Wills, 3, Victoria Villas, Yapton, Arundel. [8298

OMEGA-J.A.P., 1920, Model C nearly new, 2-speed, kick start, hand clutch, mechanical horn; £72 cash, or part exchange Levis.—Clarke, 56, Bilston St., Wolverhampton. [8723

OMEGA-J.A.P. 2¾h.p., 2-speed, clutch, K.S., new June, 1920, lamps, horn, tools, complete, insurance, ridden 400 miles; offers.—Allitt, Little Bourton, Banbury, Oxon. [X1298

F.O.C.H. for Omegas; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8148

P. and M.

P. and M. Combination, 1919, as new; £110.—Owen, 59, Scholefield Rd., Holloway. [X1304

P. and M., late R.A.F. model, new condition; £60. —248, Drakefell Rd., Brockley. [8753

P. and M. Combination, 1919, all lamps and accessories; £125.—198, Gt. Portland St., W.1. [8529

P. and M. 1920 Combination; not done 150, perfect, horn; £155.—Oliver, Long Bennington, Grantham. [X1192

P. and M. 1920 Model, delivery from stock; £115.—Maudes' Motor Mart, 100, Paris St., Exeter. [8980

P. and M. Combination, R.A.F. model, lamps and horn; £100.—198, Gt. Portland St., W.1. [8536

BRIGHTON, Hove and district P and M. agents. Turpin's, 22 and 29, Preston Rd., Brighton. [0204

P. and M. Combination, excellent running order; £55; after 7.—215, Hampstead Way, Golders Green. [8422

P. and M., 1918, new cylinder, piston, and rings, tyres new; £85.—Box 7,839, c/o *The Motor Cycle*. [8317

1918 3½h.p. P. and M., in splendid order, Tan-Sad, and Klaxon; £75.—Rosser, 14, Hyde Rd., Eastbourne. [8657

P. and M., 3½h.p., 2 speeds, free engine, new lamps, perfect order; 50 gns.—Baines, Horton-in-Ribblesdale, Settle. [8380

P. and M. Combination, latest post-war, run 500 miles; best offer over £150.—41, Ashford Rd., Cricklewood. [8377

3½h.p. P. and M., new condition, little used, mileage about 600; bargain.—31, Claremont Rd., Alexandra Park, Manchester. [X1280

P. and M. 1918 Combination, all accessories and new tyres; £85, or offer.—H B., 44, All Saints Rd., Westbourne Park, W.11. [8339

P. and M. Combination, R.A.F. model, late type, perfect order; cash offers, or exchange considered. —103a, High St., Wandsworth, S.W.18. [9061

P. and M., 1917-18, thoroughly overhauled, replated, many new parts fitted, a real bargain; £55.—37, Warbeck Rd., Shepherd's Bush, W.12. [8426

£65.—1918 P. and M., 2-speed and kick starter, good tyres, excellent condition; seen any time.—Olphert, 66, Church Rd., Barnes, S.W. [8735

1920 P. and M. Combination, only run 850 miles, 3 best lamps, Cowey, and many spares, extras worth £25; a bargain, 132 gns.—Egbert Spearman, Bishops Stortford. [6606

P. and M. 1918 Combination, new tyres, lamps, horn, etc., perfect condition, experts welcomed; £95, or part exchange for Levis.—Clarke, 56, Biston St., Wolverhampton. [8722

P. and M. Combination, Montgomery sidecar, Bosch, B.B., spare chain, fully equipped, good condition; £75.—F. Oliver, 39, Marten Rd., Chingford Rd., Walthamstow, E.17. [8432

1918 P. and M. Combination, £135 cash, or ½ down and 11 payments.—Lamb's, 50, High Rd., Wood Green; 151, High St., Walthamstow; and 387, Euston Rd., London, N.W.1. [8201

P. and M. Combination, late 1917, little used, engine perfect, tyres, tubes, plating, enamel, hood, screen, lamps, all as new, insurance policy; £94, bargain.—G., 29, Southview Drive, Westcliff-on-Sea. [8340

1919 3½h.p. P. and M., 2-speed, kick start, etc., lamps, horn, Cowey speedometer, delivered new Feb., 1920, as new; £105.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [8891

1920 R.A.F. Model P. and M. Combination, not W.D., large P. and H. lamps unused, Cowey speedometer, new tyres, Easting wind screen, insurance policy, mechanically perfect; £120.—Darley, Melbury, West Byfleet, Surrey. [7836

MOTOR CYCLES FOR SALE.

P. and M.

P. and M., R.A.F. model, solo, not W.D., delivered 1920, practically indistinguishable from new, lengthened exhausts, extra toolbags, all tools; £95; would give trial with sidecar Saturday.—Nelson, 246, Selsdon Rd., Croydon. [8076

3½h.p. P. and M. Combination, 1920 (March), R.A.F. model, perfect condition and appearance, electric lighting, Cowey, Bluemel screen, petrol carrier, all spares; expert examination invited; £135.—15, Caird St., Queen's Park, W.10. [7819

1917 P. and M. Montgomery Combination, long dash, screen, new chains, lamps, horn, luggage grid, petrol carrier, spare cover, tube, valve, exceptional condition, 80 m.p.g., finished black; £85; after 6 o'clock.—Parker, 65, Clifton Av., Wembley Hill. [8670

P. and S.

NEW 2¾h.p. P. and S., fitted with the Villiers 2-stroke engine, 2-speed; £73.—Wauchope's, 9, Shoe Lane, London. [7733

Paragon.

PARAGON, new, 2-speed, 2-stroke, spring frame; urgent sale; £57/10, listed £70.—Thomas, 24, Townley Rd., E. Dulwich. [8787

P.F.

3½h.p. P.F. Motor Cycle, excellent condition, lamps, horn; bargain, £37.—15, Forest Rd., Enfield Wash, Middlesex. [8070

Pilot.

PILOT, 1918, 3h.p. Dalm 2-stroke, 2-speed countershaft, P.H. lamp set; £45.—24, Caldew St., Camberwell, S.E. [8010

Precision.

2¾h.p. Precision, 1916, Villiers free, electric lighting; bargain, £45, or near.—Hall, 26, Monson St., Lincoln. [8226

2¾h.p. Precision, lamps, good tyres, splendid condition; seen evening; £40.—Turner, Highlands Hill, Swanley, Kent. [8001

3¾h.p. Precision Combination, 3 speeds, first-class condition; £55.—Threadgold, 38, Maskell St., C-on-M., Manchester. [8898

Premier.

PREMIER 2½h.p., Bosch, B. and B., perfect order; £27.—133, Kinveachy Gardens, Charlton, S.E.7. [8212

2½h.p. Premier, 3-speed, with lamp; what offers?—Jeffrey, Opposite Corn Exchange, Dorchester. [8827

PREMIER 2½h.p., fixed gear, good condition throughout, just re-enamelled: offers.—Rich, Shifnal. [X1165

3½h.p. Premier and Sidecar, coachbuilt, 3-speed gear, all accessories; £42.—406, Garratt Lane, Earlsfield, S.W.18. [8792

PREMIER, 1914, 3-speed, clutch; £60, nearest offer; exchange lightweight.—Macmillan, 14, Warwick Rd., Hampton Wick. [7991

3½h.p. Premier, Sturmey 3-speed hub, h.b.c. clutch, Bosch, B. and B., lamps; trial; £32/10.—Houlston, 560, Kings Rd., Fulham. [8666

3½h.p. Premier, wicker sidecar, 3-speed clutch, spares, lamps, etc., excellent condition; £60.—Baker, Abbey Lodge, Glastonbury. [8764

PREMIER 3½h.p. Combination, 3 speeds, lamps, luggage grid, Dunlops, in good condition; bargain £55.—308, Kings Rd., Chelsea. [8747

PREMIER 3½h.p. and Sidecar, excellent order, new N.S.U. gear, tyre and belt; sacrifice £47/10.—Stephens, May Bank, Stoke-on-Trent. [7993

3½h.p. Premier Combination, Bosch, B.B. lamps, good tyres, good running order, must sell; £25—76, Western Rd., Southall, Middlesex. [6735

PREMIER Combination, 3½h.p., 3-speed countershaft gear, Bosch, B.B., excellent condition, new 1915, stored 3 years; any trial; £64.—Griffin, Queen's Rd., Watford. [5126

PREMIER 1915 4h.p., 3-speed, countershaft, overhauled and enamelled, sidecar, black and gold, new Clinchers; immediate offer required.—36, Brownlow Rd., Bowes Park, N.11. [8550

3½h.p. Premier Combination, 1915, 3-speed countershaft, clutch, kick start, T.T. bars, discs all round, sporty C.B. sidecar, A1 condition, any trial; £95.—Leavey, Theale, Berks. [8[illegible]

4h.p. Premier Combination, C.B. sidecar, S.A. 3-speed and clutch, lamps, horn, new belt and accessories, splendid condition and mechanically perfect; £65.—8, Court Rd., West Norwood, S.E. [8728

PREMIER Combination, 1916, 4h.p., 3-speed clutch, kick start, P. and H. and electric lighting, speedometer, mechanical horn, wind screen, hood, apron, reupholstered, luggage grid, etc.; £115, or nearest.—Write, A., 21, Lennox Gardens, Ilford. [7789

Pullin.

PULLIN, promised September; depositor invites offers for transfer, £5 paid.—W., 46, Juer St., Battersea, S.W.11. [7955

PULLIN.—Bournemouth Imperial Motor Works (1919), Ltd., Bournemouth, are agents for the Pullin 2¼ h.p. 2-speed machine. Book your order now. price 49 gns. [7901

MOTOR CYCLIST'S COMBINATION OVERALLS

Complete with Sou'-Wester.

PERFECTLY NEW

not second-hand as advertised by other firms.

BEST QUALITY

Pegamoid Brand.

These suits are finished in dull black absolutely waterproof material. Double-breasted, wind cuffs, and strapped ankle fastenings. Flat buttons on collar of overall making no neck-winds.

STORMPROOF

32/6

Original Price - - 90/-

Sent on seven days' approval against remittance.

ELITE RUBBBER Co. Ld.
264-266, Vauxhall Bridge Rd.
Victoria, S.W.1.
Telephone: Victoria 6553.

MOTOR CYCLES FOR SALE.

Quadrant.

IN Stock, 1920 Quadrant combination, absolute it; £145.—Sheldon, Wheatley, Oxon. [735

3½h.p. Quadrant, splendid condition throughout, m.p.h., 120 m.p.g.; £30.—Jeffrey, Kenningto Kent. [81

QUADRANT Combination, 4½h.p., delivery fro stock; £145.—Maudes' Motor Mart, 100, Par St., Exeter. [89

1915-16 Quadrant 4½h.p., 3-speed, clutch, lamp horn, as new; £58; exchange lower power.—I 33, Sandrock Rd., Lewisham. [86

QUADRANT 1920 4½h.p. Combination, in stoc makers' price.—Shepherd and Co., Enfield Hig way. Tel.: Waltham Cross 31. [88

3½h.p. Quadrant, Bosch mag., clutch, accessories, enamelled and thoroughly overhauled; £25.—2 Teville Rd.; or 'phone 6736 Gerrard, Worthing. [83

1915 4½h.p. Quadrant Combination, S.A. 3 spee all accessories, Cameo, good tyres, spares, perfe condition, very smart; £80, or nearest.—Bulbrook, 1 Outcast, Ulverston, Lancs. [88

NEW 1920 4½h.p. Quadrant Combination, 3-spee Sturmey-Archer countershaft gear, clutch, a kick starter; £145; extended payments.—Wauchope 9, Shoe Lane, Fleet St., London. [77

4½h.p. Quadrant Combination, N.S.U. 2-speed, fo clutch, pedal start, Bosch, Senspray, vaporie speedometer, lamps, tyres, belt, as new, fine conditio £82/10.—159, Oval Rd., E. Croydon. [80

QUADRANT 4½h.p. Big Single; combination £14 solo £115; new machines always in stock; t only moderate-priced outfit left.—Victor Horsma Ltd., 7, Mount Pleasant, Liverpool. [02

NEW 4½h.p. Quadrant Combination, to make specification; at list price, including carria from works, £147/7/3; or on easy payments extra.—Harrods, Ltd., 118, Brompton Rd., London [83

CLIFFORD WILSON Mfg. Co., sole Quadrant ager and distributors for London, Sussex, Surrey, Ke Middlesex, Buckinghamshire, Essex, Hertfordshire, Be fordshire, Cambridgeshire, Norfolk, Suffolk, Huntin donshire, and Berkshire.—Delivery of 1920 models fr stock; solo, £115; combination, £145; selection second-hand models; trade enquiries invited; official pairers; all spares.—70, Royal Hospital Rd., Slo Sq., S.W.3. Tel. Kensington 7113. [89

Radco.

RADCO, 1915, perfect, lamps, new heavy Dunlo £33.—333, Hoe St., Walthamstow. [86

RADCO, just overhauled, lamps, Klaxon, tools; offe round £35.—Tudor House, Peterborough. [82

RADCO 2-stroke, electric light, all accessories; £3 fine little mount.—35, Freegrove Rd., Hol way, N. [85

1916 Radco, in good condition, Amac, Dunlo footboards, horn, complete.—2, Weston A Esher, Surrey. [85

BRAND New 1920 Radco 2¼h.p., 2-stroke, £52; speed model, £60/10; immediate delivery.—T Premier Motor Co., Aston Rd., Birmingham. [55

RADCO 2¼h.p., 1917-18, 2-speed, clutch, kick sta footboards, foot pump, variable jet, tools, go condition; reasonable offer.—14, London Rd., Steve age. [X12

1914-15 Radco 2-stroke, overhauled, new connecti rod, big and little end bushes, gudgeon pi piston rings, pulley and belt, tyres and enamel goo ride away; £37.—31, Park Rd., Rugby. [X12

Reading-Standard.

READING-STANDARD Combination, in good con tion, lamps, fast; £90.—Rich, 3, Brook Gree W. [83

Regent.

REGENT 5-7h.p. Combination, lamps, tools, dis horn, Cowey speedometer, mileage 500, must se £170, or offer.—Anderson, 115, Knights Hill, We Norwood. S.E. [84

REGENT 5-7h.p., practically new, only done 2 miles, P. and H. lamp, Cowey horn; cost £15 reason for selling, buying a car; £135, or near offer.—Write or call, Lloyd, Peryfourd, Abergavenny [80

Revere

REVERE 1916 2-stroke, Villiers engine, new c dition; £45, near offer.—Lt. Hewlett, R.A.S Mess, Sling, Bulford. [85

REVERE 1919 2-stroke, 2-speed, complete, lam etc.; £60.—Hewin's Garages, Ltd., the Re Service Firm, Taunton. [81

Rex.

3½h.p. Rex, Bosch, Senspray, running order, ri away; £23.—G. Page, Bourne End. [82

REX 5h.p., Bosch, B. and B., new tyres and tub good condition; £32.—Forrester, Burnhead R Larbert. [78

3h.p. Rex, good condition, new tyre, belt, mag., v reliable; £22, or nearest offer.—Mansbridge, Cliddi den, Basingstoke. [84

MOTOR CYCLES FOR SALE.

Rex.

EX 5-6h.p. Combination, new Mabon clutch and tyres, splendid condition; £45.—34, Woodlands k Rd., Harringay. [9067

h.p. Rex Combination from stock; list price.—A. J. Young and Co., Ltd., Heath Garage, Newrket. 'Phone: 214. [6382

1h.p. Rex, Bosch, Amac, engine overhauled, com-2 plete; ride away; £27.—Harfield, c/o Yates res, Ludgershall, Wilts. [8110

h.p. Rex Twin Coachbuilt Combination, chain drive, 2-speed, handle start, fine order; £75.—Box 80, c/o *The Motor Cycle*. [8960

-6h.p. Rex Combination, just overhauled, Bosch, B.B., 2-speed, accessories; £65; ride away.—49, Nor-d Rd., Stretford, Manchester. [8116

6h.p. Rex Combination, Roc gear, comfortable wicker sidecar; any trial; £55.—Can be seen at age, 44, Chapel St., Luton, Beds. [8322

EX Combination, 4½h.p. Precision engine, 2-speed, H.S., Bosch, new tyres, tubes, good running order; trial; after 7; £45.—24, Lower Park Fields, Put-S.W.15. [8437

HE New Model 55 Rex Combination, with 8h.p. Blackburne engine, coachbuilt sidecar, cantilever nging, detachable wheels and tyres, now in stock immediate delivery: £218/18; free delivery by road rail.—The Premier Motor Co., Aston Rd., Birming-[5558

Roc.

3h.p. Roc Motor Bicycle, new shod, B.T.H. mag., handle controls; £16, bargain.—Madison, Littler, Derby. [X1090

OC Motor Cycle, complete less power unit, Druid forks, free engine, clutch, brand new 26×2½in. ra heavy Dunlop covers and tubes, whole machine roughly overhauled, guaranteed perfect, suitable p. single or 5-6h.p. twin; £18.—R. Elliff, 3, gston Grove, Woodhouse Lane, Leeds. [X1222

Rover.

OVER 4h.p., 1916, countershaft, unscratched, perfect; £80.—Farquhar, Rybersdale, East Bergholt. [8813

OVER Combination, 1914, 3½h.p., 3-speed, kick start, good order; £75.—52, Pelham Rd., Graves-[8638

OVER 3½h.p., 3-speed, 1914, accessories; £60.—1, Norwood Rd., Herne Hill. 'Phone: Brixton 4. [9032

20 6h.p. Rover Combination, driven from works only, splendid outfit; £186.—Walker, Redbourn, [X1295

h.p. Rover, fine condition every way; £38, or nearest; after 6 evenings.—4, Galesbury Rd., dsworth, S.W. [8379

OVER 3½h.p., 3-speed, clutch, Canoelet sidecar, accessories, ride away; £60.—117, Walm Lane, klewood, N.W.2. [8804

OVER 3½h.p., T.T., with Phillipson pulley, knee-grips, Lucas lamps and horn, condition perfect; s.—Rich, Shifnal. [X1164

h.p. Rover Combination, 1920, accessories, done 200 miles, perfect condition; £180, offers.—Box 6, c/o *The Motor Cycle*. [8016

OVER 3½h.p. Combination, 1914, 2-speed, clutch, tools, full accessories; £60.—Taylor, Church Rd., foid, Baldock, Herts. [8365

OVER 5-6h.p. Combination, countershaft, nearly new, Watsonian sidecar; £195, or solo.—Edwin ght, High St., Reigate. [8105

OVER 1915 Combination, 3½h.p., 3-speed, clutch, lamps, excellent condition; £85, or offer.—66, t Side, Clapham Common. [8356

20 Rover 5-6h.p. Combination, electric lighting, sporting sidecar, with Easting, all accessories; 0.—G., 89, Wigmore St., W. [8091

18-19 3½h.p. T.T. Rover, Philipson, excellent condition; £80.—R. Bamber and Co., Ltd., 2, East-St., Southport. Tel.: 607. [8892

p. a.i.v. Rover, Bosch, B. and B., perfect, but wants new mag. sprocket (ordered); £22/10.—farlane, Park Rd., Loughborough. [8589

h.p. Rover Combination, late 1918, W.D., lamps, horn, spares, tube, 2 covers, luggage grid; £135. awford, 105, Witton St., Northwich. [8209

OVER 3½h.p. Coachbuilt Combination, 2 speeds, Bosch, splendid condition; £48, after 7 p.m. or end.—Killarney, Colindale Av., Hendon. [8382

OVER 1920 Brand New 5-6h.p. Combination, latest improvements; £235.; exchange entertained.—les and Co., 275, High St., Acton, London. [X1285

20 5-6h.p. Twin Rover, Lucas horn, mileage 200, solo only, magnificent machine; list price, 2/10; accept £162/10.—9, Wood St., Swindon. [8851

20 Rover Twin Combination, new August, perfect condition, owner returning India; any reason-offer.—Villani, 20, Leam Terrace, Leamington. [8748

h.p. Rover Combination (Jan., 1920), lamps, screen, spares, splendid condition, little used, original unpunctured; £135.—Pinkerton, South Norwood S.E. [8291

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MOTOR CYCLES FOR SALE.

Rover.

ROVER 3½h.p., 3-speed, hub and clutch, 1914 engine, good condition throughout, tyres nearly new; £45, for quick sale, or offer.—Granger, Icewell Hill, Newmarket. [8457

ROVER 3½h.p. Combination, 3 speeds, clutch, K.S., speedometer, lamps, pill.on, spares, very smart outfit; nearest offer £80.—56, Melrose Av., Streatham Lane, Mitcham. [8351

1920 Rover 5-6h.p. Combination, Montgomery sidecar with Easting, mileage 350, condition as new, lamps; any examination; £200.—Baker, 92, Bradford Av., Cleethorpes. [X1186

1916 T.T. Rover, with Philipson pulley, Lucas horn, and lamp set, mechanical condition perfect, examination invited; £60.—Kays, 8, Bond St., Ealing, W.5. 'Phone: 1827. [7122

ROVER 3½h.p., T.T., 1919, Philipson pulley, latest Senspray, variable jet, only done 700 miles, condition as new; £95.—D. Macgregor and Sons, Drymen Station, by Glasgow. [8516

1919 Rover 3½h.p., 3-speed, countershaft, K.S., clutch, sidecar, 3 lamps, mechanical horn, splendid condition; £115, bargain.—Deeming, Polesworth, Warwickshire. [7832

1914 T.T. Rover, Philipson pulley, recently enamelled, tank makers' colours, P.H. lighting set, horn, etc.; splendid machine; £48, evenings.—Lock, 164, Thornhill Rd., Tolworth, Surbiton, Surrey. [8371

5-6h.p. Rover Combination, very late W.D. model, only done 200 miles, lamps, horn, tools, kick start, clutch, etc., perfect condition, full insurance just paid; offers wanted.—J. H. Starr, Wallgate, Wigan. [8092

1918 3½h.p. Rover and Burberry Sidecar, 3-speed, C.S., K.S., accessories, spare sidecar tyre, and new belt, Lucas horn, etc., splendid order, ride away; £120.—Bithell, Parkhill, Connah's Quay, near Chester. [7990

F.O.C.H. have a 5-6h.p. W.D. Rover Combination, Easting, negligible mileage.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8146

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick-starter, and with smart coachbuilt sidecar; £180 or on easy payments 5% extra; one quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [8396

ROVER 1920 (April) 5-6h.p. Combination, Henderson sidecar, D.A. lighting, Lucas lamps and horn, Cowey speedometer, Easting screen, Dunlop heavy tyres (unpunctured), tools, spares, splendid outfit; £185.—1, Melrose Rd., Merton Park, S.W. [8678

ROVER 1918 5-6h.p. W.D. Combination, reconstructed, overhauled, and guaranteed sound; a few only left in stock. These machines are as good as new, and are best value for money combination on the market; £135.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0068

ROVER 5-6h.p. 3-speed All-chain Combination, new Oct., 1919, condition and appearance as new, special sidecar body with removable child's seat, lamps, speedometer, luggage grid, hood and screen, 28×3in. Dunlops (unpunctured); £170, trial, offers.—Box 7,864, c/o *The Motor Cycle*. [8941

Royal Ruby.

ROYAL RUBY 2-speed 2-stroke, as new; bargain, £45.—42, Perran Rd., Tulse Hill. [8639

ROYAL RUBY 3h.p., 3-speed, spring frame; £120.—Longman, Fisherton, Salisbury. [6241

2¾h.p. Royal Ruby 2-stroke, 2 speeds, A1 condition; £45—21, New North Rd., Reigate. [8901

1919 Royal Ruby, J.A.P., 2-speed, speedometer, 115 m.p.g.; £48, offer.—69, Laitwood Rd., Balham, S.W. [8458

ROYAL Ruby 8h.p. Combination, perfect condition, 3-speed, any examination, hood, screen, etc.; a bargain, £175.—Masters, Claremont, Colnbrook. [8375

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

1920 3½h.p. Spring Frame Royal Ruby, 2-speed and clutch, ridden 50 miles only, as new; £107.—Kays, 8, Bond St., Ealing, W.5. 'Phone: 1827. [7123

1919 Royal Ruby Combination, 8h.p. J.A.P. engine, 3-speed gear box and clutch, new P. and H. lamps, Easting wind screen, new Dunlop tyres all round; £135.—Kays, 8, Bond St., Ealing, W.5. 'Phone: 1827. [7124

£100.—Royal Ruby, 1918, 8h.p. J.A.P., 3-speed, hand clutch, kick start, re-enamelled and plated, black and gold lined, Mills-Fulford C.B. sidecar, mechanically perfect, worth double, cash needed.—272, Green St., Forest Gate. [8234

Rudge.

1915 I.O.M. Rudge Multi, lamps, horn; £65.—Feek, Bath Hotel, Great Yarmouth. [8066

1914 T.T. Rudge, fast, accessories: must sell; bargain, £40.—17, Byron Rd., Harrow. [8570

RUDGE.—All 1920 model, ex-stock; £110/5; easy payments.—125, High St., Woolwich. [6094

MOTOR CYCLES FOR SALE.

Rudge.

RUDGE Multi 1920 I.O.M., smartly equipped, hardly ridden; £90.—5, Victoria Av., Surbiton. [9046

1920 Brand New Rudge Multi T.T., I.O.M.; £105.—Black Park, Whitchurch, Salop. [X1159

RUDGE I.O.M. Multi, in stock; £110/5.—Clark, 7, Exhibition Rd., South Kensington. Ken. 4096. [8561

RUDGE Multi 5-6h.p., new August, 1920, perfect, as new; what offers?—Baker, Avalon, Minehead. [7827

3½h.p. Rudge, 2-speed, free, new rear Dunlop, speedometer, lamps; £40.—Ring Hammersmith 1639. [8217

RUDGE 7-9h.p., 1920, complete with Rudge sidecar, lamps, horn, etc.; £115.—198, Gt. Portland St., W.1. [8530

1914 5-6h.p. Rudge Multi and coachbuilt sidecar, splendid condition; £55.—H. Wright, Arlesley, Beds. [8223

RUDGE 3½h.p., countershaft, kick start, perfect; £50, offer. 23, Jupiter Terrace, Well Hall, S.E.9. [8675

1919 Rudge Multi Combination, bought April, 1920, perfect; £98.—Butler, Potton, Bedfordshire. [8588

RUDGE Multi, 1914, good condition, lamps, etc., £70.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [8138

1920 I.O.M. Rudge, clutch, pedal starter, 400 miles; sacrifice, £92/10.—W. J. Bladder, Sidbury, Worcester. [8936

RUDGE 1919 I.O.M. Model, lamps, horn, speedometer, etc., in perfect order; £85.—198, Gt. Portland St., W.1. [8537

RUDGE, I.O.M. Model, list price; from stock.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214. [1101

5-6h.p. Rudge Multi Combination, ride away; £85, or solo, £70, or exchange 8-10h.p.—L. Stratford, 203, Junction Rd., N.19. [8839

1920 3½h.p. I.O.M. Rudge Multi, delivered August, ridden 150 miles, lamps; what offers?—Parkhouse, Hotel, Eggesford, Devon. [8215

RUDGE Multi, 1920, T.T., very fast, horn, speedometer, knee-grips; £105; seen any time.—P. Grist, 38, Eaton Rise, Ealing, W.5. [8250

RUDGE T.T. Multi, 1920, 3½h.p., fully equipped, only ridden few miles; £95, or offers.—3, Lyncroft Gardens, West Hampstead, N.W.6. [7939

RUDGE Multi, 1919, delivered April, 1920, lamps, speedometer, pump, tools, in perfect condition; £80.—2, Madrid Rd., Barnes, S.W.13. [8521

1919 3½h.p. Rudge Multi, Dunhill's limousette sidecar, as new, wind screen, lamps, Klaxon; £140.—10, Lansdowne Av., Slough [8593

1919 5-6h.p. Rudge Combination, as new, lamps, screen, hood, spares; £125.—209, Broadway, West Hendon, N.W. 'Phone: Kingsbury 162. [9056

1920 Rudge Multi, T.T., delivered this week; list price.—Bickell and Sons, 247-251, Archway Rd., Highgate, N.6. 'Phone: Hornsey 1090. [0254

£48.—1913 Rudge, clutch model, 1916 improvements, fast, perfect, with lamps and tools.—H. Angell, Breachwood, Welwyn, Herts. (D) [8576

1920 New I.O.M. Rudge Multi, correct model, with spoked belt rim, clutch, and pedal starter; list price.—Fancourt's Garage, Stamford. [3700

1920 I.O.M. Rudge, hand clutch and kick starter, in stock at list, £110/5; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [9081

BEST Bargain This Week.—1920 (July) I.O.M. Rudge, fully equipped, mileage 200; £98; evenings.—50, Manor Park Rd., Harlesden, N.W. [8214

RUDGE 1920 7-9h.p. and 5-6h.p. Multi Combination, in stock; makers' price.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [8876

RUDGE Multwin Combination, 1920, 7-9h.p., unscratched, as new, full equipment; genuine bargain, £158.—Hutton, Drummond Rd., Ilkeston. [X1162

NEW Rudge Multi 3½h.p., fitted with smart coach-built sidecar; £143 10, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [8399

RUDGE Multi 1920 3½h.p., T.T., brand new; just arrived; immediate delivery; at makers' price, £110 5.—Wilkins, Simpson, opposite Olympia, London. [8039

5-6h.p. Rudge Multi, hand clutch, James's speedometer, new cover and belt, condition equal to new, £68.—135, Cann Hall Rd., Leytonstone, E.11. [X1325

1920 June I.O.M. T.T. Rudge Multi, lamps, Klaxon, Bowden strip, chain belt and plugs, all tools, fine condition; £105.—H. Swanson, Castle St., Rugby. [8632

RUDGE Multi, 7-9h.p., W.D. model, in new condition throughout, new lamps, Stewart, horn, etc., £65 to £75.—Motor House, Clarendon Rd., Maidstone. [9016

RUDGE Multi, I.O.M., new May, complete with Cowey speedometer, Lucas horn and lamps, Lucas belt, in perfect condition, £110.—Davies, Hoo, Rochester, Kent. [8655

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MOTOR CYCLES FOR SALE.

Rudge.

SEPT., 1919, I.O.M. Rudge Multi, lamps, horn, accessories, splendid condition; £89, or nearest offer, bargain, must sell.—Apply, 29, Springdale Av., Huddersfield. [78

RUDGE Multi 3½h.p. 1919 T.T., lamps, horn, speedometer, insurance policy, no additional expense; nearest £120.—Wilkinson, Rearsby, Blundell sands, Liverpool. [78

RUDGE Multi, December, 1919, 3½h.p. T.T. model, very fast, in excellent condition; £95, or nearest offer.—T. M. Burgess, Shortmoor, 80, Balham Park Rd., London, S.W.12. [82

3½h.p. 1917 Rudge Multi Combination, new bearings, clutch plates, plated, enamelled (cost £ last July), hood, apron, luggage, lamps, etc.; £85.—St. James's Rd., Bermondsey. [90

RUDGE Multi 1920 3½h.p., Isle of Man T.T. model, new, at list price; immediate delivery, £110; extended terms if desired.—Elce and Co., 15-Bishopsgate Av., Camomile St., E.C.3. [00

5-6h.p. Rudge Multi Combination, May, 1920, lamps, horn, Watford, apron, screen, engine spares and belt, cost £190; reasonable offer with or without things.—Moore, 73, Grosvenor Rd., Ilford, Essex. [88

1919 September, 3½h.p. I.O.M. Rudge Multi, mileage 2,500, speedometer, lamps, horn, spare tube, tools; £88; seen by appointment at Beckenham.—Hughes, 19, Endsleigh St., Tavistock Sq., London. [82

RUDGE Multi Combination, late 1918, screen, speedometer, luggage grid, £90; also late 19 solo, £90; both practically unscratched; terms arranged.—Bunting's Motors, Wealdstone, Harrow. [8

1920 Brand New I.O.M. Rudge 3½h.p., sloping tank, multi gear and free engine, £110/5; a second-hand Rudge, 1919 model, £85; another, single speed, 1914, £35.—Wauchope's, 9, Shoe Lane, London. [77

F.O.C.H. have a new I.O.M. Rudge Multi, 3½h.p., list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8

5-6h.p. Rudge Multi Coachbuilt Combination, hand controlled clutch, in splendid condition, luggage grid, speedometer, all lamps, spare tyre and accessories £75; preferably appointment.—182, Sherrard Rd., Forest Gate. [84

RUDGE Multi, 3½h.p., clutch, foot oiler, pedal start, done 1,300 miles, condition as new, tyres unpunctured, Millers lamps, Cowey horn, Cowey speedometer; £69.—S. Hammond, 15, Plumstead Rd., Woolwich, S.E.18. [X13

1920 5-6h.p. Rudge Multi and Rudge Sidecar, done 100 miles, fitted with 3 Lucas lamps, mechanical horn, full kit of tools, etc., absolutely as new; accept £150, no offers.—Sloan, 8 Hawthorn Terrace, Renfrew. [8C

1920 7-9h.p. Rudge Multwin and Rudge Coachbuilt Sidecar, with new Ideal pillion seat and set of new lamps; this is the most efficient and fastest combination in Coventry; price £180.—Apply, Henry Slim, 89, Wyley Rd., Coventry. [X11

1920 (May) I.O.M. Rudge Multi, perfect, 63 m.p.h., 120 m.p.g., special air intake, Cowey tool case, largest P.H. lamps, Klaxon, spare tube and belt, case, insurance, buying car; offers.—Lieutenant, 3, St. Quintin Av., North Kensington. [8

1920 3½h.p. I.O.M. Rudge Multi, ridden 5 miles, fitted Triumph-D.R. bars, buffed crank case, long, straight through exhaust, electric lighting set, knee grips, Stewart, Klaxon; £125; seen any time.—W. Mitchell, 10, Earl St., Keighley. [X1

RUDGE Multi T.T., 1916, 3½h.p., very fast, and absolutely perfect condition, new Dunlop heavy rear cover, belt, and knee-grips, Lucas horn, and big open exhaust; any trial by appointment; £68.—Walter 7, Woodward Terrace, Park St., Abergavenny. [8

RUDGE 1920 7-9h.p. Multi, pedal start, hand clutch, semi-T.T. bars, Klaxon horn, overside tyres, mileage 250, condition as new, cost £150 to worth £140 to-day; our price, however, is £120, a more honest value does not exist.—The Lay Garages, Bicester, near Oxford. T.A.: Integer, Bicester. 'Phone: 35 Bicester. [X1

Scott.

SCOTT, 2-speed, free, good running order; £ offers.—6, Boyn Rd., Lewisham. [8

SCOTT, 1914, thoroughly overhauled; bargain, £ or near offer.—Ranford, Malvern. [80

WAUCHOPE'S, 9, Shoe Lane, London.—New 1 Scott, delivery from stock; £140. [7

SCOTT 3¾h.p., 2-speed, kick start, perfect condition £60.—47, Edith Rd., South Norwood, S.E. [7

SCOTT, good condition, running order; £29.—Bridhead, 21, Mossman St., Shipley, Yorkshire. [8

SCOTT, deliveries from stock, solo or combination £140 and £185.—Hewin's Garages, Ltd., the Real Service Firm, Taunton. [8

SCOTT.—Immediate delivery 1920 3¾h.p. model, solo or combination; £140 and £185.—Parker, Bradshawgate, Bolton. Tel.: 1348. [X0

MOTOR CYCLES FOR SALE.

Scott.

DELIVERED Too Late.—Brand new Scott, unpacked; owner will accept £125 for same, cost 40.—Box 599, c/o *The Motor Cycle.* [X1343

1920 Scott Sports Model, semi-T.T., perfect condition, Lucas lamps, accessories, spares, won 5 gold dals; £128.—Reed, 6, Blake St., York. [8822

1920 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £120. Dallaway, Fruit Merchant, Smethwick. [0275

COTT Combination, 1915, coachbuilt, Binks, horn, lamps, etc., excellent condition, attachments drive m sidecar; £85.—Moss, 496, Oxford St., W.1. [7932

COTT 1920 3¾h.p. Sports Model, full racing T.T. bars, very fast, done 100 miles only, quite equal new; £130.—Parker's, Bradshawgate, Bolton. [X0936

COTT Combination, recently overhauled, running splendidly, Amac automatic carburetter, 65 o.g.; £65.—Seal, 14, Woodend, Sutton, Surrey. [8282

COTT 1915 3¾h.p., 2-speed, new sprockets, chains, rings, spares, accessories, thoroughly overhauled; trial; must sell; £68, offers.—Audrey, Plymouth use, Loughton. [8421

COTT-HENDERSON Elite Combination, 1920, Aero screen, disc wheel, lamps, Klaxon, tools, spares, ier ordered abroad; £170.—Maltby, Kinver, Beechd Rd., Sanderstead. [8797

1920 Scott Combination, low mileage, indistinguishable from new, lamps, speedometer, Easting screen, cost over £200, bargain, £180.—209, Broadway, st Hendon. 'Phone: Kingsbury 162. [9055

COTT C.B. Combination, engine No. 2659, twin duplicate feed, Binks, Bosch, Watford speedoter, Lucas lamps, horn, Tan-Sad, spares, sidecar, ed extension, wind screen, step, tyres nearly new; 5.—Clarke, 15, Denbigh Rd., W. Ealing. [8794

COTT, 1919 (September), with sporting sidecar and complete equipment; £110; this outfit is priced sell and at the same time to make us one more nd; we believe it is the best Scott bargain in gland, so please don't judge it by the price.—The rton Garages, Bicester, near Oxford. T.A.: egrity, Bicester. 'Phone: 35 Bicester. [X1388

Singer.

NGER 3½h.p., Binks, Bosch, single gear, good order; £25.—92, Finsbury Park Rd., London, N. [7970

½h.p. Singer C.B. Combination, ride away; £65; complete, good condition.—Bartnam, Parkhurst, ingdon, Herts. [X1322

NGER 1915 Combination, 2 speed countershaft, recently overhauled; best offer.—Howells, North- Rd., Eversham. [8643

14 4½h.p. Singer, countershaft gear, with sidecar, fine goer; £50.—North Wales Motor Exchange, xham. 'Phone: 283. [X1281

NGER Combination, 4½h.p., new C.B. sidecar, C.S., Senspray, clutch, very reliable, fine appearance; offer.—Bartlett, 13, Barons Court Rd., W.14. [8470

NGER 4h.p., 1914, 2-speed countershaft, accessories, fine order, with Canoelet sidecar, only run 7,000 genuine bargain, £85.—Cottam, East Winch, n. [8786

NGER 4½h.p. Countershaft Coach Combination, lamps, new tyres, tubes, good running order; rest £75; particulars free.—H. Whetter, The Hurst, nilworth. [X1300

14 Singer 3½h.p., 3 speeds, clutch, fitted 1920 Millford sidecar, with Easting screen, all lamps, n, Jones speedometer, all new Dunlop tyres, in per- order; a real bargain at £75; exchanges or easy ments.—2, Nightingale Rd., Lower Clapton, N.E. [9092

Sparkbrook.

20 Sparkbrook, 2-speed, new June, all accessories; bargain, £65.—E.H.T., 14, St. Andrew's Rd., lesden. [8121

PARKBROOK 1920 2¾h.p., 2 speeds, at makers' price; £75.—Eagles and Co., 275, High St., Acton, ndon. [X1292

PARKBROOK, 1920, 2-speed, beautiful condition, accessories; £65, or nearest.—Achesson, Buller racks, Aldershot. [7986

PARKBROOK, 2-speed models, £75; from our showrooms.—A. J. Young and Co., Ltd., Heath rage, Newmarket ('Phone: 214), and 75, Albany St., W.1. [1099

20 New Sparkbrook, 2-speed, unridden, unregistered, perfect, must sell, bought combination; t reasonable offer secures a bargain.—Box 7,873, c/o e *Motor Cycle.* [8953

EW 2½h.p. Sparkbrook, 2-stroke, single-speed; £69; 2-speed, £75, in stock, or on extended payments extra; only one-fifth deposit, balance by 12 monthly talments.—Harrods, Ltd., 118, Brompton Rd., Lon- n. [8387

PARKBROOK, 1920 model, 2¾h.p., 2-speed, flywheel mag., motor cycle for sale, nearly new, only done all mileage; price £66, with insurance, or nearest er; must sell, owner going abroad.—Wood, 13, Richard Northwich, Cheshire. [8654

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HAZLEWOOD-J.A.P. 6 h.p. Combination	£204 12
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INDIAN Scout	£140 0
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CONNAUGHT, 2-stroke, single gear	£68 10
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MOTOR CYCLES FOR SALE.

Sun.

SUN-VILLIERS, 1917, lamps, speedometer, excellent condition; £50.—28, Foxley Hill Rd., Purley, Surrey. [8378

SUN-VILLIERS 2-stroke, 2 speeds, accessories, new engine and gear box; £40.—Dougall, c/o Pattison, 41, Church St., Berwick. [8290

SUN-VILLIERS 2½h.p., 2-speed, 1916, new belt and mudguards, mechanical horn, splendid condition; £40.—Dixon, 4, Warren Av., Bromley, Kent. (After 7.) [7796

Sunbeam.

3½h.p. Sunbeam, late model; cheap, spot cash.—Scott, 32, Furnival St., Holborn. [8727

SUNBEAM 3½h.p., 1920, well equipped, perfect, 400 miles; £160.—173, Spring Bank, Hull. [9095

1919 3½h.p. Sunbeam, must dispose of this week; 100 gns.—Tippett, Arlington Rd., Surbiton. [8847

SUNBEAM 1920 Sporting Model, indistinguishable from new; offers.—25, Ormiston Rd., Shepherd's Bush. [8692

1920 (June) Sports Sunbeam, lamps, horn, condition as new; £165.—67, Queen's Park Rd., Brighton. [8185

3½h.p. Sunbeam Combination; all-chain, 3-speed, kick start, splendid order; £105, or nearest.—Slade, Penn, Bucks. [7840

3½h.p. Sunbeam, new August, 1920, under 800 miles, accessories; £135.—Bignell, Sharples Park, Astley Bridge, Bolton. [8218

SUNBEAM 1918 3½h.p., perfect appearance and mechanical condition; £120.—Lowath, 6, Mount Pleasant Rd., Ealing. [8599

1920 Sunbeam Combination, 3½h.p., ridden 100 miles; £200, or near offer; must sell.—Birkbeck, Hagley, Worcestershire. [7356

2¾h.p. Sunbeam, 2-speed, K.S., in good condition, but plating spoilt by storage; £60.—Stanley, 1, Milton Rd., Cambridge. [8602

SUNBEAM 1917 3½h.p., kick-starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; £110.—C. Barton, Clapham, Yorks. [0246

SUNBEAM (July, 1920) 3½h.p., perfect, with new Millford 4-point connection chassis; £175, or near offer.—Langman, 14, Hoghton St., Southport. [8740

1919 Sunbeam 3½h.p., Bosch mag.; Cowey, horn, Cowey speedometer, Lucas lamps, perfect condition; £145.—Buffley, Lowton, Newton-le-Willows. [6481

1919 (Aug.) 3½h.p. Sunbeam Combination, as new. Cowey speedometer, Klaxon, lamps, tools, will ride 50 miles; £160.—Bridle, Boot Manufacturer, Hove. [8052

1916 3½h.p. Sunbeam, finished service green, Lucas lamps, speedometer, horn, knee-grips, good condition; £125.—Curtis, 11, Portway, Warminster. [8630

AUGUST, 1919, 3½h.p. Sunbeam and Mills-Fulford sidecar, electric side and tail lamps, carefully used; £150.—Brown, Manor House, Sedgley, Staffs. [3564

SUNBEAM, brand new 3½h.p., solo model, with Lucas lamps and horn; £170.—The Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9004

1920 Sunbeam 3½h.p., brand new, semi-T.T. bars, footboards and leg shields; owner bought car; list price, or best offer over.—Capt. Clark, Aerodrome, Upavon. [7905

1920 Sunbeam, Henderson combination, 3½h.p., for sale, Lucas lamps and horn, various spares.—H. C. Hands, Regent Palace Hotel, Piccadilly Circus, London. [8003

SUNBEAM 1919 (Aug.) 8h.p. Combination, screen, Tan-Sad, spare wheel, apron, spring luggage grid, lamps and horn, complete; £200.—Beardsell, Mirfield, Yorkshire. [8771

SUNBEAM Combination, 3½h.p., 1916, Cameo wind screen, luggage grid, tools, excellent condition; any trial; £125.—Birch, 43, Richmond Hill, Langley, Birmingham. [X1337

WAUCHOPE'S, 9, Shoe Lane, London.—1919 8h.p. Sunbeam combination, hood, screen, lamps, speedometer, mirror, warning signal, tools, condition like new; 200 gns. [7742

SUNBEAM Sporting 1919 3½h.p., fully equipped, spares, Henderson sidecar, overhauled by makers, perfect; £135, or offer.—Kelway, Brooklands, Langport, Somerset. [7918

SUNBEAM Combination, 8h.p., spare wheel, 3-fold wind screen, little used, condition as new; £210; exchange for new light car.—Jackson, Draper, Thornaby-on-Tees. [8069

SUNBEAM 1919 8h.p. Black and Gold Combination, unscratched, condition new throughout. Easting, lamps, Klaxon; £200.—10, Clonmel Rd., Teddington (Fulwell Station). [8855

1920 3½h.p. Sunbeam Combination, just delivered (Sept.), Easting screen, Stewart mechanical horn; offers; no reasonable offer refused.—Evans, 8, Promenade, Cheltenham. [8488

MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM Late 1916 Combination, genuine Sunbeam sidecar, Lucas lamps, speedometer, horn, tyres as new, first-class condition throughout; £140.—Rose's Garage, Uxbridge. [9006

1917 3½h.p. Sunbeam Combination, genuine Sunbeam sidecar, splendid appearance and mechanical condition, electric lamps; £140.—Kays, 8, Bond St., Ealing, W.5. 'Phone: 1827. [7125

SUNBEAM 3½h.p., 1919, new February last, perfect condition, with Sunbeam sidecar, wind screen, lamps; any trial; what offers? Plymouth district.—Box 7,827, c/o *The Motor Cycle*. [8085

1920 Model 8h.p. Sunbeam Combination, Lucas dynamo lighting, electric horn, speedometer, detachable wheels and 1 spare, luggage grid; £225.—Armstrong, 92, Gloucester Rd., S.W.7. [8306

1920 3½h.p. Sporting Sunbeam, purchased 6 weeks ago, over £20 worth of accessories and extras, is exceptionally fast, and fully guaranteed; photo; offers.—Box 8,751, c/o *The Motor Cycle*. [8922

1920 3½h.p. Sunbeam and Mills-Fulford Sidecar, Lucas best lamps, Cowey horn, Easting wind screen, carefully used 2 months; £190.—Capt. Freeman, Thorpewood, Branksome Av., Bournemouth. [7788

1920 8h.p. Sunbeam Combination, mileage 2,000, perfect condition, electric lights, Cowey trip speedometer, Easting, horn, tools, pump; best offer over £200.—Evans, 211, High St., Lincoln. [8904

1920 3½h.p. Sunbeam Combination, practically new, not done 1,000 miles, P. and H. lamps, Klaxon, luggage grid, and complete set of tools; £210.—Murray, Fort Belvedere, Sunningdale, Berks. [8808

8h.p. Sunbeam Late 1916 Combination, just overhauled, replated and enamelled, all accessories, spare wheel, perfect condition; any trial; £190, or very near offer.—E. J. Gill, 83, Grove Rd., Holloway, N. [8032

SUNBEAM 8h.p. Combination, mileage 1,000, hood, screen, Klaxon, speedometer, Tan-Sad, P. and H. lamps, new condition, spares; would cost to-day new £262, accept £220.—Fletcher, Warborough, Wallingford. [8164

1916 Sunbeam Combination, 3½h.p., black and gold, tyres, paintwork, running excellent, splendid lighting, horn, speedometer, grips, apron, tools, spares, etc., insurance June; £145, offers. Tel.: Sydenham 1778.—43, Crystal Palace Park Rd., S.E.26. [8034

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay (late Sunbeamland).—The Molineaux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

1919 4h.p. Black-gold Sunbeam Combination, 3 acetylene, 3 electric lamps, usual accessories, insurance, Dunlops, discs, spare bulbs, rings, plugs, etc., recent overhaul; reasonable offer wanted.—Taylor, 65, Altenburg Gardens, Clapham Common, S.W. [5503

SUNBEAM 8h.p., mag., detachable interchangeable wheels, large double-seated coachbuilt sidecar, hood, screen, etc., Lucas lamps, etc., speedometer, black and gold finish throughout, luxurious outfit, 700×80 Palmers; £198.—56, Culverden Park Rd., Tunbridge Wells. [8492

H. C. HUMPHRY, 7 and 8, Chapel Mews, Gt. Portland St., London.—Nearly new 1919 3½h.p. Sunbeam combination, well equipped, speedometer, etc.; will accept other good motor cycle part exchange, or will give Sunbeam and cash for good landaulet or coupe car. Callers please note, Chapel Mews is situated between Philharmonic Hall and Portland Hotel. [X1086

SUNBEAM, 3½h.p., 1916 model, thoroughly overhauled, engine overhauled at makers and fitted new where necessary, including roller bearings, gudgeon and ring, new Amac fitted, 2 Lucas lamps and generators complete, horn, tools, etc., will stand expert examination, any trial allowed, sole reason for selling, large Sunbeam combination, fullest particulars on application, deposit system; £125.—Percy Hart, Browlley, Wylam, Northumberland. [8629

Triumph.

TRIUMPH T.T., 1920, as new; £105.—Caeco, 21, Hobson St., Cambridge. [8915

£78.—Triumph 1918 countershaft, excellent condition.—272, Green St., Forest Gate [8236

TRIUMPH, Junior, brand new; list price.—Sharp, Manor House, Moreton-in-Marsh. [8631

TRIUMPH, brand new, Type H, in stock; list price.—Brook Bros., Burnham-on-Sea. [7554

2¼h.p. Baby Triumph 2-stroke, 1914; £55.—Wardleworth, 9, Shoe Lane, London. [7749

1916 Triumph, Runco sidecar, fully equipped; £110.—Tacey, Broadstone, Ockley, Surrey. [8603

2¼h.p. Baby Triumph; £55.—North Wales Motor Exchange, Wrexham. 'Phone: 283. [X1282a

1914 Triumph, dropped frame, new condition; £47.—Taylor, 56, Sternhale Rd., W.14. [8174

TRIUMPH 2¼h.p., real good order; bargain, £35; exchange.—Bunting's Motors, Weald-stone. [8994

TRIUMPH 4h.p., W.D., overhauled, new lamps, etc.; £95.—198, Gt. Portland St., W.1. [8526

1918 Triumph and Sidecar; £125, or separate.—Beech House, Birmington, Stockport. [X1279

B. & B.

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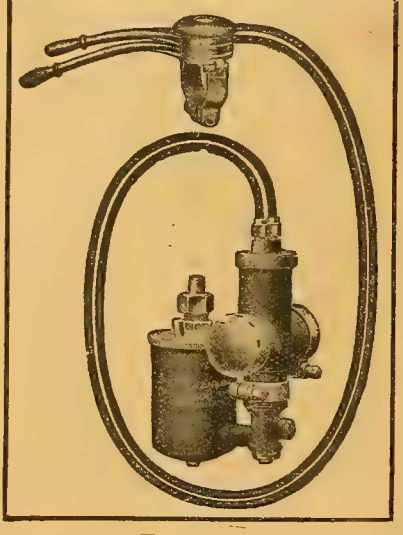
They get the best results from your engine.



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Two-stroke.

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Telegrams: Carburet, Birmingham.
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MOTOR CYCLES FOR SALE.

Triumph.

1915 Clutch Triumph and Nice C.B. Sidecar, perfect; £75.—Derby Arms, Mortlake. [7760

4h.p. Countershaft Triumph, 52403, like new; £85.—13, Pindock Mews, Warwick Av., W. [8244

BABY Triumph, probably 1916, splendid condition; 50 gns.—O'Boyle, 53, Lytham Rd., Preston. [8056

1920 T.T. 4½h.p. Triumph, as new, can't store; £85.—Langley, Tuesday Market, King's Lynn. [8061

1916 Countershaft Triumph and C.B. Sidecar, nice order; £95.—Derby Arms, Mortlake. [7761

1916 Countershaft Triumph, splendid condition; £80.—214, Whitehorse Lane, South Norwood, S.E.25. [8054

TRIUMPH 1919 4h.p., lamps, horn, etc., unscratched; £105.—198, Gt. Portland St., W.1. [8534

TRIUMPH, Model H, C.S., just delivered; list price, or offer.—299, Shirland Rd., Paddington, W.9. [8301

1920 4h.p. T.T. Triumph Solo, new; £115.—Wright's Garage, Saffron Walden. Tel.: 16. [9013

TRIUMPH-GLORIA Combination, just delivered; offers over £180.—Drinkall, Castle St., Carlisle. [8741

TRIUMPH, T.T., brand new, unridden;—no reasonable offer refused.—384, Stretford Rd., Manchester. [8173

TRIUMPH, 1918, countershaft, and new sidecar, fully equipped; £115.—Owen, 59, Scholefield Rd., Holloway. [X1303

1920 T.T. Triumph, done 300, fully equipped, cost £115; sacrifice, £100.—Reynolds, Waterbeach, Cambs. [9024

4h.p. Triumph, 3-speed, clutch, lamps, etc.; £38, or exchange for 2-stroke.—64, Church St., Edgware Rd., W. [9065

1920 Triumph, mileage 400, perfect condition, fully equipped; £125.—Hacker, 25, High St., Maidenhead. [8493

1914 Triumph 4h.p., coachbuilt sidecar; open, to expert examination; £75.—Bevan, Stepney St., Llanelly. [8065

TRIUMPH, complete with lamps, mechanical horn, tools, ready for road; £28/10.—27, Sidmouth St., Devizes. [8870

TRIUMPH, Grindlay combination, all on, £140; no dealers.—Oakford, Jordan Well Chambers, Coventry. [X1383

£79.—1914½ 4h.p. 3-speed Triumph, Millford sidecar, whole outfit like new.—8, Carrington Rd., Liscard, Cheshire. [8258

1919 Triumph and Sidecar, good condition, accessories, insurance; £125.—Dr. Sellers, Thornhill, Dewsbury. [8677

1920 4h.p. Triumph, countershaft, just delivered, not run; £130, or nearest.—29, Springdale Av., Huddersfield. [7860

1920 Junior Triumph, in new condition, only done 500 miles; £70.—H. Clayton, Crown Point, Denton, Lancs. [X1092

TRIUMPH, 1918, 3-speed, K.S., coach S.C.; sacrifice if sold before 22nd; what offers?—78, Church Rd., Willesden. [8474

1919 Countershaft Triumph, low mileage, all accessories; £100.—Reeve, Coopers Lane, Potters Bar. [8802

TRIUMPH, clutch model, 1913, new cyl. 1919, good condition; any inspection.—47, Shakespeare Rd., Gillingham, Kent. [8676

1919 4h.p. Triumph, countershaft, 3-speed, lamps, horn, speedometer; £105.—Drew, Margery Wood, Reigate. [8696

TRIUMPH 1920 4h.p., best accessories, mileage under 200; £123; seen London.—Box 602, c/o *The Motor Cycle*. [8363

1920 4h.p. Triumph, Model H; list price £127/10.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [8884

TRIUMPH 1920 4h.p. Model H, as received from makers, not registered; offers.—Willis, Bapsey, Taplow, Bucks. (D) [8700

TRIUMPH, countershaft, 3-speed, etc., lamps, horn; 70 gns., lightweight part.—Newnham, 223, Hammersmith Rd., W.6. [8619

LATE Countershaft Triumph Combination, everything as new, fully equipped; £115.—20, Valnay St., Tooting, S.W. [8591

TRIUMPH (Baby), brand new, never ridden; £70 lowest, no offers.—Oliver, Cambridge Place, Burrage Rd., S.E.18. [8182

1913 Clutch Triumph and Featherweight Sidecar, lamps, horn, and tools; any trial; £48.—322, Rice Lane, Liverpool. [8828

TRIUMPH 1920 Motor Cycles at makers' prices, all models, immediate delivery.—Wilkins, Simpson opposite Olympia, London. [8047

T.T. Triumph 3½h.p., clutch model, Bosch, splendid condition, tyres, etc., nearly new; £42, offers.—65 Church Rd., Hendon, N.W. [8468

THE MOTOR CYCLE
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Lower Prices Not in Sight.

MISCHIEVOUS rumours are afloat at the present time. These rumours, which concern the financial position of the motor and motor cycle trade, are generally spread and started by irresponsible and ill-informed persons, and are calculated to do considerable harm to a large and growing industry. It becomes necessary that some kind of denial should be published.

It is true that certain firms have gone into liquidation, some only for the purpose of reconstruction. It is true also that the artificial conditions prevailing immediately after the Armistice no longer exist, and consequently a certain number of insecure and "mushroom" firms are bound to be hit. This was only to be expected on the return of more normal conditions, as any clear-sighted business man could see for himself.

Premiums are no longer demanded or paid, but there is still a steady demand for motor cycles, both at home and abroad. Undoubtedly the public are becoming more discriminating, with the consequence that the weaklings must suffer and the fittest will survive. In the end this will be good for both the industry and the rider provided that sound mechanical innovations are not knocked out for reasons connected with finance.

The rising cost of labour and material is beginning to cause the obvious reaction, and the public will no longer pay top prices for anything but the best. In spite of this there is no occasion for deliberate exaggeration.

Only last week we considered it necessary to touch upon this subject, and our recapitulation of the general position is in the nature of a warning to our readers not to acquire a distorted vision of the true facts. Those who may as a result of the rumours expect a fall in prices of new machines of the best make will unquestionably be disappointed; the cost of labour to-day simply will not permit of any decided reduction of prices.

Prospects in 1921.

THERE are symptoms of a very welcome tendency towards specialisation in the motor cycle industry. Riders of medium powered solo machines will be glad to hear that several leading firms have their requirements in mind, and the light 500 c.c. machine will once more have a prominent place on the motor cycle market.

Popular demand ensures a good market for the medium powered dual purpose mount, and this is receiving as much attention as ever at the hands of manufacturers, but the heavy sidecar outfit shows signs of developing on the lines of the permanent three-wheeler rather than as two separable units. This is as it should be, and should lead to the production of a stronger, lighter, and more comfortable machine.

The genuine lightweight is in the course of development, and thoroughly protected hoseable motor cycles are on the stocks in more than one factory of world-wide reputation. There is room for all types, and specialisation will do more to improve the breed than all the compromises of the past.

No machine can be perfect from the standpoint of both the solo rider and the sidecarist, and though there will always be a demand for a type of machine which is capable of either work, there can be no suggestion of finality in design until the true solo mount and the light economical passenger machine have received the undivided attention of their designers and manufacturers. Weight is an important factor in economy, and just as many solo machines are handicapped by being built heavy enough for sidecar work, so the weight of the passenger mount is increased by the addition of heavy and unmechanical couplings and by being tied to a design which is more or less suitable for solo purposes.

We heartily welcome these signs of specialisation, and we are led to consider that the prospects of the industry are considerably improved thereby.

An index to the advertisements in this issue will be found on the page facing the back cover.

Oilsheet for Cylinder Washers.

THE various correspondents who are excited about cylinder washers will find that a few pennyworth of oilsheet and a sharp penknife are the goods for the job. I merely entered into the fray because somebody denounced ordinary paper, which is a very handy makeshift in the absence of proper materials. Oilsheet cuts true to line, does not tear, and is proof against disintegration.

Profiteering in Plugs.

I HAVE recently received several complaints about manufacturers' charges for spares. I cannot enter into any discussion of the prices asked for parts which are actually made in the factory; nobody outside the firm's own costing staff can definitely say what figures are justifiable for such items. But the case is very different when a manufacturer buys at wholesale price an accessory made by another firm and passes it on to his customers at retail price, plus a large surcharge. Here is a particularly noxious example taken from a receipted invoice sent to me by a reader.

	£	s.	d.
Two X—— sparking plugs, 7s. 6d. ...	0	15	0
Plus 20%	0	3	0
	0	18	0

This is incredibly stupid and wicked. The transaction shows a profit to the motor cycle manufacturer of nearly 100%, and is calculated to disgust all his customers. If his engine is only suited by a special seven-and-sixpenny plug, it is high time he redesigned it to use ordinary plugs, whilst words fail me as to the iniquity of that unblushing "+20%," considering that he has previously taken a profit of perhaps 2s. 6d. on brief handling a 7s. 6d. article weighing about 4 oz. and demanding a mere three inches of store room.

Motor Cyclists or Chamois?

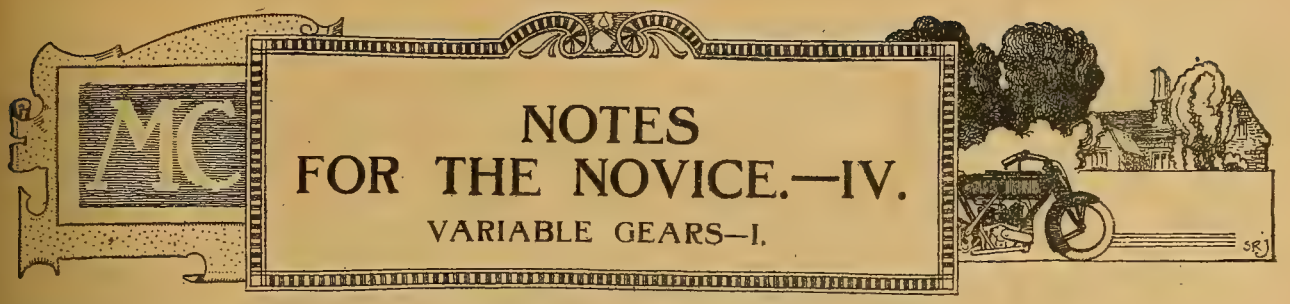
I LIKE H. M. Batten's epigram that only an antelope in its prime could hope to cover an A.C.U. course gracefully. What betrays most of us into making asses of ourselves on freak hills is sheer want of practice. The experts who say you *must* keep your feet on the rests are quite right. But when you have not struck anything rougher than Sunrising for the last twelve months, the mere sight of a climb like Park Rash puts the wind up you. Then you mismanage your throttle. Possibly you think you won't have much in hand; you bang over your throttle; your back wheel begins to caracole like an aeroplane on a bumpy morning; and out go your feet from sheer terror. Alternatively, you decide to be very slow and cautious like the Blackpool express at wakes time. The speed isn't high enough for good steering way, and out go your feet for quite a different reason.

Bravo the Little 'Uns.

WE shall have to revise our judgment of the baby motor cycles, when eighteen machines under 350 c.c. can finish such a test as the 1920 Six Days, fifteen of them earning their golds, and eight of those fifteen coming inside the 275 c.c. limit. Above all, the Velocette trio seriously threatened to rob all the big fellows of the trade team prize, and, in spite of the frightful hills, finished no more than twenty-three marks behind the incomparable Scott, and seven marks astern of the trusty Triumphs. Of course, it by no means follows that these placings represent the comparative appeals which divers types of touring 'bus make to the average buyer.

Local Service.

NOT long ago a single issue of this paper chanced to contain two letters from riders resident at considerable distances from the factory towns, each of whom had paid some £3 in railway freights, quite apart from the expense of repairs and temporary deprivation of his machine. Railway charges are now so high that this aspect of the matter has become serious. Moreover, an uncrated machine seldom arrives undamaged. I have twice sent machines by rail this year. One of them arrived with a dented tank and a broken stand; the other with its lamps out of commission and its kick-starter useless. Such mishaps may easily imply a fresh visit to the factory, whilst a private individual is never sure of success in his claims against a big corporation. I know one or two firms who have not yet begun to dream of *local* service. Businesslike organisation *at the factory* is as far as they have got. But as soon as a concern has, say, 1,000 customers in a single county, it becomes worth its while to organise a depot in that county.



NOTES FOR THE NOVICE.—IV.

VARIABLE GEARS—I.

THE first word of advice that I should like to give to the young rider respecting his gear box is that he should make full use of it. We hear much about one machine or another being able to climb a certain hill on "top." If the hill in question is really a steep hill and the machine is provided with a three or four speed gear this simply means that the top gear is unnecessarily low, and speed under more favourable circumstances must be sacrificed. Ten pounds or so of extra weight would not be added to a machine just for fun. If a fast climb is required this can, more likely than not, be attained on a lower gear. Climbing "on top" has no particular merit. What is wanted is that a machine should be able to climb any hill without the engine labouring, and fast or slowly, as required, and this is the aim and object of fitting a gear box. Whether he is out for speed or pleasure the novice will be well advised not to hang on to top gear too long. These remarks apply more particularly to those motor cycles which are fitted with three speeds.

When a machine has but two gears, especially when the lower gear has twice the ratio of the higher, *e.g.*, 6 and 12 to 1, it is desirable that more climbing should be done "on top," which should in consequence be a little lower than when more ratios are provided. It is understood that the first speed is the lowest, and so on, the third or fourth being the top, according to whether three or four speeds are provided. Nearly all single speed machines, if not all at present on the market, are driven by a belt; it is therefore possible and desirable that an adjustable pulley should be fitted. The gear can then be lowered for use in hilly country, and this will be found to be a great advantage.

The Position of the Gear Box.

There are three positions in which it is possible to place the gear box: (1) on the engine shaft or an extension of it, (2) on the countershaft, and (3) in the hub. Beyond this some variable belt drives are operated at more than one place—for instance, on the engine shaft and at the rear wheel at the same time.

The advantage of a gear on the engine shaft is that as it runs at high speed the parts can be made lighter than when a reduction in speed takes place before the gear is reached. The disadvantage is that, in the usual motor cycle layout, it means much overhanging weight and wear on the engine bearings as well as an awkward appearance. Moreover, it is difficult to interpose a clutch between the engine and an engine shaft gear on a motor cycle.

I know of no advantage possessed by the hub gear except that when used with belt drive it enables the belt speed to be maintained when a change down is made, and therefore by dropping the road speed strain can be taken off the belt and belt slip prevented to a large extent in wet and snowy weather. It is therefore not surprising that the hub gear is no longer made, for it did not prove altogether reliable, though it often gave good service in careful hands; it was not oil-retaining and it required constant attention, and frequent lubrication with the oil recommended by the makers; an unsuitable oil caused clutch slip and possibly other troubles.

By a process of elimination we find that the countershaft position has become almost universal in motor cycle practice with a reduction in gear carried out through the transmission both between the engine and gear box and between the latter and the rear wheel. Thus when running on top gear the engine is turning over at from two to three times the speed of the gear-shaft, which must therefore be capable of withstanding a torque from two to three times greater than that produced by the engine at the moment of its greatest thrust, and thus will depend rather upon the capacity of a single cylinder than upon the whole cubic capacity of the engine. For instance an 8 h.p. twin will not need a heavier gear box than a 4 h.p. single, the capacity of which equals that of one cylinder of the twin, provided that the ratios from the engine to the gear box are equal in each case: for the impulses will be approximately equal in themselves, though in the twin-cylinder engine they will be repeated with greater frequency and thus produce a greater horse power.

Types of Gear Box.

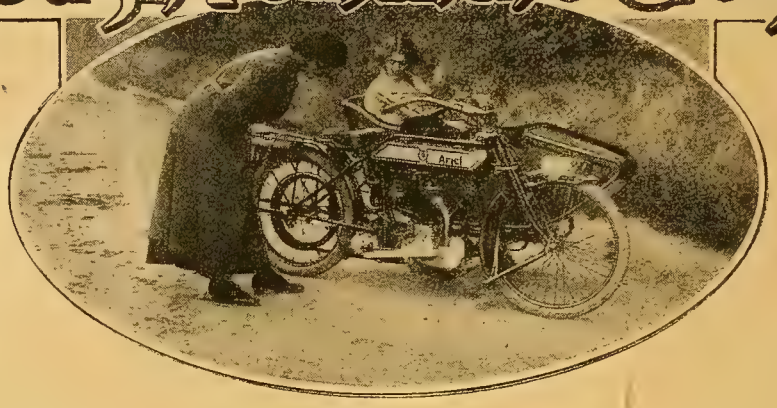
Over and above the number of the gears there are several different types of gear box. Most of the gears at present in use are of the sliding type which drive from a main shaft to a lay shaft and back again. In some the gears themselves slide in and out of mesh, in others the gears are always in mesh, and the required pinions are engaged to the shaft by means of sliding dog clutches. When the gear pinions are always in mesh the teeth are less likely to be damaged by careless gear changing, but on the other hand there must be a certain amount of added friction when several pairs of pinions are running idly in mesh, though not much, as well as some additional noise. Moreover, as the number of gears increases, so also does the difficulty of keeping all the pinions in mesh without taking from the simplicity of the gear box. Thus it is usual to find a two-speed gear box with its gears always in mesh, while a three-speed gear often has its low gear in constant mesh, and the middle gear engaged by sliding the teeth of the pinions into position, though all three pairs of pinions may be and often are in constant mesh, in which case the two middle pinions slide together and a third dog clutch is provided.

J.H.W.

(The next instalment will also deal with Variable Gears.)

Through Feminine Goggles

With a Two-stroke on the Kentish Roads.



A Tale of a Sparking Plug and the Sequel.

By Dorothy M. Comber.

"EVERYBODY according to his taste," but give me a two-stroke motor cycle.

I was one of the first girls to ride one, and the consternation caused in the little Kentish village when I was seen astride a 2¼ h.p. Levis still lives in my memory. Many, and joyous, were the week-ends spent in its company.

How I recollect Old Man Sol peeping in at my bedroom window very early on a summer's morning—the hurried breakfast in my eagerness to be on the move, and the pardonable pride with which I looked at my little two-stroke—a perfect picture, reflecting the sun's rays from a hundred glistening points—amply repaying the labour spent in polishing and general furbishment. With a slight push forward the little engine pulses into life, and we are off. This time I choose Folkestone for my objective—the road then being in splendid condition and with beautiful scenery all along.

At the early hour of 6 a.m. there are comparatively few people on the road, and one can take advantage of a good mile or two to "let her out."

An enchanting highway, this, bounded on either side by well trimmed hedges, and beyond these again fields of lush green grass, dotted here and there with cows and sheep leisurely grazing, and in the background misty purple hills, outlined against the blue sky.

An Early Morning Race.

Coming to a quaint old bridge, spanning the swiftly flowing river, the beauty of the scene compels me to stop, and as I gaze into the liquid depths, clear as crystal, I can almost count the stones and discern without effort fish darting in and out of waving weeds.

Although loth to leave such an enticing spot, the purring of a motor cycle in the distance awakens the speed demon (always more or less dormant in motorists) and soon I am whizzing along the shady road. Nothing is in sight, and the steady beat of the machine behind is gaining on me bit by bit. This will never do! I open out the throttle and give a little more air. The two-stroke seems like a bird, and for three miles I keep well ahead. Breasting a long incline I was still going strong, and arriving at the top slowed down preparatory to taking a rest.

Here the scenery was absolutely enchanting; and I felt I should like to make a record of its beauty, so taking out my pad I made a hasty pencil sketch of the little village, nestling in the hollow, which was visible through a break in the trees. Then there were the little river unrolling itself like a silver ribbon and the picturesque old church—with its spire cutting the sky like an upraised sword.

The Comradeship of the Road.

I became suddenly conscious that the throb of the other machine had changed in tone and had become intermittent, when it became clear to me that something was wrong, and in a short while the reason for this became apparent, for, glancing down the hill, I saw at once that the machine was labouring. When the rider at last arrived at the spot where I was seated—he pulled up. My new companion, without any preliminary introduction, remarked, with a somewhat sorry smile, that one of his last two remaining sparking plugs had given out, and he had managed to hobble along on one cylinder. Fortunately, I had two spares, and immediately offered him one. He demurred, and we had some little altercation as to whether he should or should not take advantage of my offer, but I finally induced him to do so, and in a very short time we were riding side by side at top speed. His machine was a three-speed Douglas, and my little Levis seemed diminutive beside it. Nevertheless, I found no difficulty in keeping pace with him, and, though at times he forged well ahead on the level, I held my own on even stiff gradients.

Mid-day saw us on the outskirts of Folkestone, after a truly joyous run of about thirty miles; and at my new comrade's suggestion we lunched together—spent about three hours by the sea and started for home about five o'clock. We had replenished both motors with oil and petrol, and cleaned and trimmed our lamps—at that time my machine was not equipped with electric lighting, but I have since found that this is no great advantage, as acetylene, in my opinion, despite its drawbacks, is much more reliable.

We started off in fine style, thoroughly invigorated by the sea air, rest, and refreshment, and made good time to Maidstone, arriving well under two hours.

Through Feminine Goggles.—

Shortly after leaving the town we came upon two fellow travellers who were evidently in difficulties. In accordance with the unwritten law of the road, which every genuine motorist instinctively observes, we pulled up to enquire the cause of the trouble. It transpired that one of their machines had, for some mysterious reason, "conked out," and neither of the riders was too well versed in the intricacies of its mechanism. They had tried many and various expedients without success.

My companion proffered his assistance, and the three men together made an exhaustive overhaul of the machine. I was sitting on the bank watching them, and the memory of a past difficulty with a carburetter coming into my mind prompted me to suggest that it might be worth while to examine the petrol strainer gauze. Acting upon the suggestion, the connecting pipe was uncoupled, and sure enough the trouble was revealed—the strainer absolutely choked with dirt from the use of second-grade petrol.

They were profoundly grateful to me for the hint, and I caught a remark passed between them in an undertone that I was a "real brick," and they were exceedingly astonished to discover that a mere girl could possibly know more about a machine than they themselves. On the strength of this incident they attached themselves to us, and I found myself with quite an imposing bodyguard. The delay caused by this little episode made us much later in getting along than I had reckoned on, and the moon was just creeping up behind a bank of dark firs.

In the Calm of the Evening.

The air was soft and balmy, still retaining the warmth of the day. The odour of the pine woods wafted across to us its invigorating breath. We heard the nightingale's sorrow-laden song, as it echoed and re-echoed amongst the trees. More than once a little furry animal, startled from its hiding place, skurried across the road, in mortal fear of the strange monsters rushing by, doubtless intent on its destruction. In due course the outposts of my village came in sight, and our two companions left us at the cross-road, as they were going on in the direction of London. My faithful knight insisted upon seeing me safely upon the threshold of my home, notwithstanding that his road lay with the other two; but in answer to my expostulation he remarked that, his being the more powerful machine, he would soon catch them up. I bade him good night and stood watching him as he mounted and rode away. As he waved a last farewell I noticed a peculiar movement of his hand, and a moment afterwards something dropped at my feet, but he was out of sight before I could stoop to see what it was.

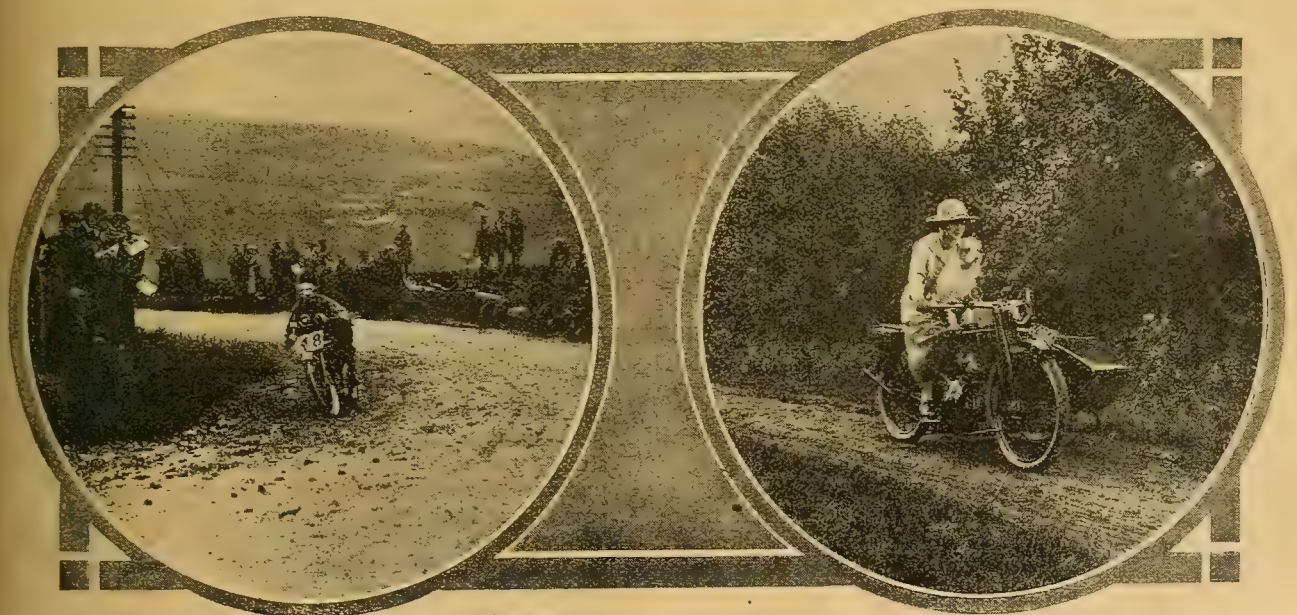
Possibilities of the Lightweight.

When I looked down I discovered a small parcel securely wrapped in brown paper, and the feel of it immediately told me that my friend of the road had repaid my loan with interest by leaving with me two Lodge plugs. I suppose he knew I should not wish to accept them, and so had prevented any argument by settling the matter in this way.

To those who are considering the advisability of riding a two-stroke, I would say nothing can be better than a simple light-weight. If kept in good trim even the worst hills can be surmounted, and a long run can be faced without fear. Many a delightful day's run and week-end adventure will be within their grasp.

I always did minor repairs myself, and do not remember being let down on a single occasion through breakdown. Of course, I have suffered from the usual mishaps such as punctures, empty oil and petrol tanks, defective sparking plugs, and so on—such things will occur—but I feel sure, as in my own case, help will be forthcoming from a fellow-traveller.

Possibly the unconventionality of my experiences may strike some readers. To my mind that is one of the chief charms of motor cycling, and I have ever received timely help and assistance from the owner of the Rolls-Royce down to the humble pedal cyclist.



Even the strenuous pastime of trials riding attracts some lady motor cyclists, who find a greater fascination in arduous hill-climbing and riding to scheduled time than in the more sedate and matter-of-fact touring.

A TOUR *in the* HIGHLANDS

Bridge of Orchy with Ben Douran in the distance. Farmers' carts are infrequently met on these lonely roads, and, as the horses are almost always shy, it is advisable to stop until they pass.

PART II.—Describing the Homeward Journey from Perth to the Midlands.

BACK to the comparative civilisation of Tyndrum and Crianlarich I struck frightful pot-holes, which are much worse than genuinely rough country roads, and then proceeded *via* Killin and Loch Tay (which seemed very dull after the scenery of the previous days) to Kenmore. Having by now come to look upon Scottish hills as much over-rated I essayed the famous climb on the run with insufficient water in the radiator, and steering with one hand while eating chocolate. My pride was quickly brought low, for on the second bend the wheel commenced to spin on the wet leaves which covered the ground. Restarting, I cut out on the next (left-hand) hairpin, fearing that the sidecar would lift on the projecting rocks. The engine refused to pick up, and starting again was not easy, but I just got going well when the first gate barred my way. Opening and closing it meant two restarts, and the radiator was now throwing out clouds of steam. A water-trough by the roadside, however, supplied the needful, and with a stop at the second gate I reached the summit in chastened spirit.

Down Amulree.

Dropping down Amulree cautiously I decided to make up lost time along the Sma' Glen, but the weather willed otherwise, and sheets of rain fell. The rough Perthshire roads became like rivers, and I gladly entered Perth to rid myself of my dripping clothing.

The next two days were taken quietly, the only run being a trip to St. Andrews, while on the following day the performances in the Scottish Trials were observed on Amulree for the benefit of the readers of *The Motor Cycle*.

Two days were now left for the run home to Coventry, but owing to the never-ending rain a start was not made until 11.30 in the morning. The first twenty miles provided plenty of incident. First the rear tyre punctured, then the chain (badly stretched and needing replacement) jumped off, and finally the carrier stays came unbrazed. Fortunately, however, the weather cleared and I kept on full throttle as far as possible, only slowing up over the wicked pot-holes of Stirling and Cumbernauld.

A Long Run.

Just near the border a loud rattling compelled me to stop, and I discovered that the vibrations of the loose carrier had caused the fork-end bolt to come adrift. Replacing this with a stand bolt I was on my way in ten minutes, and thanks to better weather made good time. I now decided to get to the Scott works in Yorkshire and have the carrier patched up, and so *via* Carlisle, Shap, Kendal, and Skipton I made for Leeds, where I arrived at 1.45 a.m., after fourteen hours continuous riding, all on top gear.

The repairs occupied so much of the next day that I decided to spend another night at Leeds, from which place the run to Coventry occupied some six hours.

So ended 1,200 miles eventful riding; petrol consumption, thanks to the delightfully controllable Cox Atmos carburetter, was 55 m.p.g., oil consumption was slightly under one gallon for the whole trip, while two punctures were experienced, and the driving wheel cover was exchanged for the one on the sidecar. Three sidecar shock-absorbing springs were replaced, but the main springing was intact, while the only real mechanical trouble experienced was the breaking of the carrier. Such a result over so many miles of wild country is not at all unsatisfactory—the amazing part is that the outfit suffered so little. WHARFEDALE.

In the Mountainous North.

(1) Reminiscent of Switzerland : Castle Urquhart, on Loch Ness, near Drumnadrochit.

(2) A dismal scene in pouring rain ; patiently awaiting the ferry boat to cross the narrow and swirling outlet of Loch Leven at Ballachulish.

(3) A wild scene, of tragic memories. Glencoe, more than any spot visited, enables one to realise the great height of the mountains.

(4) The Pass of Glendoe, looming high against the rain clouds over Loch Leven ; in the foreground are masses of *debris* from the Glencoe slate quarries

IMPROVING THE SIDECAR.

Details in Chassis and Body Construction of Some of the Latest Productions.

THAT the sidecar will survive all assaults from designers of three-wheeled runabouts produced in the future as a substitute is an opinion shared by thousands of our readers. The sidecar has a long start, and to-day it is the most popular vehicle on the road. Further, a great deal of attention is now being paid to design in both chassis and body construction. The two tracks of the sidecar, too, from an advantage over the three-track three-wheeler, and the chances are always in favour of the former being the more comfortable on bad roads.

Among the several new designs submitted recently, the all-steel construction of Bachelier sidecar chassis is perhaps the most interesting.

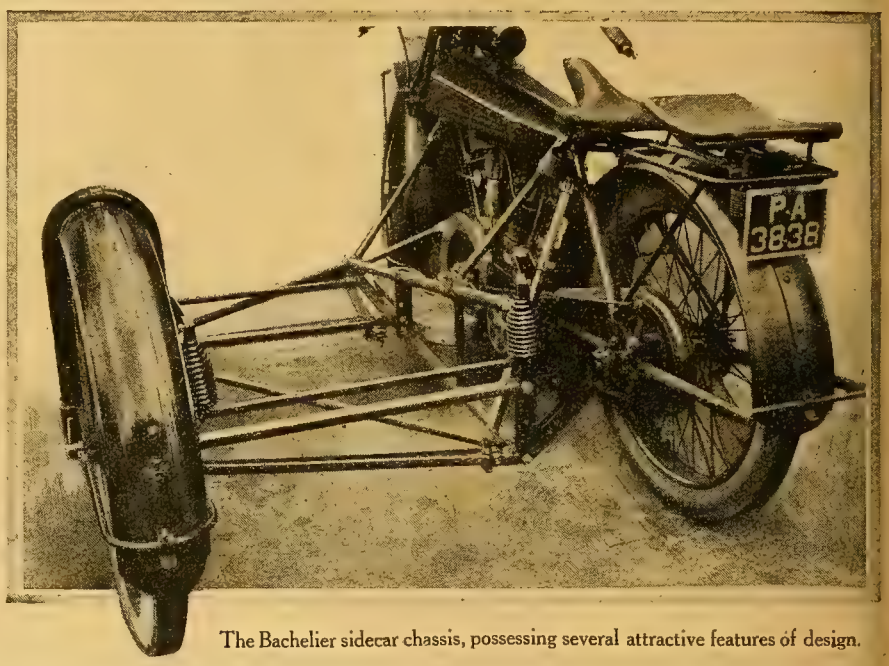
Steel tubes are used throughout, and an interesting feature in the construction is the use of two steel triangular plates held together by bolts, which, on one side, form a vertical support for the two off-side longitudinal members, whilst the adjacent angle of the plates is connected through a heavy steel attachment to the rear fork of the machine.

Five Points of Attachment.

A five-point attachment is provided, and the two front connecting tubes join the chassis at a point from which both the diagonal cross member and the two off side longitudinal members are held. These latter two are triangularly constructed. The usual saddle tube member is attached to the upper longitudinal member, and, as an additional precaution against a possible breakage, a steel tube, anchored to the lower of the two rear cross members, is fixed half-way down the saddle tube.

Another feature, incorporated to ensure maximum strength, is the one-piece tube which is fixed to the near side longitudinal member, and is bent to provide a cradle for the sidecar wheel, thence extending laterally beneath the body, forms one of the cross members. The bearers are suspended on two laminated springs at the front, and, at the rear, on two coil springs.

The total weight of the chassis is 85 lb., including the wheel, tyre, and mudguard, and it will shortly be marketed by Mr. L. G. Bachelier, 74, Arthur Road, Wimbledon Park, S.W.



The Bachelier sidecar chassis, possessing several attractive features of design.

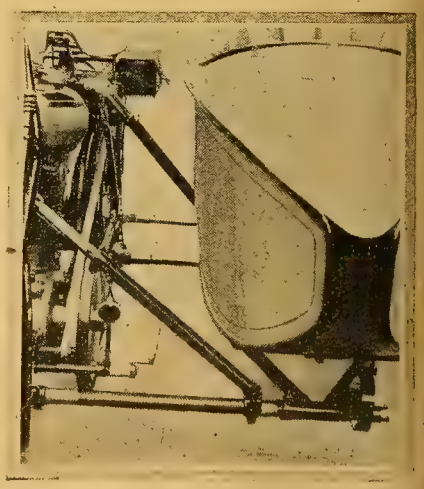
The Coulson Spring Wheel Sidecar.

Another interesting design is that of the new sidecar adopted by the makers of the Coulson-B motor cycle. A similar system of springing has been adopted for suspending the wheel as is to be found in the motor bicycle.

On an extension of the centre cross member of the sidecar frame there are rigidly attached the front ends of two quarter-elliptical springs arranged side-by-side. The free ends of these springs are attached to a link, the four members of which are solid, carrying the sidecar wheel spindle, which is free to move on an extension of the rear sidecar cross member, which, in the ordinary way, would be the sidecar axle.

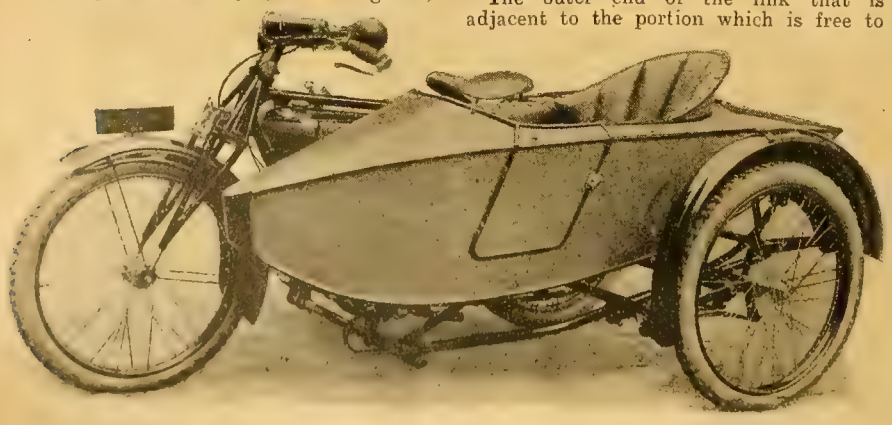
The outer end of the link that is adjacent to the portion which is free to move on the member referred to is provided with an adjustable disc, which allows any side play to be taken up.

The chassis is designed to be fixed to the 4 h.p. Coulson-B at five points—to the pivot bolt on the rear axle of the motor bicycle, to the saddle tube, to the near side spring lug which braces the motor bicycle frame sideways, to a special lug under the forward engine plate, and to the down tube of the motor cycle frame. All the connecting tubes are straight.



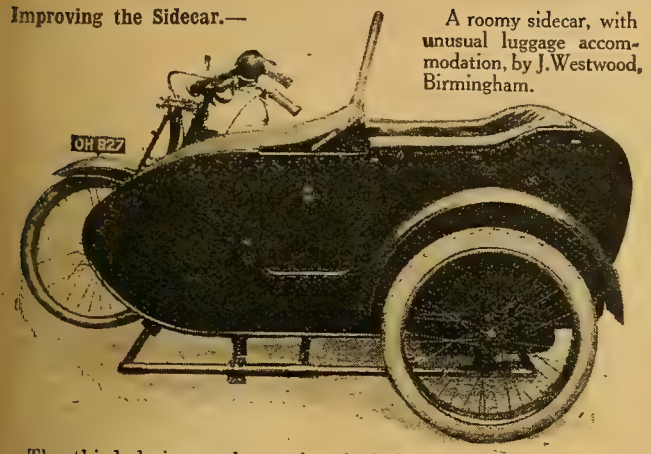
Observe the five straight tubes attaching the sidecar chassis to the motor cycle.

The body is comfortable, and is suspended on rather stiff quarter-elliptical springs. The idea of making these springs stiff is to ensure steady riding, the initial road vibrations being absorbed by the spring wheel.



Care has been shown in the design of the Coulson-B. body as well as in the chassis, and the whole sidecar from all points is decidedly attractive.

Improving the Sidecar.—

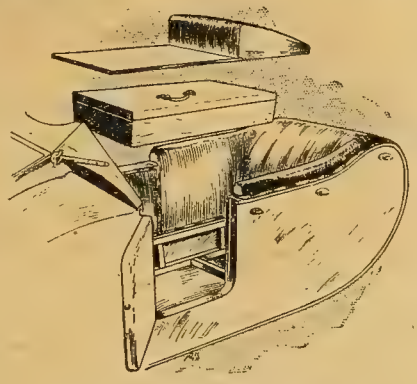


A roomy sidecar, with unusual luggage accommodation, by J. Westwood, Birmingham.

The third design under review includes innovations in both chassis and body design. This is the production of Mr. J. Westwood, 31, Swindon Road, Edgbaston, Birmingham, who has endeavoured to provide a roomy body, with special luggage accommodation, on a chassis which embodies a patented system of suspension. Coil springs are used to support the body, which is sufficiently large to include a large rear locker suitable for the carriage of two petrol tins and all that is required, and more, in the way of spares and tools.

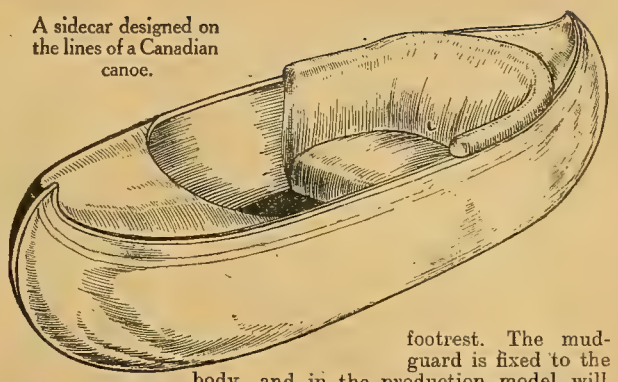
Specification includes a Suitcase.

A feature of the design is that beneath the floor boards there is a suitcase (made specially for the body) which is large enough for week-end requirements. In the nose of the body there is an adjustable footrest. The mudguard is fixed to the body, and in the production model will be exceptionally wide with deep valances. The upholstery is well carried out, and, what is most important in sidecar comfort, the back cushion well supports the back.



Showing how a case is carried beneath the floor of the Westwood sidecar.

A sidecar designed on the lines of a Canadian canoe.



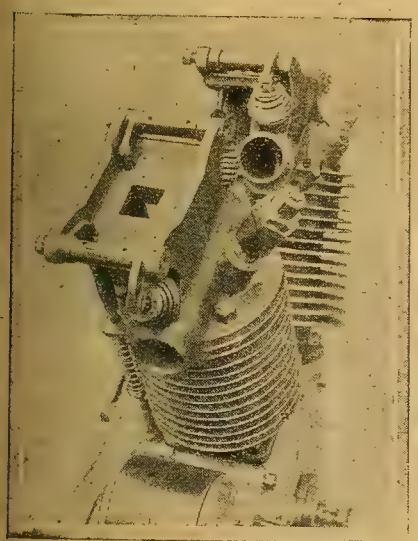
A Canoe Design.

The last illustration depicts the registered design for a sidecar body by Mr. Frank B. Bird, of 17, Burleigh Road, Loughborough. The general outlines of the Canadian canoe has been closely followed, and may be constructed of wood or metal. We understand that it is not the intention of the designer to market a sidecar of this design, but is open to consider the question of granting manufacturing licences.

Boat designs are not new: several have been made which are miniature boats, but this one certainly combines the beauties of water craft with that for the road.

ENGINES IN THE MOTOR CYCLE GRAND PRIX.

THE French Motor Cycle Grand Prix was a battle between the flat and the V twin engine, for undoubtedly the two fastest machines were the Douglas and the Alcyon, which latter ultimately proved itself the winner. It should be observed, however, that the English machine, ridden by Alexander, was put out of the race by trouble, quite independent of the engine, and but for the stripped gear the result might have been quite different.



A French racing design, the V twin 62 mm. by 82 mm. Alcyon, showing the peculiarly shaped detachable cylinder heads which support the overhead valve rockers.

A French V Twin.

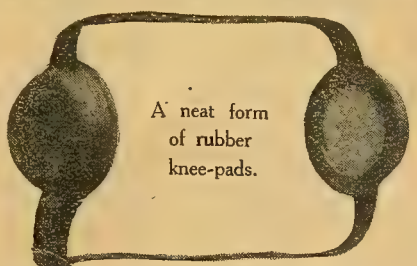
The winning Alcyon ridden by Joly is a V twin of 62 by 82 mm. bore and stroke, having a very interesting type of cylinder with separate head and two inclined valves. These latter are operated by two rocker arms, the shafts of which are received in an extension cast with the head, as shown in the illustration. An adjustable push rod with light coil spring is used to operate each rocker. An excellent form of combustion chamber is obtained with this design, and the plug, inclined between the two valves, is also well placed. The carburetter is bolted up as closely as possible between the two cylinders, with a separate induction pipe for each cylinder direct from the carburetter.

Both the twin and the smaller single cylinder Alcyons used all chain drive, a short chain being employed from the engine shaft to the change speed gear, and a second chain from this to the rear wheel. The French have always been clever engine designers, and the post-war products of France's motor cycle manufacturers show great promise.

PNEUMATIC KNEE GRIPS.

KNEE grips are regarded by the majority of motor cyclists as a sign of the speed man. For a solo rider they are almost a necessity. In addition, they serve to protect the enamel on the tank.

Various manufacturers have different ideas of what a knee grip should be, and riders are divided in their opinion as to which is the better—the soft kind or the hard. There are many kinds of both types, but the knee grip just introduced by the makers of John Bull tyres appears to be something new in this line, taking the form of a pneumatic grip, priced at 6s. 9d. per pair. Each grip consists of an outer shell of rubber enclosing air. A disc of rubber inside the shell prevents collapse under pressure from the knees, and a single strap secures both grips to the tank. A round dozen competitors in the T.T. used these grips in the Isle of Man.



A neat form of rubber knee-pads.

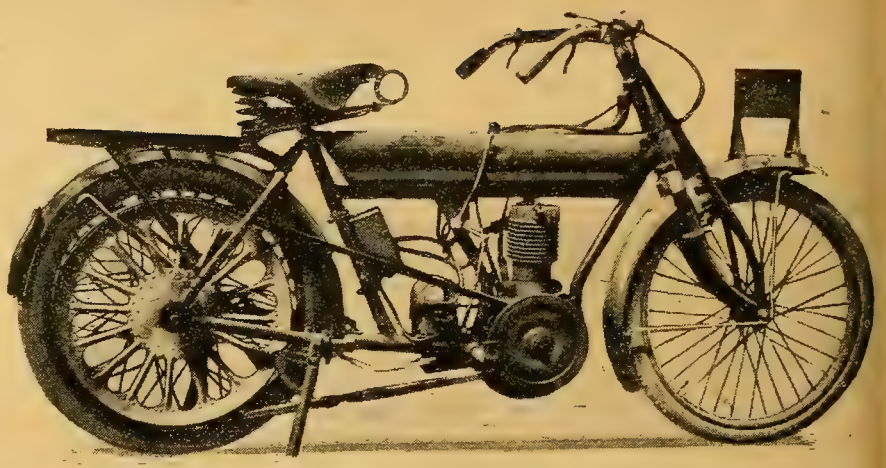
A Relic of Other Days.

A Sixteen-year-old Machine, still in Running Order, that possesses many Up-to-date Features.

READERS often ask us to advise them as to the possible useful life of a motor cycle, and the question is one which is extremely difficult to answer.

Given care and attention and sundry renewals of essential wearing parts, a well-built machine has an almost indefinite period of usefulness before it. We were never more convinced of this than recently when, spending a few days in Perth, we came across the machine depicted in the accompanying photograph. No doubt many older motor cyclists will recognise the machine as a Roc, which, in the earlier days of the movement, was one of the most prominent and advanced models before the public. The makers were amongst the pioneers of the long wheel-base and low saddle position. They also introduced one of the earliest practicable free engine clutches and at a later date popularised the famous Roc two-speed gear. Both these devices incorporated a live axle (with handle-starting).

As will be seen, the machine under discussion has quite pleasing lines, and is unlike the usual produce of 1904-5.



A sixteen-year-old motor cycle, which is still in commission; it is a Roc, with free engine clutch hub and low-tension ignition. The engine is a Kelecom, and it is fitted with an outside flywheel.

The engine is a 2½-3 h.p. Kelecom, produced by the famous Continental house of Antoine, and is unusual, in the light of latter-day motor cycle practice, in having the cylinder screwed into the crank case. An outside flywheel is integral with the pulley. The ignition is a "modernisation," and consists of a low-tension magneto and separate coil. A battery type of "make-and-break" is fitted to the magneto.

Power is transmitted to the Roc free-engine hub by a long belt; the clutch being operated by a pedal near the left footrest. The rear belt-drum is interesting, as it is built up from two pressings riveted together, and would appear to be quite as sound as the built-up variety with tubular spokes, which came into vogue at a later date when hub gears were more popular.

Perhaps the most striking feature of this old stager is the fact that no pedalling gear was fitted. In the days of "l.p.a.," this omission on the part of the designer was truly courageous.

A SINGLE SPRING FORK.

REDUCE the number of parts on any motor cycle and an almost certain reduction in cost will accrue. In the near future the general utility lightweight may have many fewer parts than it has in present-day practice. If for this reason alone the spring forks illustrated here may interest manufacturers of motor cycles for the masses. The design is extremely simple, consisting briefly of a fork member pivoted directly under the bottom steering column lug, and a laminated leaf spring anchored at its lower end to the pivoted fork and shackled at its upper end by means of two links.

This fork is the patented design of Mr. S. Robinson, 10, Bamford Road, Didsbury, Manchester.

Robinson's leaf-spring front fork

MAGNETOS FOR OPPOSED TWO-STROKES.

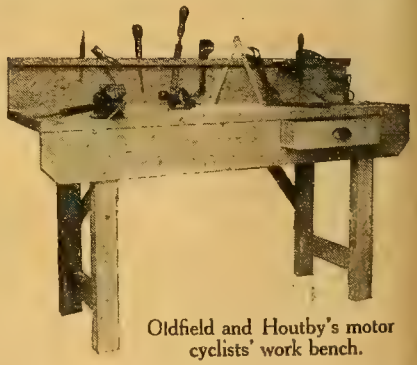
Numbers of surplus W.D. Levis flat-twin engines are now being sold, and many readers find a difficulty in obtaining suitable ignition apparatus. To save trouble we would assure them that it is hopeless to attempt to fire the two cylinders simultaneously by dividing the high-tension lead of a single-cylinder magneto into two separate and individual branches; either a "double-pole" plug in one cylinder or (a better way) a special "two-spark" magneto must be used.

THE OUTSIDE FLYWHEEL.

PRIOR to 1914 only one firm of four-stroke specialists consistently used an engine having an outside flywheel, but a great change has taken place since then. Most firms now consider the outside flywheel four-stroke favourably, and are either designing units embodying it, or contemplating the adoption of the well-known proprietary engines so fitted.

A USEFUL BENCH.

ONE of the most desirable fittings in a motor cyclist's workshop is a good bench. The essentials of a good bench are solidity, rigidity, and convenience. That under review, made by Messrs. Oldfield and Houtby, Wellington Street, Lincoln, conforms to these conditions. It has an excellent drawer for odds and ends, and a tool-rack running along the back, and can be supplied with or without vice, the latter being an extra.

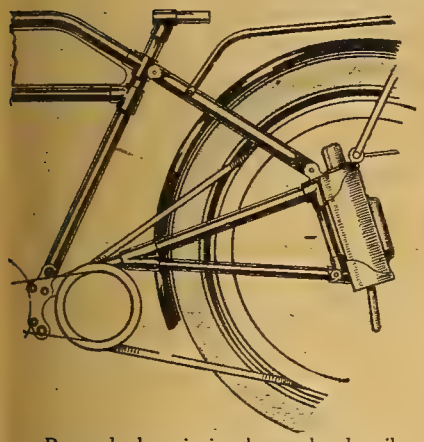


Oldfield and Houtby's motor cyclists' work bench.

The bench is 5ft. long, 18in. wide, and 2ft. 7in. high. The size of the drawer is 15 × 18in., while the tool-rack is 9in. deep, and runs the whole length of the bench. It is well made and mortised and tenoned. The bench has strong legs, which are suitably cross-braced. The bench, which is made detachable, can be easily erected, and is constructed of specially seasoned red deal; it is supplied in three sizes.

SPRING FRAMES AND FORKS.

A Selection of Readers' Ideas and Patented Designs.

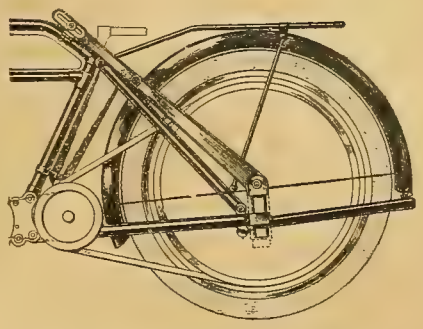


Rear wheel springing by enclosed coil springs—the subject of a patent granted to E. F. Harmer, Gresham Villa, Mansion Road, Southampton.

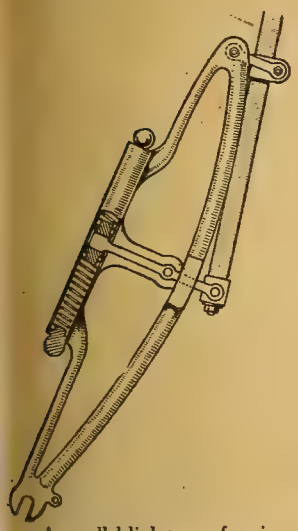
SCARCELY a day passes when our mail bag does not contain at least one suggested or completed design of spring frame or fork which is proof that riders and manufacturers have been seriously influenced by our campaign for more comfortable motor cycles. Some of the ideas submitted are quite good, others are the work of those who have not been able to follow all the designs that have appeared in these pages, for their efforts are along old tracks, and some of which have proved to be futile.

Necessity and Cost.

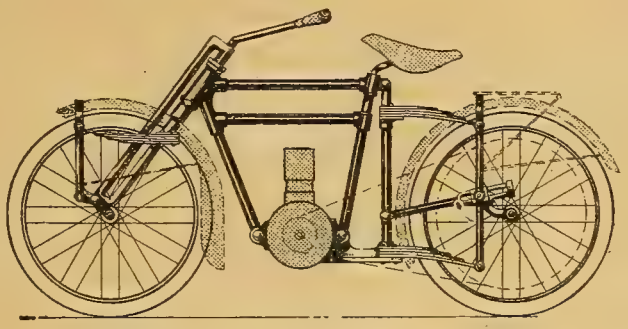
If necessity is the mother of invention, then, indeed, the need for spring frames is great. At present we think that the reason more manufacturers are not adopting spring frames is entirely one of cost, as we know of several excellent productions which the makers hesitate to market on the score of price.



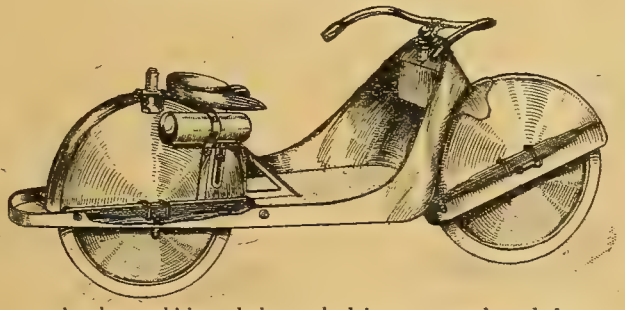
The Concentra spring frame, another patent by E. F. Harmer, in which a double quarter elliptic spring is used. This device can be adapted to existing machines.



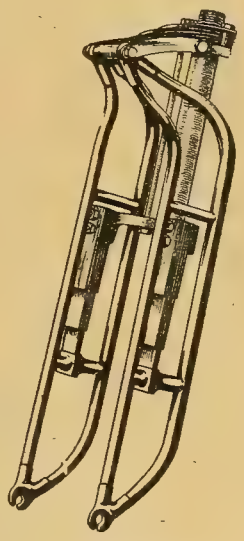
A parallel link type of spring fork designed by A. Skinner, 15, Norcross Avenue, Tinsley, Sheffield. Observe the leverage obtained on the lower links and their connection with the enclosed coil springs.



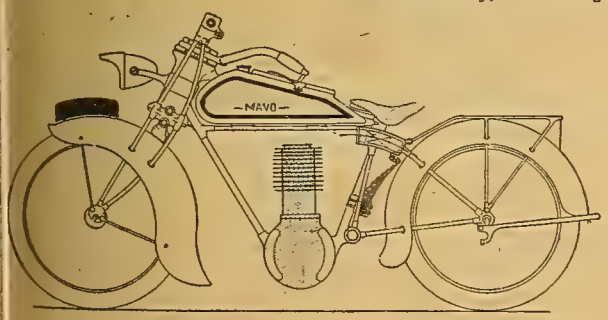
Soper's spring fork and frame. The latter is reminiscent of the T.M.C. four-cylinder machine.



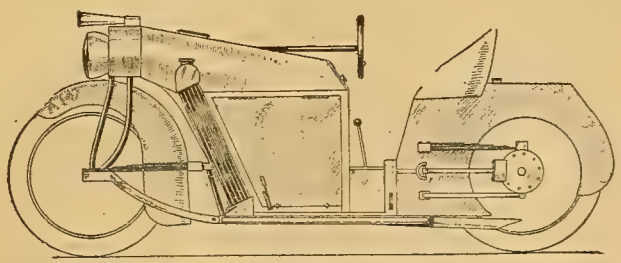
Another ambitious design embodying a pressed steel frame suspension by half elliptic springs, etc., the patent of Mr. G. G. Ommanney, Court Lodge, Westwell, Ashford, Kent.



Leaf springs are favoured by the designer of this fork, patented by H. W. E. Dickson, 1, Moseley Park Villas, St. Mary's Road, Moseley.



An unconventional design by Lt. P. L. Mayo. The front springing is embodied within the steering head.



An elaborate "design" submitted by a reader who signs himself "Amateur Schemer." His idea is to produce a machine which shall be practically a mono-track car.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

SPEEDOMETER FITTING.

Sir,—I have read the letter of "Speedometerless" in your issue of August 19th with great interest.

I have had many machines, all fitted with Cowey's speedometers, and never had a bad fitting one, as this firm makes special brackets for all makes of machines, so that the collar of the nut on the off side of the spindle always screws into the rebate in the fork; no accident can then occur.

I am sure the above is not known to many owners of the above make of speedometer, and hope the information will be of use to them. I am only a satisfied owner.

V. F. LONG.

MOTOR-ASSISTED BICYCLES.

Sir,—In reference to "B.Y.'s" letter of the 2nd inst., *re* the J.E.S., I would like him to know that I find this machine will do anything from 5 to 25 m.p.h. at a consumption of 160-180 m.p.g.

I might also say that when it is on the stand it will start from cold the first kick of the pedal, provided, of course, it is in tune.

I had one myself, second-hand, and it would pull two men on cycles, one on each side of me, up moderate hills. I have also pulled one man on a cycle for sixteen miles of bad roads without a hitch.

T. BAINES.

MYSTERIOUS NOISES.

Sir,—Having recently had occasion to retime the ignition of my 8 h.p. Matchless I took the machine out for a short trial run. I was not long on the road when I became aware of a clinking noise which synchronised with the beat of the engine. A peculiar feature of the noise was that it was only present with the ignition lever in a certain position. I concluded that I had rashly interfered with the timing, and I determined that in future I would leave well alone. I was at a loss to discover the cause, as an external examination of the engine revealed nothing, and as I had previously had trouble with the piston of the front cylinder I concluded that nothing less than a complete overhaul could solve the mystery. I therefore drove home very gingerly.

Just as I stopped at the door of my garage with the engine running free I glanced down at the magneto driving chain which I had left bare for the easy adjustment of the timing. The said chain was "hopping all over the place," and at each beat of the engine produced a most delightful "clink" by striking the inside top of the aluminium case. Such a noise becomes inaudible when the cover is replaced, as I proved afterwards. Perhaps some other reader will explain why the noise was only present when the ignition lever was in a certain position. The problem is too hard for Dublin.

DUFFER.

SPEED AND RELIABILITY.

Sir,—What *is* the matter with "Ixion"? So the B.S.A. is *not* fast and the Norton is *not* reliable. What a libel!

He did not actually say so, of course. That would not do, even in his leg-pulling page; he merely leaves that impression, and yet at a certain speed trial the B.S.A. beat a Norton (I was driving the Norton), and the B.S.A. also figures in the record lists.

I have a faint recollection of a Norton doing well in some reliability event (I was not driving this time), and the name Norton figures in the record lists, too.

This seems to confirm an impression received during the T.T. race that there is a possibility of a fast machine being reliable, and a reliable machine being fast. Seriously, however, quite a large proportion of motor cyclists hold the opinion that reliability and speed are seldom combined in a machine, when, as a matter of fact, the one largely assists the other. Reliability calls for reasonable strength, simplicity, and durability of parts. Speed demands all these with great strength and correct design. It also calls for light (not flimsy) parts, because such lessen stresses and strains, lessen bearing loads, lessen vibration, and the danger of fatigue of metals.

To obtain high speeds every part must be correctly proportioned, must be in harmony with its neighbour, all negative work in the engine must be reduced to a minimum, and the whole mechanism must be capable of standing up under the greatest strain it is possible to subject it to. What does this mean? It means that the factor of safety, the reliability factor, is very high indeed, being designed to "stand the racket" of maximum power. Ordinary touring work does not even approach its limit; it makes light of it as a Sandow with a bar bell of bubbles. There is plenty in hand to resist the shocks and strains of use and misuse—in short, being suitable for speed, it is the acme of reliability. All machines are reliable so long as they are in no way overstressed.

The range of reliability is great or small in proportion to the capability of resisting great or small stresses.

JAS. L. NORTON.

MINIATURES.

Sir,—I read with interest the letter by Gilbert Camplings in your issue of August 19th. I would like to state that, as the owner of one of their handy little mounts, I thoroughly endorse all their remarks. By way of personal proof for reliability, I recently made a journey to Hornsea

R. C. Sissons and his Skootamota. (See accompanying letter.)

(Yorks.) and back, a distance of fifty odd miles. This was a non-stop run, except for filling up once at a garage. My speed during the whole run averaged out at 13½ m.p.h., and petrol consumption in the neighbourhood of 90 m.p.g. The only discomfort was that caused by dust, and the absence of goggles was keenly felt. I may add the usual disclaimer.

R. C. SISSONS.

WHY PEOPLE PRAISE PELMANISM.

"FACTS THAT TELL" FROM READERS OF EVERY TYPE.

"HOW is it that you have made such rapid progress during the last twelve months?" enquired a business man recently of a friend, who, to the great astonishment of his colleagues, had received no fewer than three promotions, with corresponding increases of salary, in quick succession, and who now occupies the position of manager of his firm.

"I have taken up Pelmanism," was the reply, "and it has changed my whole outlook on life, and given me prospects I never thought would be mine."

The Result of the Conversation.

What was the result of this conversation?

Why, that the business man in question called at the Pelman Institute the next time he was passing, and enrolled for the Course himself.

Facts similar to this one are constantly being brought to the notice of the Pelman Institute, and as they explain "why people praise Pelmanism," it has been thought that it would interest readers of *The Motor Cycle* to give a few of them on this page.

Readers who would like further information on the subject are invited to visit the Pelman Institute, 199, Pelman House, Bloomsbury Street, London, W.C.1, or to write for a copy of "Mind and Memory," which will be sent gratis and post free, with full particulars of the New (1920) Course, to any address on receipt of a postcard or letter.

People who get Promotion.

Many people owe their success in life to the power of working rapidly.

If you have the power of working more rapidly than others—provided that work is efficient—you are bound to get on.

Suppose there is a particular piece of work to do. One man, by no means an inefficient worker, takes the whole day about it, and finishes it by the evening. Another, a quicker worker, who has trained his mind *to get quickly off the mark*, finishes it by the middle of the day. This power of rapid, concentrated working, which is developed by Pelmanism, means greatly increased output, less waste of time and energy, more leisure, and, of course, increased payment. A man like this is invaluable to any employer, and is picked out for speedy advancement.

A Chemist and his Career.

Here is a case in point.

Pelmanist A25064 is a Works Chemist. He had a very stiff examination to pass. In the ordinary way this examination entailed a whole year's preparation. But this man, being a Pelmanist, passed the examination after only three months' work, a saving of nine whole months.

But this is not all. He writes:

"I have attained the position of Works Chemist in a large provincial Gasworks at least three years sooner than anticipated."

So, owing to his power of rapid working, he saved nine months on his examination and three years on getting his promotion. He now holds the position which he had only hoped to get in three years' time.

This is what he says:

"I attribute these results entirely to the application of Pelman principles to my active and latent abilities, and I have only just started to apply them."

Saving Valuable Time.

But it is not only business men and women who find this faculty so valuable. It is a quality of the utmost value to everyone. The barrister who wants to master the details of a difficult brief, the artisan who, after doing his day's work in the workshop, employs his time "after working hours" in studying some economic, historic, or literary subject, to these and to others this faculty of eliminating waste of time and working more quickly and easily is absolutely invaluable. And this is only one of the faculties developed by the New Pelman Course, particulars of which you can obtain free to-day on application to the address given on this page.

Making More Money.

The work which Pelmanism is performing in enabling men and women to earn more money is of especial importance in these days of high prices.

There are many people who are not progressing as they ought to do. Certain mental weaknesses are keeping them back. Consequently their incomes are not keeping pace with the rising cost of living.

Pelmanism alters all this. It enables you to put forth your full powers. It enables you to save waste of time and energy. It gives you the power to take on work previously beyond your capacity, and it enables you to do this work well and to "make good."

That is why Pelmanists in every profession, business, and occupation are forging rapidly ahead, trebling and quadrupling their incomes and securing swift promotion to higher positions.

Incomes Trebled and Quadrupled.

The following brief extracts from Pelmanists' letters are cases in point:

"During the past half year my income has increased by over 100 per cent."—CLERK.

"Gained increase of £150 per annum."—ELECTRICAL ENGINEER.

"Secured a net increase of salary of 400 per cent."—EX-CAPTAIN.

"Delighted with my progress, both monetarily and mentally."—TECHNICAL MANAGER.

"My income has gone up 300 per cent."—ARCHITECT.

"I have improved 300 per cent. in salary."—CLERK.

"I benefit to the extent of £1,000 this year."—IMPORTER.

"Since taking up the Course I have more than trebled my income."—CLERK.

"I have secured three increases of salary in five weeks."—BRANCH MANAGER.

"Thanks in a great measure to the benefits I have received from Pelmanism, my career has been an unbounded success, and I have gone on from one success to another."—CIVIL SERVANT.

"After taking up Pelmanism for about three months I was offered a very high post in the firm in which I am employed. This advancement, which incidentally doubled my salary, I attribute entirely to Pelmanism."—DEPARTMENTAL MANAGER.

Hundreds of similar cases could be quoted did space permit. More will be found in the book describing the New Pelman Course, which any reader may obtain to-day, *free of cost.*

The New Pelman Course.

The New Pelman Course, which is now ready, is a great improvement on the former one.

Indeed, *Truth*, after a careful examination of the Course, says that it is "100 per cent." better.

The New (1920) Pelman Course, says *Truth*, removes from the mind such mental difficulties as:

Forgetfulness	*Dullness*
Mind Wandering	*Weakness of Will*
Brain Fag	*Lack of System*
Indecision	*Lack of Initiative*
Shyness	*Indefiniteness*
Timidity	*Mental Flurry*

and it develops, on the other hand, such fine and valuable qualities as—

—Concentration	**—Directive Ability**
—Perception	**—Self-Confidence**
—Judgment	**—Driving Power**
—Initiative	**—Self-Control**
—Will-Power	**—Tact**
—Decision	**—Reliability**
—Ideation	**—Salesmanship**
—Resourcefulness	**—Right-Directed Energy**
—Organising Power	**—A Reliable Memory**
—Forcefulness	

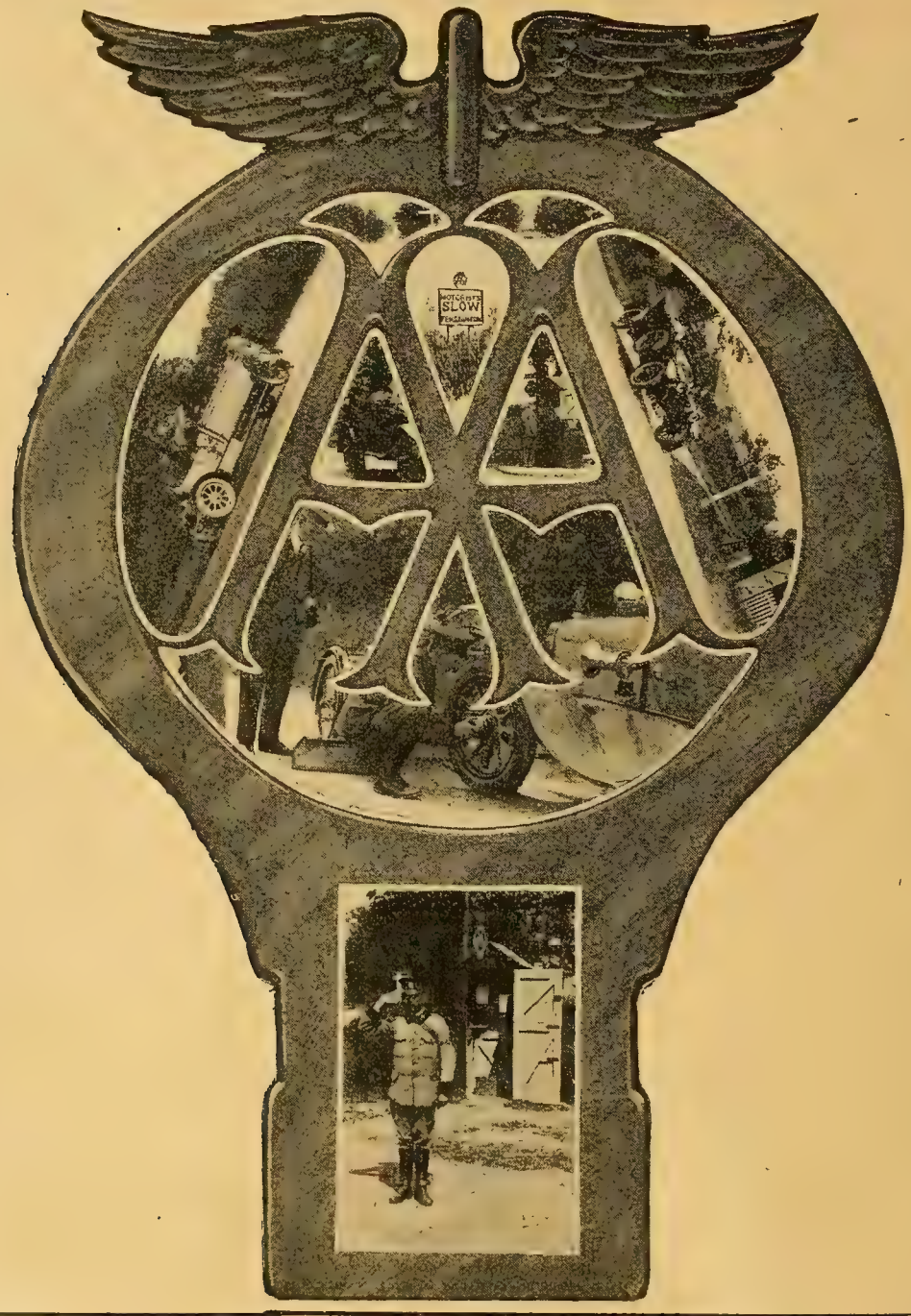
Fascinating Exercises.

Further, the New Course is extremely interesting. It grips you from the first, and the exercises become more absorbing and fascinating as the Course proceeds.

Not only do you take a delight in practising these exercises, but you experience at the same time the deep gratification of feeling and knowing that your mind is rapidly becoming more and more efficient. With your mind working accurately, clearly, and rapidly, and with all your intellectual powers perfectly co-ordinated and acting under the full control of your will, work becomes a pleasure, because you know you are doing it well, and doing it, too, with plenty of time to spare. Instead of being hustled, confused, and anxious, as perhaps you were before, you are now able to carry out your daily duties calmly, serenely, and without fuss and undue effort. You are the master of your surroundings and of your work.

All this Pelmanism helps you to do, and to be, and by the time you have finished the Course you will have secured a complete mastery of the science of scientific mental training, which you will be able to apply immediately, as so many thousands have done, for your own personal pleasure, profit, and advancement.

Readers who wish to know more about this really remarkable system should write to-day to the Pelman Institute, 199, Pelman House, Bloomsbury Street, London, W.C.1. By return they will receive a *Free Copy* of "Mind and Memory," and full particulars of the New Course which is enabling so many thousands of people to become successful and which will help you to do the same.



The Badge of Efficient Service.

The A.A. Badge brings assistance to the motor cyclist stranded on the road miles from a town or garage. It gives access to the roadside telephone boxes and summons a "mechanical first aid" machine. It solves all questions regarding routes for home tours and dispels the trouble and delay usually associated with a tour abroad. It provides free legal defence, engineering assistance, etc., etc.

Send a postcard to-day to the Secretary, The Automobile Association, 21, Fanum House, Whitcomb St., London, W.C.2., for a copy of "The Key to the Open Road," which describes the many personal benefits *you* can secure through its influence

THE ISLE OF WIGHT FERRIES.

Sir,—Mr. E. Martin's letter on Isle of Wight steamers, etc., may be quite correct, from a solo Douglas owner's point of view, but I found it much more difficult and expensive with a sidecar. First of all, the Southampton, and probably the Lymington, passenger boats have no convenience for transhipping such outfits unless they can be taken apart. The Portsmouth or South-Western Railway boats have derricks and proper carriers.

I found that the cost of each way for a sidecar outfit and myself was 10s. 2d. plus 1s. 2d. pier dues at Ryde. I had to sign some form of declaration, which I did not read. The ticket collector made me soak out what little petrol I could not drain out with a piece of rag, to the detriment of my carburetter, which I had to take to pieces three times while on the island to clear out the fluff which choked the adapter. I regret that I cannot agree with Mr. Martin as to the state of the roads. With the exception of the road between Ventnor and Sandown the roads are rough and dusty, and in wet weather must be appalling, as they are built of gravel. They are very narrow, with right-angle bends at frequent intervals, and, with the present char-à-banc traffic, dangerous: so dangerous, in fact, that the proprietor of the hotel where I stayed the night insisted on me starting an hour earlier than I had intended, so that I should not meet the stream of chars-à-bancs coming in the opposite direction.

I am satisfied that he was quite right, as there was not room to pass another sidecar—except in a few places—for some miles.

There are very few direction posts, and 50% of these are undecipherable. HO 4508.

PETROL CONSUMPTION.

Sir,—A few weeks ago a letter appeared in *The Motor Cycle* from "Not Infallible," stating that he was able to get 106-113 m.p.g. with his "Scott," he having fitted a Degory carburetter. Afterwards a letter appeared from A. K. Gordon, stating that he was doing just over 40 m.p.g. and wondering if "Not Infallible" had ever tried a Binks on his Scott.

Now, I have a Binks fitted to my 3¾ Scott, and have just completed 440 miles (by speedometer), the petrol consumption being four and a half gallons, less a good pint (by measure), which is still in the tank. This works out at just over 100 m.p.g. Two hundred miles of this distance was done with a pillion passenger, the average speed being 20 m.p.h. The remainder was all in short journeys of about ½ miles at an average speed of 25 m.p.h. This consumption seems to be very good, especially as I have always to inject before starting (unless on an incline), which further reduces the quantity used in actual running. A.G.T.

Cumberland.

Sir,—As another claimant to the honour of covering most miles per gallon, will you kindly allow me space to state my case?

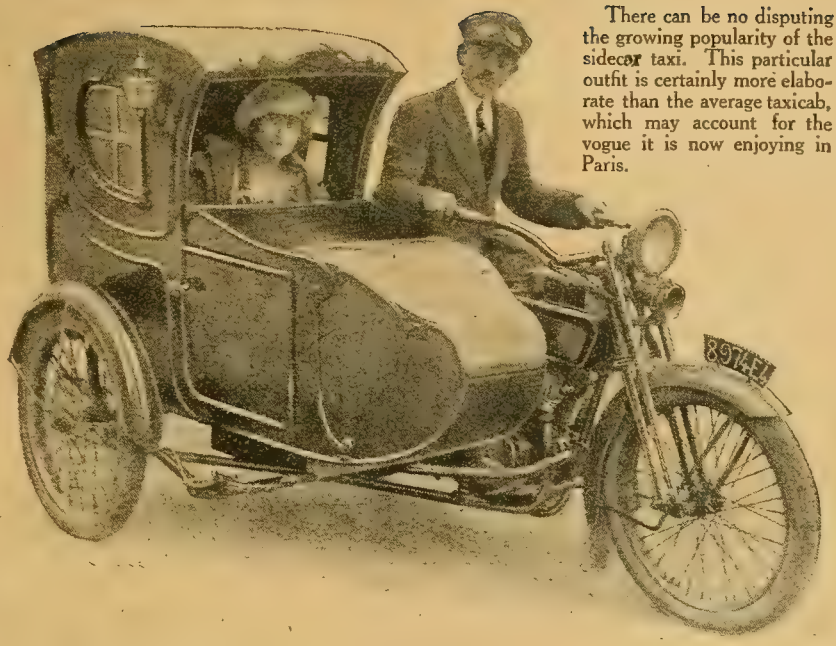
I have a 1914 2¾ h.p. Sunbeam, which is fitted with a Binks carburetter.

On a recent trip to the East Coast I figured out that I was doing about 220 m.p.g. The recent letter of Mr. S. Cook in your columns, stating that he had done twenty-four miles on a pint of petrol with an A.J.S. 2¾ h.p. model, determined me to make an actual test of what my machine was capable of. This is what happened.

I fastened a small tin to my machine, and under observation a pint of Shell No. 1 petrol was poured in, and the tin sealed up.

We then adjourned to a point on the Old Chester Road, which runs from Birkenhead to Chester. Starting off, I journeyed to Chester and back, covering a distance of twenty-seven and one-tenth of a mile, which works out at 216⅝ miles to the gallon. Can anyone beat it? The machine I use constantly—it suffers from no lack of power, and is here for anyone to see, and ready to do the same again; and, if on a gallon instead of a pint, would no doubt give even better results. The secret is that I have it in perfect trim, and adjusted down to a fine point.

Rock Ferry, Cheshire. SIDNEY HUGHES.



There can be no disputing the growing popularity of the sidecar taxi. This particular outfit is certainly more elaborate than the average taxicab, which may account for the vogue it is now enjoying in Paris.

CANDID CRITICISM.

Sir,—I wonder if the closing down of the Sopwith Aviation and Engineering Co., Ltd., will be a lesson to the other manufacturers whose prices are gradually climbing upwards? If not, I fancy this company will not be the only makers to "go west."

It is all very well to make "to an engineer's ideals," but, apparently, "experts" did not buy. Had the firm catered for the masses another tale might have been told. Had the company done so we might have got a real, cheap motor bicycle by now. From a provisional £75 to £150 actual is "some" jump. Mass production here seems to increase prices.

The O.K. Union? Yes; I fancy it was to be thirty-eight guineas. Is it? Now we are asked £95 for an elaborated scooter. (Unibus.)

Last winter (December) one could buy in America a light car, two bucket seats, V air-cooled, o.h.i.v., 1,144 c.c. engine, two speeds and reverse and bevel drive, 45 m.p.h., 45 to 50 m.p.g., for £60. Spacke! The finish was awful; but it went. Went? Yes; anywhere. But if you wanted to buy one you had to wait three weeks; but you got it then. The firm are catering for a new lot of buyers—not the old ones dished up. That is what our manufacturers seem to be doing. Why cannot our makers see that of the hundreds who *want* motor bicycles a very small percentage can *afford* them.

If new makers come into the trade they must cater for a new lot of buyers or go to the wall. Let any maker turn out a bicycle with simplicity and cheapness as its keynote. I mean, go the whole hog. If a coil and accumulator is cheaper than a magneto, use it. If a.i.v. is cheaper than m.i.v., use it. Why a petrol tank should cost £2 and a two-gallon tin 4s. (and it would answer the purpose) seems a bit of a mystery.

I ordered three machines since demob., but cancelled them on notification of increased prices. There is no excuse or justification for such a thing. Where is the business honour? I suppose our motor makers have not heard of it. I wonder what my customers would say if I worked on the same lines. I am afraid my "occupation is gone" would be my lament.

I paid 4s. 6d. for a Royal Enfield valve cap (which fitted my machine), but the price for an Indian in America is said

to be 25 cents. Is it not ridiculous, when wages there are much higher than here?

I read an article once by a young man who wanted a good *de luxe* machine, and was willing to pay for it. It seems to me *all* the makers are catering for such as he.

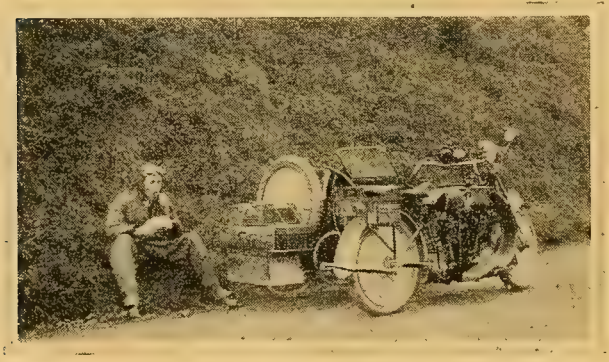
Horsehay, Salop. C.V.T.

[We publish this letter as an example of the kind of talk which is prevalent among a large percentage of motor cyclists. It bears out the general impression of the buying public that during the last twelve months the British manufacturer has made big profits. So far from this being the case, in many instances the financial position would not stand minute investigation. Our correspondent seems to forget that price increases have not been made by firms without good cause. He must be aware that the demands of labour have necessarily had to be met on several occasions, both by the suppliers of raw materials and the manufacturers of the machines themselves. All this is reflected in the price of the machine. We find that the closing down of certain works is not due solely to scarcity of orders, but mainly to the fact that the firms, due to high wages and restricted output, are actually losing money on each model supplied.—ED.]

A DEVONSHIRE TOUR.

Sir,—I thought you would be interested to know that my friend and I have just completed a tour of Devon and Cornwall, consisting of 845 miles, without experiencing any trouble at all; mechanical or tyre trouble.

We climbed Porlock Hill without retarding the magneto at all, and many other hills which you know are in abundance in that region.



Lunch on the way. (See letter, J. N. Snape.)

I enclose a snapshot of the machine in touring trim which was taken "somewhere in Devon." You will note quite a large locker under the sidecar carrier. It is very much larger than that fitted on the standard A.J.S. sidecar. It is an idea of my own, and consists of a wooden chest (with three bands of steel round it for security), and is divided into two compartments: one for a tin of petrol and the other for a half-gallon tin of oil. (It is fastened by means of lock and key.) Needless to say, I found this very useful during the tour.

Speaking of the roads, on the whole we found them quite good, although the surfaces on some of the hills are atrocious, especially Porlock. J. N. SNAPE.

P.S.—The interior of the locker is not lined by felting, but is just made a tight fit, consequently there is no vibration at all.

FOOTING AND FOOT-SLOGGING.

Sir,—I was very much interested in "Ixion's" article *re* "Footing and Foot-slogging," in your issue of September 9th. I quite agree with him that there is a general inconsistency of observers, etc., *re* their reports. As the final results depend somewhat on the reports as sent in to headquarters, it is important that such reports should state exactly what happened and where.

The Birmingham Motor Cycle Club, to avoid any such inconsistency in reports, send out to each observer printed instructions. These have been found to be of considerable assistance to officials, and what is still more important, every rider can depend on getting a *correct* report.

I think you will agree that this is a step in the right direction. It certainly is appreciated by the riders themselves. W. H. EGGINTON.

(Hon. Sec. Birmingham M.C.C.)

[A copy of the printed instructions has been forwarded, and is absolutely clear.—ED.]

THE AUDIOMETER AND THE SIX DAYS TRIALS

Sir,—As I was expecting to see comments on the subject of audiometers and vibration in your extremely interesting critique of the Six Days Trial, I would like to point out a few details which may not at the moment be evident to your contributor.

In the first place an apparatus which can be carried about and hurled violently on to railway platforms cannot be made as delicately as one would desire. Your contributor suggests that the audiometer (which was checked by separate observers and found to agree during the trials) is susceptible to ground vibration. As it happens ground vibration is very difficult to detect, except by instruments as delicately balanced as the seismograph used for earthquake measurements.

The mirror of the audiometer and the diaphragm which receives the sound are both carried on the same base, so that unless the ground vibration was sufficient actually to move the apparatus, the only result can be that the path of the spot of light would be slightly blurred instead of sharply focussed. Motor cycles are not now so noisy that there is any danger of the entire machine being moved by their passing by.

As it happens, I have tried plotting the screen, on which the spot of light appears, in squares; but I find the result rather confusing for rapid measurements, and the present instrument is arranged with a pencil mark at the zero point from which I can measure the total movement very quickly. Even on the experimental apparatus provision is made for a photographic plate, which can be moved for each machine, and in the ordinary way a travelling film is arranged so that a distinct photographic record can be taken of the sound displacement produced by each motor cycle.

In the last paragraph your contributor remarks that the apparatus merely substitutes the eye of the observer for the ear of a listener. This completely proves the value of the instrument. Whereas it is possible to distinguish for hours on end between one inch, two inches, or two and a quarter inches, it is not possible for hours on end to say that noise A was slightly noisier than noise B which occurred two hours ago.

I would be only too glad to give your contributor an opportunity to see a record taken of his own voice variations on a screen, and in the meantime I enclose two letters for your inspection, but not for publication, proving that the apparatus was successfully used during the war for the detection of difference between gun silencers at a distance. An almost identical apparatus is now being manufactured for obtaining records of the noises in ships' engine rooms.

A. M. LOW, A.C.G.I., etc.

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Issued in conjunction with *The Motor Cycle.*

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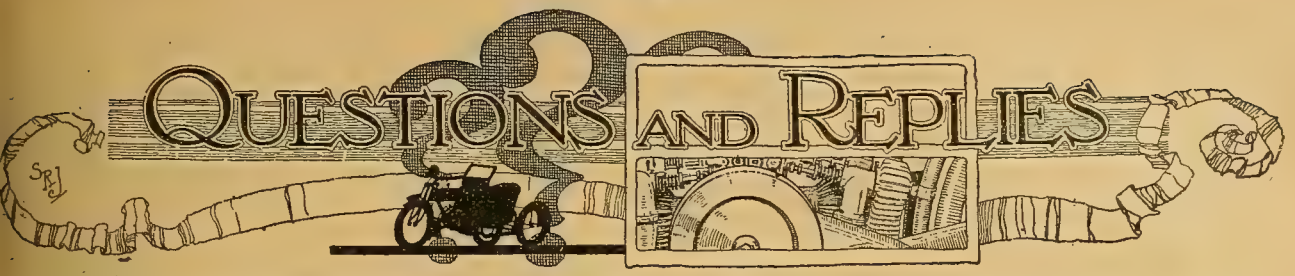


A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Gear Ratio.

I am fitting a two-speed gear box to a motor cycle with 1913 Triumph engine. What size sprocket is required on the engine-shaft to give suitable ratio? Top gear is direct. Outside diameter of belt pulley is 5½in. Sprocket on gear box has thirty-six teeth. Belt rim, 18in. diameter.—A.F.B.

Probably the most satisfactory gear ratio would be in the region of 5 to 1. A twenty-two teeth sprocket on the engine-shaft will give you a top gear ratio of 4.35 to 1 with the other sizes given in your letter. The 5½in. diameter pulley on the gear box is much too small, and you will no doubt experience a considerable amount of belt slip on the low gear, especially in wet weather. The countershaft pulley should be between 7½in. and 8in. diameter, when, of course, the sprocket on the engine-shaft will have to be decreased in size.

Has Benzole a Deleterious Effect?

As a confirmed user of benzole for my motor cycle for many years, I write to let you know that on Tuesday last, after returning from a run, I noticed my tank was leaking slightly. On taking the tank off, I found a tiny hole no larger than a pin head, but on scraping it I found it extended to the size of a pea. It was a clean round hole, nowhere near the seam of the tank, and appeared to me to have been eaten through, no doubt by the benzole. My object in writing to you is to know if I can do anything to counteract the injurious effects of this fuel, as I much prefer it to petrol in every way. Would adding a small quantity of lubricating oil or petrol assist? I may say I have frequently seen charges made against benzole in this respect, but have also seen it frequently denied, but for myself I have proved it. Knowing you have always advocated the use of benzole for many reasons, I trust you will be able to help me, as you will agree this is a matter which must be remedied, if benzole is to gain popularity and to retain it.—G.A.C.

There appears to be no justification for supposing that the hole in the tank is the result of using benzole. We use this fuel ourselves invariably and have never had any trouble; official tests have also been carried out which prove conclusively that good quality motor benzole has no ill-effect on any part of the motor cycle.

Acetylene Lighting.

I have a new Matchless outfit and am having acetylene lighting fitted. I have read articles at various times in *The Motor Cycle* advising the use of a single generator, and am anxious to use one only. I have Lucas's largest head light and the ordinary sidecar and tail lamps by the same makers. Can you advise me what generator to use?—H.E.H.

You should have no trouble with an ordinary Lucas acetylene head lamp and generator, and if you obtain an extra generator of the same type you can run the side and tail lamps from it. If you desire to run all three lamps from one generator you should obtain a light car type, but this will require a special bracket fitting to some portion of the sidecar chassis, as it is rather bulky.

An Untraceable Squeak.

If you can assist me as to the following I shall be very grateful. My machine is a 2¼ h.p. Levis. It runs very well, but there is a squeak in the engine which I have not been able to diagnose. The compression is excellent, ignition and timing correct, and carburetter in good order. There is no loss of power, and the machine runs very well. This squeak cannot always be heard, independently of whether the engine is hot or cold. My machine has not been ridden for some time now, and recently I noticed that the squeak was more perceptible than when the machine went into storage. The machine is a 1920 model, and I have oiled it liberally.—R.P.

It is very difficult to locate the cause of the trouble without inspecting the machine, but we are inclined to believe that the noise arises from some other part, and not from the engine. You should overhaul all moving parts, such as the front forks, saddle, brake work, wheel bearings, etc., also try a spot of oil on the belt fastener.

IMPORTANT DATES.

Sat., Sept. 25th—
West M'd'and Open Reliability Trial, organised by the Wolverhampton, Redditch, and Kidderminster M.C. Clubs.

Sat., Oct. 9th—
M.C. and A.C. Open Reliability Trial.

Nov. 29th Dec. 4th—
Olympia Motor Cycle Show.

Difficult Starting.

(1.) My 6 h.p. New Imperial-Jap twin engine refuses to start with kick-starter (or I should say it starts, perhaps, once in fifty times). Do you think new plugs would make an improvement? (2.) I am also troubled with grease getting on to the belt. Do you think it can be caused by pumping oil too freely into the engine?—A.J.

(1.) The causes of difficult starting are so many and various, that we cannot give you much assistance without fuller particulars of the condition of your engine. Provided the engine is in good order, the starting should be quite easy, the throttle should be about one quarter open, the extra air fully closed, and the ignition almost fully advanced. If the machine is an old one, the trouble is most probably due to air leaks either at the induction pipe joints or at the inlet valve stem guides. (2.) The grease on the belt may be due to over-lubrication of either engine or gear box, probably the latter, but as you have not stated the make or type we cannot throw any light on the matter.

Fitting Valve Stem Packings.

I have a 1919 model 4¼ h.p. B.S.A. motor cycle, on the valve stems of which I contemplate using a set of air leak preventing sleeves. The inlet valve is always very dry, and I thought that one of these fittings would be a great improvement, as it would keep the valve stem oiled. The exhaust valve is very different, however. Oil runs through the guide and down the side of the engine. Now, to me, this does not seem correct, and I thought that, by fitting one of these attachments, the apparent defect might be corrected. I am told, however, that if I do this I shall prevent the burnt oil from escaping, and this will cause excessive wear of the guide and stem. I should be glad if you could tell me if this is so.—G.S.

It is unlikely that a sleeve on the exhaust valve would cause any trouble; but as the chief object of fitting such a device is to pevent air leaks, it is really only necessary to apply it to the inlet valve, as air leaks past the exhaust valve stem have no effect on the running of the engine. No undue wear would be caused even if the waste oil was prevented from finding a way out down the valve guide. If the valve is always dry we would suggest that you add a very small quantity of lubricating oil to the petrol.

Precipitate Action.

[?] Two weeks ago I received delivery of a 2¼ h.p. motor cycle, and after four trial runs totalling less than twenty miles the machine is now laid up with a seized crankshaft. I have written the makers, so far without any reply. Can you tell me what legal remedy I may have against them in case they do not answer? Should I be in order in selling the machine by public auction and suing the makers for the balance of the purchase money?—E.S.

Unless you could prove definitely that the seizure of the crankshaft in your engine was due to negligence on the part of the makers you have no legal remedy, and you would certainly be acting on your own responsibility if you sold the machine by public auction. As no firm is likely to ignore such a complaint, we can only think that your letter has gone astray, and we would suggest that you write again, carefully quoting the facts of the case, also the engine number on your machine, and the name of the dealer from whom you obtained it. Provided you make a reasonable statement regarding your opinions as to the cause of the damage, we have no doubt that the makers will deal fairly with you.

Starting Difficulties.

[?] I own a Sociable, fitted with an 8-10 h.p. twin engine, which runs very well indeed. The starting is a most troublesome job, and not one in twenty can start it up. When going it is certainly rather noisy. I should be pleased if you could suggest some way of rectifying the difficult task of starting.—J.H.H.A.

Difficult starting in the case of V twin engines is usually due to air leaks in the induction system. These may occur at the induction pipe unions, or at the inlet valve guides if the valve stems are worn. A cure for the latter trouble is found in the various devices which can be obtained for fitting over the valve guides, and so preventing air leaks at this point. The induction pipe joints may be bound with insulation tape, as also may be the carburetter connection itself. If attention to these points does not give easy starting, the trouble evidently lies in some other direction, and may be due to the ignition system being out of order, or incorrectly timed. You do not give any particular information, however, and therefore we can only make general suggestions.

READERS' REPLIES.

Intermittent Slowing Down.

In the issue of August 26th, I see that H.B. is suffering from apparently the trouble I once experienced on a 1910 Triumph, which I eventually traced to the pins which hold the toggles in position in the carburetter being worn, and allowing them to jump out of position and lower the level.—LEO CORBY.

Raising the Gear.

With reference to enquiries by "A.B." in your issue of the 19th ult., the following information may be of use to him. I am using a sprocket with seventeen teeth on a W.D. Triumph. This gives quite satisfactory gear ratios for solo riding, and is easily obtainable from the makers. I am also using a 28×3in. Kempshall tyre, which fits the rim admirably, and shows no signs of creeping after 1,000 miles, although I do not use security bolts.—CHAS. H. W. JIGGENS.

Unaccountable Lack of Power.

Referring to "P.E.T.'s" query of August 12th, I am the owner of a 2½ h.p. Diamond-Jap, and from my experience I should say that his machine is suffering from over rich mixture and not from starvation. If he would try a 23 or 24 jet, and lower his level (this latter I did by making a ring of copper wire and putting between the float and clip) he would find his power return.—LEO CORBY.

Another Mysterious Noise.

On page 252 of August 26th, "O.W." complains of a mysterious noise in his 3½ h.p. Ariel. The following was my experience after about 10,000 miles on a 6-7 Ariel combination. A heavy grinding noise began to sound particularly when opening out or hill-climbing, but not so manifest when running easily down slight inclines. The noise was not continuous, but seemed to correspond to 1 in 4 of the engine beat. This puzzled me until I took off chain case and found about eight rollers broken off chain pins. The noise continued until I put on a new chain, when it entirely disappeared.—F. J. WRIGHT.

RECOMMENDED ROUTES.

BRADFORD TO LIVERPOOL.—G.W.L.

Bradford, Halifax, Sowerby Bridge, Ripponden, Littleborough, Rochdale, Bury, Bolton, Hindley, Ashton-in-Makerfield, St. Helens, Prescot, Liverpool.

BRADFORD TO HOYLAKE (CHESHIRE).—G.W.L.

Bradford, Wyke, Huddersfield, Meltham, Stalybridge, Stockport, Cheadle, Altrincham, Mere, Northwich, Kelsall, Chester, West Kirby, Hoylake.

BARNET TO BARMOUTH.—M.G.

St. Albans, Dunstable, Fenny Stratford, Stony Stratford, Towcester, Weedon, Daventry, Southam, Leamington, Warwick, Solihull, Birmingham, Halesowen, Stourbridge, Bridgnorth, Much Wenlock, Shrewsbury, Chirk, Llangollen, Corwen, Bala, Barmouth.

CRAWLEY TO CAMBORNE.—T.H.W.

Crawley, Handcross, Lower Beeding, Cowfold, Billingshurst, Petworth, Midhurst, Petersfield, Bramdean, Winchester, Stockbridge, Salisbury, Wilton, Dinton, Hinton, Mere, Wincanton, Ilchester, Ilminster, Chard, Yarcombe, Honiton, Exeter, Moretonhampstead, Two Bridges, Tavistock, Callington, Liskeard, Bodmin, Lanivet, Mitchell, Redruth, Camborne.

BIRKENHEAD TO SOUTHSEA.—W.W.W.

Birkenhead, Chester, Whitchurch, Hodnet, Wellington, Ironbridge, Bridgnorth, Kidderminster, Hartlebury, Worcester, Pershore, Hengeworth, Broadway, Moreton-in-the-Marsh, Chipping Norton, Woodstock, Oxford, Abingdon, E. Ilsley, Newbury, Kingsclere, Basingstoke, New Alresford, Kilmeston, Bishops Waltham, Fareham, Cosham, Southsea.

Found.

Mr. W. F. Clement, 7, Bedford Street, Harrow, picked up an oilskin coat on the 21st ult. on the Pinner Road.

Built to Order.

In a recent letter to us from Mr. E. T. Wetton, of Templar Street, Dover, this phrase occurs: "As you know, the present system of motor cycle manufacture does not permit of individuals being studied, and we are out to study the individual." With this idea prominently before him, Mr. Wetton is prepared to build motor cycles to suit any special requirements.

Service.

British manufacturers are beginning to realise the importance of service to owners of their machines. Among the makers who have given this matter attention may be mentioned G.N., Ltd., East Hill, Wandsworth, who have established a service department to assist G.N. owners, among whom are a large number who have never before owned a motor vehicle.

Running Instructions for C.A.V. Magnetos.

A neat and concise little booklet containing valuable information to those motor cyclists who have C.A.V. magnetos fitted to their mounts. Some valuable hints are given concerning these magnetos and useful instructions on their maintenance.

Care of the Tyres.

"Tyre Economy" is the title of a booklet dealing with tyre accessories, such as repair outfits, tyre stoppings, etc., issued by the County Chemical Co., Ltd., Chemico Works, Bradford Street, Birmingham. It is intended to aid motor cyclists in maintaining their tyres in good order.

A Tool Catalogue.

We are in receipt of the latest catalogue of the Godiva Tool Company, George Street Works, Coventry, which includes numerous tools of interest to motor cyclists, such as spanners of all kinds, including Quick-Grip spanners, pipe wrenches, box spanners, belt punches, tool grinders, valve removers, and some extremely useful and well-fitted up tool rolls.

A Book of Running Instructions.

A capital instruction book has been published by Veloce, Ltd., Victoria Road, Six Ways, Aston Manor, Birmingham, full of useful hints to enable riders to get the best out of their Velocette motor bicycles. The illustrations are good and clear, one of them, the method of adjusting the platinum points of the C.A.V. magneto, having been reproduced from *The Motor Cycle*. Excellent sectional drawings are to be found of the engine, gear box, and other parts.

CLUB NEWS.

North London M.C.C.

The supper run to Essenden, which ok place on the 11th inst., was highly ccessful, and, after an old-fashioned ntry repast at the Salisbury Crest otel, an impromptu concert was held.

Macclesfield and District M.C.

A reliability trial will be held on turday next, the 25th, over a fifty les non-stop course, starting at 2.30 n. prompt. Entry forms may be obned from T. Simister, 24, Jordangate, acclesfield.

Leicester and District M.C.C.

Beautiful weather favoured the third nd of the reliability trials for the rold Petty Cup, which took place ir Newtown Linford, under the auspices this club. Eighteen started, includ- two lady competitors, Miss Connie apman and Miss I. Scott, the former ng winner of the second round. This he the results were: 1, A. J. Foster; Miss I. Scott; 3, A. E. Garner.

Ilkley M.C. and L.C.C.

This club enjoyed delightful weather the occasion of its competition for the mingway Trophy. The trial was for ms consisting of two riders, either solo combination, no two gold medallists to nstitute a team, over a course of about miles to Grasmere lake and back. even teams competed, and, although elve secret checks were taken, the mers, A. Dovenor (Bradford) and J. S. xbury (Menston), on Scott machines h sidecars, had a total error of only The scheduled speed was 20 m.p.h., d, in view of the state of the roads, performance was a very fine one.

Week-end Club Events.

Sept 25.—Macclesfield and District M.C. Reliability Trial.
Sept. 25.—Mansfield and District M.C. and L.C.C. and East Midland Centre A.C.U. Joint Speed Trials.
Sept. 25.—Bradford M.C.C. Hill-climb.
Sept. 25.—Surbiton and District M.C.C. Reliability Trial.
Sept. 25.—North London M.C.C. Speed-judging Trial.
Sept. 25.—Luton and S. Beds. A.C. Flexibility Hill-climb.
Sept. 25.—Edinburgh and District M.C. Sharp Trophy.
Sept. 25.—N.M.C.F.U. (Wolverhampton). Run to Brewood.
Sept. 25.—Dewsbury and District M.C.C. Run to Ilkley.
SEPT. 25.—WEST MIDLAND OPEN RELIABILITY TRIAL, ORGANISED BY THE WOLVERHAMPTON, REDDITCH, AND KIDDERMINSTER M.C. CLUBS.
Sept. 25.—Plymouth and District M.C. and L.C.C. Reliability Trial.
Sept. 25-26.—N. Wilts M.C. and L.C.C. Run to Cheltenham and Evesham.
Sept 26.—Leicester and District M.C.C. Two-stroke Trial.
Sept. 26.—Brighton and Hove M.C.C. Club Run and Gymkhana.
Sept. 26.—North-Western Centre A.C.U. Reliability Trial.
Sept. 26.—West Birmingham M.C.C. Reliability Trial.
Sept. 26.—Bradford M.C.C. Speed Trials.
Sept. 26.—Loughborough and District M.C.C. Run to Leicester. Two-stroke Trial.
Sept. 26.—Northern M.C. Hill-climb.
Sept. 26.—Leeds and District M.C. Reliability Trial.
Sept. 26.—Exeter M.C. and J.C.C. Club Run.
Sept. 26.—Bedford and District M.C. and L.C.C. Speed Test.
Sept. 26.—N.M.C.F.U. (Portsmouth). Run to Hambledon.
Sept. 26.—Scarborough M. and M.C.C. Run to Saltersgate.
Sept. 26.—Westmorland M.C.C. Reliability Run.
Sept. 26.—Reading and District M.C. and L.C.C. Run to Kop Hill.
Sept. 26.—Eastbourne and District M.C.C. Reliability Trial.
Sept. 26.—Dewsbury and District M.C.C. Run to Howarth.
Sept. 29.—Scarborough M. and M.C.C. Reliability Trial.
Sept. 30.—Worcester and District M.C.C. Hill-climb.

H. Francis Mays (Harley-Davidson) on Ringland Hill at the Norwich and District M.C. Hill-climb. He was the winner of the class for unlimited sidecars, and made the fastest time of the day on an A.B.C.

North Cheshire M.C.C.

The North Cheshire M.C.C. is holding a 100 miles reliability trial, starting from the Lizard Inn, Alderley Edge, at eleven o'clock, on October 3rd. Full particulars may be obtained from the secretary, Mr. H. Brodwick, "Somerby," Wilmslow.

Amersham, Chesham, and District M.C.C.

The results of the recent speed trials held over a favourable half-mile with a short flying start are now to hand:

CLASS 1 (350 c.c.).—1, H. Robinson (2¾ Douglas), 19⅘s.; 2, A. Howard (2¾ Douglas), 22⅗s.
CLASS 2 (500 c.c.).—1, A. McRitchie (3 A.B.C.) and V. K. Goodwin (3½ Norton) tied, 16⅘s.; 2, H. Robinson (2¾ Douglas).
CLASS 3 (Unlimited).—1, A. McRitchie (3 A.B.C.) and V. K. Goodwin (4 Triumph), 16⅗s.; 2, R. Cox (4 Triumph), 18⅕s.; 3, H. Robinson (2¾ Douglas), 19⅗s.
Run off for fastest time of day.—1, A. McRitchie (3 A.B.C.), 16s., equalling a speed of 56.24 m.p.h.

Wombwell and District M.C.C.

More than three hundred spectators witnessed the Horber Stand hill-climb on September 11th. Some excellent times were recorded over a course of nearly 880 yards. The winners on time in the solo classes, and on formula with sidecar machines, were:

CLASS 1 (300 c.c.).—1, F. Skidmore (2½ Imperial), 47⅕s.; 2, H. Massey (2½ Levis), 48⅗s.
CLASS 2 (350 c.c.).—1, F. Skidmore (2½ Imperial), 48⅘s.; 2, H. Hinckcliffe (2¾ Verus).
CLASS 3 (500 c.c.).—1, E. Reynolds (3 A.B.C.), 42⅗s.; 2, J. Lee (3½ J.A.P.), 44⅕s.
CLASS 4 (600 c.c.).—1, O. Diggles (4 Triumph), 41s.; 2, H. Thomas (4 Triumph), 42s.
CLASS 5 (750 c.c.).—1, W. Massey (4 Norton), 37⅗s.; 2, C. Diggles (4 Triumph), 40⅕s.
CLASS 6 (1,000 c.c.).—1, W. Massey (4 Norton), 38⅕s.; 2, C. Diggles (4 Triumph), 40s.
CLASS 7 (650 c.c., sidecar).—1, E. Sayles (4 Triumph sc.); 2, W. Massey (4 Norton sc.).
CLASS 8 (1,000 c.c., sidecar).—1, W. Massey (4 Norton sc.); 2, E. Sayles (3½ Sunbeam sc.).
Fastest time of day, W. Massey (4 Norton).

North-Western Centre A.C.U.

Once again Norton riders have shown their speed on the occasion of the North-Western hill-climb at Heyden Bridge. The course was just over one mile, which took in an acute S bend. The fastest men were L. Mitchell (solo) and G. Cowley, jun. (sidecar).

The results were as follows:

CLASSES 1 and 2.—1, L. C. Crabtree (2¾ A.J.S.); 2, Geo. Cowley (2¾ A.J.S.); 3, H. Clayton (3½ Marlow).
CLASS 3.—1, L. Mitchell (3½ Norton); 2, T. Simister (3½ Norton); 3, L. C. Crabtree (2¾ A.J.S.).
CLASS 4.—1, L. Mitchell (3½ Norton); 2, T. Simister (3½ Norton); 3, J. L. Cruickshank (3½ Norton).
CLASS 5.—1, L. Mitchell (3½ Norton); 2, E. Bottomley (7-9 Harley-Davidson); 3, T. Simister (3½ Norton).
CLASSES 6 and 7.—1, T. Simister (3½ Norton); 2, O. E. Carter (3½ O.C.-J.A.P.); 3, Geo. Cowley, sen. (2¾ A.J.S.).
CLASS 8.—1, Geo. Cowley, jun. (3½ Norton sc.); 2, H. Taylor (6 Bradbury sc.); 3, T. Simister (3½ Norton sc.).
CLASS 9.—1, Geo. Cowley, jun. (3½ Norton sc.); 2, E. Bottomley (7-9 Harley-Davidson sc.); 3, A. Horrocks (Morgan c.c.).
FASTEST TIME OF DAY.—L. Mitchell (3½ Norton), 1m. 5⅖s.
FASTEST SIDECAR TIME.—Geo. Cowley, jun. (3½ Norton sc.), 1m. 19⅘s.
CLUB TEAMS.—1, Stockport Motor Club; 2, Manchester Motor Club; 3, Oldham Motor Club.

N.M.C.F.U. (Coventry).

A successful hill-climb took place on September 18th at Saintsbury Hill, near Broadway, with the following results: Fast climb (solo class): 1, F. Baron (2¾ Omega), 2m. 40s. Sidecar class: 1, S. Healy (4 Triumph sc.). Slow climb of fifty yards: 1, S. Healy (4 Triumph).

CURRENT CHAT

Special Features.

IMPROVEMENTS IN SIDECARS

TRIALS OVER SCOTTISH & WELSH HILLS.

NOTES FOR THE NOVICE.

Times to Light Lamps

Sept. 25th	... ...	7.22 p.m.
,, 27th	... ...	7.18 ,,
,, 29th	... ...	7.14 ,,
,, 30th	... ...	7.11 ,,

An Echo of the War.

The Motor Cycle has been so closely connected with the Tank Corps since its inception that it must be more than a coincidence that there are now no fewer than four ex-Tank Corps men on the editorial staff.

Tolerant Police.

We hear much of the notorious districts (such as Kingston) where the motorist exists in fear and trembling, and where even a bent number-plate may spell disfigurement of his licence; but where is the other extreme? The police of Coventry and Birmingham, both motor centres, are very tolerant: but our readers may know of other claimants to the appreciation of the motor cycle world.

Reconstruction.

Owing to increasing volume of business, Messrs. Binks have reconstructed the company, the capitalisation now being in the neighbourhood of £75,000.

Motor Cycles in South Africa.

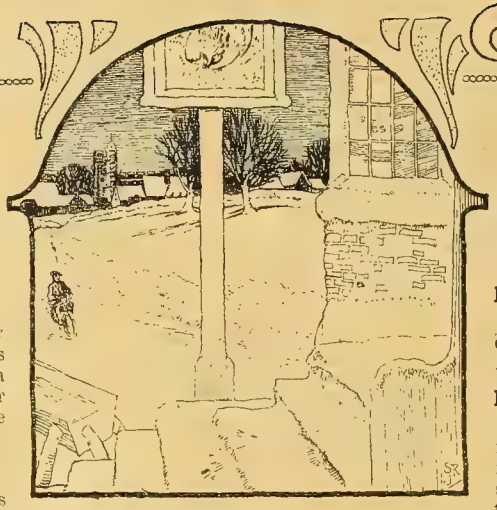
An official census of motor vehicles in the Union of South Africa reveals a total of 11,904 motor cycles owned in the four provinces concerned. The figures given below are for 1919, and since British manufacturers have been exporting considerably this year, the figures are now increased.

	Motor cycles.	Cars, etc.
Cape Colony	.. 2,269	4,389
Natal	.. 1,466	1,638
Transvaal	.. 7,622	6,609
Orange Free State ..	.. 547	1,776
Total for Union	.. 11,904	14,412

The J.A.P. and the Lay Press.

Regarding the several wild reports concerning the makers of J.A.P. engines, and which have appeared in the daily papers, we have received from Messrs. Prestwich the following explanation: "About three weeks ago, disagreement arose between the Shops Committee and the management. Owing to certain statements made by the Shops Committee the firm refused to treat further with the then existing committee. On the 14th inst., 180 men in the assembling section downed tools contrary to agreement, demanding the reinstatement of the former committee. As a consequence these men were not allowed to restart the following morning.

"The firm is in no way opposed to dealing with representatives of the men who properly represent their interests. There is no question of grievance with the remaining one thousand employees of the firm who are still at work. Rumours that the firm has closed down are totally untrue, and without any foundation."



Second-hand Prices.

As yet the customary autumnal drop in prices is not at all pronounced. The figures represent the highest and lowest prices quoted for some of the most widely offered models.

A.J.S., 6 h.p., sidecar, 1918-19	£165–£200
B.S.A., 4½ h.p., sidecar, 1919	£115–£135
Clyno, 2½ h.p., 2-stroke, 1916-20	£52–£70
Douglas, 2¾ h.p., 1914-16	£40–£60
Douglas, 2¾ h.p., 1918-20	£75–£98
Douglas, 4 h.p., sidecar, 1917-20	£75–£155
Harley-Davidson, 7-9 h.p., sidecar, 1918-19	£120–£195
Harley-Davidson, 7-9 h.p., sidecar, 1920	£200–£225
Indian, 7-9 h.p., sidecar, 1920	£155–£210
James, 4 h.p., sidecar, 1919-20	£120–£145
Levis, 2½ h.p., 2-stroke, 1919-20	£50–£65
Matchless, 8 h.p., sidecar, 1920	£185–£235
Norton, 4 h.p., sidecar, 1916-20	£128–£170
P. & M., 3½ h.p., sidecar, 1919-20	£110–£155
Rover, 5-6 h.p., sidecar, 1918-20	£135–£200
Rudge, 3½ h.p., Multi, 1919-20	£88–£125
Scott, 3¾ h.p., sidecar, 1919-20	£110–£180
Sunbeam, 3½ h.p., 1917-20	£100–£160
Sunbeam, 8 h.p., sidecar, 1917-20	£190–£225
Triumph, 4 h.p., 1916-18	£75–£95
Triumph, 4 h.p., sidecar, 1919-20	£125–£175
Zenith, 8 h.p., sidecar, 1920	£155–£210

A SCOOTER RECORD?

Ninety-one miles in five hours is the holiday jaunt covered by this young lady, Miss Cissie Chapman, of Leicester, aged fifteen years, on her Auto-glider.

Petrol Prices in U.S.A.

1s. 10d. and 1s. per gallon are the prices of petrol and paraffin respectively in America.

Planning it Early.

One of our readers evidently believes in the pleasures of anticipation. A request for a route covering the best scenery in Scotland reached us last week, the writer requiring this for a tour he intends making in July, 1921.

Roadside Accommodation.

The A.A. staff of hotel inspectors have evidently been busy during the past year, for they report that no fewer than one hundred and five appointments have been cancelled, refused or deferred. And there can be no doubt that, whether owing to this work of the A.A. or because the hotels begin to realise who their best customers are, the standard of accommodation and catering on the motoring highways has gone up enormously lately. But so, alas! have prices.

Fuel.

If all statutory gas companies having an annual coal consumption of more than 5,000 tons were compelled to install, within a limited period, the necessary plant for the production of crude benzole, there would at once be available a further 30,000,000 gallons of motor spirit annually. This and other facts regarding the fuel situation are being pointed out to the Government by the Motor Legislation Committee, who represent all interests from the motor cyclist to the manufacturer.

Speed with a Flat Tyre.

How fast can one travel on a motor cycle with the rear tyre deflated, and for how long? The motor cyclist who has a puncture at speed, and rides for a few hundred yards before pulling up realises how the deflated tyre affects the steering and comfort. R. O. Clark's sensational finish in the T.T. on a partly deflated tyre will always be remembered by those who witnessed it. A competitor in a pre-war Bristol Trial covered practically the whole of the course with no tyre on his sidecar wheel, while in the speed tests at Brooklands, at the conclusion of the Six Days Trials, L. A. Bees did most of his half-hour with a flat rear tyre, yet managed to average 27.5 m.p.h. Bees's machine was a Beardmore-Precision, which has an efficient spring frame. Also during this trial, J. Westwood Wills accomplished about twenty miles on his Verus without a tyre on the rear wheel, and Horsman's recent hour record on his Norton was finished on a flat tyre.

he Coast Ride.

Mr. G. W. Wilkin, who is driving a h.p. Wilkin sidecar round the coast of reat Britain, had made good time up to st Saturday when he arrived at Grimsby. le left Liverpool on the 8th with an fficial of the A.C.U. as passenger.

he Late R. L. St. J. Harmsworth.

The motor cycle pastime loses a staunch pporter in Mr. R. L. St. J. Harmsorth, a son of Sir R. L. Harmsworth, nd a nephew of Lord Northcliffe, ho died recently. He was a very keen otor cyclist, and while for some time efore his death the state of his health revented him from taking an active part the pastime, he continued to take a een interest in motor cycling matters ght up to the end. He was a very skilful river of Sunbeam and Indian machines.

idecars Barred.

A 160 miles reliability trial, made up two non-stop sections of approximately fty miles each, for solo machines only, ill be held by the Motor Cycling Club October 16th. The start will be at ten clock at Purley, with luncheon at eigate and the finish at Ripley at about p.m. The short distance, late start, and rly finish should make it convenient r the competitors.

Vest Midland Open Reliability Trial.

Including the flexibility and stopping id starting tests, there are thirteen bserved hills in the route of the West idland open reliability trial on September 25th. The start (at a.m. prompt) ill be at Bromsgrove, then through Redtch, Worcester, Malvern, Bromyard, rlow, and Bridgnorth, finishing at the Stewponey Hotel on the Wolverhampton-Kidderminster road: in all, 160 miles. Including many well-known names, an entry of eighty-seven has been received. Teams, as follow, participate: Worcester (4), Redditch (3), Wolverhampton (1), Kidderminster (1), three independent, and Norton and B.S.A. trade teams.

THE AUTO CYCLE UNION STAFF AT WINDSOR.

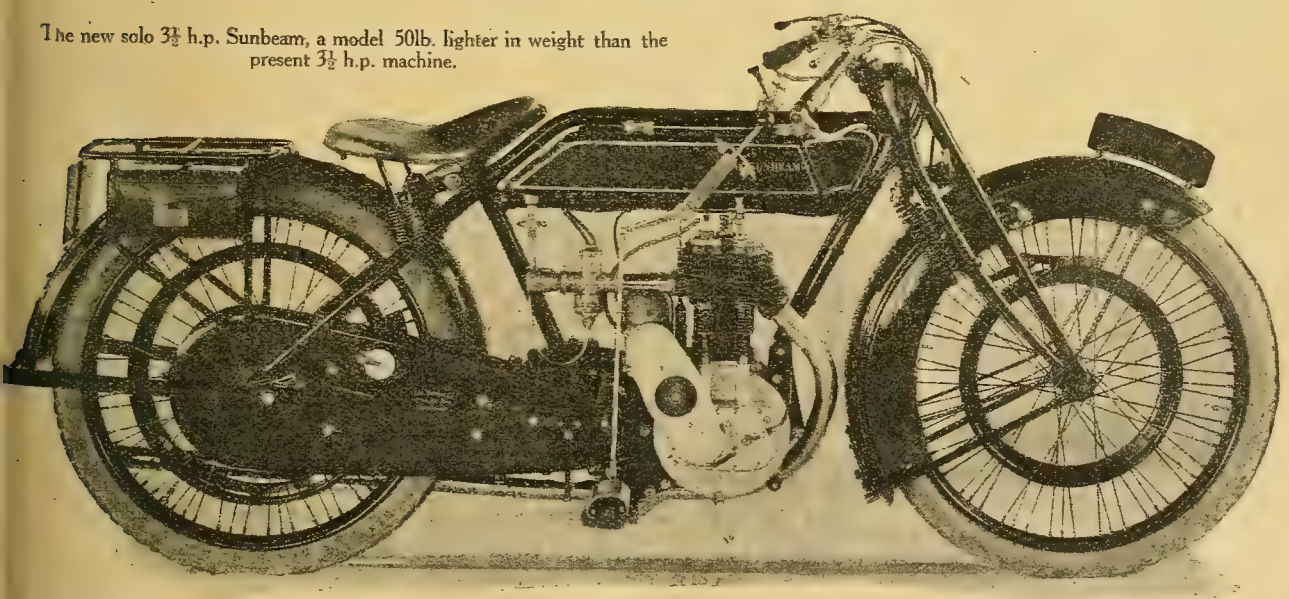
Members of the Auto Cycle Union on the occasion of the recently organised river trip to Windsor. The party boarded the steam launch at Windsor, and proceeded to Marlow. Several well-known A.C.U. officials will be observed in the group.

Invitation to the A.C.U. Committee.

The Norfolk and Norwich Motor Cycle Club has invited the committee of the A.C.U. to dine with them on the evening previous to the committee meeting, which is to be held on Friday, October 1st. The dinner will take place at the Maid's Head Hotel, Norwich.

LIGHTER MACHINES FOR 1921.

The new solo 3½ h.p. Sunbeam, a model 50lb. lighter in weight than the present 3½ h.p. machine.



T is now safe to forecaste that several 1921 models will be lighter—a policy long urged by *The Motor Cycle*. Seveil well known firms are experimenting ith 3½ h.p. machines for solo work, among hich the Sunbeam illustrated on this age is the first. For some time past it as been apparent that the average single esigned as a double purpose mount is too heavy for purely solo use, and in view of the demand for lighter solo machines, accentuated by the increasing cost of petrol, it would not be surprising if weight is not more seriously considered by designers of all types of machines.

The Sunbeam illustrated is 50 lb. lighter than its larger sister, which has been so successful as a medium-powered sidecar machine. It is also smaller. The new model has been produced to comply with the numerous requests received by the makers for a machine constructed on the lines of the winning machine of the 1920 Tourist Trophy. It made its *début* in competition last Saturday, when it was ridden by G. Dance in the Liverpool M.C. trial in North Wales.

AN ELIMINATING TRIAL IN NORTH WALES.

Successful Sporting Event Organised by the Liverpool M.C.

A real test hill—Bwlch-y-Groes, used by the Liverpool Club as a timed hill to find the winner of the Reliance Cup from among the seven competitors who made non-stop runs.

A SERIES of freak hills and a timed climb of Bwlch-y-Groes were the means adopted last Saturday by the Liverpool Motor Club to find the winner of the Reliance Cup Trial.

There were seventy-two starters from Queensferry at 9 a.m., and before Bwlch-y-Groes was reached at midday twenty had retired. Others dropped out in the afternoon, and by the time Llangollen had been left behind and Alt-y-Bady was a thing of the past, those with clean sheets could almost be counted on one hand.

The First Test Hill.

It was an excellently organised trial, and but for a misplaced arrow very near the start, there was not a hitch in the whole proceedings. The first hill was twenty miles away, but those who were misled by the arrow in question—ourselves included—covered nearly forty miles to reach it.

The course was through Hawarden, Hope, Coed Talon, Llandegla, down the Horse Shoe Pass, and through a soft and narrow lane to the Conquering Hero Inn—a fitting name also for the test hill which started from it.

It is a narrow lane with a surface of mud and stones; deep gulleys at awkward angles and a gradient in places of about 1 in 4 were its chief characteristics. The clean ascents were few, but owing to the baulking, there is no saying who would have made non-stop climbs had they been given the chance. One failure meant a blockage—and, very soon the hill was strewn with those who could not get up, and those who might have done had the road been clear.

At one time there were as many as fifteen stranded riders in as many yards, and the familiar smell of Castrol filled the air. Half-way up the hill an Aero Morgan without a competitor's number blocked the hill for all but the nimblest soloist, and, lower down, S. Hall's Morgan was sending the mud flying with its back wheel in an attempt to get going again.

Some remarkably good restarts were made. H. Karslake (Brough) slithered up with his rear wheel first in one gutter and then in the other. S. H. Bann (4 Norton) was climbing splendidly when he skidded and fell. The sole lady competitor (Miss Mary Dane, also on a Norton) attracted the admiration of everyone present by the manner in which she managed her mount. She was forced to stop several times, but by sheer pluck she finally disappeared into the upper regions of the hills.

Losing Time.

V. Horsman (4 Norton) was seen calmly waiting for the crowd to clear, keeping his engine ticking over in neutral. F. H. Moody (6 A.J.S. sc.) ran back, and for a few minutes was across the fairway. H. Newey (2¼ Levis) cleverly avoided him, however, and made quite one of the best climbs. W. Brandish and L. Crisp (both on 4½ Humbers) had practically a clear course, and made good climbs, as did Clark on the 2¾ Coulson. At the foot of the hill E. Foster (8 Dot sc.) had retired with a jammed gear box.

Most of the competitors were now late, but a few succeeded in making up their time before Bala (43 miles) was reached. From Bala to Bala *via* Bwlch-y-Groes was 41 miles, and there was some hard riding in this section to make up lost time, with the result that several competitors ran out of petrol. S. V. Barne (8 Sunbeam) was one of these, and th stop unfortunately took place on hi timed climb of Bwlch-y-Groes; while S Parker (8 Enfield sc.) had only sufficien fuel to carry him over the summit, wher our spare can was used to advantage.

Bwlch-y-Groes.

The performances on the famous Wels hill were consistently good; much bette in fact, than when the A.C.U. Six Day competitors climbed it in the 1919 tria H. F. Edwards (6 Zenith sc.) experience trouble with his front cylinder. H. Drur (2¾ A.J.S.) retired owing to time lost wit the expanding brakes on his rear whee and G. J. Baragwanath (4 Triumph) ha a mishap to his gear box.

Miss Dane (4 Norton) stopped for som reason on the lower part of the hill, and restarting, made an excellent ascent, did J. E. Greenwood (3½ Sunbeam sc.).

As to which was the fastest machine o the hill was a moot point. The Sunbeam ridden by Eric Williams and G. Dan appeared to share equal honours with th Nortons piloted by V. Horsman, N. Sclater, and Jack Fox. The Norton team by the way, were even at this point prim favourites for the team prize. W Kautlehner (5½ Wilkin sc.) did particularly well.

On the descent to the side of Bala lak A. H. Reade (2¾ Viper) misjudged h speed, and fell, so disabling his machin that he finished at that point.

After lunch the surviving competitor were taken *via* Corwen to Llangolle

An Eliminating Trial in North Wales.—

then up the famous Alt-y-Bady, the first of five observed hills in the afternoon's performance.

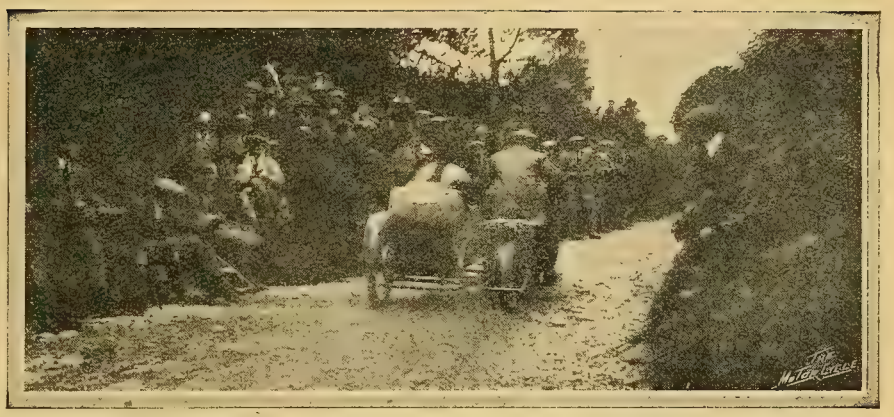
Incidentally, many competitors got away from Bala with a roar reminiscent of the T.T. One is constrained to wonder why. A trial is not a race, and a demonstration of acceleration was not necessary. There was more noise in the quiet main street of Bala than at any other point of the course.

The surface of Alt-y-Bady was better than when the M.C. and A.C. included it in their trial in June of last year.

Notwithstanding last year one or two sidecars succeeded in making clean climbs, this year none were successful. The failures, however, do not count against the present-day sidecar machine, which will usually climb any gradient where wheel grip can be obtained. O. Wade (6 A.J.S. sc.) unfortunately burnt out his clutch, and had to retire, thus robbing several teams of their hope of the team prize. He was nominated as a member of three teams, *i.e.*, the Liverpool Club's team, and both the A.J.S. teams.

Nine Clean Ascents.

Only about nine solo competitors appeared to make non-stop climbs. These were: H. C. Sclater (3½ Norton), H. Ashley (6 L.M.C.), R. Arnold (4 A.J.S.), J. A. Newman (3½ Sunbeam), Eric Williams (3½ Sunbeam), Hunt Fox (4¼ B.S.A.), S. W. Ratcliffe (3½ N.U.T.), L. Crisp (4½ Humber), and W. Brandish (4½ Humber). But all of these more or ess used their feet, and it will rest vith the judges to decide which was and vhich was not foot-slogging. J. F. Lidtone (2¼ James) was making a splendid limb for so small an engine, when he kidded into the gutter. Dance, on the ew light solo Sunbeam—the 1921 model n the experimental stage—struck a paricularly bad patch, and got his wheel pinning. H. J. Scale (New Scale twotroke) was going well when he skidded nto the soft ground from which no cometitor had emerged without stopping. '. Hill's 2¾ h.p. H.B. stopped for a imilar reason, and E. L. Boston (3 .B.C.), at his second attempt, skidded ompletely round, and fell. H. Greaves Beardmore - Precision) made a good limb, but crossed to the wrong side, and stopped with his wheel spinning as if in Plasticine.



Alt-y-Bady at Llangollen, a freak hill of the worst character which claimed all but nine of the competitors. No sidecars succeeded in making a clean ascent.

Sun Trevor.

In a few miles the competitors were in Llangollen again with another observed hill, taken *en route*, and a mile or so outside the town was Sun Trevor—the *pièce de résistance* in the Liverpool Club's last year's event. The surface was much better, however, and instead of a repetition of the expected scenes on Conquering Hero, very few failed to make good ascents. E. L. Boston (A.B.C.) fell, T. D. Addinsell (4 Triumph) and K. Wilson (6-8 Rex) suffered from belt slip.

Eric Williams and Dance made spectacular climbs with their Sunbeams. Miss Dane was also good to watch, while J. H. Davies (4 Triumph) mounted the bank, but made a splendid recovery and, straightening out, completed the climb with ease.

Almost a continuation of Sun Trevor was the Old Horse Shoe Pass—observed hill, No. 4, in the afternoon route, but after such hills as Alt-y-Bady and Conquering Hero, it gave little trouble to the tired competitors.

One more observed hill near Mold, and the survivors checked in at Queensferry in the dusk.

Thus the aspirants for the Reliance Cup were reduced to eight, as only the following claimed non-stop runs: N. C. Sclater (4 Norton), V. Horsman (4 Norton), Eric Williams (Sunbeam), J. A. Newman (3½ Sunbeam), G. A. Strange (3½ James), L. Crisp (4½ Humber), and W. Brandish (4½ Humber). Scater, however, lost time at the finish.

On the whole it had been an excellent day's sport, in weather that had threatened in the morning, but was sunny at intervals. One brief rain and fierce hailstorm was encountered while descending from Bwlch-y-Groes.

The actual winner of the Reliance Cup can only be known when the committee have worked out the results of the timed climb of Bwlch-y-Groes, the formula used being that recommended by *The Motor Cycle*, *i.e.*, $\frac{C \times T^2}{W}$ From observation, it appeared that the chief award will go to a Norton or a Sunbeam, and that the coveted team prize will be won by riders of the former.

No other teams qualified apparently; but probably a prize will also be given for the best performances by a club team, in which case honours may go to the Worcester team on Sunbeams.

AT THE START. Competitors at Queensferry.

INCIDENTALLY.

The 3½ Sunbeam and 3½ Wilkin sidecars, driven by J. E. Greenwood and W. Kautlehner respectively, demonstrated the possibilities of a well-tuned 500 c.c. single.

Hunt Fox (4¼ B.S.A.) rode splendidly, and after making a clean ascent of Alt-y-Bady fell at the top.

Riders of spring frame machines had the easiest time. These included E. L. Boston (A.B.C.), J. C. Walker (2½ Edmund), R. B. Clark (Coulson), and H. Greaves (Beardmore-Precision).

BROOKLANDS MEETING POSTPONED.

On Saturday last the B.M.C.R.C. and Essex Motor Club were to have held a meeting at Brooklands. Unfortunately, rain caused a postponement until October 2nd, the championship to be run off on October 9th.

Almost immediately after the decision to abandon the event the weather cleared and the sun shone once more.

A Flat twin sidecar in the Edinburgh and District Motor Club Two-day Trial. J. Joynson, 5-6 h.p. Coventry Victor, climbing Amulree.

THE SCOTTISH AUTUMN TRIAL.

First Day of the Sporting Two-day Event Organised by the Edinburgh M.C. Forty-two Competitors Materialised for the Scottish Two-day Trial to Oban last Saturday.

SUNSHINE and an autumnal crispness in the air were the early morning conditions when at eight o'clock the first riders left Murrayfield car terminus on what promised to be one of the most sporting and perfectly organised trials yet held. That, indeed, has been the aim of the organisers, and a glance at the programme created a refreshing sense of the unique individuality of the event. The booklet opens with a well written description of the magnificent country traversed, and is liberally illustrated with panoramic views of the Highlands. The programme is unconventional, and so is the official ruling. H. M. Batten (A.B.C.) led the way, carrying official time, together with two other travelling marshals, R. Knowles (Norton) and J. Steel (A.C.E.). From Amulree onwards the route lay through an unbroken grandeur of Highland scenery. Knowles was our travelling companion, and from him we were sorry to learn that some months must elapse ere Mrs. Knowles, after her regrettable accident in the Six Days, will again be able to indulge in any active sport.

Unchangeable as its world's old sister hills, Amulree claimed its usual victims. Steel, riding the huge four-cylinder A.C.E. solo, found his gear lever locked, and ran back, falling badly. Knowles tackled the hill in English fashion, as the Scotch observers put it, and almost fell. Harry Fairley (A.B.C. sc.) was under-powered, and had to push, while Ralston (3½ James sc.) shed his passenger. One competitor fell grotesquely, to the amusement of the spectators, while J. A. Russell (2¼ Levis) made a clever and plucky ascent. R. M. Ritchie (A.B.C.) and J. Manuel (4 Triumph) also failed, while Alan Hill (Scott), H. M. Batten (A.B.C.), and A. Peffers (4 Indian Scout) made good solo ascents.

Bad Road Surfaces.

Among the sidecars, Roger Macrae (Harley-Davidson sc.), A. F. Downie (6 A.J.S. sc.), and J. Beck (3½ Sunbeam sc.) were outstandingly good. On the mountain top, between Amulree and the deer forest of Kenmore, A. H. Alexander (3½ Douglas) suffered a mechanical breakage, which compelled his retirement.

Descending Kenmore to the valley of the Tay, one was thenceforth torn asunder by conflicting sentiments which involved the indescribable grandeur of the scenery and the unspeakable condition of the roads. For miles there were pot-holes from gutter to gutter. There was no riding track, and, while the machines were subjected to a terrific shaking, the riders were a-swill with slush which deluged everyone, and caused many ignition troubles.

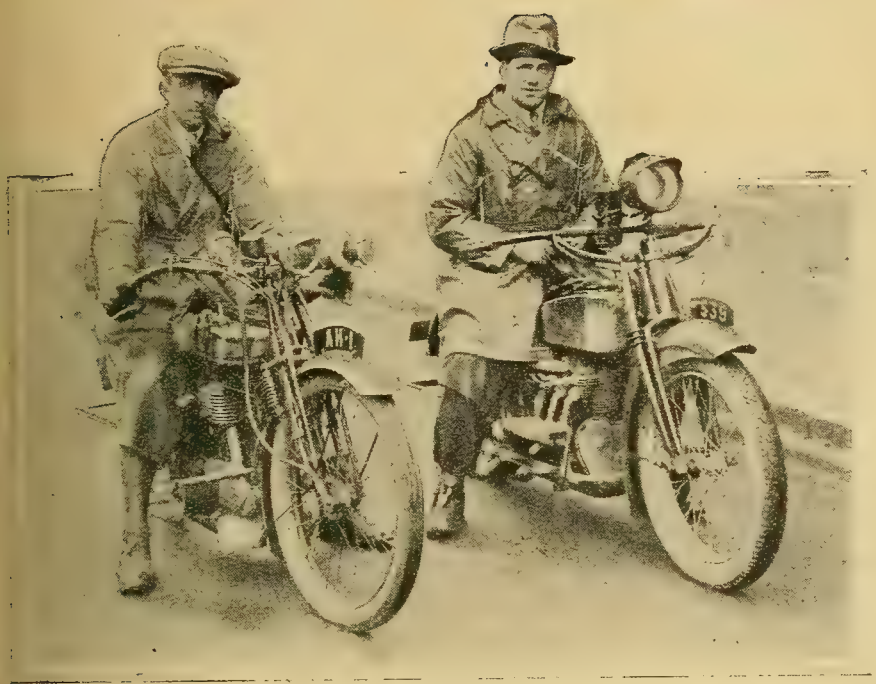
One of the A.B.C.'s was bounced clean into the ditch at speed, the machine pitching nose first with a metallic clash, and rebounding into the middle of the road. It speaks well for the frame design that literally no damage resulted.

Passing through Killin, lunch at Crianlarich was heartily welcomed, and during the afternoon the roads were vile in parts, with many good stretches, while the sunlight shower and cloud effect on the mountains was entrancingly beautiful.

"Rest and be Thankful" claimed but two failures—A F. Sidford (Matchless), who missed his gear, and Harry Fairley (A.B.C sc.). Steele, on his A.C.E., fairly made the spray fly, and the spirit of freedom which pervades all Scottish trials was evident by the total disregard for schedule time. Many arrived early at the tea control at the delightful resort of Inveraray, but they were allowed to check in and enjoy the benefit of their misconduct, having extra time for tea.

Ben More, Ben Lui, and Ben Cruachan were among the mountains seen from the subsequent height of land, and, becoming accustomed to diving nose foremost down the precipitous descents, negotiating hair-pin corners, and ricocheting over pot-holes, we pressed on through the traditional home of the MacGregors amidst a bewildering array of crags and island dotted waters.

At eight o'clock the first men checked in at Oban, where everyone seemed dazed by the splendour of the scenery and loveliness of the surface traversed. There were outstanding incidents to discuss. One of the A.B.C. men collided with a cow, but bounding off it continued cheerfully on his way, leaving the cow in the middle



Two travelling marshals, R. Knowles (Norton), and J. Steel (A.C.E.), who, with H. M. Batten led the trial.

of the road with its legs aspiring stiffly skywards. Russell, on the little Levis, had lost no marks.

First Day's Retirements.

H. Baxter (3½ Norton), S. Hubbard (2¾ Blackburn), T. Gillies (3½ Sunbeam), A. H. Alexander (3½ Douglas), S. C. J. Joynson (5-7 Coventry Victor, sc.), R. R. James (8 Blackburne), and D. Cairns (o.h.v. Ford).

The following had lost marks: J. Steel (10 A.C.E.), 1; R. M. Richie (3 A.B.C.), 1; J. Manuel (4 Triumph), 1; H. Fairley (3 A.B.C., sc.), bronze possible; D. Ralston (3½ James, sc.), bronze possible; J. M. Boyack (3½ Sunbeam), bronze possible; A. F. Sidford (8 Matchless), bronze possible.

Twenty-eight were still in the running for gold medals at the end of the first day.

DISCOMFORT ON THE ROAD.

IF the average man in the street were asked which was the more uncomfortable method of locomotion—a high-class motor car chassis with a seat made out of packing case wood and upholstery made out of a sack stuffed with wood shavings, or an unsprung motor cycle—he would almost undoubtedly reply that the motor cycle would afford the least comfort. We can assure our readers that this is quite untrue.

We recently had occasion to drive a small but very high-class chassis out of London equipped in the manner described. No one can imagine the appalling discomfort. Every bump seemed to be conveyed from the nether portion of one's anatomy direct to the brain, and at the end of the journey distinct fatigue and a slight inclination to headache were experienced. We have on many occasions traversed the road in question on a motor bicycle fitted with somewhat indifferent spring forks and a Brooks 170B saddle, and we can assure those who do not motor cycle that this form of vehicle was by far the more comfortable of the two. The reason, of course, is obvious. The car, being without its body, was much too light for its power, and the chassis springs did practically no work at all. Also, in the ordinary way, one would be sitting on spring cushions, and in this case there was practically no cushion at all.

The experience demonstrated the important part played by the seat cushions and subsequent experiments in various sidecars show that designers of the latter type of vehicle do not fully appreciate the value of a good deep well sprung cushion.

MIDLAND CENTRE A.C.U.

THE following letter, of interest to all Midland clubs, has been received from the local Consul of the Midland Centre of the A.C.U.:

"Sir,—My attention has been called to a letter in your issue of September 16th from the hon. trials secretary of the recently formed Worcester and District M.C.C., in which that gentleman states that his club has decided to form another centre, for which the name of the 'Three Shires Centre A.C.U.' is proposed.

"In view of the discussion which took place at the meeting which was recently held in Birmingham, when representatives from such clubs as Coventry, Wolverhampton, Nuneaton, etc., were present, when it was decided that the whole object of the A.C.U. Centre scheme would be defeated if a number of centres a small distance apart were formed, at least at this early stage since the inception of the scheme, I am more than surprised that the trials hon. secretary of the Worcester Club should be so keen to rush into print to disclaim the 'authority' of the representatives of no fewer than ten clubs, all older than the Worcester Club; though perhaps do not claim to be the 'only sporting club.'

"It was pointed out to the representatives of the Worcester Club by myself—I happened to be in the chair—that, whilst the A.C.U. Local Centre rules provided for the formation of fresh centres when 'at least six affiliated clubs in a district shall have agreed to support the constitution of a centre,' the formation of a second centre so near Birmingham, which was the natural geographical centre, and which should be looked upon as such without any suspicion of jealousy on the part of clubs outside Birmingham itself, would only tend to set a precedent which would ultimately result in the collapse of the whole object of the Centre scheme: an expression of opinion which was unanimously supported by those present, except the Worcester delegates.

An Appeal to Sportsman'hip.

"The Worcester Club is, I understand, a very live body, but it must not mistake enthusiasm for power and zeal, and it must further live up to its motto as a sporting club, by refraining from sending out notices to clubs which have already expressed their desire to join the A.C.U. Midland centre, which centre was laid down by the A.C.U. itself, and asking them to associate with them (the Worcester Club) in the formation of a different centre, before the official centre has got properly going!

"Such conduct does not make for harmony, or for that unity which is so very desirable amongst motorists in these strenuous days. The Worcester Club would do well, I am sure, to consider the words addressed to their delegates before they withdrew from the meeting in question, which were to the effect that they should reconsider their attitude, bearing in mind that the times did not permit of petty and needless jealousies, and throw in their lot with the Official Midland Centre, at least till such time as the centre was in full working order, and the Worcester delegates had served their apprenticeship, before endeavouring to set up an 'opposition' centre, only some twenty-six miles from the official centre.

"The whole question will come up for discussion at the next general meeting of the A.C.U., and I personally shall do everything possible to prevent the extension of the centre scheme as at present laid down, until time has shown the necessity for more centres, as I am strongly of the opinion that a multiplicity of centres must lead to failure of the whole scheme.

"R. Vernon C. Brook,

"Chairman, Midland Centre A.C.U."

C15

CLUB NEWS. Continued

Luton and South Beds A.C.

A successful hill-climb was held recently by the above club, an excellent entry being received. The hill selected had a severe gradient, and included two slight bends. The rough surface did not deter competitors, all of whom made good times. The results were as follows :

CLASS 1 (350 c.c.).—1, S. Watson (2¾ Douglas), 53s.; 2, F. Child (2¾ Douglas), 55⅘s.; 3, A. L. Swan (2¾ New Imperial), 63⅗s.

CLASS 2 (600 c.c.).—1, J. Hill (3½ Rudge Multi), 42½s.; 2, T. Bourlet (3 A.B.C.), 43⅘s.; 3, R. Baker (3½ Triumph), 47½s.

CLASS 3 (1,000 c.c.).—1, J. Hill (3½ Rudge Multi), 42s.; 2, T. Bourlet (3 A.B.C.), 45s.

CLASS 4 (Passenger Machines).—1, H. Revre (5-6 James sc.), 49⅘s.; 2, F. Child (8-10 Morgan), 57⅗s.

Bradford M.C. and L.C.C.

Although only resuscitated a short time ago, membership of the club now approaches three hundred, and at the last meeting a further batch of twenty-two were enrolled. The prosperity of the club is undoubtedly due to the energetic organisation of its programme. As an example of this, a series of technical lectures on motor cycle mechanism has been arranged for the winter months. The sporting side is also well catered for; incidentally, a hill-climb and speed trials will be held on the 25th and 26th inst.

Members are advised that a very handsome club badge in gilt and enamel is now available. The price is 6s. 6d., including handle-bar bracket.

Dorchester M.C. and L.C.C.

At the hill-climb recently held on Ashton Hill G. W. Churchill proved the winner in the 350 c.c. class on a 2¾ h.p. Verus-Blackburne (37s.) The 600 c.c. class resulted in a close contest between H. Peckham and A. E. Hann, both riding 3 h.p. A.B.C.'s, the latter winning in 26⅘s. by the narrow margin of ⅘s. In the unlimited class, J. Caslake (7-9 Harley-Davidson) romped up in 25s. The passenger classes had to be abandoned.

A Scottish Non-stop Run.

Glasgow Motor Cycle Clubs' 100 Miles Open Reliability Trial.

On one of the test hills in the Glasgow M.C.C. 100 Miles Reliability Trial. Hillier taking his 3½ Ariel up Leith Hill.

A SUCCESSFUL 100 miles trial was held on Saturday, September 18th, by the above club. Starting from Strathblane, the course was through Lennoxtown, over the Fintry Hills, through Blane Valley, up Cult Brea, and Kyber Pass.

There were twenty-nine starters, of whom nineteen failed to complete the course non-stop.

M. Simons (4 Triumph) retired two miles from the finish with belt trouble, and M. Simpson (6 A.J.S. sc.) had trouble with his sidecar connections about the same place.

A crowd of spectators watched the competitors ascend Cult Brea, from the top of which a fine view can be had of the road below. The road through the Kyber Pass was rough, and several competitors came to grief amongst the loose stones. R. Brown ran into the bank, and came off. Goodwin (3 Enfield) retired with a broken frame, and G. Munro, who had not been going well stopped with a choked jet.

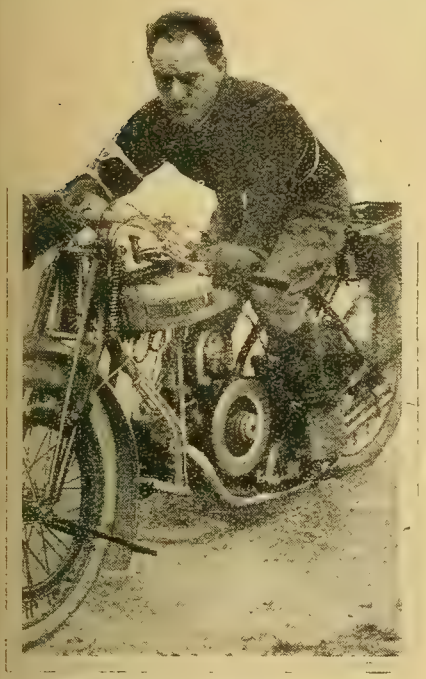
Noticeable for their clean assents of the hill in the Pass were Murdoch Frazer (8 Enfield), Geo. Kelly (6 A.J.S.), and R. Robertson (3½ Sunbeam), who all appeared to have plenty in hand.

Thanks to the hon. trials secretary, Mr. D. J. Baddley, and his fellow enthusiasts, the trial was well organised, and proved an enjoyable afternoon to both competitors and spectators.

A West of England Hill Climb.

THE Bristol Club received excellent support from both trade and private owners for the recent hill-climb on Kingsdown Hill near Bath. It was a particularly good day for Douglas riders, who record eleven "firsts" and five "seconds": but the Sunbeams and Nortons did not allow the local men to have all their own way. G. W. Walker, on a Norton, made fastest solo time; while in the sidecar classes H. R. Davies, on his 2¾ h.p. A.J.S. sc., gained this honour by ⅕s. from the redoubtable Dance.

G. Dance, on his Sunbeam, in the sidecar class; he made second fastest sidecar time, being ⅕ sec. slower than the fastest man.



H. Thorpe, who, on a 3½ h.p. Douglas, won five awards. He rode one of the 1921 models, with central camshaft and valves above the cyliner.

The full results were as follows:

CLASS 1 (275 c.c., Open).—1, A. E. Tozer (2¼ O.K.), 75⅕s.

CLASS 2 (275 c.c., Open, Expert Barred).—1, R. B. Horstmann (2½ Sun-Villiers).

CLASS 3 (275 c.c., Club Open).—1, A. E. Tozer (2¼ O.K.), 71s.

CLASS 4 (275 c.c., Club, Expert Barred).—1, A. E. Tozer (2¼ O.K.), 71⅕s.

CLASS 5 (350 c.c., Open).—1, G. Dance (2¾ Sunbeam), 36⅕s.; 2, H. R. Davies (2¾ A.J.S.), 38s.

CLASS 6 (350 c.c., Open, Expert Barred).—1, R. Passey (2¾ Douglas), 45⅕s.

CLASS 7 (350 c.c., Club, Open).—1, E. Kickham (2¾ Douglas), 38⅕s.; 2, C. Sgonina (2¾ Verus), 43⅕s.

CLASS 8 (350 c.c., Club, Expert Barred).—1, R. Passey (2¾ Douglas), 48⅕s.

CLASS 9 (500 c.c., Open).—1, G. Dance (3½ Sunbeam), 34⅕s.; 2, G. W. Walker (3½ Norton), 34⅖s.

CLASS 10 (500 c.c. Open, Expert Barred).—1, G. H. Tucker (3½ Norton), 37⅖s.; 2, R. Passey (2¾ Douglas), 46⅕s.

CLASS 11 (500 c.c., Club Open).—1, H. Thorpe (3½ Douglas), 34⅖s.; 2, E. Kickham (3½ Douglas), 37s.

CLASS 12 (500 c.c., Club, Expert Barred).—1, H. N. Walker (3½ Norton), 42⅖s.; 2, R. Passey (2¾ Douglas), 46s.

CLASS 13 (750 c.c., Open).—1, G. W. Walker (3½ Norton), 32⅖s.; 2, H. S. Davis (2¾ A.J.S.), 33⅕s.

CLASS 14 (750 c.c., Open, Expert Barred).—1, G. H. Tucker (3½ Norton), 41⅖s.; 2, R. Passey (2¾ Douglas), 44⅕s.

CLASS 15 (750 c.c., Club, Open).—1, H. Thorpe (3½ Douglas), 34⅖s.; 2, C. Sgonina (3½ Norton), 34⅖s.

CLASS 16 (750 c.c., Club, Expert Barred).—1, R. Passey (2¾ Douglas), 47⅖s.

CLASS 17 (Unlimited, Open).—1, G. W. Walker (3½ Norton), 33⅖s.; 2, G. Dance (3½ Sunbeam) and H. R. Davies (2¾ A.J.S.), 33⅖s. tied.

CLASS 18 (Unlimited, Open, Expert Barred).—1, N. F. Chant (6 N.U.T.), 33⅖s.; 2, G. H. Tucker (3½ Norton), 36⅕s.

CLASS 19 (Unlimited, Club, Open).—1, H. Thorpe (3½ Douglas), 34⅕s.; 2, C. Sgonina (3½ Norton), 35⅕s.

CLASS 20 (Unlimited, Club, Expert Barred).—1, H. W. Jacobs (8 Zenith), 39s.; 2, F. C. Hardwell (7-9 Indian), 44⅕s.

CLASS 21 (Sidecars up to 350 c.c., Open).—1, H. R. Davies (2¾ A.J.S.) and G. Dance (2¾ Sunbeam), 42⅕s., tied.

CLASS 25 (500 c.c., Sidecars, Open).—1, H. R. Davies (2¾ A.J.S.), 41⅕s.; 2, G. Dance (3½ Sunbeam), 41⅖s.

CLASS 26 (500 c.c., Sidecars, Open, Expert barred).—1, G. H. Tucker (3½ Norton), 50⅕s.

CLASS 27 (500 c.c., Sidecars, Club, Open).—1, E. Kickham (3½ Douglas), 42⅖s.

CLASS 28 (500 c.c., Sidecars, Club, Expert Barred).—1, F. Cooke (3½ Sunbeam), 62⅖s.

CLASS 29 (750 c.c., Sidecars, Open).—1, G. Dance (3½ Sunbeam), 41⅕s.; 2, F. Thorpe (3½ Douglas), 42⅖s.

CLASS 30 (750 c.c., Sidecars, Open, Expert Barred).—1, G. Tucker (3½ Norton), 45⅖s.

CLASS 31 (750 c.c., Sidecars, Club, Open).—1, E. Kickham (3½ Douglas), 43⅖s.

CLASS 32 (750 c.c., Sidecars, Club, Expert Barred).—1, F. Baxter (4 Norton), 49⅖s.

CLASS 33 (Unlimited, Sidecars, Open).—1, F. Thorpe (3½ Douglas), 41⅖s.; 2, G. Dance (3½ Sunbeam), 42⅖s.

CLASS 34 (Unlimited, Sidecars, Open, Expert Barred).—1, A. Kingsmith (7-9 Harley-Davidson), 46⅖s.; 2, P. Whale (7-9 Harley-Davidson), 50⅖s.

CLASS 35 (Unlimited, Sidecars, Club, Open).—1, E. Kickham (3½ Douglas), 42⅖s.; 2, G. Tucker (3½ Norton), 46⅖s.

CLASS 36 (Unlimited, Sidecars), Club, Expert Barred).—1, F. Baxter (4 Norton), 48⅖s.

SCOTTISH INTER-CLUB TEAM TRIAL.

REGISTERING the only complete non-stop performance, Edinburgh No. 1 team proved the winners of the "John Bull" Cup, the principal award in this event, which was briefly described and illustrated in our issue of last week.

The performances on Amulree were, on the whole, disappointing, and on the first lap there were many failures, chiefly owing to bad riding. It came as a great surprise to many that even at the end of the first lap only one team was still intact. From that time on the results were a foregone conclusion, and the number of stoppages were really considerable. Here a rider would fail from a sooted plug, another from wheel spin, another from the injudicious tackling of a hairpin bend, and so on, till comparatively few individual riders completed the second lap without loss of marks. The route was not unduly severe for a Scottish trial, though it must be admitted that rough surfaces and greasy, timber-ploughed roads made the task of riding to the schedule of 18 m.p.h. none too easy.

Each team consisted of four members, two riding solo and two sidecar machines, and the club performances giving total non-stop mileages are as follows:

1st, Edinburgh No. 1.—H. M. Batten (3 A.B.C.), J. Steel (3½ Norton), R. S. Macrae (7-9 Harley sc.), and G. Grinton (7-9 Harley sc.)—224 miles.
2nd, Western No. 2.—185 miles.
3rd, Berwick.—163½ miles.
Edinburgh No. 2, 130½ miles; Falkirk, 128 miles; West Fife, 102½ miles; Dundee, 100½ miles; Western No. 3, 82 miles; Western No. 2, 59½ miles.

London—Bala—Dunstable.

Essex M.C. Twenty-four Hours Trial.

THE official list of awards for this event of the Essex Motor Club, reported in our last issue, is now to hand. Considering the strenuous nature of the trial, 410 miles in twenty-four hours, including ascents of Bwlch-y-Groes and Rhosgwalian, the high proportion of finishers is most satisfactory.

GOLD MEDALS.—A. C. Rhodes (3½ N.U.T.), F. W. Applebee (2¼ Levis), V. Olsson (7 Indian), W. Simpson (7 Indian sc.), E. A. Bridgeman (7 Indian sc.), D. S. Parsons (5 Rover sc.), W. C. Hemy (6 A.J.S. sc.), W. A. Fell-Smith (8 Blackburne sc.), F. S. Spouse (8 T.B.), and R. G. Mundy (10 G.N.).

SILVER MEDALS.—A. Stranger (5 Stranger) and E. Porter (3 A.B.C. sc.).

BRONZE MEDALS.—R. E. Humphreys (2½ Kingsbury), B. A. Hill (Morgan), E. J. Pittock (5-6 James sc.), J. W. Wills (2¾ Verus sc.), and C. Pressland (8 Crouch).

A Single-cylinder Mediumweight.

A 2¾ h.p. Engine and Novel Spring Forks.

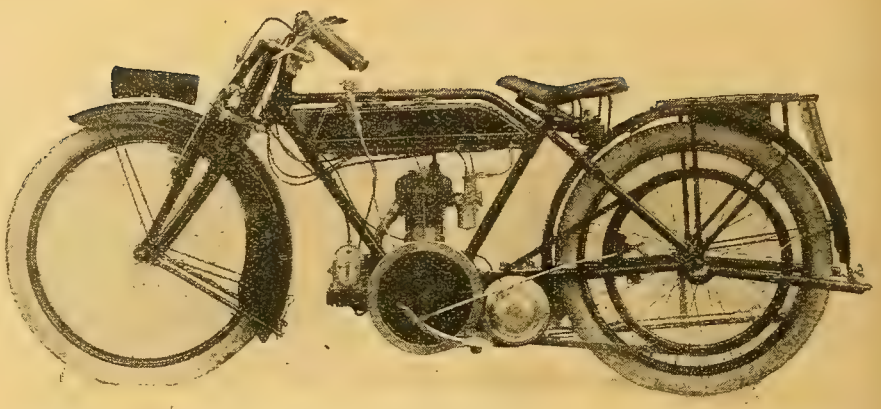
TO the many firms who are using the 2¾ h.p. Blackburne engine as a power unit there is yet another addition, the Marloe Motor Cycle Co., of 151, Coventry Road, Bordesley, Birmingham, having recently introduced such a machine. Chain and belt drive with a two-speed Burman gear box form the transmission, a clutch and kick-starter being incorporated. The general specification follows that of previous Marloe models, but heavier gauge spokes and round base rims are now fitted, while a 7in. rear guard affords protection for the rider. Many little details go to show that the machine is the production of practical riders, and as examples we may quote the very large toolbag and the tank with all its fittings on one side so as to be instantly removable.

Perhaps the most interesting feature of the machine is the new spring fork, in which leaf springs replace the more usual coil type.

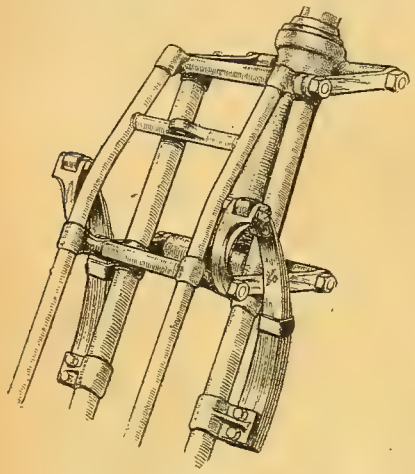
Brazed to the main members of the fork blades are spring pads, which allow the leaf springs to start parallel with the head. The main leaves then curve forward, and are attached to an extension of the lower links by means of an elongated loop.

Thus the springs are easily cleaned, and do not interfere with the fitting of wide guards, and, in addition, it is claimed that they help to ensure rigidity on corners.

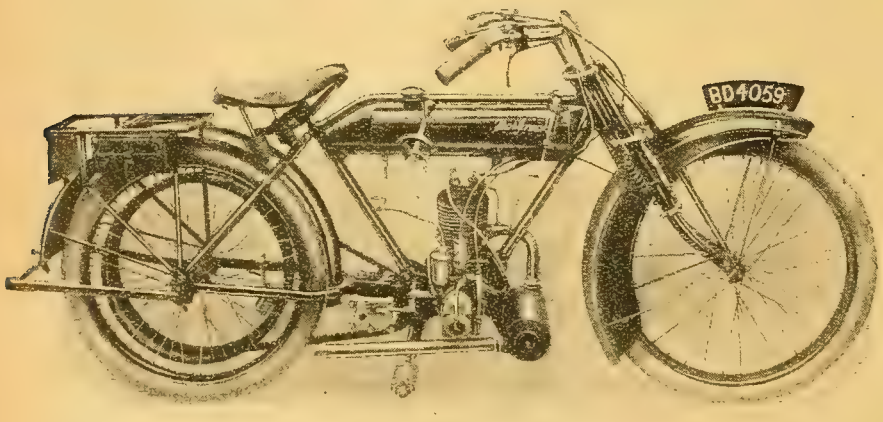
Fitted with 26in. × 2¾in. Hutchinson tyres, a short stiff frame, and a choice of Amac, B. and B., or Senspray carburetter, the machine is an attractive proposition for the solo rider at the price of 100 guineas.



The latest model Marlow is fitted with a 2¾ Blackburne engine and a 7in. rear mudguard. Several other detail improvements have been carried out.



The Marlow spring fork in which leaf springs replace the usual coils and leave the fork clear for wide guards.



Another newcomer to lightweight ranks, the Norbreck, which has been produced with the idea of marketing a sound proposition at a low price.

The Norbreck Two-stroke Lightweight.

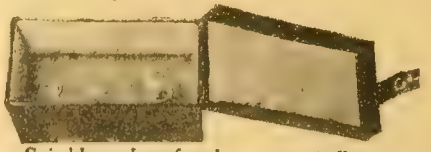
WELL-KNOWN components are embodied in this attractive looking lightweight. An Arden 70 mm. by 70 mm. (269 c.c.) engine will be standard, although our illustration of the experimental model shows a Union. Best and Lloyd drip feed lubrication, B. and B. carburetter, C.A.V. magneto, and Arden spring forks are included in the specification of the single-speed model which sells at £50 8s. Or with a Burman two-speed gear box, the retail price is £56 8s.

The maker is Douglas H. Valentine, with temporary premises at 24, Finedon Road, Wellingborough.

A SPARE BULB CASE.

MOTOR cyclists who are fortunate enough to have electrically-lighted machines will fully appreciate the difficulties of the safe storage of spare electric bulbs. Spare bulbs are a necessity if one does not want to be delayed on the road, as sometimes bulbs give out just when they are least expected to do so.

This handy little box in imitation leather contains three bulbs: for the head, tail, and side lamps on a sidecar outfit. They are held in bayonet sockets, and cannot receive damage when carried in this way.



Suitable sockets for three spare bulbs are provided in this neat leather-covered case.

The case, which may be obtained with or without bulbs, is sold by Messrs. H. Taylor and Co., Ltd., 21a, Store Street, Tottenham Court Road, London, W.C.1.

The same firm is also marketing a luggage grid specially made to fit 4 h.p. Douglas sidecar outfits; the device can be readily applied to the standard chassis, and forms a useful adjunct for touring. Quite a large quantity of luggage may be accommodated, thus eliminating much inconvenience.

MR. H. TAYLOR, Managing Director.

What's in a NAME?

THIS depends entirely upon the reputation behind it. Over ten years of successful trading, founded on sound business lines, backed by TAYLOR service and personality, has built one of the most progressive motor cycle, light car, and accessory businesses in London to-day.

Everything motorish for the motorist, at London's lowest prices, is the Taylor Slogan, both at Store Street, and at our commodious showrooms at South Kensington.

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TAYLOR'S

is the sound advice offered by the seasoned motor cyclist to his best pals. Few motor cycle establishments have grown as the House of Taylor has done, and our progress is due to the recommendation which our fair dealings and the service we render, has prompted.

RIDE while you PAY

Our easy payment system enables motor cyclists to purchase their favourite mount out of income without disturbing their capital.

HERE'S AN EXAMPLE

CALTHORPE 2-stroke (maker's price) ..	£74 19 0
Down payment of 25%	18 14 9
Interest on unpaid balance at 7½% ..	4 4 4
Making unpaid total of	60 9 7
Divided into 12 monthly payments of ..	5 0 10

Remember—we carry through with our customers the whole of a deferred payment contract. A large variety of all the best makes of machines in stock, for immediate delivery.

Sole London and District Agents for A.J.S. and EXCELSIORS and have at the moment a few of these high-class mounts ready for immediate delivery. Write for catalogue. Below we give a further selection of machines in stock.

NEW 1920 MODELS.

NEW 1920 COMBINATIONS.

Make.	h.p.	Description.	Price.
Matchless ..	7-9	Model H Com., M.A.G. engine, Lucas acetylene lighting	£215 7 6
B.S.A.	4	Model H Com., 3-speed, clutch, and kick starter..	£152 0 0
Harley-Davidson	7-9	With special Watsonian Sidecar to match, acetylene lighting	£234 11 6
Enfield	8	Latest standard Com.	£177 0 0
A.J.S.	6	Combination, 4 detachable wheels, screen, apron, etc. cancelled order	£210 0 0
Zenith	8	Model H, clutch, and kick-start, with special sidecar to match	£196 4 0
G.N.	10	2-seater light car, 5 detachable wheeels, dynamo lighting, immediate delivery.	£275 12 6

NEW 1920 MEDIUM WEIGHTS.

A.B.C.	3	4-speed, clutch, kick starter, with dynamo lighting	£173 10 0
Blackburne	4	Burman, 3-speed, clutch, and kick starter	£138 10 0
Rudge Multi	3½	T.T., with starter	£110 5 0
Royal Ruby	3	Spring frame, 2-sp., clutch, and kick starter	£120 0 0
Scott	3¼	2-speed, 26×3 Palmer light cover to rear wheel	£144 10 0
Lea-Francis	3½	M.A.G., 2-speed, clutch, and kick starter	£135 0 0

NEW 1920 LIGHTWEIGHTS.

Make.	h.p.	Description.	Price.
Calthorpe ..	2¾	2-stroke, 2-speed	£74 19 0
Calthorpe ..	2¾	J.A.P., 2-speed	£78 5 6
Enfield	2¼	2-stroke, 2-speed	£73 10 0
British / Excelsior	2¼ / 2¾	2-stroke, 2-speed / J.A.P., 2-sp., clutch, k-start	£67 0 0 / £84 0 0

USED MACHINES.

Zenith	8	1920 countershaft, clutch, kick-starter, with Henderson coupé Sidecar, run only 1,000 miles	£180 0 0
Scott	3¼	1920, with Henderson Sidecar, Cowey speedometer, horn, electric lighting, watch, etc., very fine condition	£185 0 0
Lea-Francis	3½	1920, M.A.G., Lucas lighting, mechanical horn, etc.	£110 0 0
Harley-Davidson	7-9	1916 Com., electric light and horn	£130 0 0
New Imperial	8	1920 Combination with F.R.S. electric lighting set, not run 100 miles..	£130 0 0

1920 6-7 B.S.A. TWIN
JUST DELIVERED £150.

Large stock of sidecars to fit all makes in stock.

H. TAYLOR & Co., Ltd.,

52-53, SUSSEX PLACE, South Kensington.
FOR CARS & MOTOR CYCLES
21, STORE ST., Tottenham Court Rd., W.C.1
FOR ACCESSORIES & REPAIRS.

Telegrams : "Dynametro Westcent." Telephone : Kensington 7260.

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Stock.

A.B.C.	£150 0 0	Levis	£60 0 0
Ariel & SC.	150 gns.	Martinsyde & SC.	£170 0 0
Calthorpe	£78 5 6	New Hudson	£75 0 0
Cedos	70 gns.	New Imperial	85 gns.
Clyno	£75 0 0	O.K.	48 gns.
Francis-Barnett	84 gns.	6 h.p. Zenith	£139 0 0

Early Delivery.

A.J.S. & SC.	£210 0 0
Indian & SC.	£223 14 0
Matchless & SC.	£205 0 0
Norton	£135 0 0
P. & M. & SC.	£155 0 0
Triumph	£127 10 0

84, BROAD STREET, READING.

WE PRIZE YOUR ORDER. IT MEANS ANOTHER RECOMMENDATION — ULTIMATELY. HENCE OUR EXPANDING BUSINESS.

8 h.p. **CLYNO Comb.** £250 cash, or £134 10 0 down, and 11 payments of £12 4 2

6-7 h.p. **B.S.A.** and sidecar. £195 cash, or £105 down, and 11 payments of £9 10 3

6 h.p. **ROVER Comb.** £220 cash (only soiled). £118 5 0 down, and 11 payments of £10 15 0

4 h.p. **DOUGLAS Comb.** £170 cash, or £92 down, and 11 payments of £8 5 0

LEVIS Popular. £60 cash, or £32 5 0 down, and 11 payments of £2 18 8

2½ h.p. **CLYNO.** £75 cash, or £38 down, and 11 payments of £3 7 9

8 h.p **MATCHLESS Comb.** Dynamo lighting. £230 cash, or £124 down, and 11 payments of £11 4 0

4 h.p. **TRIUMPH.** £127 10 0 cash, or £69 down and 11 payments of £6 3 9

O.K. £50 8 0 cash, or £27 down, and 11 payments of £2 9 5

Substantial discounts allowed off Easy Payment Price if account be paid in 2, 4, or 6 months.
Send us your suggestions.

SOILED AND SECOND-HAND.

1920 ENFIELD Lightweight, £65. 1920 QUADRANT. £135. 1919 4 h.p. DOUGLAS, £145. 1919 RUDGE T.T. Comb., £125. 1918 HARLEY-DAVIDSON & Sidecar, £160. 1916 ENFIELD, £135. 1916 ENFIELD Comb., £160. 1915 ENFIELD, dynamo, £155. 1916 ENFIELD, dynamo lighting, £165. 1914 NEW IMPERIAL, £47 10s, AUTO WHEEL and Cycle, £22.

LAMB'S

50, HIGH ROAD, WOOD GREEN, N.
'Phone—Hornsey 1956. 'Grams: "Doulamocy, 'Phone, London."
151, HIGH STREET, WALTHAMSTOW.
'Phone—Walthamstow 169. 'Grams—"Cyclotomo, Phone, London."
387, EUSTON ROAD, N.W.1.
'Phone—Museum 4978. 'Grams—"Lamocy, Eusroad, London."

MOTOR CYCLES FOR SALE.

Ariel.

ARIEL 2½h.p., Bosch mag., B.B. carburetter, good running order, recently overhauled; any trial; £22.—Potter, White Hart Hotel, Chelmsford. [9893

1920 3½h.p. Ariel Combination, engine 9851, lamps, Klaxon, mirror, etc., condition almost as new; £135; London.—Box 8,097, c/o *The Motor Cycle*. [1346

FOR Sale, 1920 3½h.p. Ariel combination, lamps and wind screen, in perfect condition; £142/10.—B. Clarke, Willoughby Farm, Sleaford Rd., Frampton. [9303

ARIEL, 3½h.p., 1919 (Nov.), countershaft, 3-speed, Lucas, Watford speedometer, Klaxon, hand and foot clutch, mileage 4,100; £100.—Jones, 6, Cope St., Coventry. [X3027

ARIEL 3½h.p., 3-speed, C.S., K.S., overhauled by makers, stored during war, perfect, new tyres, good stock of accessories; £65; pull sidecar anywhere.—Miles, Tisbury, Wilts. [9366

ARIEL Combination (Oct., 1919), 5-6h.p., lamps, horn, tools, spares, mileage under 2,000; any inspection; as new; £135, or near offer.—69, Boulton Rd., Handsworth, Birmingham. [X1940

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [8231

1920 (July) Ariel Combination, 3½h.p., Magdyno, Easting screen, speedometer, smart turnout, mileage low, doctor's orders cause of sale; accept best offer.—Davies, 161, Station Rd., King's Heath, Birmingham. [X1515

Arno.

£35.—Arno 4¼h.p. motor cycle, Bosch, B. and B., tyres good, ride away.—Insurance Agent, 71, Bakewell St., Coalville, Leicester. [9266

Auto-Wheels.

AUTO-WHEEL for sale, good condition; £10.—366, Rotherhithe New Rd., S.E. [9288

1915 Auto-wheel, in perfect order; £11/10.—Freeston, Blisworth, Northants. [9479

AUTO-WHEELS, Wall and De Luxe; £8 and £10; good condition.—W. Ward, Melbourne, York. [9518

AUTO-WHEEL (Wall) and Cycle, both sound; £12 and £8.—Archie McFadyen, Cononbank, Montrose. [9552

AUTO Wheel, 1920 Model de Luxe, in stock; immediate delivery. £27/10.—Wilkins, Simpson, opposite Olympia, London. [9431

WALL Auto-Wheel, thoroughly overhauled, new chain, tyre, and tube, perfect condition; £12/10.—5, Kensington Rd., Ipswich. [X1514

AUTO-WHEEL, Wall, almost as new, good tyres, mechanically perfect throughout; £10, bargain.—F. Warren, Hindon, Wilts. [9466

AUTO-WHEEL, in excellent condition, good hill-climber, new Palmer tyre, had very little use; £15.—Case Morris, Dunelm, Salcombe, S. Devon. [1039

AUTO-WHEEL, B.S.A., gent's bicycle, and coach-built sidecar, as new; £26; would separate.—Dawson, 18, Clareville St., Gloucester Rd., S.W.7. [1024

AUTO-WHEEL, B.S.A. model, £10; or attached to lady's cycle, low frame, £18; inspection and trial by appointment.—Coney, Victoria Rd., Farnborough, Hants. [9705

Bat.

BAT 1920 Unused 8h.p. Combination; list price £205; what offers?—Parker Walker, Spring St., Hull. [9216

XMAS, 1919.—8h.p. Bat combination, new condition, lamps, horn, apron; £180, nearest.—21, Clarendon Rd., Trowbridge. [9456

BAT 8h.p. Combination, all-chain, 2-speed, K.S.; photo; 70 gns., at once, bargain.—66, West Parade, Spring Bank, Hull. [9541

BAT.—New 6h.p. in stock, £160; 1920 8h.p. combination, perfect, fully equipped, £170.—Clark, 7, Exhibition Rd., South Kensington. [9926

BAT.—Immediate delivery from stock, 1920 6h.p. countershaft, 3 speeds; £160.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X1824

1920 Bat Model 4, brand new, immediate delivery; £160; semi-T.T. handle-bars.—The Premier Motor Co., Aston Rd., Birmingham. [1136

1920 Bat 6h.p., as new, all accessories, little used; too powerful for owner; what offers.—Cucksey, 6, Manchester Rd., Thornton Heath, Surrey. [9332

BAT-J.A.P. 6h.p. Combination, 3 speeds, pedal clutch, lamps, tools, and all accessories, top-hole condition; any trial; £80.—L. G. Wood, Westcott, Dorking. [9158

BRAND New 6h.p. Spring Frame Bat, 3-speed, countershaft gear, kick starter and clutch, all chain drive model; £160, solo; or can be fitted with any make of sidecar to order.—Wauchope's, 9, Shoe Lane, London. [7726

BAT-J.A.P. 6h.p., brand new, Sturmey 3-speed gear box, K.S., and new sporting torpedo sidecar, aero screen, discs, speedometer, mechanical horn, new links, spare belt, tube, tools, good tyres, fast sporting turnout, engine just thoroughly overhauled, electric lighting extra; Nottingham district; photo.—Box 8,042, c/o *The Motor Cycle*. [9584

Eastern Garage

MOTOR CYCLES FOR IMMEDIATE DELIVERY.

NEW
(at Makers' List Price).

A.B.C., 3 h.p. twin, 4-speed gear, spring frame	£150 0
ALLON, 2⅜ h.p., 2-speed, clutch, and kick starter	£85 0
ARIEL, 3½ h.p., 3-speed Combination ..	£157 10
BLACKBURNE 8 h.p. Combination	£225 0
BLACKBURNE, 4 h.p., 3-speed, clutch, and kick starter	£135 0
BROUGH, 5 h.p., 3-speed, Sports Model	£140 0
B.S.A., 6-7 h.p., twin Combination, dynamo lighting	£220 0
CLYNO, 2½ h.p., 2-speed, and clutch	£75 0
DIAMOND, 2½ h.p., 2-stroke	£62 3
DIAMOND-J.A.P., 2½ h.p., 2-speed	£82 10
ENFIELD, 6 h.p. Combination	£175 0
INVICTA, 3½ h.p., 3-speed countershaft gear, clutch, and kick starter	£117 12
INVICTA-J.A.P., 2⅜ h.p., 2-speed, clutch, and kick starter	85 gns.
LEA-FRANCIS, 3½ h.p. twin, 2-speed, clutch, and kick starter	£130 0
LEVIS, 2½ h.p., popular 2-stroke	£60 0
METRO-TYLER, 2½ h.p., 2-speed, Type S	£95 18
NEW IMPERIAL 8 h.p. Combination ...	178 gns.
NEW IMPERIAL-J.A.P., 2½ h.p., 2-speed	77 gns.
NEW IMPERIAL-J.A.P., 2⅜ h.p., 2-speed, clutch, and kick starter	85 gns.
N.U.T., 3½ h.p. twin, 3 speeds, clutch, and kick starter, Lucas Magdyno lighting	£165 0
OMEGA-J.A.P., 2½ h.p., 2-speed	71 gns.
O.K.-UNION, 2½ h.p., 2-stroke	48 gns.
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'Phone: Croydon 2450. 'Grams: Track, Croydon

MOTOR CYCLES FOR SALE.

Douglas.

1916 2¾h.p. Douglas, lamps, horn, speedometer, condition perfect; best offer secures.—Aysgarth, Monkhams Drive, Woodford Green. [9965

DOUGLAS Combination, 4h.p., 1919, completely fitted, excellent condition; £100.—Dunsford, 95, Fairfax Rd., Finchley Rd., N.W.6. [9376

1920 4h.p. Douglas Combination, just arrived, unregistered; £150.—626, Lea Bridge Rd., Leyton, E.10. 'Phone: Walthamstow 800. [9693

DOUGLAS Combination, 4h.p., 3-speed, clutch, K. start, as new; 100 gns., offers.—304, Fulham Rd., S.W.10. 'Phone: Kensington 2372. [9422

1920 2¾h.p. Douglas, 3-speed, lamps, Klaxon, speedometer, aluminium discs, Pedleys, insured; £109.—Dunton, 41, Polygon, Southampton. [9118

DOUGLAS.—Immediate delivery from stock, 1920 2¾h.p. model with 3-speed gear; £100.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X1827

2¾h.p. Douglas, 1920, discs, copper pipe, fully equipped, small mileage, £20 worth of extras; £90.—3, Courtlands Av., Lee, S.E.12. [9732

FOR Sale, motor cycle, Douglas, 2¾h.p., 2-speed, 1916 model, practically new, acetylene head and rear lamps complete.—8, Russell St., Dover. [9190

1920 Douglas 2¾h.p., clutch, kick start, little used, guaranteed perfect, lamps, horn, insurance; £95.—29, St. Mary's St., Whitchurch, Salop. [9305

DOUGLAS 1916 2¾h.p., overhauled, enamelled, and plated, new T.B. mag., all accessories; 49 gns.—9, Mecklenburgh St., Holborn, W.C.1. [9824

DOUGLAS 4h.p., almost new, privately owned, guaranteed perfect mechanical order; sacrifice, £85.—Blunt, 31, Ampthill Rd., Bedford. [1089

1919 Douglas 4h.p. Combination, mechanically sound, condition very good, with insurance; £120.—Pope, 2, Kirtleton Av., Weymouth. [9658

2¾h.p. 1915 Douglas, fully equipped, mechanically and appearance as new; £65, or offers.—Isted, South Rd. Studio, Haywards Heath, Sussex. [1339

1916 4h.p. Douglas Combination, all on, appearance and condition as new; £100; after 5 p.m.—E. F. Crapp, Prestwood, Great Missenden, Bucks. [9502

1918 Douglas 2¾h.p., 2-speed, engine No. 85277, original enamel, in perfect condition; any trial and inspection; £60.—Holdway, Cople, Bedford. [9718

DOUGLAS 2¾h.p., delivered May, 1920, mileage 800, unpunctured, perfect, insurance; before noon; £80, or offer.—Rowdon, 43, Bell Rd., Hounslow. [9293

SUPREME 1920 Popular 4h.p. Douglas and sidecar, £170 complete; 2¾h.p. models in stock, £105.—Colmore Depot, 31, Colmore Row, Birmingham. [X1528

DOUGLAS 2¾h.p., 1918 (late), buffer forks, new tyres, tank, makers' colour, condition and appearance as new; £58.—59, Aytoun Rd., Brixton, S.W. [1058

1915 2¾h.p. Douglas, renovated W.D., makers' colours, stove enamelled, replated, overhauled; bargain, £45.—Box 8,053, c/o *The Motor Cycle*. [9647

1915 Douglas 2¾h.p., 2-speed, recently overhauled, excellent condition; bought combination; 60 gns.—Stokoe, 23, Bellevue Rd., Kingston-on-Thames. [9741

1915 Douglas, re-enamelled, replated, thoroughly overhauled, in beautiful order and very quiet; £65.—Bailey, Chudleigh, Ashley Rise, Walton-on-Thames. [5567

DOUGLAS.—Immediate delivery from stock, 1920 2¾h.p. model, with 3-speed gear and clutch; £105.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X1826

DOUGLAS 2¾h.p., 2-speed, all accessories, £35; Omega 2½h.p., 2-speed, fully equipped, £30; cheap to clear.—Wright, The Feathers, Rickmansworth, Herts. [9354

DOUGLAS 1920 4h.p. Combination, brand new, just arrived, immediate delivery at makers' price; £170.—Wilkins, Simpson, opposite Olympia, London. [9427

1918 4h.p. Douglas Combination, luggage carrier, lamps, all new tyres, just overhauled; nearest offer £115.—Woodside, Sylvester Rd., East Finchley, N. [9138

1915 2¾h.p. Douglas, new Tan-Sad, tools, copper exhaust, splendid condition; £60, or near offer.—Stowell, 1, Alexander Terrace, Clarence Rd., Bognor [9340

DOUGLAS 2¾h.p., 1914, 2-speed, kick start, hand clutch, lamps, horn, all grey, just completely overhauled by Baker's, Reading; £50.—Pine Farm, Wokingham. [9261

DOUGLAS 1920 Brand New 2¾h.p., Model W20, 3-speed; at makers' price, £100; just arrived; ready to drive away.—Wilkins, Simpson, opposite Olympia London. [9437

1920 Douglas Combination, special model, unpunctured, P. and H. lamps, Cowey horn, speedometer, pillion, tools, spares; £160.—5, Broadfield Rd., Catford. [9645

1920 Douglas Combination, 4h.p., fully equipped, practically new, £145; also 1919 ditto, £125.—Fitt, 2, Barrossa Terrace, Church St., Chelsea, near Pikes. [9111

DOUGLAS 2¾h.p., W.D., delivered 1919, good condition; sold to anyone in perfect running order, £60 cash, or what offers.—Rowland Wilson, Gorefield, Wisbech. [6649

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS New 1920 Models from stock; 2¾h.p. £100, 4h.p. £130, 4h.p. combination £170, plus transit.—Halifax Motor Exchange, 25, Horton St., Halifax. [9566

DOUGLAS 4h.p. Combination, Sept., 1919, Cameo screen, speedometer, lamps, spares, insurance, splendid condition; £140.—Jenkins, 19, London Rd., Redhill. [9808

4h.p. Douglas, late 1918, enamel, plate perfect, mechanically more than perfect, new P. and H. lamp set, Lucas horn, smart and reliable; £75.—Dowell, Byfleet, Surrey. [9509

DOUGLAS 1920 Brand New 2¾h.p., 3-speed, clutch, kick starter; at makers' price, £105; just arrived, ready to drive away.—Wilkins, Simpson, opposite Olympia, London. [9436

DOUGLAS Combination, May, 1920, done 1,500, P.H. lamps, Lucas horn, spare tube, valve, plug, tools; £150.—Shew, Wynnstay, Alexander Rd., Southbourne, Bournemouth. [6738

ELI CLARK can give you good service both in new machines and spares; try me, I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0010

1916 Douglas 2¾h.p., perfect condition, all accessories, lighting set and Tan-sad, pillion, hardly used, owner going abroad; £70, no offers.—Keston, 26, 26, Alton Rd., Waddon. [9639

DOUGLAS 2¾h.p., 1914, 2-speed, recently overhauled, new tyres, tube, pistons, connecting rods, lamps, tools; £55, or near offer.—W. Attlesey, Southery, Downham Market, Norfolk. [5191

BARGAIN.—Douglas 1916-17 2¾h.p., 2 speeds, buffer forks, original enamel, makers' colours, new 1920, C.A.V., legshields, accessories; £55.—G., 63, Solon Rd., Brixton, S.W.2. [1048

1919 Douglas 2¾h.p., 1916 model, 2-speed, not ex-army, P. and H. lamps, horn, spare chain, powerful; callers after 5 o'clock; £68, no offers.—Hall, 51, Huddersfield Rd., Barnsley. [X1754

DOUGLAS Combination, 1920, 4h.p., lamps, Klaxon, speedometer, tools; any trial; mileage 1,500; £165 cash, no offers; seen after 4.—Britnell, 89, Hughenden Rd., High Wycombe, Bucks. [1030

1920 Douglas 4h.p. Combination, as new, Orto hood, wind screen, speedometer, electric light, mechanical horn, new spare chain, inner tubes, valves, etc.; £165.—Mace, 19, Carnaby St., W.1. [9243

DOUGLAS 4h.p. Combination, 1920 latest, not ridden 100 miles, all lamps fitted, better than new; owner will accept £165; has just cost over £178.—172, Trevelyan Rd., Tooting, S.W.17. [8324

1919 4h.p. Douglas Combination, well kept, and in good condition, Easting wind screen, tyres new, all lamps, tools; owner bought car; £130, or near offer.—Glanville, 59, London Rd., Portsmouth. [9985

DOUGLAS Combination 1919 4h.p., 3-speed, engine 6755, clutch, kick start, Swan coachbuilt sidecar (like new), tools, spares, go anywhere, ride away; £110.—Stannah, Ranworth, Charlwood Rd., Horley. [9530

DOUGLAS 2¾h.p. 2-speed, kick starter, 1915 model, first-class condition, little used, genuine bargain; first cheque £56 secures, delivered.—Mason, 42, Glenthorn Rd., Jesmond, Newcastle-on-Tyne. [X1953

BIRMINGHAM.—Frank Whitworth, Ltd., 139, New St., have a remarkable bargain in 1920 4h.p. Douglas combination taken in exchange; it's as new and fully equipped, including screen; £160. [X1218

F.O.C.H. have a late 1919 Douglas combination, many accessories, as new.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9481

1916 2¾h.p. Douglas, good condition, 3-speed, new Dunlops, extra heavy back wheel, new chain, lamps, Klaxon, speedometer, spares, full insurance from July; £70.—Westcote, Dumpton Park Drive, Ramsgate. [9218

MAUDES' Overhauled W.D. 2¾h.p. 1916 Model Douglas, tanks re-enamelled, new tyres, belt, mag., etc., absolutely like new; £60; trade supplied.—Maudes', 100, Gt. Portland St., London, W.1., and Paris St., Exeter. [1170

1920 4h.p. Douglas Combination, complete set electric lamps, horn, speedometer, wind screen, tyres new (extra heavy); owner going India; trial by appointment; £150.—Dunkerley Dimsdale Hotel, Hertford, Herts. [971

DOUGLAS 4h.p., late 1918, excellent condition throughout; £88, or nearest. Douglas 1916 2¾ h.p., thoroughly overhauled, fast, 120 m.p.g.; £65, or nearest.—Whitwell, Ste. Pience, Broadway, Peterborough. 9796

DOUGLAS W.D. Models, £60 and £65 and £72/10; also new 2¾h.p. model £100, and new combination £170; also soiled 4h.p. combination, £145.—Lamb's, 387, Euston Rd., London, N.W.; 50, High Rd., Wood Green, N.; 151, High St., Walthamstow. [9577

4h.p. 1918-19 Douglas Combination, 3-speed clutch, kick starter, blue aluminium tank, saxe blue sidecar, upholstering splendid, C.A.V., Amac, Dunlops, enamel unscratched, accessories, tools, excellent condition, low mileage, thorough trial; £95.—63, Solon Rd., Brixton. [1050

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New 1920 **DOUGLAS** 4h.p. Combination, list price.. **£170**

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1920 **NEW IMPERIAL** 2½ h.p., 2-speed, clutch, list price £89 5 ..... **£75**

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1920 **LEA FRANCIS** 3½ h.p. Solo, list price £130 .... **£115**

1920 **CLYNO** Lightweight, 2-speed, 2-stroke, list price £75 ..... **£65**

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MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS Combination, 4h.p., 1919; £115; engi 7621, tools, spares, including new tyre, excelle condition; any trial; privately owned.—Sean, 8t Garage, Lawn Rd., Hampstead, or 'Phone: Smit 2212 Hampstead. [98

DOUGLAS (October, 1919) 4h.p. Combination, hor speedometer, hood, glass screen, mirror, Tan-Su all tools, acetylene lamps, mileage 1,900; £150; se daily.—Williams, c/o Cooper and Chalk, 84, Holla Park Av., Kensington. [95

WAUCHOPE'S, 9, Shoe Lane, London.—2¾h.p. 19 Douglas, 3-speed models, new, £100; 2¾h.p., speed, clutch, and kick start models, £105; combi ations, 4h.p., £170; trade supplied.—'Phone: H born 5777. Easy terms. [77

1919 4h.p. Douglas Combination, excellent con tion, lamps, horn, Watford speedometer and wi screen, spare tyre, tube, and parts; £135; inspecti and test by appointment.—Lieut.-Comdr. C. J. Dav R.N.R., R.N. Barracks, Devonport. [93

NEW Douglas Combination, 4h.p., to makers' spe fication at list price, including carriage fr works; £173/10; easy payments 4% extra; only o fifth deposit, balance by 12 monthly instalments Harrods, Ltd., 118, Brompton Rd., London. [99

1918 Douglas 4h.p. Combination, special streamli sidecar, very roomy and comfortable, unusua hot stuff engine, speedometer, D.A. lighting set, m chanical horn very pretty outfit, all in perfect c dition; £126.—Wilkinson, Arden Press, Stamford S S.E. 5364 Hop. [98

DOUGLAS, 1919, 2-speed, T.T., in excellent m chanical condition, fitted special Lucas lam horn, Bonniksen speedometer, plated bars, tyres new, oversize and belt, spares and tools, worth £8 having bought car, will take nearest offer.—47, Ham ton Rd., Reading. [10

Dreadnought.

LATE 1919 Dreadnought-Villiers, not done 2 brand new, all on; sacrifice, £50, first cheque 80, Bispham Rd., Southport. [98

Edmund.

EDMUND 2¾h.p., spring frame, 3 models; 3 simply float.—Gourlay, Fallowfield. [69

EDMUND-J.A.P., 1920, practically unused, for sale Bolton, Forester's Arms, Wibsey, Bradford. [98

EDMUND.—The lightweight with the lamina spring frame 2¾h.p. Jap model, £92/8; 2-stro model, £86/10; both fitted with Enfield 2-speed ge —P. J. Evans, 83-91, John Bright St., Birmingha

Elswick.

ELSWICK 2¾h.p., 2-stroke, 2-speed, Amac, ov hauled; £39.—107, Main Rd., Sidcup, Kent. [93

1919 Elswick 2½h.p., 2-stroke, appearance as n splendid running order; £53; exchanges.—D son, 34, Ampthill Rd., Bedford. [9

1914 2¾h.p. Elswick-Precision, 2-speed, F.E., r ning order, good condition, lamps, etc.; £3 Mac, 13, Victoria Rd., Upper Norwood, S.E. [9

ELSWICK 1917 2¾h.p., 2-stroke, 2-speed, Mi lamp, 2 generators, mechanical horn, drip fe excellent condition; quick sale, £39/10.—5, Addi Av., Holland Park, W.11. [12

Enfield.

ENFIELD 2¼h.p., 2-speed, new; £73/10.—Ca 21, Hobson St., Cambridge. [80

6h.p. Royal Enfield Combination, 1916 model; £1 —Wauchope's, 9, Shoe Lane, London. [7

1919 Royal Enfield 2-stroke, as new; £60.—J. Love and Co., Park Rd., Bromley, Kent. [1

ENFIELD 2-stroke, November, 1919 (receipt show £57; after 5 p.m.—11, Ruskin Av., Kew. [9

ENFIELD Lightweight, twin J.A.P., good condit wants tuning.—93, Yerbury Rd., Tufnell Park [9

1920 (July) Enfield 2-speed, 2-stroke; £60, all bargain.—Alderslade, 61, Bourne Rd., Stoke, entry. [X1

ENFIELD Combination, 6h.p., perfect; £87/1 Mosedale, 30, Canterbury Rd., West Kilb N.W.6. [67

ENFIELD, 6h.p., brand new Enfield sidecar, wi perfect; £128, or offer.—125, High St., W wich. [19

2¼h.p. Royal Enfield 2-stroke, 2 speeds, very g order, ride away; £50.—21, New North Reigate. [96

ENFIELD 3h.p., new August, 1919, good condit Lucas horn and lamp fitted.—T. Barker, M Doncaster [94

ENFIELD, immediate delivery, 3h.p. combinati £175 carriage paid anywhere.—125, High Woolwich. [10

1919 Enfield, 2-stroke, little used, all accessor £60.—Bailey, 11, Templeton Place, Ear Court, S.W.5. [91

1919 6h.p. Enfield Combination, Easting scr lighting set; £176.—Smetherhem, Fauldhou Linlithgowshire. [91

MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD 1918 6h.p., new condition, Easting, lamps, horn; £135.—Clark, 7, Exhibition Rd., South Kensington. [99—

ENFIELD 6h.p. Combination; a bargain, £65; ready to drive away.—Wilkins, Simpson, opposite Olympia, London. [9424

1920 8h.p. Enfield Combination in Stock, new; list price.—Edwards and Co., 50, Harrington Rd., South Kensington. [1213

ENFIELD 6h.p. Combination, splendid condition, overhauled makers; £75, quick sale.—11, St. Stephen's Rd., Ealing. [9643

ENFIELD, 2¼h.p., 2-stroke, 2 speeds, Oct., 1919, little used; £53, lowest.—Write, Chapman, 151, Finchley Rd., N.W. [9876

6h.p. 1915 Enfield Combination, in splendid order; any trials; £135, or offer.—King, 21, The Crescent, Alverstoke, Hants. [9372

ENFIELD Combination, 8h.p. C.S., lamps, horn, speedometer; £110; after 7 p.m.—72, Beechfield Rd., Finsbury Park, N.4. [1075

ENFIELD Combination, 6h.p., lamps, luggage grid, etc., a very fast machine; £118.—Ayden, 65, Walmine, Cricklewood, N.W.2. [X1918

£120.—Dynamo Enfield combination, 1916.—Clifford & Wilson Co., 70, Royal Hospital Rd., Chelsea, W.3. Tel.: Kensington 7113. [1231

ENFIELD.—Immediate delivery from stock, 1920 2¼h.p. 2-speed model; £73/10.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X1820

ENFIELD 1920 2½h.p., 2 speeds, brand new, still in wrapped up; £65/10 (£9 under list).—Wallis, 23, Orrington Grove, Cambridge. [9268

£68.—1920 Enfield lightweight, as new.—Clifford & Wilson Co., 70, Royal Hospital Rd., Chelsea, W.3. Tel.: Kensington 7113. [1232

ENFIELD Combination, 1915, 2-speed, recently overhauled, with Tan-Sad, lamp, horn, tools, etc.; £40.—C. Barton, Clapham, Yorks. [0298

1920 8h.p. Royal Enfield Combination; perfect condition, Lucas lamps and horn; £180 cash.—Skin, Swanage, Prestatyn, N. Wales. [1011

ENFIELD 2¾h.p., 2-speed, Senspray, lamps, accessories, overhauled, splendid condition; £40.—Carr, 40, Rockmount Rd., Upper Norwood. [9954

ENFIELD 1920 2-stroke, brand new; just arrived; at makers' price; immediate delivery; £73/10.—Wilkins, Simpson, opposite Olympia, London. [9425

ENFIELD 1920 8h.p. Combination, just delivered, in stock; makers' price.—Shepherd and Co., End Highway. Tel.: Waltham Cross 31. [8875

NEW 1920 Royal Enfield, 2¼h.p., 2-stroke; price £73/10; delivery from stock.—D. J. Shepherd & Co., Enfield Highway. Waltham Cross 31. [0242

ENFIELD 1915 2¼h.p., 2-speed, lamps, discs, megaphone, etc., just overhauled, new tyre, enamel and; £50.—West, 33, Riverside Rd., Norwich. [9728

1917 3h.p. Royal Enfield, 2-speed, K.S., speedometer, etc., perfect condition; private sale; 68 gns.—11, Anson St., off Camp St., Broughton, Manchester. [X1954

ENFIELD 2¾h.p., 2 speeds, all-chain drive, in splendid condition, accessories; photo; £35; after 6 o'clock.—35, Wilson Rd., Birchfields, Birmingham. [1085

1919 Enfield 6h.p. Combination, F.R.S. head lamp, horn, mat, low mileage, fine condition; £140, a gain.—Revesby, Bramber Rd., North Finchley, N. [9614

1919 (July) Enfield Combination, 8h.p., acetylene, 5,000 miles, condition and running perfect, tyres good; £150, with spares.—19, Abington Grove, Northampton. [9289

ENFIELD 3h.p., 1915, just been overhauled, with accessories, also light sidecar; nearest offer £55. Apply by letter only, James, 275, High Holborn, W.C. [9619

ENFIELD, bought new August 15th, 1920, 2-speed, clutch, 2-stroke, mechanical horn, fast, perfect condition; £70; higher power wanted.—Holmes, Slinfold, Sussex. [9176

ENFIELD 1920 Combination, done under 1,500 miles, Lucas electric lighting, hood, screen, speedometer, insurance policy; £180.—Rhodes, Merton, Penrhyn Mawr. [9337

ROYAL ENFIELD 2¾h.p., 2-speed, Binks 1920, back tyre new, lamps, overhauled by makers March, 1920, perfect condition; 65 gns.—27, Oxford St., Loughborough. [X1794

ROYAL ENFIELD Combination, 6h.p., 1914, in excellent running order and condition, recently thoroughly overhauled.—Salmon, Farringdon Park Farm, Inwick, Preston. [9461

1917 Enfield Combination, fully equipped, car tyres, perfect condition, silent and powerful, guaranteed sound; 125 gns.—Bart's Garage, Cluny Mews, Warwick Rd., Earl's Court. [1046

ENFIELD 1919 Combination, Watford speedometer, hood, screen, Tan Sad, lighting, car tyres, 70 gallon; best over £150.—Seaward's, 163, Fore St., Edmonton, N.18. [1296

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MOTOR CYCLES FOR SALE.

Enfield

ENFIELD 1920 6h.p. (June) Combination, Cowey, Easting, D.A. lighting, lamps, take earlier combination, any condition, in exchange.—Pocock, 16, Randolph Mews, Maida Vale, W. [1277

1916 Enfield Combination, 5-6h.p., in new condition throughout, electric light, speedometer, luggage grid, oversize tyres; genuine bargain, £160.—Davey, 16, High St., Brentwood. [9320

1917 6h.p. Enfield Combination, Lucas dynamo lighting set, all accessories, and in splendid condition; £130; bargain.—L. Bull, 44, Hills Rd., Cambridge. 'Phone: 427. [1023

ENFIELD 1920 Combination, 8h.p., brand new, Magdyno lighting, just arrived from works; immediate delivery at makers' price, £202/2.—Wilkins, Simpson, opposite Olympia, London. [9432

1920 Enfield, 2-stroke, 2-speed, mileage 400, unscratched; trial given; deliver reasonable distance; with all new accessories £68, without £65.—H. A. Eason, Hoddesdon, Herts. [9751

ENFIELD.—Delivery from stock. Lightweight, 70 gns.; 6h.p. combination, £175, with Lucas Magdyno, £200.—P. J. Evans, Birmingham agent, 83-91, John Bright St., Birmingham. [0300

ROYAL ENFIELD 6h.p., coachbuilt sidecar, 1918, hood, screen, lamps, Tan-Sad, 100 miles trial; perfect condition; £155; no agents; week-end.—118, Liverpool St., Salford, Manchester. [9132

1914 2¾h.p. Twin Enfield, in perfect condition; Bosch, Amac, long exhaust, enamel and plating as new, all lamps, 2¾in. back tyre; £50, or offer.—Bracher, Churchways Crescent, Horfield, Bristol. [9895

1919 Enfield 8h.p., Lucas lamps, Cameo wind screen, Klaxon, mag. guard, Bosch mag., mileage 4,000, spare tyre, tube, valves, tools, etc., grand condition; £175.—Fielding, 685, High Rd., Tottenham, N. [9123

ENFIELD.—Several fine combinations in stock, from £120 to £200, or ½ down and 11 payments.—Lamb's, 387, Euston Rd., London, N.W.; 50, High Rd., Wood Green, N.; 151, High St., Walthamstow. [9575

ENFIELD 1919 (Nov.) 3h.p., Twin, 2-speed, kick start, engine No. 3578, fully equipped, little used, first-class condition and appearance; only £78.—Lt. Dyson, 23rd Brigade R.F.A., Avington Park Camp, Winchester. [1014

1916 Enfield Combination, 6h.p., hood, wind screen, mirror, Tan-Sad, 2 spare chains, 2 tubes, 3 lamps, and tools, etc., perfect condition throughout; trial willingly; £125; no dealers.—Marsh, 5, Victoria Terrace, Sandgate, Kent. [1333

1916 (Dec.) Enfield Combination, 6h.p., in perfect order, electric light, pillion, speedometer, horn, hood, apron, wind screen, good tyres, luggage grid, tools, and spares; £140; appointment.—C.F., 34, McLeod Rd., Abbey Wood, S.E.2. [9618

ENFIELD, twin-cyl., 3h.p., late 1916, unused 1917 and 1918, 2-speed, F.R.S. lighting, Cowey speedometer, watch, new pan saddle, practically new tyres, new spare gear chains; £80, or without accessories £70.—Forwell, Veterinary Surgeon, Towcester. [9879

1920 8h.p. Enfield Combination, complete with Atkinson's patent wind screen, speedometer, luggage carrier, Tan-Sad seat and back, top-hole condition, practically new, owner buying car; £210 cash.—Eland, 8, Friars' Stile Rd., Richmond Hill, S.W. 'Phone: Richmond 859. [9377

Excelsior.

EXCELSIOR, 1919 (late), 7-9h.p., lamps, etc.; £120.—Seen, Chester Engineering Co., Chester. [9771

EXCELSIOR (British) 4h.p. Big Single, Sturmey gear box, as new, perfect; £100.—Norman Cycle and Motor Co., Bridge St., Maidenhead. [9101

5-6h.p. 1913-14 Excelsior and C.B. sidecar, 3 speeds, and clutch, reliable machine; £60.—Turner, New Cottages, Dolyhir, Walton, Herefordshire. [9239

4½h.p. Excelsior Motor Cycle with sidecar, Grado pulley fitted, engine just been overhauled; £60.—A. E. Nixon, Alma St., Wellingborough. [9604

RIDE Away, a 3½h.p. British Excelsior motor bike, single-speed, everything complete; no trials; £35, or near offer.—F. Baldwin, Heath End, Berkhampstead, Herts. [9527

IMMEDIATE Delivery 1920 British Excelsior 4¾h.p. big single and sidecar (bulbous back), 3-speed, kick start; £160, complete.—Colmore Depot, 31, Colmore Row, Birmingham. [X1529

1920 8h.p. British Excelsior (J.A.P.) Combination, spare wheel, all wheels interchangeable, hood and screen, S.A. 3-speed, capacity 3 gallons petrol, 3 pints oil; £160 for immediate cash sale.—Box 7,784, c/o *The Motor Cycle*. [7916

NEW 1920 Excelsior Models in stock for immediate delivery.—2½h.p., 2-stroke, 2-speed, £67; 2¾h.p., 2-speed, 4-stroke, J.A.P. engine, £78; 4¼h.p. Big Single combination, £160; carriage paid to any address.—The Premier Motor Co., Aston Rd., Birmingham. [1140

Francis-Barnett.

NEW Francis-Barnett, 2¾h.p. J.A.P., 2-speed clutch and kick starter; in stock at manufacturers' list price, £88/19; easy payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods Ltd., 118, Brompton Rd., London. [9903

MOTOR CYCLES FOR SALE.

Francis-Barnett.

1920 2¾h.p. Francis-Barnet-Jap, Sturmey-Archer 2 speeds, kick starter and clutch, high-class lightweight, complete with lamp sets and horn, used few times only, in nice order; £75.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X1901

F.N

F.N. 2½h.p., Bosch, B. and B., running order; £22, offer.—92, Arthur Rd., Brixton, London. [9549

F.N. 5-6h.p., 4-cyl., Bosch, B.B., ride away; £20.—9, Barlby Gardens, North Kensington. [9721

5-6h.p. F.N., 2-speed, good order and condition, recently overhauled; £32/10.—Woodville, Hullbridge Rd., Rayleigh, Essex. [9157

IMMEDIATE Delivery F.N. 7h.p. 4-cyl. Combination and 2½h.p. lightweight.—The Premier Motor Co., Aston Rd., Birmingham. [1141

5-6h.p. F.N., 2-speed, hand clutch, kick start, perfect order, good tyres, and appearance as new; £55.—Manderson, Woodbush, Dunbar, Scotland. [X1771

1912 F.N. Combination, 4-cyl., 2-speed, B.B., Bancroftian sidecar, all splendid condition; £55; after 6.—Egerton, 35, Star St., Paddington. [9656

F.N. 2½h.p., 2-speed, shaft, h.b. clutch, new wide tank, W.D. bars, aluminium foot plates, tyres and plating sound, smart appearance; £38; exchange Levis.—31, Oaklands Terrace, Darlington. [9448

5-6h.p. F.N.-Olivos, 4-cyl., 2-speed, H.C. clutch, mechanical o.h. exhaust, cyls. reground and special aluminium pistons fitted, Zenith carburetter, Bosch just overhauled by B.L.I.C., dropped frame, saddle tank, lamps, Klaxon, spares, accessories, new tyres, ideal solo mount; photo; trial by appointment; £75.—Write, Ellis, 70, Madeley Rd., Ealing, W.5., or 'phone Ealing 1203. [9385

Harley-Davidson

1919 Harley-Davidson, mag. model, 3-speed; price £88, quick sale.—136, London Rd., Kingston-on-Thames. [9245

1920 Harley-Davidsons, immediate delivery, all models from stock.—Kemp's Garage, Louth, Lincs. [X1935

HARLEY, 1918, 3-speed, perfect order, £95; with new sidecar, £125.—Owen, 59, Scholefield Rd., Holloway. [X1931

HARLEY-DAVIDSON Sports Model, new, in stock, equipped; £165.—Clark, 7, Exhibition Rd., South Kensington. [9932

HARLEY-DAVIDSON Combination, 1916 model, electric dynamo lighting; £110.—Wauchope's, 9, Shoe Lane, London. [9077

HARLEY-DAVIDSON 1919 Combination, scarcely used, all accessories, perfect condition; £160.—48, Dulwich Rd., Herne Hill, S.E. [1262

1919 Harley Combination, original tyres, good condition; any trial; £135; solo wanted.—15, Victoria Rd., Addlestone, Surrey. [1100

HARLEY-DAVIDSON, 4h.p. twin, brand new, for immediate delivery.—Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9005

HARLEY-DAVIDSON 7-9h.p. 1916-17 Sporting Swan Combination; 100 gns.; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [1283

1918 Harley-Davidson Combination, nearly new tyres, tubes, and chains, recently overhauled; £155.—25, Watney St., St. George's, E.1. [9525

HARLEY-DAVIDSON W.D. Models, re-enamelled, 1918-1919, good running order; first cash secures; £85 and £90.—113, Rectory Lane, Tooting, S.W. [1077

HARLEY-DAVIDSON.—Immediate delivery from stock, 1920 4-5h.p. flat twin model; £157/11/9.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X1829

IMMEDIATE Delivery 1920 Harley-Davidson sidecar combination, electric lamps and horn; £240, from stock.—Colmore Depot, 31, Colmore Row, Birmingham. [X1531

1915 7-9h.p. Harley-Davidson and sidecar, in good condition, moderate mileage, good tyres; £120, or near offer.—Thomas, Hunsdon Bury, Ware, Herts. [9446

HARLEY-DAVIDSON, 1918, re-enamelled and overhauled; £90, with new Bosch mag. £95.—Briggs and Sons, 1, Wellesley Parade, Wellesley Rd., Croydon [7917

HARLEY-DAVIDSON, 1919, Dunhill 1920 bulbous back sidecar, 3 lamps, generator, Klaxon; £135.—Clark, 37, Turnham Green Terrace, Chiswick, London. [1107

HARLEY DAVIDSON 1920 4h.p. Model, with Swan sporting sidecar and electric lighting, mechanically perfect throughout; £200. Parker's, Bradshaw gate, Bolton. [X1817

1920 Harley-Davidson Combination (Henderson sidecar), set as new, only 6 weeks old, lamps, horn, etc., complete; will accept for quick sale £200.—Hardwicke, Lydney, Glos. [X1838

HARLEY-DAVIDSON 1920 Electric Combination, fully equipped, spares and insurance, very little used; accept reasonable offer.—Barnett, 2, Cholmeley Park, Highgate, N. [9746

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1920 **B.S.A.** 4½ h.p. Model H Combination.
1920 **CEDOS,** 2-stroke, 2-speed.
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1920 **DIAMOND,** 2-stroke, 2-speed, Villiers.
1920 **DIAMOND-J.A.P.,** 2-speed.
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1920 Harley, Model F and Harley Sidecar, new, price; also slightly used ditto, £218, equipped.—Edwards and Co., 50, Harrington South Kensington. [1

HARLEY Combination, 1916, Mills-Fulford side newly trimmed, painted, bicycle completely hauled, new gas lamps; near £135.—Bartlett, Barons Court Rd., W.14. [1

HARLEY-DAVIDSON 7-9h.p. 1915 Combinat splendid condition; any trial; must sell at bargain, £90.—4, St. John's Wood Park, Hampst N.W.8. 3496 'Phone. [9

HARLEY-DAVIDSON 1920 7-9h.p., electric lan complete, only ridden 900 miles, £175 solo; fi with new Harley sidecar, £225.—J.C.J., 124, Hol hurst Rd., Bournemouth. [1

HARLEY-DAVIDSON.—Immediate delivery fr stock, 1920 7-9h.p. electrical model, with M Fulford or Henderson sidecars.—Parker's, Bradsh gate, Bolton. Tel.: 1348. [X1

1920 Harley-Davidson Combination, electric mo excellent condition, no punctures, for Mor W.C., not later than 1918 or sell; £200.—Lea, 6, Park Parade, Northampton. [9

HARLEY-DAVIDSON 1919 Combination, new M Fulford bulbous sidecar, Easting wind scr perfect condition, mileage under 1,000; £165.—P Sangley Rd., Catford, S.E.6. [9

HARLEY-DAVIDSON 1915 7-9h.p., fully equip lamps, wind screen, etc., lately enamelled overhauled, engine guaranteed prfect; £132.—Auden Montebello, Joppa, Midlothian. [9

HARLEY 1919 Combination, lamps, horn, 1920, spring wheel, family sidecar, all in new condi and perfect; £180, or exchange for Morgan.—173, toria Rd., Alexandra Park, N.22. [9

HARLEY-DAVIDSON, 1919, electric model, wheels, semi-T.T. bars, long exhaust, not 2,000 miles, perfect condition, guaranteed; £130 Jones, Reform Club, Manchester. [9

HARLEY-DAVIDSON, delivered Nov., 1919, ing sidecar, Mills-Fulford chassis, discs, ele lighting and horn, perfect condition; £175.—W 'phone, or call, Selby, 5, Heath Drive, N.W.3. [

7-9h.p. Harley-Davidson C.B. Combination, dyn lighting, electric and mechanical horns, new Dunlops, indistinguishable from new; any bargain.—P. Saunders, Longwell Green, nr. Bris [

1920 Harley-Davidson 7-9h.p. Electric Combina as new, very specially fitted, fast, and of e tionally sporty appearance; trial and immediate livery; best offer over £225.—Box 3,047, c/o *The Cycle.* [

HARLEY Combination, 1916, electric model, overhauled, splendid condition, pillion screen, accessories, nearly new tyres; offers over £ —74, Settrington Rd., Wandsworth Bridge Rd., ham. [

HARLEY-DAVIDSON 1920 (May) 4h.p. Flat T low mileage, carefully used, all fittings, 2 br insured May, 1921, private owner; £155, or near appointment.—B.R., 3, Belle Vista, Burnage Levenshulme, Manchester. [

HARLEY-DAVIDSON Combination, 1916, 7-9 nearly new sidecar, Easting, lamps (unused, £11), Klaxonette, tyres (Dunlop extra heavy) good dition; £130 cash, or near offer; bargain.—James Hawthorn Rd., Kettering. [

1920 Harley-Davidson, electric model, speedom new in June, 2,000 miles, £190, or with sid de luxe, hood, and screen, £225; in daily use, going abroad.—Church Road Garage, Barnes, 'Phone: 1858 Hammersmith. [

HARLEY-DAVIDSON 1920 4h.p. Model, com with new Millford Skiff sidecar, electric ligh and horn, speedometer, perfect condition; £200 exchange for higher power combination.—'Phon appointment, Hammersmith 1035. [

1917 Harley Combination, 7-9h.p., just been hauled and painted, in very good order, roomy sidecar fitted with luggage carrier, con with lamps, mechanical horn, etc.; trial any eveni week-end.—Hughes, Lyndhurst, Woodhouse Rd., Finchley. [

HARLEY-DAVIDSON 7-9h.p. Combination, £160; also 1916, £135; also 1915 model, £ also 1920 4h.p. model, new, £164/10, at makers' Terms, ½ down and 11 payments.—Lamb's, 387, E Rd., London, N.W.; 50, High Rd., Wood Green, 151, High St., Walthamstow.

Hazlewood.

1920 Hazlewood Combination, spares, also b convert to tradesman's carrier; £160.— Station Rd., Bexhill.

1919 Hazlewood-Jap C.B. Combination, mi under 1,000, all on; £145, or exchange and cash.—17, Wilcox Rd., South Lambeth, L S.W.8.

HAZLEWOOD-J.A.P. Combination, 5-6h.p., 3- clutch, kick starter, Bosch, hood, and screen; £125 bargain.—Grant, 78, Lennard Beckenham.

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HENDERSON, May, 1920, extra large sidecar, electric lighting, Easting wind screen; £215.—Dr. Gubst, The Green, Wallsend-on-Tyne. [9224

1920 Henderson Combination, dynamo lighting, any trial, examination; £205, nearest offer.—195-7, Stonhouse St., Clapham Common. [9648

1915 Henderson Combination, first-class mechanical condition, reupholstered, lamps, tools, wind screen, good.—Hartley, Heriot House, Brent St., Hendon. [9516

HENDERSON 1920 10h.p., 4-cyl. model, fitted with Longford special sidecar, brand new; 220, or near offer.—Lloyd, 9, South Molton St., W. Mayfair 3011. [0282

1920 Henderson, dynamo lighting, Swan sporting sidecar, disc wheels; £210; exchange Morgan.—26, Lea Bridge Rd., Leyton, E.10. 'Phone: Walthamstow 800. [9695

HENDERSON Combination, 1916, 10h.p., 2-speed, clutch, handle start, black and gold, very smart; 30 gns; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [1282

HENDERSON Combination, 1914, 2-speed, clutch, electric lamps, disc wheels, hood, screen, speedometer, splendid condition; £130.—Harding, 8, Ingram St., Huntingdon. [9749

10h.p. Henderson and Sidecar, screen, lamps, horn, handle starter, 2 speeds, clutch; £150, or exchange lower part and cash; appointment before 6.—Walney, The Lane House, Ashtead, Surrey. [1122

NEW 1921 Henderson Models now on the way.—To secure earliest possible delivery book your order at once with the sole Midland distributers, The Premier Motor Co., Aston Rd., Birmingham. [1142

HENDERSON, 1920, Model Z2, 10h.p., 4-cyl., 3-speed, Canoelet MM4 bulbous back sidecar, hard and Goldstone electric lighting equipment, mechanical horn, aluminium leg shields, only used for demonstration runs, carries makers' full guarantee; £25.—The Premier Motor Co., Aston Rd., Birmingham. [1143

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HOBART-VILLIERS 2-speed 2-stroke, late 1919, splendid running order; £60; lamps, speedometer, insurance, etc.; owner gone abroad.—'Phone: Croydon 719, or write 33, Clyde Rd., Croydon. [9657

HOBART-VILLIERS 1920 2¾h.p., lamps, mascot, pump, mechanical horn, tools, spares, aluminium footboards, etc., 100 m.p.g., absolutely new and unscratched; £45; honestly worth £60.—18, Marlborough Rd., Old Kent Rd., S.E.1. [1111

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Humber.

HUMBER, 1912, 2-speed, good condition; £40.—Bond, Station Rd., Bexhill. [9420

HUMBER 3½h.p., Bosch, B. and B., 2 speeds, just overhauled; £38.—51, Brownlow Rd., Willesden. [9405

HUMBER 4½h.p. Twin, just delivered, unused; list £140, accept £129.—Millward, 26, Morland Rd., Croydon. [9153

1919 (Aug.) 3½h.p. Humber, Montgomery sidecar, fully equipped; bargain, £125.—137, Southgate, Leicester. [9943

HUMBER C.B. Combination, F.E., 2-speed, ride away; bargain, £48.—27, St. Alban's Av., Bedford Park, Chiswick, London. [1096

HUMBER 1919 4½h.p., splendid condition, small mileage; £90, or near offer.—J. Prangnell, 15, London Rd., Hailsham, Sussex. [9[illegible]

4h.p. Humber Combination, Roc gear, splendid condition, overhauled, ride away; £75, or nearest offer.—R. Jeans, Bradford Abbas, Sherborne, Dorset. [9794

HUMBER 3½h.p. Combination, 2-speed, F.E., H.S., Bosch, B.B., new gears and overhauled, insurance, 3 lamps and accessories; cheap.—384, Garratt Lane, Earlsfield, S.W. [9381

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. 1919 Humber and sidecar, horizontal twin-cyl. engine, enclosed sidecar, 3 speeds, clutch, and handle starter; 100 gns. [1304

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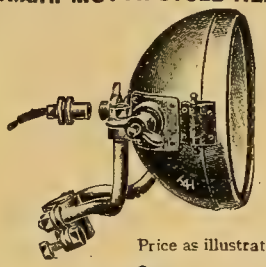

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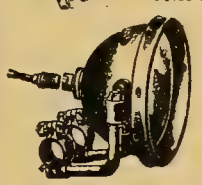

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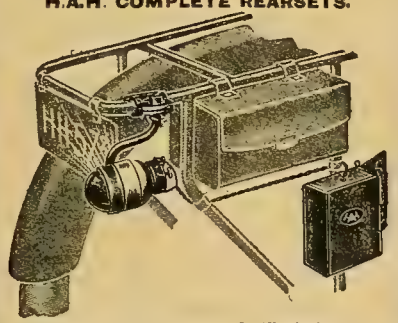

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INDIAN 5-6h.p. Combination; £65; must sell, urgent.—11, Friern Barnet Rd., N.11. [9963

INDIAN, Scout, unridden, lamps, etc.; list price.—J. Twigg, Tothby, Alford, Lincs. [9856

INDIAN 7-9h.p., 1915, disc wheels, good condition; any trial; £65.—1, Hencroft St., Slough. [9564

INDIAN, 1919, red, Powerplus model, absolutely as new; snip, £95.—3, Courtlands Av., Lee, S.E.12. [9734

INDIAN 7-9h.p., 1915, lamps, spares, excellent; £60.—Harper, Homewood, Sevington Rd., Hendon. [9944

INDIAN Scout, just delivered, rear drive speedometer, and horn; £48; Bolton.—Box 8,052, c/o *The Motor Cycle*. [9609

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1915-16 Indian Combination, 9h.p., spring frame, K.S., 3-speed; trial; £100; exchange.—Capt Collins, Sunbury. [9358

INDIAN 1915-16 5-6h.p., 3-speed, K.S., clutch, good tyres; owner going abroad; £70.—96, Maybury Rd., Woking. [1099

7-9h.p. Indian Combination, electric lighting, speedometer, child's seat, excellent condition; bargain at £95.—55, Grove Rd., Wanstead. [1043

7-9h.p. Indian, clutch, 2-speed, disc wheels, lighting set, excellent condition, 80 m.p.g.; £70.—9, St James's Sq., Bournemouth. [9347

1915 Indian 7h.p. 3-speed Combination, hood and screen, all lamps, good condition; £95.—Moseley, St. Anne's Rd., Harrow. [9387

1916 (late) 7-9h.p. Powerplus Indian Combination, dynamo lighting, horn, little used, faultless, spares; £130.—4, Argyle St., Reading. [9464

INDIAN 7-9h.p. C.B. Combination, spring frame, lamps, speedometer, and Easting wind screen; £95.—62b, Highgate Rd., Kentish Town. [9967

SPECIAL Model 1914 Road Racer Indian, long exhaust, lamps; expert examination invited; £75.—Wellington, 40, Lowlands Rd., Harrow. [9104

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INDIAN 7-9h.p., 2 speeds, clutch, T.T. bars, lamps, etc.; any trial; £70, or exchanges considered, Triumph or Douglas.—Ashby, 10, Clifton Rd., Luton. [9165

7-9h.p. 1919 Indian and Swan Sporting Sidecar, £175, latest improvements; also a solo 7-9h.p. Powerplus Indian, £85.—Wauchope's, 9, Shoe Lane, London. [7748

1919 Military Model Powerplus Indian 7-9h.p., 3-speed, clutch, spring frame, perfect condition; owner bought car; £100 nett cash.—7, Market Sq., Chesham. [9526

7-9h.p. T.T. Indian, 1915, clutch, lamps, Klaxon, tyres good, big exhaust pipe, pump, spare plugs, valves, etc.; what offers —Letters to Sargeaunt, Canterburys, Ingatestone. [9411

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INDIAN 7-9h.p. C.B. Combination, quiet, powerful, and thoroughly reliable; any trial offered; complete with accessories; 100 gns.—33, Waverley Rd., South Woodford, E.18. [1042

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1916 7-9h.p. Indian Combination, speedometer, lamps, horn, and accessories, good tyres; trial, everything sound; bought for £120; a real snip.—Sallis, The Chestnuts, Burnt Fen, Mildenhall. [9616

1916 7-9h.p. Indian Combination, 3-speed, kick start, sporting coachbuilt sidecar, electric lights, splendid condition throughout; £110; genuine bargain.—L. Bull, 44, Hills Rd., Cambridge. 'Phone: 427. [1022

£95, 7-9h.p. Indian Combination, 1916 model, 3-speed clutch, K.S., complete with speedometer and tools, carriage forward to nearest railway station.—Campbell and Semple, 39, St. Leonard's St., Dunfermline. [1327

1920 Indian Powerplus Combination, dynamo lighting, spring frame, rear driven speedometer, Easting screen, mileage 1,600, perfect order; £165; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, N.E. [1177

BARGAIN.—Sporting Indian combination, 1915-16, 5-6h.p., 3 speeds, kick starter, hand and foot clutch, Canoelet sidecar, 3 lamps, all accessories, brand new condition; £88, worth £110; Douglas part.—G., 63, Solon Rd., Brixton, S.W.2. [1049

INDIAN Combination, 1915, Mills-Fulford, 3-speed, clutch, hood, 3 electric lamps and horn, new gears just fitted, re-enamelled and overhauled, nearly new tyres, insurance; £125; any trial or examination.—Apply, The Ship, Hardinge St., Commercial Rd., E.1. [9370

INDIAN 7-9h.p., 2-speed, 1916 combination, perfect condition, stored 3 years, brand new sidecar cost £45 with screen, hood, machine, thoroughly overhauled, speedometer, tyres like new, Klaxon, new P. and H. set, tools, etc.; nearest £95.—113, Cornwall Rd., Brixton Hill, S.W.2. [1291

INDIAN.—Immediate delivery from stock, 7-9h.p. Powerplus model, with dynamo lighting, electric horn, and speedometer, £181/14; combination, £223/14; also 4h.p. Scout model, 3-speed, £140; local trade supplied.—Sole Birmingham agent, P. J. Evans, 83-91, John Bright St., Birmingham. [0175

1920 (May) 7-9h.p. Indian, Swan sidecar, T.T. bars, mileage 2,000, late model, with large valves, greasers, Renold chains, dynamo, etc., with spares, including tyre and tube, whole outfit in perfect condition, just overhauled and unpunctured, insurance; 185 gns., or offer.—Kingsmuir, Worcester Rd., Sutton. [9402

INDIAN 1920 (electric) Combination, perfect condition, mileage 3,000, just thoroughly overhauled by Godfreys, new chains fitted, also special triple sidecar springing, sidecar lamp, Easting wind screen, luggage carrier, tools, and spares, tyres unpunctured; price £185 cash.—Vincent, 20, Devonshire Terrace, Hyde Park. [9970

INDIAN Scout, August, 1920, 5h.p. twin, 3 speeds, clutch, kick starter, semi-T.T. handle-bars, brand new fittings include large P. and H. lighting set complete, Cowey horn, specially lined red and gold disc wheels, 3in. Goodyear tyres (unpunctured), has lugs for sidecar work if necessary, absolutely as new in every respect and unscratched, very handsome, fast, and sweet running machine, complete with full tool kit, insurance one year paid; photo; reason sale, delivery car; £155, or near offers; any trial or examination.—'Phone: 36, after 6.—Rose, Highfield, Gainsborough. [X1923

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NEW Invicta-Jap 2¾h.p., 2-speed clutch and kick-starter, a thoroughly well built and reliable machine; £89/5, or on easy payments 4% extra; one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [9912

3½h.p. Invicta, Abingdon King Dick engine, 3-speed clutch and kick starter, fitted with smart low built sidecar; £143; easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [9919

Ivy.

IVY 2-speed 2-stroke in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [6186

IVY 2-stroke, 1920, disc wheels, complete lamps, etc.; £65, or nearest.—Bate, Westbury, Salop. [X1511

IVY, the aristocrat of its type, delivery of all models from stock; prices and catalogues post free.—District Agents, Walsall Garage, Walsall. Tel.: 444. [9003

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James.

1916 James 2-stroke, 2-speed, in first-class condition; £40, or near offer. 115, Clarence St., Bolton. X1885

JAMES 5-6h.p. De Luxe Combination, as new, 800 mile; offers. 225, Jockey Rd., Sutton Coldfield, Birmingham. [1104

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JAMES 4¼h.p. Combination, 1915; £85; Binks, tyres and bearings new last Easter.—Hyatt, 11, Brambledown Rd., Wallington. [9801

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JAMES 1920 6h.p. Combination, as new, tyres unpunctured, lamps, horn, valuable accessories; best offer over £170.—Griffiths, South School, Portfield Gate, S.O., Pem. [9395

JAMES Combination, 6h.p. twin, 1919, perfect condition, done 1,000, lamps, speedometer, Klaxon, £150.—Normand Cycle and Motor Co., Bridge St., Maidenhead. [9100

JAMES 4¼h.p., 2-speed, countershaft, clutch, and K.S., Mead and Deakin canoelet sidecar, etc., £85, or close offer.—Perry, 5, Coronation Ter., Sandon Rd., Stafford. [994

JAMES 1920 5-6h.p. Combination, luggage grid; Lucas lamps, Klaxon, Watford speedometer, perfect condition; £165; N.W. district.—Box 8,069, c/o *The Motor Cycle*. [112

JAMES 1915 3½h.p. Twin, 3-speed, kick starter, handle-bar control clutch, speedometer, and lamps as new; price £85.—Fawn and Archer, Ltd., Motor Engineers, Aldershot. [920

JAMES 1920 5-6h.p. Combination, used 400 miles, £175; 4¼h.p. combination, fully equipped, £130; 1920 5-6h.p. solo, new, £155.—W. Whitby and Son, 7, The Vale, Acton, W.3. [951

JAMES 5-6h.p. Combinations.—New 1920 models in stock for immediate delivery: 3-speed, model de luxe sidecar, £190; also 3½h.p. twin, 3-speed, £135.—Stevens, 248, Gooch St., Birmingham. [X153

JAMES 4¼h.p. Coachbuilt Combination, 3-speed clutch, Bosch, 3 new tyres, absolutely perfect order; genuine bargain, £85, first; delivered anywhere.—42, Glenthorn Rd., Jesmond, Newcastle-on-Tyne. [X15

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4¼h.p. James and Millford Sidecar, privately owned, new May, 1919, horn, all lamps, perfect condition, done about 3,000 miles, tyres nearly new; to be seen Wavertree, Liverpool; £120.—Box 8,076, c/o *The Motor Cycle*. [12

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2½h.p. J.A.P., Bosch, B. and B., running order, tyred, lamps; £28.—Barney, Newport, I.O.W. [1

J.A.P. 2¾h.p., Amac, Dixie, excellent condition, electric lights, fast; £35.—103, St. Albans Rd., Chiswick, W.4. [9

8h.p. J.A.P. C.B. Combination, perfect condition; powerful for owner; trial; £65.—R., 92, Brockhurst St., New Cross. 'Phone: 1448 New Cross. [8

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J.E.S. Motorcyclette, 200 m.p.g., 30 m.p.h., perfect condition and appearance, all new accessories; £33, offers.—Broadway House, Northolme Rd., Highbury, N.5. [9

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ERRY Combination, 5-6h.p., clutch, variable, B. and B., mag., Druids, new Dunlop belt, tyres, e tyre, tubes, pump, horn, lamp; £55 F.O.R.—shaw, Weston, Newark. [1038

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EA-FRANCIS, 1920, like new; £95.—Wakefield, 198, Gt. Portland St., London. [9540

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EA-FRANCIS, mag. engine; immediate delivery; £130.—Maudes' Motor Mart, 100, Paris St., ter. [1247

920 Lea-Francis and Montgomery sidecar, J.A.P. engine, electric lighting set, not run 500 miles; 5, offers.—Drake, 264, Grimscar, Huddersfield. [9284

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L.M.C., 6h.p.; delivery from stock; £148.—Maudes' Motor Mart, 100, Paris St., Exeter. [1246

L.M.C. 4h.p., condition as new; exceptional bargain, £45.—Can be seen and tried, County Ground Hotel, Swindon. [9222

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7-9h.p. M.A.G. Matchless Combination, 1915, in excellent order, tyres, etc., good, recently enamelled, 3-speed, C.S., K.S., all chain, lamps, and tools.—Newcombe, Church St., Guisbro', Yorks. [1197

2¾h.p. O.K., M.A.G., 2 speeds, aluminium footboards, lamps, speedometer, tyres good, spare belt, chain, first-class condition; trial; price £55.—104, Northgreaves St., Hightown, Manchester. [9980

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MARTINSYDE-NEWMAN Combination, delivery from stock; £170.—Maudes' Motor Mart, 100, Paris St., Exeter. [1248

MARTINSYDE NEWMAN 6h.p. Combination, brand new; immediate delivery from stock; £170.—Midland Garage, Colwyn Bay. [X1712

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Martinsyde combination, £170, with Lucas dynamo lighting £30 extra, free delivery. [X1219

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1920 Matchless Combination, Model H., brand new; £205; exchanges.—Shaw, Durkar, near Wakefield. [9338

PROMPT Delivery 1920 Model H. Matchless.—Whitby and Son, Contracting Agents, 7, The Vale, Acton, W.3. [9512

MATCHLESS, 1920, Model H, full equipment, guaranteed perfect; £210.—125, High St., Woolwich. [1200

MATCHLESS Model H, acetylene lighting, good order; £185.—Clark, 7, Exhibition Rd., South Kensington. [9935

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MATCHLESS Combination, Lucas magdyno; £230; delivery from stock.—Maudes' Motor Mart, 100, Paris St., Exeter. [1243

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1920 Matchless Combination, Model H (new July 29th), M.A.G. engine, Magdyno; £220.—K., 11, Dulwich Wood Park, S.E.19. Tel.: Sydenham 696. [8224

1920 Model H Matchless Combination, dynamo lighting, hood, screen, speedometer, leg shields; £185, bargain.—29, St. Leonard's St., Bromley-by-Bow. [9690

1920 Model H Matchless Combination, dynamo lighting, hood, screen, etc.; £170.—626, Lea Bridge Rd., Leyton, E.10. 'Phone: Walthamstow 800. [9691

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MATCHLESS Combination, 1913 6h.p., 2 speeds, lamps, horn, good condition, new coachbuilt sidecar; £100; any trial run.—Wood, Garage, Daws Lane, Mill Hill, N.W.7. [9287

BRAND New 8h.p. Matchless Combination, spring frame, fully equipped with Lucas accessories, speedometer, etc.; list price.—Maskell, Freda Lodge, 5, Brixton Hill, S.W. [1067

MATCHLESS, delivery from stock of new spring frame model, equipped to your requirements; replacements for Matchless models of all dates.—Tassell, 1a, Bloomfield Rd., Plumstead. [1958

1913 Matchless, 5-6h.p. J.A.P., 2-speed hub, wicker sidecar, Easting, speedometer, lamps, new Binks and tyres; offers above £85.—Malcomson, 19, Vulcans Lane, Workington, Cumberland. [9150

MATCHLESS 1915 Combination, 3-speed, all-chain, lamps, horn, wind screen, speedometer, watch, pillion, spares, year's insurance everything perfect; £139.—63, Lothair Rd., Harringay. [1293

6h.p. Matchless Combination, 2-speed, pedal starter, in good going order, just been thoroughly overhauled and repainted, Lucas lamps and horn; a bargain £75.—Bannister, Railway St., Chatham. [6730

CASS'S Motor Mart, Ltd.—1920 Matchless-Jap combination, spare wheel and tyre, Lucas dynamo set, run 1,500 miles; £220, or near offer.—5, Warren St., Euston Rd., W.1. Museum 623. [1234

1920 Matchless, 8h.p. M.A.G. engine, roomy 2-seater sidecar, 2 wind screens, hood, spare wheel, Lucas lamps, tools, driven about 800 miles by owner, an engineer; £210.—282, Brownhill Rd., Catford. [9219

1920 Matchless, Model H, M.A.G. Engine, dynamo lighting, rear driven, speedometer, horn, hood, etc.; absolutely as new; £225; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [1179

MATCHLESS H in stock, £215; also Matchless, dynamo, £230; or ½ down and 11 payments.—Lamb's, 387, Euston Rd., London, N.W.; 50, High Rd., Wood Green, N.; 151, High St., Walthamstow. [9572

1918 (late) 8h.p. Matchless Combination, splendid condition, 3-speed, detachable wheels, equipped; 155 gns.; exchange for 1920 Sunbeam solo or 3½h.p. Norton. Driscoll, 58, Woodfield Rd., Ealing, W.5. [9739

MATCHLESS 1920 Model H, Magdyno, hood, screen, Easting, if preferred, spare wheel and tyre, Stewart speedometer, 2 horns, luggage grid, tools, many spares, insurance till May, 1921, mileage 1,500, as new; car delivered; 190 gns. Thomson, Nurseryman, Waltham Abbey, Essex. [9697

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MATCHLESS Latest Model H Spring Frame (combination, complete with Lucas Magdyno, wheel and tyre, luggage grid, done few miles, equal to new; £225.—Parker's, Bradshawgate, Bo [X]

MATCHLESS 1920 Model H, speedometer, Luc and horn, hood, pillion seat, legshields, insur tyres perfect; £205; no reasonable oner refused, appointment.—32, Morrab Gardens, Water Lane, Kings, Essex. [59

MATCHLESS-J.A.P. Combination, K.S., 2 sp just overhauled, repainted, plenty of power, oversize tyres, and lamps, screen, hood, sp genuine bargain, 95 gns.—257, Beckenham Beckenham. [56

MATCHLESS.—Immediate delivery from stock, 8h.p. Model H combination, complete with Magdyno electric lighting, M.A.G. engine, spare and tyre; £230.—Parker's, Bradshawgate, Bo Tel.: 1348. [X3

6h.p. Matchless, 1912, engine rebushed, ma enamelled and plated makers' colours, new tyres, a fast machine, in very nice order, and at £45.—Walbro Motor Cycle Co., Saffron W Essex. 'Phone: 45. [X

NEW Matchless Combination 8h.p., with detac wheels and dynamo lighting outfit, etc.; easy ments 4% extra, only one-fifth deposit, balance monthly instalments; £231/17/6.—Harrods, Ltd., Brompton Rd., London.

1916 Matchless Combination, 7-9h.p. M.A.G. enclosed chain drive, 3 speeds, all lamps, ford, clock, discs, hood, screen, Tan-Sad, in order; £140; exchanges or easy terms.—2, Nightin Rd., Lower Clapton, N.E.

WAUCHOPE'S, 9, Shoe Lane, London, E. Matchless combination, dynamo lighting also standard model, new, immediate delivery from £230 and £205 respectively; also a second-hand model, J.A.P. engine, offers.

Metro.

METRO-TYLER, 1919, fine order, discs; £45.— grave, Mottram, Manchester. [

1919 Metro-Tyler, lamps, Klaxon, discs, exc condition; £60.—12, Marischal Rd., Lewish

METRO-TYLER, 1920, Super S Type, 2-spee closed mag. and gears, fitted complete lamps and horn, new from stock; price £87/10 gain.—Fawn and Archer, Ltd., Motor Works, shot.

METRO-TYLER 2-stroke 2½h.p., disc wheels exhaust, complete with lamps, generator, hor livered new April, run under 200 miles; 60 gn nearest.—Thorne, Pinehurst, Christchurch Rd., B mouth.

METRO-TYLER, type S, latest model, brand 2¾h.p., 2-speed, with enclosed mag. and gea £80; delivery from stock. Local trade supplied. Birmingham agent, P. J. Evans, 83-91, John St., Birmingham.

METRO-TYLER, 1920, latest S type, 2½h. speed, 2-stroke, enclosed drive and mag., sp reduced price; £80; immediate delivery.—Sole for the City and district, Elce and Co., 15-16, B gate Av., Camomile St., E.C.3.

Minerva.

2¾h.p. Minerva, mechanical valves, mag., new 4 £16/10; ride away.—Platts, 602, King's Fulham, S.W.6.

MINERVA 5-6h.p. Twin, Bosch, B.B., 2 s free engine, running order; £28, or o Jackson, 158, Halifax Rd., Todmorden.

Motosacoche.

MOTOSACOCHE, October, 1919, 3½h.p. M.A.G. engine, de Lissa valves, shaft mag., Enfield 2-speed and clutch, all-chain Hutchinson tyres, rubber-studded, T.T. bars, sporting machine; price £85, or near offer.— Garage, Slough. Tel.: 217 Slough.

New Comet.

NEW Comet 1916 2¾h.p., 2-stroke, good or speed; £37.—Margrave, Mottram, Manch

New Hudson.

NEW HUDSON Lightweight, 2-stroke, 2-speed —Bishop, Kingsbury, Martock.

1916 New Hudson, 2-stroke, 2-speed, lamps, perfect condition throughout; £42.—26, stone Rd., Crouch End, N.8.

NEW HUDSON.—Immediate delivery from 1920 2¼h.p. 2-speed model; £75.—Parker's shawgate, Bolton. Tel.: 1348.

NEW HUDSON 2-stroke, unused; list price £ cept £70.—Colonial Motor Co., 104a, Finchl N.W. 'Phone: Hamp. 7822.

NEW HUDSON, 2¼h.p., 2-speed countershaft in splendid condition; a bargain, £4 Jacques, 117, Lancaster St., Barnsley.

1920 New Hudson 2¼h.p., 2-speed, practical in every respect, fully equipped; £6 over £80.—97, Nightingale Rd., Wood Green,

MOTOR CYCLES FOR SALE.

New Hudson.

NEW HUDSON 1914 3½h.p., 3 speeds, clutch, enclosed Bosch, wide bars, lamps, horn, runs beautifully; photo; £46.—20, Frankfort St., Birmingham. [1086

NEW HUDSON 1919 (Sept.) 4h.p. Combination, 3-speed countershaft, K.S., electric lighting (accumulators), mileage 1,500; £110, or near offer.—E. H. Robinson, 62, Oakfield Rd., N.4. [9684

NEW HUDSON Lightweights, 1920, 2¼h.p., 2-speed £75, or fully equipped with head lamp and generator, tail lamp, and tubing, horn, L.C.C. registration, trol. and oil, £79/15.—Coppen, Allan and Co., 89, Portland St., London, W.1. 'Phone: Mayfair 399 [0280

NEW HUDSON Special 2-stroke, 24in. wheels, fitted with Sturmey-Archer 2-speed, clutch and kick starter, electric head and tail lamps, new C.A.V. accumulators, suitable for, and ridden by, a lady, in first-class condition throughout; £60; Midlands.—Box 635, *The Motor Cycle.* [X1768

New Imperial.

1919 New Imperial-Jap Combination, mileage 1,200; £130.—Burch, 24, Guildford St., Chertsey. [9103

1920 New Imperial 6h.p. Combination, all accessories; £160.—Dean, 15, Colliergate, York. [X1970

VAUCHOPE'S, 9, Shoe Lane, London.—2½h.p. 1920 New Imperial-Japs, 2-speed clutch, and kick start models; £89/5; with 2-speed, only £80/17. [7736

1919 New Imperial 2¾h.p. J.A.P., all accessories, like new, under 1,000; 65 gns.—42, Lillian Rd., Chiswick, Barnes. [9559

NEW IMPERIAL 8h.p., practically new combination; 125 gns.; exchanges considered.—Longman Bros., Bond St., Ealing. [9143

NEW IMPERIAL-J.A.P. 2¾h.p., 2 speeds, Bosch, B.B., good order; ride away; £33.—8, Priory Place, Well St., Hackney. [X1917

NEW IMPERIAL 8h.p., Sept., 1919, £15 accessories, 75 m.p.g. guaranteed; £140. or offer.—Fairlight, 7, Bath Rd., Hounslow. [9196

1915 Imperial-Jap, 2-speed, good condition, fully equipped; trial pillion; £43.—Hounslow, 51, Whitegate St., Bury St. Edmunds. [9410

1916 2¾h.p. 2-speed New Imperial, overhauled and re-enamelled makers' colours; bargain, £55.—Arrows, 98, Longley Rd., Tooting. [9644

NEW IMPERIAL-J.A.P., 2½h.p., 2-speed, perfect order, practically new tyres, speedometer, etc.; £ or offer.—Gerrard, 174, Garratt Lane, Earlsfield. [9683

1920 New Imperial 8h.p. Models, sole or combination, just arrived.—Clapham (Motors), 27, Rockwell St., Greenwich, S.E.10. 'Phone: Greenwich 751. [8993

NEW IMPERIAL Motor Cycle, 6h.p. twin (new), never been on the road, kick starter, 3-speed gear; list £147, will accept £127, quick cash sale; no offers.—Cedacre, Lydney, Glos. [X1839

1920 8h.p. New Imperial and Grindlay Sidecar, hood, screen, luggage grid, and Lucas accessories; price £190; any trial.—Salmon, 39, Garden Road, Burslem, Staffs. 1064

1920 6h.p. New Imperial, with Canoelet best sidecar, perfect throughout, tyres unpunctured, Easting, Sad, lamps, spare chains, etc.; 168 gns., or near —Smith, Ballinaboye, Shinfield Rd., Reading. [9178

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed el, £80/17; with clutch and kick starter, £89/5.—Evans, 83-91, John Bright St., Birmingham. [0262

1919 New Imperial 8h.p. Combination, P. and H. lamps, Easting, Klaxon, Tan-Sad, speedometer, spare tyre, in good condition, used week-ends only; £.—C.A., 59, Griffiths Rd., Wimbledon, S.W.19. [9848

GRAND NEW 8h.p. New Imperial and Swan sidecar, complete with screen, big lamp set, Klaxon horn, etc.; owner unable to ride owing to illness; a £170.—J. Cox, 5, Kimberley Rd., Cambridge. [1355

1916 New Imperial Combination, 8h.p., 3-speed countershaft, hand clutch, etc., Imperial sidecar, lamps, horn, everything complete; £128; guaranteed perfect condition.—Wallis, 23, Hartington Grove, Cambridge. [9271

1920 8h.p. New Imperial and Henderson Elite sidecar; any trial or examination; 3 lamps separate generators, all tools, etc.; a tip-top outfit £170.—Cowbourne, Hill Kot, Harwood, near Bolton. [9773

NEW IMPERIAL-J.A.P., 1920, 8h.p., fully equipped with electric lamps, mechanical horn, with double Grindlay sidecar fitted with hood, new pattern table wind screen, combined luggage grid and tool can holder, only been used for demonstrating, is in splendid condition; £175.—Grindlay (Coventry), Ltd., Melbourne Works, Coventry. [9169

Norton

NORTON Combination, Big Four, 1920, perfect order; £165.—Eastwood, Horsmonden. [9622

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NORTONS, new and second-hand, all models; list on application.—Reg, 32, High St. Reigate. [9[illegible]

BIG Four Norton, just delivered; list price, plus carriage.—Rye, Pinewalks, Prenton, Birkenhead. [9363

NORTON 3½h.p., 1914, splendid condition throughout; £68.—70, Camden Mews, Camden Rd., N.W. [7109

1920 Big Four Norton, mileage negligible, 115 m.p.g.; £136/10.—Box 8,054, c/o *The Motor Cycle.* [9649

1920 T.T. Norton, exceptionally fast 'bus, over 70 m.p.h., just delivered; £110.—30, Greenhill Rd., Harlesden. [9974

1920 3½h.p. Sports Norton, 3-speed, clutch, kick start, just delivered; list price £132.—Sam Robbins, Ltd., Nuneaton. [X1945

NORTON 1917 3½h.p., B.R.S., hand-controlled, Philipson, fully equipped; £82.—Heron, 44, Castelnau Mansions, Barnes, S.W. [9989

1919 Big Four Norton, as new, Sturmey-Archer 3-speed, clutch, and kick-starter; £110.—Ratcliffe Bros., 200, Gt. Portland St., W.1. [1191

NORTON 3½h.p. 3-speed Combination, late 1916, sporting sidecar, lamps, horn, splendid condition; £110.—Alderton, Hardwicke Rd., Reigate. [9792

NORTON, 1916, B.R.S., Philipson pulley, just overhauled by makers, new piston and ends, tank re enamelled, lamps, horn, tools, splendid condition.—Below.

NORTON, 1920, I.O.M., 3-speed, all-chain, actual machine to finish eighth in 1920 T.T., exceptionally fast, unscratched, horn, tools, etc.; offers.—Smith, Oakfield, Ashton-on-Mersey. [1084

1920 (July) Norton, No. 9 speed model, Lucas lamps, horn, knee grips, mileage 250; £110, or offer.—Williams, Station House, Kendal, Westmorland. (D) [9772

BIG Four Norton, Aug., 1919, exceptional condition, enamel, etc., unscratched, P. and H. head lamp, Lucas rear, Smith's mechanical horn, mileage 1,000; £125.—Beeson, Shaftesbury Av., St. Neots. [9179

1920 (June) 3½h.p. I.O.M. T.T. Norton, 3-speed countershaft, kick start, hand clutch, chain drive, in tip-top condition, complete with Lucas head lamp, rear, horn, Cowey trip speedometer, set spare chains, bars, 2 sprockets, racing saddle, and usual Norton tool kit; £155.—J. V. Madgwick and Co., 79, Knowsley St., Bolton. [X1518

N.S.U.

N.S.U. 6h.p. Twin, 2-speed, clutch, perfect condition; £30.—Drug Stores, 13, Prince Wales Rd., Kentish Town. [1295

N.U.T.

1920 New 3½h.p. N.U.T., Magdyno lighting; £165.—J. L. Love and Co., Park Rd., Bromley, Kent. [1320

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—N.U.T., £165, from stock, free delivery. [X1220

N.U.T. 3½h.p. Twin, magdyno lighting, delivery from stock: £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [1238

N.U.T. Racing Model. 8-10h.p. J.A.P. engine, overhead valves, very fast; £85, or nearest offer; bargain.—Brewster, Sparhawk St., Bury St. Edmund's. [1166

N.U.T., 5h.p. twin J.A.P., No. 32611, 3-speed, clutch, handle start, lamps, knee-grips, spare valves, etc.; £70; any trial—Morea, Rectory Rd., Little Thurrock, Essex. [9555

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [0025

N.U.T. 1920, just delivered, dynamo lighting, with Watsonian sidecar to match, lively combination, complete; trial given.—Jones, Thornycroft, Clifton Rd., Llandudno. [9211

N.U.T.—Delivery from stock of these models, equipped with magdyno lighting, price £165; sole wholesale and retail agents for Staffordshire, the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [9002

O.K.

O.K.-VILLIERS, 1920, brand new; what offer in exchange.—103a, High St., Wandsworth. [1272

O.K. Mark V. 2-stroke, perfect; £30 lowest.—152, Meeting House Lane, Peckham, S.E.15. [9817

1920 Demonstration Model O.K.-Union, little used, as new; £50; trial.—Bugg, Chandlersford. [9890

O.K. 1915 2¾h.p., J.A.P., 2-speed, good order; £47/10.—21, Barmouth Rd., Wandsworth, S.W. [9806

1920 O.K. Junior, 2-stroke, lamps, horn, etc., done 200 miles; any examination; £50; London.—Box 8,000, c/o *The Motor Cycle.* [9257

1920 O.K. Junior, 2½h.p., better than new, not ridden 50 miles, wonderful bargain; 42 gns.—'Phone: 1024.—Julian, 84, Broad St., Reading. [7723

O.K. Junior, 48 gns.; £26 down and 11 payments.—Lamb's, 387, Euston Rd., London, N.W.; 50, High Rd., Wood Green, N.; 151, High St., Walthamstow. [9576

MOTOR CYCLES FOR SALE.

Omega.

OMEGA-J.A.P.'s just arrived, Model B. £72, Model O. £80.—Washburn, Cheadle, Staffs. [5331

1920 Omega, 2¾h.p. J.A.P. engine, 2-speed, clutch, and kick starter; £79/10.—Plastow, Grimsby. [X1890

1919 Omega-Jap 2¾h.p., 2-speed, lamps, horn, complete outfit spares and tools; £55, or best offer.—Wills, 3, Victoria Villas, Yapton, Arundel. [8298

1920 Omega-Jap, Model E, discs and spares, fully equipped, Tan-Sad, lamps, mechanical horn, etc., as new; £80; seen any time.—Ashford, New Estate, Saxmundham. [9554

NEW Omega-Jap, 2¾h.p., Model C, 2-speed, kick starter, handle-bar control clutch; price 79 gns.; carriage paid nearest railway station.—Fawn and Archer, Ltd., Motor Engineers, Aldershot. [9207

OMEGA 2¾h.p. J.A.P., 2-speed, only used a few times for demonstration purposes, new July, 1920; £68; carriage forward nearest railway station.—Campbell and Semple, 39, St. Leonard's St., Dunfermline. [1328

P. and M.

1918 P. and M. 3½h.p., lamps, horn, tools, Tan-Sad; £76.—Price, 4, Edward Rd., Canterbury. [9869

1918 P. and M. Combination, lamps, Klaxon, and spares; £95, or near offer.—9, Bollo Lane, Chiswick. [9326

P. and M. Combination, 1918, perfect condition; £95.—Middleton, 162, Chester Rd., Kidderminster. [9310

P. and M. 1920 Model, delivery from stock; £115.—Maudes' Motor Mart, 100, Paris St., Exeter. [1239

P. and M. Post-war Model, brand new, in stock for immediate delivery; £115.—Davison, Bute St., Luton. [9408

1920 3½h.p. P. and M., just received; £115.—Julian, 84, Broad St., Reading. 'Phone: 1024. [1311

BRIGHTON, Hove and District P. and M. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0204

P. and M., 1918, with new Canoelet sidecar, paint very good, engine excellent; £125.—Pine Farm, Wokingham. [9260

P. and M., late model, splendid condition; £60.—Cooper, 47, Blackhorse Lane, Addiscombe, Croydon. [9961

1918 P. and M. Coachbuilt Combination, good condition; 85 gns.—42, Lillian Rd., Castelnau, Barnes, S.W.13. [9558

1919 P. and M., delivered Oct., with Canoelet sidecar and 4 lamps, very smart; £120.—Woolmer, Grocer, Rochampton. [9804

1918 P. and M., tip-top condition, expensively equipped; 65 gns.—Bart's Garage, Cluny Mews, Warwick Rd., Earl's Court. [1047

1910 3½h.p. P. and M., 2 speeds, in sound order; £35.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X1902

P. and M. 1919 Combination, Lucas lamps, first-class condition; any inspection; £98, no offers.—A.S., 12, Thrale Rd., Streatham, S.W. [1074

P. and M. Combination, 1918, lamps, hood, screen, discs, splendid condition; any trial; £90.—Ash, Crown, 667, Commercial Rd., Stepney, London, E. [9546

P. and M., 1914, excellent condition, good tyres, new lamps, mechanically perfect, ready to ride away, Bosch mag.; £50.—Baxter, Chobham Rd., Woking. [9274

1919 P. and M. Combination, electrics, insurance, spares, accessories, excellent condition throughout; £120, or offer.—Old Park, Toddington, Beds. [9996

IMMEDIATE Delivery 1920 P. and M. sidecar combinations, £155; motor cycle only, £115; from stock.—Colmore Depot, 31, Colmore Row, Birmingham. [X1530

BRAND New 1920 P. and M. Combination, also P. and M. solo; in stock at list price.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X1899

P. and M. Combinations and solo machines in stock.—Arnatt's, The Premier Depot, 3, Holdenhurst Rd., Bournemouth. Agents for Bournemouth and district. [X1840

P. and M. Show Combination, mileage 1,500 (picked engine, mileage 600 only), £20 accessories, as new; sell £145.—Wood, 6, Hauteville Court, Stamford Brook, W.6. [9720

1918 3½h.p. P. and M. Combination, splendid condition, brand new sidecar; must sell; owner going abroad; accept best offer.—A., 1, Princes Av., Muswell Hill, N.10. [9966

1918 P. and M., 2-speed and kick starter, good tyres, excellent condition, mechanically perfect; £65; sidecar, if required, £10; seen any time.—66, Church Rd., Barnes, S.W. [1052

P. and M. Combination, 1919, privately owned, Easting wind screen, lamps, horn, etc., £110; inspection and trial by appointment.—Coney, Victoria Rd., Farnborough, Hants. [9704

1919 P. and M. Combination; £135 cash, or ¼ down and 11 payments, Lamb's, 387, Euston Rd., London, N.W.; 50, High Rd., Wood Green, N.; 151, High St., Walthamstow. [9580

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P. and M.

PHELON-MOORE, 1916, crankcase, complete, cy... tank, carrier, stand, gear sundries, tool bag, etc... write for list; best offers accepted. Top engine h... wanted.—128, Lindsay Rd., Dublin. [135

1920 P. and M. (July), brand new Montgomery sid... car, Watford trip, Lucas head lamp and hor... electric rear, mirror, spares, perfect order, showroo... condition; £145.—Roberts, 13, Preston Rd., Brighto... [940

P. and M., R.A.F. model, 1920, solo, not W.I... practically indistinguishable new, lengthened e... hausts, extra toolbags, all tools, horn; £95, or ne... offer; would give sidecar trial Saturday.—246, Selsd... Rd., Croydon. [988

1920 P. and M. C.B. Combination, mechanical lub... cation, hand brake, Cowey horn and speedometer... Lucas lamps, disc wheels, leg shields, luggage grid; c... be seen on application; best offer over £150.—8, Riv... Bank, East Molesey. [91

P. and M. Combination, 1918½, 2-speed, etc., fitt... Henderson sidecar, whole outfit in first-class co... dition, new tyres, Bosch; real bargain, first £95; na... and gold model; delivered free.—Mason, 42, Glentho... Rd., Jesmond, Newcastle-on-Tyne. [X152

P. and M., 1920 (June), latest model, Mead a... Deakin Canoelet sidecar, Cowey, 3 Lucas lamp... horn, luggage carrier fitted sidecar, done 970 mil... perfect condition, owner going abroad; £145, real ba... gain.—Sutcliffe, Woodbine Terrace, Halifax. [X19

P. and S.

NEW 2¾h.p. P. and S., fitted with the Villiers ... stroke engine, 2-speed; £73.—Wauchope's, 9, Sh... Lane, London. [77

P. and S. 2-stroke, 2-speed, 1920, fully equippe... Cowey horn, practically unused; £60.—3, Coo... lands Av., Lee, S.E.12. [97

Paragon.

3h.p. Paragon, 2-speed, spring frame, 1920 mo... cycle, perfect order; price £45.—B. Cooper, Jes... mine House, Oxford Rd., Manningtree, Essex. [93

PARAGON 3h.p., 2-stroke, 2-speed, 1920 (Augus... run 100 miles only, guaranteed as brand ne... cost £75, accept £52/10 for quick sale.—R. Watso... 132, High St., Aldeburgh, Suffolk. (D) [95

Peugeot.

PEUGEOT Combination, 5-6h.p., 2-speed, lam... horn, overhauled; £30.—Foot, 7, Clabon Me... Chelsea. [92

Precision.

4¼h.p. Precision, Bosch, Senspray, Brompton varia... gear, good climber; £50.—1, Plantation R... Sunderland. [92

1914 4h.p. Twin Precision Combination, 3 spee... clutch, lamps, horn, spares, good conditio... £70.—48, George St., Coventry. [X18

1914 2¾h.p. Precision, just overhauled, Bosch, S... spray, P.S., guaranteed foultless; £35, barga... —9, Hanley Rd., Hornsey Rd., N. [92

PRECISION 4½h.p., Bosch, perfect order; ... powerful; bargain, £30 cash; exchange eq... lighter.—Young, 11, Marlborough Crescent, Bedf... Park, W. [97

Premier.

3½h.p. Premier, clutch, good condition; £45.—... Alexandra Rd., Chatham. [9

3½h.p. Premier 2-speed, lamps, horn; bargain, £2... Speechley, 1, Gunnersbury Lane, Acton, W.... [98

PREMIER Twin, 5h.p., less mag. and tyres, origi... enamel; £18/18.—Ball, 49, Riverside, Kingston-... Thames. [X1

1914 4h.p. Premier Combination, 2 speeds, splen... condition, mechanically perfect; £60.—45, Gr... ville St., Peterborough. [9

GENUINE Bargain; only wants seeing.—Late 1915 P... mier 3½h.p., mechanical condition and appearan... as new, 3 speeds, kick starter and clutch, Bosch m... Senspray carburetter, lamps, horn, speedometer, wat... pump, tools, etc., small mileage, stored 4 years ... treated with the greatest possible care when in u... £60, or reasonable offer.—Maunsell, 3, Hurlingh... Gardens, Putney Bridge, S.W. Putney 1372. [9

Pullin.

PULLIN, promised September; depositor invites of... for transfer; £5 paid.—Box 8,072, c/o *The Mo... Cycle*. [1

Quadrant.

IN Stock, 1920 Quadrant combination, absolu... it; £145.—Sheldon, Wheatley, Oxon. [7

QUADRANT Combination, 4½h.p., delivery f... stock; £145.—Maudes' Motor Mart, 100, P... St., Exeter. [1

3½h.p. Quadrant, Bosch mag., spring forks, little u... £18.—Bambridge, Decorator, Riverside, Kings... on-Thames. [X1

4¼h.p. Quadrant M.C., fitted with Roc 2-speed w... running order; what offers?—Jubilee House, ... ton, near Worcester. [9

MOTOR CYCLES FOR SALE.

Quadrant.

16 Quadrant, 4½h.p., B.S.A. 3-speed, kick start, good Dunlops, excellent condition; £65.—90, Av., Barrow-in-Furness. [X1942

ADRANT 1920 4½h.p. Combination, in stock; makers' price.—Shepherd and Co., Enfield High- Tel.: Waltham Cross 31. [8878

FFORD WILSON Co.—1920 solo Quadrant, lamps, horn, small mileage, as new; £100.—70, l Hospital Rd., Sloane Sq., S.W.3. Tel.: Ken- n 7113. [1229

FFORD WILSON Co.—1920 Quadrant combina- tion, used demonstrations only, as new; £130.— Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: ngton 7113. [1228

W 1920 4½h.p. Quadrant Combination, 3-speed, Sturmey-Archer countershaft gear, clutch, and starter; £145; extended payments.—Wauchope's, ge Lane, Fleet St., London. [7740

FFORD WILSON Co.—1920 Quadrant combina- tion, with all accessories and insurance, small ge; £110.—70, Royal Hospital Rd., Sloane Sq., . Tel.: Kensington 7113. [1226

FFORD WILSON Co.—1920 Quadrant, Mont- gomery sidecar, screen, hood, all accessories, small le; £120.—70, Royal Hospital Rd., Sloane Sq., . Tel.: Kensington 7113. [1227

ADRANT 4½h.p. Big Single; combination £145, olo £115; new machines always in stock; the moderate-priced outfit left.—Victor Horsman, 7, Mount Pleasant, Liverpool. [0277

W 4½h.p. Quadrant Combination, to makers' specification; at list price, including carriage works, £147/7/3; or on easy payments 4% —Harrods, Ltd., 118, Brompton Rd., London. [9909

ADRANT Combination, 4½h.p., 1920, chain drive, Sturmey-Archer 3-speed gear, K.S., F.R.S. g set, Stewart horn, Easting wind screen, per- ndition, insurance, low mileage; £140, or near Pressland, Larkhill P.O., Salisbury Plain. [1092

FFORD WILSON Co., sole agents and dis- tributers for Quadrants in London, Sussex, , Kent, Middlesex, Buckinghamshire, Essex, rdshire, Bedfordshire, Cambridgeshire, Norfolk, , Huntingdonshire, and Berkshire. Trade en- invited. Usual manufacturers' terms.—70, Hospital Rd., Sloane Sq., S.W.3. Tel.: Ken- n 7113. [1230

Radco.

1920 Radco 2-stroke; 50 gns.—76, Western td., Southall, Middlesex. [9478

CO, just overhauled, lamps, Klaxon, tools; offers ound £35.—Tudor House, Peterborough. [8265

CO 1920 2¼h.p., 2-stroke, 2-speed, perfect; earest £55.—Eaton, Crofts, Castletown, Isle of [9641

CO 2-stroke, excellent condition, electric lamps, attery, complete; £35.—Organ, 7, Agnes Rd., W.3. [9863

Radco 2-stroke, 2-speed, beautiful appearance and condition; £36; near.—Allston, Berghott, St., Harpenden, Herts. [9798

Radco, electric lighting, Lucas horn, watch, etc., mileage 100, unscratched; £50; exchanges. on, 34, Ampthill Rd., Bedford. [9113

ND New 1920 Radco 2¼h.p., 2-stroke, £54/16; speed model, £60/10; one of each only for y at this price; carriage paid to any address. Premier Motor Co., Aston Rd., Birmingham. [1147

Reading-Standard.

DING-STANDARD 1919-20 10h.p. Combination, arley sidecar, lamps, horn, etc., hood, screen, ood condition; £165, or offer.—Colonial Motor 04a, Finchley Rd., N.W. 'Phone: Hamp. 7822. [1307

DING-STANDARD 1920 Combination for sale, rindlay sidecar, wind screen, hood, luggage and grid, dynamo lighting, spares; cost £260 late accept £210, or nearest.—Hall, 13, Ridgway, Nor- loors, Stoke-on-Trent. [9298

Rex.

Rex, 2 speeds, lamps, speedometer, new condi- on; £45.—17, Heaton Rd., Mitcham. [9940

5-6h.p. Twin Combination, Bosch, B. and B., ghting set; £45, or near.—1, Berkley St., Lam- [9404

6h.p. Combination, Bosch, B. and B., rebushed. e-enamelled; £65; after 6.—R., 13, Cresswell South Kensington. [1060

Rex Coachbuilt Combination, 2-speed, kick art, all accessories, excellent condition; £65.—32, Rd., Thornton Heath. [9724

3½h.p., Grade gear, Bosch, m.v., B. and B., ring forks, X.L. pan, new back wheel, running £25.—Jarvis, Minchinhampton, Glos. [9508

8h.p. Rex Combination, Model 55, Blackburne ngine, electric lighting and horn; owner buying rice £215.—Stanley Motories, Ltd., Halifax. 55. [9246

8h.p. Model de Luxe Combination, 2-speed, ck start, F.E., hood, screen, pillion seat, lug- id, all accessories, as new; £110.—8, Langler ensal Rise, N.W.10. [9710

Reconstructed Government Motor Cycles.

Douglas 2¾ h.p. £65

Douglas 4 h.p. £85

Douglas Combinations £110

Thoroughly overhauled, stove enamelled, replated, tanks in makers' colours, good tyres, guaranteed mechanically sound.

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3-speed countershaft, kick-start, overhauled as above, but not enamelled or plated,

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Enamelled and plated, as new,

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Motor Engineers,
WISBECH.

MOTOR CYCLES FOR SALE.

Rex.

LATEST Model 55 Rex Combination, brand new, 8h.p. Blackburne engine, spare wheel, etc.; £218/18; free delivery to any address.—The Premier Motor Co., Aston Rd., Birmingham. [1146

REX 6h.p. Twin Combination, wicker sidecar, whole repainted, engine overhauled, perfect running condition; £40, or offer.—Colonial Motor Co., 104a, Finchley Rd., N.W. 'Phone: Hamp. 7822. [1309

REX 5-6h.p. Coachbuilt Combination, thoroughly overhauled, everything splendid condition, new head lamp, Cameo, apron, speedometer, complete; any trial; £75, or offer.—Gildersleeves, 24, Crimscott St., Bermondsey. 'Phone: Hop. 1716. [1031

REX, T.T., 5-6h.p., Speed King Model, overhead inlet valves, racing dropped frame and handlebars, 2 riding positions, long open twin exhausts, new tyres, tubes, and belt, in fine condition throughout, extremely fast and powerful; any trials, seen any time; 'phone 36, after 6; photo; £45, or near offers.—Rose, Highfield, Gainsborough. [X1924

Rex-Jap.

REX-J.A.P. Combination 1915 6-8h.p., 3-speed, clutch, K.S., chain drive, Easting, Tan-Sad, perfect, ride away; £95.—96, Shortlands Rd., Kingston-on-Thames. [9371

Roc.

ROC Combination, 2-speed, handle starting; £35.— 25, St. Anne St., Liverpool. [1054

Rover.

1920 5-6h.p. Rover Twin and Grindlay M.D.L. sidecar, just delivered; £210.—Sam Robbins, Ltd., Nuneaton. [X1948

1918 3½h.p. Rover, 3-speed, kick start, clutch, lamps, all accessories, in splendid condition; £95.—Davies, Meadi, Thatcham. [9988

1919 3½h.p. Rover Combination, countershaft, kick starter, lamps, splendid condition; £120.—49, High St., Keynsham, Somerset. [9998

IF You are thinking of buying a motor cycle, why pay £60, when I have the goods (Rover) for £30? Private owner.—2, Halons Rd., Eltham. [7322

ROVER 3½h.p. 1918 Countershaft, kick start, lamps, Klaxon, 4-point coach sidecar, new, attached; 110 gns.—Ronald Northover, Tisbury, Wilts. [9367

1920 (August) Rover, T.T., Philipson pulley, Lucas lamps, Stewart horn, Cowey speedometer, knee grips, mileage 350; £135.—44, Alma Rd., Carshalton. [9990

ROVER 1920 T.T., brand new, only been 500 miles, Philipson pulley and Cowey horn; cost £130, accept £95.—Wallis, 23, Hartington Grove, Cambridge. [9267

1920 3½h.p. Rover Combination, fully equipped, lamps, horn, speedometer; cost £180 three months ago, must sell, £127/10.—5, Brixton Hill, S.W. [1069

5-6h.p. Rover Combination, complete, March, 1920, good running order, perfect condition, low mileage; price £200.—Apply, Chetwynd Viaduct Hotel, Crumlin, Mon. [9353

ROVER 3½h.p., 3-speed, clutch model, Bosch mag., B.B. carburetter, recently overhauled, splendid condition; what offers?—G. Harrison, Brook House, Scamblesby, Louth. [X1512

1920 Rover 5-6h.p. Combination, Montgomery sidecar with Easting, mileage 350, condition as new, lamps; any examination; £200.—Baker, 92, Bradford Av., Cleethorpes. [X1186

F.O.C.H. have a 5-6h.p. W.D. Rover combination, Easting, negligible mileage.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9482

1916 3½h.p. Rover, 3-speed countershaft gear, in real 1920 condition, tyres quite new, exceptionally good, take sidecar anywhere, £85; Millford Corvette to fit, £20.—Walbro Motor Cycle Co., High St., Saffron Walden, Essex. 'Phone: 45. [X1903

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick-starter, and with smart coachbuilt sidecar; £180 or on easy payments 5% extra; one quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [9910

ROVER 1914 3½h.p. Combination, 3-speed, excellent condition and appearance, engine and gears recently overhauled, lamps, hood, screen, new extra heavy Dunlop, fast machine; £60, or offer; privately owned.—Seen at Clarke's Garage, South St., Romford, Essex. [1151

ROVER, 1919, mileage 900, any trial, condition and appearance as new, unpunctured, Sandum de Luxe sidecar, finished black and gold, Cameo screen, hood, 3 lamps, 3 generators, speedometer, pillion seat, large horn, 3 belts, new spare tube, tool roll, other spares; £150.—G., 27, Manor Rd., Wallington. [9995

1915 Rover 3½h.p., countershaft 3-speed, clutch, Watford speedometer, horn, F.R.S. 1,200, head, Lucas tail, new 26×3 Palmer cord light car back, looks like new, spares include cylinder, piston, piston rings, clutch pedal, rod, valve and springs; bargain, £82/10; with Montgomery cane sidecar £88/10.—Lawrence, 34, Carey St., Reading. [9335

MOTOR CYCLES FOR SALE.

Rover.

REAL Hot Stuff Rover, guaranteed to do 60 m.p.h., nearly new tyres and re-enamelled, first cheque for £65; Minerva 6h.p. twin, detachable cylinder heads, leaf-spring forks, free engine hub, posh 'bus, £45; 1919 2¾h.p. New Imperial, 2-speed, as new throughout, £58.—Parsons, Bedworth. [X1944

ROVER 5-6h.p. Combination, 1918, reconstructed, overhauled W.D. models. These machines are to makers' specification throughout, and represent exceptional value for money. Only two left in stock; price, complete combination, guaranteed sound condition, £135.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

Royal Ruby.

1919 8h.p. Royal Ruby-Jap Combination, Fulford sidecar; £115.—9, Church Rd., Willesden, N.W. [9755

ROYAL RUBY 1920 3h.p., spring frame; £95, bargain.—Mosedale, 30, Canterbury Rd., West Kilburn, N.W.6. [6718

ROYAL RUBY 2-stroke, re-enamelled and plated, makers' colours, new tyres, all on, perfect; £45.—120, Cromwell Rd., Hounslow. [1076

ROYAL RUBY 1920 3h.p., spring frame, beautiful condition, 800 miles only; list price £120; £100.—George, Hambro' Lodge, Datchet. [9384

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

1920 Royal Ruby, spring frame, 3h.p., 2-speed, kick start, mileage under 300, perfect; £105, or nearest offer.—Malcomson, 19, Vulcans Lane, Workington, Cumberland. [9149

£100.—Royal Ruby, 1918, 8h.p. J.A.P., 3-speed, hand clutch, kick start, re-enamelled and plated, black and gold lined, Mills-Fulford C.B. sidecar, mechanically perfect, worth double, cash needed.—272, Green St., Forest Gate. [8234

3h.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used and condition as new; £110; may be obtained on easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [9907

Rudge.

RUDGE Multi 3½h.p., late model, splendid condition; £70.—Longney, Oswestry. [X1708

1917 Rudge Multi, £68; sidecar, £12.—55, St. James's Rd., Bermondsey. [1259

RUDGE, 1912, 4½h.p., fixed gear, good order; £42.—Bond, Station Rd., Bexhill. [9418

RUDGE I.O.M. Model in stock; £110/5.—Clark, 7, Exhibition Rd., South Kensington. [9934

RUDGE.—All 1920 model, ex-stock; £110/5; easy payments.—125, High St., Woolwich. [6094

RUDGE 3½h.p., overhauled and re-enamelled; £35.—Harvey, 168, Clive Rd., West Dulwich. [9137

1920 Rudge Multi 5-6h.p. Combination, wind screen, hood, lamps, etc.—29, High St., Croydon. [9375

3½h.p. Rudge Multi, T.T.; £110/5; easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [9922

3½h.p. Rudge Multi, T.T., just delivered; bargain, £105, or near offer.—H. Nunn, Sutton, Cambs. [9147

RUDGE 3½h.p., free engine, wicker sidecar, all accessories; £47/10.—Jones, Claremont, Corwen. [1033

1920 Rudge 3½h.p. Touring, new, £108; 1920 I.O.M. model, £98.—11, St. Thomas' Rd., St. Anne's, Lancs. [9230

RUDGE Multi, T.T. roadster, as new; £105; mileage 200.—Spink, 52, Brodrick Rd., Wandsworth Common. [9407

1920 T.T. Rudge Multi, engine as new, Tan-Sad, lamps, etc.; £95, or offer.—4, Harewood Grove, Darlington. [9193

RUDGE 1919 I.O.M. Model and accessories, in good condition; £82.—Bounds 223, High Rd., Kilburn, N.W. [1097

1920 Rudge T.T. Multi, fully equipped and insured; cost £130, offers.—Hand, 96, Bishop St., Moss Side, Manchester. [9519

RUDGE Multi, 1914, good condition, lamps, etc.; what offers?—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [9491

5-6h.p. Rudge Multi Combination, ride away; £85, or solo, £70, or exchange 8-10h.p.—L. Stratford, 203, Junction Rd., N.19. [8839

LATE 1919 3½h.p. Rudge Multi, fully equipped, perfect; any trial; £83, bargain.—Letters, Grubb, 218, Windmill Rd., Chatham. [9327

1920 I.O.M. T.T. Rudge Multi, just delivered, unridden; nearest £110/5; any examination.—Box 8,075, c/o *The Motor Cycle*. [1215

1920 I.O.M. Rudge, brand new; in stock at list, exchanges, or easy payments; £110.—2, Nightingale Rd., Lower Clapton, N.E. [1173

5-6h.p. Rudge Multi, C.B. sidecar, in good order; £80, or nearest offer; bargin.—Brewster, Sparhawk St., Bury St. Edmund's. [11b.

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Brand new extra heavy

MOTOR CYCLE COVERS

EX-GOVERNMENT STOCK

(28 by 3 and 26 by 2½)

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Frames £5 each.

CRABTREE & SON, Ltd.,

Motor Engineers,

WISBECH.

MOTOR CYCLES FOR SALE.

Rudge.

JUNE (1920) Rudge Multi, I.O.M., 2 sets hand bars, 2 belts, lamps, and Klaxon; £10, or offe 24, Seaford St., Stoke-on-Trent. [9

RUDGE Multi 1920 I.O.M. Model, equipped, only a few miles; 87 gns.—Longman Bros., Bond St., Ealing. 'Phone: 689. [9

1920 3½h.p. T.T. Rudge Multi, with knee-grips t lamps, mileage 800; any trial; £100, or neare Gregor, 11, Sketty Rd., Swansea. [9

LATE 1919 Rudge Multi, 3½h.p. touring model, cellent condition; price £80, or near offer.—Ap R.A.B., The Shrubbery, Basingstoke. [9

3½h.p. Rudge Multi, 1914, new coachbuilt sider and tyres, pedal start, clutch, lamps, etc., sp did condition; £78.—21, Alma Rd., Highbury. [9

1919 T.T. Rudge Multi, lamps, speedometer, ex lent condition; offer over £100.—Fenw Groville, Grove Rd., Gosforth, Northumberland. [1

RUDGE Multi, 1920, I.O.M. T.T. model, not 1,000 miles, fitted complete; what offers?—Hew Garages, Ltd., The Real Service Firm, Taunton. [92

RUDGE 1920 7-9h.p. and 5-6h.p. Multi Comb tion, in stock; makers' price.—Shepherd and Enfield Highway. Tel.: Waltham Cross 31. [8

NEW Rudge Multi 3½h.p., fitted with smart co built sidecar; £143/10, or on easy payments extra.—Harrods, Ltd., 118, Brompton Rd., Londo [9

RUDGE Multi 1920 3½h.p., T.T., brand new; arrived; immediate delivery; at makers' p £110/5.—Wilkins, Simpson, opposite Olympia, Lon [9

SEPT., 1919, I.O.M. Rudge Multi, lamps, h accessories, splendid condition; £89, or nea offer, bargain, must sell.—Apply, 29, Springdale Huddersfield. [

RUDGE Multi 3½h.p. 1919 T.T., lamps, h speedometer, insurance policy, no addit expense; nearest £120.—Wilkinson, Rearsby, Blur sands, Liverpool. [

1920 Rudge Multwin 7-9h.p. and sporting Watso sidecar, T.T. bars, Lucas lamps and Cowey guaranteed as new inside and out, pedal start; £1 37, Regent St., Rugby. [X

3½h.p. Rudge Multi, believed 1916, lamps, foot oiler, tyres new, in perfect cond throughout; £65, or close offer.—Seen, Arch, Dealer, Boston, Lincs. [

7-9h.p. Rudge Twin, Multi gear, clutch and starter, with smart Rudge sidecar, etc.; £ may be obtained on easy payments.—Harrods, 118, Brompton Rd., London. [

RUDGE Multi 7-9h.p. Twin Combination, J 1920, fully equipped and all accessories, trial; £175, or exchange 2-seater.—Jones, 60a, Le stone Rd., Stratford, E.15. [

3½h.p. Rudge Multi, 1914, and Phœnix under C.B. sidecar, splendid condition throughout, h horn, spare tube, etc.; bargain, 65 gns.—Hitchins East Ferry Rd., Millwall, E.14.

1920 brand new I.O.M. Rudge Multi, 3½h.p., ing tank, multi gear, clutch, and free en £110/5; also Rudge spares, all from stock.—The H lar Cycle Co., Riversley Rd., Nuneaton.

3½h.p. Special I.O.M. Rudge, practically new, A policy, tools, spares, horn, knee-grips; (Brooklands winner) bought car; £100, or near o Major Huntbach, Terncroft, Market Drayton. [X

1920 (May) Twin Rudge Multi and Rudge si condition and appearance as new, electric ing, speedometer, Klaxon and spares; £190; expe amination invited.—319, New Church Rd., Hove.

1920 Brand New I.O.M. Rudge 3½h.p., si tank, multi gear and free engine, £110/5; second-hand Rudge, 1919 model, £85; another, speed, 1914, £35.—Wauchope's, 9, Shoe Lane, Lo

RUDGE Multi 3½h.p., I.O.M., T.T., 1920 (Au clutch and starter model, lamps, Klaxon etc., has run under 100 miles, condition as brand £98.—H. Clark, Belvoir House, High St., Aldel Suffolk. (D)

1920 5-6h.p. Rudge Multi and Rudge Sidecar done 100 miles, fitted with 3 Lucas mechanical horn, full kit of tools, etc., absolut new; accept £150, no offers.—Sloan, 8, Hav Terrace, Renfrew.

RUDGE, I.O.M., in stock, £110/5; also sporting sidecar, £125, fully equipped; down and 11 payments.—Lamb's, 387, Euston London, N.W.; 50, High Rd., Wood Green, N. High St., Walthamstow.

1919 5-6h.p. Rudge Multi Combination, lamps etc., new spare tyre and tube, new belt, condition throughout; £120, or nearest; also 191 countershaft Triumph, lamps, etc., £95, or ne Pierce, Queen's Ferry, Chester.

1920 3½h.p. Rudge Multi, run 30 miles, h and H. lamps, Klaxon horn, Watford meter, pedal start, clutch, sloping tank, perfect tion, unscratched; cost £123/10, accept £112. Morton, The Hall, Thorney, Peterborough.

MOTOR CYCLES FOR SALE.

Rudge.

14 5-6h.p. Rudge Multi, coachbuilt sidecar, very comfortable, engine just overhauled, perfect ition, very flexible, 3 excellent lamps, apron, , insurance, etc., is reliability itself, and does mind hills or traffic; £85.—Clayton, 54, Birdhurst Croydon. [1080

Scale.

20 Scale, Precision, 2-stroke, 2-speed, clutch, kick start, lamps, etc., just overhauled, new March; —Jenks, Victoria St., Southwold. [9294

Scott.

TT, 1914, thoroughly overhauled; bargain, £63, or near offer.—Ranford, Malvern. [8099

AUCHOPE'S, 9, Shoe Lane, London.—New 1920 Scott, delivery from stock; £140. [7735

20 Scott and Sidecar, new May; £165.—Homan, Thames Cottage, Thames Ditton, Surrey. [9127

TT Combination, 2-speed, K.S., all on, new tyres; £78.—24, Littlewood Rd., Lewisham. [9762

TT, new 1920 model; delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0301

20 Scott, almost new, with Scott sidecar, mileage about 500; combination £162.—Apply, 28, Stand- e, Wigan. [9520

TT, 1920, with flying Middleton sidecar, very mart lot; £138.—Wallington Motors. 'Phone: on 1643. [9810

20 3¾h.p. Scott, Lucas horn, etc., Cowey speedo- meter; £125.—J. L. Love and Co., Park Rd., ley, Kent. [1024

20 Scott Combination, complete lamp sets, condi- tion as new, mileage 700; £175.—Fripp, Libbery , Worcester. [9300

TT.—Deliveries from stock, solo or combination; £140 and £185.—Hewin's Garages, Ltd., The Real e Firm, Taunton. [9490

19 Scott, excellent condition, very small mileage, first-class accessories; £110.—13, Cunnahs Grove, Trafford, Manchester. [9336

TT 1917-18 Combination, splendid mechanical ondition, equipped; 80 gns.; exchanges.—12, all Mews, Gloucester Rd., S.W.7. [1284

20 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £120.— away, Fruit Merchant, Smethwick. [0275

TT.—Immediate delivery from stock, 1920 3½h.p. odels, solo or combination; £140 and £185 re- ely.—Parker's, Bradshawgate, Bolton. Tel.: [X1835

TT Combination, 1914, hood, screen, electric ighting, perfect running order, many spares; trial pointment; £75.—Pondere, Margaretting, Ingate- Essex. [9160

TT 1916 Combination, 3¾h.p., new engine, good yres, comfortable sidecar, good running order, id condition, just overhauled by makers; any £90.—Thompson, Butcher, Nantwich. [9556

TT Combination, 1915, twin-cyl., Bosch mag., Triumph carburetter, 4h.p., perfect starter, Im- blue; trial; great bargain, £85; part exchange ined.—70, Dulwich Village, S.E. [1044

TT Combination, 1913, 2-speed, kick starter, Bosch, new Binks carburetter, Montgomery De coachbuilt sidecar with sprung luggage carrier, good running order; £65 for immediate sale.— Bate, Dee Banks, Chester. [X1891

TT Standard Combination, new Dec., 1919, ex- cellent condition, engine 3884, mileage 2,800, 3 c lamps, dry battery, Easting wind screen, Cowey meter, Cowey horn, extra tools, spares, 2 brand yres; £150, quick sale.—C. Lyall, 15, Parkfield Oldsbury, Manchester. [9760

Singer.

GER 2¾h.p., clutch, B. and B., Bosch, lamps nd generator, perfect order; £33.—Clark, 37, am Green Terrace, Chiswick, London. [1106

DERN Singer Lightweight, 2-speed, Bosch, Amac, crank case damaged, £17; new 2-stroke , B. and B., £10/10.—Horlock, Farncombe, [9607

4 Singer, 3 speeds and clutch, fitted 1920 Mil- ford sidecar, Easting screen, all lamps, horn, speedometer, all new Dunlop tyres, in splendid £75; exchanges or easy payments.—2, Night- Rd., Lower Clapton, N.E. [1184

4 4½h.p. Singer Coachbuilt Combination, 2-speed countershaft, all enclosed chain drive, clutch and , stored all through war, very carefully and little everything in splendid condition, very smart ap- ce, with spares and accessories; £75, or offer.— Fox Lane, Palmer's Green, N. 'Phone: Hornsey [X1522

Sparkbrook.

RKBROOK, late 1919, 2-speed, excellent condi- ion, tools; £60; guaranteed.—Newman, 29, Sutton d., Carr Vale, near Chesterfield. [9307

RKBROOK 2½h.p. 2-stroke, 2-speed, lamps, horn, xcellent tyres, engine almost new; real bargain, or nearest.—Corke, High House, Scopwick, Lin- ire. [9585

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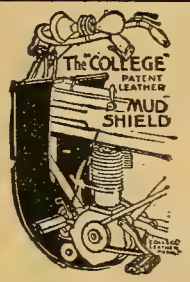

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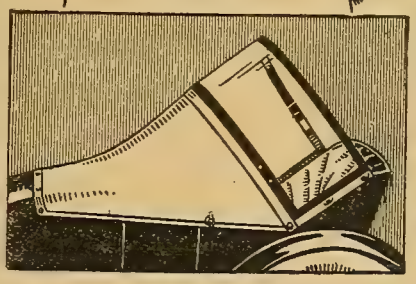

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Sparkbrook.

NEW 2½h.p. Sparkbrook, 2-stroke, single-speed; £69; 2-speed, £75, in stock, or on extended payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [9899

Standard.

1920 British Standard, 2¾h.p., 2 speeds, all accessories; best offer over £50, or exchange for higher power.—21, Brendon St., Edgware Rd., W.1. [9368

Sun.

SUN-VILLIERS 2½h.p., single speed, new tyres, lamp; what offers?—89, Hook Rd., Epsom. [9225

2¾h.p. Sun-Vitesse, 1920, 2-speed, kick start, new; £61, bargain.—4, Wood Lane, Beverley. [1032

2¾h.p. Sun, V.T.S., 2 speeds, just overhauled, speedometer, lights, Klaxon; £60, or offer.—Hendriks, Knaphill, Surrey. [9354

1918 2¾h.p. Sun, V.T.S., 2-stroke, 2-speed countershaft gear box, leg guards; £43, or nearest.—C. Borton, Ashlawn Lodge, near Rugby. [X1516

SUN-VILLIERS 2½h.p., believed 1918, splendid running and appearance, fast, powerful; £40.—Ashby, 46, Avondale Rd., Harringay, N.15. [9403

SUN-V.T.S. 2¾h.p., 2-stroke, 2 speeds, complete with lamps, etc., and in good condition, ride away; bargain £48.—18, Brunswick Rd., Liverpool. [9352

Sunbeam.

SUNBEAM Combination, single-cyl., new condition.—Wilks, Ulceby, Alford, Lincs. [9322

SUNBEAM 3½h.p. for Immediate Delivery.—Russell, Lawrence St., York. Tel.: 744. [9185

1920 Sunbeam, latest model, perfect, practically unsoiled; £150, no offers.—Banks, Clifford St., York. [9312

IMMEDIATE Possession, 1920 standard and sporting Sunbeams.—Capt. Brittain, Orient Lodge, Buxton. [X1912

SUNBEAM 3½h.p., in new condition, with all accessories; £125.—74, Arthur Rd., Wimbledon Park, S.W. [9194

T.T. Sunbeam, nearly new, advertised 2/9/20; must sell; offers over £90.—Mellersh, Clarence Rd., St. Albans. [1344

1920 Sunbeam 3½h.p. and Sidecar, condition like new; first over £177/10.—31, Shakespeare St., Southport. [1003

1920 Sporting 3½h.p. Sunbeam, Swan sporting sidecar, unused; £185.—Slater, 25, Parkhills Rd., Bury. [9531

1918 3½h.p. Sunbeam, perfect appearance and mechanical condition; £120.—6, Mount Pleasant Rd., Ealing. [9744

SUNBEAM Combination, brand new, just delivered; £8 under list price.—Norman Whitehouse, Bridgtown, Cannock. [X1894

£50 Deposit paid for 1921 Sunbeam, delivery Jan.; will take £40; advertiser buying car.—Box 8,043, c/o *The Motor Cycle*. [9586

£110, 3½h.p. Sunbeam Combination, 1914, Lucas lamps, speedometer, Klaxon, good condition.—Leeds, The Cot, Stanmore. [1009

SUNBEAM, 1914, 3½h.p., all accessories, 3-speed, hand clutch, K.S., splendid condition; £88.—Walwyn, Wetheral, Cumberland. [1198

SUNBEAM 1919 (late) 3½h.p., privately owned, unscratched, perfect condition; £115, sacrifice.—Blunt, 31, Ampthill Rd., Bedford. [1088

1920 8h.p. Sunbeam Combination, lamps, horn, spare wheel, perfect condition; owner buying car; £200.—Freeman, Brighton Rd., Redhill. [9316

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; £110.—C. Barton, Clapham, Yorks. [0246

SUNBEAM, brand new 5½h.p., solo model, with Lucas lamps and horn; £170.—The Walsall Garage, Wolverhampton St, Walsall. Tel.: 444. [9004

WAUCHOPE'S, 9, Shoe Lane, London.—1919 8h.p. Sunbeam combination, hood, screen, lamps, speedometer, mirror, warning signal, tools, condition like new; 200 gns. [7742

1920 Sunbeam 8h.p. Combination, screen, hood, 4 interchangeable wheels, accumulator lighting, Cowey speedometer, Klaxon; £255.—C. V. Goddard, Avenue Rd., Leicester. [X1956

SUNBEAM 2¾h.p., top-hole condition, tyres new, chain drive, hand clutch, all on; £80, or exchange combination, Triumph preferred.—Box 8,063, c/o *The Motor Cycle*. [1125

1920 3½h.p. Sporting Sunbeam, purchased 6 weeks ago, over £20 worth of accessories and extras, is exceptionally fast, and fully guaranteed; photo; offers.—Box 8,751, c/o *The Motor Cycle*. [8922

1920 3½h.p. Sunbeam Combination, electric light, knee-grips, wind screen, large locker, sprung luggage grid, guaranteed perfect, new July; £200; unpunctured.—16, Neva Rd., Weston-super-Mare. [X1961

1919 Sunbeam Combination, 8h.p., electric and acetylene lighting, speedometer, luggage carrier, wind screen, excellent condition, best reasonable offer; must sell.—142, King Henry's Rd., Hampstead. [9642

MOTOR CYCLES FOR SALE.

Sunbeam.

1919 (Dec.) 3½h.p. Sunbeam Combination, Lucas lamp, etc., Triplex wind screen, new spare cover and tube, the whole in perfect condition, privately owned; £150.—Fletcher Brewer, Tottenhall Wood, Wolverhampton. [9672

SUNBEAM 2¾h.p., countershaft, kick starter, coach-built combination, accessories, spares, and lady's 2-speed Douglas; accept £85 for both, cash to-day.—5, Eglon Mews, Berkley Rd., Primrose Hill (near Chalk Farm Tube). [9789

1920 (July) 3½h.p. Sunbeam, fitted Binks, King Road Lucas lamps, horn, etc., condition absolutely new, mileage 300; cost £170, will sell £162; would ride 60 miles.—Elman, Temple Garage, Cheetham, Manchester. [9871

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay (late Sunbeamland).—The Molineaux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

1920 Semi-T.T. Sunbeam, 3½h.p. Sunbeam, Henderson Elite sidecar, Easting, Lucas lamps and horn, Watford trip, full Tan-Sad, absolutely perfect, guaranteed; £195, or nearest offer; bought car.—Rankin, Ivanhoe, Wick Rd., Brislington, Bristol. [9173

1920 (July) 3½h.p. Sunbeam Combination, all wheels interchangeable, Lucas best lamps and horn, Cowey trip speedometer, Sunbeam leg shields, small mileage, perfect condition; bought car; £215.—Jones, Earlswood, Ellesmere Rd., Shrewsbury. [X3025

SUNBEAM 3½h.p. Roadster, 1919, black and gold, unscratched, ridden very little by private owner, complete with first-class lamps, tools, and equipment; £130.—Shoan, Glenbridge Hotel, Virginia Water, or would ride reasonable distance to purchaser. [9615

SUNBEAM 3½h.p. Combination, 1916 bicycle, new engine June, 1920, sidecar (Sunbeam), new 1919, Binks carburetter, all accessories, solo and sidecar sprockets, and other spares, nearly new oversize tyres, low mileage; price £130.—Watts, 145, Sutherland Av., W.9. [9617

NEW 1920 Sunbeam 3½h.p., private owner will guarantee, unscratched, unpunctured, faultless, new Lucas equipment, under 500 mileage, tool roll and all spares, beautiful machine; owner buying car; first offer £145, or nearest.—Blackham, 44, Lichfield St., Wolverhampton. 'Phone: 298. [X1958

1919 8h.p. Sunbeam Combination, disc wheels, semi-T.T. bars, large P. and H. lamps, Klaxon, knee grips, mudshields, new Palmer tyres and tubes, pillion seat, full toolkit and puncture outfit, spare plugs and valves, recently overhauled, perfect condition; accept £220.—H. J. Morton, The Hall, Thorney, Peterborough. [9251

SUNBEAM 3½h.p. Black and Gold Combination, 1919 model, delivered January, 1920, Sunbeam coach-built sidecar, fitted spring luggage carrier, Watford trip speedometer, Cowey horn, F.R.S. electric lighting set, with 7in. head lamp and accumulator and batteries (2-way), variable jet Amac, knee-grips, all in perfect condition, will go anywhere, an outfit for anyone wanting the best; owner bought car; £175.—Naylor, 85, Beamsley Rd., Frizinghall, Bradford. [9241

Triumph.

TRIUMPH Combination, nearly new, complete; £150.—Longney, Oswestry. [X1706

1918 Triumph, copper disc wheels, warranted two months; £80.—See below.

1917 Triumph, fully equipped with Cowey speed ometer, horn, and lamps; £110.—Motor Cycle Marts, Ltd., Fair Row, High St., Chatham. [9186

1914 Triumph, with Corvette, lamps, etc.; £75.—Cross, Agent, Rotherham. [X1921

TRIUMPHS for Immediate Delivery.—Russell, Lawrence St., York. Tel.: 744. [9181

£78.—Triumph 1918 countershaft, excellent condition.—272, Green St., Forest Gate [8236

LATE 1919 Triumph Combination, all accessories; £110.—44, Bendall St., Marylebone. [9170

1913 Triumph, clutch model, good condition; £45.—Apply, Wray's Garage, Malton. [9953

1919 Triumph, £100; Yorkshire. Previous replies lost.—Box 637, c/o *The Motor Cycle*. [X1513

TRIUMPH 4h.p., 1920; £95, as new; buying car.—Tree, 14, Courtfield Gardens, S.W.5. [1313

TRIUMPH Combination, 4h.p., C.B. sidecar, K.S., perfect; £80.—48, Undine St., Tooting. [9662

TRIUMPH 1918 Countershaft, all accessories; £90, or offer.—26, Barrington Rd., Brixton. [1150

TRIUMPH, 1916, C.S., new condition, every accessory; £85.—74, Handcroft Rd., Croydon. [9708

TRIUMPH Combination, new, in stock; list price.—Chapple and Co., Odiham, Basingstoke. [9745

4h.p. Triumph, good running order; £55; Saturday after 4.—3, Foxley Rd., Kennington, London. [9528

1919 Countershaft Triumph, top gear change, fully equipped; £95.—37, Arlington Rd., Surbiton. [9937

1918 Triumph, W.D., renovated by makers, complete lamps, etc.; £93.—Cross, Agent, Rotherham. [X1919

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Triumph.

TRIUMPH, T.T., brand new, unridden; no reasonable offer refused.—384, Stretford Rd., Manchester. [81

1920 All-chain Triumph, delivered 14 days ago, perfect; £145, no offers.—Banks, Heworth Green, York. [9

1919 Triumph and Sidecar, good condition, accessories, insurance; £125.—Dr. Sellers, Thornton Dewsbury. [8

JUNIOR Triumph, October, 1919, splendid order, owner returning abroad; £55.—Barton, Rectory, Edgware. [9

1919 Triumph, Millford sidecar, lamps, horn, excellent condition; £113.—Caudle, 65a, High St., Banbury. [9

TRIUMPH Combination, coachbuilt sidecar, excellent condition; any trial; £65.—1, Hencroft St., Slough. [9

TRIUMPH, renovated 3½h.p., clutch, Bosch, complete; ride away; £45.—Oates, 46, Clare St., Chester. [9

1920 Triumph Combination, special Gloria sidecar, excellent condition; £130.—Longman Bros., Broadway St., Ealing. [9

TRIUMPH Specialists.—Latest 1920 model on view.—The Premier Motor Co., Aston Rd., Birmingham. [1

TRIUMPH Combination, late model, new tyres, some spares, as new; £130, offers.—Shaw, 98, Byne Rd., Sydenham. [9

SLIGHTLY Used 1920 Triumph, not scratched; £120; mechanical horn included.—Bond, Station Rd., Bexhill. [9

TRIUMPH, countershaft, new Sept., 1919, equipment; £95.—Dentist, 216, Portobello Rd., North Kensington, W.

3½h.p. Triumph, fixed, fast, new T.B mag., and Hutchinson; £32; any time.—Sherlock, Hook, Hants.

1920 4h.p. Triumph, countershaft, just delivered, not run; £130, or nearest.—29, Springdale Rd., Huddersfield. [7

TRIUMPH 3½h.p., clutch model, with 2-speed; trial; £40; accessories.—H. Jowett, 41, Palmerston Av., Bradford. [X1

4h.p. Countershaft Triumph, just delivered makers, used, fully guaranteed; first £100.—30, Greenfield Rd., Harlesden.

TRIUMPH 2-stroke, 2-speed, mileage 1,100, with speedometer; 60 gns.—St. Oswald, Matham, Hampton Court.

1920 Triumph, mileage 500; cheap for quick owner going on service.—Capt. Bird, Military Hospital, Colchester.

TRIUMPH 3-speed Countershaft Combination, thoroughly overhauled; £95.—Owen, 59, Scholefield Rd., Holloway. [X

3½h.p. Triumph, fixed gear, dropped frame, new lamps, horn; first cheque £35 secures.—Bond, Surveyor, Sleaford.

TRIUMPH, disc wheels, lamps, horn, etc., sacrifice, £39, or exchange Douglas.—6, St. Peter's Rd., Hackney Rd., E.2.

T.T. Triumph, 1914, perfect condition, very fast; lamps, Klaxon, tools, new tyres; £58.—M. Bowing, Helsby, Cheshire.

1913 Triumph, 3-speed, lamps, excellent running order; £60.—M., 22, Grantham Rd., Chiswick (nr. swimming baths).

TRIUMPH 1916 4h.p., 3-speed, C.S., K.S., clutch, lamps, horn, etc., perfect order; £68.—Baronsmead Rd., Barnes.

TRIUMPH 4h.p., countershaft, new 2½ tyres, kit, spares, pump, grease gun, lamps; £80.—Westcombe Park Rd., S.E.3.

TRIUMPH 1920 Motor Cycles at makers' prices; models, immediate delivery.—Wilkins, Sims, opposite Olympia, London.

TRIUMPH 4h.p., 1917, countershaft, hand clutch, Tan-Sad, good condition; best over £80.—8,048, c/o *The Motor Cycle*.

1912 Triumph T.T., Bosch mag., B. and B., horn, all complete, very fast; £38.—Walsh, Brookshaw St., Bury, Lancs.

1916 Special T.T. Triumph, 3-speed, K.S., just hauled, accessories, spare tube; £90.—H. Strand, Bycullah Rd., Enfield.

1918 3-speed Countershaft Triumph, good condition, 70 gns.—626, Lea Bridge Rd., Leyton, 'Phone: Walthamstow 800.

1920 Triumph Solo, engine 68382, low mileage, Lucas lamps, horn, speedometer; £127/10.—Claremont Sq., London, N.1.

TRIUMPH 1915 4h.p., countershaft, tyres and as new, in perfect order; for quick sale £—Seen, 135, Edgware Rd., W.2.

TRIUMPH 1920 4h.p. Model H, also Baby, brand new; sacrifice, £5 off each; Cambridge.—Box 8,055, c/o *The Motor Cycle*.

MOTOR CYCLES FOR SALE.

Triumph.

18 Countershaft Triumph, enamelling, plating as new, complete less engine and gear box; £32.—tt, Atlington Rd., Surbiton. [9938

19 Triumph, canoelet sidecar, Easting, lamps, horn, tools, spares, perfect condition; £125.—dar Rd., Cricklewood, N.W. [9949

18 Countershaft Triumph, guaranteed perfect, spares, tools, lamps; trial; £85.—354, Uxbridge Shepherd's Bush, London. [9756

20 4h.p. Triumph, Watsonian sidecar, Easting screen, electric lighting, all accessories; £150.—haftesbury Rd., Highgate, N.19. [9685

.p. Triumph fixed engine, Bosch, just overhauled, re-enamelled, very fast, perfect condition; £35.—Wicks, 62, Church St., Chelsea. [19

IUMPH Countershaft and Gloria coachbuilt sidecar, perfect, accessories; appointment; £125.—2, h Rd., Great Crosby, Liverpool. [9126

IUMPH 1914 4h.p. Model, complete with 3-speed gear and Gloria coachbuilt sidecar, fully equipped; —Parker's, Bradshawgate, Bolton. [X1815

20 Triumph Gloria Combination, Model H., brand new; bought car; accept £5 below list.—Jones, wood, Ellesmere Rd., Shrewsbury. [X3026

BY Triumph, 1915, excellent condition, lamps, speedometer, horn, etc.; £55, or nearest; fully d.—Box 8,049, c/o *The Motor Cycle*. [9592

IUMPH Junior, Nov., 1919, condition perfect, little used, lamps, horn, tools, spare belt; £65.—View, Mount Rd., Parkstone, Dorset. [8022

IUMPH 1918 4h.p., countershaft, splendid condition, guaranteed sound; £85.—Fitt, 2, Barrossa ce, Church St., Chelsea, near Pikes. [9112

UNTERSHAFT Triumph Combination, fully equipped, faultless condition; £90.—Bart's Garluny Mews, Warwick Rd., Earl's Court. [1045

19 (Sept.) 4h.p. Triumph Combination (countershaft model), complete with accessories; £160, or ffer.—Atkins, 25, West Park, Eltham, S.E.9. [9117

20 4h.p. T.T. Triumph, fully equipped with lamps, horn, spares, low mileage, as new; £92. nthwaite, 32, Winchester Rd., Colchester. [1102

AND New Triumph 4h.p. Combination, latest chain drive model; just delivered from works; rice.—Freda Lodge, 5, Brixton Hill, S.W. [1068

.p. Triumph-Gloria Combination, Multi grado, speedometer, hood, wind screen, lamps, carrier, id condition; £75.—56, Bury St., Edmonton [9223

20 T.T. Triumph, Cowey speedometer, hardly soiled; best offer over £100, or 1914 or 1915 las and cash.—Reynolds, Waterbeach, Cambridge. [1236

.2 Triumph Gloria Combination, cane body, N.S.U., exceptional condition, patent wind screen, hood; s.—129, Albert Rd., Stechford, Birmingham. [X1753

—1918 Triumph combination, fully equipped, Canoelet sporting sidecar; wonderful bargain.—209, way, W. Hendon, N.W. 'Phone: Kingsbury 162. [1257

IUMPH-GLORIA Combination, brand new, unridden, 1920, model H, 4h.p.; list price, £182/10, arest offer.—Box 8,064, c/o *The Motor Cycle*. [1126

17 Triumph 4h.p., countershaft, 47622, overhauled, new Dunlops, lamps, mechanical horn, £80, or offer.—Carruthers, 99, Biscot Rd., Luton. [9671

IUMPH Countershaft Combination, luxurious bulbous back sidecar, new 1919, equipped; £125. tist, 216, Portobello Rd., North Kensington, W. [9768

UMPH 1916 Countershaft, 3-speed, clutch, kick start, in splendid condition and ready for any ey; £80.—Hole, 129, Park Lane, Carshalton. [9711

15 Junior Triumph, 2-speed, 2-stroke, acetylene amps, horn, tools, good Dunlop covers, knee-grips, le; £50.—Storrs, 23, Keighley Rd., Colne, Lanca- [9474

20 4h.p. Triumph Combination, Bluemel's wind screen, speedometer, and all accessories, in good tion; £150.—Bounds, 223, High Rd., Kilburn, [1098

18-19 Countershaft Triumph, not W.D., fully equipped, lovely condition, guaranteed; 80 gns.; ld combination wanted.—19, Stieatley Rd., Brondes- [9780

IUMPH 1920 (January), Model H, Lucas lamp, electric rear, Klaxon, Tan-Sad, A.K. grips, long ist; £100, or offers.—Brian Astle, Copperfield, ey. [1103

20 Triumph, with special Grindlay sidecar, leg guards, Easting screen, picked machine, perfect tion; £150.—Rayner, 22, Church Hill, Leam- n. [X1913

IUMPH 1920 4h.p. Motor Cycle, with Triumph sidecar, horn, and Watford speedometer, indisishable from new; £180.—Parker's, Bradshawgate, n. [X1814

USED 1920 Triumph, De Luxe family sidecar, hood, screen, grid, spare tyre, nearly new lamps, ni, speedometer; £195.—Bond, Station Rd., Bex- [9415

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We have large stocks of genuine **TRIUMPH** and **DOUGLAS** Spares, miles under list price.

TRADE SUPPLIED.

Write, 'phone, or wire your requirements.

THE BURLINGTON MOTOR CYCLE CO., LIMITED,
7, SOUTH SIDE, CLAPHAM COMMON, S.W.4.

'Phone: Brixton 2417.
Grams: "Burlington Motors, Clapham."
(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1916 4h.p., C.S., large bulbous back sidecar, perfect condition, any trial; £100.—33, Riverview Gardens, S.W.13. 'Phone: Hammersmith 626. [1016

1919 Triumph Countershaft Combination, luxurious sidecar, outfit perfect and unscratched, heaps of spares; £125.—60, Wallingford Av., North Kensington. [1007

1920 4h.p. Triumph, just arrived, unpacked; list price, £127/10.—Whitby and Son, Triumph Agents, 7, The Vale, Acton, W.3. 'Phone: Chiswick 1513. [9511

1920 Latest Triumph Combination, Model H, luggage and petrol carrier, Cowey horn, all tools, as delivered; £165.—Mills, 28, Northampton Park, Canonbury, N.1. [1160

TRIUMPH 3½h.p., fast, powerful, low built, D.R. bars, Mabon variable, drip feed, enamelling and plating and condition as new; after 7 p.m.—27, Albert Rd., Peckham [9382

TRIUMPH Countershaft 4h.p., new November, 1919, enamel and plating unscratched, heaps of spares, guaranteed perfect; £95.—60, Wallingford Av., North Kensington. [1006

IN Unquestionable Condition, 4h.p. countershaft Triumph, 1916; any expert examination and extended trial; full kit and Tan-Sad; £85.—Major, 107, Wyley Rd., Coventry. [X3015

1919 C.S. Triumph, 58182, only ridden since April, 1920, F.R.S. lamps, A.K. grips, Lucas horn, in every respect as new; £95, no offers.—89, Maxey Rd., Plumstead. [971

1919 (late) Triumph, Montgomery combination, engine 64451, perfect, mileage 2,000, £135; exchange 4-6h.p. twin.—20, Blenheim Rd., Caversham, Reading. [9992

TRIUMPH, 1918, renovated makers, lamps, horn, speedometer, handle-bar watch, knee grips, Tan-Sad, lovely machine; £96.—Tibford, 135, Stoke Newington Rd., N. [9742

BARGAIN.—3½h.p. Triumph solo, Triumph engine, Bosch mag., N.S.U. 2-speed, tyres as new, perfect running order; £45, or nearest.—Lewis, Rose Cottage, Wareham. [9774

TRIUMPH 4h.p., drop frame, clutch, new lamps and tyres, T.T. bars, makers' colours, reliable, fast, smart, tools; £78, no offers.—Hewens, Hillingdon Heath, Uxbridge. [9548

TRIUMPH Baby, 1916, Lucas lamps and horn, condition, enamel, and plating excellent, very small mileage; £70.—Hewin's Garages, Ltd., The Real Service Firm, Taunton. [9494

ALMOST New 4h.p. 1919 Triumph, perfect running order, tools, Klaxon horn, accessories, spare parts, complete; £90; going abroad.—Mayne, Broughton Place, Belstead Rd., Ipswich. [X1523

4h.p. Triumph, 1920 (May), with new Henderson sidecar, complete with new lamps, only done 1,700; £140, or nearest.—10, Richmond Terrace, Magdalen Green, Dundee. (D) [9603

1915 Triumph 4h.p., C.S., 3-speed, Mills-Fulford coach sidecar, spare belt, tools, 3 lamps, 2 generators, little use, stored 3 years; £110.—122, Abbey St., Nuneaton. [X1892

TRIUMPH, just delivered, 4h.p., chain-cum-belt, either as combination, Gloria with hood and screen, or solo; list price.—G. H. Layne and Co., Triumph agents, Brigg. [9018

TRIUMPH-SWAN coachbuilt 1915 countershaft, hood, screen, etc., all excellent condition, stored till April, 1919, seen in Croydon.—Owner, 9, St. Michael's Rd., Wallington. [9991

TRIUMPH 4h.p., 3-speed C.S., June (1919) combination, electric and gas lighting, discs, Easting, and various accessories, beautiful turnout; £120.—62b, Highgate Rd., Kentish Town. [9968

TRIUMPH 1918 4h.p., just overhauled, tank re-enamelled by makers, oversize tyres 28×3, speedometer, all accessories, several spares; £90.—E. Cockell, Holly Lodge, Dalston, E.8. [9941

TRIUMPH 4h.p. Countershaft, with best Montgomery sidecar, all lamps, plenty extra spares, practically new combination; any test; seen any time.—38, Pennethorne Rd., Peckham, S.E. [9620

TRIUMPH Combination, renovated, as new, 4h.p., 3-speed countershaft, C.B. sidecar, brand new lamps, horn, Easting, and tyres; £130.—Hewett, Station Approach, Parkstone, Dorset. [9200

1911 T.T. Triumph, thoroughly renovated, rebushed, re-enamelled tank, needle jet B. and B., new gudgeon and crank pins, good tyres; ride away; £38. —82, Pepys Rd., Wimbledon. [9537

1919 (May) Triumph, countershaft, mileage 4,200, perfect condition, and sidecar, £10 spares, and every possible accessory; bargain, £105, no offers.—Boulton, 63, Cowley Rd., Oxford. [9134

1917 4h.p. Triumph, countershaft 3-speed, clutch, Watsonian C.B. sidecar, Cameo wind screen, apron, leg shields, horn, all as new; £87.—41, Anerley Park, S.E.20. 'Phone: Sydenham 1572. [9946

1920 Triumph and Montgomery Sidecar, mauve, luggage grid, P. and H. lighting, Bonniksen, Klaxon, full tool kit, tyres not punctured; accept £185.—C., Mercer's Arms, London, W.C.2. [9765

MOTOR CYCLES FOR SALE.

Triumph.

FOR Sale, 1919 countershaft Triumph, new August, mileage 1,000, perfect, unscratched, fully equipped, many accessories, insurance; £112, or offers.—Smith, St. Matthew's Vicarage, Barrow-in-Furness. [X1941

1920 Triumph, countershaft, all chain drive, fitted luxurious bulbous sidecar to match, brand new and unregistered; £175.; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [1174

TRIUMPH 4h.p., 1914, 3-speed, clutch, P. and H. lamps, insurance, Stuart, Tan-sad, tools, 5-60 m.p.h. guaranteed, in splendid condition; £90.—A. E. Disdel, 40, Ackroyd Rd., Honor Oak Park, S.E.23 [9706

TRIUMPH 1919 4h.p., countershaft, brand new, unridden, not renovated, accessories, insurance; £110; with spares, £125; bargain, cash wanted.—Hemming, 159, Trinity Rd., Wandsworth Common, London. [1020

1919 Triumph, counter-shaft, not W.D.; horn, rear light, all tools, in really magnificent order, guaranteed; £110; or, with new coach sidecar, £130; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, N.E. [1183

TRIUMPH 1920 4h.p. Motor Cycle with Triumph Sidecar, Lucas head, rear, and sidecar lamps, horn, Cowey speedometer, hood, cover and wind screen, indistinguishable from new; £190.—Parker's, Bradshawgate, Bolton. [X1813

TRIUMPH Countershaft Combination, new 1919, beautiful bulbous back sidecar, electric light, spares (numerous), with new Beldam heavy cover and tube, appearance as new, guaranteed; £120.—13, Grenfell Rd., Notting Hill, W.11. [9891

4h.p. Triumph Countershaft Combination, T.T. bars, splendid lamp set, Klaxon, carrier seat, grey coach-built torpedo sidecar, spare tyre, belt, chain, etc.; £115, or part exchange Allon 2-stroke.—2, Quex Mews, Quex Rd., Kilburn, N.W.6. [9884

TRIUMPH 1920 Model in stock, £127/10; also Triumph renovated models, £105, makers' fixed price; also 1914 model, going very cheap.—Lamb's, 387, Euston Rd., London; N.W.; 50, High Rd., Wood Green, N.; 151, High St., Walthamstow. [9573

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 1920 4h.p. Triumph, delivery from stock, £127/10 solo; can be fitted with Gloria or any other make of sidecar immediately from stock. Also 4h.p. W.D. renovated Triumph and sidecar, renovated 1920 by Triumph Cycle Co., £120. [9076

TRIUMPH 4h.p. 3-speed Combination, electric lighting, newly decorated sidecar (best coach finish with folding luggage platform at rear), quantity useful spares, including unused extra heavy Dunlop tyre and several new valves, etc.; £98, or nearest; any trial.—G.B., 33, Broadway, Earlsdon, Coventry. [X1852

1919-20 Triumph Combination, engine No. 66000, fitted with F.R.S. electric lighting set, tyres and tubes new and unpunctured, 2 spare tubes, plating and enamel like new, guaranteed mechanically perfect; any trial by appointment, and all enquiries answered, specially tuned engine, does big mileage; £130.—Box 8,067, c/o *The Motor Cycle*. [1128

Velocette.

CYRIL WILLIAMS, for early delivery of Velocette.—Chapel Ash Depot, Wolverhampton. [2265

VELOCETTE 2½h.p., all chain, 2-speed, thorough running order; £40.—Greetham, Millom, Cumberland. [X1952

VELOCETTE 2¼h.p., 2 speeds, chain drive, as new, marvellous climber; £52/10; exchanges entertained.—103a, High St., Wandsworth. [1270

VELOCETTE.—Immediate delivery from stock, 1920 2¼h.p. 2-speed model, all-black finish; £75.—Parker's, Bradshawgate, Bolton. Tel.: 1348. [X1823

VELOCETTE.—Early deliveries of this reliable and economical lightweight; demonstration machines on show.—Newnham Motor Co., 223, Hammersmith Rd., W.6. [1222

A REAL Bargain.—Velocette 2¼h.p., 2-speed, all-chain drive, practically new, only run about 500 miles, complete with accessories worth £10; accept £60; owner bought combination.—Apply, 11, Higher Albert St., Chesterfield. [X1805

IMMEDIATE Delivery from stock of the wonderful Velocette Model D2 2¼h.p., 2-speed, all-chain drive; £75; no alteration will be made in this model for the 1921 season; carriage paid to any address.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [1149

Verus.

VERUS-BLACKBURNE, all models, delivery from stock.—Maudes' Motor Mart, 100, Paris St., Exeter. [1241

1920 4h.p. Verus-Blackburne Combination, practically brand new, done 250 miles; £125.—Hawke, Market Sq., St. Columb. [9631

VERUS 4h.p., May, 1920, P. and H. lamps, Klaxon, spare belt, insurance; first reasonable offer.—Ontwin, Haggs View, Shawlands, Glasgow. [9557

1920 Verus-Blackburne 2¾h.p., 2-speed, K.S. and clutch, aluminium discs, guaranteed as new, mileage 350; £100.—37, Regent St., Rugby. [X1914

MOTOR CYCLES IN STOCK FOR IMMEDIATE DELIVERY

NEW MACHINES.

1920	**B.S.A.** chain-drive Combination ..	£152 0
1920	**B.S.A.,** 6 h.p., solo	£150 0
1920	**BLACKBURNE,** 4 h.p.	£135 0
1920	**ENFIELD,** lightweight	£73 10
1920	**INDIAN** Scout Model	£140 0
1920	**NORTON,** 3½ h.p., direct drive, T.T.	£98 0
1920	**TRIUMPH,** 4 h.p., chain drive	£140 0
1920	**TRIUMPH** 4 h.p. Model H Combination	£182 10
1920	**VELOCETTE,** lightweight	£75 0
1920	**ZENITH,** 4-5 h.p., sports model ..	£123 0
1920	**ZENITH,** 6 h.p., sports model	£139 0
1920	**ZENITH,** 8 h.p., sports model	£139 0

Etc., etc.

SECOND-HAND MACHINES.

1920	**SUNBEAM** 8 h.p. Combination, elaborately equipped, and as new .	Offers
1920	**TRIUMPH,** 4 h.p., with Sunbeam Sidecar and full equipment, including speedometer	£140 0
1919	**TRIUMPH,** 4 h.p., with Montgomery Sidecar, windscreen, lamps, and horn	£110 0
1919	**ZENITH,** 5 h.p., countershaft, with Swan sporting Sidecar, Triplex screen, and full equipment	£140 0
1917	**B.S.A.,** Model K, with C.B. Sidecar, lamps, and horn	£95 0
1920	**A.B.C.,** 3 h.p., completely equipped, electric lamps, speedometer, etc., as new	£120 0
1920	**A.B.C.,** 3 h.p., soiled only	£110 0
1920	**ENFIELD,** lightweight, as new	£62 0
1920	**CLYNO,** lightweight, as new	60 gns.
1920	**SPARKBROOK,** 2-speed, lightweight, all accessories, condition sound	£50 0
1920	**RUDGE-MULTI,** twin, as new	£115 0
1920	**SKOOTAMOTA,** cost 60 guineas, as new	£42 0

Etc., etc.

THE Layton Garages

J. W. TOLLADY, General Manager,

London Road, BICESTER,

and

90, High Street, OXFORD.

'Phones—
35, *Bicester.* 784, *Oxford.*

'Grams—
"Integrity, Bicester" *"Integrity, Oxford."*

MOTOR CYCLES FOR SALE.

Verus.

VERUS 2-stroke, 2-speed, with clutch and kick sta new May, 1920, in perfect condition, with P. a H. lamp, Lucas horn; £65.—115, Clarence St., Bolt [X18

1920 2¾h.p. Verus-Blackburne, 2-speed and clut aluminium exhaust box, footboards and dis lamps, horn, speedometer, cost £130, ridden 2 accept 95 gns.—Shepherd and Co., Enfield Highw Tel.: Waltham Cross 31. [88

Villiers.

£35.—Villiers 2¾h.p. 2-stroke, in nearly new a quite perfect condition, single-speed, take 2 a where, lamps and horn, 100 m.p.g.; after 6 p.m 31, Cromer Rd., N. Watford. [96

V.S.

V.S. Twin Motor Bike, 2 speeds, Bosch, Druids, v low frame, complete, less tank; £25.—Rus Walk, Lower Bourne, Farnham. [13

Williamson.

1914 Williamson 8h.p., w.c., 3-seater sidecar, fu equipped; £120.—16, Church Rd., Erith. [95

WILLIAMSON Combination, back and sidecar ty new, good running order; offers, or part exchan for solo.—160, Wells Rd., Bristol. [93

WILLIAMSON and Wicker Sidecar, Douglas engi 4 speeds, lamps, horn, speedometer, good co dition; £90, or near offer.—Greaves, 18, Bright Place, Portobello, N.B. [10

1914 Williamson Combination, 8h.p., W.C., speeds, hood, screen, all lamps, electric ho in perfect order; £110; exchanges or easy paymen —2, Nightingale Rd., Lower Clapton, N.E. [11

WILLIAMSON 8h.p., Douglas engine, water-cool special 2-seater sidecar (side-by-side), pillion, ho screen, all lamps, Klaxon, speedometer, excellent dition; £95.—129, Loveday Rd., West Ealing. [93

1914 Williamson Combination, 8-10h.p., water-cool 2-speed, clutch, kick s art, chain drive, car tyr horn, lamps, speedometer; £80, or near offer.—W G. Baird, Ltd., 10, Parsons Green, S.W.6. [93

Wolf.

2¾h.p. Wolf-Jap, 1914, stored during war, splen condition, take 2 anywhere; £32.—177, E field Rd., Wandsworth. [93

1914 2½h.p. Wolf-Jap, splendid running order, lam horn, etc.; exceptional bargain, £35.— Burchell Rd., Leyton. [94

2¾h.p Wolf-Jap, excellent condition, new tu and belt, lamp and generator; first £30.— Princes St., Tunbridge Wells. [98

Wooler.

2¾h.p. Wooler, 6 speeds, McNab's record breake £85.—Wauchope's, 9, Shoe Lane, London. [77

LONGMAN Bros., 17, Bond St., Ealing, Woo specialists; immediate delivery.—'Phone: 689 [91

WOOLER, ridden 100 miles; must sell, or p exchange 2-stroke.—Mellersh, Clarence Rd., Albans. [13

1920 Wooler 2¾h.p. Twin, as new, or exchange 4-cyl. F.N., cash adjustment.—Taylor, 155, Ki stall Lane, Leeds. [94

WOOLER, 1920, just delivered, lamps, Cowey ho cost £108; accept £98.—236, West End La N.W.6. Hampstead 7931. [13

WOOLER 1920 2¾h.p., tourist model, in absolut perfect condition, complete with accessories, o used for a few miles; exceptional bargain, £85.—E and Co., 15-16, Bishopsgate Av., Camomile St., E.C [0C

Zenith.

ZENITH 3½h.p., splendid condition, lamps; barga £35.—29, Windermere Av., N.W.6. [94

T.T. Zenith, £58; take lightweight in part change.—Highbury, East Drive, Brighton. [98

4½h.p. Zenith Combination, as new; £75, or n offer.—7, Raleigh Rd., Richmond, Surrey. [91

5-6h.p. Zenith Combination, like new; bargain, £ offers.—13, Kilmarsh Rd., Haunmersmith, W.6 [94

1916 5.6h.p. Zenith, excellent condition, all acc sories; £85.—32, Felstead Rd., Wanstead, E. [96

ZENITH 5h.p., 1917-18, condition excellent, n Dunlops; £85.—18, Chesilton Rd., Fulham, S.W [12

ZENITH 8h.p., 1915, and Mills-Fulford sidecar, complete; bargain, £87/10.—Longney, Oswestry [X1

ZENITH 1915 5-6h.p., clutch, Dunlops, Lucas li etc., splendid condition; £65.—18, Hilldrop C cent, N.7. [98

1916 Zenith Combination, countershaft, K.S., lightweight; sell £105.—19, Primrose H Northampton. [1C

ZENITH Combination, 4½h.p., all accessories, g condition; 80 gns.—Woreham's Garage, Coon Rd., Croydon. [9

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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Popular Types.

A WEEK-END on the roads, at any time of the year, is sufficient to demonstrate the extraordinary popularity of the family sidecar. Perhaps no form of motoring appeals so much to the average man as this means by which he can convey his wife and children to the sea, to visit friends, or for a day's outing in the country for a very moderate sum.

It is not only the big twin that is suitable for such work—indeed, a very large proportion of the family outfits to be seen on our roads is propelled by sturdy singles. As a passenger-carrier the motor cycle and sidecar is capable of accommodating more persons than many small cars, and though the outfit may have been designed for two persons only, it is now no uncommon sight to see *pater familias* with his eldest on a pillion, while his wife and one or two of the younger members of the family occupy the sidecar with a pile of luggage on the sidecar carrier.

With such usages in view it behoves the manufacturer to construct stoutly, and this he almost invariably does, with the result that the solo enthusiast has a legitimate grumble.

No one wishes to carry about unnecessary weight with its consequences of loss of "life" and increased upkeep, and there is little point in paying twenty pounds for a three-speed gear box if all but the most freakish hills can be climbed on top gear. What then is the solution to the problem? Either manufacturers must make two distinct types, one for solo and one for passenger work, or one of the two most popular forms of motor cycling will have to suffer. In this connection the question arises as to whether there is a really important market for a dual purpose machine. If not, there would still be two main outlets: (1) the purely solo mount which would be lighter, handier, cheaper, and more lively; and (2) the purely passenger machine which would probably develop into something rather more mechanical and less likely to "lean" than the present dual purpose outfit.

An Alternative Fuel.

"THE price of an article is what it will fetch." This being the sentiment in the minds of those who control the life blood of the motor industry, it is obviously a duty to help forward the production of an alternative fuel. Now there are already three alternatives which only require development in order to lower the price of fuel and the consequent cost of road transport in general.

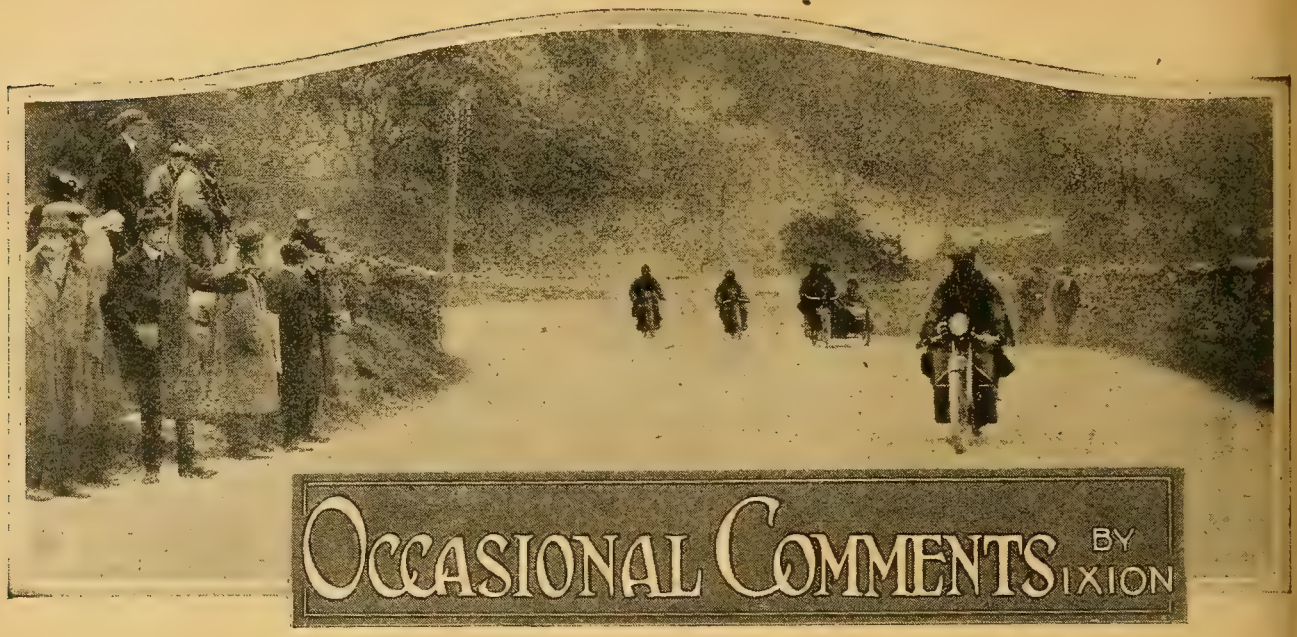
Benzole we most of us know and appreciate, but owing to the claims of the dye industry and the lack of Government support, its price is roughly that of petrol, and it has become very scarce. Shale oil again is an excellent substitute, and enormous shale deposits exist in this country, though they require development.

Alcohol can be produced at home and in so many parts of the world that its supply could be unlimited. An authority on the subject assures *The Autocar* that enough raw material for the production of 50,000,000 gallons of power alcohol per annum can be grown in Fiji alone. There are shipping and distribution difficulties, it is true, but these are not insuperable, and the one and only real cause of the hold up is Government opposition to the use of this fuel. Since the motor industry finds employment for hundreds of thousands of workpeople, antiquated restrictions should surely be banished to allow of its development.

Moreover, the price of motor fuel is not a matter affecting only the private owner, it is a national question which has a considerable bearing on the price of all road-borne freight, both human and commercial, and added to this fuel is of vital importance to the country in the event of war.

It is, therefore, the Government's business to secure an adequate supply of fuel at a reasonable price and this without delay. Every motor cyclist, and indeed every patriotic citizen, should use his utmost influence to secure this end.

An index to the advertisements in this issue will be found on the page facing the back cover.



OCCASIONAL COMMENTS BY IXION

It Doesn't Rust.

I NEVER like eating my words twice over. I know they say the man who never makes mistakes never makes anything, and that if you do not occasionally change your mind, you will never change anything. Still, it does not feel nice; however, here goes. Some months ago I implored the trade to utilise the Kynoch lightning fastener for motor cycling leggings. Some joker informed me that he had done so years ago, and the metal seams rusted up so that he had to be extricated with a tin-opener. I withdrew my pleadings. Then Hamel's of Tamworth told me they had started to manufacture such leggings, protecting the seam with a fabric flap, though their experience was that it throve on water. I got a sample fastener, and it has now lain on my desk for some while immersed in a jampot full of water. I do not know whether the modern edition of the fastener is coslettised, but anyhow it cannot be induced to rust; and readers may confidently buy them without adding a hacksaw to their toolkit.

Coil v. Leaf Springs.

HOW many riders have spotted the rapid stampede towards leaf springs? I well remember the day when there wasn't a motor cycle on the road that had a leaf spring in its anatomy. To-day, perhaps inspired by other people's successes, all the designers are recanting their old heresies, and dropping the coiled spring in favour of the pack of leaves. There is, of course, ample technical justification for the change of practice. In a coiled spring there is next to nothing to damp the rebound, whereas friction steadies the action of the leaf pattern, and so minimises the tendency to bounce. Leaf springing for motor cycles is now guarded by a perfect encyclopædia of patents, and the late comers will have to pay royalties if they are not careful. Still, I note that a few wizards have the necessary cunning to devise dampers for the coiled spring—witness G. E. Stanley's cute little fitting on the latest Triumph fork. Those makers who cling to undamped coil springs should have lined the road between the top of Keighley Gate and Harden Bank in the A.C.U. days. The sound of clashing forks drowned the burr of a cool hundred exhausts. Some riders merely said "Ouch!" Others had apparently served as sergeant-majors.

The Alternative to a Spring Frame?

"THERE isn't one," would have been my swift answer to such a query not many moons back. But, as I mellow with age, an increasing reluctance to dogmatise besets me, and there are times when I wonder if, perhaps, Lenin himself isn't, after all, quite a decent fellow, and fond of nursing babies when he isn't busy exterminating the bourgeois. So I won't pretend that one or two firms have not developed very threatening substitutes for a spring frame. To-day, for example, I have been perturbing the ozone on a 1920 Scott. The Scott fork has always been deservedly famous amongst the small coterie of forks which rank as absolutely first-class. The firm are wise enough to fit a super-saddle. The footboards are sprung. The tyres were 3in Palmer cords. Vibration—well, most men know that when one cylinder of a Scott has gone dud and the other is sixteen stroking, the engine is less feelable than some four-strokes are when they are tuned up for the managing director's wife to take a trial run. So you can guess that there was not a hair's breadth between this outfit and the best spring frame I have tried in respect of comfort. I am told, too, that the new little flat twin Zenith with the special saddle suspension transports its rider along a graph resembling a horizontal straight line, leaving the machine to outline the pits and steeples of which the average road surface is now composed. So long as we get the 1926 standard of feather-bed travel, we do not much mind whether it is furnished by a spring frame or a set of ingenious detail gadgets giving the same effect.

Tyre Repairs.

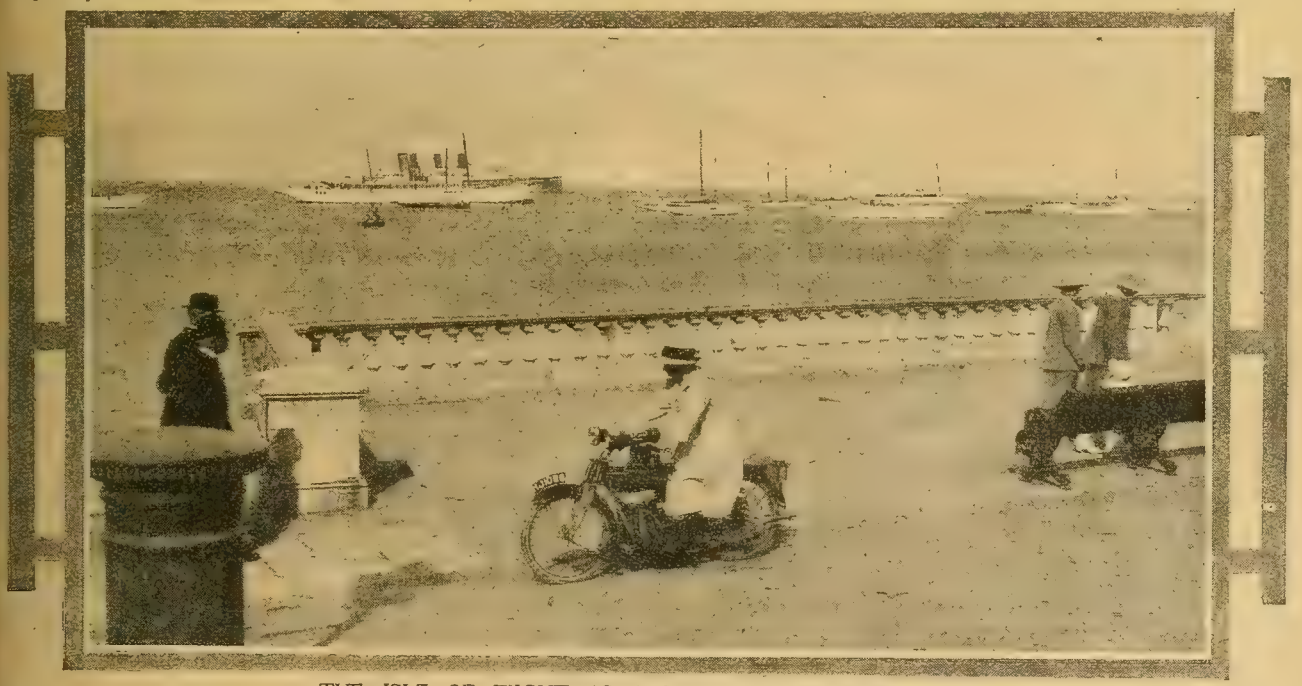
LAST week a friend started to ride 300 miles with me. His 'bus was very fast, very heavy, and very old. He could not be worried to take any spares. It was—to my mind—a toss up whether the chains or the tyres stopped him. It came up tyres. Puncture No. 1 was only a pinhole, but it penetrated exactly outside the edge of an old patch. Should he strip the old patch or not? The day was hot and we were a shade behind time, so patch No. 2 was a semi-eclipse of patch No. 1. It lasted better than we had a right to expect, for it was eighty miles on when a speedburst led to a fearful wobble and hasty stop on his part. He exposed a foot of tube, peeled off patch No. 2, and put on another very carefully. After five minutes' rapid fire with one of those silly little vest-pocket inflators which are often supplied with big machines, he sulkily freed the whole edge of the cover, to discover that the cover had crept when the tube deflated and that six inches of the tube were tattered and the valve clean adrift. At this point the enormity of touring without tyre spares became apparent. The scene was five miles from a small Yorkshire town, and though I happened to be at hand to fetch supplies, it was 100 to 1 against a wee burg having an unusual size in stock. I went back and after some search unearthed a pre-war butt-ender of inferior make. It lasted fourteen miles, to judge from the wire which followed me to our common destination in lieu of my pal.

The Umbrella Coat.

I WAS never a dude, as my intimate acquaintances will bear witness, but the exigencies of motor cycling in bad weather have led me to take keen interest in my attire of late years, and I am urged by one or two readers to make public enquiry whether anybody still manufactures the "umbrella" coat, and eke whether black rubberised waterproofs of stout texture are still obtainable? For those who have forgotten the umbrella coat, let me explain that it was certainly the goods for one-season wear. In lieu of an ordinary collar, it had a poncho-type hole at the neck; this hole was lined with elastic rubber, and cut a size smaller than the rider's neck. To enter the coat, you splayed the hole with both hands, and finally emerged rosy, dishevelled, minus spectacles (if worn), ears, face powder and pomade hongroise; the elastic collar then contracted around your neck, and effectually sealed it against the ingress of rain. Towards the end of the season the rubber neck began to get slightly chafed, and you began to adorn it with patchquicks in increasing number and variety; these had a bizarre but wholly decorative effect on the black collar. Next season you, of course, bought a new coat. In spite of these handicaps, the umbrella coat was easily "it" for long distance work in the rain. The indignity of entering it, and still worse of leaving it, was easily balanced by the absence of that usual shuddery stream of cold water running down one's back. Are these coats still procurable?

Parsons Chains in the Six Days.

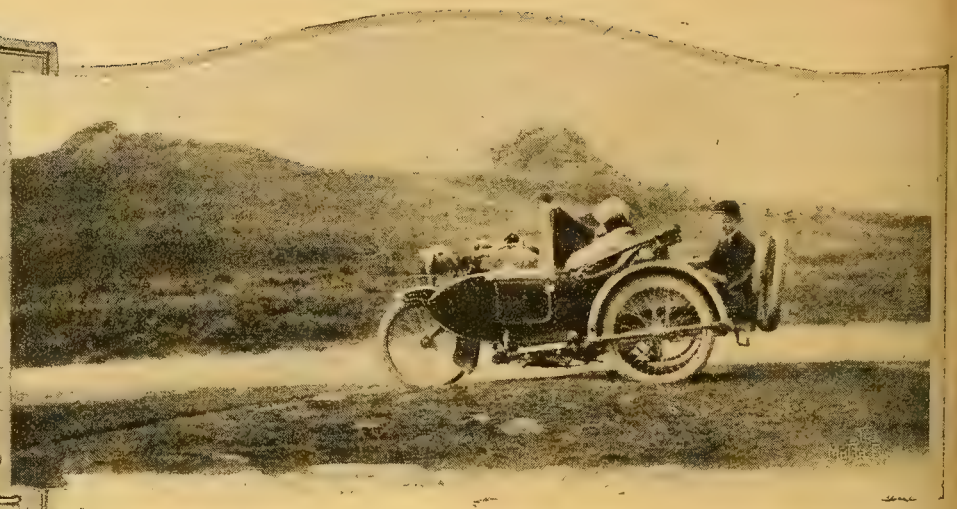
FOR many years past Parsons chains have been recognised as the motorist's one salvation in peculiar circumstances, such as driving on wet ice, or extricating a car from a sodden field after a steeplechase. For such reasons many car owners make a point of carrying them in their tool lockers, but I had never until 1920 met an owner who found it necessary to keep them fitted throughout a tour. The incredibly atrocious character of certain roads included in the A.C.U. Trials is well shown by the fact that the Morgans wore Parsons chains on their rear wheels throughout.



THE ISLE OF WIGHT AS A MOTOR CYCLING GROUND.

Although rather circumscribed the island is a delightful place in which to spend a late motor cycle holiday, the scenery being exceptionally varied. The scene, showing an Enfield two-stroke, is outside the club house of the Royal Yacht Squadron. In the distance can be discerned a big surrendered German liner, which was handed over with its machinery workable, but mysteriously inefficient.

SIX MONTHS WITH A FAMILY SIDECAR



ON TOUR.
The Rex with its passengers on Dartmoor, 1,300 feet up.

Being Experiences of 2,500 Miles with an 8 h.p. Rex-Blackburne Outfit.

THERE is a period in the motor cycling career of almost every family motor cyclist when footstool accommodation for the junior member of the party is inadequate and a pillion seat not quite all that is required. A child up to six or seven can be seated snugly at its mother's feet; but in another year or two the child leaves the baby stage and becomes a person of importance, so that the question of accommodation has to be considered.

For Business and Pleasure.

Since the early spring a member of *The Motor Cycle* staff has had in use a Blackburne-engined 8 h.p. Rex, with a large sidecar built to his special requirements including a dickey seat for a boy of eleven. The machine had to be suitable for:

(1.) Duties in connection with editorial work, such as following trials, etc.

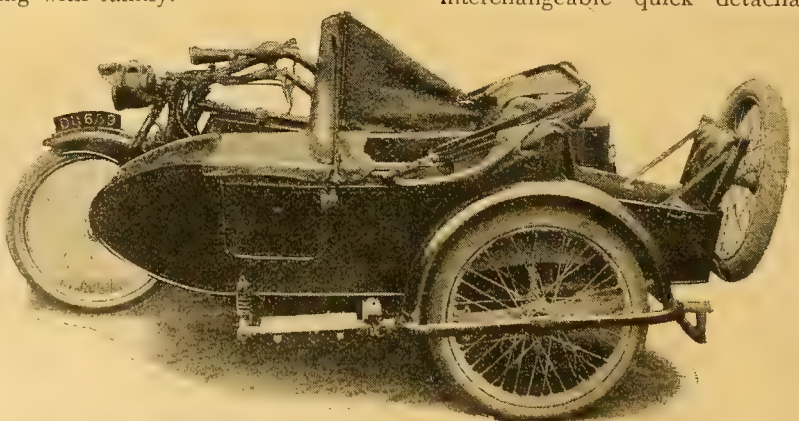
(2.) Pleasure touring with family.

(3.) A combination of the two when circumstances permitted.

How well the big Rex has served these purposes may be judged from the fact that, at the time of writing, over 2,500 miles stand to its credit, fully half of which has been done in wet weather, and on no part of the machine has it been necessary to use a tool, except to change a wheel when a puncture has occurred. Further, the engine and gear box have received no adjustment, and the former has not even been decarbonised.

The machine first appealed to its owner on account of its solid construction, its splendid finish, its large wheels, and its long wheelbase. In the latter connection the desire for a long sidecar was partly responsible, as it was well appreciated that a sidecar to look well with a dickey seat had to be long, and on the average machine such a body as that adopted would look absurd, just as the average sidecar body on the long Rex would not harmonise.

The sidecar was designed and made by the Rex Co., who now have standardised it as their *de luxe* model, and, as will be seen from the illustrations, it is handsome in appearance, while the finish is superior to at least 90% of sidecars made to-day. Those who have inspected the machine agree that this is no exaggeration.



The Rex family sidecar, which has a commodious dickey seat for a juvenile.

A Standard Machine.

The machine itself is the 1920 standard Rex, with adjustable handle-bar, cantilever spring saddle, and interchangeable quick detachable 28 × 3in. wheels.

The engine is the now well-known 8 h.p. Blackburne with outside flywheel, the gear box a Sturmey-Archer, and the transmission is by chain and belt, which latter has not given the trouble prophesied by chain-drive enthusiasts who thought the machine too heavy for this form of final transmission. A post-war belt, however, is quite up to the work, and has only once caused an involuntary stop, when the fastener pulled out through faulty fitting after shortening—an operation only found necessary on two occasions.

During 2,500 miles touring and competition work under all conditions of road and weather, not a nut

Six Months with a Family Sidecar.—

has shaken loose, the sidecar has not required re-aligning, and the clutch has needed no adjustment. In the latter connection, however, it should be mentioned that neglect on this point probably led to the only failure to climb a hill.

This was at the conclusion of the mileage mentioned, and occurred on Dartmoor. Out of Widdecombe-in-the-Moor there is a steep climb in the direction of Bovey Tracy, and it was there that the need of clutch adjustment became apparent, although, strange to say, the same hill was climbed successfully a few days later without any adjustment having been made, which led to the conclusion that the previous failure was due to changing down to first a little too late.

The first run on the machine was a revelation of the advantages of a heavy outside flywheel. With a light passenger in the sidecar, all but the last few yards of Edge Hill were taken on top gear. The owner is still under the impression that the whole climb could have been accomplished on "top," had he known more about the carburetter then fitted.

Then came the Colmore Cup Trial, during which the machine easily climbed Sudeley Hill on second gear. After this trial the routes followed have been forgotten, but there are outstanding memories of journeying to Waddington Fells, in North Lancashire, to attend the hill-climb organised by the Lancashire clubs, of a two-day trip to Chepstow on the occasion of the Birmingham Clubs' Touring Trial, and finally the trip to Liverpool and North Wales two weeks ago for the Reliance Cup Trial. These three trips are remembered for the reason that heavy rain was encountered on each occasion.

Thanks to wide pulley centres, ordinary watersplashes may be taken without trouble from belt slipping.

Belt Drive under Adverse Conditions.

The run to Lancashire for the Waddington Fells event was taken with sidecar and dickey passenger. The hood was up the whole of the way, and for the dickey passenger an additional hood was improvised by fastening an army ground sheet over the hood proper and to the spare wheel.

The drenched roads threw up as much water as came from the skies, and near Weston, Staffs., there were several floods. Notwithstanding, an average of 18 m.p.h. was made, and only after a particularly deep flood was there any sign of belt-slip.

On the Chepstow run the second day was one continuous downpour, yet only very infrequent signs of belt-slip were observed, and during the Liverpool trip, on the 17th inst., the belt did not slip at all.

The comparatively long belt drive is responsible for these good results, as the owner last year ran another chain-cum-belt sidecar twin with a shorter drive, which, under practically identical conditions, was prone to slip.

During the first two weeks of this month a holiday trip was taken to South Devon. The journey of 186 miles was done in the day, with full load and several intervals for sight seeing. The return was made in similar running time. Teignmouth was left at ten o'clock, and detours made to Burnham-on-Sea and the Cheddar Caves. Long stays in these places and in Bristol brought the clock round to 7.30 p.m. before the Western Metropolis was left behind. This meant practically 100 miles in the dark.

The lamp equipment included an F.R.S. Major head lamp and a Motex sidecar lamp, supplied by the F.R.S. generator. For a rear light a Motex lamp and separate generator were used, which gave no trouble and did not require recharging during the six hours run.

During the stay in South Devon several sight-seeing journeys were taken to neighbouring resorts, including several trips on Dartmoor, where it was found dangerous to leave the main roads for apparent short cuts shown on the map.

On one occasion such a nine-mile cross-country run could be likened to the worst section in the hardest trial. With a Gambles Lane steepness and a Park Rash surface, the lanes wandered across the country up and down, but at no time did the engine show signs of distress, although at times the rear wheel sent out showers of stones.

During this first chapter in the life of the big Rex, the impression has been formed that in every way it lives up to the early reputation of its makers, and the only criticisms which can be levelled concern points which have been or are being altered.

In the latter connection, the owner has fitted an aluminium step made by a Coventry firm, and for the convenience of the dickey passenger a small step of the same metal which was supplied by the makers of Rennoc sidecars.

The engine is extremely economical on oil, and with an Amac two-lever carburetter will give 60 m.p.g. under touring conditions.

OVERSEAS SECTION

CAN WORSE ROADS BE TRAVERSED? In the comments on this page it is pointed out that Great Britain contains road difficulties which are as severe as any that can be found in the most remote parts of the world. The moral to be drawn is the futility of designing machines for conditions which are too severe for the riders themselves, and which also tend to improve with the progress of civilisation. The scene above is a typical example of a main road in the Western Scottish Highlands which has suffered a temporary "wash-out."

A Commentary based upon Practical Experience and a Study of Overseas Opinions.

What is Really Wanted?

AMONG the letters we receive a great diversity of opinion is evident as to the ideal specification of machines intended for overseas markets. On the one hand we are requested for the names of lightweights, suitable for use in hot, moderately level, and sandy districts, where cool running, ease of handling, and weight low enough to permit of lifting the machine over the fallen vegetation of the bush, are all advantageous; while on the other hand we are asked to indicate machines of great horse-power, massive construction, adequate springing, light car tyres, and excessive ground clearance.

Sometimes we suspect both classes of correspondents of slightly exaggerating their requirements, much as do the gentlemen at home who hasten into print at frequent intervals with specifications of "my ideal machine."

♔ ♔ ♔

Lessons of the Trials.

DURING 1920 a number of trials have been arranged in the North and West of Yorkshire—these have been both one day events and a Six Days Trial of unusual severity, over tracks laid down in the pioneer days of British commercialism when the water-power of the mountain ranges was an industrial asset. These roads were abandoned almost at their inception, and they now remain, traversed only by the sheep-grazers of a sparsely populated countryside.

Such roads, of appalling roughness, including gradients so steep that the tractive adhesion of even solo back wheels diminishes to such an extent that the torque of a powerful engine is no longer available for propulsion, provide conditions than which none worse could be usefully traversed by means of motor cycles.

Are Worse Roads Rideable?

THE closing words of the last paragraph were written advisedly. Those riders who demand a machine capable of being ridden *anywhere* under *any* conditions, may lose sight of the fact that, long before the limit of the modern machines' range of action is reached, the physical capabilities of the motor cyclist himself are exceeded. In the trial above mentioned almost all classes of solo machines, including some of the smallest lightweights, and most of the passenger outfits, proved themselves capable of negotiating every obstacle, whether it be watersplash, boulder-strewn gulley, or a seemingly endless gradient on the shifting screes of a decaying hillside. The majority of the machines finished without serious breakages. What, then, eliminates competitors from such trials?

♔ ♔ ♔

The Personal Factor.

UNDOUBTEDLY, it is the rider's skill and judgment which now form the determining element in modern reliability trials. Machines will go anywhere where the wheels will grip, but riders may find that a heavy, and powerful machine, plunging from obstacle to obstacle, is almost unmanageable.

If the country which it is proposed to travel contains nothing else but conditions such as those described, it would appear useless to advance the claims of the motor cycle as having greater utility and safety than the horse. Motor cycles are products of civilisation—indeed, one might say they are amongst the luxuries of civilisation, and, rather than retrograde the development of their light, swift, and economical qualities by adding weight, abnormally low gears and tractor back wheels to fit them for conditions not advanced to their era, the adverse conditions should be brought forward to a state consonant with the position which the motor cycle occupies in modern engineering development.

A Selection of Letters from Readers scattered all over the World.

Sidecars for India.

Mr. W. W. DALGARNO, of Cawnpore, states his own requirements for a sidecar to be used in India.

He writes: "The sidecar must have not less than 5in. road clearance, as on the main roads near towns and in the towns bricks on the road are too plentiful. No one would ever shift a brick to the road side. Indians, never; policemen, well they look on and report accidents owing to stray bricks or other obstructions, but move them, never! A policeman would rather see half-a-dozen smashes and walk five miles to report, but rather than move the brick he would resign—that is a coolie's job, not a policeman's.

"I had to cut my sidecar frame to raise it up to clear 4½in. bricks on edge, as I had many jolts. Leaving our main roads, which are splendid, we have ordinary roads, rutted deeply, even a 12in. clearance cannot pass along. Cars for India need 14in. road clearance to be safe on ordinary roads, but, of course, no motor cycle can have that. I have come down with many a frightful jolt on the crank chamber and had the sidecar four times broken (in the luggage carrier part), so sidecar clearance must not be under 5in.

"The rear of the sidecar body should be fitted with clip brackets and straps to carry a spare tyre. 50, 100, 150, and 250 miles without a motor shop is usual, so in India one needs at all times to carry a spare cover; that is where the spare wheel outfit comes in. Our roads seem to be strewn with bullock shoes worn to a razor edge. It is a far too common occurrence to have a cover cut right through and almost right round with a sharp bullock shoe; needless to say a spare cover is absolutely necessary on long runs. Bullock shoe nails are an endless source of punctures and worry to all motor owners. With the temperature at 110-113° F. in the shade it is far beyond a joke; it is dangerous to life to work at a tyre in the sun.

"One more item. The average motor cycle front wheel is not well enough guarded. The wheel throws water and mud, sand and stones into the sidecar passenger's face. *At all times* messes the sidecar body and throws mud on the cycle rider's boots and legs up to the knees. A valance on the mudguard side would save the sidecar from being splashed with sand to the ruination of the paint."

Smaller Jets in Hot Countries.

MR. R. F. MACDONALD, a Swaziland enthusiast, sends a photograph of his Enfield outfit which has 9,000 miles to its credit. So far as the photograph shows the machine is as good as ever. The owner and a friend travelled 500 miles to hear Mr. Harry Lauder in Johannesburg, which reveals a keen admiration for the famous Scotch comedian, and serves to throw light on the conditions of life in Swaziland and the need for a reliable means of transportation such as is afforded by a motor cycle. Regarding the Six Days Trials he says:

"I should like to enter your Six Days Trials. We see many complaints of overheating in your columns. Ownership is rather akin to boastfulness, but I can supply any number of statements in support of my 'boasts,' which may seem rather far fetched. Of the two hills (one on either way out of town), one has a drop of 1,500 feet in five miles; steepest part 1 in 3½. The other seven miles long in landings; steepest grade 1 in 4. Both bad surfaces. I can climb either comfortably three up with an ordinary load of luggage without overheating. The best consumption I have obtained is 90 m.p.g. solo and about 60 m.p.g. with sidecar.

"Curiously enough with my comparatively successful efforts at tune I find it difficult to exceed 35 m.p.h. But I can keep up a 20 m.p.h. average on ordinary Colonial roads for several hours without trouble. In fact, it is difficult to get the machine hot enough for the easiest running in the ordinary course.

"One matter which puzzles me is the large jets in use in the old country. I find 25 very satisfactory; 26 or 27 occasionally for heavier work.

"With the colder atmosphere at home you should have little trouble with overheating. There is absolutely nothing freakish or extraordinary about my 'bus,' and certainly nothing exceptional about my methods of tuning. It is my only hobby, and I am rather a maniac in the pursuit of it. All bearings are perfectly devoid of movement (excepting usual side play). For spares, one cover and tube for rear wheel, and one driving chain, are carried."

British and American Prices.

How the present prices of British machines abroad are causing riders to turn to American productions is illustrated in the following letter from "W.P.H.G." who, from India, writes:

"I wanted a lightweight, but did not want to pay more than £80, so looked around and found a 2½ h.p. Clyno at Rs. 1,000, equalling £100 at present exchange; a Royal Enfield at Rs. 950. I turned away to look at Yankee goods, and bought a Cleveland, Rs. 725, *i.e.*, £72 10s. And much as I would rather have had an English machine I must say that the Cleveland has given me every satisfaction. It is my first American after three English, and the change has shown me many things. Its carburetter is fine; one can start nine times out of ten at first kick; the idling adjustment is what I have been looking for for some time (but few bicycles have the Capac). When the temperature is 106° in the shade, the machine will run mile after mile at 20-25 m.p.h. and never seems to dry up. When will English makers fit lightweights with saddles like the Cleveland? I have not seen one to equal it yet on any other lightweight. But all the same I would not get an American if I could get an English machine at the price to do the same work; but out here it was a case of a Yankee, or a push bicycle.

"When shall we get more motor bicycles out here at a price to fit our pocket?

"I saw an A.B.C. in Lahore, but it was about £200 at the present exchange."

A Dutch Opinion.

Anent the fitting of over-size tyres, MR. A. VAN DER MEE, of The Hague, endorses an opinion recently expressed by a member of *The Motor Cycle* staff. "I see with pleasure that H.D.T. has come to appreciate 3in. tyres," he writes. "Indeed, they are really necessary on bad roads, and on American machines they are standard, even on the little two-strokes.

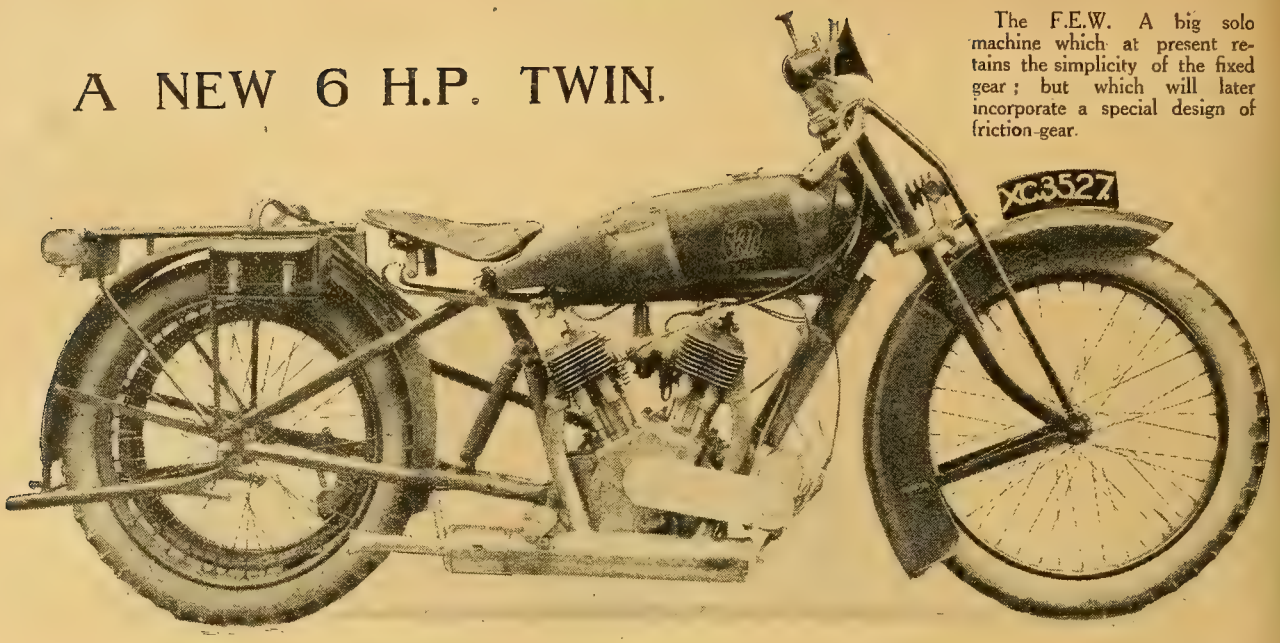
"British roads must still be reasonably good, seeing that some correspondent recommends a foot-operated oil-pump!

"Has any one really appreciated the new Sunbeam forks to the full? The spring-end moves about four times as much as the machine does, giving accordingly a very slow, up and down movement, which distinguishes itself very favourably from the bouncing given by even the best ordinary forks. Practically, as well as theoretically, the forks seem ideal. Now a rear suspension on such lines! Some designers make the movement of the springs far less than that of the wheel, which, of course, is radically wrong.

"Asking for more spring frames, large tyres and smooth running, balanced engines, I wish you every success."

Lieut. Jones, R.A.F., on his Rudge-Multi in Algiers, which he visited with the Fleet during the early part of this year. Mr. Jones states that this was the first motor bicycle seen in the particular district in question. He found progress extremely difficult owing to the extraordinary interest in his machine shown by the natives.

A NEW 6 H.P. TWIN.



The F.E.W. A big solo machine which at present retains the simplicity of the fixed gear; but which will later incorporate a special design of friction-gear.

The F.E.W. Motor Cycle which embodies Several Pleasing Features.

THE F.E.W. motor cycle, illustrated above, has been designed by the inventor of the F.E.W. valve attachment, and incorporates a 6 h.p. J.A.P. engine unit, which is accessibly mounted on four engine plates suspended from the two down tubes.

Triangulated Rear Frame.

At the rear the suspending member is triangularly constructed. The two tubes suspending the engine are bolted to the saddle tube, whilst two similar tubes, brazed to the rear fork, are fixed at the same point. A gear box is not at present fitted, but a novel type of friction gear will be incorporated at a later date.

The petrol and oil tanks are somewhat unconventional. The former, of very large capacity and being of the saddle type, conceals the top tube.

Lubricating oil is carried in a circular tank which is held by clips to the front down tube, and the drip feed lubricator and pump are conveniently located at the top. Saxon spring forks have been fitted for demonstration purposes. A new design, however, will be introduced later on.

Mudguarding has received special attention, and adequate protection at the front and rear is provided.

The silencer and the exhaust pipes have been very neatly designed, and a special fitting is provided whereby the rider may, if required, considerably reduce the noise of the exhaust.

F.E.W. Valve Attachment.

A very comfortable riding position is afforded by the horizontally sprung saddle. This is suspended on two leaf springs anchored beneath the tank, and also on a bracket fixed to the top of the saddle tube.

As may be expected, the F.E.W. valve attachment forms part of the equipment. This valve spring fitting was fully described in the issue of *The Motor Cycle* dated September 18th, 1919.

Novel Tappet Adjustment.

Tappet adjustment is provided at the base of this device, and is regulated by a small disc and locking ring. The standard J.A.P. tappet may also be used; but, it is claimed, a more minute adjustment can be made from the F.E.W. attachment.

The designer, Mr. F. E. Waller, is anxious to place this machine on the market, and is open to negotiate with any manufacturer to whom the design appeals. Mr. Waller's address is c/o Messrs. Rubberine, Ltd., 444, Market Road, Caledonian Road, London, N.17.

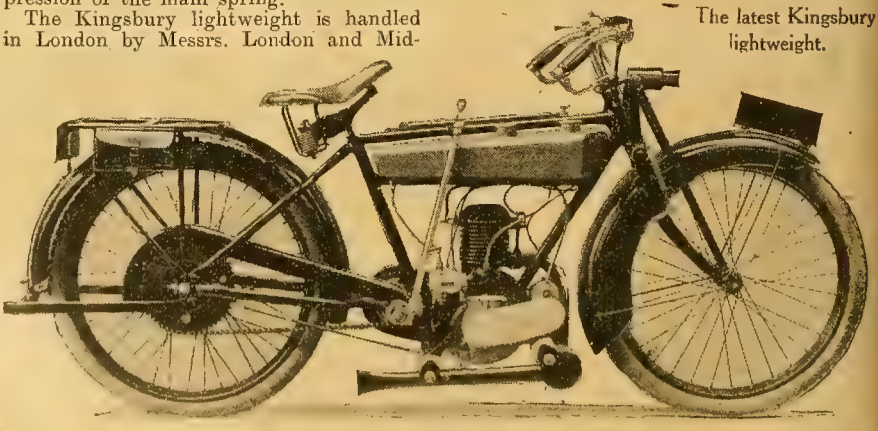
KINGSBURY INNOVATIONS.

WHEN described in *The Motor Cycle* at the end of last year, the Kingsbury two-stroke lightweight was a single-geared machine. Among other improvements, it now embodies a two-speed gear and a new spring fork.

The engine, it may be remembered, has a bore and stroke of 68 and 70 mm. respectively, the capacity therefore being 254 c.c. Plain white metal is used for the big-end and crankshaft bearings. The new gear consists of two floating chain sprockets, driven from two engine sprockets. Between the inner faces of each is a friction disc, mounted on the countershaft, which is closed against the sides of the sprockets by a handle mounted at the side of the tank. The two sprockets provide ratios of approximately 6 and 8 to 1.

A new front spring fork is another feature of the machine, and the design of this component is similar in principle to the well-known Triumph fork. A small recoil spring is located in front of the main spring and absorbs the smaller violent shocks, which occur after the compression of the main spring.

The Kingsbury lightweight is handled in London by Messrs. London and Midland Motors, Ltd., 445, Oxford Street, London, W.1.



The latest Kingsbury lightweight.

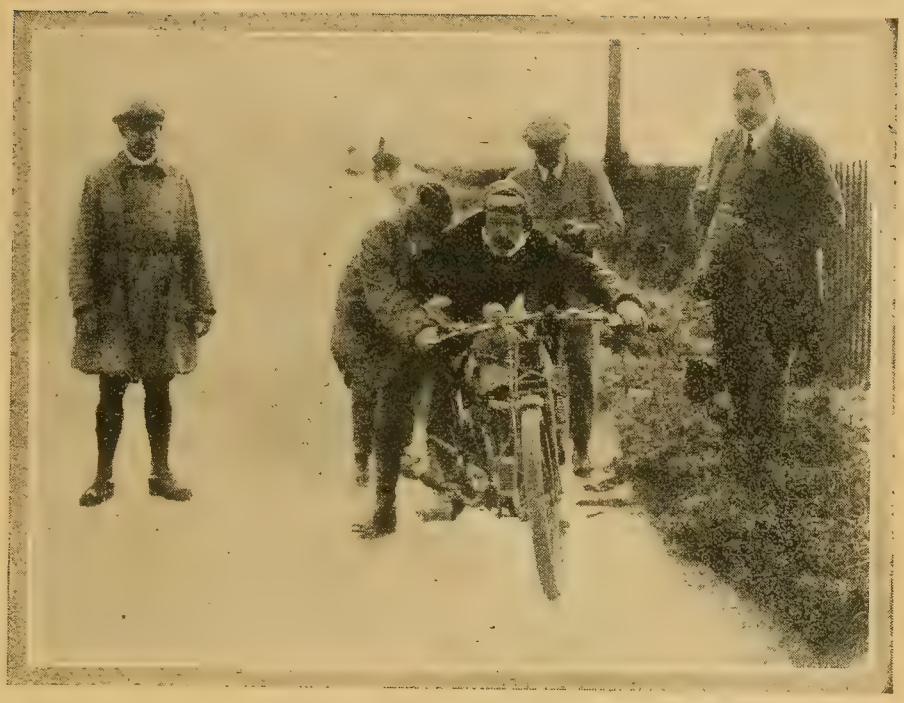
A Wonderful Display of Endurance.

Over 50 m.p.h. for 12 Hours on a 350 c.c. Blackburne.

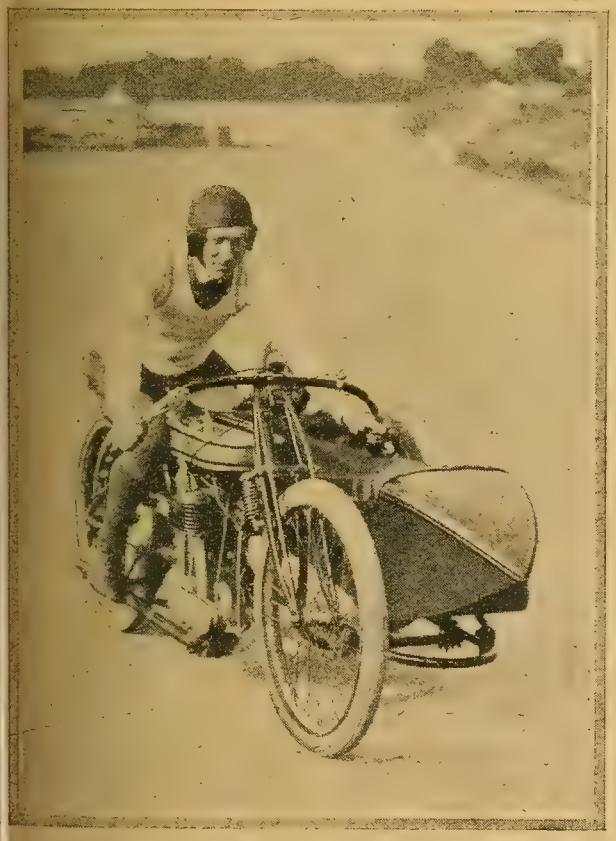
A BIG coup was successfully pulled off by J. S. Holroyd, at Brooklands on Monday last week, when riding a 2¾ h.p. Blackburne motor cycle. He broke all the records in class B for motor cycles not exceeding 350 c.c. which were established, but a month ago, first by F. A. McNab (Wooler), and later by S. Gill on an Alecto two-stroke. He also added figures to these classes for the previously unestablished seven hour and 600 mile records.

600 Miles at 50 m.p.h.

His speeds, which throughout the twelve hours' running, were over 50 m.p.h., extended the nine, ten, eleven, and twelve hour records to classes C, D and E for solo machines not exceeding 500, 750, and 1,000 c.c. respectively. The distance runs from 350 to 600 miles break the records in class B, whilst excluding the 350 and 400 mile records he breaks those in classes C and D, and the 500 and 600 mile records are extended to class E. The 600 mile record in class C was previously unestablished.



J. S. Holroyd (2¾ Blackburne) starting away after a temporary halt for fuel and oil during his 600 mile record run on the track at Brooklands. He averaged over 50 m.p.h. for twelve hours. On the right is Mr. A. V. Ebblewhite, the official timekeeper.



D. R. O'Donovan after creating new speeds in the 500 c.c. and 750 c.c. sidecar classes on a Norton. His time from standing start for the ten miles was 10m. 21⅘s. = 57·89 m.p.h.

It is wonderful testimony to the reliability of the Blackburne that no mechanical trouble was experienced with the machine, which was fitted with short mudguards and a three-speed gear box. A belt fastener, however, pulled out when some short distance from the filling point.

A Clean Engine.

At the conclusion of this splendid performance a remarkable absence of oil on the crank case was evident, and after the strenuous run of 600 miles on a concrete track the condition of the tyres was certainly good. The rear wheel was, however, changed after ten hours' running, as a small nail was located in the cover and might have given trouble. Otherwise there was sufficient rubber to have completed the total distance. It is curious to note the side wear on the tyres which is obviously due to the curve of the banking. Avon tyres and belt. Pratt's spirit, and Wakefield Castrol were used.

His performances were as follows:

TIME RECORDS.

Hours.	Miles.	Yards.	New Speed.	Old Speed.	Classes.
			m.p.h.	m.p.h.	
7	358	688	51.18	—	B.
8	411	1,329	51.47	42.84	B.
9	451	1,207	50.17	42.60	B, C, D, E.
10	504	133	50.40	42.14	B, C, D, E.
11	551	96	50.09	41.78	B, C, D, E.
12	602	658	50.19	41.71	B, C, D, E.

DISTANCE RECORDS.

Miles.	H. M. S.	New Speed.	Old Speed.	Classes.
		m.p.h.	m.p.h.	
350	6 50 30	51.17	42.86	B.
400	7 46 30⅘	51.59	41.09	B.
456	8 58 9	50.17	41.75	B, C, D.
500	9 55 18⅘	50.39	41.71	B, C, D, E.
600	11 57 11⅘	50.19	35.30	B, C, D, E.

Another Norton Success.

A Norton sidecar outfit also figured in Monday's record breaking, and, piloted by D. R. O'Donovan, raised the speed of 56.71 m.p.h., in the ten miles standing start, previously held by J. Cocker (Triumph) in class G for passenger machines not exceeding 500 c.c., to 57.89 m.p.h., and in class H for passenger machines not exceeding 750 c.c. he also raised the old speed of 57.71 created by E. B. Ware on a Zenith-Jap, which has stood since November, 1913. O'Donovan's time over the ten miles was 10m. 21⅘s.

It is interesting to note that all the figures in class G now stand to the credit of either O'Donovan or his partner, H. H. Beech, who are in business in Great Portland Street, London.

IMPRESSIONS of the SCOTTISH "TWO DAYS"

A Competitor's Memories of an Arduous though Sporting Event.

FOR most of us in the North the Scottish Two Days was the last event of importance for the year, and as such it was very appropriate. True the weather on Monday morning, when the choicest scenery was traversed, was not all that it might have been, but in spite of clouds, wet, and chill, one could not pass within the solitary splendour of Glencoe without a sense of its magnitude and grandeur.

Throughout the trial, indeed, one was passing through scene after scene which left one with a feeling of dazed incomprehension, and even back in the din of the Edinburgh streets, the mountains far behind, one was still aware of the spell, and of a sense of having seen something a thousand times worth while.

One comes to understand a little why the people of these hills never tire of their views, but living their lives in what most people would consider absolute loneliness, they love the glens and corries of their birth with a love that passes the understanding of city folk.

Happy Official Rulings.

Riders who have not as yet been so fortunate as to compete in a Scottish Trial have something to which to look forward, for the officials of the Edinburgh Club have attained a happy knack of attuning their events to the country through which they are run; and far from being hampered by an obsession of petty rules, a spirit of freedom and good-fellowship pervades these events in keeping with their more rugged characteristics. The officials are fellow sportsmen, always ready with a word of cheery help and advice, and one feels that they would far rather give one a mark than take one away. As an example—a member of the Cumberland Club forgot on one occasion to check in. He was early at the check, and with several companions went into the hotel for tea. Naturally he lost marks, but at the end of the trial it was decided that, since this was his first trial and he had ridden well otherwise, his omission should be pardoned. Thus the team prize went to the Cumberland Club instead of the Edinburgh Club—an example of sportsmanship and courtesy which gave every concession to the visitor.

One could not make the best of a Scottish Trial with one eye on the watch all the time, and, realising this, the organisers of Scottish events have arrived at a fair and thorough system of marking whereby a competitor need not look at his watch at all if so minded. The official on duty is always ready to tell you the time when you arrive, and I have myself ridden in several Scottish Trials without having a watch in my possession.

Severity.

Now as regards the severity of the event, it can certainly be said that, though a crack rider on a dud machine might have got through, a dud rider on any kind of machine would most assuredly have gone under. The times were not severe so long as one experienced no trouble, but the nature of the roads was such that if delayed the subsequent blind was almost sure to lead to a fall and more delay. It was, more than anything, a test of wheel bearings, mudguard fittings, and frames. The miles of wet sand caused more than one wheel bearing to give out, and how the frames stood the terrific jolting is a marvel. As a matter of fact, all of them did not stand it.

On the outward journey the pot-holes between Edinburgh and Stirling seemed appalling, but returning on Monday evening over the same road it impressed one as being like riding on a billiard table after what we had passed. Personally, I emerged with the utmost respect for the little spring frame mount I was riding, for apart from being a picnic in the way of comfort and speed, it demonstrated its strength by coming unscathed through a crash which might excusably have driven in the front forks. I bounced off the road and the machine crashed nose first into a ditch four feet or so in depth, meeting the perpendicular bank with such force that the little mount bounced back on to the greensward!

There are so many who rode well that it seems hardly fair to mention one or two of one's friends and omit the rest, but I cannot refrain from mentioning the name of J. M. Russell—a comparatively new man to the competition world—who successfully piloted through his little two-speed 2¼ h.p. Levis, climbing all hills with power in hand, and riding to time in

A Competitor's Impressions of the Scottish "Two Days."—

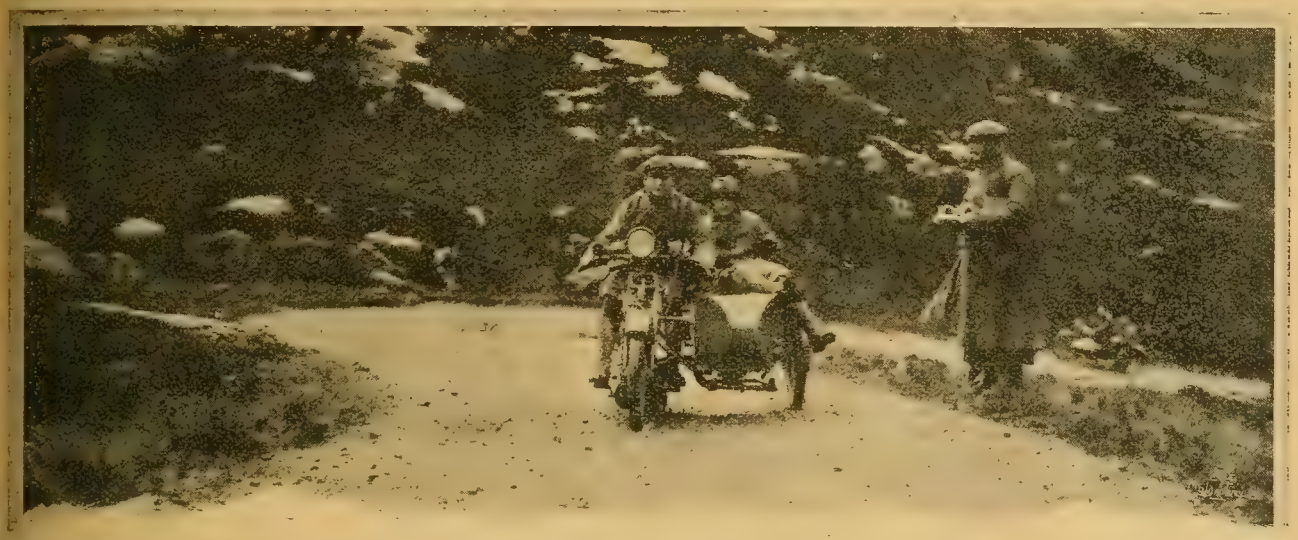
spite of roads and weather. This was no mean proposition, as the task of handling so light a machine over great distances and through such adverse conditions was as severe a test of the rider as it was of the machine.

Youthful Competitors.

Two very juvenile riders, J. Manuel (4 h.p. Triumph) and A. B. Fairley (A.B.C.), came through successfully, for which they are to be congratulated. They were not exceptional in yielding to the temptation to blind when occasionally road and weather relented, for one or two old hands rather set the example in this respect. It would, for instance, be interesting to know the exact riding time occupied in covering the last check of the trial by the respective riders of an Ace, a Harley solo, and a Norton!

And so for most of us, I say that the Scottish Two Days Trial was not remarkable for its freakish severity, but for its genuine and sporting hardships, and we shall remember it rather as a careless holiday affair than as a trial. The hills were fair—a test of efficient cooling and good riding rather than of the ability to adapt freak gears to a given design—and any good amateur stood a reasonable chance of surviving happily. Our Scottish trials are essentially suitable for amateurs, and it is hoped that next year an even greater number of sportsmen will travel northwards across the Tweed to participate in them.

H. MORTIMER BATTEN.



ON A FAMOUS SCOTTISH PASS.

J. Beck (3½ Sunbeam sc.) making a good ascent of Glencoe in the Scottish "Two Days" Trial

The Removal of Superfluous Weight.

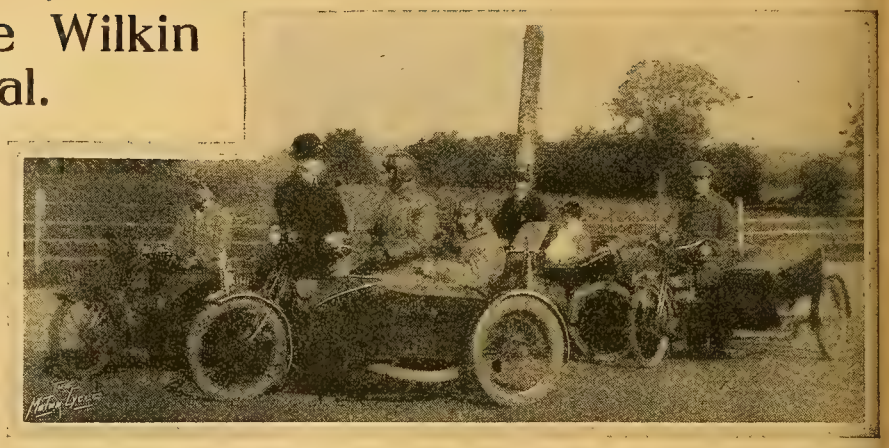
QUITE properly the question of weight is coming in for discussion more than ever before. Whatever may be the contentions of those who prefer to handle heavy machines it must be obvious that we cannot obtain real efficiency without reducing useless weight to a minimum. Weight, therefore, should depend on h.p., and weight horse-power ratio is the thing that counts. Therefore, it seems reasonable that in future days when we are getting nearer to engineering ideals, the man who likes to handle a heavy machine will be able to obtain it only combined with high power.

By all means let us reduce the weight of our motor cycles, but unless this is done in a thorough and scientific manner we shall not only save but a pound or two, but we shall introduce fresh troubles due to weakened parts.

Unfortunately, weight paring does not always go hand in hand with production methods, and to remove an appreciable poundage from an existing model would be a costly and laborious process. To avoid this the designer must lay out his new models with the lesson of the Dreadnought before him, and his weight-saving must be done in so far as is possible without increasing production costs. Details must be considered, as it is here that substantial reductions can be made.

Reasonable reduction in the weight of reciprocating parts, far from being dangerous, will lead to greater reliability owing to decreased inertia stresses, added to which a corresponding weight is saved in the balance weights. Much weight may be saved by the employment of an outside flywheel. Plain bearings are lighter than ball-races, and, provided they are designed for the loading they will receive, and properly lubricated, they will wear excellently. It is a waste to use a gear box designed for a 4 h.p. single on a 2¾ twin, and nuts and bolts are often out of all proportion to the work that they are required to do. Much weight could be saved by the standardisation of accessories, so that lamp brackets, etc., could be incorporated in the handle-bar or frame fittings, and the same applies to speedometer fittings, tool bags, generator fittings, control levers, etc. It is quite instructive to examine the machines of casual tourists and to count the various clip attachments which may amount to as many as sixteen to twenty, all of which add weight which could easily be saved by design.

Progress of the Wilkin Coast Trial.



The worst over. The Wilkin outfit at Grimsby after having covered half the distance planned for the Coast Trial.

"WE have had no mechanical trouble and the machine is running as sweetly as when we started fourteen days ago," said Mr. J. W. Wilkin who with Mr. Barr, the A.C.U. official observer as passenger, is piloting a 4 h.p. Blackburne engined Wilkin and sidecar round the coast of Great Britain, to a representative of *The Motor Cycle* in an interview at Chatham, on Wednesday, September 22nd.

The Wilkin is the first motor cycle to undertake a unique trial of this kind under official observation. The route has been mostly over unbeaten by-ways in order strictly to carry out the programme to the letter, *i.e.*, to tour as near to the sea as possible all the time.

Unfavourable Weather Conditions.

When we saw the outfit at Chatham, it had been on the road thirteen days, and most of the time it had been a battle against tempestuous winds and rain, such as are only experienced on the mountain tracks of Scotland at this time of the year.

The total distance of 3,500 miles which the driver was still confident he could complete without mishap, was hoped to be covered in twenty days. The fact, however, that a strong headwind had opposed the riders the whole time would in all probability lengthen the period slightly. Exceptionally difficult roads and rough mountain tracks, which, as indicated by signposts, were closed to motor traffic, were encountered between Stranraer and Ballantrae, situated on each side of Loch Ryan, on the west coast of Scotland, and though such conditions were quite unexpected, the frame and sidecar chassis survived the experience. The famous Rest-and-be-Thankful hill was included in the route, and climbed successfully.

Another exceptional test of durability was demonstrated on the "road" from Garelochhead to Inveraray. Mud, inches deep, was traversed, and at times the bottom of the crank case scraped along hard surfaces beneath the mire. At one point on this road, the machine had to be driven down hill on bottom gear, in order to overcome the resistance of the mud.

The gear ratios on this machine are 5¼, 9.4, and 17 to 1, whilst the all-chain drive is, in the rider's opinion, the chief reason for his non-stop success, as he considers a belt would have been impossible in the torrents of rain encountered. The fuel and oil consumption, Mr. Barr informed us, has worked out at approximately 68 m.p.g. of petrol, and 800 m.p.g. of oil.

The Equipment Carried.

The only adjustments that had been made up to the time of our interview were occasional shortening of the chains, and one changed cover on the rear wheel of the machine. The cover on this wheel burst when negotiating a road strewn with large flint boulders.

As far as riding equipment is concerned, the driver has found that there is nothing to beat the oilskin waders similar to fishermen's boots, and a large and roomy oilskin coat, beneath which may be worn numerous other garments of a woolly nature in order to keep the circulation good.

Very few spares have been carried, such things as valve springs and spare valves only being deemed necessary.

The route to be covered to complete the journey embraces most of the southern seaside resorts, and with Land's End as the turning point, the riders planned to proceed through Bristol, *via* Porlock and Lynton, then around the Welsh coast to Liverpool.

It will be noted from the schedule below that there are still 1,084 miles to complete the test.

The Coast Ride Schedule.

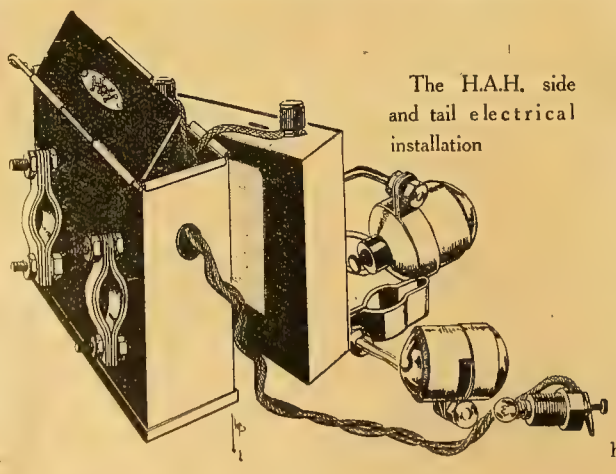
Towns	Mileage.	Total.
Liverpool	—	—
Carlisle	188	188
Glasgow	224	412
Fort Augustus	180	592
Thurso	240	832
Banff	202	1,034
Edinburgh	224	1,258
Whitby	200	1,458
Hunstanton	192	1,650
Chatham	212	1,862
Southampton	204	2,066
Plymouth	192	2,158
Barnstaple	200	2,358
Cardiff	184	2,542
Aberystwyth	204	2,746
Liverpool	200	2,946

ELECTRIC LIGHTING FOR SIDECARS.

IF a motor cyclist does not desire to go in for the expense of a dynamo lighting installation for his motor bicycle and sidecar, he will, doubtless, be relieved to hear of a reliable means of lighting his side and tail lamps by electricity, thus saving the complication of an extra generator.

Aluminium Castings.

Messrs. A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, East Croydon, Surrey, have placed upon the market a very neat battery set comprising the well-known Hellesen battery, which is extremely reliable and has great lasting powers. The lamps are aluminium castings made throughout by the firm at their new works at Croydon, and in design both side and tail lamps are practically identical.



The H.A.H. side and tail electrical installation

An Ingenious Sidecar Bracket.

In our illustration the tail lamp is shown with the bulb removed, showing the bulb-holder and the neat screw-switch and locking device at the rear. The sidecar lamp is provided with a simple and ingenious bracket, which enables it to be attached either to the sidecar body in a horizontal position or upright in the centre of the sidecar wing.

The whole installation is particularly well carried out, and the lamps and battery box are well finished and strongly constructed.

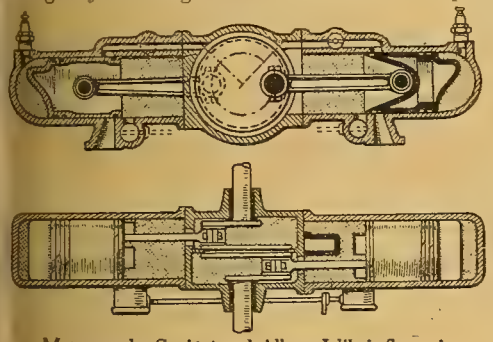
This outfit could be fitted by the average rider himself in under half-an-hour.

SOME RECENT PATENTS.

REVIEWED BY B. H. DAVIES.

Latest Details in Design, as revealed by the Patent Files.

THERE is a "certain liveliness," as the war *communiqués* used to say, in the petrol engine world. Designers do not believe that we have approached finality, and the hopes of inventors run especially high where two-strokes are concerned. The first patent in the present batch relates to a proposed Motosacoche flat twin two-stroke, and is phrased to cover four, six, or more cylinders of the h.o. type. Its salient features include the use of a two compartment pump, and a system of introducing a cushion of pure air into the cylinders just ahead of the combustible charge. This advance guard of air serves many purposes. It cools and scavenges the cylinders, it reduces or prevents waste of petrol through part of each fresh charge escaping unburnt with the exhaust, and it avoids fouling of the fresh charge by "mixing" with the exhaust.



Motosacoche Société and Albert Islikei, flat twin two-stroke. No. 128,560. 14/6/19.

These advantages are obtained by a special arrangement of the interior spaces of the engine and of the ports, which is very complicated to describe on paper, but entails no extra working parts, is quite cheap and simple to construct, and appears to be thoroughly sound and practicable. In fact, if the inventors can find a magneto which gives two absolutely simultaneous sparks in a satisfactory manner, we should hear a good deal of this engine in days to come. The interior space of the engine is divided into six compartments, viz.:

(a) The two usual combustion chambers.

(b) A chamber on the underside of each piston, separated from the crank case by a partition, in which there is an opening to clear the connecting rod.

(c) Two chambers in the crank case, each crank revolving in its own compartment.

Before proceeding further, it must be understood that the chamber below the left-hand piston is the *gas pump*, and can be connected by ports to the inlet pipe and carburetter. Its connecting rod opening further couples it to the top half of the crank case (as shown in the sketch), from which gas transfer pipes lead to the gas transfer ports of both cylinders. Note further that this pump space is large, whilst the carburetter has a small choke tube and is set to give a rich mixture.

By contrast, the chamber beneath the right-hand piston is artificially restricted in area by means of a cone-shaped cap beneath the piston, and also by a projection mounted on the web between the chamber and the crank case. This right-hand chamber is the *air pump*. It can be connected by ports to a pipe opening into the atmosphere. Its connecting rod opening further couples it to the bottom half of the crank case, as shown in the sketch, from which special air transfer pipes lead to special air transfer ports in both cylinders. The free space of this air pump is much smaller than that of the gas pump on the opposite side of the engine.

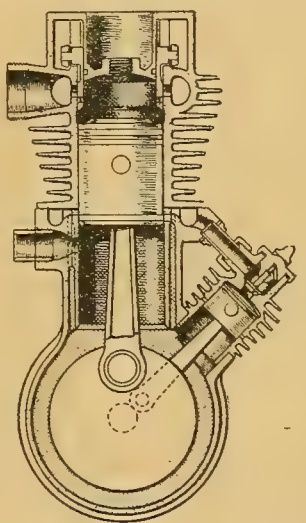
The cycle may now be traced. Begin with the simultaneous outward stroke of both pistons. The gas in the combustion chambers is compressed, a partial vacuum is created in the chambers beneath both pistons, and the inlet ports are then uncovered. Gas is drawn into the gas pump, but, owing to deliberate throttling of the carburetter induction system, the gas pump cannot fill itself right up with rich mixture. The air pump is much more powerful. It draws so fiercely at the air intake pipe as to charge itself fully, and air is drawn into the air transfer pipes. These air transfer pipes communicate with the gas transfer pipes through the openings just outside the transfer ports which connect the gas transfer pipes to the air transfer pipes, so that all four transfer pipes now contain pure air.

Induction and Scavenging.

The explosion then occurs, and the compression strokes of both pumps commence. Here, again, superior pressure is created in the right-hand pump, just as heavier suction was created in it during the outward strokes of the pistons. A further volume of air is forced up the air transfer pipes and through the connecting orifices into the gas transfer pipes. Thus a cushion of air is interposed in the heads of the gas transfer pipes, between the transfer ports, and the charge of rich mixture now under compression in the gas pump. Finally, the transfer ports open, and both pumps feed air into both combustion chambers during the initial portion of the transfer period. A moment later the gas transfer ports commence to feed rich mixture, whilst the air transfer ports continue to fed pure air. But the exhaust is now being pushed out by the advance guard consisting of pure air. Waste of fuel is avoided, and the fresh charge runs small risk of contamination.

The most cunning detail of the engine is the interconnecting of the air transfer and gas transfer pipes, enabling the superior pressure of the air pump to put what a gardener might call a "top dressing" of pure air on the gas charge.

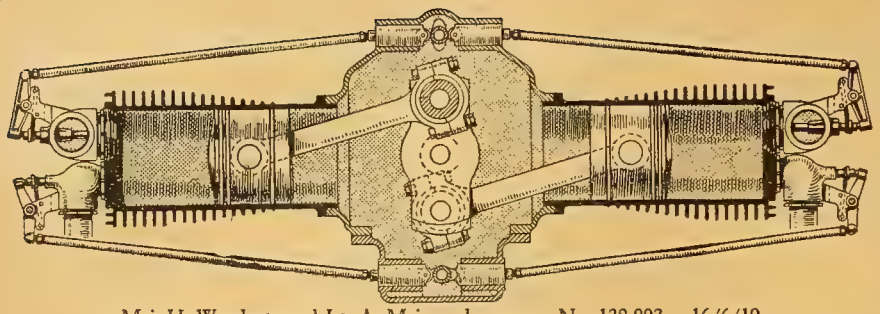
Control valves are located in the gas and air intake pipes, and provision is made for cutting out the right-hand combustion chamber when low road speeds are desired. This is done by an auxiliary throttle controlling both the transfer pipes of the right-hand cylinder.



W. F. Lechmere's two-stroke. No. 138,700. 7/2/19.

Two-stroke with Pump Cylinder.

Mr. W. F. Lechmere's engine aims at very similar results, but pursues them by a different method. He complicates his engine by the addition of a separate pumping cylinder. The extra cost and complication may be justified by the improved charging and heavier crank case compression thus obtained. As the drawing shows, an exhaust valve of the sleeve type is mounted in the cylinder head and operated by a circular cam path machined on a pushrod driven off the timing gear in the crank case. When the sleeve is lifted by the cam path and cam levers, the exhaust ports are opened. (A poppet exhaust valve may be substituted, if preferred.) The small pumping cylinder on the right serves a dual purpose. On the up stroke the lower side of its piston reinforces the crank case vacuum, and helps the main piston to draw in a good charge of rich mixture from the carburetter.



Maj. H. Woodgate and Lt. A. Main, valve gear. No. 138,803. 16/6/19.

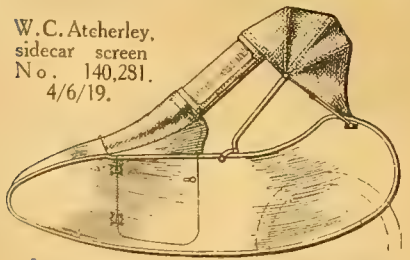
Similarly, on the down stroke, it aids the main piston to drive the charge up the transfer passage. The upper side of the pump piston draws in pure air on its down stroke, and on its up stroke it forces this air past a non-return valve into an annular chamber provided round the main cylinder, and opening into that cylinder through special air ports. These air ports are uncovered by the piston just before the transfer ports come into action, and just before the exhaust valve is closed. Thus, scavenging of the exhaust gases is assisted by compressed air, and, as in the Motosacoche design, the new charge is "top dressed" with pure air to prevent contamination. So long as simplicity and cheapness of manufacture remain dominant factors of the commercial two-stroke, a single-cylinder pattern which requires two pistons, two cylinders, and a timing gear, must be rather handicapped.

An Unconventional Engine.

An unusual type of valve gear follows. I am not quite sure what is at the back of the minds of Maj. Woodgate and Lt. Main, who protect a valve gear for a flat twin four-stroke in which both cylinders fire simultaneously. Thus, a single two-pointed cam opens the inlet valves of both cylinders by means of piston-type tappets, pushrods, and levers, whilst a similar cam operates the exhaust valves, of which there are two per cylinder.

Protection for the Passenger.

Mr. Atcherley's sidecar inspires musings on the strength of calf love. Picture the outfit on Dartmoor in a blizzard. In the sidecar is a sweet young thing, looking too dinky in a mauve jumper, snug, dry, and sucking chocolates. On the saddle, exposed to the fury of the elements, sodden, frozen, with chattering teeth, is a mere male, chivalrously rejoicing at the thought that his beloved is so comfortable, quite

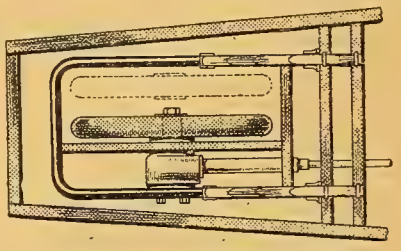


W.C. Atcherley, sidecar screen No. 140,281. 4/6/19.

ready to perish at her side, not asking for a word of conversation, and aware that she is too completely enclosed to pass him one of those nasty, hard chocolates put at the bottom of a box to make up weight, and which the more selfish types of joy-girl usually reserve for their swains. When I reflect on the whims of the British climate and the growing demand for such complete sidecar protection as Mr Atcherley offers, I cannot but think that the cycle car will ultimately knock the sidecar out. Personally, I have done with calf love, and the contrast in comfort which this sketch suggests rouses me to selfish fury.

A Detachable Rear Wheel.

Messrs. Baron and Matthews provide an alternative method of dismounting the rear wheel of any three-wheel chassis. The tail of the frame, be it rigid, main frame, or sprung sub-frame, consists of what an ex-R.A.F. man would term three *longerons*, instead of the usual two. The rear wheel is carried between the central *longeron* and one of the side

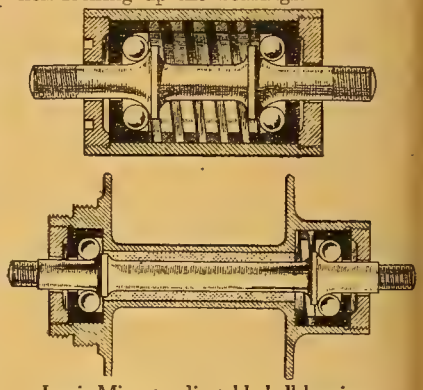


F. Baron and A. Matthews, detachable wheel. No. 139,886. 8/3/19.

members. Sufficient clearance for dropping the wheel is left between the central *longeron* and that on the other side. The wheel may thus be secured by a locking device on one side only, *e.g.*, the single nut which is standard on motor bicycles, or the multiple nuts used on Sankey light car wheels. In other words, the wheel comes away exactly like a motor car wheel, except that part of the frame is outside the wheel, which necessitates the use of a stand or jack and a certain amount of wriggling.

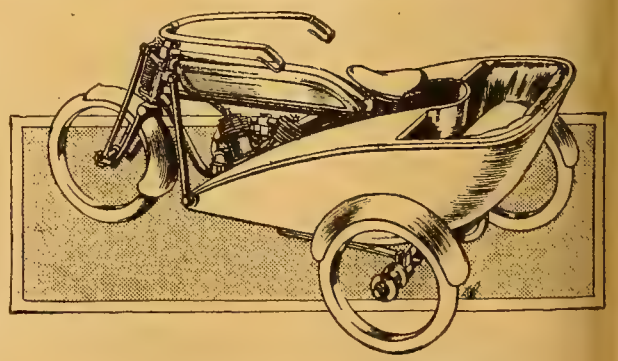
Wheel Bearings.

When a motor cyclist examines his wheel bearings, he not infrequently discovers that the inspection is overdue, and that the screwed cone or screwed cup, as the case may be, has slacked back, so that the bearing is clean out of adjustment. In extreme cases of neglect the bearing may be so badly damaged that further progress is impossible until spare parts can be obtained. Many a tour has been ruined and not a few medals lost by carelessness in this respect. M. L. Miquet propounds a bearing which is more or less locked by a spring. The ordinary method of adjusting wheel bearings is to screw them up till they bind, then slack back the adjusting member a trifle and lock the bearing up. This system gives no very rigid purchase, and the locking device is consequently left slack by a careless owner. Under M. Miquet's patent, a coiled spring or a spring washer is used to force the sliding cup outwards, so that a better resistance is provided when locking up the bearings.

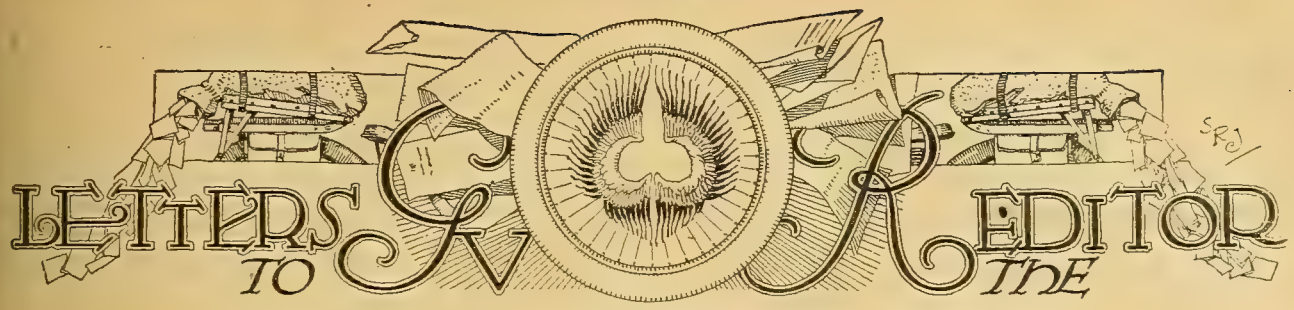


Louis Miquet, adjustable ball bearings. No. 138,591. 3/2/19.

Eng.-Lt. C. I. Brooks is an inventor who stirs my imagination in several directions. For example, he may have had trouble with a fair passenger who refused to occupy the carrier of a combination, and put in first claim to the sidecar. Anyhow, there is no doubt that the carrier seat is no great fun, and that many riders want to take two passengers. So this patent covers the removal of the back wheel of the bicycle, and the substitution of a chassis, permitting two persons to sit one on each side of the driver, the seat being preferably of the phaeton type, though, of course, two separate sidecars could be fixed to the frame. The chassis embodies a live axle with central sprocket, to which a chain from the motor bicycle countershaft is connected. The nett result is to resurrect the Avon Trimobile, plus a cycle saddle in the centre. The day of detachable passenger accommodation in the heavy lines is almost over; and if Lt. Brooks studies the history of past designs he will find that this particular layout has never made good in Great Britain, even when constructed as a rigid and non-detachable whole.



C. I. Brooks passenger machine. No. 138,682. 25/1/19.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

CHAIN DRIVE.

Sir,—I wonder whether the Show will reveal that designers have learned the necessity of totally enclosing all driving chains. There are several makes of machine which I for one would not buy because of their unprotected rear chain, although in all other respects the machines are most tempting. Mud and clay are bad enough as lubricants, but even they are not in it compared with a rich mixture of tar and flints. Ugh! My present mount (P. and M.) has its chains enclosed and automatically lubricated from the crank case. The system is quite as efficient as an oil bath. I want nothing less efficient in 1921. LY 1509.

SANS MAGNETO.

Sir,—*Re* Mr. F. C. Riding's letter, "Sans Magneto," my machine when hot would run 800 yards with the ignition switched off. I removed every speck of carbon as carefully as possible, but this made no difference.

On one occasion I stopped after 500 yards "sparkless" going and changed the plug. To my surprise the engine restarted and kept going for another 150 yards; but only on full air. Closing the air slightly caused an immediate stop.

At this point I took the temperature of the engine and proceeded to lower the compression by inserting a $\frac{3}{32}$in. washer.

Now, at the same temperature, on switching off the magneto all firing ceases, no matter what the position of the controls. R. F. McNAB.

THE A.C.U. SIX DAYS.

Sir,—Reading accounts of the Six Days Trials in your paper, I think the A.C.U. was wrong in withdrawing Park Rash, etc. It was said that they were impossible. Why? Because present-day engines are not to be compared with those of 1910-11-12. If modern gear boxes were used with those engines results would have been different.

Some time ago, when the hill was quite as bad as now, a single-geared Rudge ascended Park Rash regularly; a Rex sidecar combination also made several ascents. Of course, the present-day "knuts," who are used to the smooth surfaces of our Tarmac roads, would find the hill a bit rough; but it was nothing to worry about. Rougher and steeper hills should be included in future, and the trials held in January.

Lancashire. INTERESTED.

PETROL CONSUMPTION.

Sir,—In view of recent correspondence in your columns regarding petrol consumption, I feel it behoves me to take up the cudgels on behalf of the flat twin.

I have at the moment one of this year's $2\frac{3}{4}$ h.p. Woolers, which I have been using for all-round general work—not picking my roads or driving for economy; in fact, very much the reverse, in view of the fact that 60% of my riding is done with a pillion passenger, and that I habitually drive fast. To date I am averaging, roughly, 180 m.p.g., and on a straight main road run can do 200 m.p.g. I should be very interested to meet any of your contributors who would care to have an informal trial, in order to prove that this is not in any way a wild exaggeration.

I may say that I am not in any way connected with the Wooler Engineering Co. or the motor trade, but merely wish to give praise where it is due, and, further, to register here my appreciation of the very courteous treatment accorded me at all times by this firm. J. L. HENRY.

PLUG EFFICIENCY.

Sir,—Under the heading "Plug Efficiency," I notice "Douglasite's" remarks concerning Heath plugs, and as a user of these I feel I must put in a word for them. I successfully went through the London-Land's End trial on a 4 h.p. machine using these plugs, and have now got a 7-9 h.p. of the same make. When I got this machine I ordered some Heath plugs, and put them in instead of the original ones, and they have been in the engine without being moved for about 1,500 miles, and, as far as I can see, likely to stay thus. They are very hard indeed to oil up, and I have not yet managed to overheat them.

I have no connection with the firm, but I think they deserve every success with such an excellent product.

Sheringham. HARLEY-D.

EX-D.R.'s.

Sir,—I often notice arrangements for meetings of different sections of ex-D.R.'s. From experience I am afraid the majority of these are none too successful owing to the members being so scattered.

When recently on tour I met two old riders quite accidentally, and had an interesting chat with them over old times, although we had never met before.

It has occurred to me that if we had some method of recognising one another it would be an introduction and fill in many a dull time at holiday resorts and hotels, and one could always be sure of picking up a congenial acquaintance.

The method I suggest is to have a small blue and white circle or oval painted on the back of the lamp in not too conspicuous a position, so we may recognise an ex-D.R. at the hotel or garage.

What do other ex-D.R.'s think of the suggestion?

Manchester. EX-R.E.

DRIVING LICENCES.

Sir,—Now that there is all this agitation about dangerous driving, why cannot the authorities be more careful when issuing licences? I was astounded on paying five shillings, to get a licence enabling me to drive a motor car or motor cycle without any examination or trial. In Ceylon one had to be conversant with the rules of the road. If riding a solo, a European sergeant told one where to go, and rode behind on another motor cycle; if a combination, he came in the sidecar.

If satisfied you could drive, then a licence was issued. This would only be to drive a motor cycle; for a car another and a more severe test would have to be undergone. In Durban, Natal, the test is more severe still: eyesight, colour-blindness, speed judging, etc., as well as one's driving capabilities.

In England apparently only 5s. is needed, and one can drive a car or motor cycle anywhere, and need know nothing about it.

I consider the driving in England distinctly bad, and one frequently comes across riders blinding past cross roads, never sounding their horns. I have seen cars packed with men and girls all talking and laughing, and the driver joining in, with his attention anywhere except on his job.

From observation on the roads I consider cars are far and away the worst offenders where dangerous driving is concerned, especially fast cornering.

A combination has to slow up unless the driver wants the sidecar to tickle his ear. N. H. M. FERGUSON.

NAIVE.

Sir,—As an interested reader of your journal I should like to pass a few comments on "Moonshine's" letter *re* "Economy." Supposing we take it for granted that his wonderful increase in m.p.g. is true up to the point where he fixes streamline tank, disc wheels, and aeroplane footboards and mudguards, which works out at 100 miles to $\frac{7}{10}$ gallon, I cannot possibly see how Beacon oilskins and the very excellent Brooks saddle are going further to increase his m.p.g. Agreed, I am only an interested novice in the motor cycling world, and am always open to contradiction, but I don't think "Moonshine" convinces me that he could produce $\frac{1}{4}$ gallon every 100 miles?

Clapham Junction, S.W.11. DISABLED.

A CURIOUS ACCIDENT.

Sir,—A recent experience makes me think that a small wire face shield from the front mudguard extension would be a great improvement on motor cycles for riders whose wish is to attain a really decent speed. I was doing, roughly, 45 m.p.h. when a dove flew straight up into the air from in front of me and lodged under the peak of my helmet, temporarily blinding me, and resulting in a nasty spill.

I rode a Triumph (W.D. model), and it says much for this machine that such a speed could be attained on roads such as are found on the North-western frontier of India. This machine had been running for some months previously to this spill, and is at present still in the best of running order, and on the whole it is as good a 4 h.p. machine for all-round work as any I have ridden or heard of.

Kohal, India. E. C. COOKE, L.-Sgt. D.R.

THE SILENCE TEST IN THE SIX DAYS.

Sir,—With reference to a letter by "Single-cylinder Enthusiast," I should like to express my views as a twin-cylinder enthusiast. "Single-cylinder Enthusiast" denounces, or questions, the method of deducting marks in the A.C.U. silence test. Now, as a rider of over fourteen years' experience, I venture to say that the silencing of motor cycles has a considerable bearing upon the future of motor cycling, and that the noise of the single-cylinder model has caused more disfavour to the general public than any other type. It is a source of annoyance and irritation to everyone. I attended a recent hill-climb in this district, and the bark of the single-cylinder exhausts reminded me more of a machine gun test than anything. If we were all to go about the country in that style we should be barred by law from all places except the mountain tops. I often see youths dashing along on singles (often two-strokes) with just a long pipe serving for a silencer, imbued with the idea that the more noise they make the better impression they give as speed merchants. Now, a noisy exhaust does not necessarily make a machine more powerful, faster, or climb better. Everyone knows the sweet purr of the Scott, whether it is climbing a freak hill or passing through a quiet village, and, in my opinion, the A.C.U. judge justly awarded the full percentage of marks to the deserving team. In all the tests—general reliability, hill-climbing, simplicity, easy handling, and half-hour's speed run at Brooklands, together with silence—the Scott team was in every sense the winning team. While we have the noisy motor cycle we shall be like the char-à-banc road hog, bringing sooner or later a ban on our own heads and legislation as a nuisance to the general public. SILENT TWIN.

Llanover.

THE STATE OF THE TRADE.

Sir,—Your leader in *The Motor Cycle* of September 16th, under the above heading, strikes just the right note in these somewhat excitable times. There is undoubtedly a good deal of the snowball quality about the slump, or rather the talk about it. It started harmlessly enough, with a certain residuum of fact; but once set a rumour going in a world of rumour, it will pick up a great deal as it goes along, and, in the end, become exaggerated out of all reason. Normally, people in the motor cycle business have not expected the good times of last spring and early summer to continue, but five years of dislocation have caused many to forget realities and to lose their usual sense of proportion. The consequence is that, seeing the first real "season" since 1914 tail off into a state of comparative quietness in demand, they have become quite needlessly alarmed at what is, after all, a very ordinary state of things. The motor cycle trade always was a more or less seasonal trade, and by slowing down as it has it has simply returned to its pre-war days. The so-called "slump," therefore, is only a rather welcome and healthy sign of things settling down again to normal—to a basis on stability, in which we can make our plans with some approach to certainty.

It is notoriously perilous to argue from the particular to the general, and, much as we may regret the Sopwith eclipse—which, by the way, may yet be averted—it would be a mistake to regard what has happened there as symptomatic of the state of affairs in general. Because one concern makes mistakes, it does not follow that all are going to fall into the same errors. Others have found ways of grappling with present difficulties, and things are by no means so hopeless as some of the pessimists would have us believe. The magnitude of the Sopwith defeat is in itself a factor that militates against its being repeated. Unfortunately, it has been given very widespread and none too intelligent publicity. That is where its chief mischief lies. The British motor cycle manufacturers are fighting hard, but some of us, anyhow, are making good. FRED A. COULSON.

F. Aslett Coulson Engineering Co.

ELECTRIC LIGHTING.

Sir,—I think that many readers of your paper who read the letter of "W.B.P." in your issue of September 16th, and who, like myself, have found that ordinary accumulators will not stand the vibration when used for solo riding, would be glad if "W.B.P." would supply further particulars as to the composition of the paste he mentions.

I bought a new set of lamps of well-known make complete from a local agent a few months ago, but have not used the accumulator until recently, except for lighting a small lamp at home. Until I put it on the machine it was in perfect condition, but after a ride of about forty miles, when I examined it, I found that several pieces of the paste on the positive plates had fallen out, and were causing an internal short circuit.

This is not the first accumulator that I have used on a solo machine (my first mount was a 1903 accumulator ignition J.A.P.-engined machine), and I have come to the conclusion that an accumulator of the ordinary type fitted with celluloid separators is a constant source of trouble on a solo machine.

I shall be sorry to go back to acetylene lamps again, but unless I find a better storage battery there is no other choice.

E. TROTTER.

A DEFENCE OF THE TWO-STROKE.

Sir,—I venture to suggest that if "Chinook" and other motoring journalists had devoted as much study to the peculiar traits of the two-stroke as they have to its older brother, we should read much less nonsense about the so-called shortcomings of two-strokes. The facts are that very few drivers of four-strokes become really good drivers of two-strokes. When the readers of the good old "M.C." read of 100 miles and over being regularly covered on a two-stroke on a gallon of petrol, and this by ordinary riders, and then frequently see references to the high fuel consumption of two-strokes by your regular contributors—well, it makes a novice wonder what is the truth.

I have found that a $2\frac{3}{4}$ two-stroke is always more economical than a $2\frac{3}{4}$ four-stroke. I had, until August last year, a two-stroke, which in spite of its old age could be guaranteed to do 100 m.p.g. on the roads of the West Riding, and on several occasions it has done over 100 miles a day, two up, using less than a gallon of benzole. With regard to frames being too low, big men are the exception: and many machines are useless to a little man because of their size. Take "Chinook's" favourite mount, the Scott, which I have to kick off from the off side because the reach is too long for my legs. Yet I am not a little man. It is just as logical to ask the Scott to lower the frame for me, as it is to ask makers of baby machines to build frames to suit "Chinook's" long legs. I think every intelligent two-stroke owner will regard "Chinook's" remarks on "irregular firing" as most positive evidence that he has little knowledge of driving this type. Any two-stroke will of course four-stroke at times, but it should only be a very rare occurrence, and if it is a regular thing on "Chinook's" mount I do not wonder he cannot get economy.

"It's the way yer fingers the trigger as does it" was a favourite speech of an old army instructor, and applies to motor cycling as well as shooting, but the gun must be in perfect order.

Halifax. B 3972.

METALLIC SEAMS.

Sir,—I was much interested in "Ixion's" remarks on what he terms a metallic seam for overalls. I possess a pair of leggings fitted with this seam, which is generally known, I believe, as a lightning fastener, and I must say my experience of this idea is far different from that of the gentleman he refers to. Evidently the present article is a great improvement on the old product, as I find that it is quite impervious to wet or mud. It is apparently made of nickel silver, and any dirt which accumulates on it is automatically cleaned away in opening and shutting the seam.

I obtained my leggings in London some months ago, but I do not know where they can be obtained with this fitment locally. Can any reader enlighten me?

Birmingham. MORTON HASELER.

COURTESY ON THE ROAD.

Sir,—As a constant reader of *The Motor Cycle*, I have taken a lively interest in the recent correspondence "Chivalry" and "Courtesy on the Road," and, as a rider of the opposite sex, should like to mention that I have invariably met, not only with courtesy, but with real kindness and assistance (often proffered voluntarily), when in difficulty on the road.

A lady owner of a Rudge who says courtesy on the road is not dead.

My experience is that one has never to ask in vain, and I consider that a very high spirit of good fellowship prevails amongst motor cyclists as a whole. There may be exceptions, of course, but I am only too pleased to say I have never met them.

Incidentally, I may mention that the enclosed photograph is of a Rudge, which has seen a tremendous amount of service, has changed hands more than once, and is still "going strong"—a tribute, I think, to the hard-wearing qualities of this make of machine.

Liverpool. FAIRPLAY.

A MYSTERIOUS ACCIDENT.

Sir,—The following may be of interest to your correspondent, Mr. F. A. Boyce.

Several years ago I had a similar accident. One day whilst push-cycling, without a second's warning, I found myself and cycle in a hedge. A similar thing happened some time afterwards. Walking along a street, I pitched, without warning, head first into a shop doorway.

I consulted several doctors without result, until at last one of them recommended me to get my eyes tested. Result—found I had severe astigmatism. This was corrected with glasses, and since then, several years ago, I have not had a similar experience. HARDWICK.

Clydach, Glam.

Sir,—In your issue of September 16th I noticed an accident described by Mr. F. A. Boyce, and was struck by the similarity to an accident which happened to me.

In August, 1919, I was performing the duties of D.R. in France. Once when returning to Chateau Hardelot from Boulogne, a distance of eleven kilometres, I can remember leaving Base H.Q., Boulogne, but after that my mind was an entire blank, until next morning, when I found myself in bed at camp, feeling very sore, with several abrasions and a swelling on my head, showing a heavy fall.

I was told that I had ridden the Triumph in much more slowly than usual, and was found sitting on the saddle in the garage in a dazed condition.

I was taken to the hut, bandaged, and put to bed.

Even now, I know nothing about the accident, except that I evidently had a bad spill (the mudguard and footrest were damaged), but I must have unconsciously mounted again and ridden to the camp.

Under the circumstances, I must add that I am practically a teetotaler, and had not had anything intoxicating to drink that day. C. WALTHER.

Sir,—With reference to Mr. F. A. Boyce's letter, published in your issue of September 16th, *re* his "Mysterious Accident," although I have fortunately met with no such accident, perhaps my experience will suggest a solution.

A few months ago I had an operation, and anyone who has had a similar experience will remember the peculiar droning noise while the anæsthetic is being administered, and how the drone increases as consciousness goes.

While riding in certain makes of motor cars I experience the same noise, and if I am not very careful I either fall asleep or lose consciousness. The same thing happens when near a steam boiler under high pressure.

May I suggest that if Mr. Boyce has been under an anæsthetic, the noise of his machine resembles the "drone," and that he gradually—without finding himself going—lost consciousness.

W. S. WHITTARD.

MOTOR ATTACHMENTS.

Sir,—Your correspondent, "BY," is enquiring *re* J.E.S. attachment.

I have had one of these for some time, and must say that, with the exception of slight adjustments, brought about by the machine being out of condition—a second-hand one when bought—it has given me every satisfaction.

In the first place, previous to its purchase, I knew absolutely nothing about motors, had not the slightest idea how the engine worked beyond the fact that an explosion had something to do with it. The simplicity of its construction and control enabled me to master it without any instruction beyond the booklet issued by the makers.

To the man who has not the convenience for the storage of an ordinary motor cycle, and does not require to attempt breaking records, it is an ideal mount. Its petrol consumption is very low, and its reserve of power extraordinary. With a little pedal assistance up very bad hills I have often passed other motor cycles, and, in one or two instances, motor cars.

I have had no experience with Auto-wheels, which, I think, might be suitable to a lady's mount, but with a gentleman's cycle it cannot "hold the candle" to the J.E.S.

My only regret is that I am not in a position to purchase an up-to-date model. W. J. WATSON.

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Is Overlap Necessary?

May I trouble you for advice on valve timing a 3½ h.p. three-speed countershaft 1918 model Rover. Should the exhaust valve be completely seated before the inlet valve attempts to open? I was trying the other day a 3½ h.p. Sunbeam, which runs finely, and on turning the engine round per kick-starter I noticed that the inlet valve commenced to open before the exhaust was properly seated. Should that be so on my 3½ h.p. Rover? Also is $\frac{7}{16}$ths of an inch before top centre of compression stroke the correct setting for spark? I take it that the contact breaker should be just opening when set in position as stated (sidecar work).—L.B.

It does not follow that the exhaust valve should be completely seated before the inlet commences to open. Many engines run best when a certain amount of overlap is permitted. For ordinary work set the valves so that the exhaust closes when the piston reaches top dead centre or even a few degrees after it has passed this point, while the inlet valve should at the same time be just commencing to open. The amount of spark advance is about correct. A useful setting for all ordinary work is for the spark to occur when the piston is at the top of the compression stroke with the ignition control two-thirds retarded; the spark takes place immediately the contact breaker points are separate.

Adapting Machine for Sidecar.

My 1919 3½ h.p. Sunbeam is geared too high for sidecar work. The top gear appears to be in the neighbourhood of four and a half to one. I know I shall need to change one of the sprockets. (1.) Which sprocket needs changing to carry out the alteration? (2.) Can the alteration be carried out by an amateur with the usual kit of tools? (3.) The sidecar has a left hand pull. What is the best method of lining it up? (4.) What is the best position for the passenger in relation to driver?—W.J.V.

(1.) The makers will supply you with a sprocket to make the necessary reduction in your gear ratios. It is only necessary to change the chain sprocket on the right hand side of the gear box, a reduction in the number of teeth here making the necessary alteration. (2.) Yes, it is only a few minutes' work to change the sprocket, but in addition to this it will be necessary for you to shorten the rear driving chain accordingly. (3.) By putting the combination on a flat floor and obtaining two long strips of wood such as match-boarding with planed edges. Place one of these long strips so that it touches the back and front edges of both bicycle wheels, and place the other so that it touches the back and front of the sidecar wheel. It should now be an easy matter to line up the sidecar so that the measurements between the planks at the rear and front of the machine are equal. (4.) About level or slightly behind the driver.

Speed Wanted.

I am the possessor of a late 1919 4 h.p. Triumph, fitted with Sturmey-Archer three-speed gear. I wish to obtain the greatest possible speed from it, and would be very much obliged if you would answer the following: (1.) My present engine sprocket has seventeen teeth, giving a gear of 4.4 to 1. Is this the best? (2.) What size jet do you recommend for my Triumph carburetter? (3.) Should I get more speed by fitting an automatic carburetter? (4.) The Triumph only has one timing pinion. Does this prevent tinkering with the valve gear for purposes of tuning? (5.) My speedometer is fixed on the front wheel, and as on all Triumphs the forks are very active, about how much at, say, 45 m.p.h., does this affect the accuracy? (6.) About what speed, in its present condition, just decarbonised and compression made perfect, should it be capable of doing? (7.) How much could I increase this?—J.F.B.

(1.) It is not advisable to use a larger sprocket than the 17 tooth which is already fitted. (2.) The jet size is best found by experiment. It will be somewhere in the neighbourhood of 30 or 32. (3.) It is impossible for us to tell you definitely what greater speed can be obtained by fitting any other carburetter. (4.) You cannot make much alteration in the timing, as whatever adjustment you do affects both valves. (5.) Speedometers are not usually absolutely accurate, but it is doubtful if the action of the front fork has an appreciable effect on the reading. (6.) About 55 m.p.h. (7.) You might increase this to 65 m.p.h., but it is extremely doubtful unless you have special facilities for tuning and testing.

HILL-CLIMBING IN THE SOUTH-WEST.

An Enfield sidecar making a fine ascent of Huccaby Hill in the recent hill-climb of the Plymouth and District M.C.C.

Current Chat

Times to Light Lamps.

Sept. 30th	... ...	7.11 p.m.
Oct. 2nd	... ...	7.6 ,,
,, 4th	... ...	7.2 ,,
,, 6th	... ...	6.57 ,,

Prices.

That car prices are beginning to fall must not be regarded as a sign that motor cycles will follow suit. 1920 motor cycles are at present about 100% over 1914 prices—cars went higher than that.

Cobalt in England.

Cobalt—the rare element used in the manufacture of high grade steel—has been discovered in the Peak District. Hitherto England has had to depend upon imports for her supplies which have come chiefly from Ontario, Canada.

Found.

Eight miles from Canterbury Mr. H. Nelson Smith, of Whitley, near Coventry, recently picked up a tool kit, and Mr. Gordon Oliver, of "Glentworth," Conway Road, Pontypool, made a similar find in his town. Mr. D. Anderson, The Holt, Forest Road, Loughborough, also found a motor cyclist's flying helmet in Rugby on the 11th.

Steam and the Fuel Question?

Inspired no doubt by recent enormous increases in the running costs of the average heavy four-seated car, the Stanley steam car is being revived. A description of the latest model appeared in *The Autocar* of September 25th, and is worthy of study, both from the private motor-cyclist's and the designer's point of view. The economy and simplicity, especially of control, weighed against the slow start from cold, and the possibly somewhat unwieldy layout still leaves a strong case for experiment. At the same time, a steam motor cycle embodying modern discoveries will require considerable development.

A George Brough Production.

That well known rider, George Brough, who has recently severed his connection with W. E. Brough and Co., will shortly produce a new motor cycle. As might be expected, the production is designed in order to appeal to the sporting fraternity, and from a careful examination of the drawings we feel confident that it will enjoy a bright future. It is hoped that the first machines will be on the road this year and preliminaries are well on the way. We have been specially requested not to divulge details at the present moment, but our best wishes go with the designer in his new venture.

A Scottish Open Hill-climb.

The Glasgow Western M.C.C. is holding an open hill-climb on Garshake Hill, Dumbartonshire, on October 2nd, and in addition to the class prizes there are several special awards, including a head lamp and generator. Last year this event attracted eighty-seven entries.

"The Racing Motor Cycle."

Members of the I.A.E. in Wolverhampton and district who are interested in super-efficient motor-cycle design should spend an instructive evening on October 6th, when Mr. Cyril Williams (of A.J.S. and T.T. fame) will read a paper on the above subject in the Talbot Hotel, Wolverhampton, at 7-30 p.m.

Another A.A. Benzole Station.

The fifth A.A. benzole filling station was opened on September 22nd outside Dunchurch, near Rugby and Coventry, on the main London-Birmingham road. A five-hundred-gallon Bowser installation is laid down, and the usual A.A. roadside service facilities are available. The opening of the depot was attended by a number of prominent Midland motorists and motor cyclists.

Power Alcohol.

The question of denaturation of alcohol appears to be the chief difficulty in the way of the unrestricted manufacture of power alcohol. Readers of *The Motor Cycle* who are chemists are invited by Sir Charles Bedford, LL.D., D.Sc., of the Empire Motor Fuels Committee, 50, Pall Mall, S.W.1, to suggest a suitable denaturant which shall have the following qualities: *(a)* Deterrent taste and smell, *(b)* non-poisonous, *(c)* must not be removable at a commercial cost, *(d)* must be readily detectable in small quantities, *(e)* must be readily miscible with the spirit, and *(f)* must be inexpensive. Communications should be marked "Denaturation," and will be treated as strictly confidential. Suggestions will remain the sole property of the proposer.

We must have a Petrol Alternative Produced within the Empire.

Special Features.

SIX MONTHS WITH A FAMILY SIDECAR.

IMPRESSIONS OF THE SCOTTISH "TWO DAYS."

Rubber Output.

In view of the rapid decline in the price of raw rubber, and of the fact that if production continues at the present rate there will be a surplus of anything from 35,000 to 40,000 tons of rubber at the end of 1920, the council of the Rubber Growers' Association, at a recent meeting held in London, unanimously decided to recommend to all producers of plantation rubber that a genuine reduction of 25 per cent. of the estimated normal monthly output should forthwith be brought about.

120 m.p.h. at Brooklands.

Hundreds of motor cyclists were intermingled with the many thousands who saw the last official B.A.R.C. meeting last Saturday at Brooklands. Of the nine races on the card all were for cars, and in three of them cycle cars showed up prominently. J. Cocker (the old Singer and Triumph exponent) ran second by a few yards to W. D. Hawkes on a Morgan in the first race, though Cocker's 8 h.p. Crouch was actually lapping at over 70 m.p.h., and it is difficult to explain why he eased down too soon in the finishing straight.

An eight-cylinder-in-line Ballot was on scratch in the second event, and the way the driver overhauled most of the field in this and other events was fine to behold. He streaked down the railway straight at 120 m.p.h., and actually covered one lap at 112.17 m.p.h. Frazer Nash's G.N. was in fine form as usual, and dashed over the line at 78½ m.p.h., 1⅗s. ahead of a Straker-Squire. Cocker (Crouch) scored another second in the third race.

What is described as the finest finish ever seen at Brooklands occurred in the sixth event, six cars crossing the tape at speed within 30 yds. of each other. W. D. Hawkes, this time driving a Lorraine-Dietrich of 15,095 c.c. cylinder capacity, romped home first in the Seventh Lightning Long Handicap at 95.18 m.p.h., his 33s. start proving too much for the fleet little Ballot piloted by Chassagne. In the next race Hawkes repeated his success on a Morgan with a four-valve M.A.G. engine, just beating Godfrey's G.N. at a speed of 71¼ m.p.h. Frazer Nash won the last sprint handicap on his G.N. at 73.84 m.p.h.

A detailed account of the racing will appear in Friday's issue of *The Autocar*.

158 Mile Trial in Worcestershire Lanes.

Thirteen Test Hills included in Sporting Event organised by West Midland Clubs.

Flagstaff Hill, near Great Witley, is a vantage point from which many pretty views of the surrounding country may be seen. The Enfield rider, F. Bicknell, is more intent on finding a good path for his driving wheel, however.

OVER a hundred competitors started last Saturday from Bromsgrove to cover 158 miles of typical Worcester lanes included in the West Midland Reliability Trial. The event was organised by the Wolverhampton, Redditch and Kidderminster Clubs—and it was clear that each had contributed its share in the route planning. Thus the first part of the morning section included hills used by the Redditch Club, and later on the competitors were taken over ground more familiar to Kidderminster and Wolverhampton riders.

A Foggy Start.

The whole of the course was planned within a small radius, and turned and twisted in such a way that the stranger soon lost all sense of direction, making good route marking absolutely essential. A few arrows removed by mischievous children caused several to go astray in at least three sections of the route, which led one to think that a pilot car immediately before the first competitor, with a plentiful supply of confetti, would have better served the purpose.

At the start, and in fact for many miles, a thick fog prevailed. (T. C. de la Hay (Sunbeam) did not start owing to his machine being in collision on the way to Bromsgrove.) The weather conditions made matters a little difficult for the competitors to maintain their schedule speed.

Beacon Hill is not very severe, excepting in wet weather. On Saturday it was dry, excepting for a patch of deep mud at the bottom. Near the top, however, the competitors were diverted from the lane to take in a sharp hairpin, which meant a left right angle turn, immediately followed by a right-hand hairpin so acute that it was impossible for a Morgan to negotiate it, and many of the solo and sidecar entrants could not get round without hitting the bank.

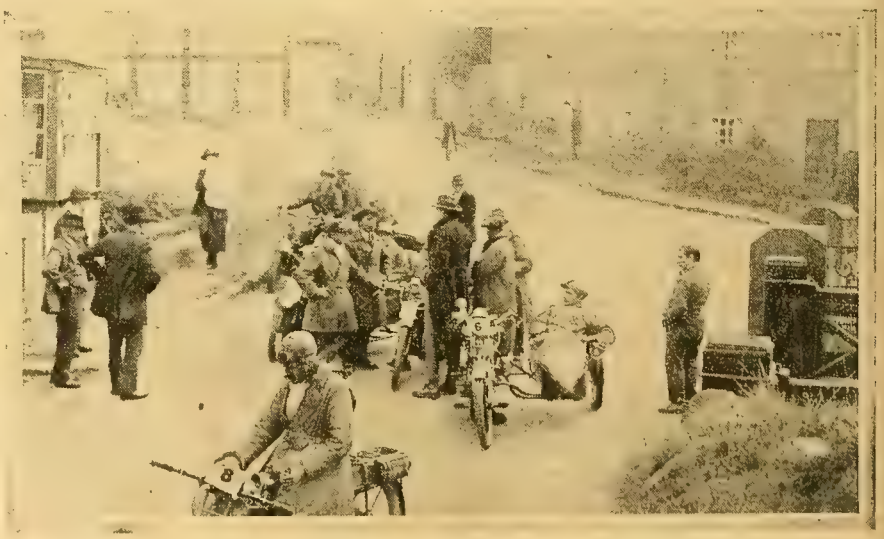
J. G. Nickson, the captain of the Kidderminster Club, on a single-geared o.h.v. single-cylinder Aero, stopped, as was to be expected. V. Collins (4¼ B.S.A.) ran into the hedge and fell. C. F. Foster (2¼ Enfield) ran beside his machine and elected to miss the hairpin, E. A. Humphries (2½ Priory) foot-slogged and stopped, and A. L. Horner (4½ James sc.) skidded round and lost his sidecar tyre. On the whole, however, the performances were good. H. Boynton (6 James sc.) executed a very neat turn, as did J. Walker (2¾ Marloe), B. L. Bird (2¾ Marloe), T. B. Haddock (6 A.J.S sc.), and O. Wade (6 A.J.S. sc.).

Troubles.

After Beacon, eight miles brought the competitors to the second test hill—Gravel Pit—which did not unduly trouble the majority. It is a short steep climb with a loose surface of shingle, which caused a certain amount of wheel slip. F. A. S. Fletcher (8 Enfield sc.) had his passenger on the carrier, as had F. Bicknell on a similar machine; this was hardly necessary. W. A. Carr (Morgan), J. Wainwright (8 Matchless sc.), D. S. Heather (4¼ B.S.A. sc.), and C. W. Hyde (4¼ B.S.A. sc.) all made very steady climbs. C. F. W. Rendle (3 Enfield) fell, while Albert Milner (2¼ Diamond) was evidently in trouble for he had to foot slog. It afterwards transpired that he had a broken piston ring, and was overheating badly which caused him to retire. F. J. Price (2½ Diamond) went up in a very dashing manner.

The Scott, ridden by H. Langman, toured up with ease, as did most of the Nortons and B.S.A.'s, while C. F. Sturgess, on a single-geared Rover, performed splendidly. H. Greaves (Beardmore-Precision) found that his comfortable spring frame was a disadvantage for freak hill-climbing. His wheel spun and he came to a standstill—his only stop in the long trial.

In a further three miles the competitors were crowding at the foot of the Gaby Glide, a muddy lane, easy enough



LOST! This little group consists of competitors in Saturday's West Midland Open Trial who, despite following the arrows, have missed their way. Route marking is (or should be) one of the organising secretaries' chief responsibilities, but often the best efforts are frustrated by mischievous small boys.

In Worcestershire Lanes.—

for the solo men, who could traverse its centre, but more difficult for the sidecars, which demonstrated why the hill had been given its name.

The competitors were sent up one at a time, with the result that much time was lost by all but the first arrivals, which made it questionable whether the time factor for the morning section could be used in allocating the awards, as some of the riders were kept waiting for upwards of half an hour. An opportunity to make up some of this time was found afterwards between the hill and Malvern. A water-splash near Redditch was cut out, and the competitors had a twenty-five miles stretch of easier roads to the Old Wyche at Malvern.

This hill has now lost its former terrors, but, of course, took its toll of failures. Then came a further fifteen miles of comparatively easy going *via* Bishop's Frome to Bromyard, six miles beyond which town the competitors came to Ankerdine Hill for the flexibility test. Of good main surface and a maximum gradient of about 1 in 8, Ankerdine Hill was very suitable for this test; 25 yds. had to be taken slowly, and 75 yds. fast—timing was done by Mr. T. Silver.

Flexibility Test up Hill.

On the whole, it could not be said that the majority went through this test with honours. Some occupied more time for the fast section than they did for the 25 yds. slow portion, and the two times of many others were practically equal. The good performances were, therefore, very conspicuous, and out of the eighty-five competitors who were timed, we may mention the following fifteen as being worthy of recording. Those who failed to halve their slow time are not given.

	25 yards slow. secs.	75 yards fast. secs.
F. F. Watson (4 Norton sc.)	35½	15
E. A. Colliver (Indian Scout)	20⅘	8½
H. Boynton (6 James sc.)	39⅖	12⅘
B. Bladder (8 New Imperial sc.)	24⅘	9⅗
B. L. Bird (2¾ Marloe)	24⅘	9⅗
Eric Williams (6 A.J.S. sc.)	25½	15
F. J. Price (2½ Diamond)	20⅘	10⅘
L. L. Sealey (4¼B.S.A. sc.)	18⅘	8⅗
L. Paynter (Norton)	21⅘	10⅘
F. Bicknell (Enfield sc.)	29½	18½
H. W. Hassell (Norton)	19⅘	8⅗
G. Dance (3½ Sunbeam sc.)	25⅗	10½
C. Wilson (Norton)	20½	9
H. B. Denley (8 Morgan)	46⅘	13½
S. H. Rhodes (2¾ Wolf)	20⅘	10⅗

A stopping and restarting test was included at the seventy-fifth mile, at which point the riders were near Shelsley Walsh. A further five miles brought them to Flagstaff Hill near the Hundred House, the luncheon stop. On Saturday the hill was dry, and instead of the usual great percentages of failures, the competitors climbed with monotonous success. H. C. Rhodes (3½ Sunbeam) seemed a little unhappy and ascended with both feet out ready to counteract a skid; F. J. Price (2½ Diamond) broke his belt; E. A. Humphries (2½ Priory) had to run beside his mount.

G. Denley, on a little Velocette, ascended to the accompaniment of a rhapsody whistled by himself. A. W. Taylor (B.S.A.), R. Clark (Coulson), Reg. Brown (3½ Sunbeam sc.), and R. Duke (Triumph) cruised up in company. W. J. Edwards (2⅘ Omega) had to regulate his speed to that of a sidecar. The L.M.C. sidecar, driven by H. E. Ashley, had plenty of power in hand, and the Morgans and T.B. again did well. H. L. Willis (3½ Norton), H. Maule (Rover sc.), H. Ward (4½ B.S.A. sc.), F. J. Adam (A.B.C.), H. Langman (Scott), George Dance (3½ Sunbeam sc.), P. Newman (3 Ivy), A. E. Colliver (Indian Scout), A. Wilkes (3½ Rover), A. Wood (B.S.A.), Reg. Brown (3½ Sunbeam sc.), and Dudley (3½ Sunbeam sc.) were all fast. Conspicuous among the lightweights were the two O.K.'s, ridden by Hall and Handley, H. Greaves (Beardmore Precision), Seymour Smith (3 Ivy), L. A. Bees (Beardmore Precision), H. U. Smytheman (3 Ivy), and B. Gold (Wolf). R. G. Bennett (2⅘ Federation) was steady and the Verus, H.B., Wilkin, and Marloe machines with 2⅘ Blackburne engines, also showed up to advantage. Throughout the trial the value of a good lightweight machine, even in the hilliest districts, was amply demonstrated by the various riders of these machines.

H. U. Smytheman (3 Ivy), W. J. Chambers (3½ B.S.A.), R. Cooper (2½ Allon), and other competitors waiting their turns for the greasy ascent of Gaby Glide. The width of the lane will be noticed.

The Afternoon Route.

After lunch at the Hundred House, another four test hills were taken within twenty miles. They were located among the hills lying west of the Severn, between Bewdley and Bridgnorth. The competitors had now got accustomed to their characteristics, and failures were rare exceptions. In less than thirty miles, Farlow Bank was being negotiated, and as the surface was greasy, failures were rather more frequent, although on the whole the machines did well.

Probably the worst section in the trial was the six-mile run to the next check. There were several gates to be opened, from which it may be gathered that the route lay through rough farm tracks. One of the Marloe riders accomplished the journey with a flat front tyre, and his pluck in so proceeding was admired by those of his fellow competitors who saw his gymnastics.

Another ten miles brought the riders to Bridgnorth, where several went astray through interference, on the part of boys, with the arrowing. Quite a number, including an official car, missed the acceleration and brake test.

Marks of merit for this test were awarded on the basis of time in seconds required to cover 100 yards plus the number of yards required in which to pull up. Those whose figure of merit was more than fifty per cent. higher than the average in their particular class lost five marks. Some competitors had been at work with mathematics and found that it was to their advantage to lose seconds on time in preference to taking several yards to pull up. Consequently a few stopped dead on the line, and those in charge were a little mystified as to how to deal with them.

Off the Route.

In the meantime, a bunch of competitors filled the quaint little village of Claverley, having realised that they had gone astray. Presently they were joined by two riders who had just been through the test. Several of the solo riders went back, but the sidecarists elected to proceed and trust to a united protest later.

Five miles further on along the lanes was located the last observed point—another sharp hairpin which the three wheelers could not negotiate without a reverse gear. Here the T.B. showed the advantages of such a feature, for the driver, by reversing three times, smartly manœuvred his vehicle round.

Here we noticed that Dance's featherweight sidecar was leaning badly. He executed the turn in good style, as did his colleague, Dudley, on a similar machine fitted with a standard touring sidecar.

Most of the solo riders made neat turns, some came near to striking a wall on the

In Worcestershire Lanes.

last few inches of the hairpin, and a few stopped. Quite a number approached the corner at a high speed, and others were just as slow and sure. Cyril Williams (this time mounted on a Norton) and J. A. Newman (3½ Sunbeam sc.) were among the latter. H. C. Haddock (6 A.J.S. sc.) in changing gear unfortunately got into neutral; J. Wainwright (8 Matchless sc.) took the wrong hairpin a little lower down, and on discovering his mistake executed a turn in the length of his machine, and then negotiated the observed corner. E. A. Humphries (2½ Priory) cut the bend too fine, and stopped. The last ten miles to the finish at the Stewponey Hotel, on the Wolverhampton-Kidderminster Road, was chiefly over lanes. At the finish a huge crowd had assembled to welcome home the seventy-two survivors of a gruelling day.

A Heavy Toll.

Approximately thirty retired (ten within the first sixty miles), which appears to be a heavy toll, but undoubtedly not a few of this number lost the course—quite an easy matter even for those who knew the district.

M. Holroyd (Beardmore-Precision) entered the check from the wrong direction, having missed an arrow at some point where probably it was hidden by the trees. His time was not taken.

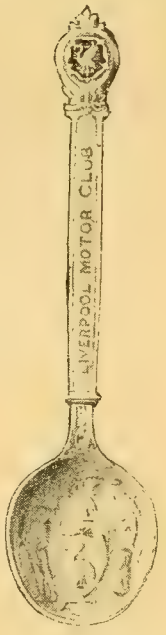
On the whole, it was a successful trial, but the arrowing was not all the competitors desired, for which mischievous boys were partly responsible, and against such a contingency it was difficult to guard. At one point the arrows had been so arranged that competitors would have been repeating a circle; fortunately, an official was able to remedy this before much harm was done.

RELIANCE CUP TRIAL RESULTS.

THE weather conditions rendered the trial, fully described in our last week's issue, extremely severe, and it is not surprising that only seven machines, all solo mounts, came through without loss of marks. Particular merit also attaches to the performance of the only four sidecar outfits finishing, which gained three silver and one bronze medal, as the rain which fell on Friday night (in the words of the judges themselves) "made the surfaces of Conquering Hero, Alt-y-Bady, and Dolywern an unfair test for sidecar machines." The principal awards went as follows:

RELIANCE OPEN CHALLENGE CUP.—Eric Williams (3½ Sunbeam).
BUTTERWORTH CHALLENGE TROPHY.—V. E. Horsman (3½ Norton).
RELIANCE AMATEUR CHALLENGE CUP.—N. C. Sclater, junr. (3½ Norton).
MOGRIDGE MEMORIAL CHALLENGE CUP.—Jack Fox (4 Norton).
MEAD CHALLENGE CUP.—J. A. Newman (3½ Sunbeam).

The five competitors above and the only two Humbers entered, L. Crisp and W. Brandish (4½ Humbers), gain gold medals. The actual destination of the trophies amongst these seven was decided by the formulæ results of the hill-climb on Bwlch-y-Groes.



SILVER SPOONS FOR WINNERS OF SPECIAL PRIZES IN LIVERPOOL M.C. EVENTS.

Handsome silver spoons, finished in enamels and 9in. long, are being presented as special prizes in competitions organised by the Liverpool M.C. This is an innovation which will be appreciated by those who consider a medal a useless kind of award.

The machine team prize went to the Norton team (V. E. Horsman, Jack Fox, and N. C. Sclater), the only complete team to lose no marks.

Fastest times on Bwlch-y-Groes were made by G. Dance (3½ Sunbeam), 2m. 2s., and Eric Williams (3½ Sunbeam), 2m. 3s.

The following also finished and gained awards as stated:

SILVER MEDALS: J. H. Green (6 Martinsyde sc.), H. R. Davies (6 A.J.S. sc.), H. Haddock (6 A.J.S. sc.), J. Lee (7-9 Indian), J. Davies (4 Triumph), H. Langman (3¾ Scott), S. W. Ratcliffe (3½ N.U.T.), G. Dance (3½ Sunbeam), G. J. Baragwanath (4 Triumph), S. Parker (2¾ Wilkin), C. Hunt Fox (4¼ B.S.A.), E. B. Williams (4 Triumph), G. Strange (3½ James), P. K. Glazebrook (3½ Campion), and R. B. Clark (2¾ Coulson).

BRONZE MEDALS: G. E. Stobart (7 James sc.), Miss P. Davie (4 Norton), H. Marston (4 Triumph), J. C. Walker (2½ Edmund), S. V. Banner (8 Sunbeam), H. Roberts (6 A.J.S.), G. D. Addinsell (4 Triumph), H. W. Sellars (3½ Sunbeam), G. Roddick (8 Zenith), G. Shayler (3½ Sunbeam), F. Porter (2¼ Levis), J. F. Lidstone (2¼ James), R. Jones (3½ Sunbeam), and H. Newey (2¼ Levis).

The respective figures of merit in the timed hill-climb were as follows:

	Figure of merit.
Eric Williams (3½ Sunbeam)	19258
V. E. Horsman (3½ Norton)	20637
N. C. Sclater, junr. (3½ Norton)	32148
Jack Fox (4 Norton)	40534
J. A. Newman (3½ Sunbeam)	44421

The club team prize was not awarded, as no complete team qualified.

A BENZOLE PROPOSITION.

THE following letter has been received putting forward a suggestion for benzole production in local centres. We print it in full in that it is well worthy of careful attention from all motorists and motor cyclists.

"Sir,—The only solution of the petrol problem is to produce motor spirit ourselves, but colliery owners cannot be expected to provide large sums of money for the necessary plant so long as questions like nationalisation, direct action of trades unions, war taxes, etc., remain in their present unsettled condition. Great Britain can produce from material going to waste or lying fallow in our coalfields all the motor spirit and other oils required for home consumption.

Individual Effort Not Possible.

"In view of the fact that it is unreasonable in existing circumstances to expect the colliery owners to provide the necessary money, it is 'up to' petrol users to help themselves and also 'up to' someone who understands the business to come forward with a sound and practical proposition. Here it is:

"One of the most reputable constructional engineering firms in this country will contract to supply and erect a plant to treat 300 tons of material per day of eight hours at an inclusive cost of £20,000.

"In addition to the cost of the plant, £10,000 will be required for working capital.

Local Distilleries.

"Responsible colliery companies will contract to deliver to the plant 300 tons per day of material which, on distillation, will yield not less than two gallons of motor spirit and twenty gallons of crude oil per ton.

"This plant will produce 180,000 gallons of spirit per annum and 1,800,000 gallons of crude oil. The cost of the raw material will be £35,000 per annum, treatment, administration, depreciation £15,000, making the cost of motor spirit, say, under 1s. 6d. per gallon, and 5d. per gallon for crude oil. It is easy to calculate at current prices what a handsome return this will show on the capital invested.

"There will be no necessity for the establishment of any elaborate or expensive distribution organisation, as the spirit would be produced for distribution and sale as far as possible in the immediate district, and provision for the necessary cans is included.

"Following the successful operation of this plant, similar installations could be put up in various parts of the country where raw material is available and of a capacity to meet the requirements of the surrounding district.

J. ARTHUR GREEN,
Editor 'Treatise on British Mineral Oil'; hon. sec. and technical adviser on mineral oil supplies to 'Committee on Production of Oil from Cannel Coal and Allied Materials'; late H.M. Petroleum Research Department (Admiralty) and Ministry of Munitions, etc.

F. MOLLWO PERKIN,
C.B.E., Ph.D., F.I.C., F.C.S.,
Technical adviser on retorting to 'Committee on Production of Oil from Cannel Coal, etc.'; member Council of Institution of Petroleum Technologists, etc."

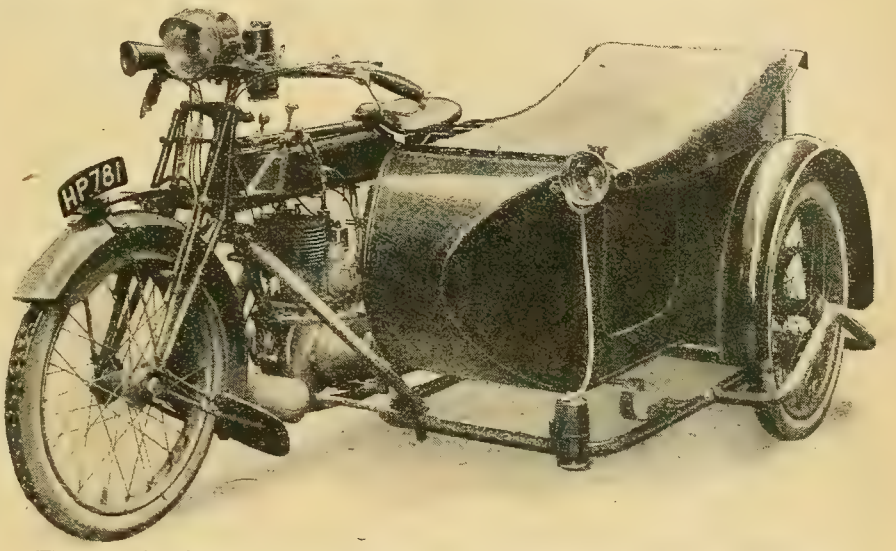
A NEW SUNBEAM SIDECAR.

A Light and Comfortable Attachment intended especially for the 3½ h.p. Mount.

HAVING conclusively proved to their own satisfaction that the 3½ Sunbeam is capable of taking a sidecar anywhere in reason, and having publicly demonstrated the fact in several severe trials, Messrs. John Marston, Ltd., set to work to produce a sidecar suitable for the machine, and incorporating their usual high-class workmanship and finish. The results may be seen from our illustrations to be in keeping with Sunbeam traditions.

A roomy and well finished body is carried by C springs—both fore and aft—on a chassis of very simple construction. The main portion of this chassis is composed of a rectangular tubular frame from which the wheel is supported by stout brackets both inside and out. The wheel, by the way, is detachable and interchangeable with those of the motor cycle, being shod with 650 × 65 mm. tyres. A very wide mudguard is attached to the body so as to prevent rattles; the space between body and guard is entirely filled in by a special flange.

Two front attachments are supplied in addition to the special Sunbeam rear joints, and all the fittings are integral with the chassis, so that correct alignment is ensured.

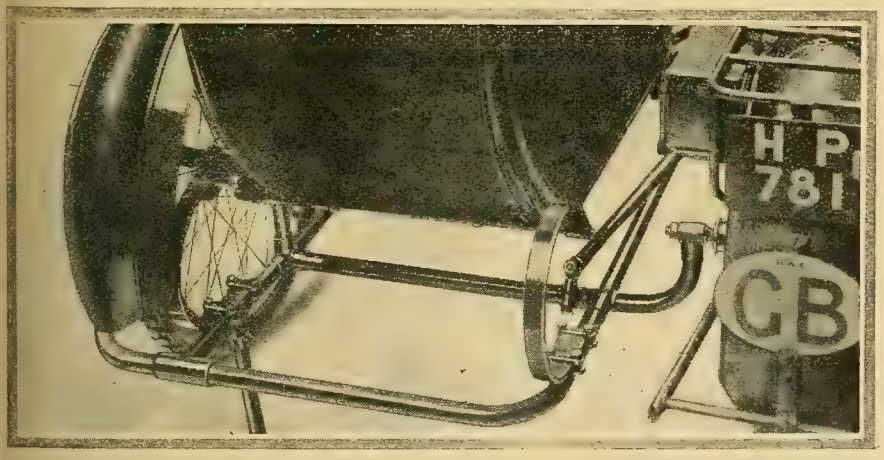


The new 3½ h.p. Sunbeam sidecar, the chassis of which is designed to accommodate an interchangeable wheel. The mudguard is attached to the sidecar body.

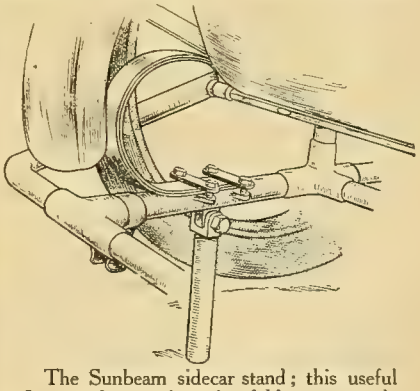
A Sidecar Stand.

In order to facilitate wheel removal, a very handy sidecar stand is fitted behind the axle. This very taking sidecar is listed at 45 guineas complete, with waterproof apron and mat, but an extra charge is made for a spare wheel.

We have had some personal experience with the combination illustrated—the latest addition to *The Motor Cycle* stud of machines. The solo mount is the one we have had in use for some thousands of miles with every satisfaction, and it has now been set to fulfil the far more difficult task of propelling a sidecar. The gallant 85 × 88 mm. engine is well able to maintain a good average uphill and down dale. Thanks to the integral fittings on the bicycle the sidecar itself is so perfectly adjusted that it is possible to travel along a good road with hands off the handle-bars. Our passenger, too, speaks very highly of the comfort provided by the well upholstered sidecar. Under the seat, by the way, there is a capacious compartment for tools and spare parts.



The simple construction of the chassis will be observed; the sidecar stand is shown in operation.



The Sunbeam sidecar stand; this useful fitment when not in action folds away neatly and unobtrusively.

THE PRICE OF PETROL.

ON Friday last a deputation representing all classes and interests in the City of Coventry waited upon the Mayor in order to discuss the effect of the rise in price of motor fuels upon the well-being of the community. After discussion, the following resolution was passed:

"This deputation, representing all classes, professions, and trades in Coventry, views with the utmost concern the steadily rising price of motor fuel, and calls on you, as chief magistrate, to send urgent representations to His Majesty's Government pointing out the danger to the community, and requesting them to take immediate steps to secure the production and distribution of power alcohol within the Empire, under the immediate supervision and control of the Government; also to ensure that the coal consumed in this country shall be so treated before use as to extract all the possible available motor spirit."

The Mayor clearly recognised the extreme gravity of the situation, and he expressed his sympathy with the objects of the deputation, and promised to communicate their views to the Prime Minister, the members for the city and county, and the Minister of Transport.

A TRIAL FOR TWO-STROKES.

43 Starters and 27 Finishers in the Bowerman Cup Competition at Leicester.

ALL the well-known and several less popular makes of two-stroke machines were represented in the contest for the Bowerman Cup held by the Leicester and District M.C.C. on September 26th, and if some of the former failed to show up very well, it was neither due to the fault of the machine nor to the severity of the course.

There was a singular absence of mechanical and even tyre trouble throughout the event, and the low proportion of finishers is due to the fact that some competitors, finding themselves early penalised for foot-slogging, etc., did not consider that their chances of gaining the premier award were strong enough to justify carrying on.

Glorious weather and great public interest favoured the start from Humberstone Gate, and the going was good, if sometimes rough, to the first observed hill, Sludge Hall, which boasted a maximum gradient of about 1 in 8 in the course of a straightforward climb. C. J. Willcox, on the only Scott present, naturally shone, but the performances of some, who *ought* to have made light of it, were disappointing.

The course then led on to Tilton, the first check, and a little further on to the *pièce de résistance* of the trial. Down a steep path in the centre of a disused road, the competitors were warned of something afoot by the gathering of spectators at the bottom. Large boulders (placed there for the event, we were told) effectively prevented an otherwise trivial watersplash from being rushed, and a grassy rise on the other side proved too much for many a slipping belt. The riders of chain-driven machines went by wreathed in smiles, whilst among the belt-driven mounts F. Brown (Clyno), D. S. Taylor (New Hudson), and H. M. Flint (Broler) were noticeably sure. Almost before the belts had time to dry, the course led through a trackless field, where an ascent of about 1 in 7, marked out by flags, spoiled many hitherto clean sheets. Launde, the next observed hill, too, claimed its quota of failures, albeit needlessly, for L. B. Crowther (O.K. Junior) showed that it was possible for a single-geared machine. The circuit, including Launde Hill, the watersplash, and the nameless grassy bank was covered three times; but the extremely low scheduled speed (15 m.p.h.) allowed many belts to be tightened.

While the destination of the Bowerman Cup cannot be settled until the observers' reports have been checked, we venture to prophesy that it will fall to a chain-driven machine, and were it not that the Scott forfeited forty marks initially on account of its capacity the rider of this machine would no doubt have carried it.

The following finished, but only a small proportion without the loss of any marks:

P. J. Strong (Broler), F. Brown (Clyno), P. Goodman (Clyno), A. F. A. Clark (Welland B), C. J. Willcox (Scott), J. W. Mill (Connaught), L. B. Crowther (O.K. Junior), F. Morgan (Cotton), D. W. Blocksedge (James), S. Brooks (Broler), F. J. Tanner (Broler), C. Trasler (Broler), D. S. Taylor (New Hudson), G. Denby (Velocette), G. E. Jackson (Chater-Lea), W. H. Bellamy (Metro-Tyler), F. Wooley (Sun-Vitesse), H. Petty (Velocette), A. C. Yates (Triumph), R. W. Banbury (Ixion), J. Gilbert (Ixion), R. Pendleton (Coventry Eagle), R. G. Winn (Campion), L. G. Growatt (Alldays Allon), — Ward (Campion), B. Rowley (Clyno), and H. W. Turner (Clyno).

THE BUTLER CUP EVENT.

Sporting Half-day Trial by Surbiton Club.

FAVOURED with cool autumn sunshine and a representative entry for a club event, the first annual half-day reliability trial organised by the Surbiton and District Motor Cycle Club on Saturday last, September 25th, promised to be a great success.

The thirty-five competitors were started by Mr. A. G. Reynolds, at half minute intervals, and they had to complete an exceptionally sporting course at the usual schedule speed of 20 m.p.h.

At 2 p.m. the first man led the way down the Portsmouth Road, turning left up to the popular rendezvous, Newland's Corner, and then to the charming village of Shere. The first really severe test, three miles from the latter village, proved extremely difficult for the solo riders, as the thick, muddy surface of the hill, on which one half of the track it was impossible to ride, and the slippery right angle corner at the bottom, required much skill to negotiate.

Bore Hill was the next objective, whereat a very successful hill-climb was recently held by this club. Little difficulty, however, was experienced and, reminiscent of the hill-climb, many competitors made fast ascents. Allan O. Gruzelier (8 Zenith sc.) came up at speed, whilst W. G. Barker and three passengers on a Henderson sc. came up well, as also did J. A. Masters (7-9 Harley-Davidson sc.).

On the outskirts of Gomshall, R. E. Staunton (Triumph) was observed in trouble with his tyres. One or two awkward bends were encountered between Peaslake and Pitch Hill, which, rendered difficult by the greasy road surface, caused some little anxiety to solo riders.

A circular route from Ewhurst brought the riders to the last stiff hill, which, if successfully ascended, permitted them to retire to the Bull's Head Hotel, Ewhurst, and, after checking in, to enjoy well-deserved refreshment. The climb, although steep, maintained a comparatively straight course, and had a good surface.

The machines were well handled throughout the trial, and the thirty award winners merited success.

The arrowing was good, and, combined with the explanatory route cards, there was no possibility of losing the course.

Awards.

	Total error.
1. R. A. Green (3½ Norton), winner of the BUTLER CHALLENGE CUP (to be held for one year) and the CLUB GOLD MEDAL ..	1m. 44s.
2. W. B. Reeve (8 Zenith sc.), SILVER MEDAL	1m. 55s.
3. Allan O. Gruzelier (8 Zenith sc.), SILVER MEDAL	2m. 15s.

SILVER MEDALS (non-stop run and within 5m. of schedule time).—H. S. Powell (3 A.B.C.), H. F. Edwards (6 Zenith sc.), W. J. Kelly (8 Zenith), J. A. Masters (7-9 Harley-Davidson), D. H. Davidson (4 Harley-Davidson), W. R. Preston (3½ Sunbeam), H. Jepson (8 Zenith sc.), J. O. Smith (4 Norton), F. E. Salter (2¾ Zenith), H. P. Lucas (8 Zenith), P. W. White (3½ Sunbeam sc.), L. T. Gibson (6 Zenith), H. W. Barr (4¼ B.S.A. sc.), F. R. Spikins (7-9 Harley-Davidson), S. J. Dyer (7-9 Indian sc.), and M. B. Machin (8 Zenith).

BRONZE MEDALS (competitors losing less than 16 marks).—H. O. Marriott (2¾ Edmund), F. J. P. Disney (Sunbeam sc.), D. Crawford (8 Zenith), G. E. Payne (8 Zenith), C. Pressland (10 Crouch cycle car), W. G. Barker (8-10 Henderson sc.), Harry Gray, jun. (8 Zenith), Chas. W. Pugh (6-7 Abingdon sc.), J. T. Shillito (3½ Sunbeam), J. G. Bluhen (4¼ B.S.A. sc.), and Capt. R. H. Bywaters (6 A.J.S. sc.).

A SINGLE-GEARED TWO-STROKE TRIAL.

A SPORTING trial was run off on the 26th, over Midland lanes and test hills. Only single-geared Levis machines were eligible, but in spite of this, over thirty entrants were sent away by Mr. Abe Ross. The course of 82¼ miles included Koppen's Corner, Rose Hill, Beacon Hill, and Swans Hill.

No names were printed on the morning's route card, and competitors had to find their way by directions only. After lunch at the Nag's Head, a normal route card was provided. G. S. Davison, G. W. Reynolds, and G. Kuhn made star ascents of the Beacon, which is a severe climb for a single-geared lightweight, but Swans Hill proved the Waterloo of even these redoubtable riders. The surface of the hill was wet in spite of a fine spell of weather, and it is doubtful if any of the competitors had ever seen the hill before.

The remainder of the journey was comparatively easy, except that the Baldwins Lane watersplash, taken for the second time, seemed to present more difficulty than one would imagine. One suspects that some of the belt pulleys used were smaller than standard!

Some thirty riders clocked in at the finish, mostly showing "traces of wear," and nearly all late. Those who got round and averaged "20" deserve every credit; their number includes Davison, who put up a good show all day. Special mention should be made of two boys of 14 who finished, one J. G. Balshaw, who rode down from Liverpool to compete, and the other, N. D. Pickering, who rode splendidly throughout.

Racing in a Disused Army Camp.

East Midland Club's Joint Speed Trials at Clipston Park.

In the vicinity of the disused garrison theatre at Clipston Park, where competitors were busily giving the finishing touches to their engines.

MIDST a scene of desolation that must have brought home unhallowed memories of past training days to many of those present, the Mansfield and District and the East Midland Centre A.C.U. held their joint speed event. In this setting, violent in contrast to that of the recent Chatsworth meeting, the club's team trial was also decided—a trial which was to have been run at Chatsworth, but which had to be postponed. At both meetings magnificent weather prevailed, at both meetings were there ties for fastest times, but it was A.J.S. v. Norton instead of A.J.S. v. Sunbeam, as at Chatsworth.

The centre of interest was immediately focussed on H. R. Davies (A.J.S.) and G. Walker (Norton) when they clipped seconds off the previous best time for the half-mile. These two tied for the fastest time of the day, both covering the course, which was a tarred macadam road, in 23s.—nearly 80 m.p.h.

Fastest Time of the Day.

Naturally, the event of the afternoon—the re-running of this tie—was awaited with keenest interest, the partisans of each make of machine seeming to be about equal. Probably the smaller mount, however, was favoured by the ladies, who were intensely interested, and when Davies flashed over the tape once more, it was felt that he had equalled, if not bettered, his previous time of 23s. The message over the 'phone subsequently proved his time as 22s. This was too good for Walker, who failed to better his previous performance; nevertheless, his riding was exceptionally good.

There were other exhibitions of really fine riding too, several competitors almost reaching a speed of 80 m.p.h. Reg. Lucas (A.B.C.)—a favourite in the locality—rode well, and gave Petty a good run in Class 2, in which competitors rode in pairs. In this duel was seen the most sensational racing of the afternoon, for not until close on the finishing line did Petty manage to overhaul Lucas.

L. W. Forinton (Indian), E. Searle (Norton), G. S. Debenham (Brough), and H. G. Sissons (Norton) made good times and handled their machines surely and confidently, which was more than some of the competitors did.

The following were the team results:

LOUGHBOROUGH AND DISTRICT M.C.C.

1. H. R. Davies (A.J.S.) ... ... 23s.
2. Harold Petty (Norton) ... ... 24s.
3. Graham Walker (Norton) ... 23s.

LINCOLNSHIRE AUTOMOBILE CLUB.

1. L. W. Forinton (Indian ... 24½s.
2. C. T. Koehler (Norton) ... 25s.
3. L. F. Harrington (A.B.C.) ... 25s.

SHEFFIELD AND HALLAMSHIRE M.C.C.

1. E. Searle (Norton) ... ... 24⅘s.
2. G. S. Russell (Norton) ... ... 25⅕s.
3. E. Sissons (Norton) ... ... 25⅕s.

Fastest Time of the Day.—H. R. Davies (2¾ A.J.S.), 22s., winning the Lucas Challenge Cup, Lucas gold medal, gold medal fastest time for trade entrant, £5 prize best time in Loughborough team, also £3 3s. prize for winner of Handicap (Class 2).

£5 Prize for Best Performance for Nottingham Rider.—J. N. Roberts (3 A.B.C.); second prize, M. J. Wright (2¾ Douglas).

Triumph Gold Medal for Fastest Time (Private Owner).—Tie: Leslie Mitchell (3½ Norton) and Ernest Searle). Time, 24s.

Mansfield Club.—Gold medal, Reg. Lucas (3 A.B.C.); silver medal, G. Mills (7-9 D.M.C.).

Loughborough Club.—Silver cup, H. M. Barron (3½ Norton).

Class 1 (Flying Start).—Open to any type of machine, any c.c., was won by H. R. Davies (A.J.S.), Graham Walker (Norton) second, Leslie Mitchell (Norton) and E. Searle (Norton) tieing for third place. Class 2 was run off in pairs, the handicapping being arranged from times made in previous classes.

A scene at the start of the trial. This was the Mansfield club's first speed event, and was, on the whole, well organised.

CLUB NEWS.

Week-end Club Events.

Oct. 2.—Loughborough and District M.C.C. Speed Trials.
Oct. 2.—Edinburgh and District M.C. Hill-climb.
Oct. 2.—Dublin and District M.C.C. Club Run.
Oct. 2.—North London M.C.C. Novelty Event.
Oct. 2.—B.M.C.R.C. and Essex Motor Club. Brooklands Meeting.
Oct. 2.—Birmingham M.C.C. Twenty-four Hours' Run.
Oct. 2-3.—Exeter M.C. and J.C.C.. Reliability Trial.
Oct. 3.—Stalybridge and District M.C. Social and Picnic.
Oct. 3.—Reading and District M.C. and L.C.C. Run to South Stoke
Oct. 3.—N.M.C.F.U. (Portsmouth). Run to Woolmer Forrest.
Oct. 3.—North Cheshire M.C.C. Reliability Trial.
Oct. 3.—Woolwich, Plumstead and District M.C.C. Hill-climb.
Oct. 7.—Bedford and District M.C. and L.C.C. Club Run.
Oct. 7.—Southampton and District M.C. Reliability Trial.
Oct. 7.—Norwich and District M.C. Whist Drive.

North London M.C.C.

W. D. Smith (4 Indian Scout) was adjudged the winner in the recent vice-captain's surprise event. J. D. Timmins, mounted on a 1 h.p. scooter of his own design, evoked much interest. The novelty competition for the three prizes offered by the Dollis Auto Co., of Church End, Finchley, will take place on October 2nd.

Southampton and District M.C.

The Southampton and District M.C. held a very successful hill-climb at West Dean Hill, Hants, on September 18th. There were twenty-five entries, and the special prize for fastest time of the day went to Mr. R. A. Beazley (7-9 Indian).

The results on formula are as follows:

CLASS 1 (Solo Machines).—1, L. A. Apsey (3 A.B.C.); 2, F. H. Burnett (3 A.B.C.); 3, A. S. Burnett (2¼ Velocette).

CLASS 2 (Sidecar Machines).—1, H. Dale (8 Royal Ruby sc.); 2, L. A. Apsey (8 Royal Ruby sc.); 3, L. J. Dawe (4 Triumph sc.).

Bristol Sports Club.

The motor section of this club held their one day reliability trial on September 19th for the Club Challenge Vase and gold medals. The route chosen was over a fairly stiff course to Broadway in Worcester. Less than half the competitors arrived within the time limit allowed. The following obtained gold medals: 1, (Club Challenge Vase and gold medal), G. Powlesland (3¾ Scott sc.); 2, (tied) Percy Gibbs (4 Harley-Davidson Sports) and A. W. Dyer (4 Douglas sc.); 3, A. W. Spencer (3½ Alecto); novice prize, W. Oram (5-6 Clyno sc.).

Dewsbury and District M.C.C.

The above club held its eighty miles reliability trial for the "Chadwick Rose Bowl" on September 18th. There were seventeen entries, eleven of whom faced the starter. Holme Moss and Chapeltown were observed hills, and although the surface was wet every competitor but one made clean climbs. The following are the provisional results: 1, R. Halliday (3½ P. and M.), lost one mark (winner of the Chadwick Rose Bowl); 2, A. E. Oates (4 Triumph), lost two marks (Scargill gold medal); 3, C. Raynor (4 Triumph), lost three marks (Ramsden silver medal); 4, T. F. Groocock (4 Triumph), lost three and a half marks (Gutteridge special prize).

Luton and South Beds A.C.

A hill-climb will be held on the 9th October, classes for all types of motor cycles being included. A special prize for the fastest time of the day will be given, other awards (depending upon the number of entries received) being given on the results of the formula $\frac{C \times T^2}{W}$

Competitors will be weighed in at Wendover Station not later than 1 p.m., and all entries must be received not later than first post on Wednesday, 5th October. Anyone joining the club now will be entitled to all 1921 privileges. Particulars of the hill-climb, together with entry form of the club, may be obtained from the trials hon. secretary, J. Simpson, 440, Hitchin Road, Luton, or the hon. secretary, G. S. Davison, 16, Bute Street, Luton.

Stourbridge M.C.C.

A sporting half-day reliability trial will be held on Saturday, October 2nd, starting from the headquarters at 2.30 p.m., over a circular course of twenty miles, to be covered twice, non-stop. Particulars and entry forms are now available from the hon. secretary, 111, High Street, Stourbridge.

Widnes M.C.

The above club held its first annual reliability trial on September 19th over a twenty miles course, covering it three times, for the Blake Cup presented by Messrs. J. Blake and Co., Liverpool.

Results: 1 (winner of Blake Cup), H. Fletcher (4 Triumph); 2, W. Cook (4 Triumph); 3, A. J. Bailey (4 Norton sc.); and 4, E. Schofield (8 Enfield sc.).

Birmingham M.C.C.

Gold medals were awarded to the following in the recent hill-climb on Stile Cop: G. S. Boston (nine gold medals); R. E. Pugh (four), G. W. Walker (four), G. Dance (two), J. E. Chamberlain (one), G. J. Baragwanath (one), L. D. Cuxson (one), and G. E. Stobart (one).

The Birmingham Motor Cycle Club are to be congratulated on the success which attended their initial effort at a gymkhana. Had the weather been fine there is no doubt that the attendance would have broken all records as far as motor cycle gymkhanas are concerned; even as it was there was a very gratifying attendance, and an excellent entry of over one hundred for the various events. The spectators thoroughly enjoyed the afternoon's sport. The competitors themselves seemed to get most enjoyment from the musical chairs, although the cigarette lighting race was very amusing, and none of the events could be termed dull. There were some valuable awards, presented by members and friends of the club, and the entire proceeds of the event went to the *Birmingham Daily Mail* Christmas Tree Fund.

IMPORTANT DATES.

Sat., Oct. 9th—
M.C. and A.C. Open Reliability Trial.

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Barnsley and District M.C.C.

Nearly 1,000 spectators witnessed the recent fast and slow hill climb at Stainborough Low. The results were as follows:

UNLIMITED SIDECARS.—1, T. Barnes (6 New Imperial sc.), 54s.; 2, M. Curtis (7-9 Indian sc.), 69⅘s.

350 c.c. SOLO.—1, A. Campy (2¾ Wooler), 64⅘s.; 2, P. Hall (2¾ Douglas).

600 c.c. SOLO.—1, M. Carter (3½ Norton), 40⅘s.; 2, C. E. Reynolds (3 A.B.C.).

1,000 c.c. SOLO.—1, T. Barnes (6 New Imperial), 38⅘s.; 2, M. Carter (7-9 Indian), 43⅘s.

SLOW CLIMB.—1, B. Richard (4 Triumph); 2, M. Carter (7-9 Indian).

Berwick and District M.C.

Berwick and District Motor Club held its speed trials on Belford Moor on September 19th. There was an entry of forty, and a large number of spectators attended. W. Murray won the gold medal for the best performance of the day. Results:

CLASS 1 (Unlimited Sidecars).—1, Capt. Cumming (7-9 Harley-Davidson), 29⅘s.; 2, T. Lilburn (6 James), 24s.; 3, A. Redpath (6 A.J.S.), 25⅘s.

CLASS 2 (500 c.c.).—1, W. Murray (3½ Sunbeam), 18⅘s.; 2, J. Ayre (3½ Rover), 21⅘s.; 3, T. Smart (3½ Rover), 21⅘s.

CLASS 3 (650 c.c.).—1, W. Murray (3½ Sunbeam), 17⅘s.; 2, J. Ayre (3½ Rover), 20⅘s.; 3, A. Buglass (4 Triumph), 22⅘s.

CLASS 4 (1,000 c.c.).—1, W. Murray (3½ Sunbeam), 17⅘s.; 2, Capt. Cumming (7-9 Harley-Davidson), 18s.; 3, J. Ayre (3½ Rover), 20s.

CLASS 5 (350 c.c.).—1, A. Ritch (2¾ Douglas), 27⅘s.; 2, Miss Bates (Auto-Glider), 37s.

Westmorland M.C.C.

Practically all the leading clubs of the North now include the famous Kirkstone Pass in their season's programme, and it was hardly to be expected that the local club would forsake it, for the Westmorland Club has won a reputation in the district for leaving no climb alone which is at all negotiable. There was an exceptionally large attendance of the general public on the Pass on Saturday when the club held its flexibility trials. The surface was in very good condition, and all the competitors accomplished the fast climb well, but the slow ascent caused three solo riders to fail. The awards were as follows: 1, R. Harrison (Indian); 2, B. Braithwaite (Braithwaite); 3, H. Wills (Norton). The sidecar class provided W. D. Stewart (Indian sc.) with a walk-over.

Newcastle and District M.C.

The Newcastle and District M.C.'s "knock-out hill climb" near Rothbury, on 19th September, proved so successful that it has been decided to repeat the event—weather permitting—on October 2nd. Competitors were despatched in pairs, abreast, having been first separated into capacity classes, and there were some very exciting contests. The roads were dry and crisp, and consequently safe, and the event was free from mishaps. Thirty-two started, and three out of the four winners were amateurs. The results were as follow: 350 c.c. solo, Dawson Hall (2¾ Verus); sidecar class, J. L. Travers and C. Armstrong (both on 7-9 Harley Davidson machines), divided the honours; unlimited solo class, C. Webb (4 Norton).

The Newcastle and District M.C. is arranging a fixture list for the winter, which includes a dinner on October 27th, a ball, two whist drives, several lectures, musical evenings, impromptu discussions, etc., and one or two fault-finding competitions. If any general desire exists, a mid-winter trial will be organised.

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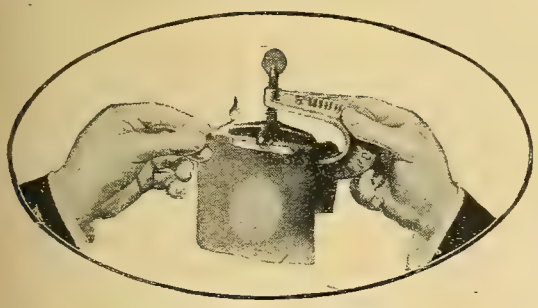

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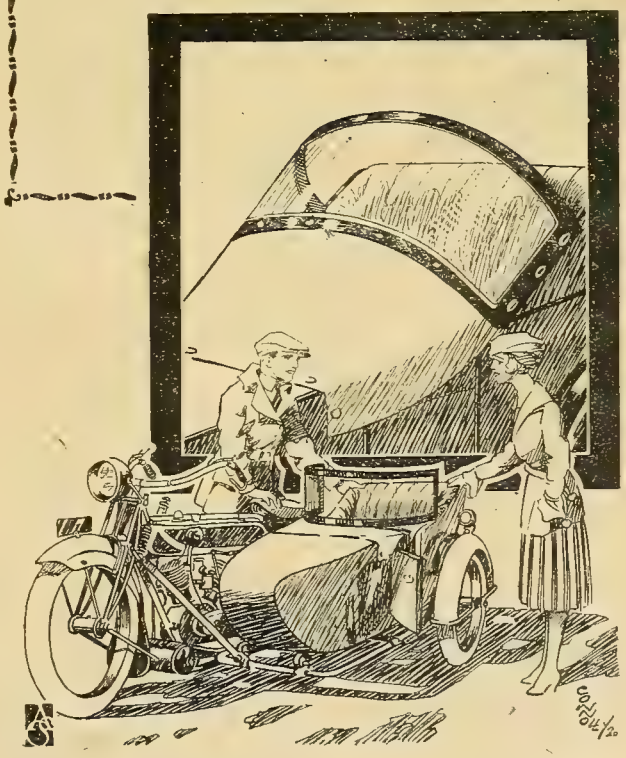

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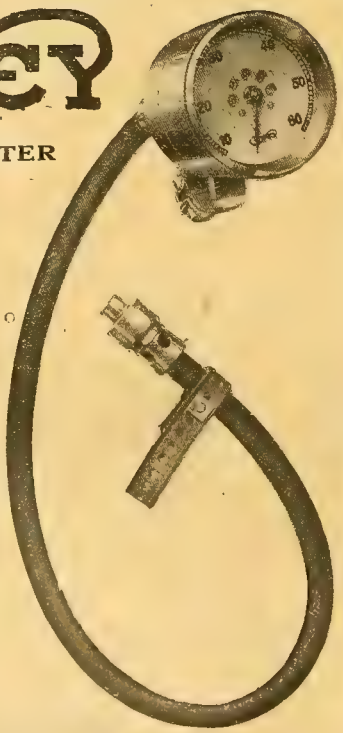

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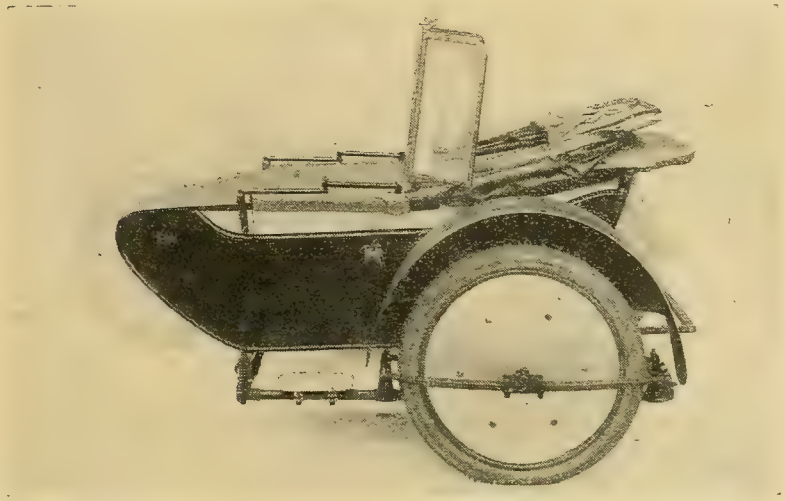

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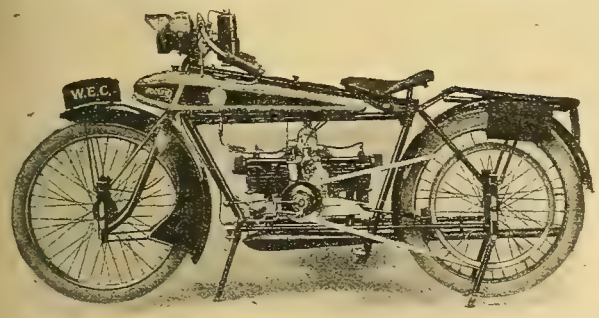

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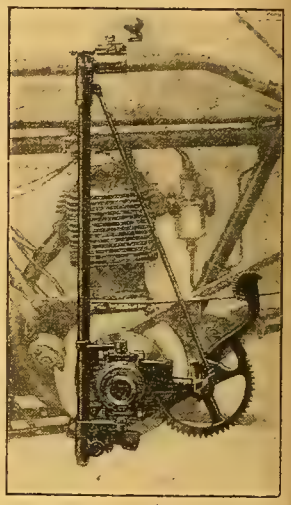

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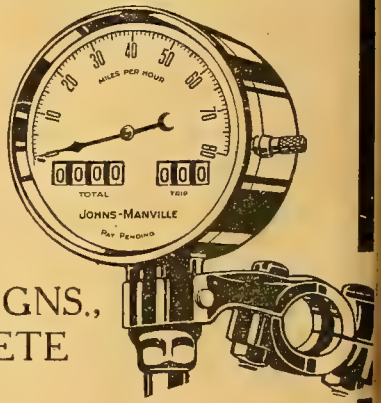

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MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, specially tuned, run 200 miles; £135.—7, Greville Place, Maida Vale. [1769

LATEST 1920 A.B.C. for immediate delivery; list price.—Farncourt's Garage, Stamford [3699

A.B.C., brand new; immediate delivery from stock; £150.—Midland Garage, Colwyn Bay. [X1711

1920 A.B.C., better than new, run about 200 miles; 115 gns.—'Phone: 1024.—Julian, Broad St., eading. [2297

1920 A.B.C., better than new, run about 200 miles; 118 gns.—'Phone: 1024.—Julian, Broad St., eading. [1643

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MATCHLESS Combination, Dynamo, run 2,000 miles	£215	0	0
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HARLEY-DAVIDSON with Watsonian Sidecar....	£234	11	6
ENFIELD Combination....	£177	0	0
ZENITH Combination	£196	4	0
G.N. Light Car	£275	12	6
TRIUMPH Combination ..	£182	10	0
B.S.A. 6-7 h.p. Twin	£150	0	0
American **EXCELSIOR** Combination, run 500 miles ..	£180	0	0
A.B.C. Standard.....	£150	0	0
BLACKBURNE, 4 h.p.	£138	10	0
RUDGE-MULTI T.T.	£110	5	0
SCOTT, 3¾ h.p.	£144	10	0
ROYAL RUBY, 3 h.p.	£120	0	0
LEA-FRANCIS, 3¾ h.p.....	£135	0	0
CALTHORPE, 2¾ h.p.	£74	19	0
ENFIELD, 2¼ h.p.....	£73	10	0
EXCELSIOR, 2¾ h.p.....	£67	0	0

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'Phones: Accessories and Repairs, Museum 1240; Motor Cycles and Cars, Kensington 7260.
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MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, small mileage, accessories; bargain, for quick sale, £120.—49, St. Agnes Rd., Moseley, Birmingham [X3460

1920 A.B.C. and sidecar, first-rate condition, Lucas dynamo lighting and horn, spares; what offers?—Flecker, Dean Close, Cheltenham. [2234

A.B.C. Motor Cycle, brand new, just delivered; at special price of £135; for immediate sale.—Cartwright, 67, Gillott Rd., Birmingham. [1946

1920 A.B.C., as new, P. and H. best lamps, Klaxon, spare plugs and valve, fully insured, perfect; £120 cash.—Parker, 27, Yorkshire St., Rochdale, Lancs. [X3114

A.B.C., 1920, run 350 miles, Cowey horn and usual kit, in exceptional tune, finest machine I have owned; lowest £140.—D. Lavin, Old House, Sonning, Berks. [9259

DELIVERY of the A.B.C. Motor Cycle from stock. Distributers for the county of Lincoln.—The Spalding Motor Co., Ltd., Pinchbeck St., Spalding 'Phone: 144. T.A.: Service. [0015

A.B.C., 1920, and special Swann sporting sidecar, speedometer, Lucas lamps, mileage 1,200, smart all-black combination; £200, or offer.—Edwards, Montebello, New Brighton, Cheshire. [X3115

1920 A.B.C. and Watsonian sidecar with special attachment, trip speedometer, Easting screen, electric accumulator lighting, done 700 miles; £185.—Forrester, Narborough, Leicester. [1602

A.B.C., £150 cash, or £80 down and 11 payments; also another, slightly soiled, £135, a bargain.—Lamb's, 151, High St., Walthamstow, 387, Euston Rd., London, N.W., and 50, High Rd., Wood Green, N. [1809

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only run about 300 miles, condition as new; cash £150, list price £173/10; may be obtained on easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [1987

A.B.C. 1920 (July) 3h.p., Lucas dynamo lighting and eletcric horn, speedometer, Brooks collapsable carrier bag, spare tube and valves, only done 350 miles, unscratched; £160, or nearest.—V. B. Shelley, Manor House, Tittensor, Stoke-on-Trent. 'Phone: No. 16 Barlaston. [9499

1920 A.B.C. T.T. 3h.p., specially tuned, very speedy, wonderful climber, horn, lamps, tyres unpunctured, mileage 300; trial; guaranteed perfect; reasons disposal given; now Barmouth, Midlands after September; £130; would consider exchange cycle car.—Elvien, 53, Willows Rd. (C.H.), Birmingham. [X3491

Abingdon.

ABINGDON King Dick, 1920, 3½h.p., clutch, kick-starter, lamps, horn, new condition; £110.—Holmes, Mill Hill Rd., Cowes. [1359

ABINGDON King Dick, 3½h.p., 1914, sports model, real good order; £48.—Lewis Deeley, 75, Hockcliffe St., Leighton Buzzard, Beds. [1893

1914 4h.p. Abingdon, semi-T.T., good, strong, sound machine; at the low price of 38 gns.; inspection invited.—Black Horse, Reigate Heath, Surrey. [1783

A.C.E.

ACE, new American 4-cyl., on view, early delivery.—Clark, 7, Exhibition Rd., South Kensington. [9936

ACE.—Colmore Depots have it:- 4-cyl., 3-speed, kick start, a revelation in fuel economy, speed, and flexibility, write for catalogue; immediate deliveries.—31, Colmore Row, Birmingham. [X3346

Acme.

1920 Acme-Jap 8h.p. Combination, detachable wheels, mileage 1,200, as new; cost £220, accept £170.—King, 68, Tenison Rd., Cambridge. [2443

A.J.S.

A.J.S. New Combination in Stock.—Longman Bros.

A.J.S. 1914 3-speed Coachbuilt Combination, 6h.p.; 79 gns., or offer; exchanges considered.—Longman Bros., Bond St., Ealing. Tel.: 689. [2351

A.J.S., immediate delivery; £210.—Caeco, 21, Hobson St., Cambridge. [2496

CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premium. [9993

A.J.S. Combinations for Immediate Delivery.—Russell, Lawrence St., York. Tel.: 744. [9182

1920 A.J.S. Combination, dynamo lighting, in stock; list price.—114, Brixton Hill [2146

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

1920 New 6h.p. A.J.S. Combination, complete; list price.—Heaton, 31, Market St., Atherton. [2166

MOTOR CYCLES FOR SALE.

A.J.S.

BRAND New 6h.p. A.J.S., Combination; nearest list price.—Box 8,251, c/o *The Motor Cycle.* [2380

A.J.S. 1920 Combination, just delivered; owner bought car.—G. Boulton, Tower View, Halifax. [1597

A.J.S. Combination, new 1920 model, immediate delivery; £210.—Marston, 31 and 33, Bridge St., Chester. [2366a

A.J.S. Combination, 5-6h.p. 1913, all lamps, tools, Amac, chain; £80.—Stationmaster, Egloskerry, Cornwall. [2260

A.J.S. 1918 Combination, all chain drive, 3-speed countershaft gear; £165.—Wauchope's, 9, Shoe Lane, London. [2452

IMMEDIATE Delivery of new 5-6h.p. A.J.S. Combinations, at list price.—King and Harper, 6, Bridge St., Cambridge. [1822

1919 A.J.S. Combination, fully equipped, perfect mechanical order; write for full particulars.—2, Warwick St., Oxford. [1710

1914 A.J.S. 2¾h.p., 3-speed clutch, kick start, excellent condition; what offers?—Apply, Walcot, Chalfont St. Peters, Bucks. [1414

1916 A.J.S. Combination, black and gold, Lucas dynamo lighting, new spare wheel, new gears, reupholstered; £160.—Milner, Hawes, Yorks. [2152

A.J.S., 1920 model; £210; in stock.—Lamb's, 151, High St., Walthamstow, 387, Euston Rd., London, N.W., and 50, High Rd., Wood Green, N. [1812

1920 A.J.S. Combination, mileage 700, complete set Lucas lamps, horn, etc., delivered July; £195.—O. Whitehouse, Poplars, Bridgtown, Cannock. [X3474

1920 A.J.S Combination, hood, Lucas lamps, horn, small mileage, perfect condition; £210.—Lloyd, 65, Shrubbery St., Kidderminster. X[3448

A.J.S. 1920 Combination, hood, screen, spare wheel; 175 gns.; part exchange piano, or solo Triumph.—Spurling, 8, Courthope Rd., Hampstead, N.W.3. [1747

1919 (Nov.) A.J.S. Combination, Lucas dynamo lighting, spare wheel, perfect condition; £220.—Gibson, 92, Wake Green Rd., Moseley, Birmingham. [X3540

A.J.S. Combination, luxurious sidecar, Easting wind screen, spare wheel, mileage 1,600, as new; best offer procures.—50, Church Lane, Normanton. [2170

1920 A.J.S. Combination, all lamps, horn, spare wheel not used, all tyres as new; cost £218, accept £198.—King, 68, Tenison Rd., Cambridge. [2442

A.J.S. Combination (1919, November), electric lighting, spare wheel, Klaxon, Tan-Sad, etc., low mileage; £210.—Golby, 9, Fairhazel Gardens, South Hampstead. [1380

A.J.S. Specialists: Walsall Garage, Wolverhampton St., Walsall, Tel. 444, can give delivery from stock of these world-famous outfits; price £210; write for catalogue. [8998

A.J.S.—We are now in the position to give immediate delivery of the famous A.J.S. machines. Write or 'phone us to-day.—Wootten's Garage, High St., Oxford. 'Phone: 308. [7767

1920 A.J.S. Combination, brand new, just delivered, not used, complete with spring seat, screen, etc.; accept £205; free delivery.—Wallis, 23, Hartington Grove, Cambridge. [1575

A.J.S. 6h.p. 1914 Countershaft Coachbuilt Combination, hood, screen, kick starter, 3-speed, fine lot, £120; several others.—Douglas S. Cox, 6, Lansdowne Hill, West Norwood. [2436

A.J.S. 1920 Brand New Combination in Stock; for immediate delivery at list price, £210.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0306

FOR Sale, A.J.S., 1915, 3-speed model, all chain drive, new B. and B., fully equipped, leggings, ride away; nearest £65. — Bristow, Raly Lodge, Boulter's Lock, Maidenhead. [2180

A.J.S. 2¾h.p., 2-speed, clutch, kick start and full accessories, fitted with specially designed lightweight sidecar, splendid condition; £85.—Stevens, 5, Garway Rd., Bayswater, W.2. [1963

A.J.S. 6h.p. Outfit, 1920 model, complete with spare wheel, Lucas dynamo lighting set, hood, screen, tools, etc.; price £250, or nearest offer; owner getting a car.—Brannam, Hayne, Barnstaple. [1474

1918 6h.p. A.J.S. Combination, overhauled by makers (costing £70), unused since, electric lighting, horn, speedometer, spare wheel; £220.—Boydell, Victoria Rd., Widnes, Lancs. [1773

A.J.S. 4-5h.p. Twin, 1917, 3-speed, clutch, K.S., detachable wheels, fully equipped; 90 gns.; exchange late model lightweight or combination.—12, Cornwall Mews, Gloucester Rd., S.W.7. [2409

1920 A.J.S. Combination, mileage 350, spring seat pillar, hood, best Lucas lighting set and spare wheel unused, Lucas horn, full insurance, good reason for sale; £200.—Stokes, Bank, Bramnster, Dorset. [1950

F.O.C.H. have an A.J.S. combination, detachable wheels, spare, lamps, horn, grid, screen; £115.—5, Heath St., Hampstead near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1715

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [9624

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2¾ h.p.	NEW IMPERIAL-J.A.P., 2-sp.	£80 17
2¾ h.p.	NEW IMPERIAL with k/starter	£89 5
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2¾ h.p.	EDMUND, 2-stroke	£86 10
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2¼ h.p.	ENFIELD	£73 10
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2¼ h.p.	CONNAUGHT, 2-speed	£70 0
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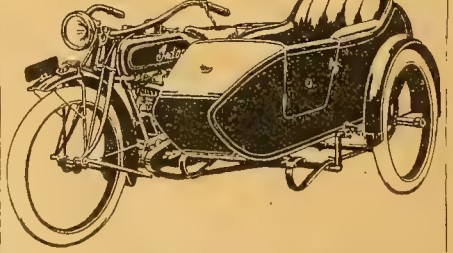

Your old machine taken in part exchange.

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MOTOR CYCLES FOR SALE.

A.J.S.

1920 A.J.S., hood, screen, curtains, Cowey speedometer, Lucas best lamps, horn and mirror, new spare chains, etc., machine has been carefully driven; £210. — Deakin, 185, High St., West Bromwich. [X3433

A.J.S. 1920 6h.p. Combination, complete with dynamo lighting, speedometer, hood, screen, hood cover, side curtains, Klaxon horn, Tan-Sad pillion seat, mechanically perfect, and quite indistinguishable from new; £250.—Parker's, Bradshawgate, Bolton. [X3391

A.J.S.—Immediate delivery of this high-grade 6h.p. combination from stock. Standard model, with detachable wheels and spare, £210; Lucas dynamo lighting set, £28 extra; local trade supplied.—P. J. Evans, sole Birmingham agent, 83-91, John Bright St., Birmingham. [0299

A.J.S. Combination, 1916, black and gold, hood, screen, hand clutch, speedometer, Lucas bulb and mechanical horns, brand new F.R.S. electric set, 7in. head lamp, 4 interchangeable wheels, all in very fine condition and ready for any tour, guaranteed perfect; £155.—W.H., Post Office Desborough. [2256

2¾h.p. A.J.S. Special Competition Machine, side valve engine, has had considerable success in open speed trials and hill-climbs, Watford maximum hand speedometer, full range of sprockets, many spares, including cylinder, pistons, connecting rod, etc.; best offer over £150.—Boston Manor House, Wistaston Crewe. [1728

1920 A.J.S. 6h.p. Combination, complete with spare wheel, screen, hood, spring seat pillar, best Lucas lamps throughout, Lucas horn, handle-bar mirror, muffs Everest carburetter, hot-air intake, Watford trip speedometer, spare valves, plugs, variable jet, beautiful combination, as new; seen any time; £240.—Davies, Park House, Newport, Salop. [1682

A.J.S. Combination, late 1919, low mileage, tyres unpunctured, spare unused, Watford speedometer, large F.R.S. head lamp, side lamp, and electric rear, Triplex screen, electric horn, also mechanical, 2 batteries, Stelling shields, mirror, watch, aluminium plates, several spares; first £185 accepted; seen after 7, or week-end.—12, Grange Rd., Gunnersbury, W.4. [2060

Alldays.

1919 Allon, 2 speeds, free engine, lamps; £60, bargain.—Edward Senior, 234, London Rd., Northwich. [2202

ALLDAYS Allon, 1917, 2-speed, good condition, accessories; £55.—61, Sandringham Rd., Golders Green, N.W. [1859

ALLDAYS Allon 1920, brand new, 2¾h.p., 2-speed, clutch, kick start; £80, quick sale. — Taylor, Cumberland Garage, Penreth. [1736

1919 2¾h.p. Allon, 2-speed, clutch, complete lamps and horn, small mileage, original tyres; £65.—Jackson Bros., Horsham, Sussex. [1534

ALLDAYS Matchless Big Single Combination, 3-speeds, clutch, kick-starter, lamps, speedometer; £50.—103a, High St., Wandsworth. [2186

ALLDAYS Allon, 1920 brand new 2¾h.p., 2-speed, clutch; £85/10; immediate delivery.—Eagles and Co., 275, High St., Acton, London. [X3487

1920 Allon, 2 speeds, clutch, K.S., lamps, horn, legshields, tuned for speed, copper exhaust; £70.—Mr. A.B., 20, Malmesbury Rd., Bow, E.3. [2398

ALLON, believed 1918, or late 1917, 2-speed countershaft, speedometer, lamps, Klaxon, new tyres, tubes, belt, spares, kit, only used Sundays; any test; nearest £60; after 6.—89, East Hill, Wandsworth. [1938

Alder.

1914 3½h.p. Alder-Precision, new pulley belt, tyres good, in good order; £50.—Lay, Eastbury House, Northwood. [1690

American X.

AMERICAN X, 7-9h.p., 1915, clutch model, good condition; £80, or near offer; or exchange good 3½h.p.—Sawer, 30, Richmond Gardens, Shepherd's Bush, W.12. [2311

Ariel.

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. 1916 Ariel and sidecar; £95. [2451

ARIEL 1916 3½h.p., countershaft, 3-speed; £70.—Roe, 5, Drayton Park, Highbury. [2058

ARIEL, 3½h.p., less mag.; £8/10; owner going abroad.—Fox, Walton, Peterborough. [2190

CYRIL WILLIAMS, for early delivery of Ariels.—Chapel Ash Depot, Wolverhampton. [2267

LONGMAN Bros., special Ariel agents; immediate delivery.—Bond St., Ealing. Tel.: 689. [2352

ARIEL 3½h.p., immediate delivery; list price.—Hurrell, Pioneer Works, Easington Colliery, Durham. [1391

3½h.p. Ariel Combination, 3-speed countershaft, chain drive; £65.—Yates, Southend, Croydon 'Phone: 2408. [1969

1920 6h.p. Ariel Combination; list price, £177/10.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [2480

MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. 1921 4¼h.p., with coachbuilt sidecar, acetylene lighting set, speedometer, Lucas horn, tyres almost new, all spares, tools, perfect condition, very little used, owner being ordered abroad; £120.—Golodetz, 50, Hogarth, S.W.5. [1393

B.S.A. Specialists.—Earliest deliveries of all new models. All B.S.A. replacements. Sidecars, grids, hoods, and screens in stock.—County Cycle and Motor Co., 397-8, Broad St., Birmingham. T.A.: Comocyco, Birmingham. [4080

1916 B.S.A. All-chain 3-speed Countershaft Combination, only done few hundred miles, Eastern screen, Brooks B175 saddle, extra heavy Dunlops, accessories, etc.; everything as new; £114; bargain. Mason, 1, Bainsboro' Rd., Crewe. [2332

LATE 1919 B.S.A. 4¼h.p., 3-speed, thoroughly overhauled and guaranteed, lamps, horn, tools, and spares; solo £100, with good coachbuilt sidecar £118; a thorough sound machine.—Haddon and Saunders, Croydon Rd., Beckenham. [2493

B.S.A. 4¼h.p., 1914, 3-speed countershaft, thoroughly overhauled, new tyres and £50 of 1920 parts, lamps, speedometer, stored during war, appearance indistinguishable from new; any trial or expert examination welcomed; seen by appointment; 80 gns.—Flood, White Lodge, Staines. [1650

Calthorpe.

CALTHORPE-J.A.P., 2¾h.p., 2-speed Enfield gear, in nice running order; £40.—103a, High St., Wandsworth. [2188

CALTHORPE 4-5h.p. Twin, 1916, C.B. combination; 80 gns.—12, Cornwall Mews, Gloucester St., S.W.7. [2411

1920 Calthorpe-Jap 2¾h.p., Enfield 2-speed, clutch, brand new, unpacked; £73.—Box 8,242, c/o *The Motor Cycle.* [2310

CALTHORPE 2¼h.p., 4-stroke, 2-speed, light model, lamps, horn, ride away; £23, or offer; after 6.—Clark, 14, Culworth St., St. John's Wood. [1549

1920 Calthorpe-Jap with Enfield 2-speed gear, very little ridden, actually better than new; 64 gns.; very wonderful bargain.—'Phone: 1024.—Julian, Broad St., Reading. [1644

1920 Calthorpe-Jap, with Enfield 2-speed gear, very little ridden, actually better than new; 60 gns.; very wonderful bargain.—'Phone: 1024.—Julian, Broad St., Reading. [2298

1920 2¾h.p. Calthorpe, latest J.A.P. engine, not ridden 300 miles, large mechanical horn, Lucas lamps, fully insured; £65 net.—Tennants, 1, Cannon St., Birmingham. [2222

CALTHORPE Motor Cycles, wholesale and retail agents for the county of Devon, all models in stock for immediate delivery.—The Carlton Motor Co., Torwood St., Torquay. [0201

CALTHORPE Motor Cycles.—2¾h.p. J.A.P. model £78/5; two-stroke model, £75; both fitted with Enfield 2-speed gear; delivery from stock.—P. J. Evans, 91, John Bright St., Birmingham. [0174

CALTHORPE, 1915, 3h.p. twin J.A.P., Enfield gear, lamps, spares, rubber grips, Stewart, good overside tyres, rebushed, fast, gold medal machine, adjustable pulley; £63.—Harrison, 41, The Grove, Hammersmith. [1656

CALTHORPE-J.A.P., 1920, delivery from stock 2¾h.p., Enfield 2-speed gear, £78/5/6; chain drive, £2/10 extra; extended terms.—Elce and Co., 15, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0283

Campion.

1917 Campion-Jap 2¾h.p., 2-speed, good condition, guaranteed; £36.—65, Kellett Rd., Brixton, S.W. [2294

3h.p. Campion-Jap Combination, speeds, B. and B. variable jet, syphon, drip feed, 3 lamps, 2 generators, Bosch waterproof mag.; trial, must sell; £.—Wickson, 49, Ullswater St., Leicester. [X3463

CAMPION-J.A.P. 4h.p. Combination, 4-speed, Jardine clutch, kick, new C.B. body, tyres, belt, fitting, etc., excellent, tip-top condition; £105; Sat. afternoon, Sunday.—Eves, Police Station, Northwood. [1700

CAMPION Sporting Combination, black and gold, 8h.p. Jap, 3-speed countershaft, kick start, chain drive, lamps, 3 generators, pillion seat, luggage grid, fine mechanical order, and appearance as new; £130. Henderson, Salisbury House, Harrowby Rd., Grantham. [X3338

Carfield.

1919 2¾h.p. Carfield, Villier engine, 2-speed, lamps, little used; £40.—Shaw, Park St., Wellington. [X3452

1920 2¾h.p. Carfield-Union, 2-speed, climbs Old Wyche, new lamp set never used, low mileage; must sell.—Walker, Abbey Gateway, Malvern. [X3395

Cedos.

1920 Cedos Lightweight, in magnificent condition, mileage under 500, wonderful value; 57 gns.—'Phone: 1024.—Julian, Broad St., Reading. [2299

1920 Cedos Lightweight, in magnificent condition, mileage under 500, wonderful value; 60 gns.—'Phone: 1024.—Julian, Broad St., Reading. [1645

NEW SPARES

The undermentioned firms have been appointed selling agents for a quantity of new spares—Ex-Government Stock.

Special terms quoted to the trade.

Eastern Garage Co.,
418, Romford Road,
Forest Gate——————E.7.

Allen Bennett Motor CO.,
Royal Parade, West Croydon.

Harold Petty & Co.,
60, Halford Street, Leicester.
and Victoria Garage, Shakespeare St., Nottingham.

Godfrey's Limited,
208, Great Portland Street, W.1

These Spares include—

J.A.P.	£	s.	d.
8 h.p. Cylinders	3	13	0
6 h.p. or 8 h.p. Valves		5	0

CLYNO.	£	s.	d.
6 h.p. Twin-cylinder Engine	20	0	0
Frames	5	0	0
Cylinders	3	5	0
Front Forks, complete	4	8	0
Front Fork Springs		2	6
Rear Carriers		7	6
Valves		4	0
Clutch Sprockets		14	6

P. & M.	£	s.	d.
Pistons	1	0	0
Crank Case, sprocket side	1	10	0

CHAINS.
Renold and Brampton.

½ × 5/16in. heavy ⅝ × ⅜in. ..List Price
½ × 5/16in. light ⅝ × ¼in. .. less 10%

MISCELLANEOUS.

Toolkits, including Roll, Tyre Levers, and Set Spanners, Adjustable Spanner, Pliers, Screwdriver, etc.	£	s.	d.
		10	6
Lucas King of the Road Lamp Sets	3	10	0
Palmer Tubes, 28 × 3in.		5	0
Metal Tool Boxes for top tube		3	6
Metal Footboards (single)		4	6

MOTOR CYCLES FOR SALE.

Chater-Lea.

CHATER-LEA Combination, 8h.p., 3 speeds, nice condition; accept £85.—103a, High St., Wandsworth. [2190

CHATER-LEA 8h.p. Twin C.B. Combination, all chain, appearance and condition as new; £75.—The Baths, Wandsworth. [X3425

2¾h.p. Chater-Lea, 1920 engine, mag., and carburetter, condition and appearance as new; photo; £45.—Jordan, 12, Garden Rd., Kendal. [2287

Cleveland.

1920 3h.p. Cleveland, 2 speeds and kick starter, as new; cost £90, accept £75 for quick sale.—3, Parker Lane, Burnley. [X0704

1920 Cleveland 2-stroke, 2 speeds, etc., lamps and horn; £70.—North Wales Motor Exchange, Wrexham. 'Phone: 283. [X3530

WRITE for Catalogue of the 3h.p. Cleveland, with kick starter, clutch, and 2-speed gear; price £85.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0279

Clyde.

£75.—6h.p. Clyde-Jap, all accessories, recently overhauled by J.A.P.—P.F.M., 6, Ludgate Circus Buildings, E.C.4. 'Phone: City 7652. [1563

£17/10; 3h.p. Clyde, U.H. mag., B. and B., Saxon forks, low position, engine just overhauled and rebushed, old machine in running order, trial during week-end; also pulley gear, all controls, new, £3/10.—Avondale, Southwood Rd., New Eltham, S.E.9. [2091

Clyno.

1920 Clyno 2½h.p., 2-speed, clutch; £60.—Richards, 39, Caerau Rd., Caerau, Bridgend. [1937

CLYNO Combinations, 1921, for immediate delivery.—Russell, Lawrence St., York. Tel.: 744. [9184

1921 Clyno 8h.p. Combination, had 3 weeks, as new; £250.—Mawson, Draper, Morecambe. [X3482

CLYNO Lightweight 2-stroke; delivery from stock; £75.—Maudes' Motor Mart, 100, Paris St., Exeter. [2363

CLYNO Lightweights and Combinations. Write, Rothwell and Milbourne, Cowleigh Garage, Malvern. [1795

CLYNO 2¾h.p., new 1920 model, slightly shop-soiled; £65.—Marston, 31 and 33, Bridge St., Chester. [2377

CLYNO, 1917, 3-speed, kick starter, interchangeable wheels; £75.—2, Macclesfield Rd., South Norwood. [2178

CLYNO 1920 2½h.p., 2-speed, clutch, lamps, etc.; £55, nearest.—Chesshire's Garage, Hockley Heath, Birmingham. [2194

CLYNO Combination, 5-6h.p., all on, take 3 anywhere; write for interview. — Box 8,231, c/o *The Motor Cycle.* [1857

CLYNO 1920 2-stroke, 2-speed clutch, lamps, horn, as new, only ridden few miles; £65.—22, Cromwell Rd., Caterham. [1831

CLYNO.—Sole Bristol and District Agents. Light weight models in stock.—S. J. Fair, 201, and 203, Cheltenham Rd., Bristol. [X7406

5-6h.p. 1915-16-17 Clynos.—These are complete, but want renovating; price £45-50. — J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [2415

CLYNO Combination, beautiful condition; 120 gns.; exchange lower power, cash adjustment.—57, Kenbury St., Camberwell, London. [2064

STANDARD 1921 Clyno Model Combination; unique opportunity; delivery from stock; £250.—Maudes' Motor Mart, 100, Paris St., Exeter. [2362

1917 8h.p. Clyno Combination, 3 speeds, interchangeable wheels, in perfect condition, privately owned; £95.—Sands, Burnham, Bucks. [1433

1920 2½h.p. Clyno 2-strokes, new, fitted with clutch and 2-speed gear, trade supplied; £75.—'Phone: 5777 Holborn.—Wauchope's, 9, Shoe Lane London. [2470

1920 2½ h.p. Clyno, 2-speed gear, mileage about 100, absolutely better than new, most wonderful bargain; 58 gns.—'Phone: 1024.—Julian, Broad St., Reading. [2300

NEW Clyno Lightweight, 2½h.p., 2-speed and clutch, and to makers' specification; £75, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [1994

£88.—Clyno 1917 6h.p., 3-speed, kick start, all chain, re-enamelled and plated, and C.B. sidecar, excellent condition, only wants seeing.—697, Romford Rd., Manor Park. [8235

CLYNO Combination, 1916, 3-speed, detachable wheels, 1 spare, Easting, electric lighting, all spares, engineer owned; £120.—Write, Hambling, 38, Buckley Rd., Kilburn [2279

1919 Clyno Lightweight, 2½h.p., our demonstration model, perfect appearance and mechanical condition, with lamps and horn; £60.—Kays, 8, Bond St., Ealing Broadway, W.5. [1501

MOTOR CYCLES FOR SALE.

Clyno.

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3459

CLYNO Combination, 5-6h.p., 3-speed, kick start, clutch, chain drive, lamps, Klaxon, hood, screen, 4 interchangeable wheels, good condition; 120 gns.; near offer.—148, Lowden Rd., Herne Hill. [1872

1921 8h.p. Spring Frame Clyno Combination in stock for immediate delivery at list price; £250; this is a magnificent outfit and worth your inspection.—Kays, 8, Bond St., Ealing Broadway, W.5. [1500

CLYNO Big Six Combination, £250, in stock; also lightweight, £70; half down and 11 payments.—Lamb's, 151, High St., Walthamstow, 387, Euston Rd., London, N.W., and 50, High Rd., Wood Green, N. [1808

CLYNO Combination, 6h.p., 1914, 3-speed, fully equipped with hood, wind screen, lamps, tools, and spares, excellent running order; any trial; £95, or offer.—80, Clova Rd., Forest Gate, London, E.7. 'Phone: Stratford 773. [1528

CLYNO Combination, 3 speeds and clutch, overhauled and renovated as new, handsome new coachbuilt body, 2 lockers, new tyres throughout, usual accessories; £105; after 7 p.m.—G.M., 23, Arlington Rd., Mornington Crescent, N.W.1. [1511

CLYNO Combination, 1915, specially finished red and black, 3-speed, K.S., lamps, mechanical horn, speedometer, etc., 4 interchangeable disc wheels; any trial; take 4 anywhere; offers.—Dawson, 10, Bank Top, Lowerhouses, Huddersfield. [1481

CLYNO 8h.p. 1921 Combination.—Batchelor and Co., East Surrey agents, have a new 8h.p. combination; demonstration runs given; orders booked for very early delivery.—Batchelor's, Clarence St., Kingston-on-Thames. 'Phone: 1809. [2874

CLYNO Lightweights, 1920, 2¼h.p., 2-speed, £75, or fully equipped with head lamp and generator, tail lamp and tubing, horn, L.C.C. registration, petrol, and oil, £79/15.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [0281

CLYNO 5-6h.p. Late W.D. Models, 3-speed, kick start, foot clutch, re-enamelled and replated, new carburetters and magntos, rebuilt as new, practically unused; few available from £75.—Hearn, 117, Loughborough Park, Brixton, S.W. 'Phone: Brixton 2888 [1431

Connaught

2¾h.p. Connaught, 2-stroke, good tyres, lamps, perfect; £32.—151, Kingston Rd., Teddington. [2004

1920 Connaught 2-stroke, 2-speed, clutch, kick starter; £72, offer.—10, York Rd., Maidenhead. [1652

CONNAUGHT 2¾h.p., 1916, 2-stroke, beautiful condition; bargain, £38, or exchange.—18, Garibaldi Rd., Redhill, Surrey. [2230

1914 2¾h.p. Connaught, just been re-enamelled and plated; bargain, £37/10.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [1638

CONNAUGHT Motor Cycles.—2¼h.p 2-speed model, £70; single speed, £62; immediate delivery.—P. J. Evans, 83-91, John Bright St., Birmingham. [0252

CONNAUGHT 1919 2¾h.p., 2-speed, new tyres, 2 lamps, horn, tool kit, etc.; £55.—May be seen any time at Minotaur Cycle Works, High St., Windsor. [1405

Corah.

CORAH Combination, 4¼h.p. J.A.P. engine, 2-speed, clutch, pedal start, Bosch mag., Binks, lamps, Klaxon, mirror, Stewart speedometer, good tyres, new Dunlop on sidecar, new spare 2½ Dunlop tyre and tube, several accessories; £65.—6, Church St., Staines, Middlesex. [1639

Coulson.

COULSON 4h.p., Blackburne engine, shop-soiled; £105.—Motor Cycle Mart, Ltd., Chatham. [2504

COULSON B, 2¾h.p. Blackburne engine, 1920 model, good order.—James, Ashburton House, Blandford, Dorset. [1613

COULSON.—All models stocked, 2¾h.p., 2-speed, clutch; 105 gns.—Clark, 7, Exhibition Rd., South Kensington. [9928

1920 Coulson B, 4h.p., mileage about 700, spring frame, 2-speed; £92/10.—C. Burkell, Thornton-le-Clay, Flaxton, York. [1581

SPORTING 4h.p. Coulson-Blackburne, nearly new, unpunctured; £70.—Write, Hall, Bristol Cottage, Emerson Park, Hornchurch, Essex. [2090

COULSON-B, 2¾h.p. Blackburne engine, 2 speeds, spring frame, 1920 model; £80, or exchange higher power.—103a, High St., Wandsworth. [2187

COULSON B., 2¾h.p., 2 speeds, Blackburne engine, 1920 model, complete with lamps, tools, and spares, mileage 800, specially tuned engine; £75 for quick sale.—Entwknapp, Fleet, Hants. [1765

COULSON-BLACKBURNE 2¾h.p., 1920, brand new, latest model, Sturmey gear box, clutch, kick starter, spring frame; highest offer secures.—Box 8,234, c/o *The Motor Cycle*. [2273

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ACME.
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113-115, Lothian Road, EDINBURGH, AND 272-274, Gt. Western Road, GLASGOW.

MOTOR CYCLES FOR SALE.

Coulson.

LATE 1919 Coulson, 2¾h.p. Blackburne engine, 2 speeds, splendid machine for bad roads, fast flexible, reliable, excellent condition, recently overhauled; £80, or nearest, with accessories.—Wheeler, Hellesdon, Norwich. [138

NEW Coulson B.—2¾h.p., £99/15; 4h.p. models £110/5; each fitted with 2-speed gear, spring frame, Blackburne engine; 2¾h.p. model, with clutch and kick starter, £110/5; 4h.p., with 3-speed, clutch and kick starter, etc., 118 gns.; if fitted with smart boat-shaped sidecar, painted royal blue, £162/10, or on easy payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [198

Coventry Eagle.

COVENTRY EAGLE, 1920, 2¾h.p. J.A.P., 2-speed, clutch, K.S., Dunlop tyres, lamps, horn, tools, as new; £65.—2, Madrid Rd., Barnes. [193

COVENTRY EAGLE, single speed, Villiers, spare tube, and accessories, new condition; first reasonable offer accepted.—144a, Portway, Plaistow, E.15. [137

1920 Coventry Eagle 3½h.p., J.A.P. engine, 2-speed, clutch and kick start, lamps, horn, tyres practically new; £55.—104a, Finchley Rd., Hampstead, N.W.3. 'Phone: Hampstead 7822. [216

Dayton.

DAYTON 2-stroke Lightweight; £32; ride away.—Platts, 602, King's Rd., Fulham, S.W.6. [191

De Luxe.

2¼h.p. De Luxe 2-stroke, 1918 model; £25.—Wallchope's, 9, Shoe Lane, London. [245

Dene.

DENE-PRECISION 3½h.p., 1915, Sturmey-Archer 3-speed, complete, splendid condition, spares; £6.—Fenton, Uplands, Brocton, Staffs. [165

Diamond.

DIAMOND 2¾h.p., 2-stroke, new; £63.—Clark, Exhibition Rd., South Kensington. [993

CYRIL WILLIAMS, for early delivery of all models Diamonds.—Chapel Ash, Wolverhampton [226

DIAMOND-J.A.P. 2¾h.p., 1920, Enfield 2-speed lighting set, accessories; £60.—Arter, Barley, Royston, Herts. [197

1920 2¾h.p. Diamond, 2-stroke, only done 300 miles, Lucas lamp set, horn, tools, Tan-Sad, not scratched, guaranteed; cost £70, sacrifice 50 gns.—Mason, Ivy House, Thomas St., King's Lynn. [222

DIAMONDS, the best lightweights, 2¾h.p. J.A.P. engine, 2-speed, kick starter, clutch, £90/6; 2¾ h.p. Villiers engine, 2-speed, kick starter, £84/10, immediate delivery.—Stevens, 248, Gooch St., Birmingham. [X153

DIAMOND, single speed, 2-stroke, 1919, 2½h.p. complete with tools, without accessories, perfect condition and thorough going order, ready ride away, fully insured up to June, 1921; owner bought new machine same make; inspection and trial any Saturday afternoon or Sunday; price £50, lowest.—G. Stranson, Sackville St., Stephen's Rd., Hounslow, S.W. [146

Douglas.

DOUGLAS 2¾h.p. New 1920 Models; £100 and £10—Below.

DOUGLAS 4h.p. Solo, new 1920 model; £130 Below.

DOUGLAS 4h.p. Combination, new 1920 model; £17 immediate delivery.—Marston, 31 and 33, Brid St., Chester. [23

THE Great Douglas Agent, J. W. Gourlay, Followfie Manchester. [69

DOUGLAS 2¾h.p., 1916, good condition; ride awa £55.—Blades, Oxted, Surrey. [16

DOUGLAS 1920.—All models actually in stock Herbert Robinson, Ltd., below.

DOUGLAS 1920 4h.p., 3-speed, with latest t sidecar, finished in saxe blue; £170; in stock Herbert Robinson, Ltd. (below).

DOUGLAS 1920 4h.p., new, with 3-speed, kick st solo; £130; in stock.—Herbert Robinson, L (Below).

DOUGLAS 1920 2¾h.p., 3-speed, with hand-c trolled clutch and kick starter, improved fra forks, and tank; £105; in stock.—Herbert Robins Ltd. (below).

DOUGLAS 1920 2¾h.p., with improved fra forks, and tank, less clutch and kick start £100; all the above actually in stock; can be spatched immediately. Second-hand Douglas, Trium and Sunbeam motor cycles entertained in part ment.—Herbert Robinson, Ltd., Green St., Cambri Tel.: 995. T.A.: Bicycles. [1

1918 Douglas 4h.p. Combination, kick starter, e £115.—Plaistow, Grimsby. [X3

DOUGLAS, 2¾h.p., 1915; £50; as new; any tri 60, Caithness Rd., Mitcham. [1

DOUGLAS, 4h.p., 1918, discs, electric light; £8 Evans, 8, Manor Rd., Coventry. [X3

MOTOR CYCLES FOR SALE.

Enfield.

NFIELD 3h.p., lamps, horn, etc., excellent condition throughout; £50.—Barter, Sydling, Dorchester. [1660

NFIELD Cane Sidecar, 26×2½ wheel, £7/10; cane pillion seat, 15/-.—170, Cavendish Rd., Balham. [2139

NFIELD Lightweight, both new tyres, just overhauled, perfect; £25.—North, 32, Mackeson Rd., ampstead. [1559

NFIELD 1918 6h.p., new condition, Easting, lamps, horn; £135.—Clark, 7, Exhibition Rd., South ensington. [995

NFIELD 2½h.p., 2-speed, new 1920 model; £70; immediate delivery.—Marston, 31 and 33, Bridge ., Chester. [2375

919 Enfield Combination, 6h.p., splendid condition, lamps, horn, screen, insurance; £160.—59, Staines ., Sunbury. [2054

NFIELD 8h.p. Combination, 1918, as new, all on; £120, or offer.—Jones, 131, Beechcroft Rd., Upper oting, S.W. [1381

h.p. Twin Enfield, new 1920, 2-speed, clutch, and kick start, lamps, horn, perfect; £73.—4, Hanover ., London, W. [1738

NFIELD Twin 3h.p., good condition, horn and 2 lamps; nearest offer £35.—A. Spencer, 6, Fisher ., Birmingham. [1679

RAND New Enfield 8h.p. Combination, just delivered, dynamo lighting; £210.—215, High Rd., lburn, London. [2393

NFIELD 2¼h.p. Twin, disc wheels, 4-stroke, good condition; nearest £30.—Gent, Britannia St., Shepd, Leicestershire. [1651

920 Enfield 6h.p. Combination, lamps, Cowey horn and speedometer, wind screen; £175.—Bates, idland Rd., Bedford. [2244

NFIELD Combination, 6h.p., mileage about 2,000, like new, several accessories; £145.—J. T. Jacks, Stalham, Norfolk. [2094

NFIELD 1920 2½h.p., brand new, still wrapped; accept £65/10, list price £74.—Wallis, 23, Hartton Grove, Cambridge. [1573

OYAL Enfield 3h.p. Twin, M.A.G., late 1916, splendid condition; £55, or offer.—Lee, The plais, Earnley, Chichester. [1520

NFIELD 1920 2¼h.p., 2 speeds, 2-stroke, condition excellent, about 500 miles; Norfolk.—Offers to x 8,241, c/o *The Motor Cycle*. [2309

68.—1920 Enfield lightweight, as new.—Clifford Wilson Co., 70, Royal Hospital Rd., Chelsea, .3. Tel.: Kensington 7113. [1232

NFIELD 1916 Combination, dynamo lighting, hood, screen, perfect; best offer.—Fleming, 51, plethorpe Rd., Thornton Heath. [9677

120.—Dynamo Enfield combination, 1916.—Clifford Wilson Co., 70, Royal Hospital Rd., Chelsea, .3. Tel.: Kensington 7113. [1231

NFIELD Combination, 1915, 2-speed, recently overhauled, with Tan-Sad, lamp, horn, tools, etc.; 0.—C. Barton, Clapham, Yorks. [0298

NFIELD 1915-1916 Combination, exceptional engine, running condition; bargain, £130.—22, odberry Down, Finsbury Park, N.4. [1792

920 Enfield 2¼h.p., 2-speed, 2-stroke, new, in stock; £73/10; exchanges or easy payments.—Nightingale Rd., Lower Clapton, N.3. [2499

NFIELD 1920 8h.p. Combination, just delivered, in stock; makers' price.—Shepherd and Co., End Highway. Tel.: Waltham Cross 31. [8875

NFIELD 1916 6h.p., just been completely overhauled, new tyres, complete with lamps and accesies; £135.—Howells, Gloyne, Narberth, Pem. [1410

NFIELD 8h.p. Combination, Lucas Magdyno electric lighting, brand new, unregistered; accept 0.—Bant, 343, Stratford Rd., Birmingham. [1415

NFIELD, 2¼h.p., 2-speed, 2-stroke, 1920, unregistered, guaranteed 120 m.p.g.; must be sold. livos Motors, 120, Bollo Bridge Rd., Acton. [1913

EW 1920 Royal Enfield, 2¼h.p., 2-stroke; price £73/10; delivery from stock.—D. J. Shepherd Co., Enfield Highway, Waltham Cross 31. [0242

NFIELD 1920 8h.p. Combination, new; in stock at list price, £177/2.—Elce and Co., 15-16, hopsgate Av., Camomile St., E.C.3. 'Phone: 5548. [0268

NFIELD, 3h.p., Nov., 1919, 2-speed, kick starter, Lucas lamps, horn, insurance policy, run 200 les; £80.—2, Macclesfield Rd., South Norwood. [2177

919 (Nov.) 2¼h.p. Royal Enfield, perfect running order, lamps, horn, tools and spares; £60.—Druce, enbank, Parkgate Rd., Mollington, near Chester. [1570

h.p. Royal Enfield, 1919, K.S., 2-speed, unpunctured, top-hole condition, too fast for owner; accept 0.—Robinson, 404, Uxbridge Rd., Shepherd's Bush. [1867

NFIELD Combination, new last month, 6h.p., with Magdyno lighting, Orto triple wind screen, not ven 100 miles; £215.—Cullimore, Stone, Falfield, s. [2242

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FOR 2¼ RIM.	Our Price.	List Price
26×2¼ Skew heavy non-skid	37/6	58/6
26×2¼ Skew round non-skid	30/-	50/6
26×2¼ Avon Sunstone	39/6	82/6
26×2¼ Avon combination	55/-	90/9
26×2¼ Goodrich safety tread	56/6	66/6
26×2¼ Hutchinson passenger	50/-	68/9
26×2¼ Dunlop heavy rubber studded	39/6	—
26×2¾ Palmer cord heavy	39/6	—
26×2¾ Bates heavy	39/6	—
26×2¾ Avon heavy rubber stud	34/6	—
26×2¾ Moseley extra heavy	33/6	—
26×2¾ Hutchinson heavy	33/6	—
26×2½×2½ Goodrich safety tread	61/-	71/6
26×2½×2¼ Hutchinson rubber studded	52/-	78/-

FOR 2½ RIM.		
26×2½ Skew h'vy rubber non-skid	48/-	68/6
26×2½ Skew round non-skid	42/6	62/6
26×3 for 2½ Skew heavy non-skid	52/6	78/6
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For American Rims.		
28×3 Moseley extra heavy	35/-	—
28×3 Kempshall	35/-	—
28×3 Dunlop extra heavy	48/6	—
28×2½ Kempshall non-skid	42/6	—
28×2½ Hutchinson passenger	40/6	—
28×2½ Kempshall anti-skid	35/6	—
28×2½ Hutchinson T.T.	37/6	—
28×3 Goodrich safety tread	59/6	93/6
28×3 Wood-Milne extra heavy	55/-	76/-
28×3 Clincher de Luxe extra h'vy	54/-	90/-
28×3 Palmer Cord heavy	55/-	78/9

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650×65 Avon 3-rib	62/-	70/-
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NEW CLEARANCE TUBES.

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MOTOR CYCLES FOR SALE.

Enfield.

NFIELD 6-8h.p. 1916-17 Combination, fully equipped, excellent mechanical condition; £120; exchange late Harley.—12, Cornwall Mews, Gloucester Rd., S.W.7. [2408

£90-£120 Enfield Combinations (3), 1914-16-17, splendid condition, business box carrier optional, hardly used, or sidecar; clearance prices.—2a, Water Lane, E. Stratford 117. [2405

NFIELD 6h.p. C.B. Combination, 1914, engine thoroughly overhauled, new gear, sprocket, etc., first-class condition; £105; or nearest offer.—Astin and Barker, Ltd., Todmorden. [2173

NFIELD.—Delivery from stock. Lightweight, 70 gns.; 6h.p. combination, £175, with Lucas Magdyno, £200.—P. J. Evans, Birmingham agent, 83-91, John Bright St., Birmingham. [0300

1920 (June) Enfield Combination, Magdyno equipment complete, with Easting wind screen as new, mileage 500; must sell; nearest £190.—Thomas, Melrose, Jubilee Place, Carmarthen. [X3103

1920 Enfield Combination with dynamo lighting, extremely small mileage, perfect mechanical condition, and appearance as new; £185.—Kays, 8, Bond St., Ealing Broadway, W.5. [1502

6h.p. Royal Enfield Combination, as new, only used six months, all lamps; £165, or exchange for Morgan, not later than 1917.—Fergusson, 58, St. Andrew St., Castle-Douglas, Scotland. [1456

ROYAL Enfield 6h.p. 1913 Combination, fitted 1915 engine, first-class running order, 2 unused Dunlop tyres, coachbuilt sidecar, just re-enamelled; £80; reason for sale, too heavy.—Child, Shoe Works, Colwyn Bay. [1357

£45; 1914 3h.p. Enfield 2-speed twin, fitted new tyres, Bosch mag., electric lighting, enamel perfect, any expert examination allowed, real snip; illness cause of sale.—Bresler, 67-69, City Rd., E.C. 'Phone: City 8575. [2397

NFIELD 3h.p., 1917, 2-speed, clutch; valve, £70, and 2¼ Velocette, value £40, both fully equipped, in splendid condition, for good C.S. solo or combination; cash either way or sell separately.—M.G., 107, Burntwood Lane, S.W.17. [1971

8h.p. 1920 (June) Royal Enfield Combination, owner has been unable to use outfit for past two months, splendid condition, absolutely sound, Lucas electric set, Cameo, must sell; £200, or cash offer.—R. L. Knight, Barnstaple, nr. Devon. [2184

NFIELD Coachbuilt Combination, 1912, 6h.p., speedometer, lamps, Klaxon, Easting wind screen, Tan-Sad, new tyres, perfect condition; any trial; price £130, or near offer.—Seen at Woods' Garage, Daws Lane, Mill Hill, N.W.7. [2500

1919 6h.p. Enfield Combination, perfect condition, just overhauled, Easting screen, electric lighting, speedometer, 2 mascots, tyres good; £145; evenings or Thursday afternoon, Sunday morning.—Turner, 20, Belgrave Rd., St. John's Wood, N.W. [2030

NFIELD, several fine combinations in stock, from £120 to £200; also latest 1920 model at makers' list price, or half down and 11 payments.—Lamb's, 151, High St., Walthamstow, 387, Euston Rd., London, N.W., and 50, High Rd., Wood Green, N. [1805

NFIELD Combination, 8h.p., late 1919, Lucas lamps and horn, hood, screen, speedometer, Tan Sad, mudsplash, 700×80 tyres, spare, tools, and spares, used week-ends only, splendid condition; 160 gns.; trial.—M., 181, Upper Richmond Rd., Putney. [1878

NFIELD Combination, 1916, 6h.p., just completely overhauled and re-enamelled, indistinguishable from new, tyres and chains as new, Cowey trip speedometer, Cowey horn, lamps, luggage grid, hood, screen, beautiful condition; £130.—88, Connaught Rd., Reading. [2010

NAVAL Officer ordered to China desires to sell 1915 6h.p. Royal Enfield combination, Lucas acetylene lamps, mechanical and bulb horns, Jones speedometer, luggage grid, in very good condition owing to 2½ years' war storage, mileage nearly 5,000.—Write, Heatherside, Belmont, Surrey. [1542

NFIELD Combination, 1915, 6h.p., sidecar for wife and child, wind screen, Cowey speedometer, Lucas head light, electric side and tail lamps, extra air inlet, Bosch mag.; expert examination and trial invited; recently overhauled; undertaking given machine is in thorough order; will teach buyer (if novice) to drive; genuine bargain, £115.—7, Battledean Rd., Highbury, N.5. [1750

Excelsior.

1920 British Excelsior, 2¾h.p. Jap, just overhauled, complete, spare inner tube, under 500 miles; £65, or near offer.—Geoffrey Parkes, Hill Crest, Marple Bridge, Derbyshire. [2197

1920 Excelsior Combination, dynamo lighting, electric horn, with Henderson Elite sidecar, only done 1,000 miles; cost £225 two months ago, must sell, £165.—Maskell, 5, Brixton Hill, S.W. [2508

1920 (September) 2½h.p. Excelsior-Villiers, 2-speed 2-stroke, only just run in, perfect, patent leather College mud shields, Klaxon, P. and H. lighting set, Pedley grips, registered and insured; 69 gns., no offers. —Cross Lanes, Roehampton, S.W. [1490

F.N.

1920 F.N. Combination, all lamps, horn, and speedometer, done 500; £195.—11, Anerley Hill, Norwood, London. [2125

MOTOR CYCLES FOR SALE.

F.N.

LATE 1913 4-cyl. F.N., 2 speeds, and clutch, in nice order; no offer; lowest £45.—Scott, 500, Rice Lane, Walton, Liverpool. [2061

4-CYL. Clutch Model F.N., straight sloping top tube, saddle, tanks, black and cream, aluminium discs, engine fitted with aluminium pistons to reground cylinders, machine only just completed; £55, or near offer.—Olivos Motors, 120, Bollo Bridge Rd., Acton. [1912

Forman.

FORMAN 1914 2¾h.p., Bosch mag., B. and B. carburetter, new belt, and Dunlop tyres, in good running order; £30.—D. Bodenham, Fair View, Gravel Hill, Ludlow. [1786

Francis-Barnett.

NEW Francis-Barnett, 2¾h.p. J.A.P., 2-speed clutch and kick starter; in stock at manufacturers' list price, £88/19; easy payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods Ltd., 118, Brompton Rd., London. [1982

Harley-Davidson.

HARLEY-DAVIDSON 4h.p., new 1920 sports model; £159.—Below.

HARLEY-DAVIDSON 7-9h.p. Combination, new 1920 model; £228; immediate delivery.—Marston, 31 and 33, Bridge St., Chester. [2368

NEW Models Harley-Davidsons from stock.—Pickering, Agent, Shrewsbury. [2240

HARLEY-DAVIDSON, disc wheels; offers wanted over £120.—Grove House, Ludwell, Salisbury. [1480

HARLEY Combination, 1915, special machine; sell cheap, or exchange.—51, Maplethorpe Rd., Thornton Heath. [1889

1915 7-9h.p. Harley Combination, practically new condition throughout; sacrifice £105.—Else, Dimple, Matlock. [X3492

HARLEY-DAVIDSON Combination, 1916 model, electric dynamo lighting; £110.—Wauchope's, 9, Shoe Lane, London. [2467

HARLEY 1919 Combination, new sidecar, Bosch mag.; £125, bargain.—Post Office, Whitehorse Rd. Croydon. 'Phone: 660. [1843

HARLEY Combination, 7-9h.p., 1918, discs, D.A. lighting, perfect condition; 125 gns.—Hatchford, Hill Cottages, Cobham, Surrey. [2002

1920 4h.p. Harley-Davidson, excellent condition, speedometer, lamps, Klaxon; £150, or nearest.—Baines, Oxenford Hall, Oxford. [1455

1920 4h.p. Harley-Davidson, sports model; list price, £159/9/9.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [2481

1918 Harley-Davidson, mag. dynamo model, good roomy sidecar; £180; exchange considered.—136, Lavenham Rd., Southfields. [2476

HARLEY-DAVIDSON, 4h.p. twin, brand new, for immediate delivery.—Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9005

HARLEY-DAVIDSON 1918 7-9h.p., splendid running order, appearance new; bargain, £95.—Jones, 4, Hillside, Stonebridge Park, N.W.10. [1755

1915 7-9h.p. Harley-Davidson Combination, in very good condition; £125.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [2491

1920 7-9h.p. Harley-Davidson Combination, electric model; list price.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel. 607. [2478

HARLEY-DAVIDSON 7-9h.p., 1916-17, sporting Swan combination; 95 gns.; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [2412

1920 Harley-Davidson 7-9h.p., electric model, and sidecar, speedometer, discs, condition as new; price £210.—2, Clarendon Place, Halifax. [2217

COLMORE Depots.—Harley-Davidson, magneto and electric, also 4h.p. models in stock; immediate deliveries.—31, Colmore Row, Birmingham. [X3345

HARLEY-DAVIDSON 1919 Electric Combination, sidecar cost £70, done under 3,000 miles, as new; 170 gns.—Sabey, 14, Pleydell Av., Chiswick. [1732

1920 (June) Electric Model Harley-Davidson Combination, condition guaranteed as new; £220; no offers.—Fisher, 8, Derwent Rd., Ealing, W.5. [1951

HARLEY-DAVIDSON, August, 1920, dynamo model, speedometer, handsome S.C., combination unscratched; £215.—Tintern, Norman Rd., Sutton. [1779

HARLEY DAVIDSON, 1919, bulbous back sidecar, electric lights, in good condition; £150, or exchange lower power.—136, Forest Drive, East, Leytonstone. [1917

HARLEY-DAVIDSON 1919 7-9h.p. Combination, fully equipped with head, rear, and sidecar lamps, horn, equal to new; £190.—Parker's, Bradshawgate, Bolton. [X3394

HARLEY-DAVIDSON, 1918, re-enamelled and overhauled; £90, with new Bosch mag. £95.—Briggs and Sons, 1, Wellesley Parade, Wellesley Rd., Croydon. [7917

HARLEY-DAVIDSON Sports Model, new, in stock, equipped; £165.—Clark, 7, Exhibition Rd., South Kensington. [9932

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Harley-Davidson.

HARLEY-DAVIDSON 1920 4h.p. Model, with Swan sporting sidecar and electric lighting, mechanically perfect throughout; £200.—Parker's, Bradshawgate, Bolton. [X3388

HARLEY-DAVIDSON 1918 Combination, in new condition, lamps, horn, etc.; £138, or exchange solo lightweight and cash.—143, Ravensbury Rd., Earlsfield, S.W. [2395

1915 4h.p. Harley-Davidson Combination, beautiful sporting sidecar, all in good condition, lamps, etc.; £90.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [2492

1919 Harley and beautiful bulbous sidecar (engine No. 19T2480), mag., D.A. lighting, Klaxon, new covers and tubes, perfect; any trial; bargain, £170.—236, Balham High Rd., S.W. [2141

1919 7-9h.p. Harley-Davidson Combination, just overhauled and re-enamelled, new tyres throughout, in excellent condition; £150.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [2513

HARLEY-DAVIDSON 1915 Electric Model Combination, full equipment, new luxurious bulbous sidecar, Easting screen, excellent lot; ride away; £135.—10 Milton Rd., Wallington, Surrey. [1753

1917 Harley-Davidson Combination, just overhauled by makers, lamps, horn, tools, new spare tyre, tube, and chain, insurance policy.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [2511

HARLEY-DAVIDSON, delivered Nov., 1919, sporting sidecar, Mills-Fulford chassis, discs, electric lighting and horn, perfect condition; £175.—Write 'phone, or call, Selby, 5, Heath Drive, N.W.3. [1153

1920 Harley-Davidson and coachbuilt sidecar, disc wheels and all accessories, perfect condition, done about 800 miles; price £200; seen any evening after 7.—Elwin Neame, 11, Rotherwick Rd., Golders Green. [2106

1920 Harley-Davidson, 7-9h.p., mag. model, with lamps, horn, tools, and sidecar, only used for demonstration purposes and guaranteed sound; accept £205; approval; carriage paid.—Macrae, 37, Cockburn St., Edinburgh. [201

HARLEY-DAVIDSON, 1920, 7-9h.p., electric model and Mills-Fuford Harley sidecar, brand new £235; also flat twin, solo, complete with accessories £164.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [007

HARLEY-DAVIDSON Sporting Combination 1918½, one of the poshest, sportiest, hot stuff fest, low Zeppelin-shaped coachbuilt body, dynamo lighting equipment, huge head light, real nice lot £185; several others.—Douglas S. Cox, 6, Lansdowne Hill, West Norwood. [2439

HARLEY-DAVIDSON 7-9h.p. Combination, 1918 £160; also 1916, £135; also 1915 model, £120; also 1920 4h.p. model, new, £164/10, at makers price. Terms, half down and 11 payments.—Lamb's, 151, High St., Walthamstow, 387, Euston Rd., London, N.W., and 50, High Rd., Wood Green, N. [1804

HARLEY-DAVIDSON new model 7-9h.p., bought 1st September, only ridden 350, electric model with new switch, horn, and lamp features, speedometer, polished discs, watch, and spare bulbs, this is perfect inside and enamel untouched, College mudshield fitted, just as it arrived, awaiting inspection, in spotless condition; cost £204, best offers £191; any guarantee.—Took, Adrian St., Dover. [200

Hazlewood

HAZLEWOOD 1920 5-6h.p. J.A.P. Combination, Watford special trip speedometer, complete set of P. and H. lamps, Tan-Sad (foot and back rest), new in June, and only ridden 800 miles, indistinguishable from new; price £165, or near offer; seen any time.—82, Battersea Rise, or trial by appointment with Mayfair 5050. [234

NEW 5-6h.p. Hazlewood Combination, 3-speed clutch, and kick starter; a thoroughly reliable outfit; Harrods have a large number of these in stock for sale at £186 each (list price £204/12) or on easy payments 4% extra; only one-fifth deposit balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [194

H.B.

1920 H.B., Blackburne engine, 2-speed, clutch, kick starter, P. and H. lamps, Klaxon, condition new, £90.—94, Stamford St., Old Trafford, Manchester. [16

Henderson

1920 Henderson Electric Model, mileage done 25 £155.—38, Aboyne Rd., Tooting, S.W. [16

HENDERSON, late type, 4-cyl., 3-speed, disc wheels £145.—Ernest Kann, 239, Willesden Lane, N.W.2. Appointment West End. [19

HENDERSON, 1919, electric, beautiful condition, quiet, fast, economical, sidecar, wind shield, £120, offer.—Belton, Burton Joyce, Notts. [22

HENDERSON 1920 10h.p., 4-cyl. model, fitted with Langford special sidecar, brand new; 220, near offer.—Lloyd, 9, South Molton St., W. Mayfair 1011. [02

MOTOR CYCLES FOR SALE.

Henderson.

HENDERSON Combination, 1916, 10h.p., 2-speed, clutch, handle start, black and gold, very smart; 5 gns.; exchanges lower power.—12, Cornwall Mews, oucester Rd., S.W.7. [2413

1920 Henderson Combination, dynamo lighting, electric horn, with Henderson Elite sidecar; ist sell, any reasonable offer accepted.—Maskell, da Lodge, 5, Brixton Hill, S.W. [2507

HENDERSON 1920 10h.p. 4-cyl. and Henderson Elite Sidecar, nearly new outfit, Easting wind een legshields, Bonniksen speedometer, a real bar- n; £175.—Elce and Co., 15-16, Bishopsgate Av., nomile St., E.C.3. 'Phone: Avenue 5548. [0067

Hobart.

1915 2½h.p. Hobart-Villiers, good condition, 300 miles since complete overhaul; £32.—41, Clare- nt Rd., E.7. [2058

HOBART-VILLIERS 2-stroke 2-speed for sale, fine - running order; what offers?—33, Jersey Rd., od, Rochester. [1568

1920 Hobart 2¾h.p. 4-stroke, J.A.P., brand new, never been used; what offers.—Wright's Garage, ron Walden. Tel.: 16. [2347

1920 2½h.p. Hobart, 2-speed, aluminium footboards; list price, £70.—R. Bamber and Co., Ltd., 2, bank St., Southport. Tel.: 607. [2486

¼h.p. Hobart, 3-speed, S.A. hub, engine requires attention; offers invited, or would sell parts.— lawn Garage, Chiswick Park Station. [1497

NEW 2½h.p. Hobart Lightweight, 2-speed models in stock at manufacturers' list price; £75; 4% a for easy payments; only one-fifth deposit, nce by 12 monthly instalments.—Harrods, Ltd., Brompton Rd., London. [1984

Humber

h.p. Humber, 2-speed, handle-start, ride away; £35.—99, Fielding Rd., Chiswick, W.4. [1922

UMBER 3½h.p., Bosch, B. and B., horn, needs attention; £12.—Evans, Newland, Coleford, Glos. [1607

UMBER, 3½h.p., 2-speed, Bosch, running order; £36, or offer.—Harrison, Bucks Hill, Nuneaton. [2179

UMBER, 2¾h.p., Bosch mag., new tyre back, going order; £17.—Barton, Jun., Yew Tree age, Tansley, nr. Matlock. [2247

UMBER 1914 3½h.p. Combination, 3-speed, clutch, kick starter, in splendid condition, fully ped; £55.—164, Revelstoke Rd., Southfields. [2265

AUCHOPE'S, 9, Shoe Lane, London.—3½h.p. 1919 Humber and sidecar, horizontal twin-cyl. engine, built sidecar, 3 speeds, clutch, and handle r: 100 gns. [2464

19 Humber Combination, 3½h.p. flat twin, 3- speed, clutch, all accessories, thoroughly over- d by makers; £110, or nearest offer.—Pearce, 31, land St., Doncaster. [2111

MBER 3½h.p. Motor Cycle, chain drive, counter- shaft, Bosch mag., single lever carburetter, road- ars, complete and good order and appearance, but wheel smashed, hub perfect; to clear £23; owner up motoring.—Hughes, 5, Railway Terrace, bborough, Leicestershire. [1766

Indian.

.—Indian 1914 7-9h.p., new tyres; bargain.— Sharp, 11, Vorley Rd., Highgate. (After 6.). [2383

DIAN Scout, complete with electric lights, new; any trial; list price.—Bell, Redthorpe, Lancaster. [1611

DIAN Scout, just delivered, rear drive speedometer, and horn; £48; Bolton.—Box 8,052, c/o *The Motor* [9609

GNS.—Indian 1915 6h.p. 3-speed combination, well fitted out; any trial.—36, High St., Hamp- [1840

IAN 1916 Powerplus T.T. Combination, electric ight, real, cheap; £100.—Yellow Garage, Sur- [1510

IAN 3½h.p. Twin, 3 speeds, clutch, kick starter, fast machine, splendid condition; £63.—15, Dorset Wimbledon. [2343

). Indian Combination, new April, 1916, 3-speed, clutch, tyres, almost new; £80.—Beech Hill, ord, Woking. [2108

20 Indian Combination, Powerplus, mileage 900; £200.—Manager, Blundells Wine Stores, Birkbeck Dalston, London. [1757

IAN 1914 7h.p., perfect order, fast, good tyres, new chains, ride 50 miles; £63.—Moore, 55, ield Rd., Coventry. [X3485

20 Indian Combination, dynamo lighting, full equipment, wind screen; £175, or nearest.—23, lton Rd., Reading. [2207

IAN Powerplus, dynamo lighting, 2-seater C.B. sidecar and screen, perfect; £140.—3, Gladstone Farnborough, Kent. [1977

IAN 7-9h.p., clutch, 1915, splendid condition throughout; £62, or near offer.—Waters, Orcheston , Shrewton, Wilts. [1526

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TRIUMPH, renovated by makers, and boat-shaped Sidecar, full set of lamps, tools, etc.
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Indian.

1920 Indian Scout, speedometer, horn, fully insured; £130; before 6 p.m., or 'Phone Mayfair 4332.—Desoutter, 51, Baker St., W.1. [1739

7-9h.p. Indian Combination, spring frame, 2 speeds, etc., electric lighting, very fine condition; gift, 95 gns.—30, Talbot St., Burnley. [X0702

1916 5-6h.p. Indian Combination, 3-speed, kick starter, in good running order; £80.—Williams and Co., Portland St., Cheltenham. [1420

INDIAN Combination, 7-9h.p., 2-speed, kick start, electric lamps, in good running order; £100.—Manager, Electricity Works, Bourne End. [1926

7-9h.p. Indian Powerplus, 1919, 3-speed gear, foot and hand clutch, perfect condition; £120, or near offer.—Cameron, Sheerwater Cottage, Byfleet. [1498

BRAND New 1920 7-9h.p. Indian Combination, just delivered; list price.—Brown, Indian Specialist, 3 and 7a, Parker Lane, Burnley. Tel.: 1032. [X0703

1914 Indian 7-9h.p., 2-speed, nearly new Swan side-car, C.B., hood, screen, speedometer, lamps, horn, perfect order; £110.—198, Moulsham St., Chelmsford. [1768

7-9h.p. 1919 Indian and Swan Sporting Sidecar, £175, latest improvements; also a solo 7-9h.p. Powerplus Indian, £85.—Wauchope's, 9, Shoe Lane, London. [2460

1917 Indian Powerplus Combination, Dunlops, discs, new gorgeous bulbous sidecar, Easting, all on, guaranteed perfect; £135.—67, Inverine Rd., Charlton, S.E.7. [1664

1915 3½h.p. Indian Twin, 3-speed, kick start, etc., electric lighting, in good condition; £70.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [2493

INDIAN Combination, February, 1920, mileage 2,300, unpunctured, Indian leg shields, spare tube, perfect condition, insurance, bought car; £175.—11, Turrell, Oxford. [1897

1920 Indian Combination, electric model, speedometer, aluminium discs, Easting screen (cost £235 Easter), like new; £180.—Wigham, 44, Stranton St., Thornaby. [X3351

1919 Indian, 7-9h.p., and Henderson Elite sidecar, 2 large head lamps and generator, electric tail, full equipment; £175.—Donald Watson, Rawdon Cragg, near Leeds. [1422

7-9h.p. Indian Combination, 1915, electric lighting, speedometer, wind screen, hood, new tyres, excellent condition; £110.—Coles and Shirley, Chepstow. 'Phone: 48. [0312

INDIAN Combination, 1916, just overhauled, with new gears, driving chain, one new tyre, insured £140 August; price £120.—Stapleton, St. Margaret's Bay, near Dover. [1444

1916 Indian Combination for sale, excellent condition; inspection invited; must sell, owner going abroad; what offers —91, St. Margaret's Rd., St. Margaret's, Twickenham. [1603

7-9h.p. Indian Combination, Nov., 1919, electric model, speedometer, Easting wind screen, good order, fine condition, insurance till November; £180.—Driscoll, 6, Derry Av., Plymouth. [1623

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1714

1919 Indian Powerplus Combination, electrically equipped, inspection lamps, petrol and luggage carrier, rear seat, in perfect order; £170.—269, Aston Lane, Perry Bar, Birmingham. [8737

INDIAN 7-9h.p., 1914, torpedo sidecar, pillion, 4 lamps, and Prest-o-lite, horn, new gears just fitted, in fine order; £70, or offer.—Merstham Garage, London Rd., Merstham, Surrey. [2254

INDIAN 7-9h.p. and sidecar, 3 lamps, horn, speedometer, just overhauled, splendid condition; £100 cash; very fast, powerful; seen any evening after 6.30. —Apply, 4, Micheldever Rd., Lee, S.E.12. [1409

INDIAN Powerplus Combination, 1919 (Oct.), electric model, Binks, Easting, spare tyre, valves, carburetter, mileage 1,400, splendid condition; £155.—Hawley, 51, St. Fillans Rd., Catford, S.E.6. [1519

1919 7-9h.p. Indian Combination, latest 1920 bulbous back sidecar, large locker in rear, electric lights and horn (accumulator), Klaxon, red finish, Easting screen, all in fine condition; £150.—Hosler, Station Hill, Buxton. [1932

1920 Indian Powerplus Combination, dynamo lighting, spring frame, rear driven speedometer, Easting screen, mileage 1,600, perfect order; £165; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, N.E. [1177

INDIAN, 1915 clutch model, new sporting but comfortable sidecar, excellent condition, partly replated, electrics, large accumulator in sidecar, Cowey horn, new chains, tyres good; real bargain, £88; London. —Box 8,239, c/o *The Motor Cycle.* [2281

SEASON 1920 Indian 7-9h.p. Combination, electric model, 3-ply turtle deck Avro wind screen, luggage grid, all accessories, like new; £160, cash, offer, or exchange lightweight or 2-stroke, cash adjustment.—The Priest's House, Wellingore, Lincoln. [1387

MOTOR CYCLES FOR SALE.

Indian.

INDIAN Combination, 1915, Mills-Fulford, 3-speed, clutch, hood, 3 electric lamps and horn, new gears just fitted, re-enamelled and overhauled, nearly new tyres, insurance; £125; any trial or examination.—Apply, The Ship, Hardinge St., Commercial Rd., E.1. [9370

INDIAN, 1920, 7-9h.p., dynamo lighting and horn, large Milford sidecar, Easting wind screen, spare sidecar cover, legshields, spare valves, paint unscratched, tyres excellent, thoroughly reliable; mileage 2,638; £220.—Barber, The Cottage, Shenley, Herts. [2322

INDIAN 1920 Powerplus, 7-9h.p., spring frame combination, dynamo lighting, electric horn, speedometer, accessories, standard de luxe sidecar with bulbous back, Bluemel screen, all in excellent condition, mileage small, engine nicely run in; accept £210.—Redfern, Honiton. [X3469

INDIAN.—Immediate delivery from stock, 7-9h.p. Powerplus model, with dynamo lighting, electric horn, and speedometer, £181/14; combination, £223/14; also 4h.p. Scout model, 3-speed, £140; local trade supplied.—Sole Birmingham agent, P. J. Evans, 83-91, John Bright St., Birmingham. [0175

Invicta.

INVICTA-J.A.P., 2¾h.p., Feb., 1919, 2 speeds, lamps, horn, perfect condition; £55, owner purchasing higher power.—McClelland, Defford, Worcester. [1462

NEW INVICTA-J.A.P. 2¾h.p., 2-speed clutch and kick starter, a thoroughly well built and reliable machine, £89/5; also 3½h.p., Abingdon King Dick engine, 3-speed clutch and kick starter, fitted with smart low built sidecar, £143; easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [1991

Ivy.

IVY Cycles.—Write, Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

IVY 2-stroke (late 1915), 2-speed countershaft, splendid order, economical; £40, or near.—Alton House, York Rd., Salisbury. [1404

IVY 2½h.p., 1919 (Sept.), just fitted with Sturmey-Archer 2-speed, K.S., and clutch, perfect; offer.—Freeland, Saltford, nr. Bristol. [1363

IVY, the aristocrat of its type, delivery of all models from stock; prices and catalogues post free.—District Agents, Walsall Garage, Walsall. Tel.: 444. [9003

FOR Sale, Ivy-Jap combination, 8h.p., 1916 model de luxe, in perfect condition, small mileage; £160, or nearest offer.—40, Barrack Hill, Newport, Mon. [1385

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt Portland St., W.1. Mayfair 4084. [0022

James.

JAMES, 1917 (?), 3-speed, countershaft, lamps; £60; chain drive.—202, Munster Rd., Fulham, S.W.6. [1697

JAMES 1920 5-6h.p. Combination, in stock; makers' price.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [8877

JAMES Brand New Combinations, for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [9000

1918 James, 2¾h.p., 2-speed, excellent condition, only wants seeing; £52.—Olympia Motors, 1, Hammersmith Rd., W.14 (opposite Olympia). [2246

4¼h.p. James 1914 Coachbuilt Combination, 3-speed hub, lamps, excellent running order, new tyres and belt; 70 gns.—Ashley, Willingham, Gainsborough. [1705

JAMES, 1920, 2-stroke, 2-speed, 2¼h.p., June (proof), pillion seat, lamps, tools, etc., splendid condition perfect order; £76.—18, Elm Rd., Leytonstone. [2114

JAMES 2¼h.p., 1920, mileage 500, lamps with Low generator, mechanical horn, insured, splendid condition; £60.—Macmillan, 1, Rock Park, Barnstaple, Devon. [1589

JAMES 5-6h.p. Combination, 1920, Lucas magdyno set, Cameo screen, 3 months old, perfect condition, any trial; £185.—Newcombe, Henley-in-Arden, Warwickshire. [X3549

JAMES 1920 5-6h.p. Combination, luggage grid, 3 Lucas lamps, Klaxon, Watford speedometer, perfect condition; £165; N.W. district.—Box 8,069, c/o *The Motor Cycle*. [1129

3½h.p. James Twin, 1916, 3-speed, clutch, Binks carburetter, electric lighting, Cowey speedometer, Klaxon, tools, spares; £75; bargain.—30, Dalehan Gardens, Hampstead, N.W.3. [1910

LATE 5-6h.p. James Combination, all accessories, many spares, completely overhauled by makers, very good condition; £130.—F. H. Smith, c/o Babcock, Wilcox, Farringdon St., E.C. [2420

JAMES 5-6h.p. Combinations.—New 1920 models in stock for immediate delivery. 3-speed, model de luxe sidecar, £190; also 3½h.p. twin, 3-speed, £135.—Stevens, 248, Gooch St., Birmingham. [X1534

1919 (July) James 4¼h.p. Combination, Canoelet, Easting, disc wheels, 2 new tyres recently, K.S., 3-speed, clutch, lamps, etc., engine just been overhauled; £130.—Hawley, Brompton Hospital, S.W.3. [X3401

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James.

F.O.C.H. have a 1919 4¼h.p. James combination, new condition, large electric set.—5, Heath St, Hampstead (near Hampstead Tube Station.. 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1716

1920 (May) 5-6h.p. Magdyno James Combination, Watford, Easting, Sparton, electric horn, leg shields, Tan-Sad, small mileage; price £185, including insurance till May.—9, Kynerdale Rd., N.16. Phone: 379 Dalston. [2140

JAMES 1920 5-6h.p. Combination, new in May and carefully ridden 2,000 miles, fitted with Watford speedometer, Tan Sad, Cameo wind screen, Lucas horn, James de Luxe sidecar; will sacrifice for nearest offer to £165; seen any time.—82, Battersea Rise, or trial by appointment with Mayfair 5050. [2356

J.A.P.

6h.p. J.A.P. Combination, lamps, Bosch, in splendid order; bargain, £70.—Limby, 2, Kynance Place, Gloucester Rd., S.W.7. [2144

10h.p. Brooklands J.A.P., ready for track; £95, or exchange solo or combination, cash either way.—Scales, Emohym, Penrith Rd., Basingstoke. [1894

Juno.

1917 2¾h.p. Juno-Villiers, 2-speed, just overhauled, cost of £25, fitted new mag., carburetter, covers and tubes, carrier, mudguard, drip feed, etc., fast and powerful; £47, or nearest.—Walker, Abbey Cottage, Malvern. [X3396

Lea-Francis.

LEA-FRANCIS C.B. Combination, 2-speed clutch, £80.—33, St. Stephen's Rd., Bow. [1918

LEA-FRANCIS in stock, new, M.A.G.; £130.—Clark, 7, Exhibition Rd., South Kensington. [9935

LEA-FRANCIS, M.A.G. engine; immediate delivery, £130.—Maudes' Motor Mart, 100, Paris St., Exeter. [2366

LEA-FRANCIS, 2-speed clutch, 3½h.p. J.A.P., just overhauled by makers, with Middleton sidecar, £90.—Manor House, Pebmarsh, Essex. [2205

LEA-FRANCIS, 1920 (May), K.S., clutch, lamps, speedometer, like new! accept £110 for quick sale.—Plant, Unicorn Works, Longpont, Staffs. [2123

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocrat mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0095

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on easy payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [1985

LEA-FRANCIS 1917 3½h.p., 2 speeds and clutch, recently overhauled and renovated, fitted with brand new 1920 3½h.p. J.A.P. engine; £90.—Parker's, Bradshawgate, Bolton. [X3387

LEA-FRANCIS 1920 3½h.p. Twin, M.A.G. engine, enclosed chain drive, new, in stock at list price £130; also one model slightly shop-soiled; £120.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

Levis.

LEVIS 2¼h.p., sporty, splendid order, all accessories, £35.—Barter, Sydling, Dorchester. [1666

LEVIS, new 1920 model; delivery from stock.—Gibbs, Worcester Parade, Gloucester. 'Phone: 852. [0307

LEVIS, 1919 Popular, lamp and tools, new belt and rear tyre; £45.—Leslie, 24, Wood, Woolwich, S.E.18. [1647

LEVIS, new tyres, lamp, horn, just overhauled, absolutely sound, trial; £45.—Lutener, Broxton, Chester. [1515

LEVIS 1920, brand new, not unpacked; accept £5 list price £60/10.—Wallis, 23, Hartington Grove, Cambridge. [1577

LEVIS, the finest 2-stroke in the world, delivery from stock; £60.—District agents, The Walsall Garage, Walsall. Tel.: 444. [9006

LEVIS 1920 Popular Model, £60; delivery from stock.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0247

PERFECT Condition throughout guaranteed.—Levis 2¼h.p., new piston, Brooks B70, lamps, screeche, any trial; after 6.30; £47/10.—27, Balcaskie Rd., Eltham. [1686

1915 Levis, discs, long exhaust, T.T. bars, knee grips, P.H. lamps, Lucas horn, 2 belts, own mechanic; best offer over £40 secures.—C/o Fo, 226a, Unthank Rd., Norwich. [X3457

LEVIS 2¼h.p., countershaft, 2-speed, all blast model, 1916, Brampton biflex forks, new head lamp, semi T.T. bars, fast, powerful climber; £43/36, St. Thomas Rd., Hackney. [2487

LEVIS 2¼h.p., late 1919 model, done 300 miles, lamps, horn, and pump, complete, perfect condition; £58, no offers.—Apply, A. J. Headington, Briswood Farm, Hawthorn Hill, near Maidenhead, Berks. [1777

MOTOR CYCLES FOR SALE.

Martin.

14 Martin-Precision 2¼h.p., 2-speed, perfect; £30, offers.—Thompson, Marske, Richmond, shire. [1698

ARTIN-J.A.P., 1914, 4h.p., o.h.v., new roller bearings, splendid condition; nearest £65; ex- ge Indian.—Bramwell, 4, Market Sq., Stony Strat- [2017

Martinsyde.

20 Martinsyde Combination, just received; price £170.—'Phone: 1024.—Julian, Broad St., Reading. [2304

20 Martinsyde Combination, just received; price £170. — 'Phone 1024. — Julians, Broad St., ling. [1826

ARTINSYDE-NEWMAN Combination, delivery from stock; £170.—Maudes' Motor Mart, 100, s St., Exeter. [2365

ARTINSYDE-NEWMAN 6h.p. Combination, brand new; immediate delivery from stock; £170.—Mid- Garage, Colwyn Bay. [X1712

p. Martinsyde-Newman Combination, chain drive, 3-speed countershaft, kick start; £170; delivery stock.—Lythalls Lane Garages, Foleshill, Coventry. [X0643

ANK WHITWORTH, Ltd., 139, New St., Birmingham.—Martinsyde combination, £170, with s dynamo lighting £30 extra, free delivery. [X1219

20 6h.p. Martinsyde-Newman Combination, practically new, hood, lamps, Dunlop Magnum overtyres, owner going abroad; £180.—Tucker, Hen- Claremont Av., Woking. [1512

ARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford, Cornwall and Devonshire, for Martinsyde-Newman ination, £170; deliveries now being effected; sub- s appointed.—Maudes' Motor Mart, 100, Gt. Port- St., W.1, and Paris St., Exeter. [6618

Matchless.

TCHLESS Combination, Model H, just delivered, bulb horn. — Offers to P. C. Milner, Hawes [2151

20 Spring Frame Matchless Combination, M.A.G. engine, new speedometer; list price.—Mawson, ambe. [X3481

TCHLESS Combination, 1920, fully equipped, equal to new; £180.—25, Davisville Rd., Shep- Bush. [1702

TCHLESS Model H, acetylene lighting, good order; £185.—Clark, 7, Exhibition Rd., South ngton. [9935

TCHLESS Combination, Lucas Magdyno; £230; delivery from stock.—Maudes' Motor Mart, 100, St., Exeter. [2361

30 Matchless Combination; brand new, never been used; what offers?—Wright's Garage, Saffron n. Tel.: 16. [2349

30 Model H Matchless Combination, just delivered from works; offers wanted by letter.—214, Bow London, E.3. [1587

Matchless C.B., in good running order, new yres; bargain; no dealers; £65.—Sill, 15, Whorl- d., Peckham Rye. [1974

TCHLESS 1915 Combination, M.A.G. engine, screen, grid, etc.; £105. — Broomfield, 322, horse Rd., Croydon. [1844

30 Matchless Combination, M.A.G. engine, electric light, brand new; £20 below list price.—Box c/o *The Motor Cycle.* [1424

0 Matchless Combination, M.A.G. engine, very little used, owner going abroad; what offers?— eterborough Rd., Harrow. [1614

TCHLESS 1914 M.A.G. Combination, lamps, all new tyres; any trial; £135; bought car.— ns, Hollingbourne, Kent. [2019

TCHLESS C.B. Combination, 8h.p., clutch and kick start fully equipped, in new condition; —385, Old Kent Rd., S.E.1. [1687

TCHLESS Combination, 8h.p., 1913, J.A.P., free engine, kick start; trial; price £90.—Priest, 64, Addiscombe Rd., Croydon. [1954

TCHLESS Combination, 5-6h.p., speeds speed- ometer, accessories; must be sold; offers.—13, ial Parade, Henley-on-Thames. [1709

MORE Depots.—Matchless Model H Combination n stock, screen, spare wheel, luggage grid; —31, Colmore Row, Birmingham. [X3344

TCHLESS, 1914, Jap engine, Enfield sidecar, 3-speed hub, 2 new tyres, good condition; £75.— n, 29, Truro Rd., Wood Green, N.22. [1516

30 Matchless Combination, standard equipment, lamps, horn, and legshields, perfect condition: —Webb, 145, Eastgate, Rochester. [2182

TCHLESS, M.A.G., delivered August, Magdyno, complete equipment, fully insured; any trial. be, F. Beavis, 367, Brixton Rd., S.W. [1854

2-speed Matchless Combination, engine recently thoroughly overhauled by J.A.P. Co., all in fine tion; seen by appointment.—Hick, Sherburn, York. [1752

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,,	Bates No. 1 Special	45/-	71/6
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,,	Beldam Ex. Heavy	42/6	68/6
,,	Hutchinson T.T.	42/6	61/9
,,	Kempshall Anti-skid	39/6	75/-
,,	Avon Tricar R.S.	39/6	72/6
,,	Wood-Milne Ex. Heavy ..	33/6	63/9
26×2½	Kempshall Non-skid	60/-	93/-
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MOTOR CYCLES FOR SALE.

Matchless

5-6h.p. Matchless Combination, excellent condition mechanically, screen, tyres good; trial; offers; seen appointment.—35, Tudor Rd., Kingston Hill, Surrey. [1560

MATCHLESS-J.A.P. 8h.p. Combination, 2-speeds, kick starter, hood, screen, lamp, horn, perfect running order; £85.—E. Bussant, Queen's Parade, Faversham. [9583

MATCHLESS Model H2, done 2,500, better than new, Magdyno, M.A.G. engine, fully equipped, everything perfect, special machine; £215.—36, Jackson St., Woolwich [1960

MATCHLESS, delivery from stock of new spring frame model, equipped to your requirements; replacements for Matchless models of all dates.—Tassell, 1a, Bloomfield Rd., Plumstead. [1958

MATCHLESS Combination, Victory model, 1918, 8h.p. J.A.P., 4 interchangeable wheels, hood and screen, 3 lamps, excellent condition; £145.—Cullimore, Stone, Falfield, Glos. [2243

6h.p. Matchless Combination, 3 speeds, clutch, electric lamps, large coachbuilt sidecar, Cameo screen, excellent condition; exchange solo and cash, sell £100.—Smith, Gt. Gidding, Peterborough. [1694

MATCHLESS Combination, 1917, 8h.p. M.A.G., equal new, Lucas lamps, horn, Easting screen, and hood; no reasonable offer refused.—18, Charleville Rd., Handsworth, Birmingham. [1945

6h.p. Matchless Combination, 2-speed, pedal starter, in good going order, just been thoroughly overhauled and repainted, Lucas lamps and horn; a bargain £75.—Bannister, Railway St., Chatham. [6730

THE Very Latest 1920 Matchless, very little used, quiet, equal to new, any trial, mag., engine, magdyno lighting, Lucas horn, speedometer; £215.—Dining Rooms, 468, Harrow Rd., W.9. [2199

MATCHLESS Latest Model H Spring-frame Combination, complete with Lucas Magdyno, spare wheel and tyre, luggage grid, only done few hundred miles, equal to new; £200.—Parker's, Bradshawgate, Bolton. [X3383

1920 Matchless, Model H, M.A.G. Engine, dynamo lighting, rear driven, speedometer, horn, hood, etc.; absolutely as new; £225; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [1179

MATCHLESS H, in stock, £215; also Matchless, dynamo, £230, or half down and 11 payments.—Lamb's, 151, High St., Walthamstow, 387, Euston Rd., London, N.W., and 50, High Rd., Wood Green, N. [1802

1920 (end of July) 8h.p. Matchless, hood, wind screen, Lucas dynamo lighting, Lucas horn, Watford rear wheel, speedometer, Tynesider pillion seat; £225; owner buying car.—Smith, 54, Queen's Rd., Nuneaton. [X3340

1920 Matchless Model H, speedometer, Lucas set and horn, pillion seat, leg shields, insurance, tyres perfect; £200, no reasonable offer refused; appointment.—32, Morrab Gardens, Water Lane, Seven Kings, Essex. [1948

NEW Matchless Combination 8h.p., with detachable wheels and dynamo lighting outfit, etc.; easy payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments; £231/17/6.—Harrods, Ltd., 118, Brompton Rd., London. [1997

1920 Matchless B., brand new, just delivered; too late, bought car; special M.A.G. engine, dynamo lighting set, hood, screen, horn, speedometer, special flap and step on sidecar; what offers on list?—Bedford, 13, High Rd., Lee, S.E. [1678

1916 Matchless Combination, 7-9h.p. M.A.G. engine, enclosed chain drive, 3 speeds, all lamps, Watford, clock, discs, hood, screen, Tan-Sad, in perfect order; £140; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, N.E. [1180

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Matchless combination, dynamo lighting model, also standard model, new, immediate delivery from stock, £230 and £205 respectively; also a second-hand 1920 model, J.A.P. engine, offers. [2463

FOR Sale, 1920 Matchless Model H Combination, M.A.G., Lucas Magdyno, electric horn, delivered August, 400 miles, complete as delivered; £220; seen any time by appointment; just obtained delivery of car.—Hewitt, Bank House, Sidcup. [1964

1920 (June) Matchless M.A.G. Combination, only ridden 450 miles, £25 worth accessories, including Lucas lamps, Easting, speedometer, etc., indistinguishable from new, spare wheel unused; owner getting car; any trial by appointment; price £205.—Apply, Eccles, The Oaks, Sulhamstead, near Reading. [2057

Metro

METRO-TYLER 1920 2½h.p. 2-stroke, perfect; £45.—10, Baronsmead Rd., Barnes, S.W.13. [2286

METRO-TYLER, 1920, 2¾h.p., lamps, accessories, low mileage, perfect; £55. — 2, Gorst Rd., Wandsworth Common. [1923

1920 2½h.p. Metro-Tyler, S type, 2-speed; list price, £95/18.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [2484

1920 2½h.p. Metro-Tyler, standard model, 2-speed; list price, £74.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [2485

MOTOR CYCLES FOR SALE.

Metro.

METRO-TYLER 1920 New S Type, 2-speed, 2-stroke, delivery from stock at list price, £80; one slightly used model: £75.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0066

METRO-TYLER, type S, latest model, brand new, 2¾h.p., 2-speed, with enclosed mag. and gear box; £80; delivery from stock. Local trade supplied.—Sole Birmingham agent, P. J. Evans, 83-91, John Bright St., Birmingham. [0260

Minerva.

2¾h.p. Minerva, mag., B.B., ride away; £18, or offer. —Bainbridge, 9, Ewell Place, Addington Sq., Camberwell, S.E.5. [1653

Moto-Reve.

2¾h.p. Twin Moto-Reve, working order; £30, or exchange anything reason.—Daffern, jun., Hawkesbury, Foleshill, Coventry. [X3377

Motosacoche.

MOTOSACOCHE (M.A.G.) 1914 3½h.p. T.T. Twin, Enfield 2-speed, only done 5,000, stored during war; £39/10.—Streeter, Marshall Rd., Godalming. [2115

New Hudson.

NEW HUDSON 2-stroke, delivery from stock; £75.—Rogers, 42, Church Rd., Hendon. [2185

NEW HUDSON Combination, 4h.p., 3-speed; £55; offers, must sell.—63, Arlingford Rd., Brixton. [2200

1914 New Hudson Big 6 Combination, good condition, had little use; £75.—248, Bentley Rd., Doncaster. [X3111

NEW HUDSON 2-stroke, fast machine, splendid condition; £36.—Marshall, 82, Hampstead Rd., N.W.1. [1876

NEW HUDSON 4h.p., 3-speed, clutch, Cancelet Minor sidecar; private owned.—Butterworth, 35, King St., Knutsford. [X3362

NEW HUDSON, 1920, 2-stroke, only done 300 miles, good condition; £60.—New Hudson Depot, 45, Gray's Inn Rd., London. [2428

6h.p. New Hudson Combination, late model, new condition; £110; ride 100 miles to purchaser.—Warwick, Hinckley Rd., Leicester. [X3402

NEW HUDSON 3½h.p. Combination, 1914, J.A.P. engine, B.B., Bosch, 3-speed gear, clutch; £60. —W.D., 5, Crawley Rd., Leyton. 1838

1920 New Hudson 2¼h.p. de Luxe, 2-speed, lamp set, horn, etc., little used, unscratched; £68/10. —Knight, 51, High St., Reigate. [2163

NEW HUDSON 2-stroke, mechanically perfect, excellent condition throughout; £40, or nearest.—Cable, Farnham Rd., Snape, Saxmundham. [1445

1920 New Hudson 2¾h.p., 2-stroke, unridden; list price £75, accept £67/10.—104a, Finchley Rd., Hampstead, N.W.3. 'Phone: Hampstead 7822. [2159

NEW HUDSON 3½h.p. Combination, 1915, 3-speed, splendid condition, lamps, horn, spare tubes, tyre; £95.—Hopley, Newfield, Moira, Leicestershire. [2259

NEW HUDSON 3½h.p., 1914, 3-speed and clutch, Bosch, B. and B., complete with lamps, horn, etc., good running order; £40.—Odell, Toddington, Dunstable. [1953

1920 New Hudson 2¼h.p., 2-speed, mileage under 200, absolutely perfect and better than new, most wonderful bargain; 60 gns.—'Phone: 1024.—Julian, Broad St., Reading. [1646

1920 New Hudson 2¼h.p., 2-speed, mileage under 200, absolutely perfect and better than new, most wonderful bargain; 57 gns.—'Phone: 1024.—Julian, Broad St., Reading. [2301

1915 New Hudson 2¾h.p., 2-speed, clutch, lamps, Klaxon, spare new tyre, good running order; bargain, first cheque 30 gns. secures.—90, Cromwell Rd., Eastney Portsmouth. [1962

1916 6h.p. New Hudson Coachbuilt Combination, 3-speed countershaft and clutch, complete with lamps, mechanical horn, tools, etc., in good running order; offers over £75.—33, Harrison Rd., Halifax. [1449

1914 New Hudson 3½h.p., 3-speed clutch, Cancelet sidecar, wind screen, tyres as new, lamps, horn, etc., excellent condition, 90 m.p.g.; trial; £75, or near offer; after 6.—38, Heathville Rd., Balham, S.W.12. [1891

NEW HUDSON, 1913, 3-speed, clutch, Bosch, B. and B., semi-T.T. bars, Pedley grips, new Dunlops and belt, electric head light, long exhaust pipe, all tools, spares, and accessories; first cheque £52 secures.—Cook, 6, Lendal, York. [1438

NEW HUDSON Lightweights, 1920, 2¼h.p., 2-speed £75, or fully equipped with head lamp and generator, tail lamp, and tubing, horn, L.C.C. registration, petrol and oil, £79/15.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399 [0280

New Imperial.

1917 2¾h.p. New Imperial-Jap, 2-speed, lamps; £48.—114, Brixton Hill. [2147

1919 New Imperial, 2¾h.p., 2-speed; £57/10.—Lewis, Jeweller, Alton, Hants. [1895

NEW IMPERIAL-J.A.P., 2¾h.p., 2 speed, good condition; £40.—174, High St., Tooting, S.W. [2168

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£35.—1914 New Imperial-Jap, in good condition, n tyre and lamps.—46, Gough St., Poplar, E. 'Phon East 1999. [14

IMPERIAL-J.A.P., 1918, only done 500 miles, m chanically perfect, equipped; £43.—14, Effra P ade, Brixton. [23

NEW IMPERIAL Lightweight, about 1916, 2-spe perfect, all accessories, spares, insured.—6, Pov Villas, Brighton. [16

NEW IMPERIAL 8h.p. Combination, practical new; 125 gns.; exchanges considered.—Longm Bros., Bond St., Ealing. 'Phone: 689. [23

NEW IMPERIAL 1919 8h.p., stored over a year, a only done 600 miles; £100 cash; seen by appoin ment.—Sladen, Kingswood, Gt. Missenden. [16

WAUCHOPE'S, 9, Shoe Lane, London.—2½h.p. 19 New Imperial-Japs, 2-speed clutch, and ki start models; £89/5; with 2-speed, only £80/17. [24

1915 New Imperial, 2½h.p., 2-speed, good con tion, accessories, practically new tyres; near £45.—Oliver, London House, Pulborough, Sussex. [20

1920 2½h.p. New Imperial, 2-speed, clutch and ki starter, complete lamps and horn, 150 m only, as new; £80.—Jackson Bros., Horsham, Susse [15

1920 New Imperial 8h.p. Models, solo or combi tion, just arrived.—Clapham (Motors), Stockwell St., Greenwich, S.E.10. 'Phone: Gre wich 751. [89

1920 New Imperial, 8h.p., Montgomery sidec horn, lamps, wind screen, excellent turno done less than 100 miles; £170.—Pritchard, Timb dine, Worcester. [18

8h.p. New Imperial Combination, 3-speed countersh hand clutch, etc., Imperial sidecar, lamps, ho everything complete; £125.—Wallis, 23, Harting Grove, Cambridge. [19

1920 8h.p. New Imperial Combination, almost n magnificently equipped, guaranteed perfect; c £209; approval, or will ride to purchaser; £166 Allen Jones, Poolhill, Carnarvon. [X33

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NEW IMPERIAL-J.A.P.—Immediate delivery fr stock of this popular 2¾h.p. machine, 2-sp model, £80/17; with clutch and kick starter, £89/ P. J. Evans, 83-91, John Bright St., Birmingham. [02

NEW IMPERIAL 1920 Light Tourist Model, 2½h Jap engine, 2-speed gear, shop-soiled, list pr £80/17; cash price £68.—Elce and Co., 15- Bishopsgate Av., Camomile St., E.C.3. 'Pho 5548. [00

1920 2¾h.p. New Imperial, with K.S. and clut as good as new, mileage 800, with all accessor paid £106 in June; highest offer above £90 secur bought combination.—Apply, P. S. Brar, R.M.C., C berley. [1

NEW IMPERIAL, 2½h.p., 1916 model, less engi re-enamelled and plated, discs, Dunlops, B. B. mag., £20, wants assembling; Albion 2-spe £5/10. — Particulars, Smith, 229, Maryvale F Bournville. [X3

O.H.V. 2¾h.p. New Imperial, J.A.P. twin, 2-spe C.S., 1919, very fast, won flying kilometre Brooklands, enamel and plating as new, special la plated exhaust pipe, lamps, horn, tools, engine bet than new; £95, offers, or exchange fast higher pow write for appointment, trial.—Legerton, Perse Hou Glebe Rd., Cambridge. [20

New Ryder.

NEW RYDER, J.A.P. 2¾h.p., 2 speeds; £45.— Edney, 180, Colliers Wood, Merton. [1

Norton.

NORTONS, all models, reasonable prices; list application.—32, High St., Reigate. [2

NORTON Combination, Big Four, 1920, per order; £165.—Eastwood, Horsmonden. [9

BRAND New Norton, special 1921 Isle of Man ty 3-speed, unused; offers.—Box 8,237, c/o *The M Cycle*. [2

1920-21 T.T. Norton, delivered this week, owner combination; £115; Cheshire.—Box 8,177, *The Motor Cycle*. [1

£70.—4h.p. Norton combination, C.B. sidecar, speeds, clutch; any trial.—151, Ramsden R Balham, S.W.12. [2

SPORTING Norton, countershaft, Norton bulb sidecar, fully equipped; £97/10.—Tunstall, Bol Rd., Ashton-in-Makerfield. [2

T.T. Norton, 1911, good condition, lamps, horn, g tyres, new belt; a bargain, £30.—Apply, Ibis Newland, Ulverston, Lancs. [2

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)20 Norton Combination, electric lighting, wind screen, etc., done 2,000 miles; £160.—The One e Motocycle Co., Huddersfield. [2331

Lh.p. Sports Norton, 1919, Watsonian R34 sidecar 2 painted to match tank, perfect running order; 35, or near offer.—Chapman, 5 Coy., R.M.C., Cam- ley. [2097

)20 Norton, special order, do 75 m.p.h. any time, Philipson pulley, latest Brooks saddle, first in climb, small mileage, perfect, all accessories; rs.—Ward, 81, Monks Rd., Lincoln. [2005

)15-16 B.R.S. Norton, Sturmey-Archer counter- shaft, complete lamps, horn, pump, tools, tyres, ing, enamel, as new; engine perfect, easy 60; k sale, £97/10.—Richardson, Station Rd., Byfleet, rey. [1686

)20 Sporting Norton Outfit, Big Four engine, Mabon gear specially constructed for hill climbs speed work aluminium discs, lamps, horn, etc.; e 135 gns.—'Phone: 1024.—Julians, Broad St., ling. [1823

)20 Sporting Norton Outfit, Big Four engine, Mabon gear especially constructed for hill-climbs speed work, aluminium discs, lamps, horn, etc.; 135 gns.—'Phone: 1024.—Julian, Broad St., ling. [2302

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OLTON.—Latest N.U.T. in stock, Grosvenor sporting sidecar to match.—Grosvenor Garage, Bolton. [X3479

16 3½h.p. N.U.T.-J.A.P., o.h.v., good tyres, excellent condition; £60.—Bensby, Much Hadham. [1499

ANK WHITWORTH, Ltd., 139, New St., Birmingham. — N.U.T., £165, from stock, free ery. [X1220

U.T. 3½h.p. Twin, Mag-dyno lighting, delivery from stock; £165.—Maudes' Motor Mart, 100, St., Exeter. [2357

J.T., 1920, Magdyno lighting, £15 worth extras, and insurance; £160.—Oliver, Kidbrooke Park, t Row, Sussex. [1684

J.T., 1918, 3-speed gear box, Swan sporting sidecar, all in perfect condition; accept £82.—Moffatt, Garratt Lane, Earlsfield, S.W.18. [2474

20 (July) N.U.T., Lucas dynamo lighting, unscratched; no reasonable offer refused.—Hughes, Vest St., Porthill, Stoke-on-Trent. [2169

SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for delivery; write or 'phone for particulars.—Tel.: 114.

4-15 2¼h.p. N.U.T. Twin, overhead valves, new tyres and belt, long exhaust pipes, in excellent ion; £65.—R. Bamber and Co., Ltd., 2, East- St., Southport. Tel.: 607. [2494

.T., 1920, dynamo lighting, run 500 miles, 3½h.p. twin J.A.P. engine, 3-speed gear box, kick r, hardly soiled; accept £130 cash.—Moffatt, 406, tt Lane, Earlsfield, S.W.18. [2473

.T.—Delivery from stock of these models, equipped with magdyno lighting, price £165; sole wholend retail agents for Staffordshire, the trade sup--The Walsall Garage, Walsall. Tel.: 444. [9002

.T. 1920 New 3½h.p. Twin, Lucas magdyno lighting set, delivery from stock, £165; also todel slightly used; £135.—Elce and Co., 15-16, sgate Av., Camomile St., E.C.3. 'Phone: Avenue [0065

O.K.

2½h.p., 2-speed, splendid condition; £38, offers.—27, Carew Rd., Ealing, W.13. [1924

2¼h.p., 1915, 2-speed, tyres good, in excellent ondition; £35.—Pierce, Holmwood, Dorking. [2233

2¾h.p., 2-speed, perfect, complete with lamps, c.; £30.—Francombe, Queen St., Plymouth. [1487

O O.K., Villiers 2-stroke, cost £50, practically new; what offers?—Avery, 524, Coventry Rd., gham. [1489

-VILLIERS 2½h.p., new 1920 model; £50; immediate delivery.—Marston, 31 and 33, Bridge heater. [2373

Junior, 48 gns., £26 down and 11 payments.—amb's, 151, High St., Walthamstow, 387, Rd., London, N.W., and 50, High Rd., Wood N. [1806

-J.A.P. 1916 2¾h.p., 2-speed, in good running rder and condition, £60; also two cycles, in running order, £7 each.—J. Bradley, 16, King idlow. [1785

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O Omega-Jap 2¾h.p., new June, 2-speed, long xhaust, mileage under 300; £66.—Stanford, Langhear Biggleswade, Beds. [1940

GA-J.A.P.'s in Stock.—Models B, 2-speed, £72; , 2-speed, hand clutch, kick start, £80; carriage Washburn, Cheadle, Staffs. [1565

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19 19¾ Omega, 2¾h.p. J.A.P., 2-speed, equipped, spares; £55, nearest; owner bought combination. —18, Tabley Rd., Tufnell Park, Holloway. [2037

OMEGA-J.A.P., late 1919, 2¾h.p., 2-speed, horn, lamps, accessories, back tyre new, insurance, exceptional condition; offers.—Totland, Station Rd., Orpington, Kent. [X3337

19 19 (Sept.) Omega-Jap, 2 speeds, lamps unused, mechanical horn, complete outfit, tools and spares, original tyres, perfect; £65, or offers; seen any time.—Allum, 9, Salisbury St., Shaftesbury, Dorset. [1538

P. and M.

P. and M. C.B. Combination, good condition; £75. —12, Brewer St., Pimlico. [1909

P. and M. 1920 Model, delivery from stock; £115.—Maudes' Motor Mart, 100, Paris St., Exeter. [2358

£28.—3½h.p. P. and M., about 1912, 2-speed, clutch, ride away; bargain.—King, Egrove Farm, Oxford. [X3468

BRIGHTON, Hove and District P. and M. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0204

P. and M., very latest combination, run 500 miles; bargain, £150.—41, Ashford Rd., Cricklewood, London. [2073

19 20 P. and M. Combination, built August, 1919, complete equipment. — Sharp, Highfield Mill, Cleckheaton. [1484

P. and M. Combination, late R.A.F. model, nice running order; accept £70.—103a, High St., Wandsworth. [2189

P. and M., 1919, excellent condition, Lucas accessories; £80.—Noakes, Hope School, Leominster, Herefordshire. [2284

19 19 (September) P. and M. Combination, condition equal to new, perfect outfit, mileage 3,000; £120. —248, Beutley Rd., Doncaster. [X3110

19 20 P. and M., latest improvements, and sidecar, Lucas lamps, mechanical horn, perfect condition; £130.—18, Queen St., Leicester. [2074

P. and M. Combination, 1919, electric lighting, very carefully used, privately owned; 120 gns.—Write Vernon Robinson, Charlecote, North Finchley. [2241

P. and M., late 1919, Sandum sidecar, hood and screen, acetylene head light and electric on sidecar; £115.—Somerset Villa, Granville Rd., Wandsworth. [1604

19 18 P. and M., 2-speed, kick starter, good tyres, excellent condition, mechanically perfect; £65, sidecar if required £10.—66, Church Rd., Barnes, S.W. [2076

19 20 P. and M., latest model, mechanical lubrication, P. and H. lamps, horn, registration, perfect condition, done 200 miles; £120.—Geo. Briggs, Whitchurch, Salop. [2239

P. and M. Combination, 1919, not a W.D., electric lights and horn, spare chain, 3 spare tubes, etc.; £115, or near offer.—4, Woodthorpe Rd., Putney, S.W.15. [2268

P. and M. Combination, 1919 (Sept.), lamps, horn, tools, fine lot, only wants seeing, splendid condition; ride away; £105.—Apply, 110, Croydon Rd., Caterham Valley. [1419

19 19 P and M. 3½h.p., absolutely perfect condition, done 1,000 miles, lamps, horn, tools, two extra toolbags; £85, complete.—H. Thompson, 48, Chapel St., Scunthorpe, Lincs. [2006

19 19 P. and M. Combination; £135 cash, or half down and 11 payments. Lamb's, 151, High St., Walthamstow, 387, Euston Rd., London, N.W., and 50, High Rd., Wood Green, N. [1810

19 19 P. and M. Combination, bought new by present owner, speedometer, 3 spare chains, plating and enamel perfect; expert examination invited; £95. —H., 34, Cotterill Rd., Surbiton. [1835

19 19 3½h.p. P. and M., 2-speed, kick start, lamps horn, Cowey speedometer, delivered new Feb., 1920, as new; £105.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [2489

125 P. and M. 1917-19 Motor Cycles, ex-R.A.F.; these machines have been thoroughly reconstructed throughout; £65 each.—Stanley Smith and Co., 1, Albemarle St., Piccadilly, W. [2340

19 17 P. and M., sidecar, dash, screen, new chains, lamps, horn, spare cover, tube, valve, 85 m.p.g.; £85; private owner.—Maida Vale Motor Garage, Portsdown Rd., W. (next Bakerloo Station). [2112

19 20 P. and M., done 750 miles, lamps, Klaxon, spares, coachbuilt sidecar, done 100 miles, Easting screen, all guaranteed perfect; £160, or nearest.—Fry, 39, Walliscote Rd., Weston-super-Mare. [1601

P. and M., Army model, P. and H. lamps, bulb, and Cowey horns, King Dick tool roll, tyres and tubes practically new, very economical, enamel excellent; £75.—Pope, 62, Holland Park Av., London, W.11. [2262

19 20 P. and M. Combination (March), R.A.F. model, not W.D., Lucas lighting, Cameo screen, all accessories, fully insured, perfect condition and appearance; expert examination invited; £135.—15, Caird St., Queen's Park, W.10. [1731

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P. and M. Combination, July, 1919, all accessories, spares, etc., splendid order, price £105; also large sidecar, nicely upholstered, bulbous back, suit heavy machine; £20; no dealers.—J. W. Turnham, 32, Muirkirk Rd., Catford, S.E.6. [2096

P. and S.

NEW 2¾h.p. P. and S., fitted with the Villiers 2-stroke engine, 2-speed; £73.—Wauchope's, 9, Shoe Lane, London. [2458

PEARSON-SOPWITH, Oct., 1919, 2¾h.p., 2-speed, semi-T.T., lamps, etc., guaranteed perfect; any trial; nearest £60, cost £72; new condition; naval owner going abroad.—41, York Rd., Deal, Kent. [1546

Precision.

3¾h.p. Precision, Bosch watertight, B.B., Mabon gear, lamps, horn, speedometer; £35/10.—136, Fore St., Edmonton, N.18. [1871

2¾h.p. Precision, C.A.V. mag., B. and B., lamps, horn, adjustable pulley, B. and L. drip; £26.—Houlston, 560, King's Rd., Fulham. [2154

3¾h.p. Precision, 3-speed, speedometer, spare tyre and belt, very powerful, little used, excellent condition; £50.—31, Basuto Rd., Fulham. [1976

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3½h.p. Premier Motor Cycle, good running condition; seen any time.—F. Randell, Ltd., North Walsham. [1428

3½h.p. 3-speed Premier and C.B. sidecar, all accessories; £45.—Gray, 1, Church Rd., Heston, Middlesex. [1493

PREMIER 1914 3½h.p., 3-speed countershaft gear box, clutch and kick starter, spring forks, lamps, etc., genuine machine; 60 gns.—Woodside, Robin Hood Lane, Sutton, Surrey. [1874

PREMIER 1914 3½h.p., 3-speed, clutch, coachbuilt sidecar, folding chassis, goes through ordinary doorway, good condition; evenings after 6, Saturday after 2; £60.—Merton Hall Farm, Romford. [1441

PREMIER, 1915, 3-speed, countershaft, K.S., clutch, Bosch, B. and B., good tyres, perfect condition, electric lighting, £80; also sidecar, Henderson, brand new, £20; combination, £98; good solo part exchange.—Wilson, Redbrook Rd., Gawber, Barnsley. [X3475

Quadrant.

QUADRANT 1920 4½h.p. Combination, in stock; makers' price.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [8878

QUADRANT 3½h.p., Bosch, B.B., good tyres, footboards; first cheque £28 secures.—Kenning, Wellington St., Mexborough, near Rotherham. [1683

CLIFFORD WILSON Co.—1920 solo Quadrant, lamps, horn, small mileage, as new; £100.—70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. [1229

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NEW 4½h.p. Quadrant Combination, to makers' specification; at list price, including carriage from works, £147/7/3; or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [1988

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RADCO 1915 2-stroke, just overhauled, perfect; £32, offers.—40, Southwood Av., Highgate. [1936

RADCO 2-stroke, electric light, all accessories; £36; fine little mount.—35, Freegrove Rd., Holloway, N. [1890

RADCO, 1915, 2¼h.p., 2-speed, new tyres, lamps, horn; £40; Saturdays 3 to 8.—211 Melfort Rd., Thornton Heath, Surrey. [1911

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READING-STANDARD Combination, 1920 (T[.] dynamo, screen, speedometer, practically new, [a] fine outfit; £190; would consider an exchange. Cl[.] Sundays.—Bunting's Motors, Wealdstone, Harrow. [2

1919-20 Reading-Standard 10h.p., 3-speed, K.S[.] lamps, horn, pillion, roomy bulbous back [s] car, hood and screen, in perfect condition; £155 [o] offer. — 104a, Finchley Rd., Hampstead, N.[W.] 'Phone: Hampstead 7822. [2

Rex.

1914 Rex 4h.p., Bosch mag., free engine, ha[d] start, any trial; 28 gns.—22, Fort St., Sp[a] fields, E.1.

REX 3½h.p., B.B. carburetter, Eastman mag., Dunlop inner tube, running order; £15.—34, vert Rd., Battersea.

5-6h.p. Rex with Wicker Sidecar, in splendid run order; £38, for quick sale; room wanted.—8,163, c/o *The Motor Cycle.*

1912 Rex Combination, 5-6h.p. and good tyres, been thoroughly overhauled; £35.—104a, Fi[n]ley Rd., Hampstead, N.W.3. 'Phone: Hamps[t] 7822. [2

1920 8h.p. Rex Combination, Model 55, Blackb[.] engine, electric lighting and horn; owner bu[.] car; price £215.—Stanley Motories, Ltd., Hal[.] 'Phone: 55.

Roc.

4h.p 2-speed Handle Starter Roc, Bosch, new private owner going abroad; first M.O. £21; carriage paid.—Baker, 49, Murray St., York.

Rover.

3½h.p. Rover, T.T., Philipson, fully equipped, [a] to new; £50.—82, Church Rd., Mitcham.

1920 (March) T.T. Rover, Philipson, Binks, 2,400; £89.—Conybeare, Shaldon, Teignmou[th] [X

ROVER 1920 5-6h.p., 3 speeds, chain drive; £1[.] Eagles and Co., 275, High St., Acton, Lond[.] [X

ROVER 3½h.p., 2 speeds, clutch, new condition; gain, £52.—Skidmore, Baslow Rd., Bakewell.

ROVER, 1915, clutch, accessories, as new, s[.] during war; £68.—Trodd, 41, Griffin Rd., P[.] stead.

1920 Rover 3½h.p. T.T., Philipson pulley, al[.] unused; best offer.—Fulwood, Grammar Sc[.] Preston.

ROVER 3½h.p., 3-speed hub gear and Swan sid[e] in fine running order; £85.—Cleden, Old Wi[n] Rd., Andover.

ROVER W.D. 1920, No. 1 Montgomery sidecar, fect condition; £120.—Robinson, Colsterw[.] Grantham. (D)

ROVER, T.T., late 1919, horn, tools, spares, new, fast; £80.—Barker, 123, Edmund Saltley, Birmingham. [X

1916 3½h.p. Rover Combination, recently hauled, spares, horn, pillion seat; £105. George St., Coventry. [X

ROVER, 5-6h.p., 1920, and Middleton large sidecar, with hood, screen, lamps, excellent dition; £185.—155, Bromyard Rd., Worcester.

ROVER 3½h.p., 1914, 3 speeds, clutch, lamps, belt, and tyres nearly new, splendid running o[.] bargain, £52.—W. Badger, Ham Green, Redditch.

ROVER 1916 W.D. Model 5-6h.p. Combination, good order, complete lamps and tools, few s[.] On view Ripley.—Stronge's Garage, South Farnbo[.] Hants.

ROVER 1919 3½h.p., 3-speed countershaft, lamps, accessories, insurance June, 1921, p[.] condition, only 973 miles.—Bell, 88, Broadway, [.] ampton.

ROVER 5-6h.p. Combination, W.D., Nov., only 700 miles, Easting wind screen, speedo[.] lamps, tools, etc.; £135.—8, Boveney Rd., Honor[.] Park, S.E.

3½h.p. T.T. Rover, brand new, only been 500 Philipson pulley, hand-controlled clutch, horn, complete; £95 cash.—Wallis, 23, Hart[.] Grove, Cambridge.

1919-20 3½h.p. Rover, countershaft, speedo[.] accessories, mileage 2,500, perfect; nearest with £40 sidecar £130), or exchange higher p[.] Burn, Rydalmount, Potters Bar.

1919 5-6h.p. Rover, Cowey speedometer, Klaxon, Pedley grips, T.T. bars, hand an[d] clutch, good condition; £135 cash, no offers.—J. Alexandra Rd., Uxbridge, Middlesex.

ROVER 1920 5-6h.p. Combination, latest type b[.] back sidecar, slightly shop-soiled, list price special cash price, £205.—Elce and Co., 15-16, B[.] gate Av., Camomile St., E.C.3. 'Phone: Avenue

MOTOR CYCLES FOR SALE.

Rover.

OVER 3½h.p., 1920 (July), specially built, T.T. (75 m.p.h.), 3-speed, K.S., clutch, done 300 miles. m.p.g., all accessories, insurance; cost £165, 148 —Perkins, 347, High St. North, Manor Park. one: East Ham 5. [1758

EW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart coachbuilt car; £180 or on easy payments 5% extra; one ter deposit, balance by 12 monthly instalments.— rods, Ltd., 118, Brompton Rd., London. [1989

Royal Ruby.

19 Royal Ruby, 8h.p. J.A.P., combination, 3-speed, K.S.; £115.—9, Church Rd., Willesden. [1965

OYAL RUBY 2-stroke, excellent condition, acces-sories; £30.—2, Denbigh Villas, Tiverton Rd., uslow. [1421

OYAL RUBY 2-stroke, economical, lamp set, new Dunlops; bargain, £32/10.—122, Wood Vale, ior Oak. [1906

20 Royal Ruby 3h.p., spring frame model, brand new, unpacked; £105.—Box 8,244, c/o *The or Cycle.* [2312

ATE 1919 Royal Ruby 2¾h.p. 2-stroke Villiers engine, heavy Dunlops, lamps; £55, offer.—Forrest. Peter's, Meads, Eastbourne. [1446

10h.p. Royal Ruby Combination, Jap engine, overhead valves, sporting model; good condition; £130. pply, T. Shears, 66, Murray Rd., Rugby. [1366

20 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydes Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

20 3½h.p. Spring Frame Royal Ruby, ridden under 50 miles, as new; list price £120, our e £100.—Kays, 8, Bond St., Ealing Broadway, W.5. [1504

OYAL RUBY Combination, 8h.p., perfect condition; any trial and examination; £175; fitted d and screen, etc.—Masters, Claremont, Colnbrook. [1848

100.—Royal Ruby, 1918, 8h.p. J.A.P., 3-speed, hand clutch, kick start, re-enamelled and plated, black gold lined, Mills-Fulford C.B. sidecar, mechanically ect, worth double, cash needed.—272, Green St., est Gate. [8234

OYAL RUBY 8h.p. Combination, delivered 25th August, 1917, lamps, tools, horn, wind screen, uge grid, etc., guaranteed to have been overhauled, ing and enamelling as new; £125, or offers.—135, ware Rd., W.2. [2378

REAL Bargain.—1919 8h.p. J.A.P. engine, Royal Ruby combination, new P. and H. lighting set Lucas horn, Easting wind screen, new Dunlop s all round; any trial; £110, no offers.—Kays, 8, d St., Ealing Broadway, W.5. [1503

.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, equipped with Tan-Sad pillion seat, ps, mechanical horn, etc., very little used and con-on as new; £110; may be obtained on easy pay-nts.—Harrods, Ltd., 118, Brompton Rd., London. [1986

Rudge.

UDGE Multi 3½h.p. T.T., 1920 new model; £110. —Below.

UDGE 6h.p. Combination, new 1920 model; £160. —Below.

UDGE 3½h.p., with special sporting sidecar; £125; immediate delivery.—Marston, 31 and 33, Bridge Chester. [2371

UDGE Multi 3½h.p., late model, splendid condition; £70.—Longney, Oswestry. [X1708

UDGE I.O.M. Model in stock; £110/5.—Clark, 7, Exhibition Rd., South Kensington. [9934

19 Rudge Multi 3½h.p. and Sidecar.—Write, 22, Leam Terrace, Leamington. [1772

UDGE Multi 3½h.p., T.T., 1920 model, nearly new; best offer.—45, Gray's Inn Rd., London. [2429

20 (May) T.T. Rudge, brand new condition; any reasonable offer.—Nelson, Berkeley Hotel, Brigh- [1407

20 Rudge Multi, I.O.M. Model, clutch, pedal starter; 105 gns.—Merstham Garage, London Merstham, Surrey. [2255

UDGE Multi, 1920, I.O.M., almost new; 89 gns.; exchanges considered.—Longman Bros., Bond St., ling. Phone: 689. [2354

UDGE Multi, 1914, fitted complete, good con-dition; what offers?—Hewin's Garages, Ltd., the l service firm, Taunton. [1718

UDGE Multi 3½h.p. Combination, coachbuilt car, 1915 model, excellent condition; £85.—5, Harold ., Upper Norwood, S.E.19. [2253

20 I.O.M. Rudge, brand new; in stock at list, exchanges, or easy payments; £110.—2, Nightgale Rd., Lower Clapton, N.E. [1173

20 I.O.M. Rudge Multi, new June, mileage 800, perfect condition; first cheque 80 gns. accepted. Frampton, Terrace Walk, Bath. [2238

90.—1920 I.O.M. T.T. Rudge, mileage 300, lamps, horn, etc., spares, and insurance, condition as new. 44, Park Av. South, Hornsey, N. [1737

EASTERN GARAGE

Second-hand Machines Guaranteed.

1914 **SUNBEAM-J.A.P.** 6 h.p., 3-speed, countershaft, all-chain drive, screen, Lucas lamps and horn £130

1920 **LEA-FRANCIS,** 3½ h.p., Henderson sidecar, P. & H. lamps, Lucas horn, speedometer. As new £150

1920 **HARLEY-DAVIDSON,** 7-9 h.p., and sidecar. All accessories £210

W.D. **NEW IMPERIAL** 8 h.p. Combination, Lucas lamp, Cowey horn, speedometer, screen £130

1912 **WOLFRUNA-PRECISION,** 3½ h.p., lamps, and horn £38

1920 **METRO-TYLER,** 2½ h.p., 2-stroke, 2-speed, all accessories £65

1919 **JAMES,** 2½ h.p., 2-stroke, 2-speed, as new £65

1918 **ARIEL** 5-6 h.p. Combination, lamps, horn, speedometer, screen £130

W.D. **P. & M.,** 3½ h.p., 2-speed, kick starter, and new Millford sidecar £103

W.D. **P. & M.,** 3½ h.p., 2-speeds and kick starter £78

1920 **DOUGLAS,** 2¾ h.p., 3-speed, clutch, and kick starter. As new £100

1918 **DOUGLAS,** 2¾ h.p., 2-speed £65

1919 **JAMES** 4½ h.p. Combination de Luxe £140

1920 **MATCHLESS** 8 h.p. Combination, dynamo lighting, speedometer, hood, and screen £230

1920 **ZENITH** 8 h.p. Combination, lamps, horn, luggage grid £190

1920 **BROUGH,** 5 h.p., Swan Sporting sidecar, speedometer, disc, screed £160

W.D. **NEW IMPERIAL,** 8 h.p., Canoelet sidecar, Easting windscreen, lamps, and horn £130

W.D. MODELS.

Completely Reconstructed and Re-enamelled.

P. & M., 3½ h.p., 2-speed, clutch, and kick-starter £82

P. & M., as above, with sidecar £105

DOUGLAS, 4 h.p., 3-speed, clutch, kick starter, and sidecar with apron £120

TRIUMPH, 4 h.p., 3-speed, clutch, and kick starter £98

ROVER 5 h.p. Combination, 3-speed, clutch, and kick starter, all chain £145

NEW IMPERIAL 8 h.p. Combination, 3-speed, clutch, and kick starter £145

NEW 1920 MOTOR CYCLES.

For list see separate full page advertisement.

DEFERRED PAYMENTS ARRANGED.

The Eastern Garage Co.,

418, Romford Road, Forest Gate, E.7.

Telephone: 490, East Ham.
Telegrams: "Egaraco, London."

MOTOR CYCLES FOR SALE.

Rudge.

RUDGE.—All 1920 model, ex-stock; £110/5; easy payments.—125, High St., Woolwich. [6094

RUDGE Multi, 1920, T.T., practically new, F.R.S. lamps, Klaxon, speedometer, knee grips; £105.—Staite, Chesterfield, Ockbrook, Derby. [2086

GENUINE Brooklands Model Rudge, adjustable pulley, very fast, good condition, overhauled; £42. —Crickmay, Nook, Oatlands, Weybridge. [1408

RUDGE Multi, 1920, I.O.M. T.T. model, not done 1,000 miles, fitted complete; what offers?—Hewin's Garages, Ltd., the real service firm, Taunton. [1719

RUDGE 1920 7-9h.p. and 5-6h.p. Multi Combination, in stock; makers' price.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [8876

NEW Rudge Multi 3½h.p., fitted with smart coach-built sidecar; £143/10, or on easy payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [1992

1916 Rudge Multi, re-enamelled, tank renovated by makers, top-hole condition; must sell, best offer over £75.—C/o Fox, 226a, Unthank Rd., Norwich. [X3432

1920 3½h.p. I.O.M. Rudge Multi, 2 lamps and generator, mechanical horn, full kit; £95.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31. [1657

RUDGE Multi 3½h.p. 1915 Coachbuilt Combination, kick start, clutch, lamps, horn, spares, first-class running order; 80 gns.; no dealers.—50, Bateman St., Cambridge. [1734

RUDGE Multi 3½h.p. 1919 T.T., lamps, horn, speedometer, insurance policy, no additional expense; nearest £120.—Wilkinson, Rearsby, Blundell-sands, Liverpool. [7895

RUDGE Multi, 1914, 3½h.p., clutch, pedal starter, lamps, horn, speedometer, good tyres, new belt, recently overhauled; ride away; £50.—21, Leadale Rd., Stamford Hill, N.16. [1636

RUDGE, 1914, been overhauled, cylinder reground, new piston and connecting rod, Philipson, new back tyre, Binks carburetter, fast; £45; must clear.—Cowe, G.N. St., Morley, Leeds. [1448

1920 (May) Twin Rudge Multi and Rudge sidecar, condition and appearance as new, electric lighting, speedometer, Klaxon and spares; £190; expert examination invited.—319, New Church Rd., Hove. [9136

1920 Brand New I.O.M. Rudge 3½h.p., sloping tank, multi gear and free engine, £110/5; also second-hand Rudge, 1919 model, £85; another, single speed, 1914, £35.—Wauchope's, 9, Shoe Lane, London. [2462

3½h.p. Rudge Multi, T.T., £110/5; 7-9h.p. Rudge twin, Multi gear, clutch, and foot starter, with smart Rudge sidecar, etc., £180; may be obtained on easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [1999

RUDGE I.O.M. in Stock, £110/5; also with sporting sidecar, £125, fully equipped; or half down and 11 payments.—Lamb's, 151, High St., Walthamstow, 587, Euston Rd., London, N.W., and 50, High Rd., Wood Green, N. [1811

1920 5-6h.p. Rudge Multi and Rudge Sidecar, not done 100 miles, fitted with 3 Lucas lamps, mechanical horn, full kit of tools, etc., absolutely as new; accept £150, no offers.—Sloan, 8, Hawthorn Terrace, Renfrew. [8094

COMPETITION Winning I.O.M. Rudge Multi, clutch, June, 1920, cost £140, specially tuned engine, racing cams, eletric lighting, speedometer, discs, T.T. bars, Tan-Sad, Klaxon, knee grips, tube and case, all spares, insurance; owner ordered abroad; bargain, 98 gns.—38, Elmbourne Rd., Balham. [1884

RUDGE 3½h.p. Motor Cycle, perfect condition and running order, 90 to gallon, starts on spring stand, thoroughly overhauled by makers last June and latest pattern, cylinder connecting rods, and piston fitted, new Dunlops back and front last July (receipts), Lucas lamp, all accessories, 2 spare tubes, spring cushion behind, 1912 model, but entire new back frame and wheel last March; cash price, immediate sale, £75; London 15th-25th Oct.—Sgt. S. Smith, Depot Royal Warwickshire Regiment, Warwick. [2404

Scale.

1920 Scale, 3¼h.p. Precision 2-stroke, 2-speed, complete with lamps and horn, only been 700 miles; £72.—Leresche and Winder, Honiton, Devon. [2321

Scott

SCOTT 3¾h.p., special new 1920 T.T. model; £140. —Below.

SCOTT 3¾h.p., semi-T.T. new 1920 model; £140; immediate delivery.—Marston, 31 and 33, Bridge St., Chester. [2370

SCOTT Combination, new, 3in. tyres; £190.—Grimes, 18, Bruton Place, Bond St., W.1. [2337

WAUCHOPE'S, 9, Shoe Lane, London.—New 1920 Scott, delivery from stock; £140. [2450

SCOTT, new condition, latest model; list price £145, accept £105.—3, Parker Lane, Burnley. [X0701

SCOTT, 1920, special sporting model, solo £115, sidecar £145.—Box 671, c/o *The Motor Cycle.* [X3375

1920½ Scott Combination, small mileage, as new; £175.—8a, Lower Grosvenor Rd., S.W.1. [1465

MOTOR CYCLES FOR SALE.

Scott.

SCOTT, new 1920 model; delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0301]

1920 Scott Combination, small mileage; £163. Merriman, Beech Tree Lane, Cannock, Staffs. [1695]

SCOTT, October, 1919, fine condition; £115, or near offer.—Billing, 1, St. John's Terrace, King's Lynn. [1478]

SCOTT 1917-18 Combination, splendid condition; 78 gns.; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [2414]

1915 Scott C.B. Combination, speedometer, etc.; £69.—769, The Broadway, Manor Park, East Ham, London, E. [1677]

1920 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £120.—Dallaway, Fruit Merchant, Smethwick. [0275]

1919 (Dec.) Scott, with Henderson sidecar, complete with new tyres and all accessories, condition perfect; £130.—1, Bloomfield Rd., Blackpool. [1642]

SCOTT 1920 3¾h.p. Model, complete with head and rear lamps, full T.T. bars, very fast, indistinguishable from new; £135.—Parker's, Bradshawgate, Bolton. [X3393]

SCOTT, 1920, like new, Binks, electric lamps, battery, 3 lots handlebars, T.T., standard, semi-T.T., complete Tan-Sad pillion seat; £118/10.—124, Kirkgate, Wakefield. [1730]

3¾h.p. Scott Combination, engine No. 3664, delivered Oct., 1919, mileage 1,400, disc wheels, D.A. cyl. for head lamp, electric side and tail lamp, Klaxon, Palmer tyres, speedometer, the whole as new; £160.—Sands, Burnham, Bucks. [1432]

Singer.

4½h.p. Singer, 2 speeds, countershaft, with sidecar, lamps, etc.; £50.—North Wales Motor Exchange, Wrexham. 'Phone: 283. [X3533]

SINGER 4½h.p. Combination, Sensprav, Bosch, 2 speeds, clutch, new tyres and bearings, just overhauled £15), stored during war; expert examination and trial; nearest £90.—128, Clapton Common, N.E. [1669]

Sparkbrook.

NEW 2½h.p. Sparkbrook, 2-stroke, single-speed; £69; 2-speed, £75, in stock, or on extended payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [1979]

Sun.

2¾h.p. Sun Lightweight, 2-speed, 1916, guaranteed first-class order; photo; exchange for piano.—Prentice, 19, Morriston St., Cambuslang, near Glasgow. [X3113]

SUN-VITESSE, October, 1919, 2-stroke, 2-speed countershaft gear, used short runs only, tyres good, fine running order; trial any day any time: £48.—Shelswell, Cricket Green, Mitcham. Terminus 88 'bus. Tel.: 822 Mitcham. [2049]

Sunbeam.

1920 Sports Model 3½h.p. Sunbeam, new.—B. Parkinson, 65, Cocker St., Blackpool. [1531]

SUNBEAM 3½h.p. for Immediate Delivery.—Russell, Lawrence St., York. Tel.: 744. [9183]

1920 Sunbeam, 3½h.p., electric lighting, 600 miles; £146.—133, Barkerend Rd., Bradford. [1458]

BRAND New 3½h.p. Sunbeam; immediate delivery; list price.—Box 8,250, c/o *The Motor Cycle*. [2379]

SUNBEAM Combination, 1920, brand new; £10 under list price.—Norman Whitehouse, Bridgtown, Cannock. [X3493]

NEW 1920 3½h.p. Sunbeam, sports model, at list price, plus delivery charge.—Beck, Thornhill, Hoole Rd., Chester. [X3104]

1918 3½h.p. Sunbeam, perfect appearance and running order; £115.—Loweth, 6, Mt. Pleasant Rd., Ealing. [2092]

SUNBEAM, 1920, sporting model, indistinguishable from new; best offer over £145.—25, Ormiston Rd., Shepherd's Bush. [2015]

SUNBEAM 4h.p. Combination, 1919, mileage 3,000, better than new; £160.—Louvant, Manor Gate Rd., Kingston-on-Thames. [1509]

SUNBEAM 3½h.p., 1914, good order, smart little sidecar attached; £110, or near offer.—Bunting, Motor Exchange, Wealdstone. [2384]

1919 3½h.p. Sunbeam, perfect throughout, lamps, Klaxon; trial; £145, or reasonable offer.—Still, Girls' Grammar School, Watford. [1416]

£87, 10 (nearest).—1914 Sunbeam, 3½h.p., 3-speed, re-enamelled, after 6.30 p.m.—120, Marlborough Flats, Walton St., Chelsea, S.W.3. [X3445]

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; £110.—C. Barton, Clapham, Yorks. [0246]

SUNBEAM, brand new 3½h.p., solo model, with Lucas lamps and horn; £170.—The Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9004]

SUNBEAM 8h.p., M.A.G. 1917, fine sidecar, wind screen, speedometer, electric lighting, spare wheel; best above £150. Queen's Head, Waltham Abbey. [2103]

CONSIDERABLY UNDER LIST PRICE.

MILEAGE NEGLIGIBLE.

1920 **ROVER,** 3½ h.p., T.T., Philipson, as new, unscratched £95

1920 **MATCHLESS** Model H Combination, Lucas Magdyno, as new £225

1920 **ROVER** and Swan Sports Sidecar, all lamps, speedometer, unscratched £160

1920 **HARLEY** and Dinky Sports Sidecar, £40 worth of accessories, as new £205

1920 **AMERICAN X** and Dunhill's Limousette Sidecar, as new £185

1920 **ROYAL RUBY,** 3 h.p., spring frame, 2-speed, clutch, and kick starter £100

1920 **DOUGLAS,** 2¾ h.p., 2-speed, lamps, and horn, unscratched £92 10

1920 **RUDGE,** 3½ h.p., I.O.M., and Canoelet Sports Sidecar, lamps, speedometer ... £130

1920 **DOT-J.A.P.,** 2¾ h.p., 2-speed, clutch, and kick starter, as new £70

1920 **SCOTT,** 3½ h.p., 2-speed, clutch, and kick starter, all lamps £130

SECOND-HAND MACHINES (guaranteed for three months).—ALL SNIPS.

1919 **HARLEY-DAVIDSON** 7-9 h.p. Combination, electrically equipped, as new £180

1919 **INDIAN** Combination, electrically equipped £160

1919 **JAMES** 5-6 h.p. twin, and Sidecar, splendid condition £130

1919 **INDIAN,** 7-9 h.p., solo, 3-speed, clutch, and kick starter £110

1918 **ENFIELD** 8 h.p. Combination, re-enamelled and plated, new sidecar body, indistinguishable from new in every respect £140

1918 **TRIUMPH,** 4 h.p., 3-speed countershaft, and Henderson Sidecar £125

1918 **TRIUMPH,** 4 h.p., 3-speed countershaft, and Watsonian Monarch Sidecar £125

1918 **TRIUMPH,** 4 h.p., 3-speed countershaft, clutch, and kick starter £90

1917 **P. & M.,** 3½ h.p., 2-speed, clutch, and kick starter, overhauled, re-enamelled, and plated £85

1916 **MORGAN** Grand Prix, 8 h.p. w.c. J.A.P. engine, electrically equipped, thoroughly overhauled £220

RECONSTRUCTED EX-GOVERNMENT MACHINES.

DOUGLAS 4 h.p. Combination, 3-speed countershaft, clutch, and kick starter, thoroughly overhauled, repainted makers' colours, **£115.** Or **£50** down and 12 monthly instalments of **£6 4 7.**

DOUGLAS, 2¾ h.p., 2-speed, thoroughly overhauled, re-enamelled, and plated in our own workshops, equipment includes toolbags, tools, and pump; **£70.** Or **£30** down and 12 monthly payments of **£3 16 8.**

BRAND NEW 1920 MODEL COMBINATIONS IN STOCK (at Makers' list price).

ARIEL 3½ h.p. Combination, 3-speed countershaft, clutch, and kick starter **£157 10**

BLACKBURNE, 8 h.p., and Henderson Elite Sidecar **£225 0**

HARLEY-DAVIDSON 7-9 h.p. Combination **£235 0**

JAMES 5-6 h.p. twin Combination **£190 0**

MARTINSYDE-NEWMAN 6h.p. Combination **£170 0**

MATCHLESS Model H, Magdyno lighting **£232 0**

NEW IMPERIAL 8 h.p. Combination ... **£186 18**

SPECIAL OFFER.

£16 16s. down and 12 monthly instalments of **£3 3s.** buys a brand new 1920 **O.K.,** Villiers or Union engine, 2½ h.p., Amac carburetter, C.A.V. magneto, everything of the very best. Or for spot cash, **48 gns.**

Any machine may be purchased by paying a small deposit, balance in 12 monthly instalments. The above is only a selection from our stock. May we send you our latest List of Bargains in New and Second-hand Machines?

ALLEN-BENNETT

MOTOR CO.,

9, 10, 11, Royal Parade, WEST CROYDON.

'Phone ——— Croydon, 2450
'Grams ——— "Track, Croydon."

MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM 3½h.p., sporting model, 1920, perfect condition, used but little, Lucas' best accessories, also knee grips; £149.—Coldham, Bridge St., Northampton. [X344]

1920 Sunbeam 8h.p. Combination, hood, screen, spare wheel and tyre, Rally discs, lamps, horn, Tan-Sad; £240.—Fisher, Warwick House, Llanfairfechan. [X345]

SPECIALLY Built Competition Sunbeam, 4h.p. twin J.A.P., as new, hill-climbing sprockets, lamp set, all spares; £160, or offer.—Greening, 39, Princess Av., Palmers Green. [140]

WAUCHOPE'S, 9, Shoe Lane, London.—1919 8h.p. Sunbeam combination, hood, screen, lamps, speedometer, mirror, warning signal, tools, condition like new; 200 gns. [245]

SUNBEAM 1920 3½h.p. Model, complete with mud shields, Lucas head and rear lamps, bulb horn, mechanically perfect and equal to new; £160.—Parker's, Bradshawgate, Bolton. [X339]

SUNBEAM Sports, 1919, Stevens torpedo sidecar, black electric lamps, accumulators, speedometer, horn, spare bulbs, valves, etc.; £145.—Cobbold, 154, High St., Huntingdon. [159]

6h.p. Sunbeam-Jap Combination, black and gold, Lucas lamps, horn, Binks, disc wheels, condition and appearance as new, all accessories; £155, no offers.—38, Glumangate, Chesterfield. [226]

1920 3½h.p. Sunbeam Combination, unpunctured, F.R.S. Major lamp set, rear and sidecar lamps, speedometer, and spares, recently won hill-climb; nearest offer £185.—35, John St., Neyland, Pem. [X310]

SUNBEAM 8h.p., 1920, electric horn, lights, Mongomery sidecar, Triplex screen, hood, luggage grid, petrol carrier, excellent; bargain, offers, £250 bought car.—Kennedy, Bank, Houghton-le-Spring. [177]

SUNBEAM 1918 8h.p., hood, screen, detachable interchangeable wheels 700×80, 3 lamps, horn, spare, fast, quiet, very good running order, 75 m.p.g.; reasonable offer refused; bought car.—Crofts, Norton-in-the-Moors, Stoke-on-Trent. [197]

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de Hay (late Sunbeamland).—The Molineaux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [343]

3½h.p. All Sunbeam Combination, Oct., 191[illegible] makers' corroboration, little used, new condition and appearance, watch, Klaxon, all spares, lamps unused, child's Tan-Sad complete, go anywhere; any trial; purchaser driven home; £165, nearest accepted.—Postmaster, South Ashford, Kent. [203]

SUNBEAM, late 1916, 8h.p. M.A.G. engine, Henderson 1920 Elite sidecar and wind screen, Lucas acetylene lamps, Cowey horn and speedometer, spare wheel, sprocket wheel and complete set of chains, etc., magnificent touring combination, perfect condition; offers.—137, Horton Rd., Rusholme, Manchester. [13]

T.D.C.

£40; T.D.C. 2-stroke, 2-speed, in excellent condition throughout.—Mead, Station Rd., Amersham, Bucks. [18]

Thor.

THOR 1918 and Sidecar, 8-10h.p.; £100.—Gartside, Chemist, Bamber Bridge, Preston. [21]

Torpedo.

1914 Torpedo-Precision 4¼h.p. Coachbuilt Combination, 3-speed, tyres good, engine thoroughly overhauled, lamps; £70.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 51. [16]

Triumph.

TRIUMPH 4h.p. Model H; £127/10.—Below.

TRIUMPH 4h.p. All chain Model; £140.—Below.

TRIUMPH 4h.p. W.D. B Model; £105. All 1920 models in stock.—Marston, 31 and 33, Bridge St., Chester. [2]

TRIUMPH Combination, nearly new, complete; £1[illegible]—Lougney, Oswestry. [X1]

1920 Baby Triumph; 65 gns.—Forte, 135, Ladbroke Rd., W.11. Park 3393. [2]

TRIUMPHS for Immediate Delivery.—Russell, Lawrence St., York. Tel.: 744. [9]

£78.—Triumph 1918 countershaft, excellent condition—272, Green St., Forest Gate [8]

3½h.p. Triumph, Bosch, clutch, good condition; £[illegible] 96, Victoria Rd., Padiham, Lancs. [2]

1912 Triumph, clutch, perfect condition; what offer—11, Dartmouth Rd., Olney, Bucks. [1]

TRIUMPH 1911 3½h.p., Dunlops, good condition £30.—Craner, Windsor Rd., Redditch. [1]

1919 4h.p. Triumph, 3-speed, as new; what offer—Hancock, Solicitor, Shipston-on-Stour. [1]

1918 3-speed Countershaft 4h.p. renovated Triumph 85 gns.—Queich, Railway St., Hertford. [2]

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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Making Headway.

WE make no apology for reverting to the subject of power alcohol, since it is one of the most vital questions affecting the future of the present-day motor cyclist. So long ago as 1900 our sister journal, *The Autocar*, was drawing attention to the possibilities of alcohol as a power producer, and our campaign has been carried on with increasing energy as the need for a petrol substitute has grown with the development and increasing importance of road transport.

After many years the Government appear at last to be taking a certain amount of interest in the question, though they cannot be accused of undue haste in the matter. It is, however, a hopeful sign that a suitable denaturant is being sought, and that legislative measures for the removal of certain restrictions are being inaugurated.

It is, perhaps, necessary to remind our readers that there are many aspects which require careful consideration, since alcohol alone is not an entirely suitable fuel, and a proportion of petrol or benzole must be added in order to provide reasonable running with engines of normal design. This, however, is a difficulty that is easy of solution, and the main question before us at the present time is the production of a source of motive power within the limits of our empire. Power alcohol provides the obvious answer, as the necessary amount of benzole or shale oil can be produced at home, and in addition to this a modified form of power unit will come into being as soon as alcohol fuel is available in sufficient quantities to make the modifications worth while.

Other countries, particularly Germany and Austria, have given much attention and Government assistance to the home production of alcohol. It remains for us to profit by their experience, and to make up the leeway already lost. Advantage of this beginning must be taken *at once*.

Cinema Revelations.

THERE is scarcely a motor cycle manufacturer who cannot learn something about the behaviour of his product from a cinema film of a severe trial. Such films are in existence, and are most interesting to watch. Indeed, after a little study, it is possible to recognise some makes of spring fork by the behaviour of the machine on the road before the forks themselves are distinguishable in the picture.

It is one thing to witness such films projected on a screen at a normal speed, and quite another to set the pace in order that it may more clearly be seen what really happens to such parts as spring forks and spring frames under various conditions.

The ultra rapid lens, exploited with most entertaining results by one of the leading film producers, shows us how a man jumps or dives or plays tennis; it reveals to students of aeronautics how a bird flies. What would be more interesting to motor cyclists would be a film showing machines of different types climbing such hills as Park Rash or Harden Bank. We know that such a film would surprise makers of some machines, and show the advantages and disadvantages of various types of forks. Saddle comfort is another point which could be improved by the use of the cinema, and it is not too much to expect that even shock absorbers could be investigated by these means. Since the comfort of the rider is such an important point, we would commend the idea to manufacturers and to the recently formed Research Association, as it should prove a most instructive and interesting lesson.

Cinema study of complex or extremely rapid mechanical motions is not entirely new, of course, for several forms of apparatus have been evolved for the direct observation of such phenomena as poppet valve bouncing; the action of contact breaker rocker arms has also been studied in the same way.

An index to the advertisements in this issue will be found on the page facing the back cover.

Occasional Comments

BY IXION

The Go-anywhere Lightweight.

ONE of our contributors recently suggested that the A.C.U. Trials should in future be subdivided into "home" and "colonial" sections, certain types of machine being relieved from the necessity of tackling goat tracks and precipices. The grounds for this suggestion were reasonable enough. Colonial service demands a heavier and lower-geared machine than is requisite for ordinary British touring. Our contributor went on to hint that lightweights and sidecars should be excused from traversing the "colonial" sections by going round another way, as did the sidecars in the 1914 Six Days. Here he was on dangerous ground. Many firms in the trade hold that the Overseas users include many men who want sturdy sidecars and good lightweights. Past orders certainly justify this view; and the excellent showing put up by machines of both types in 1920 confirm the contention. It may be true that at present very few British lightweights go abroad; but the Velocette achievement in the Six Days has excited keen interest in foreign markets, and with a little push and propaganda there is no valid reason why a big export trade in first-class lightweights should not be built up.

A Case in Point.

ONLY the other week I entertained a couple of Rhodesians at my house, both of whom went so far as to say that the so-called "baby" was infinitely the most suitable motor cycle for their particular jobs. In parts of that colony fords and bridges are common, and the bridges are often out of repair, or even missing altogether. Pushing a machine through the water is only a preliminary to lifting it up a practically vertical bank on the further side. Man-handling a heavyweight in tropical temperatures is obviously an impracticable proposition. So one of my guests uses a Baby Triumph, and the other a Douglas. The manner in which the Velocette team defeated the bulk of the high-powered trade team entries was for them the chief feature of the 1920 Six Days. It follows that any subdivision of a Six Days entry into "home" and "colonial" sections should extend to each class, since the colonial lightweight is neither impossible nor undesirable.

Who is Right?

THIS leads me on to ask whether a lightweight or a heavyweight solo 'bus is the easier to manage on a hill like Park Rash? I have heard very contradictory opinions on this topic, and they were all reflected in the press reports of the Six Days. For example, "Pa" Applebee told me that he envied the heavy outfits. Mrs. Knowles, who rode a heavyish mount, told me she envied the men, whose extra weight, in her opinion, steadied their machines wonderfully. On the other hand, one report stated that riders of the lightweights obviously had an easier task on the freak hills than their brethren on the big machines. Personally, I prefer a heavy 'bus on a freak hill.

Pax, Norton!

TECHNICALLY, I quite agree with Mr. Norton when he argues that a first-class reputation for speed can only be based upon reliability of a very high order, since speed is an infallible detective of any weaknesses. At the same time the paragraph which provoked his pen to a counter-strafe was not so unsound as he would make out. Every motor cycle designer builds machines for use, just as every *chef* creates dishes to be devoured. But an *entrée* is not a joint, and the B.S.A. and the Norton are not designed with identically the same motive. I daresay both designers would love to monopolise the entire motor cycling market; but surely they have divers methods of setting about it?

Motor Cycling in Japan.

I HAVE just had a long screed from a Bradbury enthusiast in Japan. Motor cycling is a patient game out there. You commence operations by paying a professional letter-writer to compose two flowery chits to the police, informing them what a fine driver you are, and what a safe 'bus you propose to drive. In three months or so, if you are lucky, you are summoned to the police station, when you demonstrate your skill with an official in the sidecar. Finally, after fitting a Klaxon and a speedometer, you are allowed to take the road with your 'bus disfigured by two colossal number placards, the index letter being from the Chinese alphabet; the sample sent to me appears to represent a house built of playing-cards collapsing during the first spasm of an earthquake.

They Must Not Die!

THE voluntary liquidation of the Sopwith concern has come as a great blow to me. I was in a sense the first member of the general public to "discover" the original A.B.C. bicycle, and to recognise the unique merits of its sprung frame and revvy engine. One of my most eager dreams was to own the 150 lb. two-speed T.T. model, which Mr. Bradshaw was busy on in 1915, and which the war rendered stillborn. Then came the little post-war 3 h.p. which was unquestionably *the* centre of interest at last Olympia, and promised just about to top the solo class as soon as ripe experience had perfected its infantile promise. Then the ruthless financial conditions of the times intervened, and a charming 'bus must remain for the nonce in a state of suspended animation. However, the patents and the design remain; and when easier days come along, some wise financier will surely resurrect it. I cannot write of the Clyno with the same intimacy, for I have never been a sidecarist or a big twin man; but I suppose that an even greater number of enthusiasts hope that its demise, too, is merely temporary.

The Foot Change.

THE above mention of the stillborn 1915 A.B.C. speedster reminds me of a very sound principle which Granville Bradshaw enunciates where ultra-fast machines are concerned. The gear change in his opinion must be done by the foot. I would go further, and say that a foot gear change is desirable in all modern competition work. Neither in the T.T., nor in a hill-climb, nor in a reliability trial up a long, step-ladder hill such as White Shaw Moss, is it desirable to remove a hand from the steering bar, even for the fraction of a second. At present the Scott is the only machine on the market designed for a pedal gear-change, though one or two babies have handle-bar gear levers (*e.g.*, the Triumph and Beardmore). It is, of course, very difficult to devise a foot change for the three-speed gears which are necessarily standard behind most engines; but what an asset a foot-change would be in the next T.T. if the whole trade goes bald-headed for the trophies, and the pace is a real cracker with a dozen top-notchers lasting the whole course at full speed!

Watch the Cycle Car.

WHAT with coal strikes and tight money and other disagreeables, nobody quite knows how the immediate future of the motor industry may shape itself. But—given a clean run—it is already obvious that the cycle car is ripening towards something of a boom. In the old days, the cycle car was between the devil and the deep sea. When a big, lavishly equipped bicycle *sans* sidecar cost you about £100, and the meaner sorts of light car were procurable at round about £150, the unfortunate cycle car could only makes its push on a very narrow financial front, and it never had much chance of a decisive break through. To-day, £250 is about top price for a sidecar outfit *de luxe*, but you have to double that figure "and then some" before you can get a small car. This price gap gives the cycle car a roomy corner to stretch itself in and, incidentally, weans a good many small car people from their old hobby. Hence glorious prospects open before our old friends—the G.N., the Morgan, and others of that ilk; and every week brings news of some new cycle car emerging from its experimental stage. For instance, J. F. Buckingham has abandoned incendiary bullets, and may be seen in the Midlands at the wheel of a projectile which threatens to achieve the incredible and extend the racing G.N. "Kim" in next year's hill-climbs. There ought to be a fine range of light three and four-wheelers abroad by this time next year, if Messrs. Smillie and Chamberlain give us half a chance.

THE WATERSPLASH WHICH WAS INCLUDED IN A TWO-STROKE TRIAL IN LEICESTERSHIRE.

It does not look very difficult, but at a steep bank a few yards further on fully fifty per cent. of the competitors in the Leicester Two-stroke Trial failed through belt slip. P. J. Strong (2½ Han San), the rider shown, does not appear to be so happy as the spectators, who include Mr. Bowerman, the donor of the cup (on the extreme left).

A DREAM THAT CAME TRUE.

The Chronicle of a Thousand Mile Ride Home from Italy.

DESOLATION. A road in one of the devastated regions of France.

IT became obvious that my services would no longer be required in Italy, and at last I should be able to take my final journey homewards from the war. One's dreams seldom come true, and the vision of a public reception at Victoria Station with a brass band and all the accessories which the humourist of 1915 used to beguile us with seemed rather remote, but I determined that the final journey homewards should be one to be remembered. I was looking at the old 'bus one morning, when the great dream was born, and from that moment, all my spare time was devoted to the most minute preparations to make it come true. I had been riding a Triumph solo machine for a few months, and I had grown attached to it. So I determined to secure the machine, and then proceed home from Italy by road, either through France, or Switzerland, or both. After a few weeks of persuasion the Disposals Board handed me a Sales Note and my steed.

When the mud was removed, and I really saw the Triumph for the first time, it proved to be the usual W.D. pattern, with a number well over 50,000, and with the usual minor alterations that those enterprising lads, the despatch riders, used to perpetrate on their mounts. But there was no doubt about the fact that the old 'bus was a most reliable bit of mechanism, and I began to hope that it would carry me safely home without any real trouble.

Preparing the Machine.

Then the work began—tuning, cleaning, fitting, until the most critical expert had naught but praise to give. My stable companion, who lived in the other half of our tin hut, said he would never share a hut with a motor cyclist again. It was bad enough to sleep with a man who snored, but that would be perfect peace compared to a brute who started up an engine in the wee sma' hours of the morning.

However, the day arrived at last, and with it the rain. Everything was ready, a despatch rider's box on the carrier, two leather veterinary bags in place of the usual tool bags (one carrying tools, and the other spares), and a few personal odds and ends, such as pyjamas, etc., in a pair of ordinary saddle bags slung under the seat and strapped on each side of the back forks. These, with a spare belt round the tank and a spare tube in front, completed the outfit. The old 'bus looked quite skittish, and at the last moment I decided to discard my spare cover and trust to the two extra heavy Dunlops to see me through. Altogether I had about 75 lb. weight on board beside myself. Finally, I waved a "Cheerio" to the Mess, and the dream began to come true. I had a thousand miles to do within ten days; alone and in all weathers, and only a war-worn Triumph to do it on.

In the Mountains.

I decided to take the road down the Riviera as far as Marseilles, and then right across France to Calais. The first hour was good going. Arquata soon was lost sight of, and Novi came in sight, and then I began to have trouble. I had just turned into the mountain road that leads to Acqui and thence over the mountains to Savona, when it began to rain, and the next forty miles were the worst of the whole trip. I was soon enveloped in a thick rain mist, with roads thick with mud and in some places almost unrideable. Oxen slowly drawing cartloads of wood drove one off the narrow road into the ditch, and I wished myself back in the old tin hut again.

So for four weary rain-sodden hours I swam along those horrible roads, with the only comfort that the engine was ticking like a clock, until at last I dropped down the other side of the mountains to the famous Riviera road. The miracle happened within two minutes! I was playing tricks on a perfectly atrocious road one minute, with a thick, impenetrable mist all round, and the next the road was perfectly dry, the mist had vanished, the sky was blue, and I sailed on into brilliant sunshine, with the air fragrant with the scents of mimosa and apple-blossom. The contrast was quite indescribable.

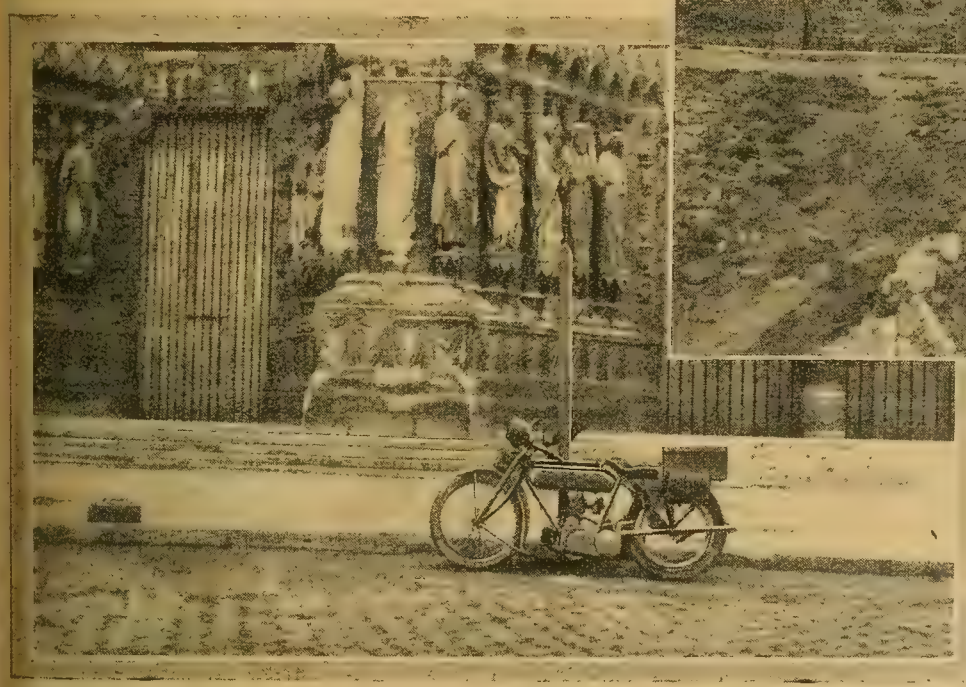
A Dream that Came True.—

Then things began to hum, and through the tunnelled arches of the Riviera road, past Savona and Alassio, and along through orange-laden groves, with the blue Mediterranean less than fifty yards away, the dream had changed from a horrible nightmare to a dream of delight.

Passing through San Remo, I soon reached Bordighera, where old Matteo at the Hotel de la Reine soon pulled me out of my overalls, and sat me down to a jolly good feed. So ended the first day, with 120 miles to the good.

Over the French Border.

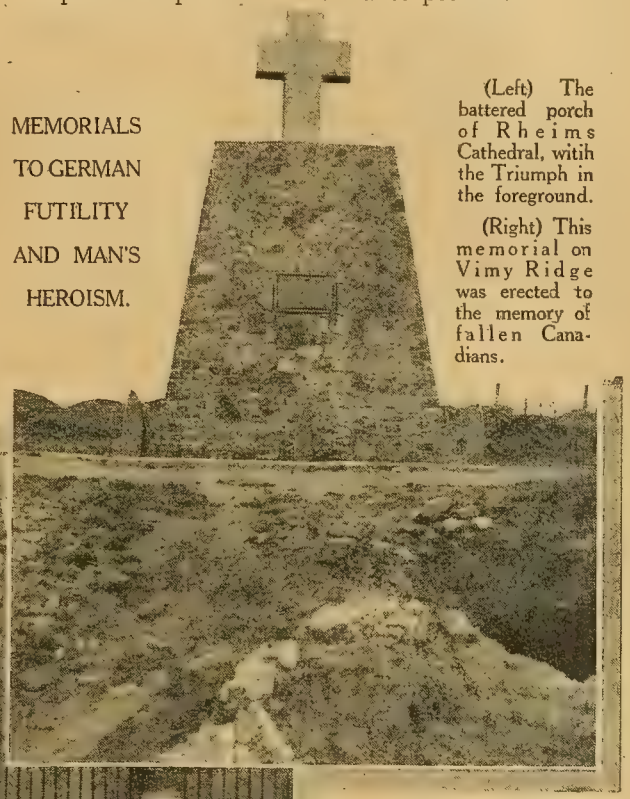
Next morning, after oiling up, and tightening a couple of nuts on the front forks, I set off to cross the frontier, and hie me away to sunny France. The *gendarme* at the frontier *halte* looked at all my papers, discovered I was an *officier Anglais*, inspected the 'bus to see that it was the machine referred to in my papers, and finally waved his hand in lordly dismissal, and the realm of France lay at my feet.



Mentone was soon left, and the old 'bus plugged away steadily on top gear up the high road to Nice, as if gradients suited it nicely, and in a short time I was looking down from the heights on Monte Carlo and Monaco, nestling side by side on the fringe of a deep blue sea. Then came Nice, and an English chauffeur directed me along the Promenade des Anglaises and so on to the Cannes road. I took his advice, and was promptly pulled up by a *gendarme*, who would neither let me go on nor turn round, so I put the machine on the stand, and found I had run into a "battle of flowers." It was a most gorgeous sight, and some of the fair ladies seemed to think that a begoggled motor cyclist was a fair target.

I had heard such tales of the difficulty of getting petrol that I expected to have considerable trouble, but, after calling at one or two garages, I struck petrol at Cagnes. A jolly old madame provided me with five litres at a charge of two francs per litre, and quite good juice it was. A Triumph tank holds about eight litres, so at the present exchange it works out about 4s. per gallon, which is not really out of the way. It was always possible to get petrol, and with one exception the price was two francs per litre.

MEMORIALS TO GERMAN FUTILITY AND MAN'S HEROISM.



(Left) The battered porch of Rheims Cathedral, with the Triumph in the foreground.

(Right) This memorial on Vimy Ridge was erected to the memory of fallen Canadians.

The roads onwards from Cannes were glorious, and I kept up about 24 m.p.h. through Antibes and Fréjus until Brignoles was reached about 7 p.m. A few signboards showed me that I had struck the trail of the Paris-Nice trial, and until reaching Dijon I travelled in the tracks of those persevering supermen who did the Paris-Nice in four days at a rate of thirty kilometres per hour. Thirty kilometres per hour don't seem very much, so I registered a vow that I would knock spots off those Paris-Nice fellows, and I did—for about three hours. Then I drew near to Avignon, and was sorry I spoke. The roads became absolutely horrible.

For stretches of ten miles or so at a time they were not roads at all; they were infintely worse than anything I had seen in the battle areas in France. The surface had completely gone, and the road resembled an exaggerated nutmeg grater, made up of pot-holes up to a foot deep. My back nearly broke, and after about fifty miles more of the Rhône Valley I was only too glad to take shelter for the night at Montélimar.

A Dream that Came True.—

Over dinner I worked out the average for the day, and found it was about twenty-four kilometres per hour! I do not intend taking up competition riding!

The Rhône Valley certainly was atrocious, and I hurried on as fast as the roads would permit. I spent a night at Lyons, and another at the charming Hotel de la Poste, at Beaune, at which I arrived after nine hours' gruelling ride in the rain.

On the Western Front.

Next night saw me at Troyes, after a day's run over passable roads and in fairly comfortable weather. At Troyes the real adventure began, for I left the Paris road on my left, and said "Good-bye" to the comforting signs of the Paris-Nice trial. A short run brought me to Châlons-sur-Marne, and from this point onwards I followed the windings and wanderings of the old French and British fronts. Rheims was a terrible spectacle, more devastated than any large city I had seen, and at present looks more like a modern Klondyke than a stately city of France. Very few collars are being worn in Rheims; even the people seem to have caught the Klondyke fashion.

On to Laon, over moderate roads, on which, however, I was able to keep going at about 20 m.p.h., through country that surely must have been the original of Macbeth's "blasted heath," miles and miles without a house to be seen, over roads that are flanked by the gaunt sentinels of shattered trees, and a deadly stillness over it all. The roads, however, were exceedingly good all through the war area, both French and British.

The seventh night I stayed at La Fère. The morning of the eighth day saw me near to the old British front, and the question of miles per hour was displaced by the question of photographs per hour. A thick rain-mist covered the whole landscape, and I felt sorely disappointed, but I shielded my lens from the rain, and proceeded according to plan, and I find I have about forty good films as a souvenir of the trip.

From Bray, of 1916 fame, I passed on to Meaulte, where I spent a lively month before the July, 1916, show. But Meaulte is no more; it is absolutely wiped out. A few minutes up the newly-made road to Fricourt brought me to where the 1st Lincolns went over on the 1st July, 1916. Then over a real war road, past the Bois de Mametz, with shell-holes in the middle of the road, just as in the old days. But, in fairness to fact, I ought to say that the road was fenced off by barbed wire to prevent traffic, but I managed to get the old 'bus through. It wasn't fair to the machine to put it over such a steeplechase course after nearly 900 miles, but it made never a murmur, and I was devoutly thankful when I struck the good roads again at Bazentin-le-Petit. Here my luck was in, for in the distance I saw a khaki-clad Tommy carrying a dixie of tea. That man will never know how near he came to being robbed with violence, but I mastered my emotion, and merely asked him where the officers' mess was, and in a few minutes I was in a ripping little mess, with a cheery fire, with toast and ration butter, and buckets of tea. It was with great reluctance I pulled myself away. On through Bapaume to Arras, where a comfortable bed was discovered—a *rara avis* in Arras—in the new hotel of "England and the Dominions," where mine host is a demobbed British soldier. Here I was chased by an alert A.P.M. and two of his myrmidons for being in possession of an Army cycle, but I was able to satisfy their curiosity.

The last day began with Vimy Ridge, where the Canadian Memorial Cross dominates that desolate area, through Lens and Loos, Bethune and St. Omer, and, after a burst of speed between Bethune and Calais, when I did the eighty-four kilometres in an hour and threequarters, I wheeled the old 'bus down the gangway of the "boat that was bound for Blighty." So the dream came true. Just about a thousand miles in eight and a half days, and I could have done it in six.

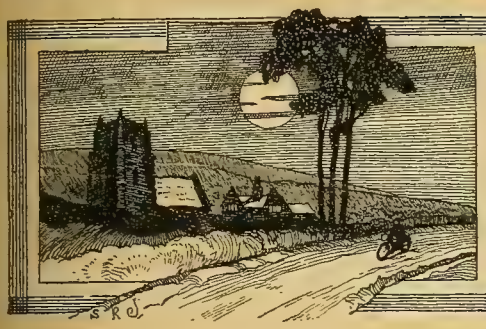
The roads in the war area were exceedingly good, thanks to the work of prisoners of war, but the road in the Rhône Valley remains as a horrible dream.

A No-trouble Machine.

The engine was not touched by a spanner from start to finish, and I replaced nothing save the belt. Most of the nuts on the front fork loosened at one time or another, but beyond that I did not touch the mechanism during the whole trip. I knew it was a good 'bus to start with, and I oiled it at regular intervals, and on reaching England I found that it would not be necessary to take the engine down for quite a while.

STANLEY H. KEEN.

ON THE SHORES OF ULLSWATER WITH AN INDIAN SIDECAR. The St. Martin's summer of this year has been fully appreciated by motor cyclists, many of whom have been further afield at week ends than usual. The English Lakes—at their best when the leaves are changing—have been visited by hundreds of motor cyclists during the past few weeks.



FUEL ECONOMY.

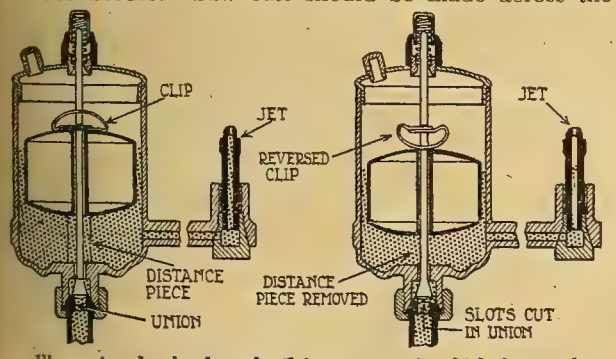
Some Simple Hints to Increase M.P.G.

Now that the price of petrol is increased and higher taxation imminent, any suggestions which will enable motor cyclists to obtain an increased mileage per gallon will no doubt be welcome. The saving in the petrol bill which can be effected by careful attention to the following details is remarkable.

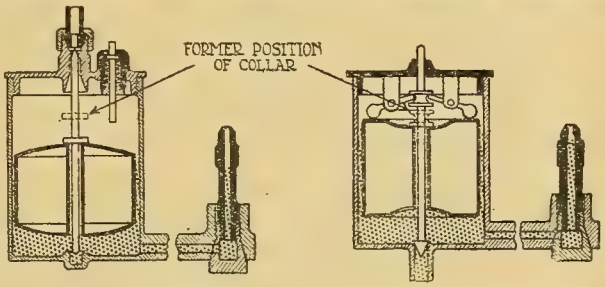
THE mere fact that petrol cannot actually be seen dripping from a tap or union is no proof that a leakage does not exist. It must be borne in mind that petrol evaporates rapidly when in contact with the air, and, therefore, a continuous "ooze" of the now precious liquid may easily escape notice. The time spent in carefully examining each union, tap, and joint for the slightest leak is well repaid. Many taps leak after a short time, while when a union joint is remade after carburetter adjustments the pipe is often bent, thus preventing the two coned portions of the union from registering correctly. Close examination of the seams and angles of the tank will often reveal slight leakages, especially in machines which have a considerable mileage to their credit. Carburetters themselves are great offenders, extensive leakages often taking place round the base of the jet. "Tickling" should be avoided—the habit of violently agitating the float until the petrol pours out is wasteful, harmful, and unnecessary. The vast majority of machines will start readily without tickling, if the petrol is turned on for, say, thirty seconds before an attempt is made to run the engine. Should tickling be really necessary, the needle should be merely held up (or the tickler depressed) for, say, five seconds, without allowing the petrol actually to overflow. In several modern carburetters no provision is made for tickling; this shows that it is unnecessary.

Petrol Level and Jets.

Manufacturers often adjust the petrol level higher than is absolutely necessary, and experiments in this direction will often have a considerable effect in reducing the fuel bill. In the case of the Senspray carburetter the level may be quickly and easily lowered by merely removing the brass distance piece from under the float and reversing the locating clip on the needle. Saw cuts should be made across the top of the inner portion of the union which is on the end of the petrol pipe, in order to prevent the flow of petrol being cut off by the bottom of the needle, which might otherwise stick in the orifice of the union. A glance at the sketch will show how this adjustment may be carried out. In several other makes it will be necessary to move the collar which is mounted on the needle—down slightly in those instances where the feed and needle valve seating is at the top, up slightly where the needle valve seating is at the bottom and the conventional system of balance weights fitted in the lid of the float chamber. In machines which have been running for some time there is usually a certain degree of wear in the needle valve and seating—this necessitates the float travelling higher before it cuts off the petrol supply, a considerably higher petrol level than the original setting being the inevitable result.



Illustrating the simple and efficient manner in which the petrol level can be lowered in the Senspray carburetter.



In the types illustrated above, the collar must be moved as indicated, *i.e.*, further away from the point, in order to obtain a lower petrol level.

It is usually possible to replace the original jet by one appreciably smaller without seriously impairing the efficiency of the engine. If no spare jets are available with which to experiment, a good "tip" is to clean the top of the old jet and then fill up the orifice with solder. One of the smaller sizes of watchmakers' taper broaches should be obtained, and the *smallest possible* hole made through the solder. This should be tried and the size of the hole gradually increased until satisfactory results are obtained. These broaches, being tapered, can be used for determining the relative sizes of jets by simply inserting the broach lightly into the orifice and measuring the distance which actually enters, the longer the measurement the larger will be the hole.

A long air intake pipe fitted to the carburetter will also prevent waste by catching any petrol which may be blown back. In engines with any degree of valve overlap, and in many two-strokes, the amount of waste from this cause is considerable.

Fuel Economy.—

In new machines of repute, ignition and valve timing can hardly be improved for general purposes, but in old machines it is as well carefully to check them, owing to the probability that wear in the valve operating gear will have caused a considerable variation from the original setting. The correct setting can be obtained from the manufacturers, and once obtained it is an easy matter to verify these points. The silencer should be examined, as it may be more or less clogged, in which case excessive back pressure will be set up.

Another great power and, therefore, fuel absorber, is friction—indeed, much more power is wasted in overcoming this than is commonly supposed. The machine should be placed on its stands and tests made for excessive friction in hubs, transmission, etc. The alignment of chain sprockets or belt pulleys must be correct, the wheels of the machine must be in track, and, in the case of a sidecar, care should be taken to ascertain that the sidecar wheel is parallel to the track of the motor cycle. Tyres should be hard; if slack, excessive friction is set up owing to the movement in the walls of the cover.

Running.

The load to be carried should be carefully considered, also the gradients to be encountered; gear ratio should be no higher than is consistent with satisfactory running. Advanced ignition, without distressing the engine, and a moderate speed are also important factors in economical motor cycling. "Blinding" is generally acknowledged to be extremely fascinating, but it is not conducive to good m.p.g. or low running expenses. An inefficient engine is usually extravagant, therefore good "tune" should be maintained. Taken separately, the points enumerated may appear almost trivial, but in the aggregate they affect the petrol consumption to an enormous degree.

REKAL.

POTATOES AND THE FUEL QUESTION.

Some Remarks on One Kind of Power Alcohol mentioned as the Fuel of the Future.

A CONSIDERABLE amount of attention is being devoted at the present time to the possibilities of alcohol as a fuel, and it seems to be assumed by many people that all that is necessary to smash the petrol combine is that the Government should remove all restrictions imposed by the Revenue on the production of this commodity.

There is no doubt that, if some of the disabilities at present imposed on distillers by the Excise authorities were removed, there would be a cheapening of the market price of power alcohol; but it is more than possible that the amount of reduction, when measured in pence per gallon, would prove to be disappointing.

In the article on this subject in *The Motor Cycle* a few months back, the author quoted the drop in price of German potato spirit, from 3s. 9d. in 1887 to 9d. in 1904. As a matter of fact, it was the system of bounties, arranged by the German Government to favour the agrarian interest, rather than any commercial reason, which caused this great reduction in price, and the net effect of this political arrangement was that potato spirit was sold here at a cost less than that of production.

The Misleading "Proof" Gallon.

A word of warning is necessary when dealing with statistical figures for alcohol. The quotations invariably refer to proof gallons, unless stated to be otherwise, and the price of 9d. referred to is equivalent to about 1s. 2½d. per bulk gallon, so, for the sake of clarity, all the figures quoted in this article have been reduced to the common sort of gallon.

According to the evidence given before the Departmental Committee on Industrial Alcohol (1905), it was shown that for the year 1904, quoted in the previous article referred to, the fixed price at which the German potato distillers sold their spirit to the Cartel was 2s. 7d. per gallon, including tax averaging about 9d. This spirit was afterwards sold here at about 1s. 2½d. per gallon, and the difference, plus working expenses and profit, altogether about 1s. 5½d. per gallon, was recovered by means of remission of tax, and bounty.

A similar law was in force in Austria, where it was provided that the selling price of spirit for export was not to be more than 20 marks per hecto. (about 11d. per gallon), *less than cost price*.

At the same inquiry, it was given in evidence that in Germany, with potatoes at 1s. per cwt., and with all revenue restrictions, and restrictions on purchases, removed, it might be possible to reduce the production cost of alcohol to 25 marks per hectolitre (about 1s. 1½d. per gallon).

Low Potato Prices Essential.

As 1 cwt. of potatoes produces rather less than two gallons of alcohol, it would seem that the cost of the potatoes was about 6d. per gallon, and the labour, fuel, and other charges, about 7½d. per gallon. From this we can deduce that the present cost of production of potato spirit would be, roughly, 6d. per gallon for each shilling per cwt. of the potatoes, plus the present equivalent of 7½d. for fuel, labour, etc., in 1904; so that, taking into consideration the fact that the calorific value of alcohol is to petrol as 9 is to 14, and assuming working costs have not more than doubled since 1904, it will be seen that potatoes must be obtainable at 2s. per cwt., before we can think of potato alcohol competing with petrol, even if all revenue restrictions were withdrawn.

It is a great mistake to consider that there is nothing in the way of cheap alcohol for motorists but the Excise regulations. It is a fact that the Government is in sympathy with any reasonable movement, but some restrictions are obviously necessary to safeguard the spirit revenue, but the potato growers have a very long row to hoe before the Government can be blamed for the fact that potato alcohol is dearer than petrol.

It seems much more probable that the alcohol for the motive power of the future will be distilled from sugar products, waste grain, or possibly wood, or produced synthetically from lime and coke, unless the by-products of ordinary grain distillation should increase in value sufficiently to make that type of spirit a serious competitor with petrol.

SEEANEE.

FOR WINTER WEAR.

FOR some time past we have been using an excellent form of protection against the elements in our daily rides. This consists of a coat supplied by I. Taylor and Son, of New Park Street Mills, Leeds. It is constructed of leather cloth, which is only distinguishable from real leather on close examination. Storm cuffs, a deep collar, and a belt form part of the garment, and in spite of the fact that it has been severely tested on several occasions not a drop of water has penetrated the fabric. It is not altogether an easy matter for a mere male to describe any article of wearing apparel, but the D.R. Trench style motor coat, as this particular article is described, has given perfect satisfaction as far as protection is concerned, and that, after all, is more important to the motor cyclist than the cut. This is not meant to convey the idea that the cut is defective—far from it—but as we do not feel qualified to act as judges on this question, we leave the decision to our readers, who may judge from the illustration.

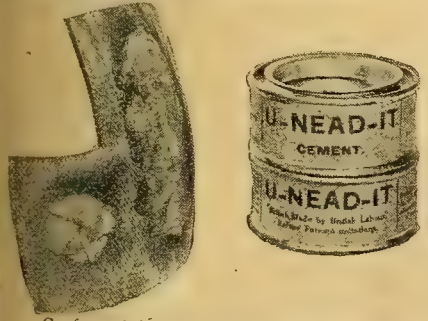
A useful coat of leather cloth.

SIMPLIFIED PUNCTURE REPAIRS.

A VERY simple and time-saving system of repairing punctures and cuts has recently been placed on the market by Messrs. E. James and Co., 34, Regent Street, W.1. The process, which is known as the "U-nead-it," simply consists of scraping and bevelling off the cut, or puncture, with a knife, or scissors, smearing over the surface of the repair with a specially provided solution, and filling the hole with the "U-nead-it" filling compound.

The filling material is a plastic compound which, on being pressed into the puncture with the fingers, dries very quickly, and practically makes a weld with the surrounding rubber of the inner tube. In the case of an ordinary puncture, the tube can be placed in the tyre and pumped up almost immediately after the repair, and the pressure of air in the tyre and heat generated while on the road only results in further homogeneity of the filling compound. To deal with a cut in the outer cover, the same process of repair is gone through.

The "U-nead-it" outfit is sold in motor cycle size at 3s., but a small cycle size is sold at 1s. 3d., and a car size at 5s. 6d.



Surface of inner tube shown after repair by the "U-nead-it" process

Section of inner tube, showing the "U-nead-it" filling compound pressed into the bevelled hole of the puncture.

Messrs. E. James and Co. are also shortly bringing out the new "Tal-Pear" inner tube, the distinctive feature of which is the five-ply rubber used in the tube construction, to render it impossible for a cut in the tube to spread.

A SPRING FRAME CONVERSION SET.

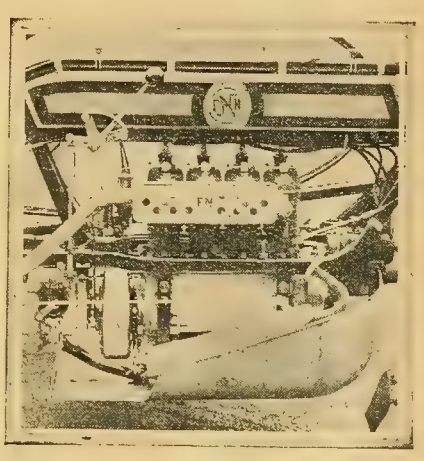
FRAME springing which can be incorporated in existing machines is a feature in which many of our readers will be interested, and especially so when the adaptation can be made by the rider himself.

Such a device has been patented by Mr. A. E. Robbins, of London Road, Bilton, near Rugby, and we have tested it on a 2¼ h.p. two-stroke Triumph and find that it answers the claims which are made for it.

Briefly, the arrangements consist of a rigid frame composed of two triangles, which replace the existing back forks of the machine. Pivots are situated at the lower end of a vertical member directly under the saddle, or, in the case of machines fitted with gear boxes, the pivots are fitted at the rearward end of the gear box bracket. Swinging about each of these pivots is an arm which carries the rear axle lugs, and a swinging link is pivoted at the extremity. This link acts as a shackle for a pair of laminated springs. One of these springs is of the semi-elliptical pattern, and is secured to the rigid part of the frame a little distance above the pivot previously mentioned. The other is a C spring, and this is anchored to the rear extremity of the triangular back frame.

The action of these springs is particularly smooth, and the compensating effect damps out all violent oscillations. The carrier and mudguard are attached to the rigid portion of the frame, and, in consequence, there is practically no unsprung weight other than that of the wheel itself. So far as we can judge, the tension of the belt is not appreciably affected even at the extreme positions of the arms which carry the wheel. Lateral motion of the rear wheel is prevented not only by the width of the shackle bearings, but by the heavy construction of the pivot bearings themselves.

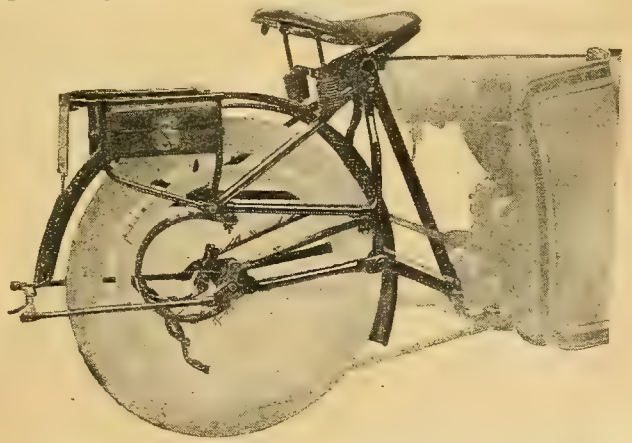
Under actual riding conditions it was found that the Triumph machine could be driven over extremely bad roads at any reasonable speed with perfect comfort, while the resilience of the rear springing about equals that of the front forks.



An undershield of aluminium fitted to an F.N. four-cylinder engine.

MUDGUARDING AN F.N.

THE owner of one of the latest pattern 7 h.p. four-cylinder F.N.'s, which is illustrated, evidently has done his best to combat the mud fiend, and not without success. Beneath the engine he has fitted a large aluminium tray, with a valance at the sides and front, and so protects the magneto. Mr. Gelder, the managing director of F.N. (England), Ltd., however, fears that this shield will prevent the crank case from being adequately air-cooled, and that the oil, in consequence, will become too heated.

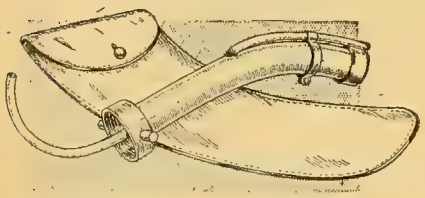


A Triumph two-stroke lightweight fitted with the Robbins spring-frame conversion.

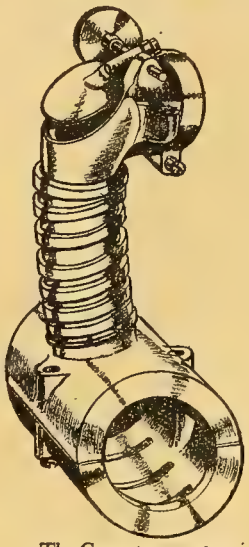
R3

AMONG THE ACCESSORIES.

A Selection of the Latest Ingenious Fitments for the Well-equipped Machine.

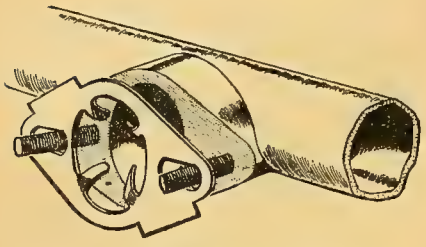


Patent filler by Pettetts, West Pier, Brighton. It is sold for 8s. 6d., or, with case, 18s. 6d. It is claimed that it will empty, without waste, a two-gallon can of petrol in twenty seconds.

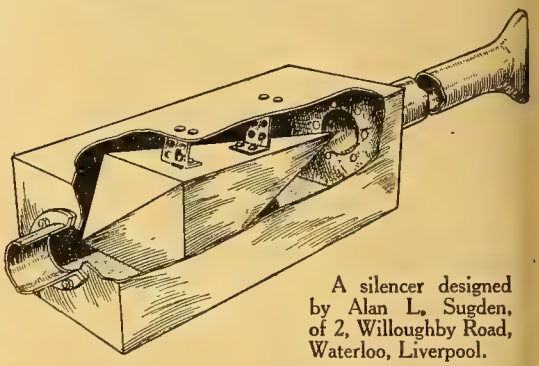


The Capac temperature regulator, which consists of an aluminium muff intended to be clipped to the exhaust pipe. A shutter is provided, adjustable by means of a knurled screw.

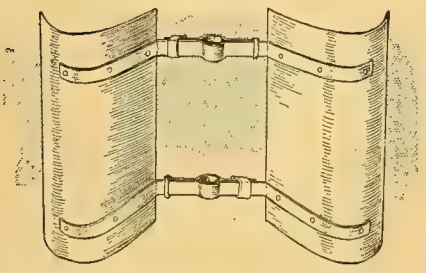
E. W. L. valve silencer, arranged to clip on long exhaust pipes, made by E. W. L. Accessories, 102, Lancaster Road, East Ham, London, E7. The piston valve, by uncovering the ports in the barrel, enlarges the exit when the pressure is highest.



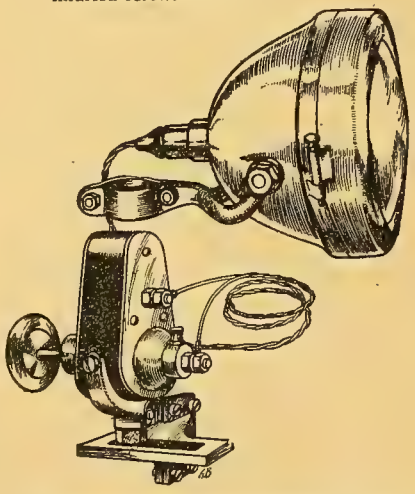
The "Save-U-Petrol" economising device, consisting of curved vanes, which set up a whirling motion in the mixture as it passes through the induction pipe. It is marketed by Messrs. Allen and Simmonds, Ltd., Thames Side Engineering Works, Reading.



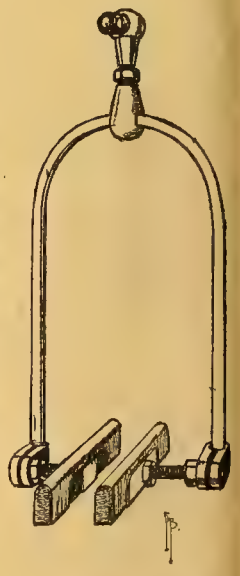
A silencer designed by Alan L. Sugden, of 2, Willoughby Road, Waterloo, Liverpool.



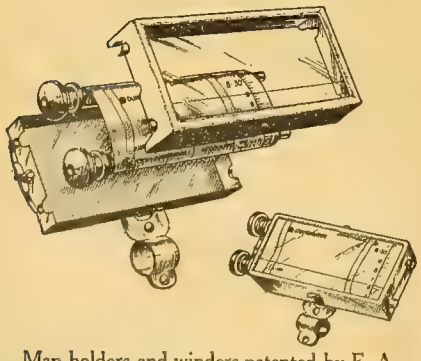
A simple mudshield designed by J. McLaren and W. D. Hatcher, of Dalriada, Chesswood Road, Worthing.



A Voltalite friction-driven dynamo set for motor cycles which sells complete for £7 4s. The generator alone costs £4 12s., or, with conversion accessories for existing acetylene lamp, £5 2s. It is made by Ward and Goldstone, Ltd., Salford, Manchester.

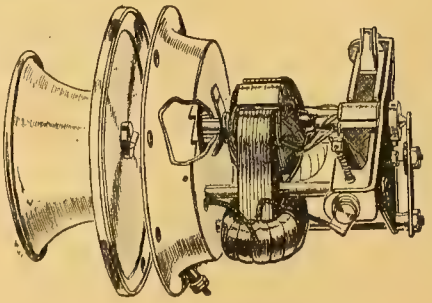


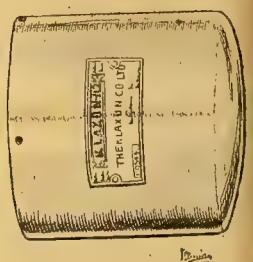
The latest pattern Bowden front brake. The fibre shoes are held in clips, the sides of which are recessed in the fibre, so that it is impossible for the shoes to leave position when once they have been securely fixed.



Map holders and winders patented by E. A. Considère and A. Elston, of Coventry.

A Klaxon electric horn for motor cycles, introduced by the Klaxon Co., Ltd., 36, Blandford Street, London, W.1.





NOTES FOR THE NOVICE.—V.

VARIABLE GEARS—2.

(Continued from page 351.)

IN the only four-speed gear box at present in general use on motor cycles, viz., the A.B.C., and in some three-speed gear boxes, only one pair of pinions are always in mesh, and these are generally the two which connect the driven sprocket or pulley to the lay shaft, and are termed the constant mesh pinions. In these boxes no other pinions are engaged when in top gear, but one other pair is brought into action as each of the lower gears is requisitioned in its turn.

Hub gears, engine shaft gears, and some few others have been made on the epicylic principle, but these are not found on present-day motor cycles.

Selective Clutch Gears.

The selective clutch type of gear, such as the P. and M., Enfield, and Scott, is usually found on two-speed machines, but a three-speed variety was incorporated with the 1920 Motosacoche. These gears are practically fool-proof and allow great facilities for altering the set ratios. Each gear is practically direct, and is brought into action by means of a friction clutch. It is usual to have two chains from the engine to the countershaft and one to the rear wheel, and the disadvantage of these gears consists in the fact that the two engine chains have but one adjustment, but this is not at all serious in practice, as the chains being short a certain amount of looseness is permissible. A gear of this kind is sometimes combined with a two-speed gear box to give four speeds.

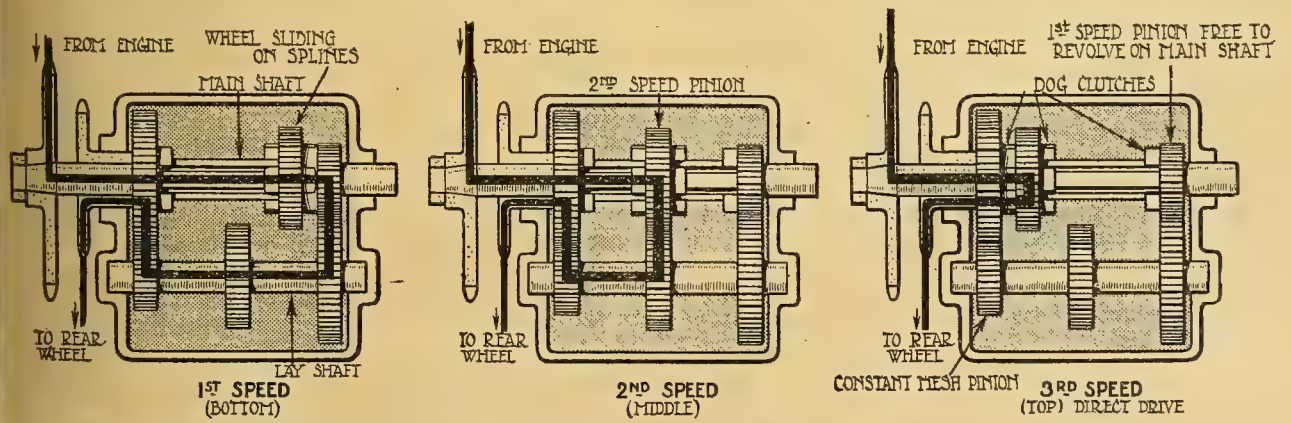
The T.A.C. four-cylinder motor cycle (afterwards the T.M.C. and later the Ogston) was provided with a gear box very well suited to such a machine. The engine drove the mainshaft and the drive was taken to the rear wheel from the lay shaft, the final transmission being by shaft and worm. Thus every gear passed through one pair of pinions and no more, but one pair would have been necessary on top gear with the conventional box having a direct drive on top speed to transfer the shaft from the centre of the machine, where the engine was situated, to the side the position of the shaft extending to the rear wheel.

The variable gears which the use of a belt permits, such as the Rudge Multi, Zenith Gradua, Philipson and Grado pulleys, and the like, will be discussed in a later article.

In my last notes on variable gears I referred briefly to the various types commonly found on motor cycles. I now propose to describe their action and to add some remarks upon how they should be cared for.

Sliding Pinion Mechanisms.

Referring first to the sliding type in most general use, the sketches on this page, which are purely diagrammatic and have the controlling mechanism omitted for the sake of clearness, show how the gear changes are made in a simple type of three-speed gear box. The main shaft is above and the lay shaft below. Reading from left to right, the first pinion on the main shaft is in one piece with, or keyed to, the sleeve which carries the driven sprocket, but it can revolve upon the main shaft; the second pinion is free to slide but not to revolve on the main shaft; and the third is free to revolve but not to slide. The centre pinion is provided with dogs on each side which can engage with similar dogs on the first and third pinions and lock either of them to the shaft. When the third (or top) speed is in action, no power is passed through the lay shaft, although it is revolving idly with two of its pinions in mesh, and the drive is said to be direct. It



Diagrams showing how the power passes through a three-speed gear box when the various gears are in action. The heavy lines show the path of the drive from one point to another.

Notes for the Novice.—

will be readily understood that, even when the direct drive is being used, the gear box, on account of its internal friction, must consume a certain amount of power; but this waste of power can be reduced to a minimum by the use of ball or roller bearings, and the careful design of the pinion teeth. Therefore it must not be expected that a variably geared machine will climb so well "on top" as a single-speed machine with the same gear ratio.

In the example shown the power is taken from the gear box on the same side as it enters, and both chains will be on the left of the bicycle. Where the power is taken from the right side a slight modification is necessary, but the principle remains the same. Taking the sketches in order, the first (on the left) shows the second speed pinion as far as it will go to the right hand of the gear box, and the dog clutches holding the low speed pinion to the main shaft. This gives the first (or low) speed, and the power passes through the whole length of the lay shaft and to the driven sprocket *via* the constant mesh pinions (as shown by the heavy line on the sketch). In the second sketch the second speed pinion has moved to the left and is engaging the corresponding pinion on the lay shaft, the low gear pinion, and now free to revolve on the main and consequently becomes inoperative; both dog clutches are out of action, and the second speed is engaged, the drive passing through the centre pinions along half the lay shaft and out through the constant mesh pinions as before. In the third sketch the second speed pinion has moved out of engagement and as far as possible to the left. The sleeve carrying the driven wheel is now locked to the main shaft and the third, or top, speed is engaged. This is the direct drive, so called because the power does not pass through any of the pinions, and the two sprockets revolve together as if rigidly attached to one shaft, as indeed they are for the moment.

Having mastered the method by which the power is taken through the gear box illustrated, which resembles the gear boxes used on the A.J.S., Humber, New Hudson, Rover, Indian, and other machines, the novice should have no difficulty in following the working of other gears which work on similar principles.

(The next instalment will also deal with Variable Gears.)

COMPLAINTS AND THEIR CAUSES.

How the Customer may facilitate the Supply of Spares.

WE daily receive letters of appreciation from motor cyclists who have been well treated by the makers of the machines they ride. We also receive communications of the reverse kind, and we have frequently investigated the complaints contained in them. It is only fair to British manufacturers to say that in many cases apparent lack of attention has been due to unreasonable impatience of the owner. Occasionally, no name and address are enclosed; at other times an agent will not be so prompt in ordering as his customer thinks—or he may miss a post.

The question of payment, too, may hold up supply, for it is obvious that even the largest firm cannot open a ledger account for every small item ordered from them.

Complaints Not Always Justified.

Often we have been shown the whole of the correspondence relating to cases of alleged unbusinesslike treatment, and, even when this has been sent to us by the complainant, the indignation expressed has seldom been justified. A case in point has reached us wherein a well-known firm received a letter from an agent on the 8th, dated the 6th, asking if a certain part could be supplied. The firm wired immediately promising immediate delivery and quoted a price. On the 10th another letter was received dated the 9th, ordering the parts, which were despatched at once. Concurrently a wire was received requesting immediate delivery. Three days later—the 13th—the makers received a letter dated the 10th, from the owner of the machine in which he stated that he considered the treatment he had received most discourteous and unbusinesslike. Obviously the owner was the victim of delays on the part of his agents and the postal service.

In cases of urgency, we would recommend readers to (1) Send a prepaid wire asking if the required part can be supplied at once and also the price; (2) to wait a reasonable time for a reply, bearing in mind that most offices close at 5.30 or 6 p.m.; (3) accurately to name the part; (4) to be sure that the name and address or telegraphic address both of addressee and addressed are correct; (5) on receipt of reply to wire the remittance. This probably saves a couple of days over the postal service, but when the latter is used one's requirements may be made more clearly.

Whether the replacement is required at home or when on tour, it is generally more satisfactory to deal through the agent for the particular manufacturer, when there is one at hand. An enterprising agent may have the part in stock. But it is not quite reasonable to expect an agent to rob a stock machine—although we have met agents who have done this. Dealing through an agent reduces to a minimum any delay likely to arise through the accountancy department "at the other end."

BROADER EXPERIENCE WANTED.

WE have yet to see incorporated in one machine all the good points which have impressed us in various models. There are some that have most of them, but it is only by experience on the road with machines of different makes that a designer can hope to obtain any idea of the ideal of the experienced motor cyclist. It has often astonished us to meet designers who appear to be unaware that their productions are not quite up to the average on some particular point, and of their ignorance concerning the merits of their contemporaries. The same applies to sidecars. Some makers seldom ride long journeys in their vehicles, and fewer still make opportunities to experience the comfort, or otherwise, of their leading competitors' designs.

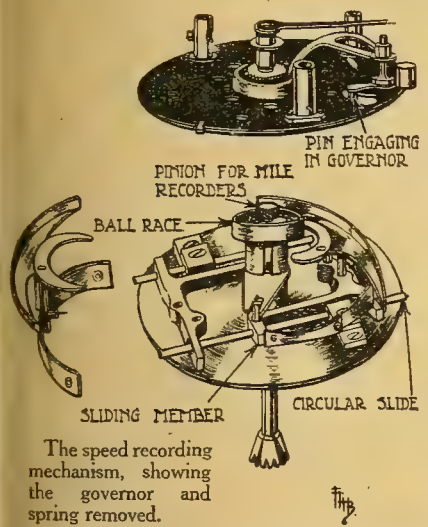
TESTING A SPEEDOMETER.

A Well-made Instrument governed by Centrifugal Action.

THE manufacture of delicate instruments such as speedometers not only necessitates highly trained and skilful workmanship, but also requires the most careful and untiring tests in order to remove the remotest possibility of failure when in use.

A most instructive tour around the works of the Cowey Engineering Co., Ltd., Archer Works, Kew Gardens, Surrey, was recently enjoyed by a representative of *The Motor Cycle*, when the apparatus used for testing the Cowey speedometer demonstrated the almost cruel treatment to which they are subjected in order to ascertain their qualities of resistance to road vibration.

The principle of operation used in this instrument adheres to the usual centrifugal action. The shape of the governors and the method of housing them, however, are somewhat unusual. Significant of all Cowey productions, simplicity is the



The speed recording mechanism, showing the governor and spring removed.

governing feature, and, as may be seen in the illustration, the speed recording mechanism consists merely of two elliptical governors mounted on slides, which, in consequence of centrifugal action, ride away from each other on two circular rails as the speed is increased. Deceleration allows a spring, which is held to the centre of each governor by a pin, to draw the weights towards the centre. Located above the governor, and below the brass bed, are ball races, which, being held in the body of the speedometer, allow the central spindle, bed, and governor to rotate *en bloc* within the case of the instrument.

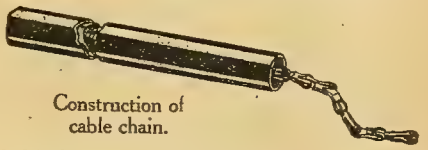
Direct Readings.

The speed indicator hand is moved round the dial in a very simple manner. Protruding through a slot cut in the plate fixed about the governors (shown black in the illustration) is a small pin which fits between the outer rim of the governors and the edge of a small half-moon-shaped plate fixed to the latter. It will be seen, therefore, that, as the governors expand and contract, the pin is moved along the slot and at the same time rotates the spindle, to which it is attached by a small arm. Mounted on the spindle is a quadrant engaging with the pinion on the indicating spindle. This moves the pointer round the graduated dial.

Other interesting features in construction are to be seen in the cable and chain used to transmit the drive from the road wheel, and the trip mileage indicator.

Testing Methods.

During the inspection of the mechanism used for testing these instruments, we found the plant by which large numbers of speedometers are checked for accuracy to be intensely interesting. An accurate timepiece, the dial of which is graduated at half-second intervals, forms an important part of the machine, and mounted immediately below is a device much resembling the rear end of a camera. Driven from an electric motor a master speedometer, of larger dimensions than the manufactured instrument, indicates the speed of the motor as the handle of the rheostat is moved. Also driven from the same shaft are a number of bevel pinions, which conduct the drive to the speedometers held in racks for testing purposes. Thus, it is possible to check each new instrument from the indicating hand on the larger speedometer. Before absolute accuracy can be obtained, however, it is necessary to ascertain that the electric motor is running at a constant speed, which is checked as follows: Mounted behind the camera screen is a rotating plate, on the surface of which an eccentric slot is cut, and on each stroke of the pendulum, controlling the half-second clock, an electric flash runs vertically across the centre and



Construction of cable chain.

behind the rotating dial. It will be understood, therefore, that if the time taken for the dial to complete one revolution varies, the spark will be observed, through the eccentric slot, at points of varying distances from the centre of the disc, when the fault may be corrected.

In addition to the foregoing tests, the speedometer is placed in a machine vibrating far in excess of that experienced on the road, and by means of a mirror the indicator can be observed and steadiness checked.

The Cowey productions are handled in London by the Bancroftian Co., 64, Bishopsgate, London, E.C.2.

A WELL-TESTED SPRING FORK.

THOUGH the Maplestone spring fork has not previously been seen on the British market, it would be incorrect to describe it as a new fork, since it has been thoroughly tested on Australian roads for six years past. The features of the Maplestone fork are simplicity and strength, added to which the appearance is neat and the strength of the single compression spring is adjustable. Our illustration, which shows the Maplestone fork fitted to an old countershaft Triumph, is self explanatory. The spring takes off from a dog leg link just above the mudguard, and at the top bears against a screwed member carried in a stout lug. This screw forms the adjustment for the spring compression.

Simple and Efficient.

Somewhat wider bearings will be fitted to production models, and provision for a front brake is easily arranged, since the fork moves with the wheel. A short trial on the road convinced us of the excellent shock absorbing qualities of the fork, and, not content with a road test, the machine was driven over a rough section of a common for a distance of about half a mile. Throughout the run the fork behaved admirably, and, despite the fact that the spring had not been adjusted to suit the weight of the rider, only one very severe bump caused the fork to bottom on the guard.

Our conclusions were to the effect that so simple and admirable a fork is bound to enjoy considerable popularity in the near future. Messrs. Maplestone Cantilever Spring Forks, Ltd., of Birmingham, have acquired the sole manufacturers' rights for Great Britain. For the present correspondence should be addressed to the new firm at Precision Gauges, Ltd., Wrentham Street, Birmingham.

The Maplestone spring fork, designed in Australia, and tested for six years on the roads of that country.

TWO L.M.C. TWINS FOR 1921.

Advance Particulars of Well-known Machines designed for Overseas Requirements. L.M.C. Saddle Suspension to be sold also as an Accessory.

GOOD material and plain straightforward design have always been characteristics of the L.M.C. motor cycles. To these reasons perhaps is due their popularity Overseas, where they may be found in every clime.

In the Home Country, too, they are far from unknown, which goes to show that conditions generally are not so widely different as is sometimes supposed.

For the past year the Lloyd Motor Engineering Co., Ltd., has, like many of its contemporaries, been labouring under difficulties of obtaining raw materials, with the result that the new models now about to be introduced have long since passed through the experimental stage, and have had a thoroughly good testing while awaiting production facilities.

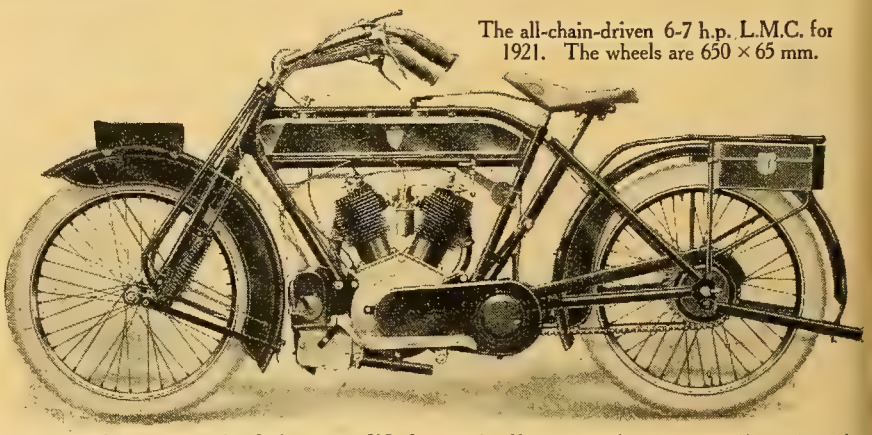
The chief features of the 1919 6-7 h.p. model are retained, the main alteration being the all-chain drive in place of chain-cum-belt transmission, although, if desired, the latter will be supplied to those who appreciate its comparative simplicity. In lieu of a fully-enclosed case for the rear chain, a light guard is fitted on this model.

A "Between-size" Engine.

Of 842 c.c. capacity, the engine, which has a bore and stroke of 76 mm. and 86 mm. respectively, is a size midway between the 750 c.c. engine so popular before the war, and the 1,000 c.c. power unit in vogue at the present time. It will, therefore, appeal to those big twin enthusiasts who are thinking of a little reduction in capacity to counteract the increased price of petrol.

The other model is larger all round, with 28×3in. wheels, a three-gallon tank, a higher frame, and a larger engine. The last-mentioned has a capacity of 960 c.c., the cylinders being 79×98 mm.

As will be seen from the illustration, the design is extremely compact, there being no gaps between the various units. Notwithstanding, it is possible to remove the cylinders without disturbing the rest of the engine. The well-known L.M.C. spring forks are retained in a modified form. They have now long phosphor bronze bearings to the links at the fork-ends, and, as there are adequate means to lubricate these bearings, the forks should stand up to the hardest sidecar work.



The all-chain-driven 6-7 h.p. L.M.C. for 1921. The wheels are 650 × 65 mm.

An amply wide mudguard is fitted to the front wheel. It is so made that the fork members pass through it, thus securing a clearance of more than an inch on each side of the tyre. At the rear wheel, too, a wide guard is fitted.

Braking is concentrated upon the driving wheel, and takes the form of an internal expanding ring of bronze actuated by a pedal and a hand-operated external band brake. As an alternative to the latter, however, a block brake to work inside the V of a special rim is supplied to order.

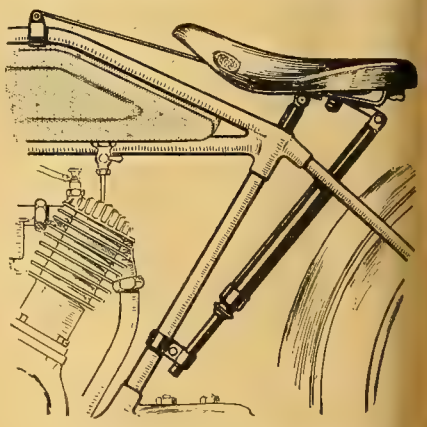
Comfortable Seat Suspension.

On both models Lloyd's patent suspension is used to give saddle comfort. It will be remembered, perhaps, that this device consists of a saddle top fixed to a cantilever beam pivoted well forward of the rider and extends to a position approximating to that of the usual springs. Here the beam is connected to a long spring-loaded plunger which also carries stays supporting the rear ends of the footboards. Under the centre of the saddle is a roller supported on another plunger, with springs and distance pieces according to the weight of the rider.

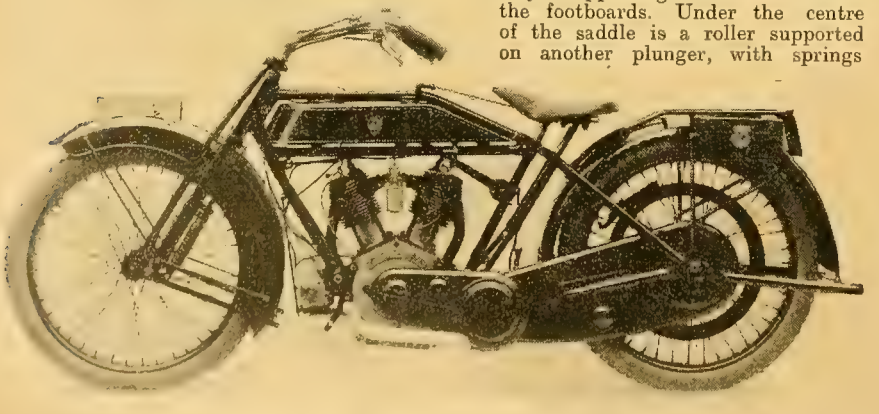
At the time of writing we have in our possession one of these new models fitted with this device, and we have no hesitation in saying that it is one of the best substitutes for a spring frame we have tried. The streets—especially the side streets—of Birmingham are notoriously bad, and for the first time since the war we have traversed them in comparative comfort on the L.M.C.

We have found the machine to be exceptionally fast, while the spring forks function in a manner that leaves little to be desired in this direction.

It is the intention of the Lloyd Motor Engineering Co. to market the saddle suspension part of this device separately for existing machines. It may be fitted to almost every machine on the market which has a tube over the tank. We feel sure that agents who are enterprising enough to demonstrate this device will find employment for their mechanics, during the slack time in the winter, by fitting it to their customers' machines. No structural alterations are necessary, and it may be possible to utilise existing saddle tops.



L.M.C. saddle comfort will be available for riders of other machines; the makers are placing the device on the market as an accessory.



Enclosed chain drive, a 960 c.c. engine, and 28in. × 3in. wheels, are features of the 1921 L.M.C. 8-9 h.p. Colonial model.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

SPEED AND RELIABILITY.

Sir,—*Apropos* my letter re speed and reliability, I cannot refrain from calling attention to the fact that Mr. V. Horsman, who captained the winning team in the Reliance Cup Eliminating Trial, used the identical machine, frame, wheels, *engine*, etc., that he used in his famous record hour ride at Brooklands, altering the gears only.

What better evidence could we have that reliability need not be sacrificed to obtain speed? JAS. L. NORTON.

A MODERN JUGGERNAUT.

Sir,—May I call your readers' attention to the great risk entailed by the driving of motor fire-engines at excessive speed. These heavy vehicles are suddenly loosed upon the country, sometimes when the roads are full of motor and pedal cyclists. That fire-engines are absolutely necessary, and that sometimes lives depend upon their speedy arrival cannot be doubted. But I think I am right in saying that in the country this is the exception rather than the rule. My point is this. Should they be allowed to run the risk of taking human lives so that their arrival at the scene of a stack fire may be timely? Shall the motor fire-engine be likened to Kipling's :

". . . . . bucko ship
Which always killed one man per trip."

A B.S.A. rider turning from a broad main road into one equally broad, had to cross in front of one of these vehicles to gain the left side of the road. The driver of the fire-engine was unable to avoid a collision, and carried both machine and rider upon the front of his bonnet an incredible distance before it finally crushed him against a tree, by the road side, which was almost felled by the impact. The driver did his utmost to avoid a collision, but the fault lies to the account of the law which gives these vehicles the freedom of the road. Who turns a corner expecting to meet a huge vehicle doing thirty miles an hour? If I had been a few seconds earlier I should, doubtless, have shared the fate of the unfortunate motor cyclist. Anything might have come out of that side road : a child, a deaf man, or a girl on a two-stroke.

Is it necessary for us motor cyclists to put our machines on the stand and advance to reconnoitre? DOUGLAS.

CANDID CRITICISM.

Sir,—I note you have made several comments on my letter to you, which you publish under "Candid Criticism." I trust you will give me the opportunity to reply to them, as I fancy you somewhat missed the point of my remarks. You also defend the trade on the score of wages, etc., being enormously increased. I admit that prices are up all round, but is that any reason why a maker should get orders under false pretences? Strong words, but true. I do not want anyone to give me something for nothing; but what I order and pay a deposit on I expect to get, and so do most people.

I know quite a lot of people who cannot carry on, and intend to sell their machines. They could not afford a motor bicycle before the war, but, owing to abnormal times, etc., have found themselves with a few pounds to spare, and bought a machine, forgetting that times must come back to the normal. I think the influx of this type has given the trade a false impression of the actual market. There is not the huge increase of actual riders as is supposed.

If it were possible to make a motor bicycle to retail at £25 and cost about a halfpenny a mile to run (which I know it is not) the majority of the riders would be *new* to the sport; but, if the figures be £60 and one penny per mile respectively, then they are not affected. That was the impression I tried to convey in my last letter. The number of actual motorists are, more or less, what they were in 1914.

If one examines the average carrier and notes how many lugs and joints there are on it one can understand why prices are up. That article is a flat contradiction to the manufacturers who state they try to keep prices down.

But, in all my experience (I have had eighteen machines), there is one *Motor Cycle* I shall not grumble at the price of, and that comes out weekly and costs 4½d. C.V.T.

Horsehay, Salop.

Sir,—*Re* the letter in your issue of September 23rd, signed "C.V.T.," I should like to make the following points clear:

(a) The coil ignition system was given up for the following reasons :

(1.) Unreliability and leakage of the accumulators.

(2.) Failures in the coil.

(3.) The rider could never venture far from his base on the accumulators.

Let "C.V.T." ride one of the coil ignition machines, of which a few are still in existence, for fifty miles, and he will probably realise the reason why the system was discarded.

(b) The a.i.v. was discarded for the same reasons as coil ignition—unreliability and failure to function, usually due to "sticking" valve.

(c) The price of the petrol tank is quite in accordance with the cost of construction :

	£	s.	d.
Construction of tank (materials not included in cost) with skilled labour at 2s. 6d. per hour (one hour)		2	6
Enamelling (including labour) about 10s. ...		10	0
One lubricating pump	1	0	0
Two filler caps and one petrol tap		5	0
Total	£1	17	6

At that estimate, the tank is made with only a small margin of profit.

To fit up a fuel and lubricant tank from petrol tins would cost but little less without the effect of the well-enamelled real article. HARLEY.

Harrow.

A LONG TOUR ON MOTOR-ASSISTED CYCLES.

Sir,—A short time ago I saw in your columns an account of the Simplex motor unit, and, as it seemed a good thing, I purchased two units, one each for my wife and self. These I had attached to our cycles (Singers), and after riding about fifty miles to get used to them, we decided to go by road on our holiday to Minehead.

From Great Missenden to Marlborough, *via* Newbury, the roads were very good, but from that point to our destination, through Trowbridge, Frome, Wells, and Bridgwater we gave the units a thorough testing. As many of your readers are doubtless aware, the roads in many of the above districts are not "great," and several of the hills encountered made one think it foolish to attempt to ride them with such a small engine, but the handy little unit stood the test, and, with slight pedal assistance, we were able to ride every hill.

On the return journey we took a more southerly route, through Taunton, Wincanton, Amesbury, Hungerford, etc., and again we found many stiff hills, but, as before, with slight pedal assistance, we were able to climb them.

Both units went through this severe test (about 350 miles) most satisfactorily, and I have nothing but praise for them.

I think the work of my unit the more remarkable, because I carried about 50 lb. of luggage and half a gallon of petrol, and I weigh 12 st. At every place at which we stopped many enquiries were made about the attachment.

A slight defect in the lady's unit caused us some trouble; but it is only fair to the makers to say that they have since remedied it and replaced the part affected. Beyond this, both of them more than came up to expectation, and I should think that when they are better known to the cycling world they will achieve a ready sale.

I may add that some of my friends imagined that the engines would shake the cycles to pieces, but, so far, their fears have been imaginary ones, and the old cycles are as good as ever, despite the rough and hilly roads over which they were driven. GEO. W. COWAN.

A TOUR IN THE HIGHLANDS.

Sir,—It was with great pleasure that I read "Wharfedale's" description of his "Tour in the Highlands," and I notice that he went through Hamilton, and by doing so must have gone through Glasgow, which is very disagreeable, as there are miles of tramway lines.

I take the liberty to suggest an alternative route, which, although a few miles longer, cuts out all Glasgow.

Coming along the Carlisle road, there is a turning a few miles before Hamilton. This is on the left and is marked by the A.A. Taking this turning, go straight through Stonehouse to Strathaven, and the route is as follows: Strathaven, East Kilbride, Busby, Paisley, Erskine Ferry, and turn left after crossing the ferry to Bowling. About two miles out of Bowling there is a fork; turn right and (this is the Stirling road) it is straight all the way to Bonhill, from where it is only a few miles to Balloch.

The surface is moderately good, but bad in patches between Strathaven and East Kilbride. If this route is taken the only part of the road where tramlines are encountered is at Paisley, where there is about half a mile, and from Erskine Ferry to the fork at the Stirling road. This road cuts out Dumbarton. JAMES McLAREN.

Sir,—I have read with interest your article on "A Tour in the Highlands," and can confirm what "Wharfedale" says about the scenery and some of the roads, having just completed a tour from London to John-o'-Groat's and back.

Last July I obtained delivery of a 2¼ h.p. single speed Levis, and, after a few short trial runs, set out from London on August 21st on the great adventure, with all my luggage on the carrier. If I mention the places at which I slept on successive nights your readers will be able to follow me on the map; but I went out of my way several times to call on friends. My resting places were, consecutively, Leek, Penrith, Stirling, Blair Atholl (*via* Callander and Killin), Inverness, and Helmsdale.

I started from the Commercial Hotel on a fine morning, August 29th, climbed the Ord of Caithness, ran down the dangerous Berriedale, took the nasty turn to the right at the bottom, and up the other side without a stop, then on to Wick, and John-o'-Groat's. Here I had lunch and signed the hotel register, returning *via* Thurso and Latheron to Helmsdale. My halts on the way South were Inverness, Fort William (two), Oban, Callander, Edinburgh (two), Durham, Blackburn, Arnside, Lichfield, and so home to London on September 10th.

I had only four rest days, two of them being Sundays, one very wet day, and a day to climb Ben Nevis from Fort William. I also visited Glencoe from Ballachulish and the Trossachs from Callander.

The machine was sufficient for all the hills I encountered, and my only trouble was a defective belt, which broke three times, and had to be replaced by a new one at Killin, where, luckily, the only repair shop in the village had a new ¾in. Dunlop in stock. Two single-point plugs of different makes were used alternately, and both of them are still in commission. The fact that the machine ran 250 miles on the last two days of the tour, and that the engine, carburetter, and magneto gave no trouble whatever during the whole 2,000 miles, is sufficient proof of its reliability. I had only one puncture, and no breakages except the belt.

To show that it is never too late to taste the joys of motor cycling, I will state that I am a novice with only one year's experience, and my age is nearer sixty than fifty. I may add that I have no trade interest in the Levis.

London. XC 1721.

LOWER PRICES NOT IN SIGHT.

Sir,—May we as manufacturers be allowed to express our appreciation of the leading article in your issue of September 23rd with regard to reduction in prices?

In our opinion the present depression is mainly attributable to two factors. First, the attitude of both the London and Provincial Press towards the motor trade, and, secondly, the foolish statements made by a section of the traders whereby the public have been misled into expectations of a reduction in prices.

With regard to the first, it is merely a waste of time on the part of the manufacturer to try and combat these wild rumours, which no doubt benefit the newspaper circulation, and it is only articles such as yours which can be used to inform the public of the real state of affairs. Articles written by people who really know, and who are in touch with the trade, should be more valuable and convincing to a private individual than those written by an alarmist.

The second point is, however, one we consider should be brought to the notice of the trader, who thoughtlessly harms himself in general with the whole trade.

The post-war cost of material and labour has increased quite out of proportion to the increase in price of the retail article. Consequently it is necessary for the manufacturer to increase his production to be able to pay a fair interest on his necessarily increased capital. The only way to do this is to keep his order book full, and any action which prevents this is a further set-back.

We would all like to see prices fall, but this cannot occur until outputs have been increased, and anyone who in any way dissuades possible purchasers is not only postponing this, but is doing even more harm in that he is placing the manufacturer in the position that he will either have to increase his prices or go out of business altogether.

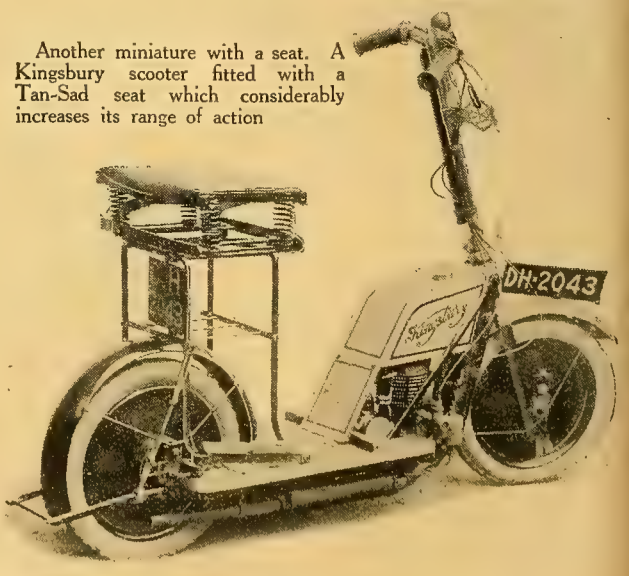
THE COWEY ENGINEERING CO., LTD.
T. M. McARTHUR, Director.

ELECTRIC LIGHTING ON MOTOR CYCLES.

Sir,—I had acetylene lamps with separate generators fitted to my 5-6 h.p. Rudge combination delivered in September, 1919, and found they were fairly satisfactory on long runs, but were distinctly inconvenient when overtaken by darkness a few miles from home, so much time being wasted in getting them to "go"

Last January I purchased a 6 volt 80 amp. accumulator and fitted it into the compartment at the back of the sidecar, and, utilising all the existing lamps, made a very convenient installation. By unscrewing the burner blocks of the acetylene lamps it was an easy matter to use the lamps for electric globes, and, although I have done a lot of night riding about Town since January, I have had to touch no part of the installation, and its convenience cannot be overestimated. In the event, improbable I think, of trouble with the electric lighting, I could adapt the lamps to take acetylene again in fifteen minutes on the road.

W. J. LACEY, JUN.



Another miniature with a seat. A Kingsbury scooter fitted with a Tan-Sad seat which considerably increases its range of action

Sir,—Having read with interest the article and correspondence on the subject of electric lighting in past issues of *The Motor Cycle*, I would like to tell you of my experiences with an Edison accumulator.

Purchased two and a half years ago, this has given complete satisfaction. Eight cells are required to give 12 volts when in use, while for a 20 amp.-hour set the weight is nearly the same as that of a 4 volt 20 amp. lead battery. It stands up to vibration and road shocks remarkably well. I had a metal case made for it, and fitted on one side of the carrier under the toolbag, and have travelled over 11,000 miles on all sorts of roads in England, Wales, and the South and West of Ireland without the least damage to the accumulator, although one might think that it is in the worst position possible. It is, of course, tightly packed in its case with pieces of old inner tube, and so far the only attention it has required has been the occasional addition of small quantities of distilled water and one complete renewal of electrolyte (cost 2s.).

The Edison accumulator holds its charge very well, and is not injured by high charging rates; I charge at 5 amps.

For local use I have a 2 amp. ½ watt type lamp fitted, giving 48 c.p., but use a 12 c.p. lamp for touring, although charging can be completed in a single night. An electric Klaxon is also in constant use.

A useful tip to prevent glare from the head light is to use ground glass and cover the ground surface with a thin film of castor oil. This gives a very good light with the minimum of glare.

In conclusion, I would add that I also have "sworn a mighty oath," but have kept to it, and have not the least intention of reverting to an acetylene outfit, with its mess and leaky tubes! I am looking forward to the time when a really satisfactory dynamo (such as the Lucas Magdyno), suitable for a solo machine, will be obtainable without such remarks as "cannot supply for another year at least."

Liverpool. W.S.C.

A CAMPING TOUR.

Sir,—The photograph shows the camp of myself and another lady beside Loch Lomond, who, during the latter half of August, took a 1,200-mile tour on a Matchless outfit.

On the shores of Loch Lomond. How two ladies fared on a twelve hundred mile camping tour is described in the letter of "M.M.R."

Our route was from Somerset, *via* the Wye Valley, Liverpool, Carlisle, and Glencoe, to Ballachulish, on Loch Linnhe, thence by the coast road to Oban, and backwards and forwards through the Southern Highlands of Scotland, sometimes lodging in a two-roomed cottage, sometimes camping on the loch shores or open country, and so on through the Trossachs and to Edinburgh, whence we headed due South for home over the Yorkshire Moors.

Many, I had almost said most, of the roads we traversed were quite unspeakable as to surface, and some of them, notably the road from Tyndrum to Rannoch Moor, were simply a mass of unrolled flints about the size of the top of a cottage loaf.

The only trouble of any sort was the breaking of the driving chain connecting link, which somewhat tore the chain case, and the wearing of one wheel spindle, due, I suppose, to my having neglected to tighten the cone.

We accomplished the 1,200 miles in sixteen days, spending three and a half days in camp.

Besides personal luggage, about 11 lb. each, we carried our tent (10 lb.), a spare tin of petrol, and two gallons of lubricating oil. M.M.R.

Bridgwater.

SHOULD TWO-STROKES BE HANDICAPPED?

Sir,—Mr. Jas. L. Norton has not put the case of the two-stroke quite clearly, and to do so I offer the following comparisons with an ordinary four stroke.

THE POWER STROKE.—Exhaust opens approximately in the same position in both types.

INDUCTION (four-stroke).—Inlet opens with piston at the commencement of stroke and remains open for a very short period on the compression stroke. This short period is called "lag," and is designed solely to crowd more gas into the cylinder at high speeds.

INDUCTION (two-stroke).—(1.) The piston must close the transfer port; this equals 12% of the induction stroke wasted. (2.) The opening of the inlet port is delayed until the piston is near the end of its stroke, and the whole of the charge must pass in in a very short time. In order to extend this time as much as possible the port is made longer than the equivalent lag on the four-stroke. (3.) The result is loss of charge at low speeds, and strangulation at high speeds.

COMPRESSION (four-stroke).—The whole of the stroke is available, excepting the lag of the inlet valve, which is purposely designed as aforementioned.

COMPRESSION (two-stroke).—This commences when the piston has moved past the exhaust port. This is equal to 25% of the total stroke wasted.

To condense the above the two-stroke has the following handicap:

(1) 25% loss of effective compression stroke.
(2) 12% loss of induction stroke.
(3) No possibility of adjusting timing of opening and closing ports to take advantage of the well-known principles of fluids in motion.
(4) On account of the short period of opening, the ports are not able to pass a full charge at high speeds, which results in the power curve soon falling off. Both engines suffer from this trouble, but the two-stroke certainly gets the worst of it, therefore the two-stroke of this type will never equal the volumetric efficiency of an engine like the Norton Big 4. P. J. GOODMAN.

VELOCE, LTD.

SUMMARY OF CORRESPONDENCE.

"BY 6864" and Mr. C. A. Gur write on the advantages respectively of the Portsmouth-Ryde and Southampton-Cowes routes to the Isle of Wight. The excellent treatment afforded him by Messrs. W. J. Green, Ltd., Coventry, makers of the Omega-Jap, forms the subject of a letter from Mr. C. S. Fraulin, Grimsby.

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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Excessive Belt Wear.

I have a 3½ h.p. Bradbury with light sidecar and N.S.U. two-speed gear, which devours belts more quickly than my pocket can supply them. My present belt has not done 1,000 miles, and has shed most of its rubber. It does not get oily, and I keep it at the proper tension. Can you suggest a possible cure, or do you think a leather belt would prove more economical?—N.H.

In all probability the excessive belt wear is due to the pulleys being worn or out of line, and there is very little you can do to correct this. It would perhaps be better to use a leather or leather and canvas belt. These can be obtained from the larger accessory stores, although their popularity has waned considerably. The disadvantage of leather belts is that they require frequent cleaning and dressing, otherwise they quickly wear out the pulleys.

An Old Engine.

I have just bought an old single-cylinder machine which certainly needed overhauling. This I have done, and am desirous of obtaining the correct timing, etc. As it is I have re-assembled the engine, making the exhaust valve to close an inch on the flywheel before top dead centre. The inlet valve is automatic, and the carburetter is a White and Poppe. On starting the engine up it ticks over all right with the throttle a little open, but if I gradually open the throttle to full it slows down and stops. Further, while running, there is a back pressure in the carburetter as if the valve is leaking, but I cannot see that it can be that, as I have thoroughly ground in both valves. Could it be that the automatic inlet valve spring is either too weak or strong? I trust you will give me the best valve setting, magneto setting, and what size jet I should use.—A.H.B.

The exhaust valve is closing too early. It should not close until the piston has reached top dead centre. No doubt this early closing of the exhaust valve is the cause of the back pressure, which occurs when the throttle is open. A stronger inlet valve spring would also improve matters. The magneto should be timed so that the spark occurs when the piston is on top dead centre with the ignition control two-thirds retarded. Without knowing the bore of the engine and the type of carburetter in use, we cannot help you, but most W. and P. carburetters had automatically variable jets.

Two-speed Gear Adjustment.

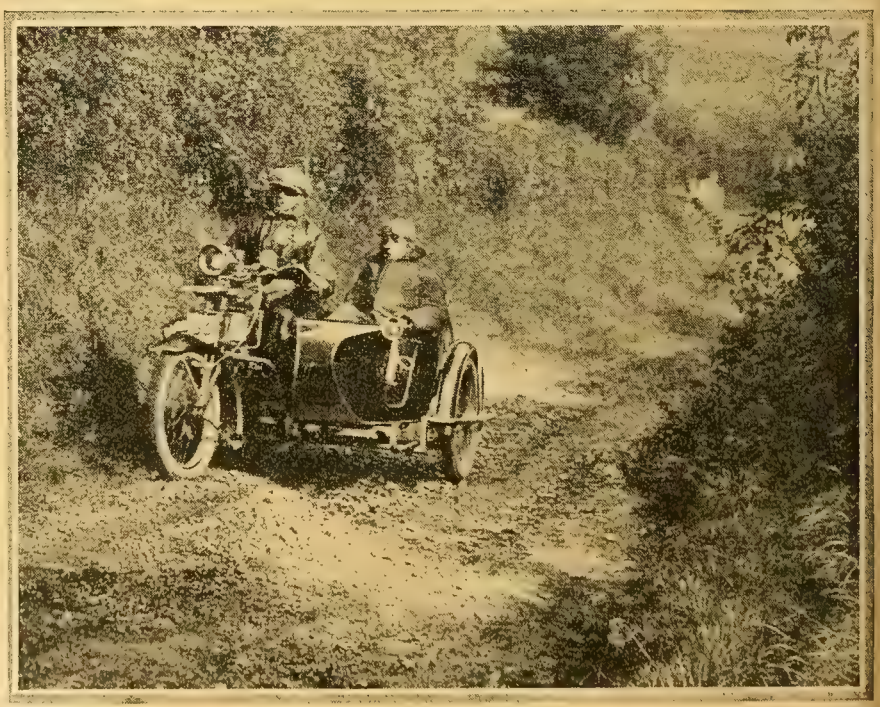
I am in possession of a 6 h.p. 1920 Royal Enfield, and have done about 1,300 miles. I am troubled with a jarring noise in the gear case, and also the starting sprocket slips round at times when starting up. I have taken the cover off the gear case, and find that the metal plate on the outside of the gear wheels is rubbing on the gear case. The gear chains are also slack.—T.B.

Presumably the gear chains require adjustment, and this you would be able to do if you follow the instructions given in the handbook published by the makers of the machine. It is quite likely that the noise arising from the gears is caused by the chains being sufficiently loose to strike against the chain case when the engine is running. The starting sprocket should not slip if the ratchet teeth are undamaged, and if the spring behind the ratchet sprocket has not lost its tension. These parts require lubricating with thin oil at frequent intervals.

The N.S.U. Gear.

I have a 3½ h.p. Triumph fitted with an N.S.U. gear. (1.) Is this gear easily taken down? It does not appear to function properly at present. Is there a free engine position? (2.) I do not intend to use this machine this year. Must I register it?—J.W.W.

(1.) The N.S.U. two-speed gear is quite a simple device, and is quite easily dismantled if you remember that the only left-hand thread in its construction is the large lock ring, which secures the inner part of the pulley to the main body of the gear. If the gear is in order, you should certainly obtain a free engine position, although this is sometimes not very apparent until the engine is running, owing to friction. The free engine is found between the high and low gear positions, and when the operating handle is tightened fully for the low gear, a half turn in the opposite direction should give a free engine. (2.) If the machine is not used, a licence is unnecessary.



AUTUMN SUNSHINE FAVOURED THE WEST MIDLAND TRIAL.

E. Williams (6 A.J.S. sc.), with the advantage of previous experience, hugs the right-hand bank on Flagstaff Hill. (A detailed account of the trial appeared last week.)

Bad Starting.

I have had considerable experience with two-stroke machines, but I have now purchased a 2¾ h.p. New Imperial-Jap. It seems to be in fine condition, but I require your advice on account of the great difficulty I have in starting it from cold. Particulars of what actually happens are as follows: Belt slips round the pulley on the driving-shaft when the exhaust lever is dropped; it is very stiff when raised, but when dropped it completely locks the pulley and the wheel simply skids. It appears to me that the oil on the piston rings causes the piston to stick to the cylinder walls, but probably I am wrong. When the wheel is revolved by hand, at a certain position it becomes impossible to continue the revolution. At this point, if the compression tap is turned on a hiss of air can be heard, and then all becomes easy. To start the machine from cold, I require all the family's assistance.—F.A.

If your belt slips over the pulley when you release the valve lifter, clearly the belt is too slack, or the pulley groove of wrong angle. Take half-an-inch out of the belt. The stiffness you refer to is usually present in motor cycle engines during the winter months. It is simply due to congealed oil on the piston or the piston rings. If you squirt a few drops of petrol or paraffin into the cylinder, this will greatly facilitate starting. You, of course, make a point of flooding the carburetter before attempting to start, and also closing off the air-supply. You will find that during the winter months a lighter grade of lubricating oil would minimise any engine stiffness.

An Old Machine.

My 1911-12 2¾ h.p. Douglas has been standing idle for four years, but I am dragging it out again, as it has done well in the past. My trouble is this, however. It will start on the stand, but not on the road. I have had it to pieces, because I sheared the key and scored the flywheel badly. The following defects occur: After pedalling hard on the stand the engine will start, but when running fast (still on the stand) little puffs of vapour issue from the gauze on the carburetter. When the throttle lever is "off" it still runs. I timed the engine thus: The exhaust valve begins to lift when piston is within ⅜in. of the bottom of the firing stroke, or, in other words, the crankshaft at about four o'clock. The firing I timed as follows: Piston top dead centre, magneto fully retarded. I am afraid I have not the correct valve timing, and some other trouble. The carburetter is an Amac 26 jet; the sparking at plugs is good.—F.W.P.

Time the valves so that the exhaust closes about 5° after the piston has reached the top of the stroke, and the inlet opens 3° or 4° before the same piston position; this degree of overlap is usual on the Douglas engine. You have the ignition timing just a little bit too far advanced, and it would be better to set the contact breaker so that the points just separate when the piston is at the top of the stroke with the control two-thirds retarded instead of fully retarded. The blow-back through the carburetter may be caused by the inlet valves closing too late, while the fact that the engine will not stop on the throttle is probably due to the slides in the carburetter being badly worn.

Chain Stretch.

Will you give me some means of judging the state of the chains on my 7-9 h.p. Indian? To go on till one breaks a chain is rather unsatisfactory, as it usually occurs at an inconvenient, not to say dangerous, time. Nevertheless, one is loth to scrap a chain with several hundred miles life left in it. Could you give me a figure for percentage stretch after which a chain is done? My present chains are Duckworths, ⅝×⅜. I think a table giving particulars for the most usual sizes of chain and largest makers would be of great value. —H.A.H.

Chain breakages do not usually occur as a result of wear, and they may occur at any time in the life of the chain. A breakage is just as probable with a new chain as with an old one, as such troubles are usually the outcome of running the chain in bad alignment or excessively tight. Care should be taken that the chain wheels are correctly in line, and also that the chain is of the correct tension, having about ½in. up and down play midway between the sprockets. If the chain is stretched so badly as to be seriously out of pitch, the trouble will be obvious, as it will be noticed that the chain commences to mount the teeth of the sprocket, and it should be discarded when this stage is reached, or breaking or jumping off may ensue. A table of chain sizes appears in the latest edition of "Motor Cycles and How to Manage Them," which can be obtained from our publishers. As far as the British trade is concerned, the bulk of the motor cycle chain business is in the hands of two or three firms. The Duckworth chain fitted to your machine is of American manufacture.

READERS' REPLIES.

Defective Drip Feed.

Being a B.S.A. owner, and having read your reply to "B.W.," also "R.M.B.'s" and "Scottie's" replies, I thought it advisable to chip in, too. For a week I was troubled as "B.W." was, and, after tinkering with ball valve, pen steel disc, etc., I finally discovered that the trouble was due to a leak between the glass tube and the top leather washer. I should advise "B.W." to withdraw the glass tube and examine leather washers, and see that a perfect joint is being made on both faces. To test the tightness of the tube after refitting, open regulating valve a few turns, and force the oil into the glass tube by pulling the pump piston upwards. Immediately this piston is at top, press down quickly, and repeat the pull. Should there be a leak, this will show immediately the glass is full, as it is then under pressure. On the other hand, should the oil run into the crank case quickly enough to make it impossible to fill the tube, then the system is tight and will work perfectly.—J. A. LAMB.

Adjustment of Automatic Carburetter.

With reference to "R.J.P." re his question in your "Questions and Replies" page, I should like to let him know that I experienced the same trouble with my Blackburne engine. After trying three carburetters, seven jets, and two magnetos I got no better results, but after many weeks (including six weeks the engine was at the works) I discovered the exhaust valve spring was very weak, and fitted a new special long spring from Blackburnes. The uneven firing ceased from that day and has never occurred since. I have been able to help several other riders suffering from the same fault with equally satisfactory results in each case.—D.A.G.

RECOMMENDED ROUTES.

EDINBURGH TO SHEFFIELD.—J.D.G.

Edinburgh, Dalkeith, Newbattle, Gorebridge, Stow, Galashiels, Melrose, Jedburgh, Carter Bar, Byrness, Woodburn, Corbridge, Riding Mill, Castleside, Bishop Auckland, Piercebridge, Scotch Corner, Catterick Bridge, Leeming Bar, Boroughbridge, Wetherby, Collingham, Bardsey, Leeds, Hurslet, Lofthouse, Wakefield, Barnsley, Sheffield.

LONDON TO CHURSTON (DEVON).—G.

Kentish Town, Regent's Park, St. John's Wood Road, Edgware Road, Park Lane, Knightsbridge, Kensington High Street, Hammersmith, Brentford, Hounslow, Staines, Egham, Bagshot, Hartley Row, Basingstoke, Overton, Andover, Salisbury, Wilton, Hindon, Mere, Wincanton, Ilchester, Ilminster, Chard, Honiton, Exeter, Chudleigh, Newton Abbot, Totnes, Kingsbridge, Churston.

SAFETY FIRST.

One could write reams on what not to do when riding a motor cycle, but Mr. F. H. Headley, of the Tan Sad works, seems to have covered most points in fourteen terse hints, which are printed inside the Tan Sad Insurance Policy, which has been formulated specially for the benefit of owners of pillion seats. Incidentally, this policy has been arranged on the basis that pillion seats do not increase risks, a view not shared by the majority of insurance companies who sometimes charge an extra premium when a pillion passenger is carried.

The hints referred to are as follows:

1. Railways have few accidents because they constantly examine all nuts and screws, so that everything is secure. Follow the example and do the same.
2. Do not race.
3. Do not always try to get ahead of everybody else on the road—let the other fellow overtake you if he wants to.
4. Always keep to the left of the road—always avoid being on the wrong side.
5. Pull to the left quickly when a vehicle wants to overtake you.
6. Never try to pass on a corner.
7. Always make sure the road is clear before overtaking any vehicle.
8. Sound the horn too much rather than not enough.
9. Drive most cautiously across cross-roads and when turning into other roads.
10. Avoid tramlines—better lose a minute than a limb
11. Be most abstemious in taking intoxicating liquors—better not at all when in charge of a motor cycle.
12. Avoid riding pillion unless you have a properly sprung seat, and especially see that the feet get support.
13. If you are riding pillion, make sure your carrier is strong enough.
14. Be courteous; do not be selfish; always consider the other man—better be safe than sorry.

CURRENT CHAT

Times to Light Lamps.

Oct.	7th	... ...	6.54 p.m.
,,	9th	... ...	6.49 ,,
,,	11th	... ...	6.45 ,,
,,	13th	... ...	6.41 ,,

Roads in China.

A 180 mile motor road is being constructed in China, and will extend from Peking to Tientsin.

Watson-Bourne joins the Trade.

J. A. Watson-Bourne, who won second place in this year's Junior T.T. on a 2¾ h.p. Blackburne, will in future be associated with the new Powell motor cycle, designed by Mr. Alec Burney. Before very long we may see Watson-Bourne's familiar figure astride one of the new Wrexham productions in competitions.

A Douglas Trial.

A trophy (value 40 guineas) presented by Messrs. Douglas Motors, Ltd., the usual medals and several useful accessory prizes form an attractive prize list for a trial to be held on October 17th, for privately-owned Douglas machines only. The course, which will embrace the characteristic charming scenery of the Yorkshire Dales, will start and finish at Harrogate. Entries and enquiries should be addressed to Captain Ellison Hawks, the Douglas Depot, Harrogate.

Fire at Martinsyde's.

The fire which occurred recently at the Martinsyde works was confined chiefly to the aircraft section, where the damage was considerable. The manufacture of the Martinsyde-Newman motor bicycle, however, has not been interfered with in any way.

IMPORTANT DATES.

Oct. 9th—
M.C. and A.C. Open Reliability Trial.

Nov. 4th-13th—
International Automobile Exhibition, Olympia and White City

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Dec 26th-27th—
M.C.C. London-Exeter Run.

Parisian Motor Cyclist Policemen.

In the middle of October M. Raux, Prefect of Police in Paris, will receive delivery of a consignment of 2½ h.p. solo and 6 h.p. sidecar outfits manufactured by Blériot. The organisation will start with twenty-four machines. The exact duties which the motor cyclist policemen will carry out has not yet been published, but we understand that the number of motor cyclist policemen employed will be increased in the near future.

Special Features.

FUEL ECONOMY.

A DESPATCH RIDER'S JOURNEY HOME.

HINTS FOR THE NOVICE.

Brooklands Next Saturday.

The championship meeting of the B.M.C.R.C. will take place on Saturday, beginning at 1 p.m. All the eight events, embracing the usual solo and sidecar classes, and one for three-wheeled cycle cars not exceeding 1,100 c.c., will be five-lap championship scratch races.

A Successful Year.

The first annual statement of the Scott Motor Cycle Co., Ltd. (which took over the business of the late Scott Engineering Co., Ltd., in 1919), shows that the trading of the year ending July 31st has had very favourable results, the net profit for that period being £26,523. It has been decided to increase the capital of the company, in order to deal with its greatly increased business, and it is proposed to issue 100,000 new £1 shares.

We recently inspected the new works extensions, and greatly admired the way in which the manufacture of most of the essential parts has been concentrated in the one factory. The productive capacity of the plant has been doubled during the past twelve months, while the well-known competition record of the Scott machines has fostered an increasing demand.

An untouched snapshot of Gus Kuhn (Levis) taking a watersplash in the Levis single-gear trial on Sept. 26th. Kuhn evidently believed in getting the agony over quickly, for he took the splash at speed, as will be observed.

Indians for 1921.

The American papers announce no radical changes in Indian motor cycles for 1921.

Fuel in Australia.

In 1919, Australia imported 20,748,969 gallons of motor spirit, ten times the amount imported in 1910.

Look to your Bearings.

At this time of the year it behoves motor cyclists to overhaul their wheel bearings, and to see that there is plenty of grease at all points likely to suffer through the intrusion of rain.

A Weather-proofing Tip.

Quite a good tip for winter riding emanates from the veteran competition rider, Mr. F. W. Applebee, who makes a compound by heating and mixing resin and oil, for covering up magneto terminals. The substance is not so brittle as shellac.

Slow Running Indeed.

"How many times per revolution does the inlet valve open?" is a question which the aspiring R.A.F. or M.T. recruit was often asked, and simple as it is, many tripped over it. The simple facts of the four-stroke engine are not yet universally safe ground, however, for we were amused to read in a recent semi-technical review that a certain 90° twin engine would idle at 120 r.p.m., since an inlet valve was timed to open thirty times in 15s.!

In Season.

We would remind readers that it is much easier to clean a machine while mud is wet than to wait until it has set hard. In addition, it does less damage to enamel. We always try to give our machines a "hose over" immediately at the end of a journey, after first wrapping the magneto in an oily rag.

Arrowing of Trials.

Youthful precocity has accounted for many competitors in recent trials running right off the course. Usually the arrows are turned right round, and a Wolverhampton correspondent suggests that such alteration could at once be detected if the arrow were underlined by a thick black bar. Of course, this would incur the issue of two sets of arrows for right and left turns respectively, but we think something of this nature must eventually be adopted if the inevitable small boy is not to upset even the most completely organised events.

Congratulations.

Congratulations to Mr. E. J. Bass, of the Essex M.C. and the A.C.U., on the occasion of his marriage last week.

N.B.

We receive many queries, which, by omitting the stamped addressed envelope, do not comply with our rules in this matter. Writers of postcards requiring routes are the chief offenders.

A Low-priced Outfit.

The Dunelt big two-stroke which did so well in the Six Days Trials is now emerging from its final tests, and arrangements are well in hand for a modest output of sidecar outfits at a popular price.

73.6 m.p.h. for 206 Miles on the Road.

A Harley-Davidson has won the second annual road championship in America. The course was a circuit 302 yards over five miles, and had to be covered forty times. The average lap time of the winner was 4m. 8.92s., the average speed being 73.63 m.p.h.

Width of Roads.

To prevent misconception, the Roads Improvement Association is publishing some useful data regarding the width of roads, etc. For instance, a "road" means the total width of a thoroughfare between the property boundaries on both sides, while the "carriageway" is that portion of the road carrying the vehicular traffic. Thus the proposed "120 feet" road would have an actual carriageway of 60ft., which, in the opinion of the R.I.A., is an ideal width.

Many modern ideas in frame construction have been embodied in the Unibus machine shown here undergoing tests. A full description of this miniature was given in *The Motor Cycle* for August 19th.

Power!

We hear of a new two-stroke which is developing 5 h.p. per 100 c.c.!

Two-stroke Sidecar Outfit for 1921.

The Beardmore-Precision will be introduced as a sidecar outfit next year. The sidecar chassis will be of a unique design with a sprung wheel.

Preparations.

Makers are now busy preparing their new models for the Show. Some are hesitating whether to hold them up for the time being, because of past experience in getting into production with new machines.

A Mistaken Thoroughbred.

Sandwiched between bees and ferrets, a Blériot Whippet is offered for sale in the *livestock columns* of the *Western Gazette*.

Makers' Instruction Booklets.

Some machines are equipped with a thoroughly sensible assortment of tools and a comprehensive book of words; others, alas, leave the parent factory unaccompanied by a word of advice to the prospective rider—they must tell their own tale and suffer according to the lack of "horse sense" of the buyer. We met quite the limit, however, on a recent machine, which was graced with instructions printed for issue with an earlier model with radically different adjustments.

Second-hand Prices.

Although it is admittedly difficult to strike a fair average even with identical models of the same machine—"condition" and presence or absence of accessories are variable factors not always apparent in an advertisement—these figures, representing the highest and lowest prices quoted for the various models, should help prospective buyers in their choice of a mount.

A.J.S., 6 h.p., sidecar, 1918-19	£165–£220
B.S.A., 4¼ h.p., sidecar, 1919-20	£118–£149
Clyno, 2½ h.p., 2-stroke, 1920	£55–£65
Douglas, 2¼ h.p., 1914-16	£45–£69
Douglas, 2¾ h.p., 1917-20	£53–£100
Douglas, 4 h.p., sidecar, 1919-20	£115–£160
Enfield, 8 h.p., sidecar, 1919-20	£160–£200
Harley-Davidson, 7-9 h.p., sidecar, 1920	£164–£220
Indian, 7-9 h.p., sidecar, 1920	£165–£220
Matchless, 8 h.p., sidecar, 1920	£195–£225
New Imperial, 8 h.p., sidecar, 1919-20	£100–£168
P. & M., 3½ h.p., sidecar, 1919-20	£105–£160
Rover, 5-6 h.p., sidecar, 1919-20	£135–£185
Rudge, 3½ h.p., 1920	£84–£105
Scott, 3¾ h.p., sidecar, 1919-20	£135–£175
Sunbeam, 8 h.p., sidecar, 1917-20	£150–£250
Sunbeam, 3½ h.p., 1918-20	£115–£160
Triumph, 4 h.p., 1915-18	£63–£98
Triumph, 4 h.p., sidecar, 1920	£155–£190
Zenith, 8 h.p., sidecar, 1920	£155–£210

The M.C. and A.C. Open Reliability Trial.

Several novel features are to be included in the Midland Cycling and Athletic Club and South Birmingham Motor Cycling Club reliability trial on October 9th. (We give the club's somewhat unwieldy title in full as the initials suffer greatly from misinterpretation.) And the severity of the event may best be judged by the fact that whereas ten marks are deducted for failure on Alt-y-Bady or Bwlch-y-Groes, only five may be lost on each of three anonymous hills bearing the ominous names, "Gough's Conscience," "Whitworth's Grave," and "Urry's Pet." Innovations are an information bureau at the start, and a bottom-gear speed test.

The B.M.C.R.C. Second Open Meeting.

Brooklands Motor Cycle Meeting in conjunction with Essex M.C. Car Races.

SHOWERY weather caused considerable delay in the running off of the Second B.M.C.R.C. open race meeting on Saturday last, the event being organised in conjunction with the Essex Motor Club, who were responsible for the car races which were run alternately with those for motor cycles.

The Junior Open Motor Cycle Handicap (about 8½ miles) attracted 27 entries, and there were few non-starters. It was open to solo motor cycles with engines not exceeding 500 c.c. The machines were started at the fork, which they passed twice and then entered the straight. Rain had poured down on the track during the morning, but save for a few puddles the surface was practically dry. Amongst the machines competing in this event Harry Martin's Matchless was equipped with a Claudel-Hobson carburetter for each cylinder. Its rider was pushed off by W. H. Wells, but when the engine fired it did so with such energy that Wells fell, cutting one of his hands and his knee on the rough surface of the track. As the limit man had over 4½m. start of the scratch men he had completed his first lap before the last five started.

Result. (Winner's speed 63 m.p.h.):

		Start.
1.	R. C. Chawner (3½ Sunbeam)	1m. 12s.
2.	W. A. Jacobs (2¾ Singer)	2m. 27s.
3.	G. S. Smith (3½ B.S.A.)	1m. 12s.
	L. E. Pope (3½ Matchless)	9s.
	W. H. Sinnett (3 A.B.C.)	48s.
	R. E. Dicker (3½ Norton)	9s.
	P. G. Kennedy (3½ Norton)	15s.
	H. R. Harveyson (7 Indian)	9s.
	S. E. Longman (2⅞ Wooler)	2m. 18s.
	J. P. Riddeck (3½ Zenith)	1m. 12s.
	H. Martin (3½ Matchless)	9s.
	J. D. Walker (3½ Triumph)	1m. 12s.
	T. Thompson (2¾ Douglas)	54s.
	F. A. McNab (2¾ Wooler)	2m. 54s.
	V. Longden (3½ Douglas)	1m. 21s.
	E. Longden (2¾ Dot-Jap)	1m. 21s.
	E. R. Cullison (2¾ Douglas)	2m.

The Senior Open Motor Cycle Handicap was about 8½ miles in length, starting and finishing as in the first race, and for motor cycles with engines exceeding 500 c.c.

Danger of Brakeless Machines.

Baldwin and Harveyson both crossed the finishing line at an estimated speed of 90 m.p.h. Harveyson, who had no brakes, could not pull up, and shot clean over the banking; machine and rider were tossed high in the air, the former being found 100 yards from Harveyson, who, however, was lucky enough to escape with a dislocated shoulder and torn ligaments of the leg. The incident provoked much discussion on the advisability of allowing a machine to compete which was unprovided with brakes, and the use of the long finishing line. Result (winner's speed, 75¾ m.p.h.):

1.	O. M. Baldwin (8 Matchless)	15s.
2.	H. R. Harveyson (7 Indian)	Scratch
3.	K. Don (8 Zenith)	Scratch
	D. H. Davidson (4 Harley-D.)	1m. 18s.
	R. Charlesworth (6 Zenith)	1m. 9s.
	L. A. Cushman (8 Zenith)	57s.
	A. A. Houlberg (8 Harley-D.)	30s.

A heavy shower followed, involving a delay of an hour and a quarter, until the track was sufficiently dry.

The next motor cycle event was the Open Three-wheeler Handicap for three-wheeled cars and motor cycles with sidecars of any class, passenger to be carried. The distance was the same as in the previous races. The event was very well supported, as there were 26 entries, and the results were as follows (winner's speed, 61½ m.p.h.):

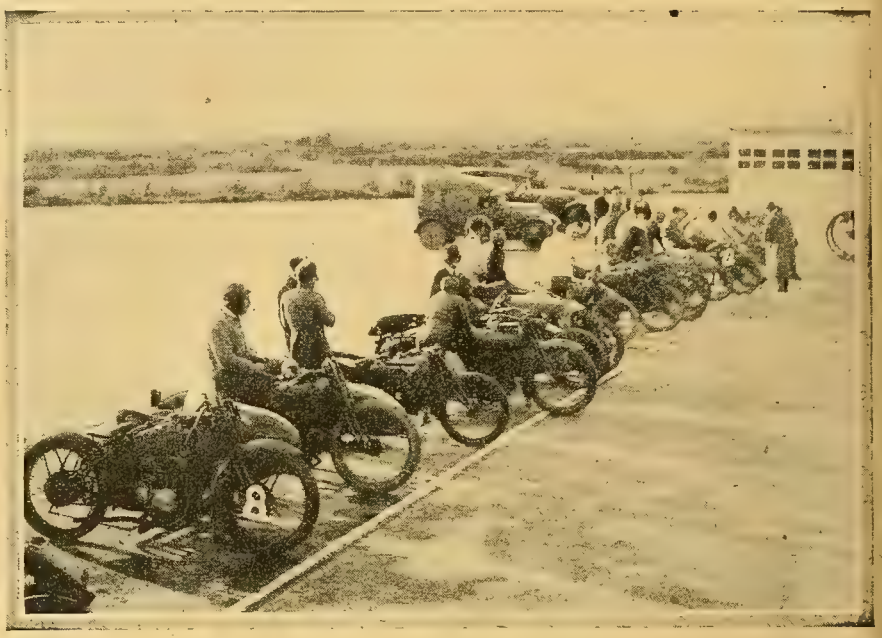
		Start.
1.	T. A. Masters (8 Harley-Davidson)	1m. 31s.
2.	V. Olsson (7 Indian)	2m. 30s.
3.	E. A. Bridgman (7 Indian)	2m. 30s.
	R. Charlesworth (6 Zenith)	2m. 36s.
	F. A. Longman (4 Ariel)	4m. 33s.
	H. G. Cookson (4 Norton)	1m. 51s.
	D. H. Davidson (4 Harley-Davidson)	2m. 21s.
	A. J. Rowe (4 Triumph)	3m. 12s.
	S. E. Longman (8 Harley-Davidson)	1m. 45s.
	R. C. Chawner (3½ Sunbeam)	3m. 12s.
	G. S. Smith (3½ B.S.A.)	3m. 12s.
	E. C. Baragwanath (8 Zenith)	1m. 3s.
	L. A. Cushman (8 Zenith)	1m. 39s.
	J. A. O'Sullivan (8 Harley)	1m. 31s.
	E. Longden (8 Morgan)	1m. 45s.

The last two motor cycle events were accorded a flying start. Mr. S. G. Cummings, the president of the Essex Motor Club, drove a powerful Brasier car, which carried Mr. Ebblewhite, the timekeeper. This the competitors followed, and when a speed of about 50 m.p.h. had been attained the signal to start was given, and the men shot forward.

A Scratch Race.

The Junior Scratch Race was open to motor bicycles with engines not exceeding 500 c.c. The machines passed the fork once and then entered the straight. Viewed from the car the start was most interesting. Result (winner's speed 66.38 m.p.h.):

		Start.
1.	P. G. Kennedy (3½ Norton)	—
2.	L. Pope (3½ Matchless)	—
3.	R. E. Dicker (3½ Norton)	—
	G. Smith (3½ B.S.A.)	—
	T. Thompson (3¾ Douglas)	—



On Saturday the Essex M.C. held their car meeting in conjunction with the B.M.C.R.C. at Brooklands. The scene is the start of the open three-wheeler handicap.

In the Second Essex Light Car Handicap (about eight and a half miles), A. G. Fraser-Nash's G.N. finished a good second.

The final event of the day was the Senior Open Motor Cycle Scratch Race (two laps) for motor bicycles with engines exceeding 500 c.c. (rolling start). Le Vack (Indian) started well in front of the official car, and was, consequently, disqualified. Baldwin (Matchless) led at the start, but retired owing to a broken petrol pipe. The winner was E. Remington (8 Nut-Jap). Speed 79.15 m.p.h., while A. F. Houlberg (8 Harley-Davidson) came in second.

RETROGRESSION OR PROGRESS?

ONCE motor cyclists planned routes to avoid certain hills, especially if they drove the earlier passenger machines. Nowadays, we never doubt the hill-climbing abilities of the modern machine, and it provides a shock to fine oneself stalled on a main road journey by a hill which cannot be climbed. Such an experience may be the lot of those who sample miniature sidecar outfits. Engines of 2¾ h.p. will not climb even all the main road hills in the Midlands when their load is increased by the weight of sidecar and passenger. The modern medium and heavyweight go-anywhere passenger machines were evolved as a result of attempting to achieve the apparently impossible. The miniature sidecar outfit may become entirely dependable by a like process. But, after forgetting the niceties of "running alongside," isn't it hot work helping the process of evolution!

Cycle Cars in General Efficiency Tests.

Runabout Types compete with Orthodox Light Cars in Junior Car Club Annual Trial.

CYCLE CARS IN THE JUNIOR CAR CLUB GENERAL EFFICIENCY TRIAL. (1) A Tamplin driven by Kensington Moir at Coombe Bottom. (2) W. F. Davenport (A.V. two-seater) in the brake test on Brooklands test hill. (3) A Thurlow three-wheeler is seen climbing Ranmore Hill. (4) A. G. F. Nash's G.N. on the same hill.

ON Wednesday of last week the Junior Car Club carried out a general efficiency test in which several cycle cars were entered, including the Richardson, A.V., Tamplin, G.N., and Thurlow. The tests included a road trial, engine starting, acceleration, speed, hill-climbing, slow running on top gear, springs, and petrol consumption. The cycle car types, on the whole, did not show up to advantage in the road trial compared with the more expensive cars, which, however, were by no means excellent.

In the engine-starting test, the Tamplin was quite good, but Severn (A.V.) could not get under way, and retired. G. C. Vredenburg started his G.N. easily by using his starting handle as a kick-starter, but he stopped his engine when he tried to open the throttle. A. G. F. Nash (G.N.) had some difficulty in getting his engine over compression; and C. Finch, on a similar machine, after starting his engine smartly, could not get away for some seconds.

The Tamplin was fast in the speed test, but T. G. Ellis's G.N.-Vitesse was better. On the test hill Davenport's A.V. and the two Richardsons failed. The G.N.'s went up very well.

CG

A Stiff Hundred Miles in Yorkshire.

The Autumn Reliability Trial of the Scarborough M. and M.C.C.

ON Wednesday, September 29th, this newly revived club held its first post-war reliability trial over an old pre-war course of 112 miles.

Starting at Scarborough, the route led through Pickering, Helmsley, Chop Gate, Ingleby Greenhow, Castleton, Lealholm, Limber Hill, to Egton Bridge for tea, and afterwards *via* Egton Bank, Grosmont Hill, Sleights, Blue Bank, Saltersgate, and Pickering, to Scarborough, a sporting course, with several very stiff gradients, some watersplashes, and bad corners.

Four ladies entered, but only two—Miss F. S. Wilson (2¼ Velocette) and Miss Ripon (4 Triumph)—started at their scheduled time, and both put up a very fine performance.

The first thirty-one miles led over main roads, but, after leaving Helmsley, the route got more severe, and a bad corner and a steep drop down to a watersplash nearly caught several competitors napping.

After the tea interval each competitor was sent away in the order of his arrival up Egton Bank, down the Haggs, and then up the redoubtable Grosmont Hill. This hill starts straight up from a railway level crossing through the village with a gradient of about 1 in 6, then turning sharp to the right the gradient stiffens to about 1 in 4 with a very bad surface of loose stones over a "flower bed" variety of under surface.

Only fourteen clean ascents were recorded on this hill, although four were observed using their feet to keep their balance. The remainder were either thrown or stopped with their back wheels digging in vigorously.

The only Morgan in the Scarborough M. and M.C.C. Trial making a good ascent of Grosmont Hill. The number of spectators from this sparsely populated district is worthy of note.

Plucky Lady Competitors.

Both the lady competitors made two attempts but were thrown each time, although they made clean ascents of Limber Hill, where nearly half the male competitors failed. Results:

CLASS 1 (275 c.c.).—1, Miss S. F. Wilson (2¼ Velocette), lost 22 marks, also winner of Miss Tranmer's silver cup; 2, W. G. Morris (2½ O.K.-Villiers), lost 35 marks.

CLASS 2 (350 c.c.).—1, G. E. Jackson (3½ Beardmore-Precision), lost 30 marks; 2, N. Atkin (2¾ Wooler), lost 40 marks; 3, G. F. H. Gardiner (3½ Armis), lost 50 marks.

CLASS 3 (1,000 c.c.).—1, H. E. Ellis (4¼ B.S.A.), lost 1 mark; 2, F. Blackburn (3½ N.U.T.), lost 4 marks; 3, N. L. Lowson (4¼ B.S.A.), lost 5 marks.

CLASS 4 (600 c.c., Sidecars).—1, D. Brigham (4 Triumph sc.); 2, J. Pickering (4 Triumph sc.); 3, A. O. Brett (3½ Coventry Eagle sc.).

CLASS 5 (1,100 c.c., Passenger).—1, C. W. Mosey (5-6 A.J.S. sc.), lost no marks and also won the silver cup for best performance; 2, A. E. Tindall (7-9 Harley-Davidson sc.), lost 5 marks; 3, E. F. Warters (10 G.N.), lost 12 marks.

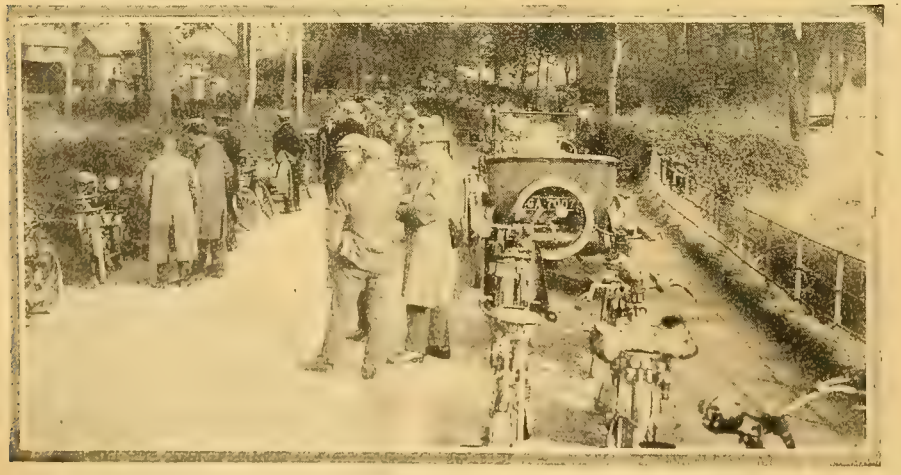
Hill-climbing near Glasgow.

The Western M.C.C. Open Hill Event at Garshake.

GARSHAKE is a popular hill with all the motor cycle clubs around Glasgow, but yesterday's meeting surpassed all previous events. There were twenty classes, and over 130 starters.

At the invitation of the officials, H. R. Davies gave exhibition rides in several of the classes on his 2¾ h.p. A.J.S. He was the chief attraction in an afternoon full of incident, making faster time than any of the competitors, some of whom were riding 7-9 h.p. machines.

Napier-White (3½ Edmund) settled his account for the time being with J. W. Walker (3½ Norton), who had rather bad luck at the start owing to skid. W. G. Smith, with his 1914 2¾ Ivy Green, made a fine climb in the private owner's solo class, while A. H. Alexander's 3½ h.p. Douglas was in good form. Douglas Alexander, who had the misfortune to crack his front cylinder head before the event, was not to be denied his place in the sun, and though handicapped by loss of compression he, nevertheless, made fastest time of the day and won the solo unlimited class. The results of the various classes, both on time and formula, are as follows:



At the foot of Garshake Hill, where the Western M.C.C. held their open hill-climb

CLASS 6.—350 c.c. SOLO (OPEN). ON FORMULA.

	Time, sec.	Fig. of Merit.
W. G. Smith (2¾ Ivy Green)	32⅘ ..	270

CLASS 8.—350 c.c. SOLO (OPEN). ON TIME.

W. G. Smith (2¾ Ivy Green).....	32⅕ ..	—

CLASS 9.—600 c.c. SOLO (PRIVATE OWNERS). ON FORMULA.

W. G. Smith (2¾ Ivy Green)	32⅘ ..	270

CLASS 10.—600 c.c. SOLO (OPEN). ON FORMULA.

A. H. Alexander (3½ Douglas)	29 ..	302

CLASS 11.—600 c.c. SOLO (PRIVATE OWNERS). ON TIME.

Alex. Smith (3½ A.B.C.)	31⅕ ..	—

CLASS 12.—600 c.c. SOLO (OPEN). ON TIME.

A. H. Alexander (3½ Douglas)	29 ..	—

Speed Hill-climbing at Evesham.

Nearly 45 m.p.h. on 1 in 6 from Standing Start in Worcester Club's Event.

Eric Williams (2¾ A.J.S.) making a fast ascent of Hipton Hill in the Worcester M.C.C. hill-climb

BOSTON and Davies, and Davies and Boston. That, as so often before, sums up the very successful hill-climb of the Worcester M.C.C. at Hipton Hill, Evesham, on September 30th. But although the times of the A.J.S. experts are 5s. lower than the best general time, it must be remembered that all was in favour of the light machine that could accelerate rapidly.

The course was exactly three-tenths of a mile with a maximum gradient of 1 in 6, and was at least 1 in 15 at the starting-point. Combined with a loose patch at the top and a standing start, conditions seemed all against high speeds; yet the average of all the competitors works out at about 35 m.p.h.

The Lightweight Chassis.

Reg. Brown, on a very lively 2¼ Diamond, made the star ascent in Class 1, although J. M. Dosher (2¼ Enfield) was good in the general class. This latter rider, by the way, came up, in all, ten times, clocking very consistently around 40s.

But it was in the next class that the spectators on the bank instinctively drew back, as H. R. Davies and G. S. Boston flashed by. It is difficult to differentiate between these two, although Boston made the faster ascent here by ⅗s., for they both piloted their bucketing mounts with the skill born of much experience. Eric Williams also on an A.J.S. did not seem quite happy with his mount.

Duel for Fastest Time.

Class 3 made eligible Reg. Brown, this time on a Sunbeam, and a trio of local Norton riders, all of whom did well. But the A.J.S. men easily held the leading places and kept things lively with a personal duel for fastest time. This was settled in the unlimited class when Davies and Boston both clocked 25s., making fastest time of the day and fairly indicating their comparative performances. G. R. Main (8 Zenith) in the course of a very clean climb achieved the fastest ascent in the general classes, while W. E. Smith (3½ Norton) ran him very close.

Generally speaking the passenger classes were a repetition of the solo events; but special mention must be made of the climbs of some of the heavier outfits, especially Mrs. Gibbs (3½ Sunbeam) and B. Bladder (8 New Imperial). The above lady, we are told, is a beginner to the pastime; but the manner in which she roared up on full throttle and second gear was more reminiscent of an expert.

The event was excellently organised; from the timing by field telephone to the arrowing of the route to the hill nothing was left to chance; and for a mid-week event the attendance of competitors and spectators was excellent. The results, on time, follow:

CLASS 1 (300 c.c., Solo).—Expert: 1, Reg. Brown (2¼ Diamond), 35⅘s.; 2, J. M. Dosher (2¼ Enfield), 40⅘s. General: 1, J. M. Dosher (2¼ Enfield), 39⅘s.

CLASS 2 (350 c.c., Solo).—Expert: 1, G. S. Boston (2¾ A.J.S.), 25⅘s.; 2, H. R. Davies (2¾ A.J.S.), 26⅘s.; 3, E. Williams (2¾ A.J.S.), 28⅘s. General: 1, J. M. Dosher (2¼ Enfield) and A. D. Thomas (2½ Diamond) tied, 42s.

CLASS 3 (600 c.c., Solo).—Expert: 1, H. R. Davies (2¾ A.J.S.), 25⅘s.; 2, G. Boston (2¾ A.J.S.), 26⅘s.; 3, Reg. Brown (3½ Sunbeam), 27⅘s. General: 1, W. E. Smith (3½ Norton), 31⅘s.; 2, T. Cullis (3½ Norton), 33s.; 3, G. J. Baragwanath (4 Triumph), 34s.

CLASS 4 (Unlimited Solo).—Expert: 1, G. S. Boston (2¾ A.J.S.) and H. R. Davies (2¾ A.J.S.) tied, 25s.; 2, E. Williams (2¾ A.J.S.), 28⅘s.; 3, Reg. Brown (3½ Sunbeam), 28⅘s. General: 1, G. R. Main (8 Zenith), 29⅘s.; 2, W. E. Smith (3½ Norton), 30⅘s.; 3, T. Cullis (3½ Norton), 32⅘s.

CLASS 5 (350 c.c., Sidecar).—Expert: 1, G. S. Boston (2¾ A.J.S. sc.), 29⅘s.; 2, H. R. Davies (2¾ A.J.S. sc.), 31⅘s.

CLASS 6 (600 c.c., Sidecar).—Expert: 1, H. R. Davies (2¾ A.J.S. sc.), 29s.; 2, G. S. Boston (2¾ A.J.S. sc.), 29⅘s. General: 1, F. Drew (3½ N.U.T. sc.), 61⅘s.

CLASS 7 (Unlimited Sidecars).—Expert: 1, H. R. Davies (2¾ A.J.S. sc.), 28⅘s.; 2, G. S. Boston (2¾ A.J.S. sc.), 30s.; 3, Reg. Brown (3½ Sunbeam), 33⅘s. General: 1, R. Bladder (8 New Imperial sc.), 38⅘s.; 2, J. M. Dosher (8 Enfield sc.), 42s.

P. V. Cunningham (3½ P. and M.) about to start on an A.C.U. observed test of consumption and mechanical lubrication. Approximately 144 m.p.g. (petrol) and 1000 m.p.g. (oil) were obtained with standard gears and an Amac carburetter.

D. R. O'DONOVAN AGAIN BREAKS RECORDS.

Six More Records taken by a Standard B.S. Norton.

RIDING a standard Brooklands Special Norton, D. R. O'Donovan beat six more records last Thursday. Previously held by J. Emerson (A.B.C.), the captured records are for 200 and 250 miles and three hours in Classes C (500 c.c.) and D (750 c.c.). Some time was lost by belts leaving the pulleys owing to the state of the track. O'Donovan also stopped with plug troubles during the last hour. The equipment included Dunlop tyres, John Bull belts, Binks three-jet carburetter, Speedwell oil, C.A.V. magneto, and Philipson pulley.

The new figures are as under:

		m.p.h.
200 miles	3h. 8m. 33s. ...	= 63.44
250 miles	3h. 56m. 34⅖s. ...	= 63.40
3 hours	190 miles 1,605 yards	= 63.63

Hill-climbing near Glasgow—

CLASS 13.—UNLIMITED SOLO (PRIVATE OWNERS). ON FORMULA.

W. G. Smith (2¾ Ivy Green) ..... 33¾ .. 261

CLASS 14.—UNLIMITED SOLO (OPEN). ON FORMULA.

A. H. Alexander (3½ Douglas) ..... 29½ .. 288

CLASS 15.—UNLIMITED SOLO (PRIVATE OWNERS). ON TIME.

E. Napier-White (3½ Edmund-Mozer) 30⅜ .. —

CLASS 16.—UNLIMITED SOLO (OPEN). ON TIME.

D. S. Alexander (7-9 Indian) ..... 27¾ .. —

CLASS 17.—UNLIMITED SIDECAR (PRIVATE OWNERS). ON FORMULA.

J. W. Walker (3½ Norton) ..... 40⅛ .. 252

CLASS 18.—UNLIMITED SIDECAR (OPEN). ON FORMULA.

A. H. Alexander (3½ Douglas) ..... 33⅛ .. 357

CLASS 19.—UNLIMITED SIDECAR (PRIVATE OWNERS). ON TIME.

J. W. Walker (3½ Norton) ..... 40⅛ .. —

CLASS 20.—UNLIMITED SIDECAR (OPEN). ON TIME.

Geo. Grinton (7-9 Harley-Davidson) 30 .. —

SPECIAL PRIZES.

FASTEST TIME BY A PRIVATE OWNER AND MEMBER OF THE CLUB.

E. Napier-White (3½ Edmund-Mozer) 30¾ .. —

GRAHAM HAYES MEDAL FOR BEST PERFORMANCE ON FORMULA. OPEN TO PRIVATE CLUB MEMBERS ONLY.

W. G. Smith (2¾ Ivy Green) ..... 32½ .. 270

NOVICE PRIZE. BEST PERFORMANCE ON FORMULA BY A NOVICE PRIVATE OWNER.

C. McAlister (3½ Norton) ..... 32¼ .. 222

Meeting of the A.C.U. General Committee.

Important Club Matters under Discussion.

FOLLOWING the proposal agreed upon at the end of last year to hold most of the General Committee meetings of the Auto-Cycle Union in the provinces the third session of 1920-21 was held at Norwich on Friday last.

On the evening previous to the meeting the committee was entertained right royally by the Norfolk Motor Cycle and Light Car Club. Some twenty members of the committee were present, and among those at the high table were the Lord Mayor of Norwich, Mr. W. R. R. Spelman, president of the club, the Town Clerk, the Chief Constable, the County Surveyor, and Commander Windham, R.N., the prospective Parliamentary candidate for Great Yarmouth. Considerable credit is due to Mr. R. A. Lower, the A.C.U. consul in Norwich, for his organisation of the meeting, and to the Norfolk club. The speeches at the dinner were brief and to the point. After the proposal of the toast of the King by the President, Mr. W. R. R. Spelman, he proceeded to welcome the visitors to the City of Norwich. He then referred to the history of the club which had renewed its activities during the present season. He greatly regretted that the chief constable of Yarmouth had been unable to attend, as the club owed him a real debt of gratitude, for helping it to organise their most successful speed trials at Yarmouth. He hoped that it would be possible to organise an open event next year.

Value of Provincial Meetings.

Col. Davidson, in reply, spoke of the importance of provincial meetings, especially in such places as Norwich, where the Auto-Cycle Union was not too well known. After such hospitality as that proffered by the Norfolk M.C. and L.C.C., he felt it would be difficult to refuse them anything.

Mr. T. W. Loughborough, in proposing the city of Norwich, made a most able speech. He said the A.C.U. as the governing body, sought to govern by encouragement. The sporting side of the Union's work was not the most important side, but the nature of its work was not sufficiently well known, and that was why provincial meetings were organised.

The Lord Mayor replied with a very amusing speech.

In a charming speech Col. Brereton replied to the toast of the Norfolk M.C. and L.C.C., referring to the enterprise of the president; the amusing speech of the Lord Mayor; the wisdom of the chief constable, who had whispered to him that there were no traps in the county (cheers); the prowess of Mrs. Knowles (who was present) in the Six Days Trials; and the good fortune of the club in possessing such a good organiser as Mr. Lower.

Mr. R. O. Clark was then called upon by Mr. W. H. Wells, who said he had ridden one of the finest races in the Isle of Man he had ever witnessed.

Mr. Clark, in reply, said he hoped to see several members of the Norfolk Club in the Isle of Man next year.

The General Committee Meeting.

On the following morning the General Committee sat for two and a half hours, and was attended by a representative gathering at which a considerable amount of business was transacted. The first important item on the agenda was the reception of the reports of various management and sub-committee meetings, and in these the chief points to arise were the following: It was announced that the Union was preparing a booklet to explain the procedure to be followed by motor cyclists when the new taxation came into force. Mr. Wells suggested that the Government should follow the example adopted in America of issuing identification plates, which would, of course, be of the correct dimensions, and there could be no question of number-plates being illegal. People would then know where they were, and the number-plate would also show that the local taxation licence had been paid.

As regards the Competitions Committee reports, considerable discussion ensued as to the existing Tourist Trophy rules which allowed a competitor to push his machine over the finishing line and win, even though his engine was not working. It was felt, however, that no useful purpose would be served by altering the existing rule. In fact the only addition to the existing regulations was to add a rule to the effect that a competitor may have to undergo a medical examination, and would not be allowed to ride if an adverse report were received.

Many Applications for Affiliation.

It is gratifying to note that applications for affiliation to the governing body are still numerous. At Friday's meeting the following clubs allied themselves to the Union: The Coventry and Warwickshire M.C.C., the Grantham and District M.C. and L.C.C., the Mansfield and District M.C. and L.C.C., the Market Harborough and District M.C.C., the Millom and South Cumberland M.C.C., the Montgomery County M.C.C., the Nomad (London) M.C.C., the Stockport Motor Club, the Blackpool and Fylde M.C.C., the Southport M.C.C., and the Norfolk M.C. and L.C.C.

A proposal appeared in the name of Major Vernon Brook, which was taken charge of by Mr. Quintin Nicol, dealing with the question of amending the local centre byelaws so as to prevent the overlapping of these centres, and the formation of these bodies without the consent of the General Committee. The matter was finally settled by amending the local centre byelaw No. 1, which now reads:

"The committee of the Auto Cycle Union, hereinafter termed the Union, shall define the area of each territorial district, which shall be called a local centre of the Auto Cycle Union, and shall be constituted in the manner hereinafter provided.

"A local centre shall not be formed in any district until at least six affiliated clubs in that district shall have made written application to the Union stating the district proposed to constitute such centre, and obtained assent thereto."

Mr. Nicol then proposed that "The application for the formation of 'The Three Shires Centre' be acceded to."

"Three Shires" and Midland Centres.

The matter in question was discussed for some time, as it was not apparently fully understood by the Midland Centre now in process of formation. It must also be explained that the "Three Shires Centre" comprises the Worcester, Hereford, and Gloucestershire M.C.C. The proposal was agreed to, subject to an agreement being reached with the proposed Midland Centre as to the limitation of their respective areas, those areas to be agreed upon in consultation with the Management Committee next meeting.

Apropos the matter of competitions it was proposed by Mr. Wells, and seconded by Mr. J. L. Norton, that there should be twenty open competitions in 1921, exclusive of those organised by the Auto-Cycle Union and at Brooklands. This was carried unanimously, with the slight amendment that eighteen permits should be issued, and two held in reserve.

Dr. A. M. Low then announced that the Hon. M. Upton had offered a valuable cup for the best performance at a silencer trial to be held in the near future at Brooklands. He suggested that the machines (divided into standard and experimental classes) should be sent up Brooklands test hill on low gear and on full throttle, and that the noise of their exhaust should be recorded photographically. The judges of the competition should include a representative from Scotland Yard.

Autumn Coast Ride Completed.

Officially-observed Trial of 3,315 Miles with a 500 c.c. Wilkin Sidecar.

THE officially observed coast ride undertaken by J. W. Wilkin was completed last Friday at 11-40 p.m. when the 4 h.p. Wilkin-Blackburne drew up at Blake's showrooms from which it had started thirty-two days before.

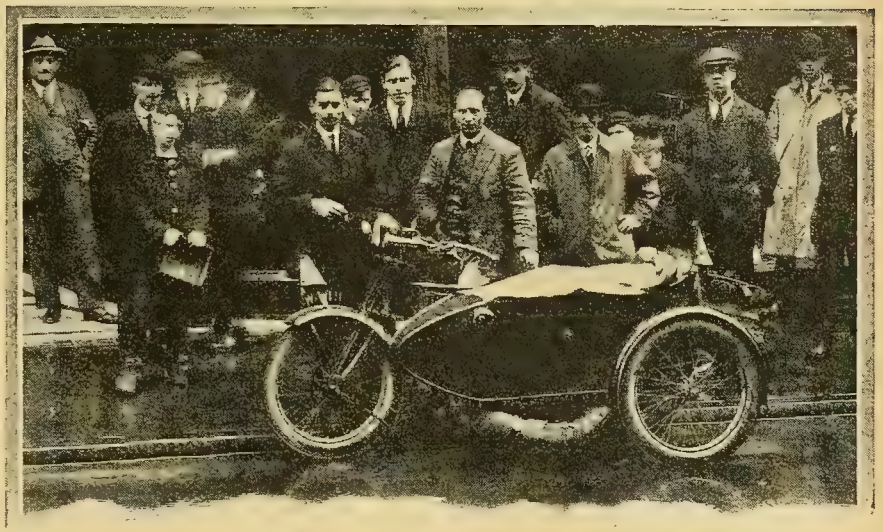
In all, 3,315 miles have been covered, the daily average being 160 miles. The first day—Liverpool to Barrow (112½ miles)—was the lowest, and from Grimsby to Yarmouth (235 miles) the highest.

Starting from Liverpool on September 8th, the route was *via* the West and North Coast of Scotland to John-o'-Groat's, down the East Coast of Great Britain to Tilbury Docks, along the South Coast to Land's End, then *via* the Welsh Coast to Liverpool. The coast line was followed wherever there was anything in the nature of a road. Often this was nothing more than a right of way, and from Dumfries to Thurso the machine had to travel over stones and boulders, which the machine withstood remarkably well. This was described as the worst stretch of road. At Scourie, in Scotland, it was found that the ferry had been out of commission for twelve months. However, the ferryman raked up a craft of some description and got them across.

Twenty-one Days on the Road.

The actual travelling days numbered twenty-one, and on two days the rain was so heavy that no mileage was made, and the motor cyclists remained at Grimsby and Yarmouth respectively. During the first fortnight there was incessant rain, and the rider declared that the journey over the noted "Rest and be Thankful" hill would have been impossible had it not been for the chain drive.

In the early part of the journey the driver wore out his waterproof suit, and brought back to Liverpool, strapped on the sidecar, a pair of tight-fitting fishermen's boots which he bought up in the North. Although a few spare valve parts were carried, replacements were surprisingly few, the tyre troubles consisting of five punctures (two in sidecar tube) and a leaking valve. The carburetter and magneto were faultless, and did not require a moment's attention during the whole of the journey. The chain, however, had to be adjusted. The severe bumpings the machine received caused the rope attachments holding the spare tyre beneath the sidecar to be cut, and the wheels must have passed over the tyre, which was lost without it being noticed.



The finish of the 3,315 mile coastal ride. J. W. Wilkin, who rode a Wilkin and sidecar, is seen standing in the centre, with the A.C.U. observer at his right hand.

Bitter complaints were made of the terrible roads. An attempt was made to get over the Beggar's Roost in Devonshire, but the wheels could not get a grip on the loose surface, and the venture was abandoned. Without passengers, the outfit weighed 4¼ cwt. and its load 22 stone. The average petrol consumption was roughly 65 m.p.g., and oil about 800 m.p.g. A feature of the cycle is the 7½in. mudguards.

The only actual damages to the machine were a slightly fractured rear fork stay and a broken exhaust pipe, which, considering the hundreds of miles of execrable roads, is not a formidable casualty list. An A.C.U. observer occupied the sidecar throughout the long ride.

We congratulate Mr. Wilkin on the completion of his test. A coast ride with a 500 c.c. sidecar at this time of the year is no mean performance, and is one which places this comparatively new make in the category of machines which have been tried and not found wanting.

DAILY SCHEDULE.

	miles.
Liverpool to Barrow	112½
Creetown	236
Glasgow	176
Fort William	165
Geantown	116
Tongue	157
Bonar Bridge	202
Aberdeen	189
Edinburgh	139¾
Stockton-on-Tees	184
Grimsby	115
Yarmouth	235
Chatham	151
Brighton	162½
Bournemouth	106
Plymouth	171
Fraddon	134
Bridgwater	154
Cardiff	156
Aberystwyth	210½
Chester	198
Liverpool	17

We Must Have Home-produced Fuel!

ARE we to have an adequate supply of power alcohol? The campaign carried out for several years by *The Motor Cycle* and its sister journal *The Autocar* is at last bearing fruit, for there are many indications of activity which, combined, may convince the Government that a home-produced fuel is an absolute necessity.

The A.A. is making a special effort to organise deputations to the mayors of all the chief towns and cities with a view to bringing before the notice of the Prime Minister the fact that the price of petrol is no longer a matter of motoring costs, but a national affair affecting all classes of the community.

Power alcohol seems to be the ultimate solution to the problem of Great Britain's fuel supplies. This spirit, if mixed with benzole, can be used in existing engines, though if alcohol alone be used a certain amount of modification will be necessary.

A practically unlimited supply of power alcohol is obtained from vegetable sources, and here is an opportunity for the Government to open up a vast industry in the Overseas Dominions. In Africa, India, or many of the Tropical possessions alcohol can be manufactured from refuse molasses, maize, potatoes, mahua, and many different vegetables. Something must be done *at once*. This country must be independent of supplies from countries which at any moment may prohibit exports on account of shortage.

It is impossible to exaggerate the urgency of this vital question. *We must have home-produced fuel*, by which is meant a source of supply within the Empire and outside the control of foreign trusts.

Already, as was reported in our last week's issue, deputations organised by the A.A. have been before the Mayor of Coventry and the Lord Mayor of Birmingham. Other deputations are being arranged, while the resolution proposed at Coventry last week is being circulated throughout the city councils of the country.

Club News

Oxford University M.C.C.

The hon. secretary of the Oxford University M.C.C., Mr. J. E. G. Harwood, requests that all communications in future should be sent to him at Christ Church, Oxford, and not to his former address.

Bridgwater and District M.C.C.

The following are the results on time of the hill-climb on Puritan Hill :

600 c.c. (Club).—1, T. House (4 Triumph), 42⅘s.
1,000 c.c. (Club).—1, C. A. Pollard (8 Zenith), 35⅘s.
1,000 c.c. Sidecar (Club).—1, C. A. Pollard (8 Zenith sc.), 45s.
350 c.c (Open).—1, R. Passey (2¾ Douglas), 42⅘s.
600 c.c. (Open).—1, G. H. Tucker (3½ Norton), 36⅘s.
1,000 c.c. (Open).—1, C. A. Pollard (8 Zenith), 34⅘s. (fastest time of day).
600 c.c. Sidecar (Open).—1, E. Kickham (3½ Douglas sc.), 40⅘s.
1,000 c.c Sidecar (Open).—1, E. Kickham (3½ Douglas sc.), 39⅘s.

Levis Athletic Club.

The full results of the recent trial for Levis machines only, reported in our last week's issue, are now to hand :

Winner of Yardley Cup and gold medal for best performance of the day: G. S. Davison, 192 marks.
Silver medal for best performance in Class B: W. S. Hawcutt, 164 marks.
Silver medal for best performance in Class C: Gem Smith, 137 marks.
Bronze medal for second best performance in Class A: Fred Porter, 172 marks.
Bronze medal for second best performance in Class B: F. Proctor, 125 marks.
Bronze medal for second best performance in Class C: C. L. Hull, 129 marks.
Special prize for worst performance of the day: J. Pritchard, minus 2. (Note.—The term "worst performance" is somewhat of a misnomer, but Pritchard qualifies for this prize, as he lost more marks than anyone else who covered all the course. Only fifteen riders actually covered the complete course. Most of the riders who were "disqualified" or "retired" made far worse performances than Pritchard, one actually having lost 252 marks in spite of not having travelled the whole route.)

Lancaster, Morecambe, and District M.CC

This North Lancashire club recently held very successful speed trials on Morecambe promenade during the Morecambe Carnival. About 2,000 spectators witnessed the racing, which was favoured by splendid weather. Several well-known speedmen were competing, including T. C. de la Hay, the winner of this year's Senior T.T. ; L. Mitchell, who has worked his way into the front ranks this year; and J. Whalley, another Lancashire rider of promise. The length of the course was one kilometre, and competitors had a flying start. Following are the results :

CLASS 1 (machines not exceeding 350 c.c.).—1, M. Parkinson (2¾ Douglas), 35⅘s.; 2, B. Houlding (2¾ Douglas), 36⅘s.
CLASS 2 (machines not exceeding 500 c.c.).—1, T. C. de la Hay (3½ Sunbeam), 30⅘s.; 2, L. Mitchell (3½ Norton), 31s.
CLASS 3 (750 c.c.).—1, T. C. de la Hay (3½ Sunbeam), 31s.; 2, L. Mitchell (3½ Norton), 31⅘s.
CLASS 4 (unlimited).—1, L. Mitchell (3½ Norton), 31⅘s.; 2, T. C. de la Hay (3½ Sunbeam), 32s.
CLASS 5 (Local, 550 c.c.).—1, J. Whalley (3 A.B.C.), 35s.; 2, E. Varley (3½ Norton), 35⅘s.
CLASS 6 (Local, unlimited).—1, J. Whalley (3 A.B.C.), 34s.; 2, E. Varley (3½ Norton), 34⅘s.

A stiff route of approximately one hundred miles through the Lake District made the recent one-day trial of this club a severe test. The results are as follows :

SOLO MACHINES.—1, W. Aitkinson (3½ B.S.A.); 2, E. Threlfall (4 Triumph).
SIDECARS.—1, R. C. Ducksbury (8 Clyno sc.) and C. E. Barron (6 A.J.S. sc.) tied.
TEAM PRIZE.—G. W. Read (6 A.J.S sc.) and E. Threlfall (4 Triumph).
Special medal for best performance on hills, E. Threlfall (4 Triumph).

Hastings, St. Leonards, and Bexhill M.C.C.

The Hastings, St. Leonards and Bexhill M.C.C. propose to promote an inter-club trial on October 24th, over a radius of about fifty miles from Hastings. The club would be glad to hear from local motor cyclists who would care to give assistance as observers on this occasion. These should communicate with Mr. J. Blakemarsh, 243, London Road, St. Leonards-on-Sea.

N.M.C.F.U. (Wolverhampton).

For the final run of the season on Saturday, the 25th ult., it had been hoped there would be a good muster. The fact, however, that several members were on holiday, and that others could not resist the attraction of football, probably accounted for the small attendance —eight members only, in place of the usual average of upwards of thirty. These faithful ones had their reward in ambling through the charming lanes in the vicinity of Gailey Pools on a glorious afternoon, and finally making their way *via* Stretton to Brewood, where tea was enjoyed in a cosy nook near the canal, after which a run home *via* Boscobel and Codsall Wood completed a most pleasant outing.

Luton and South Beds A.C.

On the occasion of the hill-climb on the 9th competitors will be weighed at Luton borough weighbridge, and not at Wendover, as previously stated.

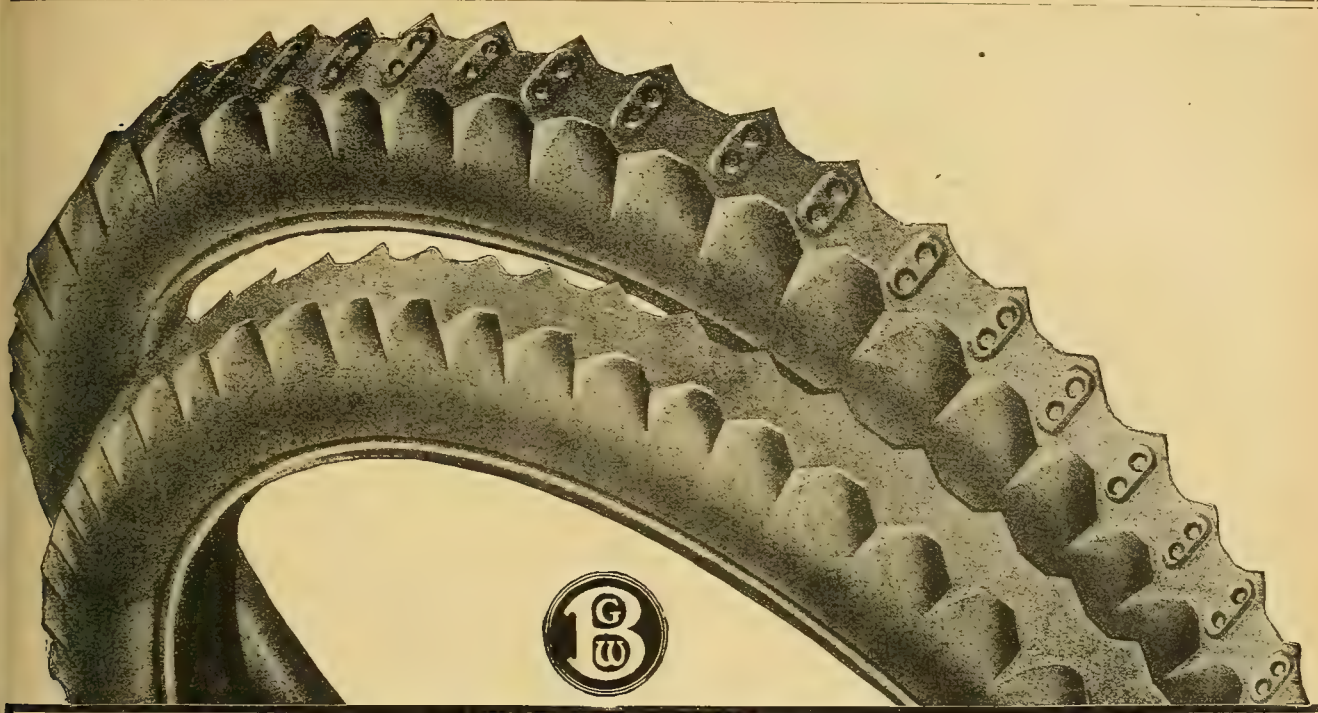
Dewsbury and District M.C.C.

The above club held a speed testing competition on September 26th, over a thirty miles course. Secret checks were arranged at intervals around the course, and one mark per minute was deducted early or late at these checks. The following were the winners : 1, Special Pelican prize, C. L. Owen (3½ Rudge-Multi); 2, Lumb prize, H. Haley (Matchless sc.).

North London M.C.C.

Essenden, on September 25th, witnessed the North London M.C. Club's speed-judging trial; and, as usual, the consistent times evoked many queries and suggestions as to how it was done. The brainy man who suggested covering up the various village clocks was quite eclipsed by one who declared that next trial he would take his time from his drip-feed! Three circuits of the course were made, and competitors were allowed to select any speed between 15 and 20 m.p.h. C. C. Labin (4 Indian Scout) completed his first and second circuits in exactly the same time, a feat which made him unanimous favourite with the spectators. But like so many favourites he was unplaced, finally, the following being the prize winners: 1, Silver medal, R. H. Baxter (2¼ Radco), 1m. over; 2, bronze medals, R. H. May (4¼ B.S.A.), 1½m., and J. D. Timmins (1 Miniature Scooter).

Two thousand spectators witnessed the speed trials organised by the Lancaster, Morecambe, and District M.C.C., and held during Carnival Week on the promenade at Morecambe.



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All British Motor Cycle Tyres.

BELDAM Tyres are NOT easily punctured; they do not skid; they give magnificent mileage. We can prove these claims by the number of testimonials we hold from experienced, unprejudiced, motorists.

Beldam Tyres are as well and truly made as any tyres in the world. We do not ask you to use them for that reason alone—but for their long wearing, anti-skidding, and puncture resisting qualities. There are two types for Motor Cycles—both of which are here illustrated—and four types for Motor Cars. They can be had in all standard sizes. Booklets free on request.

SIZES	ALL RUBBER DE LUXE						V STEEL STUDDED					
	3-ply			4-ply			3-ply			4-ply		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
26 × 2	2	12	3	3	3	9	4	2	0	4	10	0
26 × 2½	2	17	3	3	7	6	4	7	0	4	14	0
26 × 3	3	2	2	3	11	0	4	11	3	4	18	0

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Good work—the best obtainable—and the best materials go to the making of Beldam Retreads—same workmanship and materials as Beldam Tyres. That is why they last so long—why they are such a good investment. The majority of Beldam Retreads are good for 5,000 miles—some have run for 7,000. Send old covers—any make—and we will quote cost of repairs or retreading

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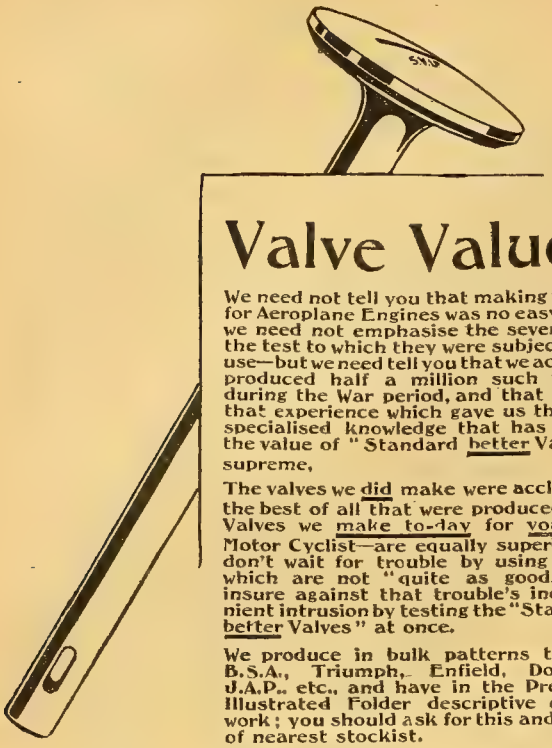

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We need not tell you that making valves for Aeroplane Engines was no easy job—we need not emphasise the severity of the test to which they were subjected in use—but we need tell you that we actually produced half a million such valves during the War period, and that it was that experience which gave us the very specialised knowledge that has made the value of "Standard better Valves" supreme,

The valves we did make were acclaimed the best of all that were produced—the Valves we make to-day for you—the Motor Cyclist—are equally superior, so don't wait for trouble by using those which are not "quite as good," but insure against that trouble's inconvenient intrusion by testing the "Standard better Valves" at once.

We produce in bulk patterns to suit B.S.A., Triumph, Enfield, Douglas, J.A.P., etc., and have in the Press an Illustrated Folder descriptive of our work; you should ask for this and name of nearest stockist.

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New Patent Suspension (both from Seat and Footboards)

This suspension system is the outcome of long experience and experimenting; it assures absolute isolation from the heaviest shocks. No saddle fatigue, neck or back-ache on L.M.C. machines fitted with it.

A Postcard will bring address of nearest Agent who can demonstrate it.

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London Showrooms:
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And 8 h.p. Combination	£250 0	**MATCHLESS,** Model H, lamps and horn	£215 6 6	**SCOTT**	£140 0
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'Phone—Hornsey 1956.
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Grams—"Cyclotomo, Phone London.'

387, Euston Rd., London, N.W.1
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Large Australian Waterproof Cycling Capes, lined rubber .. .. .. 12/6 each

New Combination Sheet and Cycling Cape, pure rubber 12/6

New large Canvas Rotproof Sheets, Suitable for covering motor cycles, sidecars, vans, or carts 17/6

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Black Rubber Combination Motorist's Suits, complete with sou'wester .. 25/-
Cost Government 63/-

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Overcoats, as used in Russia, lambs-wool lined 40/-

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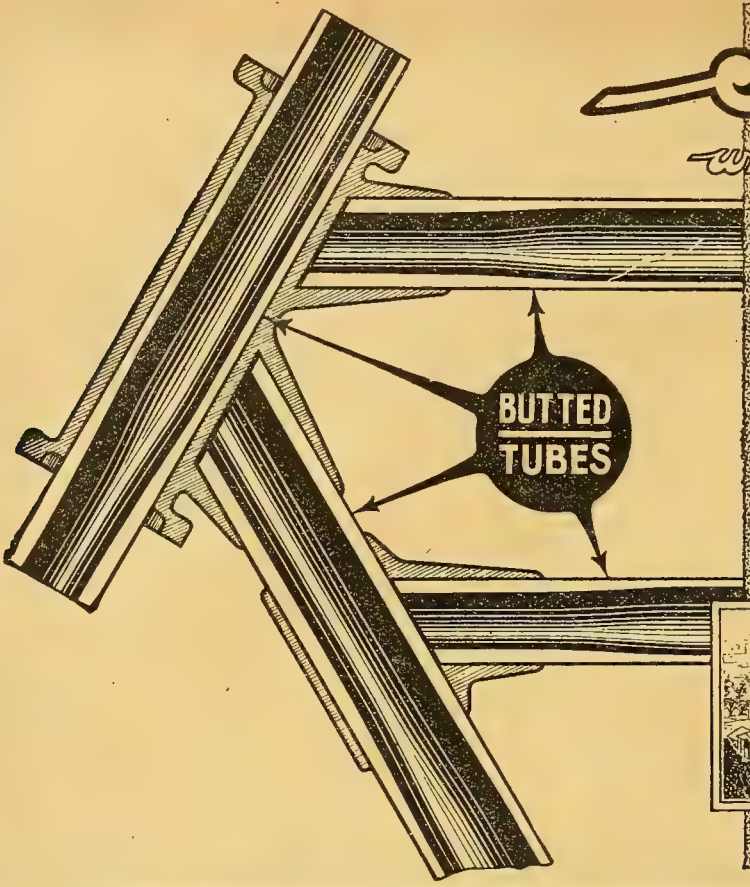

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These famous tubes give added strength to the frame's most vital parts—"the joints"—and a rigidity and strength to the whole machine which adds immeasurably to the rider's comfort.

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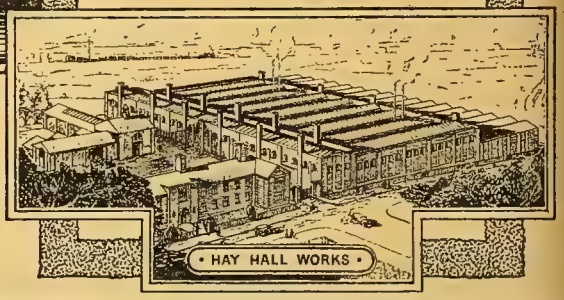

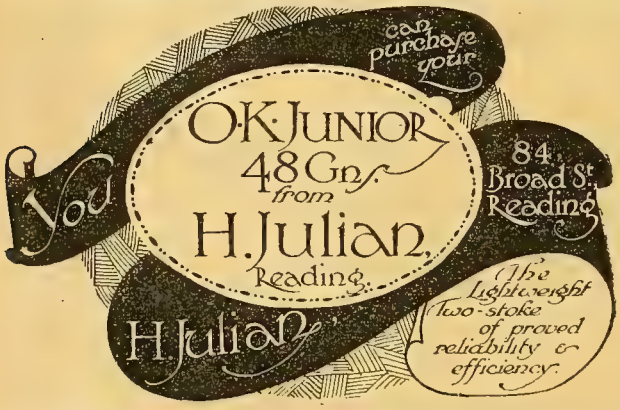

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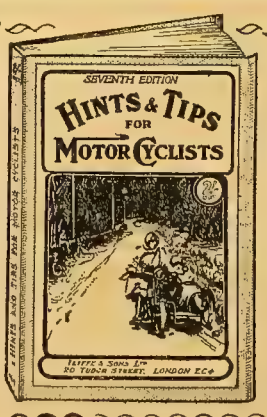

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The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

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LATEST 1920 A.B.C. for immediate delivery; list price.—Farncourt's Garage, Stamford [3699

A.B.C., brand new; immediate delivery from stock; £150.—Midland Garage, Colwyn Bay. [X1711

1920 A.B.C., dynamo lighting, brand new; £173.—Rhosha Motor Co., Bank Mews, Romford. [3545

A.B.C., electric model, for delivery at list price.—District agents, Turnill and North, Peterborough. [2826

1920 A.B.C., 4 speeds, done 150 miles; £135.—Dunn's, 326, Euston Rd., London. Museum 391. [2978

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QUADRANT Combination, 4½ h.p., 1921	£145 0
TRIUMPH Combination, 4 h.p., all-chain drive	£195 0
TRIUMPH, 4 h.p., solo, Model H	£129 10
ZENITH, 5 h.p., sporting, Model C	£123 0
ZENITH, 8 h.p., sporting, Model G	£139 0
TRIUMPH Combination, 4 h.p., Model H	£182 10
BLACKBURNE, 8 h.p., and Grindlay S/car	£225 0
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B.A.T., 6 h.p., sporting model	£160 0
DOUGLAS, 2¾ h.p., 3-speed, clutch, and kick-starter	£105 0
DOUGLAS, 2¾ h.p., 3-speed only	£100 0
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CLYNO, 2½ h.p., 2-stroke, 1920, all accessories	£72 10
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INDIAN and Sidecar, 5-6 h.p., 1912	£80 0
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MATCHLESS and Sidecar, 8 h.p., 1915	£137 10
HARLEY-DAVIDSON and Sidecar, 7-9 h.p., 1016	£110 0
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MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., brand new, not registered; list price, £150; what offers?—Williams, 19, Portland St., Cheltenham. [X4043

A.B.C., 1920, 700 miles, Bonniksen speedometer, lamp, horn, insured; £135; London. — Box 723, c/o *The Motor Cycle.* [3614

A.B.C. Combination de Luxe, Lucas dynamo lighting, horn, tools, etc., ridden 750 miles, perfect; list £205, only £175. Box 722, c/o *The Motor Cycle.* [X4086

A.B.C., 1920, run 350 miles, Cowey horn and usual kit, in exceptional tune, finest machine I have owned; lowest £140.—D. Lavin, Old House, Sonning, Berks. [9259

DELIVERY of the A.B.C. Motor Cycle from stock. Distributers for the county of Lincoln.—The Spalding Motor Co., Ltd., Pinchbeck St., Spalding 'Phone: 144. T.A.: Service. [0015

1920 A.B.C., spring frame, lamps, horn, speedometer, new Dunlop cover on rear wheel, perfect condition; seen Bristol district; £155.—Write P. V. James, H.M.S. Warwick, c/o G.P.O. [2547

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only run about 300 miles, condition as new; cash £150, list price £173/10; may be obtained on easy payments.—Harrods, Ltd., 118, Brompton Rd., London. [3157

A.B.C. Sopwith 1920 Solo, delivered June, just run in, not scratched, done only 800 miles, complete Cowey horn, electric lamps, Smith trip speedometer, foot pump, pan saddle and back seat; cost £185, will take £150 cash.—Pynegar, 5, Dowgate Hill, London. [2890

A.B.C. 1920 (Aug.) Combination, 4 speeds, Canoelet sidecar, complete lighting set, Watford speedometer, Klaxon, discs and tools, T.T. bars, only run 170 miles, enamel unscratched, guaranteed perfect, any trial, insured for £200, cost £204; reason for selling, getting car; £140, or very near offer.—Spencer, 37, Kirkham Av., Whitegate Drive, Blackpool. [2945

Abingdon.

ABINGDON King Dick, 3½h.p., T.T., 2 speeds, lamps, horn, speedometer; £35.—8, Havergal Villas, Green Lanes, S. Tottenham, N.15. [2822

ABINGDON King Dick 6-7h.p. Combination, 1920, run few hundred miles only, perfect condition; £145; required, less powerful machine, suitable for lady.—Rosling, Summerlands, Paignton. [2755

A.C.E.

ACE, the famous 4-cyl. machine, immediate delivery from stock.—194, Balham High Rd., S.W.12. 'Phone: Latchmere 4441. [3457

ACE, 4-cyl., consignment just arrived; immediate delivery of standard model, £210; sidecars to suit.—Alexander's, 115, Lothian Rd., Edinburgh. [2587

Acme.

ACME-J.A.P. New 8h.p. Combination; £213/15, or exchange.—Motories, 25, Horton St., Halifax. [2967

A.J.S.

A.J.S. New Combination, delivery from stock; £210. —Jones, Garage, Droitwich. [X1347

CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premium. [9993

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

1916 A.J.S. 2¾h.p., re-enamelled, complete lamps, horn, etc.; £75.—Cross, Agent, Rotherham. [X3994

1919 (August) 6h.p. A.J.S. Combination, complete, in perfect order; offers wanted.—Musgrave, Grey Abbey, Cockermouth. [2935

A.J.S. Combination, November, 1919, complete Lucas accessories, guaranteed perfect; £190.—Eveson, Dingle, Stourbridge. [3509

IMMEDIATE Delivery of new 5-6h.p. A.J.S. Combinations, at list price.—King and Harper, 6, Bridge St., Cambridge. [1822

A.J.S. 1919 Nearly New Combination, all complete; £150.—Furniture Shop, 62, Hampstead Rd., N.W.1. 'Phone: North 1519. [2957

1916 A.J.S. Combination, spare wheel, fully equipped; £135. See displayed advertisement. —Ratcliffe Bros., 200, Gt. Portland St., W. [3586

1916 4h.p. A.J.S., splendid condition throughout, lamps, horn, speedometer; £100. — Waverley, Southampton St., South Farnborough, Hants. [2806

A.J.S. 1920 Model, £210, in stock.—Lamb's, 387, Euston Rd., London, N.W. 151, High St., Walthamstow; and 50, High Rd., Wood Green, N. [2901

A.J.S. 1919 6h.p. Combination, only used fine weekends, perfect condition, unscratched, all accessories; £145 cash.—406, Garratt Lane, Earlsfield, S.W.18. [3462

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. 4h.p. Twin Combination, 1915, oversize tyres, speedometer, all lamps, splendid condition; any trial; £100.—J.H.W., 29, Manor House, Marylebone, N.W.1. [3320

A.J.S. 6h.p. C.B. Combination, screen, 3-speed gear box, clutch, K.S., Cowey horn, 3 lamps, all as new, any trial; £145.—Mullins, 363a, Kennington Rd., S.E.11. [2741

A.J.S. Specialists: Walsall Garage, Wolverhampton St., Walsall. Tel. 444, can give delivery from stock of these world-famous outfits; price £210; write for catalogue. [8998

6h.p. 1914 A.J.S. Combination, £30 recently spent on renewals and overhaul of engine, gear box, and magneto; £100, or offer.—Lt. Lawder, H.M.S. Excellent, Portsmouth. [3349

1918 A.J.S. Combination, interchangeable wheels, spare wheel, tyres as new, all accessories, perfect order; £160, or nearest offer.—9, Lark Hill Lane, Club Moor, Liverpool. [3181

A.J.S. 1919-20 6h.p. Combination, perfect order, any expert inspection, trial, lamps, tools, original tyres, owner sailing New Zealand; accept £190.—Ellerbeck, 2, Temeside, Ludlow. [2696

A.J.S. 6h.p. Combination, 1916, fully equipped, spare wheel, tools, and accessories, sound condition, thoroughly overhauled; £120.—Hannen, Birches Barn Rd., Bradmore, Wolverhampton. [3405

1916 A.J.S. 6h.p. Combination, good condition, recently overhauled, spare wheel, full equipment, Tan-Sad, many accessories; £115; evenings or week-ends by appointment.—Amstel Cottage, Watford. [3006

1920 Model A.J.S. Combination, completely fitted with lamps, spare wheel, etc., Easting and glass wind screen, condition as new throughout; £220.—Charles Moxham and Co., 32, Torwood St., Torquay. [2833

6h.p. A.J.S. Combination, lamps, horn, speedometer, hood and screen, luggage grid, detachable spare wheel, in perfect condition, and a very complete outfit; £150.—Alexandor's 115, Lothian Rd., Edinburgh. [3481

F.O.C.H. have an A.J.S. combination, detachable wheels, spare, lamps, horn, grid, screen; £115.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2868

1920 A.J.S. Combination, just delivered and paid for, still at agents near, £10 off list price; or ditto (June), lamps, Tan-Sad, etc., what offers?—Stretton, 35, Devonshire St., Portland Place, W.1. 3237 Paddington. [3360

A.J.S. 1920 Combination, July delivery, hood, side curtains, Tan Sad, Watford trip speedometer, Cowey horn, Lucas lamps, 1,000 miles, no punctures, spare wheel unused; £225, or near offer.—Carlyon, Freelands, Iffley, Oxford. [2849

A.J.S. 1920 6h.p. Combination, complete with dynamo lighting, speedometer, hood, screen, hood cover, side curtains, Klaxon horn, Tan-Sad pillion seat, mechanically perfect and quite indistinguishable from new; £250.—Parker's, Bradshawgate, Bolton. [X4035

1920 A.J.S. Combination, uncrated May, condition excellent, mileage 1,300, tyres unpunctured, spare wheel unused, lamps, Klaxon horn, speedometer, puncture-preventer; owner returning India; £200, or offer.—Crosthwaite, Ferns, Byfleet Rd., Weybridge. [2563

A.J.S.—Immediate delivery of this high-grade 6h.p. combination from stock. Standard model, with detachable wheels and spare, £210; Lucas dynamo lighting set, £28 extra; local trade supplied.—P. J. Evans, sole Birmingham agent, 83-91, John Bright St., Birmingham. [0299

A.J.S. (Aug., 1920) 6h.p. Combination, complete with screen, 4 interchangeable wheels, Lucas horn, speedometer, 3 Miller lamps, 3 generators, all spares, condition new, 600 miles, insured to Aug., 1921, owner going abroad Oct., cost £240; accept £225.—Apply from 8-10.20 to Major Bennett, Arnold House, Farnborough, Hants. [2841

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [9624

Alder.

1914 3½h.p. Alder-Precision, new pulley belt, tyres good, in good order; £50.—Lay, Eastbury House, Northwood. [1690

Alldays.

1920 Allon de Luxe, clutch, kick start, 2-speed; cheap, £70.—9, Parsifal Rd., Hampstead. [2671

1915 Allon, 2-stroke, 2-speed, perfect condition; £55, or offers.—J. Jarvis, Watermoor, Cirencester. [X404

ALLON, Dec., 1918, 2-speed clutch, discs, accessories, splendid condition; £62.—126, Florence Rd., Wimbledon, London. [2889

3½h.p. Alldays Matchless, 2-speed, free engine, 2 lamps, in good condition; owner gone abroad; 40 gns.—29, Martin St., Leicester. [X3956

ALLDAYS Matchless, overhauled, re-enamelled as new, makers' transfers, new belt, lamps, and horn, very fast; £35.—30, Woodville Rd., Ealing. [2568

ALLON 1916 2½h.p., 2-speed, hand clutch, splendid condition, horn, lamps, Tan-Sad, spare belt, speedometer, etc.; bargain, £50.—4, Commercial St., Middleton, Huntlepool. [2636

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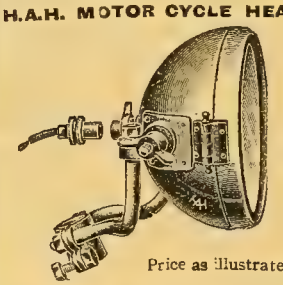

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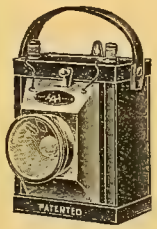

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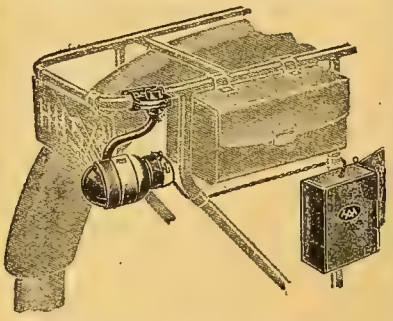

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ALMA Single 4¼h.p., Bosch, B. and B., J.A.P. engine, good running order; £25.—Carter, Wincomlee, Shaftesbury, Dorset. [2753

American X.

7-9h.p. American X., 3-speed, kick start, disc clutch, hand-foot, original Firestones, beautiful coach sidecar, large head light; £112; exchange.—Riddelsdell, 76, Murray Rd., Ipswich. [3393

Ariel.

1920 Ariel, shop-soiled, 3½h.p.; £105.—Ross, 86, High Rd., Lee, S.E. [3102

ARIEL 3½h.p., 3-speed, Bosch mag., wicker sidecar; £45.—Beynon, Chaceley, Tewkesbury. [2599

CYRIL WILLIAMS, for early delivery of Ariels.—Chapel Ash Depot, Wolverhampton. [2267

1920 Ariel Combination, luggage carrier, fully equipped; £142/10.—Southgate Garage, Gloucester. [X3875

1920 3½h.p. Ariel Combination, new; sacrifice, £140, or nearest.—Box 8,420, c/o *The Motor Cycle*. [3032

ARIEL Combination, 3½h.p., just uncrated, no carriage; £157/10.—James Brown, 98, Brandon St., Motherwell. [X3654

ARIEL Combination, 3½h.p., 3-speed, K.S., coach-built sidecar, lamps, etc., complete.—Adams, 82, York Rd., Battersea. [3557

ARIEL-SWIFT 1914 3½h.p. Combination, multi gear, 1919 Watsonian sidecar, lamps, fast and powerful; £55.—7, Kenyon St., Fulham, S.W.6. [2735

ARIEL 1919 3½h.p. Combination, Watsonian Monarch new last May, Easting, F.R.S. electric lighting, 2 horns, etc.; nearest £125.—Ellis, 46a, Stondon Park, S.E.23. [2816

ARIEL 1920 3½h.p., Henderson sidecar, Lucas lighting, new Cowey speedometer and horn, insurance, mileage 600; £140.—Wooldridge, Marston, York Rd., Woking. [X3807

ARIEL Combination, 1913, countershaft 3 speeds, K.S., underslung, coachbuilt sidecar, perfect; £70; seen after 5 p.m.—Clarke, 58, Osmond Gardens, Wallington, Surrey. [2807

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [8231

ARIEL 1920 Brand New 6-7h.p. Twin Combination in stock, ready to ride away; £177/10; extended terms 4% extra.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0071

APRIL 1920 Ariel, with Paragon folding sidecar, goes through ordinary door, no garaging expense, fine condition, full lamps, Easting, spare tyre, belt, etc., trial; £145.—110, Wimbledon Park Rd., Southfields, S.W. [2648

3½h.p. Ariel and sidecar, 1919, fitted Watford speedometer, Lucas horn, P. and H. lamp, full set of spares, excellent condition; £110, or nearest offer; owner going abroad.—Dundee Motor Co., 160, Nethergate, Dundee. [2532

ARIEL 1919 5-6h.p., Canoelet sporting sidecar, 3-speed, hand and foot clutch, specially good engine, aluminium pistons, Ace discs with hub oilers, special spring fork shackles, exhaust pipe, wide handle bars, spare tube, belt, chain, valves, plugs, pistons, legshields, etc., smart and efficient wind screen, luggage carrier, appearance and mechanical condition excellent, photo, £140; large 6-volt lighting set, accumulator and battery (2-way), Watford trip and maximum hand speedometer, Lucas horn, spare front and rear wheels with extra heavy Dunlops, £12.—Silverlea, Farnborough Rd., Farnborough, Hants. [3266

Auto-Wheels.

AUTO-WHEEL, £9; attached gent's cycle, £14; running order.—151, Kingston Rd., Teddington. [3411

WALL de Luxe, 1919, new condition, special fitting new Palmer; £15.—18, Grittleton Av., Wembley (D) [2707

AUTO-WHEEL, needs carburetter control, £6/10.—Avery, Little York Cottage, The Common, Tunbridge Wells. [X3967

WALL, very good condition, any trial; 10 gns., or offer; exchange entertained; Norfolk.—Box 8,340, c/o *The Motor Cycle*. [4088

YOUNG Motor Attachment, brand new, complete with all fittings; 18 gns.—Burditt, 67, Station Rd., Desborough, Market Harborough. [2937

Bat.

1920 Bat, Model 4, brand new, not used; what offers? — Wright's Garage, Saffron Walden. Tel.: 16. [3527

1920 Bats, 6h.p. and 8h.p., solo or combinations, immediate delivery, trade supplied.—Alexander's, 115, Lothian Rd., Edinburgh. [2085

1920 6h.p. Bat Combination, brand new, slightly shop-soiled; price £175.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [3297

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CLYNO 5-6h.p. Late W.D. Models, 3-speed, kick start, foot clutch, re-enamelled and replated, new buretters and magntos, rebuilt as new, practically used; few available from £75.—Hearn, 117, Loughough Park, Brixton, S.W. 'Phone: Brixton 2888. [1431

1916 Clyno Combination, 3-speed, kick starter, enclosed chains, interchangeable and spare wheels, 700×80, 2 new £4 covers, new cylinders, pistons, gudgeons, rings, bushes, black and gold, Stewart horn, dissolved acetylene, largest P. and H.; 1920 Triumph solo part; after 6.30.—65, Clifton Rd., Wembley Hill. [3499

Comet.

1920 4h.p. Comet-Blackburne Combination, coach-built sidecar, 3-speed countershaft, heavy Dunlops, aluminium footboards, lamps, speedometer, tools, T.T. gears, reliable outfit; £110, lowest.—56, Lawrence Hill, Bristol. [2601

Connaught.

1914 2¾h.p. Connaught, new crankshaft, bushes, by makers, lamps, horn; £35.—4, High St., East Grinstead, Sussex. [3412

CONNAUGHT 2¾h.p., countershaft, 2-speed gear box, free engine, good Dunlops, guaranteed order; £25 gns.—14, Arundel Rd., Croydon. [3347

1914 2¾h.p. Connaught, just been re-enamelled and plated; bargain, £37/10.—Shepherd and Co., End Highway. Tel.: Waltham Cross 31. [1638

CONNAUGHT Motor Cycles.—2½h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. Evans, 83-91, John Bright St., Birmingham. [0252

Coulson.

COULSON B. 2¾h.p., spring frame, 2-speed, very little used; £75.—Skeggs, Garage, 126, High St., Stevenage, Herts. [2524

1920 Coulson U., 2-stroke, splendid condition, ideal for spring frame, lamps, etc.; £60.—Elliott, Golden Gates, Ascot, Berks. [3267

COULSON B., 2¾h.p. Blackburne engine, 2 speeds, spring frame, 1920 model; £80, or exchange higher power.—103a, High St., Wandsworth, S.W.18. [3307

COULSON.—Come to R. B. Clark, the Coulson expert, for your machine; large stock, all makes, immediate delivery.—7, Exhibition Rd., South Kensington. [3447

NEW Coulson B, 2¾h.p., £99/15; fitted with 2-speed gear, spring frame, Blackburne engine; 2¾h.p. model, with clutch and kick starter, £110/5; 4h.p., with 3-speed, clutch, and kick starter, etc., 118 gns.; fitted with smart boat-shaped sidecar, painted Royal blue, £162/10, or on easy payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [3152

Coventry Eagle.

COVENTRY Eagle, 1920, 2¾h.p. J.A.P., 2-speed, clutch, K.S., Dunlops, lamps, horn, tools, as new; £57/10.—Short, 487, Upper Richmond Rd., East Sheen. 'Phone: Richmond 2362-3. [3580

1920 Coventry Eagle, 3½h.p. J.A.P. engine, 2-speed gear box, clutch, and kick start, lamps, etc., in perfect condition; £50.—Colonial Motor Co., 104a, Archley Rd., N.W.3. 'Phone: Hampstead 7822. [2952

Diamond.

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266

DIAMOND, brand new, 2¾h.p., 2-stroke, slightly shop-soiled; £59.—Clark, 7, Exhibition Rd., South Kensington. [3452

1920 Diamond 2-stroke, single speed, electric lighting, only used twice; £49.—Willetts, Rookery, Tinsfield, Wolverhampton. [3362

DIAMOND 1918, 2¾h.p. Villiers, 2-speed, tyres and condition good; £40.—Short, 487, Upper Richmond Rd., East Sheen. 'Phone: Richmond 2362-3. [3578

Douglas.

THE Great Douglas Agent, J. W. Gourlay, Followfield, Manchester. [6947

DOUGLAS 2¾h.p., 2-speed, clutch; £33; running.—24, Bourne Hill, Palmer's Green. [3487

2¾h.p. Douglases, 2-speed, just renovated; £45 each. J. J. Dooley, 33, Killyon Rd., Clapham. [3611

DOUGLAS 2¾h.p., brand new, kick start and clutch; £103.—Baths Garage, Tenbury, Wells. [X3954

1915 Douglas, 2¾h.p., guaranteed, £50; also one at £48.—Ross, 86, High Rd., Lee, S.E. [3103

2¾h.p. 2-speed Douglas, Bosch, Amac, perfect order; £39.—18, Ranelagh Av., Barnes, London. [3371

BRIGHTON, Hove and District Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS, 1914, 2-speed, lamps, speedometer, etc.; bargain, £35.—Lay, Eastbury House, Northwood. [1691

1919.—1918 Douglas 4h.p. C.B. combination.—Walker, 769, Romford Rd., Manor Park, London, E. [1676

DOUGLAS 1916 2¾h.p., overhauled, lamps, horn, footboards, spares; £60.—3, Overcliffe, Gravesend. [2700

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Douglas.

DOUGLAS 2¾h.p., 2-speed, 1916, thorough order; £55.—371, Earlsfield Rd., Earlsfield, S.W.18. [3605

£80; Douglas 4h.p., smart sidecar, 3-speed, clutch, K.S.—Newnham, 223, Hammersmith Rd., W.6. [2861

DOUGLAS New 1920 Solo and Combination; cash or exchange.—Motories, 25, Horton St., Halifax. [2968

DOUGLAS 2¾h.p., complete, £50 lowest; owner unable to ride.—207, High St., Stoke Newington. [3506

1916 2¾h.p. Douglas, not W.D., electric lighting set, perfect; £56.—76, Western Rd., Southall, W. [2800

£40.—2¾h.p. Douglas, 1914, 2-speed, good, tyres, fast.—105, High St., Colliers Wood, Merton, Surrey. [2564

DOUGLAS 2¾h.p., brand new, fitted with lamps, horn, mirror, and extras; £108.—Midland Garage, Colwyn Bay. [X1714

DOUGLAS 2¾h.p., 3-speed, kick starter, 1920, as new, just delivered, must sell; £95.—3, Oxford St., Sheffield. [2728

DOUGLAS 1914 2¾h.p. 2 Speeds Model, excellent condition throughout; £60.—Parker's, Bradshawgate, Bolton. [X4025

1916 Douglas 2¾h.p., 2-speed, F.E., sporty, excellent condition; 50 gns.—8, Kingston Rd., Southampton. [3045

DOUGLAS, perfect running order; £28, or exchange 2-stroke, any condition.—Golding, Vale Cottage, Oatlands Park. [3041

1919 (uncrated) Douglas, 2¾h.p., fully equipped; £60—Dunn's, 326, Euston Rd., London. Museum 5391. [2986

DOUGLAS, 1917, 2¾h.p., makers' colours, fine condition; £50.—Fire Station, South Parade, Church St., Chelsea, S.W. [3165

1920 Douglas Combination, Cowey horn, speedometer, lamps, pillion, spares, insurance; £155.—5, Broomfield Rd., Catford. [2545

1920 2¾h.p. Douglas, just done 300 miles, guaranteed perfect; price £90.—19, Millfield Terrace, Gateshead-on-Tyne. [3127

2¾h.p. 1918 Douglas, as new, 150 m.p.g.; £58.—Super Power, 64, Forthbridge Rd., Clapham Common, S.W.11. [3632

DOUGLAS, 1917, indistinguishable from new, lamps, unregistered, £70 1915; £53.—Turner, 78, Church Rd., Willesden. [2296

1915 2¾h.p. 2-speed Douglas, smart and reliable; £50, or exchange.—Gray and Raynes, 8, Low Rd., Balby, Doncaster [2779

DOUGLAS 1919 2¾h.p., perfect running condition, all accessories, complete; £60.—75, Marchmont Rd., Wallington, Surrey. [3023

DOUGLAS 2¾h.p., 1917, overhauled and enamelled makers' colours, mechanically perfect; £50.—3, Courtlands Av., Lee, S.E.12. [3019

1919 2¾h.p. Douglas, mudshield, chain case, many extras, exceptionally fast, as new; £75.—Ellingworth, Great Pettits, Romford. [3109

DOUGLAS Combination, 4h.p., 3-speed, clutch, and K.S., as new; £95, bargain.—304, Fulham Rd., S.W.10. 'Phone: 2372 Kens. [3011

DOUGLAS 2¾h.p., 1917, as new, condition perfect, little used, very smart lot; £60.—129, Beechcroft Rd., Upper Tooting, S.W.17. [3388

1920 4h.p. Douglas Combination, new, unregistered; £150.—29, St. Leonards St., Bromley-by-Bow. 'Phone: Walthamstow 800. [3083

DOUGLAS 2¾h.p., 2-speed, Bosch mag., all accessories, splendid running order; £45.—Terry, Hampden Club, King's Cross. [3024

DOUGLAS 2¾h.p., excellent condition, lamps, speedometer, horn, etc.; £65, or near offer.—Apply, 100, Elers Rd., Ealing, W. [2795

DOUGLAS 2¾h.p., 3-speed, clutch, £105; combination, £170; delivery from stock.—Clark, 7, Exhibition Rd., South Kensington. [3448

1915 Douglas, 2¾h.p., just overhauled, enamelled, replated; real bargain, £45; no accessories.—Box 8,424, c/o *The Motor Cycle.* [3512

ALL Douglas Motor Cycle Models, also light car, in stock ready to drive away.—Gibb, Douglas Expert, Gloucester. 'Phone: 852. [6340

DOUGLAS, 2¾h.p., speedometer, Klaxon, lamps, footboards, in excellent order; £60.—48, St. Barnabas St., Pimlico. Vic. 668. [3621

£45.—2¾h.p. Douglases, 2-speed, makers' colours, perfect condition; from £45; only a few left.—Spence, 59, Station Rd., Camberwell. [3629

1920 Douglas 2¾h.p., 3-speed, with large P. and H. lamps, condition as new, done about 150 miles; £100, or offers.—Alfred Smith, Bluntisham, Hunts. [2853

1920 Douglas Combination, 2 months old, fitted with lamps, horn, wind screen, tools, etc.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [3295

MOTOR CYCLES FOR SALE.

Douglas.

1920 Douglas 2¾h.p., 3-speed, clutch, kick start, Klaxon horn, etc., as new, mileage about 500; £90.—Percy Mount, Cadley, Preston. [2852

1919 (November) 2¾h.p. Douglas, indistinguishable new, never been wet; 82 gns.; civilian model.—23, Liskeard Gardens, Blackheath, S.E. [3066

1920 2¾h.p. Douglas, perfect, Tan-Sad, lamps, Cowey, Klaxon, aluminium discs; £100; insured.—Dunton, 41, Polygon, Southampton. [3368

1919 Douglas Combination, excellent condition, any trial, accessories; £125. — Coney, Snowdon House, Meadow Rd., Sutton, Surrey. [2853

4h.p. Douglas Combination, 1919, splendid order and good climber, 3 new tyres, and lamps complete; £145.—Strawson, Broxholme, Lincoln. [2946

1916 Douglas 2¾h.p., heavy Dunlops, Millers lamps, Stewart horn, pillion seat; any trial; £65.—105, High St., Colliers Wood, Merton, Surrey. [2565

DOUGLAS 4h.p., 1917, 3-speed, etc., overhauled, makers' colours, lamp, horn, splendid condition; £68.—Bovett, 147, Southampton St., S.E.5. [3197

DOUGLAS 2¾h.p., 1916, makers' colours, Thomson-Bennett mag., tools, electric light, new tyres; £56.—44, Park Av. South, Hornsey, N.8. [3326

1914 2¾h.p. 2-speed Douglas, just overhauled, repairers' invoice, horn, pump, fine machine; £63.—Hollington, 126, Ordnance Rd., Enfield Lock. [2713

£87/10; 1916 4h.p. Douglas combination, excellent condition and appearance, all accessories, ride 20 miles to purchaser.—Beaulieu, Avenue Rd., St. Albans. [2835

DOUGLAS Motor Cycle for sale, 2¾h.p., single speed, new crankshaft, good condition; £34.—Suntrap, Sandfield Rd., Thornton Heath, Surrey. [3164

DOUGLAS 2¾h.p., 1915, overhauled, fast, perfect, lamps, horn, tools, footboards, spare tyre, belt, etc., genuine; £55, nearest.—110, Forest Hill Rd., S.E. [3472

DOUGLAS 2¾h.p., W.D., 1919, makers' colours, lamps, horn, Binks carburetter, any trial, at owner's address; £70.—Wilson, Woodlands, Gildersome, Leeds. [2759

1916 2¾h.p. 2-speed Douglas, makers' colours, lamp, horn, etc., new tyres, guaranteed perfect; £55.—Smith, Florence Tavern, Florence St., Islington, N. [3372

RACING Douglas, special 2¾h.p. engine, 2-speed, winner of 5 awards at Brooklands this season, will do 62 m.p.h.; £75.—257, Cavendish Rd., Balham, S.W. [3369

£85.—Douglas Coachbuilt Combination, 1916, in beautiful running order and condition; or exchange furniture and piano.—9, Victoria Parade, Kew Cardens. [3171

4h.p. Douglas and Sidecar late 1919 (1920 model), new and perfect condition, selling through ill-health; £150, lowest.—Johnson, 96, Myddleton Rd., Bowes Park, N.22. [3012

DOUGLAS 4h.p.. 1918, 3-speed, clutch, kick start, condition as new; any trial after 6 o'clock; 85 gns.—205, Elmhurst Mansions, off Manor St., Clapham, S.W.4. [3414

DOUGLAS 1920 4h.p. Combination, complete with head, rear, and sidecar lamps, only done 500 miles, indistinguishable from new; £165.—Parker's, Bradshawgate, Bolton. [X4038

1920 Douglas 4h.p. Combination, as delivered from works, faultless condition, perfect mechanical order; genuine offer at £135.—Mace, 19, Carnaby St., Regent St., W.1. [3015

DOUGLAS 2¾h.p., 1920, 3-speed, disc wheels, long exhaust, T.T. bars, lamps, horn, etc., condition as new; £100.—Hewin's Garages, Ltd., the real service firm, Taunton. [2875

1918 (late) Douglas 2¾h.p., buffer forks, 2-speed, new tyres, front and rear stand, tank makers' colour, in absolute tip-top condition; £59.—59, Aytoun Rd., Brixton, S.W. [3179

1920 Douglas, 4h.p., lamps, horn, knee grips, motor suit, insurance, practically new, ill-health sole reason for selling; £120.—58, Abinger Rd., Bedford Park, London, W.4. [X3470

KICK Start, clutch model Douglas, 2¾h.p., countershaft gear box, perfect working clutch, starts first kick, magnificent condition and order; 48 gns.—14, Arundel Rd., Croydon. [3346

ELI CLARK can give you good service both in new machines and spares; try me, I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [001t

4h.p. Douglas, 1915, and coachbuilt sidecar, 3 speeds, free engine, clutch, kick starter, fast, powerful, perfect, accessories; bargain, £75.—Owner, 77, Salmon Lane, facing Stepney Station. [3214

DOUGLAS 1918 4h.p. Combination, 3 speeds, clutch, kick-starter, original enamel, makers' colours, accessories, excellent condition; £82; exchanges.—G., 63, Solon Rd., Brixton, S.W.2. [3432

LATE 1916 2¾h.p. Douglas, 2-speed, just overhauled and re-enamelled makers' colours, new tyres, disc wheels, buffer head, the whole in perfect condition; £55. -14, Kildoran Rd., Brixton. [2706

EASTERN GARAGE

Second-hand Machines Guaranteed.

1914 SUNBEAM-J.A.P. 6 h.p., 3-speed countershaft, all-chain drive, screen, Lucas lamps and horn **£130**

1920 LEA-FRANCIS, 3½ h.p., Henderson sidecar, P. & H. lamps, Lucas horn, speedometer. As new **£150**

1920 HARLEY-DAVIDSON, 7-9 h.p., and sidecar. All accessories **£210**

W.D. **NEW IMPERIAL** 8 h.p. Combination, Lucas lamp, Cowey horn, speedometer, screen **£130**

1912 WULFRUNA-PRECISION, 3½ h.p., lamps, and horn **£38**

1920 METRO-TYLER, 2½ h.p., 2-stroke, 2-speed, all accessories **£65**

1919 JAMES, 2½ h.p., 2-stroke, 2-speed, as new **£65**

1918 ARIEL 5-6 h.p. Combination, lamps, horn, speedometer, screen **£130**

W.D. **P. & M.,** 3½ h.p., 2-speed, kick starter, and new Millford sidecar **£103**

W.D. **P. & M.,** 3½ h.p., 2-speeds and kick startcr **£78**

1920 DOUGLAS, 2¾ h.p., 3-speed, clutch, and kick starter. As new **£100**

1918 DOUGLAS, 2¾ h.p., 2-speed **£65**

1919 JAMES 4½ h.p. Combination de Luxe **£140**

1920 MATCHLESS 8 h.p. Combination, dynamo lighting, speedometer, hood, and screen **£230**

1920 ZENITH 8 h.p. Combination, lamps, horn, luggage grid **£190**

1920 BROUGH, 5 h.p., Swan Sporting sidecar, speedometer, disc, screed **£160**

W.D. **NEW IMPERIAL,** 8 h.p., Canoelet sidecar, Easting windscreen, lamps, and horn **£130**

W.D. MODELS.

Completely Reconstructed and Re-enamelled.

P. & M., 3½ h.p., 2-speed, clutch, and kick-starter **£82**

P. & M., as above, with sidecar **£105**

DOUGLAS, 4 h.p., 3-speed, clutch, kick starter, and sidecar with apron **£120**

TRIUMPH, 4 h.p., 3-speed, clutch, and kick starter **£98**

ROVER 5 h.p. Combination, 3-speed, clutch, and kick starter, all chain **£145**

NEW IMPERIAL 8 h.p. Combination, 3-speed, clutch, and kick starter **£145**

NEW 1920 MOTOR CYCLES.

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DEFERRED PAYMENTS ARRANGED.

The Eastern Garage Co.,

418, Romford Road, Forest Gate, E.7.

Telephone: 490, East Ham.
Telegrams: "Egaraco, London."

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 2¾h.p., 2-speed, new tyres, new lam and Klaxon, disc wheels, a real good 'bue, n W.D., guaranteed in perfect condition; bargain, £45 33, Hackford Rd., Brixton, S.W.9. [36

DOUGLAS 1915 2¾h.p., excellent condition, al minium discs, and side leg shields, all acc sories, ready ride away, £10 worth of spares; pri £70.—Ufton, Bourne End, Bucks. [25

2¾h.p. Douglas, new condition, very fast, clutch a K.S., disc wheels, copper exhaust, legshiel lamps, stored four years, grand lot; £75.—L., Market Place, Kingston, Surrey. [26

NEW Douglas 1920 2¾h.p., 3-speed gear; £10 latest improved frame, forks, tank, and Renol ⅝×¼ chain; in stock; delivery passenger any part country.—Herbert Robinson, Ltd. (below).

NEW Douglas 1920 2¾h.p., 3-speed gear, hand-co trolled clutch and kick starter; £105; latest i proved frame, forks, tank, and Renolds ⅝×¼ chai in stock, delivered passenger any part of country. Herbert Robinson, Ltd. (below).

NEW Douglas 1920 4h.p., 3-speed; £130; with i proved clutch and kick starter, frame forks, et solo, or with fine finish coachbuilt Douglas sidecar, i cluding wind screen, painted saxe blue; £174; stock; delivered passenger any part of the country. Herbert Robinson, Ltd., Green St., Cambridge. T.A. Bicycles. Tel.: 995. [29

1920 Douglas 4h.p. Combination, scarcely used, pe fect order, unpunctured, unscratched, lamps, hor etc., done 600 miles; £160, or near offer.—Jones, Vanbrugh Park Rd. West, Blackheath. [34

DOUGLAS 4h.p. Combination, 1919, as new, on ridden a few miles, very sporty, fully equippe disc wheels, lamps, horn, tools, etc.; £110.—Naa Lonsdale House: 257, Brixton Rd., S.W. [34

DOUGLAS 1920 Brand New 4h.p. Combinatio ready to ride away; £170; extended terms 4 extra.—Elce and Co., 15-16, Bishopsgate Av., Cam mile St., E.C.3. 'Phone: Avenue 5548. [00

1920 Douglas 2¾h.p., 3-speed, clutch, kick starte complete, electric lighting, aluminium disc Klaxon, perfect running order; £105.—Apply, A. W Fawcett, Don Moor House, near Sheffield. [26

1920 Douglas Combination, new condition, Cowe speedometer and horn, Easting, Sterling le shields, F.R.S. lamps, spare belt, tube, cover; £17 near offer.—B., c/o 15, East St., Chichester. [30

1920 (June) 4h.p. Douglas Combination, practical brand new and unscratched, guaranteed perfec Easting, P. and H., all tools and spares; £170, near.—Bain, 57, Stopford Rd., London, E.13. [34

F.O.C.H. have a late 1920 Douglas combinatio many accessories, as new.—5, Heath St., Ham stead (near Hampstead Tube Station). 'Phone: Ham stead 3752. Hours 9-7, including Saturdays. [28

4h.p. Douglas Solo, 1919, delivered 1920, run 2,00 miles, clutch, 3 speeds, first-class condition, quic sale; £85.—Murgatroyd, Strines, nr. Stockport. [26 spares; £72, or offer.—A. Green, Ashwood Cottage, E

DOUGLAS, 1917-18, 2¾h.p., 2 speeds, 1920 C.A.V enamel original, makers' colours, footrest, le shields, Pedley grips, Lucas hooter, etc, brand ne condition; £53.—G., 63, Solon Rd., Brixton, S.W2. [34

DOUGLAS 4h.p. Combination, late 1917, very fa complete with screen, hood, and all lamps a horn; a bargain, £105: after 7 o'clock, or week-end. Hughes, Lyndhurst, Woodhouse Rd., North Finchle [25

DOUGLAS 2¾h.p., 2-speed, splendid running a new condition, P. and H. Lamps and mechanic horn, uncrated last June, a real bargain; £65, or offe Call and see it.—42, Queen's Rd., Finsbury Park, [27

1920 (July) 4h.p. Douglas Combination, 3-speed, ho screen, speedometer, 3 lamps, horn, tools, spar tyres good, condition almost as new; owner proceedi overseas October; £150.—Bates, South Terrace, Darli ton. [X36

DOUGLAS 2¾h.p., 2-speed, 1916 model, deliver new 1919, mileage low, perfect order, lamps, ho shield, etc.; beargain, £60, offer, delivered anywhe Douglas, 42, Glenthorn Rd., Jesmond, Newcastle- Tyne. [27

1920 Douglas 2¾h.p., clutch, kick starter, 3-spe horn, knee grips, as new, not done 200 mil owner has to sell at sacrifice through heart troub £99; seen and tried any time.—F.L., 17, Victoria S Windsor. [27

4h.p. Douglas Combination, 3 speeds, K.S., all lam mechanical horn, Cameo wind screen, a r bargain; owner going abroad; nearest offer to £9 seen after 6.30 p.m.—Miller, 51, Calabria Rd., Hi bury, N.5. [30

4h.p. Douglas Combination, perfect condition, eng No. 5378, 3 speeds, clutch, kick starter, r sidecar, lamps, horn, etc.; £115, or offer; priv owner.—Seen at 150, Amyand Park Rd., St. M garet's, Middlesex. [3

DOUGLAS 2¾h.p., Colonial model, 3-speed, clut kick starter, lamps, horn, tools, etc., excell running order, engine thoroughly overhauled week; £65, or nearest.—Haynes, Stanmore, Abing Park, Northampton. [3

MOTOR CYCLES FOR SALE.

Douglas.

FRANK WHITWORTH, Ltd., 139, New St., Birmingham have remarkable bargains: 1920 4h.p. Douglas combination, taken in exchange, as new, and fully equipped, including screen, £160; also 1919 4h.p. combination, in fine condition, £120. [X3960

1920 Douglas Combination, semi-T.T. bars, polished aluminium discs, Cowey horn, Cameo screen, P. and H. head, electric side and tail lamps, knee grips, new April, appearance and mechanical condition perfect; £160.—Collins, 114, Queen St, Burton-on-Trent. [3484

DOUGLAS 4h.p., 1920, new July, mileage 450 only, absolutely perfect condition; expert examination invited; lamps, Klaxon, speedometer, insurance, tools, spare belt; £130, or close offer.—Please apply after 6, 2, Stamford Brook Rd., Stamford Brook, W.6. [3211

DOUGLAS W.D. Models, £60 and £65 and £72/10; also nearly new 2¾h.p. model, kick starter, discs, lamps, horn, speedometer, 100 gns.; and new combinations, £170; also soiled 4h.p. combination, £145.—Lamb's, 387, Euston Rd., London, N.W. 151, High St., Walthamstow; and 50, High Rd., Wood Green, N. [2900

1920 4h.p. Douglas Combination, fitted telescopic screen, armchair pillion seat, 3 lamps, Klaxon horn, spare tyre, etc., new June, unpunctured; cost £184, for quick sale accept £147; no offers; or exchange with part cash for light or cycle car. Evenings or week-end.—36, East Sheen Av., S.W.14. [3209

1920 Magnificent Saxe Blue Douglas Combination, Auster Triplex wind screen, leg shields, knee-flaps, muffs, spare tubes, Pedley grips, finest equipped solo road; trial or expert examination willingly; everything brand new condition, mileage negligible; bought for; first cheque £175, worth £190.—Beaumont, Hall St., Longwood, Huddersfield. [X3655

A REAL Bargain, 1919 (August) 4h.p. Douglas combination. Mira dynamo lighting, mechanical horn, jasmine wind scoop, in absolutely perfect condition and small mileage, only wants seeing, and was bought new, any trial by appointment; nearest offer £140; cost considerably more.—J. Knight, 89, Dames Rd., Forest Gate, London, E.7. 'Phone: Stratford 80. [2640

DOUGLAS 4h.p. Combination, June, 1919, A1 condition and well cared for, complete with lamps, tools, spares include belt, one each practically new Palmer and Clincher cover and inner tubes, back wheel fitted Dunlop extra heavy combination cover, engine perfect, owner runs car, otherwise would not sell; price £25; inspection by appointment.—Apply, The Hand Laundry, Tavistock. [3219

OVERHEAD Valve 2¾h.p. Super Special Racing Douglas, 1920 pattern big port cylinders and heads, special alloy pistons, 2-speed gear box, a machine with a pedigree on road and track, a winner every time, has won 11 firsts and 9 seconds in speed trials and hill-climbs this year, guaranteed perfect, nos. to 5,980, and has beaten all capacity machines in many open competitions, one of the very few in the country; price £145; open to any possible inspection and trial; a real flier.—Bert Houlding, Works, and Co., the Douglas Experts, Preston. [X4020

Edmund.

EDMUND 2¾h.p., spring frame, 3 models; you simply float.—Gourlay, Fallowfield. [6933

EDMUND.—The lightweight with the laminated spring frame 2¾h.p. Jap model, £92/8; 2-stroke model, £86/10; both fitted with Enfield 2-speed gear.—P. J. Evans, 83-91, John Bright St., Birmingham [0251

Enfield.

ENFIELD 1919 2¼h.p., lamps, perfect condition; £46.—97, Angell Rd., Brixton. [3194

1918 Enfield Combination, 8h.p., with accessories; £110.—Ross, 86, High Rd., Lee, S.E. [3104

h.p. 1915 Enfield Combination, perfect order.—Lovell, 13, Pembroke Rd., Clifton, Bristol. [2632

1920 Enfield 8h.p. Combination, just received from makers; £177.—Rose's Garage, Uxbridge. [3486b

1920 Enfields, all models in stock, ready to drive away.—Alexander's, 115, Lothian Rd., Edinburgh. [2590

ENFIELD 2-stroke, new machine; must sell, best offer over £60.—134, Bargery Rd., Catford. [3089

h.p. Enfield Combination, fine condition; any trial; £115.—63, Walm Lane, Cricklewood, N.W.2. [4013

1920 8h.p. Enfield Combination; list price.—Edwards, 50, Harrington Rd., South Kensington. [3250

UG., 1920, Enfield 2-stroke, 2-speed, lamps and horn, quite new; £60.—64a, Highbury Grove, 5. [2680

¾h.p. Twin Enfield, chain drive, Amac, Dunlops, good order; nearest £50.—Sheldon, Wheatley, ton. [3401

ENFIELD 2-stroke, 2-speed, like new, all accessories; offers over £60.—103, Myddleton Rd., Bowes rk, N. [2744

1916 2¼h.p. Royal Enfield, 2-stroke, 2 speeds, perfect order, accessories; £45.—Miss F., 10, Rushams , Horsham. [2548

ENFIELD C.B. Combination; £97 nearest; lamps, speedometer, screen.—Newnham, 223, Hammer-ith Rd., W.6. [2862

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Cuts out the trouble of lighting up—directly the engine starts the lamps light. An accumulator is fitted into box for use when machine is standing.

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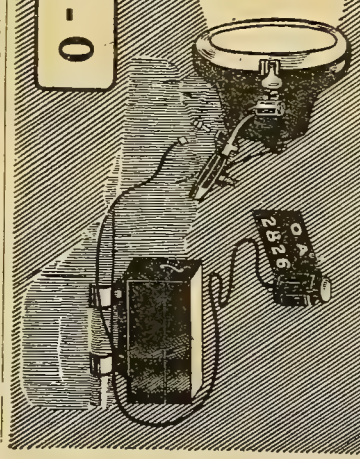

MOTOR CYCLES FOR SALE.

Enfield.

6h.p. Royal Enfield, 1914, Venus sidecar, lamps, etc., splendid order; £105.—Herring, Paddock Cottage, Luton Hoo, Beds. [3135

ENFIELD 1916 Combination, Lucas dynamo, hood, screen, as new; £130.—Briggs, 20, Thornton Rd., Thornton Heath. [3255

FOR Sale, Royal Enfield, G2243, 3h.p. twin, 2-speed, free engine, 1917 model, new condition; £70.—Fuller, Amesbury. [3637

3h.p. M.A.G. Engined Royal Enfield, 1916-17 model, as new; £65, or exchange.—Gray and Raynes, 8, Low Rd., Balby, Doncaster. [2782

1920 Enfield, 2-stroke, 2 speeds, new, in stock; £73/10; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton. [3564

1918 Royal Enfield Combination, electric lights, screen, and lamps; £145.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [3282

ENFIELD 1920 2¼h.p., 2 speeds, 2-stroke, condition excellent, about 500 miles; Norfolk.—Offers to Box 8,241, c/o *The Motor Cycle*. [2309

£68.—1920 Enfield lightweight, as new.—Clifford Wilson Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [1232

£120.—Dynamo Enfield combination, 1916.—Clifford Wilson Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [1231

ENFIELD 3h.p. 2 speeds, speedometer, Tan-Sad, lamps, whole perfect; £75.—108, Edward Rd., Blackhorse Rd., Walthamstow, E.17. [2903

ENFIELD Combination, 1915, 2-speed, recently overhauled, with Tan-Sad, lamp, horn, tools, etc.; £140.—C. Barton, Clapham, Yorks. [0298

3h.p. Enfield, 1920, 2-speed, clutch, kick start, Tan-Sad, 9in. headlight, fully equipped; quick sale, £69.—4, Hanover St., London, W.1. [3319

2¾h.p. Twin Enfield, 2-speed, lamps, horn, spares, insurance, good working order; nearest £45.—14, Higham Station Av., South Chingford. [3055

ROYAL ENFIELD 8h.p. Combination, delivered last month, spares, Lucas gas lamp, horn, wind screen; £200.—Dominy and Co., Winchester. [3246

1918 8h.p. Enfield Combination, like new, complete with new lamps; £115.—29, St. Leonards St., Bromley-by-Bow. 'Phone: Walthamstow 800. [3082

NEW 1920 Royal Enfield, 2¼h.p., 2-stroke; price £73/10; delivery from stock.—D. J. Shepherd and Co., Enfield Highway, Waltham Cross 31. [0242

1920 8h.p. Enfield Combination, lamps, hood, screen, and many spares, as new, mileage 200; £165.—Dunn's, 326, Euston Rd., London. Museum 5391. [2988

ENFIELD 6h.p. Combination. 1915-16, speedometer, screen, fully equipped, good condition; £120.—Barden, 11, Barcombe Av., Streatham Hill, S.W.2. [3167

ENFIELD, 1919, 2-speed, 2-stroke, fully equipped, new rings, tip-top condition, does 120 miles per gallon; £54.—12, The Quadrant, Winchmore Hill, N.21. [2668

1919 (Sept.) 6h.p. Enfield Combination, with horn, Tan-Sad, 2 new tyres (700×80), fully insured; £160.—25, Cross Flatts Av., Dewsbury Rd., Leeds. [2803

ENFIELD 2¾h.p. Twin, 2-speed, clutch, good condition, fast, reliable, accessories; £35.—White, 54, Schofield's Yard, Storths, Moldgreen, Huddersfield [2635

1920 New Enfield Combination, 6h.p., Cowey, Easting, D.A. lighting, 3 lamps; £160; money wanted.—Press, 4, Warwick Crescent, Paddington, W.2. [3622

ENFIELD 6h.p. Combination, 1918, standard colours, Easting screen, any trial; bargain, £135; exceptional engine.—Clark, 7, Exhibition Rd., South Kensington. [3449

ENFIELD 1918 Combination, £130, or near; nearly new, all accessories, enamel unscratched, expert examination and trial.—30, Harold Rd., Upper Norwood, S.E. [3063

£200.—1920 8h.p. Enfield combination, Magdyno, screen, Tan-Sad, punctureproof tube, spares, insurance, perfect condition; bargain.—Rodway, 143, Beulah Hill, S.E. [2556

ROYAL ENFIELD 1913 2¾h.p. Twin, 2 speeds, new tyres, tubes, running fine; £25, or close offer.—Write, C. Stafford, 107, Hallam St., London, W.1., for appointment. [3014

ENFIELD, 8h.p., dynamo model, immediate delivery; catalogue price, deferred payments arranged; closed Sundays.—Bunting, Motors, Wealdstone, Harrow. [3335

ROYAL ENFIELD 6h.p. Combination, just been overhauled by makers and new tyres fitted; £120.—Short, 487, Upper Richmond Rd., East Sheen. 'Phone: Richmond 2362-3. [3576

ENFIELD Combination, 6h.p., June, 1919, electric light, accumulator, Cameo screen, Lucas horn, spare tyre, valves, splendid condition; £148.—Johnson, 72, Handen Rd., Lee, S.E. [3149

ENFIELD.—Delivery from stock. Lightweight, 70 gns.; 6h.p. combination, £175, with Lucas Magdyno, £200.—P. J. Evans, Birmingham agent, 83-91, John Bright St., Birmingham. [0300

MOTOR CYCLES FOR SALE.

Enfield.

1920 Enfield Combination with dynamo lighting, extremely small mileage, perfect mechanical condition, and appearance as new; £185.—Kays, 8, Bond St., Ealing Broadway, W.5. [1502

8h.p. Enfield, 1920 (Aug.), unscratched, brand new condition, Cameo screen, Lucas lamps, new spare chain, tube, grips, Pedleys, etc., guaranteed perfect; £190.—Simpson, Strathcar, Tavistock. [X3970

ENFIELD; 45 gns.; 3½h.p. twin M.A.G., 2-speed, B. and B., Bosch, discs, footboards, lamps, perfect order, recently overhauled (£16); after 6 p.m.—Meadows, 40, Whitworth Rd., South Norwood. [3166

3h.p. 1915 Enfield, 3-speed, lamps, horn, etc., new chains and clutch ring, T.T. bars, spare touring bars, excellent condition; £60.—Doran, Engineer's Office, Albert Dock Extension (South), North Woolwich. [2654

ENFIELD Combination, 6h.p., 1916, in perfect mechanical condition, Lucas lamps and horn, Klaxon, Easting, spare cover, tube, and chain; any trial; £120, lowest.—Fortey, Aston St., Birmingham. [3520

ENFIELD (Dec., 1919), 2-stroke, nearly new, Watford speedometer, horn, electric lighting, special leg and undershields, complete tools, spare tyre and accumulator, suit doctor or business man; £60.—315, Shaftmoor Lane, Hall Green, Birmingham. [3416

ENFIELD.—Several fine combinations in stock, from £120 to £200; also latest 1920 model at makers' list price; or half down and 11 payments.—Lamb's, 387, Euston Rd., London, N.W. 151, High St., Walthamstow; and 50, High Rd., Wood Green, N. [2898

ENFIELD 1916-17 3h.p. Twin, 2-speed, clutch, kick start, all-chain, P. and H. lamp set, horn, mirror, speedometer, etc., just been completely overhauled, enamel and plating as new, guaranteed perfect throughout; £45.—R. Watson, 132, High St., Aldeburgh, Suffolk. (D) [2939

ROYAL ENFIELD Combination, 1920 8h.p., Magdyno outfit, speedometer, electric horn, head and rear lamps, mudshields, full kit of tools and spares, done under 800 miles; cost £220; sacrifice for cash £190; first-class condition.—R. Parsons, 188, Comley Park St., Dennistoun, Glasgow. [2558

Excelsior.

8h.p. Excelsior Combination, electric model, perfect; £125.—H.J., 595, High Rd., Tottenham, London. [2891

1914 British Excelsior Combination, 3½h.p., lamps, new tyres; 49 gns.—61, Coombe Rd., Croydon. [2552

3½h.p. British Excelsior Magneto Motor Cycle, needs attention; £12/10.—Box 715, c/o *The Motor Cycle*. [X4046

EXCELSIOR, 1920, like new, 2-speed, clutch, kick start; £75.—Greenwood, Supper Rooms, Crosshills, Keighley. [X3966

EXCELSIOR, 1920, 2-speed, K.S., clutch, soiled only, suit lady or gentleman, bargain, 60 gns.; Jones speedometer, £4/10.—Smith, 229, Maryvale Rd., Bournville. [X4024

1921 British Excelsiors, all models; delivery from stock in most cases, or special orders in a few days; list prices only.—Gray and Raynes, 8, Low Rd., Balby, Doncaster. [2783

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2¼h.p. F.N., Bosch, good condition, wants saddle, carburetter; £15, offers.—Bridge, 12, Douglas St., Bolton. [2535

F.N., 4-cyl., in excellent condition, complete with all accessories; £30.—Spencer, 134, Lambton Rd., Wimbledon. [X3953

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HARLEY-DAVIDSON, new, sports model, fully equipped; £155.—Clark, 7, Exhibition Rd., South Kensington. [3450

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HARLEY 1919 Combination, new sidecar, Bosch mag.; £125, bargain.—Post Office, Whitehorse Rd. Croydon. 'Phone: 660. [3843

HARLEY-DAVIDSON 1920 4h.p., flat twin, sports model, speedometer, all fittings; £135.—Box 8,417, c/o *The Motor Cycle*. [3002

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1918 Harley-Davidson, renovated, 7-9h.p., 3 months' guarantee given; £105; a large number in stock.—Ross, 86, High Rd., Lee, S.E. [3105

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GENUINE 1919 Harley-Davidson, mag. model, equipped luxurious sidecar; £145, quick sale.—51, Baker St., W 1. Mayfair 4332. [3272

HARLEY-DAVIDSON, 1916-17, 7-9h.p., 3-speed, K.S., clutch, 80 gns.; combinations, 95 gns.—12, Cornwall Mews, Gloucester Rd., S.W.7. [3617

HARLEY-DAVIDSON, 1919, 7-9h.p., optional combination or solo, mag., lamps; £125-£95.—2, Exchange Mansions, Golders Green, N.W.4. [3080

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1920 Harley-Davidson Flat Twin, speedometer, horn, bought month ago, cost £161, only used 134 iles, new and unscratched; for quick sale, £140.—lexander's, 115, Lothian Rd., Edinburgh. [3480

HARLEY-DAVIDSON 7-9h.p., fitted with luxurious coachbuilt sidecar, genuine 1919 model; accept 45, including speedometer, lamps and screen, etc.—len, 10, Freshford St., Earlsfield, S.W.18. [3461

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HARLEY-DAVIDSON, delivered Nov., 1919, sporting sidecar, Mills-Fulford chassis, discs, electric hting and horn, perfect condition; £175.—Write, one, or call, Selby, 5, Heath Drive, N.W.3. [1152

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3h.p. Hazle Jap, 4-stroke, recently new tyres and belt, fast, reliable, footboards; 30 gns.; exchange 2-stroke.—White, Prince of Wales, Stony Stratford. [2666

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6h.p. Jap-Hazlewood Combination, 3-speed countershaft, kick starter and clutch, any trial; £100.—R. , 26, Lower North Av., Barnoldswick, Yorkshire. [2702

1920 6h.p. Hazlewood-Jap Combination, lamp, horn, speedometer, Easting wind screen, the ble outfit in perfect and new condition; £165.—xander's, 115, Lothian Rd., Edinburgh. [3482

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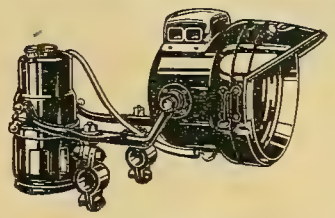

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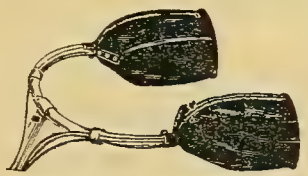

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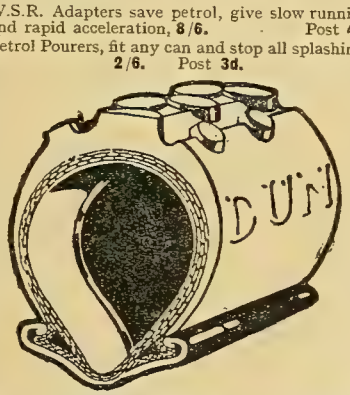

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HUMBER 2¼h.p. 3-speed, excellent condition; bargain.—55, Millbrook Rd., East Brixton, S.W. [3417

HUMBER Lightweight, about 1913, good order; £32; ride away.—Platts, 602, King's Rd., Fulham, S.W.6. [3403a

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£60.—Humber Coachbuilt Combination, 3½h.p., 2-speed, free engine, new tyres and belt, in good condition; any trial here.—Miles, Holme Villas, Sible Hedingham, Essex. [3358

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1914-15 3½h.p. Humber Combination, new Bowser sidecar, S.A. 3-speed and clutch hub, everything on, spare tyre and tube, done 200 miles last week, decarbonised, original enamel, plating good, owner giving up riding; genuine bargain; no dealers; nearest £80.—98, Butler Rd., Harrogate. [3505

HUMBER Combination, 3½h.p., flat twin, 1918, 3-speed, foot clutch, handle starting, Millford sidecar with Cameo wind screen, Tan-Sad pillion seat with foot and back rest, Stewart speedometer, electric horn and bulb horn, handle-bar watch, electric lighting throughout, also acetylene head and tail lamps, sprung luggage carrier, smart turnout, thoroughly sound, 2 new tyres this season; £120, or near offer.—Apply by letter, S. W. Geard, The Bungalow, Rickmansworth, or 'phone City 6083. [3052

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HURLE 3½h.p., C.A.V., Senspray, lamps, etc.; ride away; £30; after 7.—83, Pedro St., Clapton, E.5. [2621

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£63.—Indian 3½h.p., electric lights.—60, Jesus Lane, Cambridge, 4 p.m. Also Rover sidecar; £18. [2758

INDIAN Combination, 1920, condition as new; £185. —241, Goldhawk Rd., Shepherd's Bush, W.12. [3057

INDIAN Scout, just delivered, rear drive speedometer, and horn; £148; Bolton.—Box 8,052, c/o *The Motor Cycle.* [9609

7-9h.p. Indian, clutch model, and C.B. sidecar; £75, or offer; 2½h.p. 2-stroke James, £50, good order. —Carver, Havant. [2715

INDIAN 1919 Red Powerplus Model, as new, mileage negligible, for quick sale; £95.—3, Courtlands Av., Lee, S.E.12. [3018

1917 Indian Powerplus Combination, as new; £130; exchange lower power.—7, Linda St., Battersea, S.W.11. [3373

1920 7-9h.p. Indian Combination, in excellent condition £200; or exchange machine.—35, Bigwood Av., Hove. [3317

INDIAN 7-9h.p. Combination, Swan sporting sidecar; too fast for owner; bargain, £80.—Taylor, 180, High St., Hounslow. [3370

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1915 5-6h.p. Indian, 3-speed, clutch, kick starter, just overhauled, new back tyre; £80, or nearest. —J. H. Ely, Romsey, Hants. [3497

INDIAN 1920 July Combination, dynamo, as new, cost £260; accept £175.—Fleming, 66, Colliers Water Lane, Thornton Heath. [3234

1916 7-9h.p. Spring Frame Indian, 2-speed, K.S., clutch, like new, all on, perfect; £60, must sell.—10, Butler St., Blackpool. [3382

1920 Indian 7-9h.p. Combination, dynamo lighting, Easting, spares; £165.—Dunn's, 326, Euston Rd., London. Museum 5391. [2985

INDIAN, 1914 7-9h.p., road racing model, £52/10; 1920 7-9h.p. Powerplus combination, as new, £165.—Victoria Garage, Surbiton. [3117

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INDIAN Combination, 1916, 5-6h.p., C.B., roomy, excellent condition and running order; trial; £80.—Apply, 9, High St., Barnes, S.W.13. [2569

INDIAN 7-9h.p., 1915, spring-frame, enamel, plating, condition perfect; bargain, £70.—Heynes, 147, Cottenham Rd., Highgate, London. [3053

1916 5-6h.p. Indian, 3-speed, hand and foot clutch, kick start, in splendid condition throughout; £85.—Beal, Durrington, Wilts. [2791

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1920 Powerplus Indian Combination for immediate sale, dynamo electric light, etc., as new.—Apply any time, 200, Ashley Gardens, Victoria, S.W.1. [X4084

1920 Indian Millford Combination, dynamo lighting, electric and mechanical horn, Easting, tools; a bargain, £175.—76, Western Rd., Southall, W. [2799

1920 Indian Scout, T.T. bars, Lucas horn, lamps, etc., fully insured, new condition, mileage under 100; what offers?—Box 8,341, c/o *The Motor Cycle*. [2581

1920 Indian Combination, dynamo lighting, speedometer, Easting, mileage 1,600; £165; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton. [3567

INDIAN 7-9h.p. 1915 Combination, new gears, very reliable; £90; exchange for solo machine, cash adjustment.—14, Eston St., High St., C.-on-M., Manchester. [2519

5-6h.p. Indian, 1916, 3-speed, and Henderson sidecar, full kit and all on; £115, or exchange 1919 Triumph solo; privately owned.—Seen King St., Garage, Watford. [3224

INDIAN Powerplus, 1917, 3-speed, fitted with dinky sidecar, all in good condition; £95.—Short, 487, Upper Richmond Rd., East Sheen. 'Phone: Richmond 2362-3. [3577

7-9h.p. Indian Combination, 1915, electric lighting, speedometer, wind screen, hood, new tyres, excellent condition; £110.—Coles and Shirley, Chepstow 'Phone: 48. [0312

INDIAN Combination, 1916, just overhauled, with new gears, driving chain, one new tyre, insured £140 August; price £120.—Stapleton, St. Margaret's Bay, near Dover. [1444

INDIAN Late 1914 Combination, 7-9h.p., 2-speed, electric head light and hooter, large coachbuilt sidecar, in splendid condition; £95, or offers.—Mehew, Bluntisham, Hunts. [2854

INDIAN Powerplus 7-9h.p., 3-speed, 1916 solo, perfect mechanical order, Cox Atmos carburetter, tools, and accessories; £75.—5, North Av., West Ealing, W.13. (After 6 p.m.) [2691

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2867

INDIAN 1919 Combination, perfect running order and new condition, kick start, new tyres, etc.; £140, offer considered.—Chubb, c/o Martins, Garage, 10, Herbeard St., Russell Sq., W.C. [2610

INDIAN Combination, 7-9h.p., splendid order, complete tools, spares, accessories, new Indian coachbuilt sidecar, Orto wind screen, hood; bargain, £100.—Marsden, 8, Priory Av., Broughton, Manchester. [X3657

1920 Indian Combination 7-9h.p., delivered about July, dynamo lighting, lamps, speedometer, etc., Millford sidecar, good condition and perfect running order; £175.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. 'Phone: Hampstead 7822. [2950

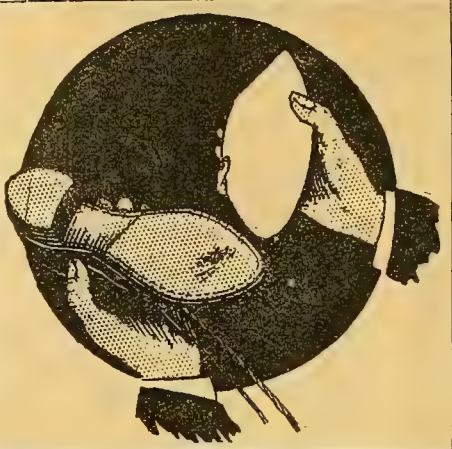
EXCEPTIONAL Offer, Indian combination, 1915-16, 5-6h.p., 3 speeds, hand and foot clutch, semi T.T. bars canoelet semi-sporting sidecar, splendidly equipped, brand new condition; £85, no offers; exchanges considered.—G., 63, Solon Rd., Brixton, S.W.2. [3433

1920 Big Valve 7-9h.p. Indian, with Gloria sidecar, done 1,000 miles, just perfect, winner of both sidecar classes Taunton hill-climb, fully equipped, electric model, a real fine machine; price £205, complete.—Bert Houlding, 43, Balfour Rd., Preston. [X4019

1920 Indian Combination, 7-9h.p., complete, extras, spares, discs, sidecar step, lamp, Easting, inspection lamps, 12v., Klaxon, and accumulators, well kept, ride away, owner bought car; £165, near offer; Norfolk.—Box 8,352, c/o *The Motor Cycle*. [2612

INDIAN 7-9h.p., 2-speed, 1916 combination, perfect condition, stored 3 years, brand new sidecar cost £45, with screen, hood, machine thoroughly overhauled, speedometer, tyres new, Klaxon, new P. and H. set; £80.—113, Cornwall Rd., Brixton Hill, S.W.2. [3628

1919 Indian Powerplus Combination, spring frame, electrically equipped, complete tools, spares, including chains, 2 spare inner tubes, 1 good spare outer cover, engine just overhauled, fast machine; owner going abroad, must sell; £155, or near offer; seen Saturday or Sunday, or write.—Simpson, 30, Lansdowne Rd., Tunbridge Wells. [2688



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INDIAN Powerplus, May, 1920, combination, ele trically equipped, mileage 2,000, unpunctured, pe fect in every detail, luxurious outfit, cost £228/1 owner received delivery of car; sacrifice £177/10 immediate cash.—Bertram Edmonds, 97, Ridgmo Gardens, W.C.1. [27

INDIAN.—Immediate delivery from stock, 7-9h. Powerplus model, with dynamo lighting, electr horn, and speedometer, £181/14; combinatio £223/14; also 4h.p. Scout model, 3-speed, £140; loc trade supplied.—Sole Birmingham agent, P. J. Evan 83-91, John Bright St., Birmingham. [01

1920 (May) Indian Combination, with Millford bu bous sidecar, late model, large valves, greaser Renold chains, disc wheels, mileage 1,000, dynam lighting with ammeter, speedometer, full insuranc tyres unpunctured, owner purchased 2-seater; £20 or offer.—H., Cliftonville, Woodehouse Rd., Nor Finchley, N.12. [32

1920 Beautiful Red Indian Coachbuilt Combinatio dynamo lighting, 7-9h.p., twin, Powerplus, speeds, hood, screen, speedometer, disc wheels, greate bargain ever known in the motor trade; gitt, 155 gns exchanges arranged.—Wandsworth 'Motor Exchang Ebner Street, Wandsworth (Town Station). 'Phon Battersea 327. [36

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NEW INVICTA-J.A.P. 2¾h.p., 2-speed clutch ar kick starter, a thoroughly well built and reliab machine, £89/5; also 3½h.p., Abingdon King Di engine, 3-speed clutch and kick starter, fitted wit smart low built sidecar, £143; easy payments 4 extra; only one-fifth deposit, balance by 12 month instalments.—Harrods, Ltd., 118, Brompton Rd London. [31

Ivy.

IVY Cycles.—Write, Rothwell and Milbourne, Co leigh Garage, Malvern. [17

IVY 2-stroke, complete and perfect; £48 cash easy payments.—Fills, 103, Camden Mews, N.W. North 2275. [27

IVY, the aristocrat of its type, delivery of all mode from stock; prices and catalogues post free. District Agents, Walsall Garage, Walsall. Tel.: 444. [90

IVY, 1919, 2-speed, 2-stroke, T.T. model, T.T. bar disc wheels, lamps, horn, original Dunlop tyre excellent condition; £65; insured for £70.—R. Varty, Thundersley, Essex. [34

1920 Ivy 2¾h.p., equal to new, first-class runnin order, small mileage, owner having purchase ombination, complete lamps, horn, etc.; £65.—Carte 135, Mount View Rd., Stroud Green. [26

IMMEDIATE Delivery of all Ivy models, the acknow ledged finest lightweight.—Full particulars, H. C Henly and Co., London and District Agents, 91, G Portland St., W.1. Mayfair 4084. [00

James.

1920 James 5-6h.p., and Canoelet sidecar; £135. Dunn's, 326, Euston Rd., London. Museu 5391. [29

1917 Twin James Combination, lamps, speedomete practically new; £85.—Tippett, Arlington Rd Surbiton. [31

1920 5-6h.p. James Combination, only ridden fro works; sacrifice, £160, or nearest.—Box 8,41 c/o *The Motor Cycle*. [30

1919 4¼h.p. 3-speed James and accessories, in e cellent condition; £100.—Apply, Ashton, North gate, Bury St. Edmunds. [26

JAMES Brand New Combinations, for immedia delivery from stock.—Sole district agents, T Walsall Garage, Walsall. Tel.: 444. [90

1919 5-6h.p. James Combination, fully equippe Easting wind screen; best offer over £140.—8 School Lane, Didsbury, Manchester. [29

1920 James Solo, complete, lamps, horn, speed meter, only done about 500 miles; £123. Wright's Garage, Saffron Walden. Tel.: 16. [35

1920 (April) 5-6h.p. James Combination, lamp horn, done 500 only, carefully run in, own ordered abroad; £180, or nearest.—Richard, Elmo Lee-on-Solent, Hants. [27

JAMES New 6h.p. Luxe Combination, handle-b clutch, chain drive, latest model, guaranteed pe fect, not driven 160 miles; bought car; £170.— Millbrook, Salisbury. [33

LATE 1920 3½h.p. Twin James, complete wi lamps, horn, etc., only done 500 miles, absolute as new; cost £145, will accept £115, or near offer. Brown, 51, Broad St., Ross, Herefordshire. [25

JAMES 4¼h.p. 3-speed Clutch Combination, coac built, double sprung, top-hole condition. 191 original colours; £80, genuine bargain.—Mason, Glenthorn Rd., Jesmond, Newcastle-on-Tyne. [27

JAMES 1916 4¼h.p. Combination, 3-speed, Enstin Stewart speedometer and horn, Millar head lam completely overhauled, re-enamelled, tools, spares; £10 —Lacon, 19, Merridale Lane, Wolverhampton. [33

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O.C.H. have a 1919 4½h.p. James combination, new condition, large electric set.—5, Heath St., ıpstead (near Hampstead Tube Station). 'Phone: ıpstead 3752. Hours 9-7, including Saturdays. [2869

\MES 1920 5-6h.p. De Luxe Combination, complete with lamps, horn, speedometer, legshields, ıage grid, as new, mileage under 200, guaranteed ect; £195; exchange for cash and 4-seater car.—D. Varty, Thundersley, Essex. [3492

J.A.P.

\.P. Pattern Engine, sidecar, 2 speeds, new tyres, good running order; quick sale (going abroad), £70 ıply, 104, Camberwell New Rd., Camberwell, S.E.5. [2831

\.P. 8h.p. 3-speed Combination (Canoelet), accessories, overhauled, good condition; £85.—Garaged llenborough Motor Works, Ellenborough Rd., Wood n, N.22. [2549

LYMPIC, 6h.p. J.A.P., brand new, with Canoelet sidecar and coverall apron; great bargain, £136; l with Enfield 2-speed gear.—Fleming's Garage, ılecote, Stourbridge. [2531

\.P. 8.10h.p. Overhead Valve Sporting Combination, disc wheels, Bramble underslung C.B. sidecar, all ıelled red, very smart and fast; £80.—158, Norwood West Norwood, S.E.26. [2652

BORE 8-10h.p. o.h.v. J.A.P., sporting sidecar, 3-speed, clutch, kick starter, practically unique, sporting, speedometer, horn; any trial; accept any ıaable offer; must sell this week.—Bellhouse, Hurst, rley Edge. [2815

Kingsbury.

INGSBURY Lightweight, 1920, very smart machine, equal to new; 60 gns., deferred pay-ts, or exchange; closed Sundays.—Bunting, Motors, ldstone, Harrow. [3334

L. and C.

and C. 5h.p., Mabon clutch, mag.; sacrifice. £22. —57, Kenbury St., Camberwell, London. [3144

Lea-Francis.

A-FRANCIS, M.A.G. engine, new; £130.—Clark, 7, Exhibition Rd., South Kensington. [3451

A-FRANCIS Combination, 1916, twin J.A.P., little used, complete; £110.—22, Lynthorpe Rd., Black-[2539

20 Lea-Francis, new, slightly shop soiled, discount allowed.—Rhosha Motor Co., Bank Mews, Rom-[3547

A-FRANCIS, M.A.G. engine; immediate delivery; £130.—Maudes' Motor Mart, 100, Paris St., er. [3537

20 3½h.p. Lea-Francis, unscratched; £112; lamps and horn.—Capt. Whitworth, Lancing College, x. [2600

A-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic ts.—A. J. Sproston, Ltd., 198, Gt. Portland St., [0099

A-FRANCIS 1917 3½h.p., 2 speeds and clutch, recently overhauled and renovated, fitted with new 1920 3½h.p. J.A.P. engine; £90.—Parker's, haw gate, Bolton. [X405

20 Lea-Francis 5-6h.p., lamps, horn, speedometer, ridden under 500 miles, appearance as new and erfect running order; £115.—Colonial Motor Co,, Finchley Rd., N.W.3. 'Phone: Hampstead 7822. [2953

W Lea-Francis, 2-speed, clutch and kick starter M.A.G. engine; at list price, £130, or on easy ents 4% extra; only one-fifth deposit, balance by onthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [3155

NDARD 1919 Lea-Francis, 4h.p. twin J.A.P., enclosed chains, detachable wheels, electric light-leg shields, Watford trip, horn, tools, perfect order, winter machine; best over £95; going abroad.—ams, Ipsden, Wallingford. [X4016

A-FRANCIS, 1920, delivery from stock, 3½h.p. twin M.A.G. engine, 2-speed, enclosed chain drive, and foot clutch, kick starter; £130; extended s 4% extra.—City agents, Elce and Co., 15-16, ppsgate Av., Camomile St., E.C.3. 'Phone: ue 5548. [0068

Levis.

VIS, 1916, good condition, accessories; £30.—Law-ton, 28, Warwick Rd., Earl's Court. [3137

VIS Popular Model, lamps, horn, good condition; £34.—52, Clovelly Rd., Southhampton. [3205

VIS 2¾h.p., 2-speed, fast and powerful; £40.—Spencer, St. Botolph's Corner, Sevenoaks. [2814

VIS Popular Model, new, at list price.—District agents, Turnill and North, Peterborough. [2825

VIS, new 1920 model: delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0302

20 Levis Popular, done 100 miles, lamps and horn; £60.—Vincent, 82, Westlode St., Spalding. [3170

VIS 1919½ 2¼h.p., 2-speed, all accessories, good as new.—Herbert, 30, Waldron Rd., Earlsfield. [2646

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LEVIS, 1919, single speed model, lamps, and horn, £50; with 2-speed, £55.—R. D. Varty, Thundersley, Essex. [3488

LEVIS, the finest 2-stroke in the world, delivery from stock; £60.—District agents, The Walsall Garage, Walsall. Tel.: 444. [9001

LEVIS, 1920, 2-speed or single; at list price from stock; easy payments taken.—Sole Agents, Hove Engineering Works, Davigdor Rd., Hove. [2665

1919 Levis, condition equal new, with or without discs; sacrifice, 35 gns.; owner bought new combination.—15, Summerhill Rd., Dartford. [3037

1920 Levis Motor Cycle, fitted with Lucas A lamps and horn, has not been ridden 50 miles; price £50.—Apply, Langford, Snowflake Laundry, Caversham. [2768

L.M.C.

1920 Model 6h.p. Overseas L.M.C. (Colonial model) and Bax sidecar, twin, 3-speed Sturmey-Archer, Druid, Dunlops (2 new), lamps, speedometer, wind screen, Tan-Sad, A.A. and insurance transferred, first-class running order; £160.—Reeves, Strode Stores, Clevedon, Som. [2794

Martin.

1914 4h.p. o.h.v. Martin-Jap, specially tuned for speed, long plated exhaust, Klaxon, speedometer, lamps, old timing and spares, perfect condition, fast machine, winner of hill-climbs this year, worth £75; offers?—Holland, Handscombe, Stoneygate, Leicester. [3177

Martinsyde.

MARTINSYDE-NEWMAN 6h.p. Combination, brand new; immediate delivery from stock; £170.—Midland Garage, Colwyn Bay. [X1712

6h.p. Martinsyde, the super combination; immediate deliveries, Norfolk agents.—Norwich Motor Co., Ltd., Norwich. [2786

MARTINSYDE-NEWMAN Combination, delivery from stock; £170.—Maudes' Motor Mart, 100, Paris St., Exeter. [3538

MARTINSYDE Combination, brand new, 6h.p. twin, 3-speed; list price £170.—Fleming's Garage, Amblecote, Stourbridge. [2532

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Martinsyde combination, £170, or with Lucas dynamo lighting £30 extra, free delivery, splendid value. [X3959

MARTINSYDE 6h.p. Combination, as new, only done 1,700, fully equipped, only wants seeing; £165; after 7 p.m.—S. Roberts, 38, Carleton Rd., Tufnell Park, N.7. [2746

1920 6h.p. Martinsyde-Newman Combination, practically new, hood, lamps, Dunlop Magnum oversize tyres, owner going abroad; £180.—Tucker, Henfield, Claremont Av., Woking. [1512

1920 Martinsyde and Sidecar, large Lucas head, side and tail, 2 large generators, horn (value over £10), used only 10 weeks, perfect condition; £160, for quick sale; deposit.—May, c/o Sharp and Co., West St., Bromley. [3198

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford, also Cornwall and Devonshire, for Martinsyde-Newman combination, £170; deliveries now being effected; sub-agents appointed.—Maudes' Motor Mart, 100, Gt. Portland St., W.1, and Paris St., Exeter. [6618

Matchless.

MATCHLESS Combination, C.B.; £75.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [3283

1920 Brand New Matchless Combination, Magdyno; £232; exchanges.—Eveson, Dingle, Stourbridge. [3507

MATCHLESS 1920, Lucas Magdyno, special 2-seater sidecar; £225.—11, Richmond Park Rd., East Sheen. [2695

1920 Matchless Combination, Model H., in stock; list price.—Brewster, Sparhawk St., Bury St. Edmund's. [3268

1920 Matchless, magdyno, not done 50 miles, absolute gift; £195.—Edwards, 50, Harrington Rd., South Kensington. [3251

MATCHLESS Combination, Lucas Magdyno; £230; delivery from stock.—Maudes' Motor Mart, 100, Paris St., Exeter. [3535

MATCHLESS Victory Model Combination, 8h.p., spare wheel; accept £115 cash.—406, Garratt Lane, Earlsfield, S.W.18. [3463

MATCHLESS 1915 Combination, M.A.G. engine, screen, grid, etc.; £105. — Broomfield, 322, Whitehorse Rd., Croydon. [3844

MATCHLESS Combination, 1915, M.A.G., good condition; £110; owner bought car.—Baldwin, 12, Ailsa Rd., East Twickenham. [3638

1920 Model H Matchless Combination, new, unregistered, dynamo lighting; best offer.—29, St. Leonards St., Bromley-by-Bow. [3084

1920 Matchless, 7-9h.p., dynamo model, hood, screen, speedometer, mileage 100; £225.—Dunn's, 326, Euston Rd., London. Museum 5391. [2989

MATCHLESS-J.A.P. 8h.p., C.B. sidecar, 2 speeds, K.S., Binks, Bosch; any trial; after 6; 83 gns. —6, Coverton Rd., Tooting, S.W.17. [3383

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Matchless

1920 Matchless Combination, fully fitted, except hood, perfect order, any trial, S.W.16, going abroad; £190.—Box 8,342, c/o *The Motor Cycle.* [2582

1920 8h.p. Matchless Combination, complete with Magdyno, hood, screen, and many other spares. —Emons, 175, Fillebrook Rd., Leytonstone, E. [3313

MATCHLESS Model H, Lucas Magdyno, hood, screen, in excellent condition; £195 for quick sale.—Powell, 114, St. James' Rd., Northampton. [2633

MATCHLESS 8h.p., Model H, Lucas lighting, Binks, speedometer, hood, screen, spare wheel, etc.; £205; trial Saturdays.—Baldock, Gt. Missenden, Bucks. [3004

MATCHLESS, Model H, electric ignition, fast, excellent hill-climber, very small mileage; 190 gns.—51, Vernham Rd., Plumstead, London. [2801

1920 Model H Matchless, fully equipped, many spares, perfect condition; cost £230, take £190; bought car.—Bannister, Midhurst, Sussex. [2792

1920 Matchless Combination, as delivered, unregistered, must sell, owner buying car; £205, or near offer.—Wright, 78, High St., Saffron Walden. [3521

MATCHLESS, just delivered, latest model H. combination, spare wheel, etc., Magdyno lighting, Lucas fittings; list price.—Read, 323, High St., Brentford, W. [2538

1920 Matchless Combinations, standard or electrically equipped; in stock for immediate delivery.—Alexander's, 115, Lothian Rd., Edinburgh; trade supplied. [2593

MATCHLESS Combination (8h.p. Jap), chain drive, kick start, clutch, splendid condition; 100 gns.; take lower power part.—57, Kenbury St., Camberwell, London. [3140

MATCHLESS-J.A.P. 8h.p. Combination, 2-speeds, kick starter, hood, screen lamp, horn, perfect running order; £85.—E. Bussant, Queen's Parade, Faversham. [9583

1920 Matchless Combination, electric lighting, C.A.V. trip speedometer, horn, Easting, back rest, tools, nice condition; £190.—353, King St., Hammersmith, W.6. [2917

1920 Model H Matchless Combination, magdyno lighting, under 1,000 miles; £200; seen by appointment at this address.—Jackson, 29, Vauxhall Bridge Rd., S.W. [3033

1915 8h.p. Matchless Combination, Lucas head lamp and generator, tail and sidecar lamps, Lucas horn, good condition; £120.—Apply, Box 8,409, c/o *The Motor Cycle.* [2969

1920 Matchless Combination, complete outfit, new condition, few extras; any trial; cost £220; must sell; £180; only requires seeing; bargain.—38, Blenheim Av., Barnsley. [2934

1920 Matchless, Model H, M.A.G. engien, Magdyno, horn, hood, rear drive speedometer, as new; £225; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton. [3566

6h.p. Matchless-Jap Combination, twin belt, V.S. gear, just overhauled by Colliers, fast, thorough running order, speedometer; £80, or offer.—5, June Cottages, Belle Vue, Shrewsbury. [X4021

1920 Matchless Combination, M.A.G., Lucas Magdyno, fitted speedometer, hood, screen, leg shields, horn, sidecar step, not done 200 miles; £230. —Cathcart House, Mablethorpe. [3188

MATCHLESS, delivery from stock of new spring frame model, equipped to your requirements; replacements for Matchless models of all dates.—Tassell, 1a, Bloomfield Rd., Plumstead. [1958

MATCHLESS 1911 7-9h.p., a.i.o.v., good puller, V.S. 2-speed, kick start, wicker sidecar body, accumulator, lamps, just dismantled; offers, parts or whole.—Serve, 52, Waterloo Av., Leiston, Suffolk. [2536

1916 Matchless Combination, 7-9h.p. M.A.G. engine, all-chain, lamps, Watford, disc wheels, hood, screen, carrier, Tan-Sad; £135; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton. [3568

MATCHLESS 8h.p. Combination, 1914, splendid condition, recently re-enamelled, 2 speeds, Easting screen, Lucas lamps, horn, Cowey speedometer; £110/10. —Morgan, Dunkeld, Victoria Rd., Buckhurst Hill. [2555

MATCHLESS H in Stock, £215; also Matchless, dynamo, £230; or half down and 11 payments.—Lamb's, 387, Euston Rd., London, N.W. 151, High St., Walthamstow; and 50, High Rd., Wood Green, N. [2895

1920 Matchless Model H, speedometer, Lucas set and horn, pillion seat, leg shields, insurance, tyres perfect; £200, no reasonable offer refused; appointment.—32, Morrab Gardens, Water Lane, Seven Kings, Essex. [1948

£180, or near offer; Matchless combination, Model H, June, 1920, Lucas lamps, horn, screen, spare wheel, tools, etc., has done about 600 miles, condition perfect; seen by appointment.—C.H., 15, King Edward Rd., Barking, Essex. [2723

1920 Matchless 8h.p., spare wheel, combination, M.A.G. engine, with hood, screen, sidecar step, Watford rear-driven speedometer, Lucas horn and accumulator lighting set, delivered August, 1920, low mileage, as new; £210.- Farr, Contractor, Chichester. [3441

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Matchless.

1920 Matchless B., brand new, just delivered; t late, bought car; special M.A.G. engine, dynam lighting set, hood, screen, horn, speedometer, speci flap and step on sidecar; what offers on list?—Bedfor 13, High Rd., Lee, S.E. [16

MATCHLESS 7-9h.p. M.A.G. Combination, 3-spee chain drive, Binks, speedometer, electric lightin hood, screen, mechanical horn, luggage carrier, petr carrier, splendid condition; £120.—107, High St., N East Ham. [26

1919 Victory Model Matchless 8h.p. Combinatio with spare wheel, Lucas horn, accumulat lighting set, in excellent condition, paint and tyr as new; £150, a bargain, no offers.—Farr, Contracto Chichester. [34

MATCHLESS Latest Model H Spring Frame Co bination, complete with Lucas magdyno, spa wheel and tyre, luggage grid, only done few hundr miles, equal to new; £200.—Parker's, Bradshawgat Bolton. [X40

MATCHLESS 8h.p., fitted with roomy coachbu sidecar, all accessories, including speedometer an screen, 2 speeds, kick starter, excellent conditio throughout; £75.—Witt, 138, Merton Rd., Wandsworth S.W.18. [34

MATCHLESS 1920 Model H., spring frame, 8h. J.A.P. engine, Lucas Magdyno electric lightin spare wheel, Easting hood, screen, leg shields, sidec step, luxurious outfit; £220.—Mills, Chemist, Pl Bridge, Wigan. [X39

MATCHLESS, the very latest 1920 combination, ve little used, quite equal to new, any trial, M.A. engine, speedometer, 2-lever Amac, Magdyno lightin Lucas horn; will take £30 less than list price.—A.G.M 468, Harrow Rd., W.9. [34

MATCHLESS Model H Combination, 1920 (July hood, wind screen, grid, spare wheel, speed meter, Lucas lighting, spare chain, inner, full equi ment, cost £232; selling through illness; £210 Clappen, St. Helens, Byfleet, Surrey. [32

MATCHLESS Latest Model H Combination, dynam lighting, hood, screen, spare wheel, etc., imm diate delivery; also shop-soiled and second-ha models.—Clapham (Motors), 27, Stockwell St., Gree wich, S.E.10, or 'phone Greenwich 751. [33

1920 Matchless Model H, magdyno, £175; a M.A.G. engine model, £210; Victory Model, £15 also 1914 mag. model, dynamo lighting, very fast l £145.—Ross, 86, High Rd., Lee, S.E., who is now boo ing orders for 1921 models; one on view at abo address. [31

MATCHLESS 8h.p., massive coachbuilt 2-seat bulbous back sidecar, speedometer, 4 lamps, lo exhaust, Xl'all pan seat, tyres brand new, numero spares, enamel and condition as new, smart turno full insurance policy; £115; after 7.—P.O.R., 63, Croo ham Rd., Fulham. [33

Metro.

1920 Metro-Tyler, Model S, immediate delivery new reduced price; £80.—Alexander's 115, Loth Rd., Edinburgh. [2

METRO-TYLER, 1919, 2-speed, 2½h.p., clutch, e as new; nearest £48.—6, Archel Rd., Fulha [33

METRO-TYLER 2¾h.p., 1918 model, 2-speed, g tyres, overhauled, and all accessories; £50.— Frobisher Rd., Hornsey. [25

1919 (Dec.) 2½h.p. Metro-Tyler, 2-speed, perf condition, ridden 200 miles, Klaxon, lam Veeder; £60.—137, Tredegar Rd., Bow. [33

METRO-TYLER, 1916, 2-speed, disc wheels, n tyres, goes like a bird; £55.—Hewin's Garag Ltd., the real service firm, Taunton. [28

METRO-TYLER, 1920 (March), 2 speeds, discs, l exhaust, leg shields, footboards, etc., perfe 60 gns.—6, Hardy St., Patricroft, Manchester. [3

METRO-TYLER, 1919, 2-speed, engine beari phosphor-bronze, long exhaust, lamps, ho and insurance; £50.—Sadler, Ottery St. Mary. [3

METRO-TYLER, type S, latest model, brand n 2¾h.p., 2-speed, with enclosed mag. and gear b £80; delivery from stock. Local trade supplied.—S Birmingham agent, P. J. Evans, 83-91, John Bri St., Birmingham. [0

Minerva.

5-6h.p. Minerva, clutch, Bosch, wants timing; £ or sell parts.—434, Fulham Rd., S.W. [2

MINERVA 3½h.p., strong frame, running ord £24, or offer.—Garden, 65, Woodlands Rd., Ilf [3

3½h.p. Minerva, m.o.v., B.B., low, less front m guard and mag., otherwise ride away; £10/ —Lusk, 1, Lonsdale St., Carlisle. [2

MINERVA 2½h.p., 2-speed countershaft, Bosch, H 2 jets, good tyres, footboards, low built, lam all accessories, ride away; £24, or offer.—54, Lint Grove, Fulham. [3

Motosacoche.

£12; lightweight Motosacoche, Bosch mag., g going order, genuine bargain.—Abraham, C wall Rd., Felixstowe. [2

MOTOR CYCLES FOR SALE.

New Hudson.

NEW HUDSON 2¼h.p. 2-stroke, 2-speed, 1920, perfect; £65.—326, Fishponds Rd., Bristol. [3344

h.p. 1920 New Hudson Combination, lamps, horn, tools, all complete; £150.—78, Locksby St., Burt Rd., Poplar, E.14. [2828

NEW HUDSON, 1920, 2-stroke, only done 300 miles, good condition; £60.—New Hudson Depot, Gray's Inn Rd., London. [2428

1920 New Hudson 2-speed 2-stroke, unridden; £70.—Colonial Motor Co., 104a, Finchley Rd., N.3. 'Phone: Hampstead 7822. [2951

NEW HUDSON 6h.p. and sidecar, 1914 model, recently overhauled by New Hudson Co., all accessories; £95.—Saunders, Cycle Agent, High St., Chatham. [2694

NEW HUDSON 1914 4h.p., 3-speed, K.S., clutch, stored 3 years; details, post; £60; exchange 2¾ and cash.—31, Nelson Rd., Landport, Portsmouth. [2623

NOV. 1919) 4¼h.p. New Hudson Coachbuilt Combination, in practically new condition, 3-speed countershaft gear, extra heavy 650×65 Dunlop tyres; £200, or near offer.—Burnham, King St., Rye. [3206

NEW HUDSON Lightweights, 1920, 2¼h.p., 2-speed £75, or fully equipped with head lamp and generator, tail lamp, and tubing, horn, L.C.C. registration, petrol, and oil, £79/15.—Coppen, Allan and Co., 89, Portland St., London, W.1. 'Phone: Mayfair 1919. [0280

New Imperial.

1916 Imperial, 2¾h.p., 2-speed; £50.—Ross, 86, High Rd., Lee, S.E. [3106

1920 New Imperial, 2½h.p., light tourist, brand new, slightly shop-soiled only; £75.—Rose's Garage, Trowbridge. [3486

NEW IMPERIAL, 1916, 2¾h.p. J.A.P., 2-speed, lamps, and horn; bargain, £43.—R. D. Varty, Thundersley, Essex. [3489

1920 New Imperial Combination, Elite sidecar, condition as new; £170.—Wright's Garage, Saffron Walden. Tel.: 16. [3528

1920 8h.p. New Imperial, new June, with A.J.S. sidecar, wind screen, 2 lamps, horn; £152/10.—J. Bladder, 52, Sidbury, Worcester. [3169

1919 New Imperial, 2¾h.p., 2-speed, clutch, kick-starter, lamps, horn, etc., mileage 300; £55.—Evans's 326, Euston Rd., London. Museum 5391. [2987

1919 New Imperial-Jap 8h.p. Combination, trade side van (3-cwt. load), excellent condition, spare tubes, electric lighting, mechanical horn; bargain, £125.—Mortes, West End Library, Bath. [2948

1920 6h.p. New Imperial, Henderson sidecar, lamps, Klaxon, speedometer, luggage carrier, full equipment of tools, 2 spare inner tubes; £155.—Gardener, Vanbrugh Park Rd. West, Blackheath. [3408

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £80/17; with clutch and kick starter, £89/5.—J. Evans, 83-91, John Bright St., Birmingham. [0262

h.p. New Imperial Combination, W.D., 1919, run 1,000 miles, well sprung sidecar, coachbuilt, hood, Eureo, wind screen, good running condition, dark green; £80.—White Pearson, 14, Hammelton Rd., Bromley, Kent. [3207

1920 6h.p. New Imperial, with Sunbeam sidecar, complete with lamps, horn, speedometer, knee grips, pillion seat, Easting screen, perfect condition, £185; no reasonable offer refused.—Tooth, 1, Dunmouth Rd., Dorchester. [3256

DISABLED Officer finds can't ride 8h.p. New Imperial combination, wishes to sell, late 1918, done 1,000 miles, 3 new oversize Dunlops, head and tail lamps complete, and tools; will accept £140.—Lt. H. Rhodes, 3, Percival Terrace, Brighton. [3518

NEW IMPERIAL-J.A.P. Combination, 8h.p., 1919 model, delivered in April, 1920, fully equipped and in new condition, about £20 worth of accessories; accept £115 for quick sale, no offers.—157, Burntwood Lane, Wandsworth Common, S.W.17. [3464

New Ryder.

NEW RYDER, J.A.P. 2¾h.p., 2 speeds; £45.—A. Edney, 180, Colliers Wood, Merton. [1641

New Scale.

1¼h.p. New Scale, the solo and sidecar machine; £90, delivery from stock.—Agents, Gray and Raynes, 8, Low Rd., Balby, Doncaster. [2785

1920 New Scale Precision, with light sidecar, new Aug. 7th, lamps, spare belt, etc.; £100.—Sketch, 33, Athelstan Rd., Colchester. [3075

Norton.

NEW I.O.M. Norton, 3½h.p., 3-speed; list price, £132.—146, Edleston Rd., Crewe. [3190

NORTON.—North Yorkshire agents: R. H. L. Pickering and Co., 239, Linthorpe Rd., Middlesbrough. [2997

£2 under list price, T.T. Norton, delivered last week.—Goodman, Ellesmere House, Northampton. [3192

NORTON, July, 1920, T.T., Philipson, accessories, specially tuned, prizes won; £110.—Hebron Lodge, Wigston, Leicester. [3398

GENUINE
DOUGLAS
SPARE PARTS
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Large quantities of 2¾ h.p. and 4 h.p. parts in stock, at makers' prices. Some at special prices as follows:—

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Norton

BIG, 4 Norton Combination, guaranteed perfect, any trial, accessories, as new; £120.—88, Brook Green, Hammersmith. [2940

NORTON 3½h.p. Sports Model, 3-speed, kick start, all-chain, ridden 100 miles only; £128.—Turnill and North, Peterborough. [2823

1919 Countershaft T.T. Norton, chain drive, fully equipped; £125. See displayed advertisement.—Ratcliffe Bros., 200, Gt. Portland St., W. [3587

1920 T.T. 3½h.p. Norton, Phillipson pulley, Klaxon, knee pads, special racing model, mileage 50, as new, unscratched; £115.—Dunn's, 326, Euston Rd., London. Museum 5391. [2991

N.S.U

N.S.U. 2¾h.p., single speed, splendid condition, lamps, etc.; £19/10.—165, High St., Hounslow. [2682

N.S.U. Combination, 4h.p., 2-speed; £70, or nearest; trial by appointment.—Low, 25, Montrave Rd., Penge, S.E. [2893

2½h.p. N.S.U., 2-speed, tyres and enamel good, running order; £22.—Denis Charlesworth, Frodsham Bridge, Cheshire. [2520

N.U.T.

BOLTON.—Latest N.U.T. in stock, Grosvenor sporting sidecar to match.—Grosvenor Garage, Bolton. [X3479

N.U.T., 3½h.p. twin, magdyno lighting; £165; no waiting.—Alexander's, 272, Gt. Western Rd., Glasgow. [2594

N.U.T. 3½h.p. Twin, magdyno lighting, delivery from stock; £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [3531

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—N.U.T., £165, with dynamo lighting, from stock, free delivery. [X3961

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [0025

N.U.T.—Delivery from stock of these models, equipped with magdyno lighting, price £165; sole wholesale and retail agents for Staffordshire, the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [9002

N.U.T., 1920.—Delivery from stock of this famous mount, fitted with Lucas Magdyno lighting set; £165; extended terms 4% extra.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

O.K

O.K., 2¼h.p. J.A.P., late 1919; £55.—3, Fanthorpe St., Putney. [2608

O.K. Junior-Jap 2¾h.p., 2-speed, 1919, horn, lamps; £45.—326, Fishponds Rd., Bristol. [3343

1920 O.K.-Union, as new, lamps, horn, tools; £50.—Dewhirst, Arnside, Gt. Baddow, Chelmsford. [3126

O.K. Junior, ridden 200 miles, good lamps, horn, accessories, etc., better than new; 45 gns.—31, Tisbury Rd., Hove. [2518

O.K.-VILLIERS, 1920 model, not been used; £48, or exchange higher power.—103a, High St., Wandsworth, S.W.18. [3309

O.K. Junior, 48 gns.; £26 down and 11 payments.—Lamb's, 387, Euston Rd., London, N.W. 151, High St., Walthamstow; and 50, High Rd., Wood Green, N. [2899

Omega.

OMEGA 2¾h.p., 2-speed, perfect condition; £50.—29, Davenport Rd., Catford. [3413

2¾h.p. Omega-Jap, the sporting single; immediate deliveries.—Norwich Motor Co., Ltd., Norwich. [2787

OMEGA-J.A.P.'s in Stock.—Models B, 2-speed, £72; C, 2-speed, hand clutch, kick start, £80; carriage paid.—Washburn, Cheadle, Staffs. [1565

OMEGA-J.A.P.'s, 2¾h.p., 2-speed, the best and smartest lightweight; from stock, list price.—Agents, Gray and Raynes, 8, Low Rd., Balby, Doncaster. [2784

Overstone.

OVERSTONE, nearly new, 2-speed; £52.—Outram, Rectory Rd., Southport. [X3808

1919 2¾h.p. Overstone-Jap, 2-speed, condition as new; £45; genuine bargain.—Willetts, Rookery, Lanesfield, Wolverhampton. [3363

OVERSTONE-VILLIERS, late 1919, 2¼h.p., 2-stroke, Albion 2-speed, lamps, horn; 47 gns.—Coleman, 1, Highbury Villas, Cotham, Bristol. (D) [2924

P. and M.

1920 P. and M., not ridden, new from works; list price.—Brown, 16, Branch Rd., Batley. [X4041

BRIGHTON, Hove and District P. and M. agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0204

P. and M., 1918, lamps, horn, excellent condition; bargain, £70.—85, Ermine Rd., Lewisham, S.E. [3072

P. and M. 1920 Model, delivery from stock; £115.—Maudes' Motor Mart, 100, Paris St., Exeter. [3532

P. and M., in good condition, just overhauled; £70.—F. J. Meager, 58, Shepherd's Bush Rd., Hammersmith. [2551

MOTOR CYCLES FOR SALE.

P. and M.

P. and M. Combination, 2-speed, in good order, reliable, lamps and spares; £75.—Pearce, 13, High St., Bishops Castle. [X3958

P. and M. 1918 Combination, wind screen, apron, lamps, horn, tools, perfect condition; £85.—Victoria Garage, Surbiton. [311

P. and M. R.A.F. Model, 2-speed, K.S., good running order; £55, or offer.—Thomson, High Wickham, Hurstpierpoint, Sussex. [2570

1919 P. and M. with 1920 Canoelet Sidecar, all foot controls on right side, engine and paint excellent; £100.—Phil Farm, Wokingham, Berks. [2712

P. and M. Combination, late R.A.F. model, top-hole condition, lamps, etc.; £70, or exchange higher power.—103a, High St., Wandsworth, S.W.18. [3306

1919 P. and M. 3½h.p., new November last, condition as new, complete with horn, tools, etc.; £78.—Coles, 66, Chase Court Gardens, Enfield. [X3876

3½h.p. P. and M., perfect condition, 2-speed, disc wheels, complete with lamps, etc.; £47/10.—Livesey, Hazelmere, Beechwood Av., Weybridge. [2559

1918 P. and M., 3½h.p., 2-speed, kick start, P. and H. lamps, Klaxon, etc.; 65 gns.—Seen, 3, Cluny Mews, Warwick Rd., Earl's Court, S.W.5. [3174

LATE W.D. Model P. and M., recently overhauled and repainted by makers, Klaxon, tools, pump, etc., perfect machine; £65.—Kemp, 68, Belsize Park. [3644

P. and M. 1912 Combination, 2-speed, complete with lamps, etc., stored the whole of war, splendid condition; £68.—Skeggs, Garage, 126, High St., Stevenage, Herts. [2523

OCT., 1919, P. and M., and Canoelet sporting sidecar, 4 lamps, very smart turnout, and in perfect condition; must sell; £100.—Woolsur, Grocer, Roehampton. [3457

F.O.C.H. have a 1919 P. and M. combination, excellent order, fully equipped.—5, Heath St., Hampstead (near Hampstead Tube Station. 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2870

P. and M., overhauled 1917 and 1918 W.D. models, makers' colours, perfect condition, all chain drive; £65; trade supplied.—Barnett, 21, Rodborough Rd., Golders Green, N.W. 'Phone: Hampstead 7667. [2676

1919 Late P. and M. Combination, sidecar cost £40 a month ago, very well equipped with electric lights and numerous spares, owner used since delivery; bargain, £110.—Willetts, Rookery, Lanesfield, Wolverhampton. [3365

P. and M. Combination, 1919 model, blue and gold. 3½h.p., 2-speed, kick-start, etc., Henderson sidecar, an ideal and first-class outfit; sacrifice, £90, delivered anywhere.—42, Glenthorn Rd., Jesmond, Newcastle-on-Tyne. [2702

SEPT., 1919, P. and M., C.B. sidecar, little used, perfect condition, Lucas head and generator, also side and tail lamps, Cowey speedometer, wind screen, storm apron, tyres, hardly scratched, lot of spares, insurance to Sept., 1921; £110.—25, Oakfield Rd., Stroud Green, N. [3314

BARGAIN Offer; P. and M. 1918 combination, mechanical condition as new, re-enamelled, plated, finished 1920 colours, new tyres, new chains, new saddle, complete with lamps and tool kit, 3 months' guarantee, insurance, and registration; £110.—Hubert Turner and Co., 4 and 5, Crawford Passage, Farringdan Rd., E.C.1. [3260

PHELON and Moore, Ltd., have several R.A.F. models for immediate delivery, reconditioned and guaranteed by them. Prospective motor cyclists should not hesitate to procure one of these machines now, whilst prices are low; £90 solo, or £120 combination.—Fullest particulars on application, or one can be inspected at London Showrooms, 4, Berners St., Oxford St. (opposite Bourne and Hollingsworth), W.1. [0314

P. and S.

1920 P. and S. 2-stroke, 2-speed, Cowey horn, all lamps, practically unused; £65.—3, Courtlands Av., Lee, S.E.12. [3020

Paragon.

1920 3h.p. Paragon, 2-stroke, 2-speed, spring frame, brand new, must sell; best offer.—95, Glengarry Rd., East Dulwich. [3640

Precision.

4h.p. Precision Combination, N.S.U. gear, Villiers clutch, perfect, lamps, Klaxon, speedometer; £70.—Friday, College Av., Slough, Bucks. [2892

Premier.

3½h.p. 3-speed Premier and C.B. sidecar, all accessories, £45.—Gray, 1, Church Rd., Heston, Middlesex. [1493

3½h.p. Premier Combination, 1913, 3-speed hub gear, good order, engine rebuilt, £40, or near offer.—Leopold, 3, Crescent, Windsor. [2818

PREMIER Combination, black and gold, 1915, 4h.p., 3-speed countershaft, new chain, belt, and Climax, overhauled and enamelled, very fine appearance; £65.—36, Brownlow Rd., Bowes Park, N. [2738

Quadrant.

3h.p. Quadrant, coil ignition, good order; bargain, £20.—Ralph, Rock Villa, Bardon, Hants. [2757

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(The first of the new machines, as exhibited at Olympia.)

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LEA-FRANCIS, 3½ h.p., 3-speed, clutch and kick-starter, all chain drive.

O.K.-JUNIOR, 2½ h.p., Union engine, splendid value.

NEARLY NEW.

1920 **COULSON-B.,** 4 h.p., 2-speed, complete with lamps and accessories . £90 0
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1918 **HARLEY,** mag. model, thoroughly overhauled, stove-enamelled and plated, in beautiful condition £115 0
1920 **A.B.C.,** complete with lamps, tools, etc., in perfect condition; not run 500 miles £145 0

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MOTOR CYCLES FOR SALE.

Quadrant.

CLIFFORD WILSON Co.—1920 solo Quadrant, lamps, horn, small mileage, as new; £100.—70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. [122

CLIFFORD WILSON Co.—1920 Quadrant combination, used demonstrations only, as new; £130.—70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel. Kensington 7113. [122

QUADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the only moderate-priced outfit left.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [027

NEW 4½h.p. Quadrant Combination, to maker's specification; at list price, including carriage from works, £147/7/3; or on easy payments, 5% extra.—Harrods, Ltd., 148, Brompton Rd., London. [315

CLIFFORD WILSON Co., sole agents and distributers for Quadrants in London, Sussex, Surrey, Kent, Middlesex, Buckinghamshire, Essex, Hertfordshire, Bedfordshire, Cambridgeshire, Norfolk, Suffolk, Huntingdonshire, and Berkshire. Trade enquiries invited. Usual manufacturers' terms.—70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: Kensington 7113. [123

Radco.

RADCO 2¼h.p. 2-stroke, perfect condition, 1917, a-1; £37.—12, Nudine St., Tooting. [262

Reading-Standard.

READING Standard 10h.p. Combination, mileage nil, cost £225; what offers, £200 or over?—Box 687, c/o *The Motor Cycle.* [X343

DEALERS.—10h.p. Reading-Standard combination, mileage 60; £120.—Apply particulars private owner, Owen, Corn Merchant, Carnarvon. [292

1919 10h.p. Reading Standard and De Luxe Sidecar, all lamps, horn, hood, screen, etc.; £150.—Dunn's, 326, Euston Rd., London. Museum 5391. [298

LATE 1920 Reading-Standard 10h.p. Solo Model, dynamo lighting and electric horn, speedometer, repair outfit, and all tools, mileage negligible; £150, offer.—Ransom, The Cottage, Shortlands, Kent. [256

1919-20 Reading-Standard 10h.p., 3-speed, clutch and 3 lamps, horn, tools, roomy sidecar, hood and screen, in perfect condition and running order; £150.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. 'Phone: Hampstead 7822. [294

Rex.

REX 6h.p. Twin Combination, 2 speeds, Bosch, running order; £30.—9, Clifton Rd., Southall. [252

5-6h.p. Rex Combination, 2-speed, clutch; £70, or exchange good solo and cash.—13, Copland Rd., Wembley. [288

REX 6h.p. and Canoelet sidecar, good condition and running order; £60.—D.O., 23a, Bramber Rd., West Kensington. [280

REX Combination, 1914, 3 speeds, 8h.p., all-chain drive, lamp, horn, screen, in full running order, £100 or offer.—Apply, Box 8,422, c/o *The Motor Cycle.* [351

REX 6h.p. Coachbuilt Combination, 2-speed, hand start, Bosch, Whittle, Brooks, horn, good tyres, 3 lamps; £62; would exchange lightweight in part, any trial.—Smylie, 82, Godstone Rd., Whyteleafe, Surrey. [273

REX, 5-6h.p., T.T. model, m.o.i.v.'s, Bosch, B. and B., top feed, Enots automatic oil feed, new Duplops, Lycetts, T.T. handle-bars, enamelling and plating new, thoroughly overhauled; must sell, £40, or offer.—Apply, Howick, Keeper's Corner, Burstow, Surrey. [303

Rover.

3½h.p. Rover, fine condition, ride away; what offer?—2, Elmsleigh Terrace, Wandsworth, S.W. [33

ROVER Combination, 1920, 5-6h.p., as new; £12—Grimes, 18, Bruton Place, Bond St., W.1. [32

1919 T.T. Rover, complete, good condition; £85.—Wright's Garage, Saffron Walden. Tel.: [35

1919 6h.p. Rover, splendid condition; £125.—Wright's Garage, Saffron Walden. Tel.: 16 [35

1920 Brand New 5h.p. Twin Rover, Grindlay sidecar; £190; exchange.—Eveson, Dingle, Stockbridge. [35

1919 3½h.p. Rover and Sidecar, all lamps, horn, £109.—Dunn's, 326, Euston Rd., Lond Museum 5391. [2

ROVER 3½h.p., countershaft, new Dec., 1918, cellent condition; offers.—Peters, 84, Styvech Av., Coventry. [X39

3½h.p. Rover, clutch model, Bosch, B. and B., tyres, perfect condition; £42.—53, Clarend Rd., W. Croydon. [2

1920 Rover Combination, 5-6h.p., brand new, stock for immediate delivery.—Ison and Son, L Ashby-de-la-Zouch. [X4

ROVER 3½h.p., h.b., Philipson, re-enamelled, pla engine overhauled, as new; £70, or nearest o —53, Powell St., Derby. [3

1920 5-6h.p. Twin Rover Combination, excellent dition, lamps, horn; £150.—L. Webb, Wa Leigh, Addlestone, Surrey. [2

MOTOR CYCLES FOR SALE.

Rover.

OVER 3½h.p., delivered Dec., 1919, 3-speed, clutch, condition as new; first offer £110.—J. H. Northen, Thorpe Rd., Melton Mowbray. [2669

1920 Rover 3½h.p. Combination or Solo, very latest model, brand new, slightly shop-soiled only; 7½% list price.—Rose's Garage, Uxbridge. [3486a

OVER, 1919, 5-6h.p. twin, 3 speeds, kick starter, hand or foot clutch control, as new; £105; ex nge entertained.—Eagles and Co., 275, High St., on, London. [X4005

1914 3-speed Rover, little used, sidecar, screen, grid, speedometer, watch, aprons, Tan-Sad, electric ting, tools, spares, and waterproofs; trial; £75.—76, nley Rd., Coventry. [X3988

OVER, 1919, T.T., perfect condition, enamel as new, horn, speedometer, H.C. Philipson; any l or examination; £85.—Gibson, Stanstead, Sutton, rey. Tel.: 1105. [3504

1920 5-6h.p. Rover Combination, brand new, never been driven; list price £235; what offers? Owner ing to sacrifice, having won another in raffle.—B., House, Nutfield Rd., Redhill. [2681

1919 Rover W.D. 5-6h.p. Twin J.A.P. Combination, full equipment, Binks, speedometer, lamps, Klaxon, fect condition; any trial; £130.—Apply, Newman, odhayes Stables, Wimbledon Common. [2543

OVER 1920 3½h.p. Combination, run 1,500 miles, as new, £10 accessories, P. and H. lamps, neo, Lucas horn; £172/10; any examination; seen r 2.30 Saturday.—Ivy Cottage, Nutfield Rd., hill. [3040

EW 3½h.p Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart coachbuilt car; £165 or on easy payments 5% extra; one rter deposit, balance by 12 monthly instalments.— rods, Ltd., 118, Brompton Rd., London. [3159

OVER 5-6h.p. Twin Combination, reconstructed, new tyres, etc., one of the best value for money fits on the market; £145; extended terms, £75 and 12 monthly instalments of £5/16/8.—Elce Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. one: Avenue 5548. [0067

Royal Ruby.

OYAL RUBY, 1917, in good order; £35.—Pearce, 13, High St., Bishops Castle. [X3957

1920 Royal Ruby, spring frame, new condition; £90, or nearest offer.—Holmes, Chemist, Workington. [3124

40.—Royal Ruby 2-stroke, excellent order, just overhauled.—Can be seen at Three Sugar Loaves, e Hedingham, Essex. [3359

h.p. J.A.P. Royal Ruby Combination, August, 1919, very fast and smart; any trial; £170, or offer.—Arthur, Jesus, Cambridge [3390

1919 Royal Ruby 2-stroke, single, lamps, horn, tools, insured, mechanically perfect; £42; seen after 428, Caledonian Rd., N.7. [2734

1919 8h.p. Royal Ruby-Jap Combination, perfect order; £155, or nearest offer.—Brewster, Spark St., Bury St. Edmund's. [3269

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydes Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

OYAL RUBY, 8h.p. J.A.P., 1919, combination, 3-speed, countershaft; £115; countershaft Tri- h part exchange considered.—9, Church Rd., lesden, N.W. [3435

1920 3½h.p. Spring Frame Royal Ruby, ridden under 50 miles, as new; list price £120, our e £100.—Kays, 8, Bond St., Ealing Broadway, W.5. [1504

REAL Bargain.—1919 8h.p. J.A.P. engine, Royal Ruby combination, new P. and H. lighting set Lucas horn, Easting wind screen, new Dunlop s all round; any trial; £110, no offers.—Kays, 8, d St., Ealing Broadway, W.5. [1503

h.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, equipped with Tan-Sad pillion lamps, mechanical horn, etc., very little used, condition as new; £110; may be obtained on payments.—Harrods, Ltd., 118, Brompton Rd., don. [3156

Rudge.

1916 T.T. Rudge Multi; £55, bargain.—Central Garage, Southport. [X4040

1920 I.O.M. Rudge, as new; £100.—Dunn's, 326, Euston Rd., London. Museum 5991. [2981

UDGE Multi, new, in stock; £110/5.—Clark, 7, Exhibition Rd., South Kensington. [3453

UDGE T.T. and I.O.M. Models ex-stock; £110; exchanges.—125, High St., Woolwich. [6094

UDGE Multi, 1916, in perfect condition; £80.—Taylor, 175, Merton Rd., Wimbledon. [2674

h.p. Rudge, single-speed, lamps, etc.; £39, or exchange.—Gray and Raynes, 8, Low Rd., Balby, ncaster. [2778

UDGE Multi 3½h.p., C.B. sidecar, lamps, hooter, spares, excellent condition; £65.—173, George St., ntry. [X3952

1h.p. Rudge Multi, complete, guaranteed perfect, any trial; £60, or nearest.—Box 8,404, c/o *The tor Cycle.* [2771

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MOTOR CYCLES FOR SALE.

Rudge.

3½h.p. Rudge, hand clutch, tyres as new, good running order; £35. — 19, Arthur St., New Oxford St., W.1. [3302

1920 I.O.M. Rudge, new, in stock at list; exchanges or easy payments; £110/5.—2, Nightingale Rd., Lower Clapton. [3561

RUDGE Multi, 1914, fitted complete, good condition; what offers?—Hewin's Garages, Ltd., the real service firm, Taunton. [2871

STOCKPORT.—1920 I.O.M. Rudge Multi, under 300 miles, unscratched; 90 gns.—Brown, Eversley, Dovenport Park, Stockport. [2925

3½h.p. Rudge, 2-speed, free engine, and sidecar, overhauled; exchange lightweight and cash; sell 65 gns.—Johnson, Anterby, Bourne. [2616

3½h.p. Rudge, in splendid condition, enamel unscratched, very fast, semi-T.T.; £50.—Sales, Oakleigh Villa, New Rd., Ascot. [3047

1919 (Dec.) Rudge Multi T.T., absolutely sound, tools, lamps, horn, etc.; 85 gns., or offer—Arnold, Smithdale, Acle, Norfolk. [2656

1920 3½h.p. Rudge, wicker sidecar attached, good running condition; £95, any appointment.—Sewell, Mill Drove, Uckfield, Sussex. [2760

RUDGE Multi, overhauled by Rudges, new Dunlops, lighting set, excellent running order; £55.—Harper, 34, Belgrave Gate, Leicester. [2809

1914 5-6h.p. Rudge Multi C.B. Combination, overhauled and re-enamelled, all on; offers.—Greenland, Glenthorne, Reading Rd., Farnborough. [3456

1919 Rudge Multi, semi-TT., clutch, start, Lucas lamps, Klaxon, new tyre; first cheque £50.—Stannard, 87, Lovelace Gardens, Southend-on-Sea. [2622

3½h.p. Rudge Multi, excellent Dunlop tyres, perfect mechanical order, Miller lamps, horn; any trial; bargain, £42.—Phone: Burgh Heath 66. [3099

RUDGE Multi, 1920, I.O.M. T.T. model, not done 1,000 miles, fitted complete; what offers?—Hewin's Garages, Ltd., the real service firm, Taunton. [2872

1920 Rudge, I.O.M., brand new; list price 105 gns., our price £102/10 to clear.—The Winstan-Henney Motor Co., 63, South End, South Croydon, London. [2683

RUDGE, 3½h.p., 3-speed, 1916, recently overhauled, splendid condition, full accessories, ready to ride away; £55.—Higgins, Dunmow Hill, Fleet, Hants.

1920 I.O.M. Rudge Multi, speedometer, lamps, Klaxon, plated exhaust, as new throughout, very fast; 100 gns.—56, Breedon Hill Rd., Derby. [3423

1920 3½h.p. I.O.M. Rudge Multi, 2 lamps and generator, mechanical horn, full kit; £95.—Shepherd and Co., Enfield Highway. Tel.: Waltham Cross 31 [1637

RUDGE Multi Combination, just overhauled, new back wheel and tyre; a bargain, £75; also two sidecars, £5 each.—Apply, 216, Sandycombe Rd., Richmond, Surrey. [2756

RUDGE Multi 3½h.p. 1919 T.T., lamps, horn, speedometer, insurance policy, no additional expense; nearest £120.—Wilkinson, Rearsby, Blundellsands, Liverpool. [7895

1920 Rudge Multi 3½h.p., not done 500 miles, with Lucas lamps and horn; best offer over £85 secures.—P. W. Venables, Brindley Green, Sandbach, Cheshire. (D) [X3998

1919 Rudge Multi 3½h.p. Combination, T.T. bars, lamps, speedometer, Klaxon, 1920 Canoelet sporting sidecar, excellent condition; £120.—Colebourne, Park Rd., Wokingham. [2528

RUDGE Multi, I.O.M., 1920 model, only done 500 miles, and unscratched, complete with lamps, horn, etc.; £100, or near offer.—Leethem, Arundel Factory, Portsmouth. [3240

1915 Rudge Multi Combination, disc wheels, metal torpedo body, overhauled, perfect, 3 lamps, spares; £72, or offer.—A. Green, Ashwood Cottage, Enfield Rd., Old Southgate. [2698

1920 3½h.p. I.O.M. Rudge, fully equipped, fast, reliable, economical, cost £120; accept £100, or exchange T.T. Norton or similar.—Gray and Raynes, 8, Low Rd., Balby, Doncaster. [2778

SPECIAL Racing Rudge Multi, I.O.M. overlap cam, pedal start, Palmer car tyres, speedometer, Tan-Sad, lamps, etc., as new; £95; or exchange combination.—6, Merrivale Rd., Smethwick. [2657

1920 Rudge Multi, 3½h.p. T.T., new Aug., run 800 miles, fitted speedometer, complete tools; also Montgomery sidecar, new Aug.; price combination £145, or will dispose singly.—K. Bayley, Elmfield Hotel, Cheltenham. [2960

1919 Rudge Multi 5-6h.p. Combination, Rudge sidecar, condition perfect, done under 2,000 miles, accumulator lighting, lamps, horn, Easting screen; owner going abroad; £140.—Apply, 31, Drayson Mews, Kensington, W.8. [3426

RUDGE Multi, 3½h.p., clutch, pedal starter, lamps, horn, new belt, good tyres, condition perfect; £55, or, fitted 1919 C.B. sidecar, £68; after 6 Monday, Wednesday, Friday.—Ernest Spiller, 5, Chesterford Gardens, Hampstead. [2641

MOTOR CYCLES FOR SALE.

Rudge

1920 3½h.p. I.O.M. Rudge Multi, lamps, mechanical horn, full set tools and spare inner tube, very fast, only run 500 miles; £130, offers.—Applications by letter to A. V. Littledale, Esq., Downside School, Stratton-on-Fosse, near Bath. [3643

Ruffells.

RUFFELLS-VILLIERS 1919 2½h.p. 2-stroke, 2-speed, lamps, horn, etc., perfect order, real bargain; 40 gns.—Leach, 13, Valmar Rd., Denmark Hill, S.E.5. [2701

Scott.

SCOTT, new 1920 model; delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0301

SCOTT Combination, lamps, and spares; £75; after 2 p.m. Thursday only.—132, Malpas Rd., Brockley, S.E. [3081

1914 Scott, overhauled, coachbuilt sidecar, tyres little used, one new; £58.—Newton, 7, Boord St., Greenwich. [3187

1915 Scott C.B. Combination, speedometer, etc.; £69.—769, The Broadway, Manor Park, East Ham, London, E. [1677

SCOTT Combination, quite new, done 50 miles, 3in. tyres; £190, or near offer.—Grimes, 18, Bruton Place, Bond St., W.1. [3286

SCOTT Combination, 1917-18, speeds, clutch, K.S., perfect mechanical condition; 80 gns.—12, Cornwall Mews, Gloucester Rd., S.W.7. [3618

SCOTT 1912 Combination, new sidecar and tyres, in good order; £42; will sell separate.—21, Ayresome Rd., Newport, Middlesborough. [3305

1920 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £100.—Dallaway, Fruit Merchant, Smethwick. [0275

1920 Sports Model Scott, engine No. 4379, new Whitsuntide, low mileage, perfect condition; offers.—Hall, Penruddock, Penrith, Cumberland. [3357

SCOTT 1920 3½h.p. Model, complete with head and rear lamps, full T.T. bars, very fast, indistinguishable from new; £130.—Parker's, Bradshawgate, Bolton. [X4037

SCOTT Combination, 1915, overhauled by makers, 1920 Amac carburetter, new tyres, coachbuilt sidecar; £85.—Elmhurst, Ellesmere Park, Eccles, Manchester. [3381

1915 Scott Combination, hood, screen, horn, electric lighting, perfect running order; trial arranged; £60.—Ponders, Margaretting, Ingatestone, Essex. [3221

SCOTT Combination, 1915, equipped lamps, horns, Binks carburetter, adapted to drive from sidecar, just overhauled; owner bought car.—Dentist, 496, Oxford St., W. [2560

1914 Scott, with coachbuilt sidecar, speedometer, horn, lamps, etc., fine condition; to save garage fees, best offer accepted.—3, Rosemont Parade, North Finchley. [3223

SCOTT 1920 Combination, 3 lamp sets, mirror, speedometer, Cowey horn, aluminium discs, as new; £139; delivered anywhere; exceptional bargain.—28, Whitchurch Rd., Cardiff. [3148

Simplex.

SIMPLEX Power Unit, perfect condition, just new from makers, attached components, gent's bicycle; £25, complete.—Williams, 82, Mark Lane, E.C.3. [2613

Singer.

3½h.p. Singer, 1912, N.S.U. 2-speed, fully equipped, Bosch, Sensspray, Druids, new spare cylinder, new belt, wicker sidecar, well tyred; £40.—14, Estcourt St., Devizes. [2827

3½h.p. Singer, 1914 (believed), clutch, good tyres, new tubes, control levers need adjusting, otherwise in good running order; £45.—Morley, 28, Westlecot Rd., Swindon. [3202

SINGER 4½h.p., 1913, 2-speed, countershaft, with wicker sidecar, good condition; cheap, £40; owner going abroad.—Apply, The North Finchley Motors and Metals Co., 15, Woodhouse Parade, North Finchley, N.12. [2886

Sparkbrook.

THIS Week's Cheapest Lightweight.—See brand new Sparkbrook advertised in Exchange column.—Box 8,427, *c/o The Motor Cycle*. [3515

SPARKBROOK, 1917 Villiers, lamps, horn, good condition; £32 Short, 487, Upper Richmond Rd., East Sheen. 'Phone: Richmond 2362-3. 3579

Sun.

2¾h.p. Sun-V.T.S., 2 speeds, speedometer, Klaxon, 24 hours used 4 months, just overhauled, perfect; £50, or exchange.—Hendricks, Knaphill, Surrey. [2628

1916 Sun-Villiers 2-stroke, engine as new, extraordinary hill-climber, fast, sight feed oiling, tyres, belt new; any trial; £35, or offer.—Apply, Gas Works, Horley, Surrey. [3097

Sunbeam.

1918 Sunbeam Combination; £160; trial given.—Ross, 86, High Rd., Lee, S.E. [3107

SUNBEAM 3½h.p., 1920, Millford sidecar, perfect condition; £175.—74, Jeffcock Rd., Wolverhampton. [2837

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At the above address you can obtain anything from a Renolds' spring connecting link to a brand new Motor Car at a very reasonable price. Bargains also are always on view in the Motor Cycle line, a few of which are below:

1919	**RUDGE-MULTI,** accessories	£87 10
1916	**NORTON** Combination, accessories	£125 0
1915	**LEVIS,** all accessories	£42 10
1919	**ENFIELD,** 2-stroke, accessories	£62 10
1920	4 h.p. **DOUGLAS** Combination, accessories, all as new	£155 0
1919	**JAMES** Combination, 5-6 h.p., as new	£140 0
1917	7-9 h.p. **HARLEY** Combination, as new	£125 0
1919	(late) **SUNBEAM,** Lucas accessories, all as new	£142 0
1919	4 h.p. **TRIUMPH** and Sidecar, as new	£145 0
1918	**P. & M.,** perfect, renovated as new	£75 0
1920	4 h.p. **DOUGLAS** Combination, all accessories	£155 0
1920	**SPUR,** 2-stroke, 2-speed, as new	£55 0
1920	**LEVIS,** with Lucas accessories, as new	£58 0
1919	4 h.p. **TRIUMPH,** quite as new, all accessories	£120 0
1913	clutch model **TRIUMPH,** guaranteed perfect	£48 0

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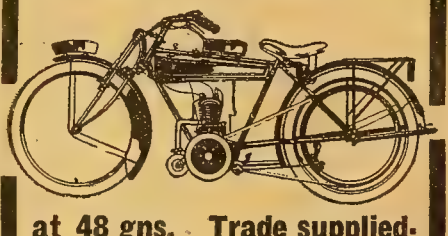

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MOTOR CYCLES FOR SALE.

Sunbeam.

1920 Sunbeam (June), sports model, lamps, horn condition as new; £154.—67, Queen's Park Rd., Brighton. [2813

1919 Sunbeam 3½h.p. Combination, Lucas horn lamps; £135.—23, Silverburn Av., Moreton Birkenhead. [3478

1920 Sunbeam 3½h.p., special engine, exceptionally fine machine, mileage 250; £147.—Percy Mount Cadley, Preston. [2855

SUNBEAM 1916 3½h.p., 3-speed, excellent condition recently overhauled by makers; £85.—17, Broo Hill Rd., Ipswich. [2755

1917 3½h.p. Sunbeam Combination, all accessories splendid condition; £140, or near offer.—Simir son, Tenterden, Kent. [X3877

1918 3½h.p. Sunbeam, faultless condition; £115 exchange late lightweight and cash.—Loweth, Mt. Pleasant Rd., Ealing. [3138

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b. clutch, lamp, horn, etc., excellent condition £110.—C. Barton, Clapham, Yorks. [0248

SUNBEAM Combination, twin, 1915, excellent condition, Easting screen, all accessories; must sell £120.—80, Cromford Rd., Wandsworth. [3628

1920 3½h.p. Sunbeam Combination, just delivered mileage 40, Klaxon horn, legshields; £10 under list price. Box 8,405, c/o *The Motor Cycle*. [2778

SUNBEAM, brand new 3½h.p., solo model, with Lucas lamps and horn; £170.—The Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9000

1917 Sunbeam 3½h.p. Combination, electric lighting, Stewart horn, perfect condition; owner bought car; £140.—Scott, 56, Birch Grove, Acton. [3228

SUNBEAM 3½h.p., 1920, and sidecar, done 1,000 miles, condition absolutely perfect; £190.—Hewin's Garages, Ltd., the real service firm, Taunton [2877

1918 8h.p. Sunbeam Combination, black and gold hood, screen, all lamps, horn, legshields, perfect £155.—Dunn's, 326, Euston Rd., London. Museum 5391. [2995

SUNBEAM 3½h.p. Combination, for immediate delivery; £202/13, deferred payments arranged closed Sundays. — Bunting, Motors, Wealdstone Harrow. [3338

SUNBEAM Combination, 1919, in perfect condition delivered Nov., complete with lamps and horn first cheque £160 secures.—Hale, 35, Court Rd., Wolverhampton. [3348

1920 3½h.p. Sunbeam and Gloria Sidecar, Lucas lamps, Cowey and Lucas horns, watch, perfect condition; 150 gns.—Edwards, 50, Harrington Rd South Kensington. [3248

SUNBEAM 8h.p. Combination, late model, electric lights, spare wheel, wind screen, hood, 700×8 extra heavy Dunlops; 145 gns.—Robarts, 81, Dunc Rd., South Norwood. [3488

SUNBEAM 1920 3½h.p. Model, complete with mu shields, Lucas head and rear lamps, horn, m chanically perfect and equal to new; £160.—Parker Bradshawgate, Bolton. [A403

3½h.p. Sunbeam 1916 Combination, sidecar 192 3½ mileage 5,000, gold medalled, fully equippe speedometer, wind screen, etc.; £125.—J.W.L., 5 Warwick Rd., Ealing. [3098

1918 8h.p. Sunbeam Combination, hood, wir screen, speedometer, carrier, dynamo lightin 2 horns, interchangeable spare wheel; £205.—La Forster, Froyte Manor, Alton, Hants. [3858

NEW Sunbeam 1920 3½h.p., sporting model, li price, £155/8; in stock.—Cambridge agents f Sunbeams, Herbert Robinson, Ltd., 32-35, Green S Cambridge. T.A.: Bicycles. Tel.: 995. [2958

1920 3½h.p. Sunbeam Combination, unpuncture F.R.S. Major lamp set, rear and sidecar lam speedometer, and spares, recently won hill-climb; neare offer £185.—35, John St., Neyland, Pem. [X3168

SUNBEAM Combination, 8h.p., November, 1918, interchangeable wheels, electric, Cameo scree luggage grid, new gears, clutch, and chains, insuran excellent condition; absolute bargain, £177/10.—Re Studio, Wisbech. [3338

8h.p. Sunbeam Combination, spare wheel, Luc acetylene lamps, hood, screen, luggage grid, T Sad, speedometer, new Nov., 1919, any trial, examin tion, guaranteed as new; £175.—Adams, Springbar Stonehouse, Gloucestershire. [3228

SUNBEAM.—We are Wolverhampton agents; spe parts in stock; repairs, overhauls, re-enamelli and plating under the supervision of Mr. T. O. de Hay (late Sunbeamland).—The Molineaux Garage C Ltd., Wolverhampton. Tel.: 1160. [3488

NEW Sunbeam 1920 8h.p. Combination, Lucas m dyno lighting set, spare wheel, hood, screen, et list price, £278/15/6; in stock.—Cambridge agen for Sunbeams, Herbert Robinson, Ltd., 32-35, Gre St., Cambridge. T.A.: Bicycles. Tel.: 995. [2958

ALL Sunbeam Combination, 3½h.p., late 1919, am mileage, Lucas lamps and horn, Cowey spe ometer, Sunbeam leg shields, aluminium discs, side wind screen, new tyres, sound outfit, and splendid con tion; £165.—Beale, 81, Wellington St., Kettering. [32

MOTOR CYCLES FOR SALE.

Sunbeam.

19 (Dec.) 3½h.p. Sunbeam, 3-speed, kick starter, h.b.c., legshields, apron, Lucas lamps and horn, tools, etc., appearance and condition as new, done 2,000 miles; everything guaranteed perfect; £85.—Willott, 12, Wormholt Rd., Shepherd's Bush. [3367

SUNBEAM 1915 6 8h.p., bulbous sidecar, black and gold, upholstered red, Cameo, Lucas lamps, Cowey clock and speedometer, Tan-Sad back rest, Bosch, B.B., leg shields, spare tyres, tubes, pump, aluminium mudguards, £20 worth spares and tools, stored during war, new; £200, or near.—W., 11, Dekker Rd., Dulwich Village, S.E. [3005

19 3½h.p. Sunbeam Combination, Open Reliance Challenge Cup winner, 1919, also several other reliability awards, condition excellent, overhauled by makers, mileage under 2,500, fully equipped, legshields, Cowey speedometer, all lamps, horn, screen, numerous spares; £160, or near.—F. Boston, Halton Grange, Runcorn. [3422

Swift.

SWIFT, 1913, 4h.p., 3 speeds, very little used, complete with lamps; £55; only wants seeing.—Bond, Sun St., Waltham Abbey. [2658

T.D.C.

D.C. 2-stroke, 2¾h.p., 2-speed, Sensprav, Palmer cords, footboards; £48.—Walker, Baldhu, Cornwall. [2525

D.C. Enzined Lightweight, lamps, complete, good running order, 1920 engine, Amac, E.I.C. mag.; ride away.—Carter, 101, Bampton St., Minehead. [3175

Torpedo.

14 Torpedo-Precision 4½h.p. Coachbuilt Combination, 3-speed, tyres good, engine thoroughly overhauled, lamps; £70.—Shepherd and Co., Enfield High. Tel.: Waltham Cross 31. [1639

Triumph.

20 Triumph (Baby), like new; £65.—Central Garage, Southport. [X4039

20 Triumph Combination, latest Gloria sidecar; £182.10.—Below.

21 Triumph, S.D., all-chain drive model, in stock; first secures £140.—Below.

TRIUMPH W.D.B. Model in stock, renovated and guaranteed by makers; £105.—Rhosha Motor Co., Oak Mews, Romford. Triumph Agents. [3548

TRIUMPH Motor Cycle; £10.—Morriss and Co., 139, Finchley Rd., N.W.3. [2911

13 Triumph, 3-speed, speedometer, lamps; £46.—18a, Valetta Rd., Acton, W. [2534

20 Triumph 4h.p., T.T., brand new; £110.—Leach, 25, Windsor Rd., Doncaster. [2572

NEW 1920 4h.p. Triumph; £127/10.—Bounds, Garage, 223, High Rd., Kilburn. [2921

RENOVATED Triumph and Millford Sidecar; £136/10.—Cross, Agent, Rotherham. [X3996

TRIUMPH (38 gns.), worth £50, any trial; smart.—57, Kenbury St., Camberwell, London. [3142

TRIUMPH 1916 C.B. Combination, 3-speed, C.S., perfect; £75.—10, Baronsmead Rd., Barnes. [3125

14 Triumph, coachbuilt sidecar, 3-speed; £78; good condition.—143, Walworth Rd., S.E. [2836

½h.p. Triumph, clutch, excellent order; £45; exchanges.—Farrar, Temple Hirst, Selby, Yorks. [2667

TRIUMPH, 1913, 3 speeds, good condition; £54, or nearest.—149, Bolingbroke Rd., Stoke, Coventry. [X3992

13-14 Triumph, 3-speed, 3½h.p., Venus sidecar; £80, or offer.—P.C., 1, Egerton Gardens, S.W. [3212

20 4½h.p. Triumph, just delivered; list price; cheque secures.—Motor Co., Aylesford, Kent. [3350

h.p. Triumph, countershaft model, enamelled black, complete; £75.—Cross, Agent, Rotherham. [X3995

18 Triumph, 4h.p., C.S., perfect running order; £75.—Dunn's, 326, Euston Rd., London. Museum 91. [2984

28.—3½h.p. Triumph, believed 1912, sound tyres, new belt, lamps, horn, fast.—King, Egrove Farm, Stafford [X4012

TRIUMPH 3½h.p. single-speed, solo, £35; 3½h.p. 3-speed combination; £79.—Victoria Garages, Aylesbury. [3115

19 T.T. Triumph, run 1,500 miles, lamps, horn, splendid condition; £90.—Molteno, Woodlands, West Byfleet. [2040

NEW 1920 4h.p. Triumph Combination, just delivered, beautiful outfit; makers' list price.—Day, Wrekenhampton. [2692

TRIUMPH (late) Countershaft Combination, lamps, tools, fine condition; £78. 97, Angell Rd., Brixton. [3195

LATE 1918 Triumph, as new, all on, countershaft; 75 gns., bargain.—2, Dancy Buildings, Waterloo Rd., S.E.1. [3009

TRIUMPH 3½h.p., Thomson-Bennett mag., clutch, condition good.—37, Melrose Gardens, Hammersmith, W.6. [3118

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'Phone ——— Croydon, 2450.
'Grams ——— "Track, Croydon."

MOTOR CYCLES FOR SALE.

Triumph.

1920 4h.p. T.T. Triumph Solo, brand new, not used; what offers?—Wright's Garage, Saffron Walden. Tel.: 16. [3524

1912 Triumph and Sidecar, 2-speed and accessories, in good condition; £38/10.—Bounds, 223, High Rd., Kilburn. [2922

TRIUMPH 4h.p., 1919, engine No. 59441, 3-speed countershaft; £75.—Scott, Bank House, Wimborne, Dorset. [3377

LATE Countershaft Triumph Combination, all as new; £120; fully equipped.—20, Valnay St., Tooting, S.W. [3380

3½h.p. Triumph, fixed, good order, tyres new, and accessories; a snip for £40, or offers.—Reeves, Berkeley Rd., Glos. [2670

TRIUMPH, 1917 model, new sidecar, lamps, Palmers, Bosch; £90.—120, St. Ann's Rd., Stamford Hill, N.15. [3322

LATE 1919 Triumph, Swan sidecar, fully equipped, perfect condition; £135.—Callis, 14, Daws Lane, Mill Hill, N.W.7. [3039

1920 4h.p. Triumph, Model H, delivered July, brand new, not unpacked; £120.—Willis, Bapsey, Taplow, Bucks. (D) [3030

4h.p. Triumph, Rennoc sidecar, engine 58463, overhauled and tank repainted; £105.—Miles, School Rd., Knowle, Bristol. [3200

TRIUMPH 1917 4h.p., new sidecar, splendid condition, not W.D., all accessories; £105.—288, Sangley Rd., Catford. [2929

LUXURIOUS 1918 Triumph C.S. Combination, all accessories, spares; £115; offers.—19, Park Av. South, Hornsey, N. [2747

TRIUMPH 4h.p.; recently overhauled and enamelled by makers; price £65.—Peck and Son, Long Clawson, Melton Mowbray. [2788

TRIUMPH, 3½h.p., 3-speed and clutch, cane sidecar, in really fine condition; £55.—85, Dalberg Rd., Brixton, S.W.2. [3100

TRIUMPH 1918 Combination, condition as new, nicely equipped; £115.—Morgan, 17, Atherfold Rd., Clapham, S.W.9. [3477

TRIUMPH, 1920, 4h.p., brand new, just arrived from works; £127/10; delivery from stock.—Ginger Motors, Banbury. [X3459

TRIUMPH 1918 Combination, not W.D., accessories; any trial; £98.—Palmer, 22, Cornwall Rd. (near), Waterloo Station. [3610

TRIUMPH Junior, 1919, condition perfect, Triumph legshields, Lucas lamps and horn; £65.—5, Henrietta St., Coventry. [X4088

TRIUMPH and Sidecar, 1917, 3-speed countershaft, coachbuilt sidecar; price £110.—Apply, New Ship Garage, Ship St., Brighton. [2690

TRIUMPH 4h.p., clutch model, good running order and appearance; offers.—James Peel, 578, Woodborough Rd., Nottingham. [2923

1919 Triumph, Sept., top gear change, electric lighting, Lucas horn, practically new; £90.—37, Arlington Rd., Surbiton. [3146

TRIUMPH 4h.p., £45, splendid condition; also coachbuilt sidecar, £10.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [3284

1920 Brand New Triumph and Sidecar, just delivered; list price.—194, Balham High Rd., S.W.12. 'Phone: Latchmere 4441. [3439

TRIUMPH 1914 4h.p. Model, complete with 3-speed gear and Gloria coachbuilt sidecar, fully equipped; £90.—Parker's, Bradshawgate, Bolton. [X4031

1919 Triumph, 4h.p., C.S., and Gloria sidecar, all lamps, horn, etc.; £117/10.—Dunn's, 326, Euston Rd., London. Museum 5391. [2910

TRIUMPH 3½h.p., clutch model, long copper exhaust, footboards, perfect running order; £46.—Clarke, 39, Bromham Rd., Bedford. [2812

1920 Triumph, Gloria sidecar, Lucas lamps and horn, Pillion seat, spares, condition as new, low mileage; £168.—3, Regent St., Rugby. [X3991

TRIUMPH, renovated, 4h.p., countershaft, Grindlay sprung-wheel sidecar, Easting, Klaxon; offers.—Peters, 84, Styvechale Av., Coventry. [X3904

TRIUMPH and Sidecar, 3-speed, clutch, new Dunlop tyres, perfect order; any trial; £68, offer.—Tew, 11, Nant Rd., Child's Hill, N.W.2. [2546

1920 Triumph Combination, torpedo Gloria sidecar, excellent condition, accessories; £115.—O. DeMuth, 34, Gordon Rd., Ealing. [3620

T.T. Triumph, clutch model, Bosch waterproof, tyres, etc., splendid condition; £42.—61, Marlborough Rd., Highgate. After 6 p.m. [3315

TRIUMPH, Model H, late 1919 model, new sidecar, electric lighting set, in perfect condition; bargain, £135.—Dominy and Co., Winchester. [3244

TRIUMPH Combination, 3½h.p., clutch; trial; all on, spares, ready; wanted, offer.—Taunton, 17, Albion Grove, Stoke Newington, London. [3168

1920 Triumph Model D., fixed engine, 4h.p., perfect condition; £85; owner received delivery combination.—Spear, 5, Queen Anne's Grove, Bedford Park, W.4. [2574

MOTOR CYCLES FOR SALE.

Triumph.

1920 Triumph, 4h.p., C.S., new, and Sunbeam unused sidecar, fully equipped; £200.—Dunn's, 236, Euston Rd., London. Museum 5391. [2977

1920 Triumph Combination, Easting wind screen, speedometer, and accessories, in good condition; £150.—Bounds, 223, High Rd., Kilburn. [2920

1919 Triumph Countershaft Combination, magnificent outfit, well equipped, heaps of spares; £120.—60, Wallingford Av., N. Kensington. [3253

TRIUMPH C.B. Combination, 4h.p., 1914, 3-speed, clutch, lamp, horn, all spares, perfect order; £80.—M., 46, Clarendon Rd., Putney, S.W.15. [3182

1920 Triumph 4h.p., 3-speed, countershaft, brand new, £127/10; also 1920 new Triumph Junior, list price.—Freeman, Brighton Rd., Redhill. [3387

4h.p. Triumph, reconstructed by makers and just out of their hands, new tyres, the whole as new. —Tel.: 6626 Museum.—A.S.G., 60, Mortimer St., W.1. [3297

1919 Triumph Combination, 4h.p., in excellent condition, electric lighting; £135; for quick sale.—72, Gloucester Rd., S.W.7. Tel.: Western 4086. [2659

TRIUMPH 1920 4h.p. Model, with Triumph sidecar, horn, and Watford speedometer, indistinguishable from new; £180.—Parker's, Bradshawgate, Bolton [X4030

TRIUMPH Coachbuilt Combination, 1918, electric lighting, tip speedometer, fine condition; £110; after 6 p.m.—8, Parolles Rd., Highgate Archway, N.19. [3276

1918 Triumph 4h.p. Countershaft Combination, lovely condition; offers over £110.—12, Myddleton Rd., Bowes Park, N. Tel.: Palmers Green 185. [2743

3½h.p. 3-speed Triumph, £30; 3½h.p. single-speed Triumph, £28; accept £55 for the two, or exchange.—Gray and Raynes, 8, Low Rd., Balby, Doncaster. [2780

1920 Latest Triumph Combination, Model H, luggage and petrol carrier, Cowey horn, all tools, as delivered; £165.—Mills, 28, Northampton Park, Canonbury, N.1. [1160

3½h.p. Triumph Standard Clutch Model, carefully used, sound order throughout; a real bargain, £35; carriage forward.—Palmer's Garage, Peasedown, Bath. [X4050

TRIUMPH, countershaft, centre portion frame, £5; tank for same, £2; Triumph pulley, complete, new, £1.—Eaton, Oakdrive, Dalton Fields, Whitley Bay. [3415

4h.p. Triumph and Mills-Fulford Sidecar, immediate delivery from stock; list price; also Triumph Junior, new.—Williams's Garage, Portland St., Cheltenham. [X4044

TRIUMPH, C.S., W.D., bought from Triumph Co. July, small mileage, indistinguishable from new; £95.—Best, Shenstone Cottage, Amersham Common, Bucks. [3046

1920 Triumph, with Gloria sidecar, guaranteed equal new, used few times, fully equipped; quick sale, £149/10.—365, King St., Hammersmith, W.6. [2916

1920 Triumph 4h.p. Countershaft, Lucas lamps and horn, knee grips, T.T. bars, speedometer, small mileage, any trial; £118.—G. Clarke, 12, Queen St., Louth. [3189

TRIUMPH, late 1919, 4h.p., solo, countershaft, very good condition, speedometer, lamps, numerous spares; £110, after 6.—Pankhurst, 52, Cheriton Sq., Balham. [3217

TRIUMPH 1918 Countershaft, as new, unscratched, brand new tyres, belts, etc.; £95.—Barnett, 21, Rodborough Rd., Golders Green, N.W. 'Phone: Hampstead 7667. [2678

1918 Triumph, 1920 sidecar, double suning, quick detachable couplings, new tyres and belt, all on; £130 net.—G. C. W. Bailey, House Furnisher, Weymouth. (D) [3271

TRIUMPH Late 1914 4h.p., coachbuilt sidecar, Sturmey 3-speed hub, accessories, Cameo, B. and B., lamps; any trial; £105.—Jennings, Hatherley Rd., Winchester. [2537

TRIUMPH Junior, 2-stroke 2-speed, run about 500 miles, absolutely as new, complete, lamps, horn, and pump; £65, or near offer.—Dr. Darling, Eardisley, Herefordshire. [2933

1920 4h.p. Triumph, countershaft, excellent condition, very powerful, low mileage, tools, lamps, spare belt, £125/10.—Edwards, Myrtle House, Newcastle Emlyn [2954

BABY Triumph, 1916, Lucas lamps and horn, condition, enamel, and plating excellent, very small mileage; £70. Hewin's Garages, Ltd., the real service firm, Taunton. [2874

1917 Triumph, Sturmey countershaft, nearly new extra heavy 26in. Dunlops, lamps, horn, etc., good order; £75, or nearest. 74, Clifton Rd., Canning Town, E.16 [3051

TRIUMPH 4h.p., 1920, Montgomery sidecar, wind screen, luggage carrier, lamps, Cowey horn, speedometer, good as new; £160, cost £190. Whitford, Oadby, Leicester. [3485

1920 Triumph Combination, mileage negligible, fully equipped with Lucas lamps, horn; £165 See displayed advertisement.—Ratcliffe Bros., 200, Gt. Portland St., W. [3582

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MATCHLESS Combination, 8 h.p.	£205 0
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B.S.A. Model H Combination, 4½ h.p., Magdyno lighting	£178 0
DOUGLAS Combination, 4 h.p.	£170 0

SOLOS.

B.S.A., Model A, 6-7 h.p. twin, chain drive, 3-speed countershaft, kick starter, 28×3in. tyres	£150 0
RUDGE Multi, T.T., 3½ h.p.	£110 5
DOUGLAS, 2¾ h.p., 3-speed, clutch, kick starter	£105 0
DOUGLAS, 2¾ h.p., Model W2o, 3-speed.	£100 0
TRIUMPH, Model H, 4 h.p., 3-speed, kick starter	£127 10
ENFIELD, 2-stroke, 2-speed, 2¼ h.p.	£73 10
ALLON, 2-stroke, 2-speed, clutch, kick starter	£85 0
CALTHORPE-J.A.P., 2¾ h.p., Enfield 2-sp.	£74 11
CLYNO, 2-stroke, 2-speed, clutch, 2½ h.p.	£75 0
LEVIS, Popular Model, 2¼ h.p.	£60 0
AUTO-WHEEL, Model de Luxe	£27 10

CARS.

SINGER, 10 h.p., phaeton model, dynamo lighting, self-starter	£500 0
SINGER, 10 h.p., coupé model, dynamo lighting, self-starter	£610 0

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MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1920 Combination, Gloria sidecar, lamp horn, speedometer, spares, perfect condition mileage about 2,000; £150. — Dering, Woodwater Heavitree, Exeter. [34

TRIUMPH, 4h.p., Model H, 3-speed countershaft kick starter, entirely renovated by makers, new, just delivered; £105.—Eagles and Co., 275, High St., Acton, London. [X40

WILL sell 1919 4h.p. T.T. Triumph motor cycle new back tyre, Tan saddle pillow seat, very fine splendid hill-climber, perfect; price £100.—S., Fileigh, Warberries, Torquay. [26

1919 Countershaft Triumph, Millford Corvette sidecar, Cameo, Tan-Sad, lamps, horn, 1,800 miles new condition; £135, or nearest offer.—16, Devonshire Place, Handbridge, Chester. [28

1918 Triumph Countershaft Combination, enamel and plating unscratched, P. and H. lamps, etc.; £120 exchange modern 2-seater, cash adjustment.—72, Lonridge Rd., Earl's Court, S.W.5. [31

1913 Triumph Coachbuilt Combination, waterproof Bosch, mag., splendid condition and running order, Canoelet sidecar; £65; exchange lightweight and cash.—34, Ampthill Rd., Bedford. [25

TRIUMPH 1918 Countershaft Combination, electric lighting, C.B., screen, £20 worth spares, plated as new, splendid condition; £105; any trial.—Blo Rosemary Lane, Richmond, Yorks. [28

1920 Triumph, Model H, with Canoelet sporting sidecar, mileage 2,500, fully equipped, many spares, perfect condition; seen by appointment; £14 —Hall, 77, Crown Rd., Twickenham. [30

1917 4h.p. Triumph, 3-speed, countershaft, lamp P. and H. lamp, special long exhaust pipe horn, spare belt, good tyres, condition good; £87, best offer.—Willoughby, Merstham, Surrey. [30

1920 Triumph, coachbuilt sidecar, electric horn and lights, speedometer, long exhaust, Ace discs, wind screen, luggage grid, guaranteed perfect, hardly used spares; £145.—Bruce, Crispham, Buxted. [34

NEW Triumph 1920 4h.p., countershaft model, list price; £127/10; in stock.—Cambridge agents for Triumphs, Herbert Robinson, Ltd., 32-35, Green St., Cambridge. T.A.: Bicycles. Tel.: 995. [29

1920 Triumph, countershaft, all-chain drive, fitted luxurious bulbous sidecar to match, brand new and unregistered; £175; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton. [35

TRIUMPH Model H. (Jan., 1920), Lucas lamp, electric rear, Klaxon, A.K. grips, Tan-Sad, large sprocket, spare valves, etc.; £100, or reasonable offer considered.—Brian Astle, Copperfield, Bickley. [33

1920 Triumph Combination, limousette sidecar hood, screen, Cowey speedometer, large tank set, horn, tools, new, used few times; quick sale £159.—365, King St., Hammersmith, W.6. [29

TRIUMPH, 1920, delivered September, Fulford sidecar, Lucas lamps and horn, Cowey speedometer special mudguards; cost £190, will take £170 cash Write Oscard, c/o Post Office, Stoke-on-Trent. [31

TRIUMPH, 1913, 3½h.p., 3-speed, clutch, thoroughly overhauled, repainted latest colour, as new, 19 bars, C.B. sidecar, 3 lamps, Klaxon, spares, tools; s and trial any time.—Bond, 23, Applegarth Rd., W.1 [31

COUNTERSHAFT Triumph Combination, Bram sidecar, leather upholstered, roomy, wind scre apron, lamps, tools, accessories, perfect condit throughout, mileage under 1,000, any trial.—Haw Baker, Tring. [28

TRIUMPH 1920 4h.p. Motor Cycle, with Triumph sidecar, Lucas head, rear, and sidecar lam horn, Cowey speedometer, hood cover, and wind scre indistinguishable from new; £190.—Parker's, Bradsh gate, Bolton. [X40

1918 Triumph and 1920 Foxton Sidecar. P.I. lamps, Klaxon, new tyres, spare belt, cover, t valve, fully insured; £120; first-class lightweight sidered as part payment.—4, Waterside, Evesh Worcestershire. [2

1919 (Nov.) Triumph and Henderson Lightwei Sidecar, first used March, 1920, mileage 2,0 P. and H. lamps, Klaxon, tools, spares, excellent dition; trial, £125.—Mighell, Manor Farm, Bedding Croydon, Surrey. [2

TRIUMPH Combination, 1917, coachbuilt side 3-speed countershaft, electric lighting, spe meter, Easting, tools, pump, 2 spare tubes, insure policy, three months old; price £130.—Apply, Buckingham Place, Brighton. [2

1920 Triumph 4h.p. and Gloria De Luxe Side electric light, speedometer, screen, hood, spa all tyres perfect, condition excellent, going abroad, sell quick; £135, or any reasonable offer.—West Moreton Gardens, Old Brompton Rd., S.W.5. [2

TRIUMPH, 1920 model, in stock, £127/10; Triumph renovated model, £105; makers' price; half down and 11 payments.—Lamb's, Euston Rd., London, N.W. 151, High St., Walthamstow; and 50, High Rd., Wood Green, N. [2

1919 (Nov.) 4h.p. Triumph Combination, per condition, electric lighting, tyres excel (back tyre unused), splendid Henderson Elite sid whole outfit looks just like new; £130.—E. F. Da Duncan Fox and Co., Cunard Building, Liverpo [2

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Only Threepence!

ONE can hardly rejoice over a fall of a mere threepence in the price of a gallon of petrol. It was raised—unjustifiably many people think—no less than eightpence a few weeks ago, so petrol is still fivepence dearer than it was in August. As a matter of fact, the threepence reduction applies to England and Wales only; in Scotland and Ireland the drop is but twopence. There is a general slump in America, where prices of all commodities are tumbling down. It is said that America cannot absorb the increased quantity of spirit produced in the States. As a result British figures are reduced. This explanation hardly coincides with recent reports which urged that the increase in the number of motor vehicles was easily outstripping the petrol available. In a week or so the report of the Sub-committee of the Central Profiteering Committee regarding the excessive cost of petrol will be available and should form interesting reading. The plain fact is that petrol to-day costs far more than double its pre-war cost, and the present high prices are exercising a hampering effect upon the motor industry and fostering unemployment. That is a question over which the directors of petrol companies should ponder. At one time it was thought that the National Benzole Association would ease the lot of the motorist, but price advances of this spirit have proved equally disappointing. *The Motor Cycle* has never ceased to advocate lower prices of motor spirit, and will continue that policy, at the same time doing its utmost to urge the production of alternative fuels, preferably home produced.

Until such times as the British Empire is self-supporting in the matter of liquid fuel, it is hopeless to expect anything but our present position of dependency. We must not be lulled into quietude because of a drop in price which may only be temporary; the alternative fuel demand is still insistent.

Racing Machines at Brooklands.

SHOULD racing machines invariably have brakes?

In view of the accident which took place at a recent B.M.C.R.C. meeting there were many severe comments on the advisability of allowing machines to compete which are unprovided with brakes, particularly in combination with the long finishing line. In our opinion the accident was due to the two causes. The rider of the machine committed an error of judgment in riding without brakes, and the track authorities were wrong to allow the long finishing line to be used in a race in which high speeds were expected. Had the racing taken place at the fork, as is the usual case when purely motor cycle race meetings are held, an accident of this nature could not have occurred.

It is all very well to argue that the speed was so great that brakes would cause skidding or could not have been used, but the winning machine was duly fitted with brakes, and its rider was only just able to turn the corner after applying them with all the force at his disposal. We certainly urge the track authorities to take steps to see that brakes of some kind are fitted.

The sister machine to the one used by the unlucky Harveyson was not only not fitted with any brakes but with no throttle, and the only means of stopping it was a handle-bar switch. The whole of the handle-bars were wrapped with insulating tape, except at the point where the switch contact had to be made. If by any chance the tape became frayed, or if for any reason good electrical connection could not be made between the handle-bar and the switch blade, the rider would have had no means whatever of stopping the machine.

No doubt the incident will ensure that, so far as is humanly possible, steps are taken to prevent the further occurrence of accidents of a similar nature, which cannot fail to mar these sporting meetings.

An Index to the advertisements in this issue will be found on the page facing the back cover.

What's Inside?

AT any hill-climb this season an observer who studied the crowd instead of the road could detect some curious expressions on the faces of the spectators. There is one particular stare, compounded of incredulity, envy, humiliation, and wonder which is frequently seen and might be termed the "How the deuce does he do it?" look. It serves to identify in the crowd men who own alleged duplicates of the 'bus on which a trade rider or a fellow clubman has just flashed up the hill at 60. Well, here is a hint. During the summer the firms who make a business of supplying aluminium pistons have done a lot of business amongst the sporting riders.

A Puzzle.

I HAVE just been consulted by a very perplexed rider indeed. After months of peace with a standard 3½ h.p. single-cylinder, trouble began by his magneto timing slipping, the taper mounting of the front sprocket being as usual the culprit. He was man enough to time his engine by the roadside even then (to anticipate a little, he is now a past expert at the job). Unfortunately, he did not tighten everything up quite as well as he could wish, and within a mile or two the job had to be done all over again, as everything whirred off. This time no tightening proved effectual, and the sprocket mounting was eventually re-ground to make a sounder job. The remedy acted like a charm, and the front sprocket has not slipped again. Unluckily trouble now occurs at the other end, for the key of the rear sprocket mounted on the camshaft shears every time he goes out. Without dismantling the parts in question it is, of course, impossible to make an exact diagnosis. But it is quite obvious that something is out of truth and throwing quite abnormal stress on the magneto transmission; the most likely troubles are an untrue sprocket or a bent armature spindle.

The Demand for Motor Cycles.

THE daily papers as usual are publishing not a little nonsense about the motor trade. The demand for motor cycles is still quite considerable, and—subject to the usual seasonal variations and sympathetic oscillations caused by national prosperity—it is going to remain far above old standards. The motor cycle is a necessity to some users, a luxury to others; in both aspects it is coveted by millions. This is the basic fact of the present situation. The subsidiary facts are two in number, and are often overlooked. First, new firms have rushed into the industry and old firms have planned outputs without any very statesmanlike forecast of the precise total demand to be experienced during 1920-1921. A considerable over-production was imminent, and is being dodged by the complete withdrawal of some firms and by reduction of output in other cases. Secondly, a commercial depression, which we all hope will only be temporary, has made money very tight, thereby exaggerating the usual autumn decrease in orders, and simultaneously strangling firms who were subsisting more or less on credit until such time as they should have recouped the huge outlay which figured in their post-war reconstruction. If general trade prosperity should return in the spring, we shall experience a boom rather than a slump in motor cycles. If the general trade depression is long drawn out, the luxury section of the motor cycle market will languish, as all luxury markets languish in hard times.

Oil in Bulk.

THOUGH we motor cyclists often complain because we are compelled to buy our petrol in a fiddley and wasteful manner, comparatively few of us study the irrefutable logic of Prices' advertisements and buy our oil in bulk. Personally I have followed their sage counsel for many years past, and the resultant saving on the oil bill varies from 25 to 50%. Tins are very costly nowadays, and, besides being non-returnable, are very little use when emptied. Drums are returnable.

Anti-Dazzle.

THE motor cycling organisations must watch Sir Eric Geddes very closely. If the dailies are reliable, he is even now on the verge of forbidding left-hand steering for cars, after winking at the importation of thousands so equipped, whilst their safety is equal to that of a Rolls on French roads. A Ministry which is capable of such intentions is not to be trusted overmuch where motor-cycle lighting is concerned. I have just received delivery of a 'bus with electric lighting, and it is fitted with an anti-dazzle device, which I happen to know has been turned down as inefficient by the powers that be. I have tried it on a dark night, and the light it affords is absolutely dangerous under tricky conditions. It is barely adequate for very slow work over very good roads. At legal limit in twisty lanes it is homicidal and suicidal. If we are tied down, as seems possible, to a still pronounced dimming of our head lamps, there will be a fine crop of accidents. Glaring head lamps are an admitted evil, and nobody will be better pleased than motorists if some non-dazzling lamp can be devised which affords the necessary minimum of illumination. But whereas glare is merely an inconvenience, over-dimming is a public danger. The suggested new Bill includes the absurd proposal to limit motor cycles to a head light less than one head lamp of a car. Put four wheels on a motor cycle (and pay the extra tax), and one will be able to have more than double the light.

Car Type Tyre Valve.

MR. BROOKER, of Prices's, follows up my paragraph on car type tyre valves by denouncing the tiny circular rubber washers which all tyre makers fit inside the small helmet caps over their valves. We all know that they are apt to leak, and he considers that they crumble, and that rubber crumbs from this source are to blame for most of the leaks which occur at the pear-headed pin. His lodge is to cut plugs from a leather strap with a chemist's cork-cutter. He seccotines the top of such a plug to make it stick in the metal cap, and he castor oils the lower side to keep it supple. Having done this, he does not expect any valve leakage for months and months and months. So that's that. What have the tyre makers got to say about it?

Good for Sunbeams!

A PAL picked up a stray copy of *The Motor Cycle*, studied it with his usual concentrated interest for a few minutes, and suddenly began to wave it round his head. He had reached the announcement of a 1921 3½ h.p. solo Sunbeam, weighing 50 lb. less than this year's model. I thoroughly agree with him that the Wolverhampton departure is a splendid policy. All *The Motor Cycle* men who reported the last Six Days agree that the present A.C.U. policy tends to develop a machine which is unnecessarily cumbrous for ordinary riding. Over and above that, the natural tendency of designers to produce their 500 c.c. machines with an eye to lugging a sidecar has already spoilt several once delightful machines for solo work. We badly need a few more first-class touring mounts designed for solo work pure and simple, and for solo work on roads which are not more than normally rough or difficult.

My Winter Mount.

FOR a long while past I have regularly bought a baby two-stroke in the autumn. During the winter one doesn't want to go fast (too cold); one doesn't want to make an expensive machine look shabby (too much depreciation); one doesn't want to handle 3 cwt. of metal (too many clothes on); so a baby always seems indicated by November at latest. The drawback usually is that there hasn't been a suitable illuminant. Dissolved acetylene, formerly the goods for short-distance nightwork with many stops, is too bulky for a baby, and makes it look like a roller skate with a roll of lino balanced on it. Dry batteries are very nice, but are apt to strand such a casual individual as myself. This year I am expecting a pukka, bijou dynamo set for use on my baby, and I feel very cosy in mind at the prospect. Still, between ourselves, I will confess that I shall feel still more cheery when the roads begin to dry up in March, and something of a mile-a-minute calibre is delivered. We've had frost, thunderstorms, and drenchers this week; so for the moment I'm not nuts on speedwork

Splitting Two-gallon Cans.

A MERRY fellow in the R.N. has sent me a witty screed on the problem of replenishing a 1½ gallon tank at a surly garage which won't split cans. His own method is to be quite cheerful about the villainy, and say, "Very well, but don't imagine I shall leave the odd half-gallon for you; I shall pour it on the road!" This simple bluff often succeeds. The notion of such waste usually scandalises the proprietor, who suddenly remembers that he has a taxi at hand, which can do with the surplus juice. On the other hand my hon. and gallant friend has no use for petrol standpipe installations. He considers that they run anglers and Ananias very close indeed. I must watch them. Personally, having a childlike mind, which loves to see how things work, I am generally so fascinated by the fellow who turns the handle and the thingamajigs that creep up and down that I forget to verify the measure. I presume that, as petrol prices creep up and up, we shall all insist on having tank gauges, and grow very canny about full measure.

Ships of the desert in the original and the modern form. One of the most remarkable demonstrations of the trustworthiness of modern motor cycles was made during the war by the B.S.A.'s in German East Africa. Many of these machines are still in service in Egypt.

A TOUR OF THE CORNISH COAST.

Exploring Little-known Coves and Villages on a Motor Cycle.

WITH a fervent desire for fine weather, I recently started from Exeter for a leisurely tour round the Cornish coast. I determined to poke myself and the bicycle into all the little spots which were to be found, and which are not on the beaten track of tourists.

Proceeding *via* Okehampton and Launceston, I found my way to the "wind hollowed heights and gusty bays of sheer Tintagel." From Exeter to about five miles west of Okehampton the road is very poor, but from there till the narrow byways leading down to Tintagel are reached the surface is fine.

Those who have never been to Cornwall cannot realise the rugged grandeur of its coast. They have yet to see the little fishing villages tucked in between the grim cliffs and the ever-changing colours of the great Atlantic—now green, now blue, now turning almost to purple. At Tintagel, the ruins of King Arthur's Castle on the rocky headland are filled with dreams for the dreamer, and even the simple tourist tripper must acknowledge their magnificence. On leaving Tintagel, the next place to visit is Port Isaac, well away from the beaten track and all alone in its sleepiness. The roads leading from the village are rough and steep, but it is a typical Cornish fishing village and worth the damage to the tyres.

The Unattractiveness of a "Resort."

After finding the way to Wadebridge *via* St. Endellion and St. Minver, a very fair road was followed to Padstow, a pretty enough spot, but too busy and wide awake to be really Cornish. From Padstow, one can either go along the lanes to Newquay or else return to the main road and continue *via* St. Columb; the lanes I tried and found very rough and came to the conclusion that they were not worth while.

Now comes the dull portion. Newquay I found too much of a "town complete with hotels and visitors" to be really interesting, so I decided to get on to Penzance. Following the main road *via* Summercourt, Redruth, Camborne, and Hayle, it is hard to lose one's way. The surface is good with the exception of the Redruth and Camborne sections, where one encounters tramlines.

Off the Beaten Track.

Penzance being a convenient place for further excursions, it is as well to stay there for a day or two. Of course, the best trip is to go to Land's End and then follow the coast as near as possible to St. Ives and return *via* Hayle to Penzance. On the way to Land's End, I turned off *via* St. Buryan to visit the famous "Logan Rock." The route to the rock takes in Penberth Hill, which, with its hairpin bend, would be useful in any trial. One meets many nasty steep pitches if you poke round off the beaten tracks, and so it is just as well to have a look at the brakes before you come across one of these. The road surface in the whole peninsula might be a great deal

A Tour of the Cornish Coast.—

worse, although the road from Penzance to Land's End is poor, and, on the north side especially, its windings resemble a dog chasing his own tail!

It is not for me to attempt to describe the scenery at Land's End and on the way to St. Ives—the sheer cliffs and the ragged rocks with the great expanse of multi-tinted ocean. The whole of the Cornish coast is the "Mecca" of artists, and St. Ives, with its quaint narrow streets, is better left to the brush than to the pen.

The following day was spent in wandering along the coast to Lamorna Cove, and the so-called roads I went over were easily the worst I found in Cornwall. From Penzance to Newlyn you bump and bounce, and you continue to bounce and also twist to Mousehole. Then you climb one side of a precipice and fall down the other into Lamorna. At first you think the lane is going to "peter" out to nothing, but, if you persevere, you do eventually come out in the cove.

Some Cornish Characteristics.

Newlyn is another home for artists, but, unfortunately, it has a high smell of fish, which spoils its beauty. Mousehole (the name first attracted me) is an odd little spot—all ups and downs, but very Cornish.

From Lamorna Cove, the better road back to Penzance is to go up the valley to Paul and thence to Newlyn, but one should beware of Paul Hill On the day I rode down it, it was recovering from a heavy storm of rain, and the slimy state of the surface put me once into the hedge and almost turned me round several times; I did not like it at all and had the "wind up" badly!

Having exhausted the district round Penzance, the next to explore is the Lizard. On the way I stopped at Marazion and took a boat across to St. Michael's Mount—another place for the dreamer. When the family is in residence, one is not shown over much of the old sea castle, but no one could go to Cornwall and then not visit St. Michael's Mount; the old guide alone is worth the visit with his reminiscences always prefaced by "When I was a lud."

Mullion Cove seemed as good a place as any to stay, so I put up there for a couple of nights. The road is quite good as far as Helston, but from there to the Lizard it gets gradually worse; there are no hills to speak about on the main road, however.

The rest of the day I spent wandering on foot round Mullion and Poldhu, and then early the following day I set out on a voyage of discovery round the rest of the Lizard Peninsula. The first place was Cadgwith, and it was the prettiest village that I found in Cornwall. In a quiet little village like this, one felt very much the unwelcome tripper; you felt almost ashamed to bring a modern and somewhat noisy piece of machinery to disturb its peace and beauty. As the "padre" passed my Triumph, I heard him mutter, "Another of those beastly things." Perhaps I should have agreed with him had I not moved with the times—as he had not.

After leaving Cadgwith, I went on to the Lizard and found I could see over the lighthouse after 1 p.m. Like all lighthouses, it is spotlessly clean, and to anyone interested in engines, it is well worth the visit

Kynance Cove was the next stop. I tried to get down to the cove on the motor cycle, but I had to give it up and walk. This is another famous beauty spot; with its white sands and great isolated rocks its equal could scarcely be found in the British Isles.

A Good Main Road Run.

As the weather looked like breaking, I decided to return next day to Exeter. I stopped for a short time at Truro to have a look at the new cathedral, which was only completed recently, and then run straight through to Exeter *via* Bodmin, Liskeard, Callington, Tavistock, and Moretonhampstead. The run of 124 miles was done in a riding time of a little under four hours and on just a gallon and a pint of petrol, with not one change from top gear all the way.

The road back is good till one gets into Devon, then it deteriorates from Two Bridges to Exeter.

It was a great tour—perfect weather, perfect scenery, decent roads, and no crush. If anyone wants to tour now or early next year, let him try Devon and Cornwall, and I only hope he will enjoy it as much as I did.

ROY S. HARTREE.

Despite the dampness of the summer, the hedgerows are laden with blackberries ripened by the autumn sun; a sidecar is the ideal means of reaching the untouched profusion of the countryside.

NOTES FOR THE NOVICE.—VI.

VARIABLE GEARS—3.

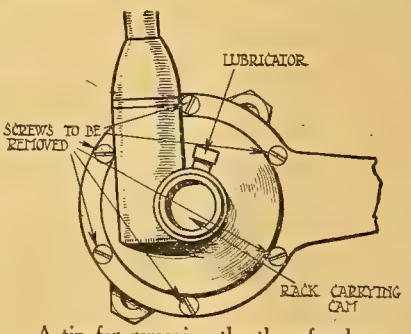
(Continued from page 412.)

The Care of Gears.

A GEAR box being without means of adjustment requires only lubrication and occasional washing out with paraffin. With regard to the former the makers' advice should be followed, but, generally speaking, a thick oil is the best lubricant; engine oil will answer the purpose very well. This is better than grease, which may set a little too stiff, when the pinions will plough grooves and cease to obtain adequate lubrication.

Many gear boxes have to be shifted along slots for the purpose of chain adjustment. When this is the case it should be impossible to set the gear box out of line, but there is often a little play, and it is advisable to take great care to see that the chain alignment is correct. Moreover, it is quite possible that the chain adjustment may be altered slightly by the action of screwing the gear box tightly into position, therefore this should always be checked again when all is secure.

I have said that gear boxes do not permit of adjustment, but this does not apply to the Enfield gear, which is not a gear box. In this gear expanding rings operated by pegs grip the high or low gear sprocket as required. These pegs are in turn forced outwards by a three-faced sliding cam; these faces are numbered 1, 2, and 3. When the machine is sent out No. 1 will be in position. When wear takes place and cam No. 1 will no longer press the pegs far enough to cause the expanding bands to grip the sprockets with sufficient force (but this should not occur until many thousands of miles have been covered), it will be necessary to bring cam No. 2 into engagement. To do this proceed as follows: Take off the nut which covers the end of the cam rack, remove the six small screws holding the pinion container, and turn the gear lever into the low gear position and beyond. This should withdraw the cam so far that it may be pulled out with the fingers. If this is still impossible, put some small objects such as nuts behind the edge of the pinion container on each side and again move the lever. The cam must now be replaced so that the next face comes in contact with the pegs. Each cam is five thousandths of an inch higher than the preceding one. Do not try to force the cam into place with the gear lever until the small screws are tightened up. Occasional lubrication with engine oil will keep this gear in excellent order for a very long time. If it is inclined to stick, wash it out well with paraffin, having first removed the chain case so that the paraffin may be poured between the sprockets.



A tip for removing the three-faced cam in the Enfield gear by means of the gear lever and nuts placed behind the flange.

Changing Gear.

Generally speaking, the gear should not be changed until the clutch is released, and on some machines the gear box is so arranged that it cannot be done, for the gear lever is locked till the clutch lever is moved. This is common American practice. On the other hand, it is often quite easy to change on the exhaust lifter; this is more suitable to a change up than a change down, as it cuts out the engine for a moment and allows it to slacken speed. A change down can, if well timed, be made by the gear lever alone, as if correctly done the engine will quicken up and drop nicely into the lower gear at its new speed. Novices are, however, always advised to adhere to the instructions of the maker, and these are usually to change on the clutch. An exception is the B.S.A., where a change up on the exhaust is recommended, and a direct change down without touching any other lever.

It is not very easy to change from top to bottom direct on the A.B.C. unless going slowly, as the engine, under other circumstances, must be speeded up considerably, owing to the large difference between the top and bottom ratios, which causes the pinions to be engaged, to be revolving at very different speeds. Double clutching may well be employed in this case.

The Enfield and other gears of the same class are very easy to use, as they are engaged by friction clutches, and nothing but the gear lever need be touched, though there is no objection to raising the exhaust for a moment when changing up. A change down should be made as quickly as possible when ascending a hill with the throttle fairly well open, as the engine will then quicken up to the required speed in a very short space of time. On the other hand, when travelling at a very slow speed with the throttle only just open, and it is desired to change down for traffic, a slow change is better.

Previous articles in this series include:
CARBURETTERS—Parts I., II., and III., Aug. 5th, 12th and 19th respectively; and VARIABLE GEARS—Part I., Sept. 23rd, and Part II., Oct. 7th.

ROAD TESTS OF NEW MODELS

THE 8 h.p. ZENITH ON THE ROAD.

IT is a remarkable tribute to the efficiency of the Gradua gear that it has been continually on the market, with very few modifications, for the last ten or twelve years. The fascination of driving a machine with a gear which is infinitely variable between two points is certainly very great, and if the difficulties usually attending belt drive are overcome it still remains, on account of its smoothness, the most delightful form of transmission.

Our experience of the latest model Zenith tends to show that the designers in this case have eliminated the more serious of their drawbacks, *i.e.*, belt-slip, due to microscopic pulleys, and inability to gear under about 7 to 1. Of course, this improvement was effected by the introduction of the forward countershaft.

Absence of Belt Slip.

The machine was used mainly for business purposes, and on two occasions carried the rider and passenger over a forty-mile cross-country road which contained one or two rather steep hills, to Brooklands, while much of the journey was over narrow winding lanes with bad surfaces. Previously the rider had found it difficult to cover the forty miles in less than two hours, but with the Zenith on a certain night, when it poured with rain, and in consequence very few people were about, the time taken to accomplish the journey was very considerably shortened. People will at once imagine that with a machine fitted with belt drive the belt would slip seriously under these conditions, as the roads were literally swimming with water, but we are glad to say that this was not so, even though the belt was put on new that afternoon, and the initial stretch had not been taken out of it. Needless to say the belt did require adjusting the following morning, but the fact remains that it held perfectly through the torrential rain encountered on that drive.

A Semi-automatic Carburetter.

The J.A.P engine fitted to this particular machine was remarkably smooth, being beautifully balanced, reasonably flexible, and giving ample power. The carburetter was a 1920 Amac, which provided delightful flexibility from about fifteen miles an hour to the maximum speed of which the machine was capable, but as it was adjusted, at small throttle openings the firing was apt to be erratic and the mixture extremely difficult to find, which proved to be rather troublesome in traffic. In the open country, on the other hand, the air could be placed fully open and the carburetter was then practically automatic in action.

Saddle Suspension.

The machine was exceedingly comfortable, and this was very largely due to the patent system of saddle springing which is the invention of Mr. F. W. Barnes. The saddle is suspended on quarter-elliptic leaf springs, and is hinged at the rear so that the top can be inverted in case of wet weather, thus keeping the seat dry for the rider. The system efficiently absorbs all road shocks, and with it a broken spring should be impossible. The spring forks are also most comfortable. As a great deal of our riding was done over rough roads we are well qualified to speak of the excellence of these fitments.

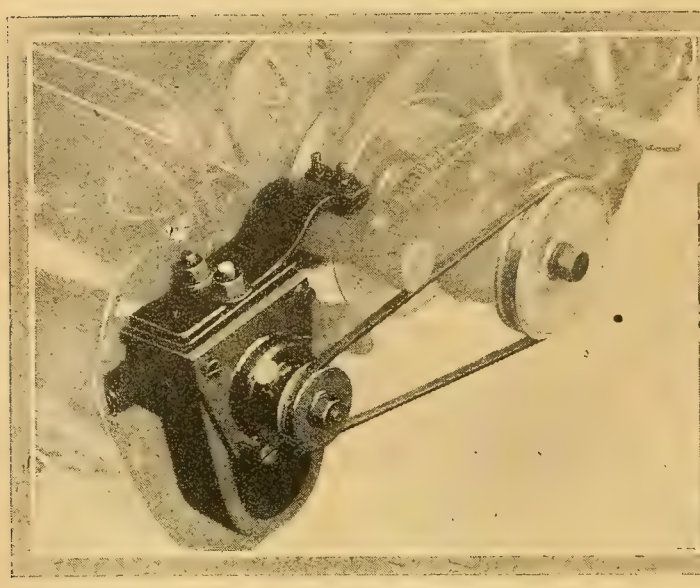
The Zenith Big Twin has undoubtedly advantages over many of the heavier machines of equal horse power which are now upon the market; it is obviously lighter on account of the absence of a heavy gear box, with the result that the speed and acceleration are all that can be desired. During the two or three hundred miles we drove the machine we were certainly delighted with it, and also with the sidecar (a Millford) which was comfortable and well sprung.

EXPERIMENTS IN ROAD MAKING.

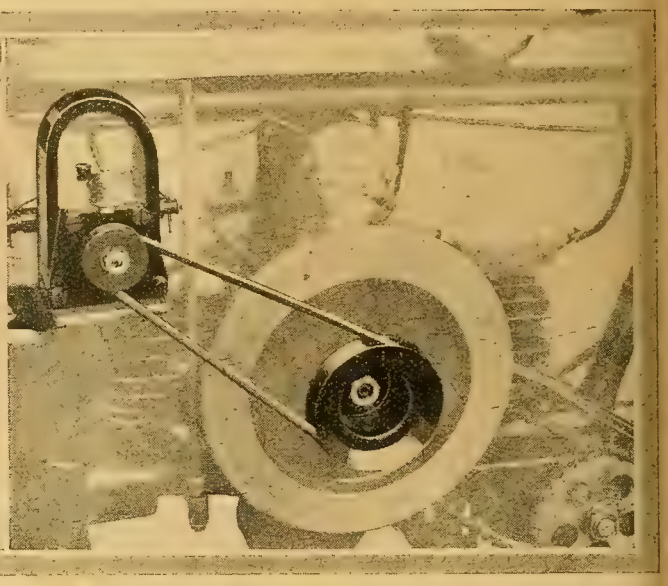
ON tour recently in the West of England we traversed several sections of newly made road with which the Somerset County Surveyor is experimenting. The public are invited to watch the progress of these experiments as, alongside each section, there are signboards giving particulars of the construction. This step, though not new, is in the right direction as, in a few months time, the surveyor—and the public—will be able to judge which form of construction is the best for main road traffic, as any vehicle passing along the particular road will traverse the whole of the experimental sections.

A PERMANENT MAGNET DYNAMO.

An Easily-fitted Lighting Set for Solo or Sidecar Machines.



The Astra dynamo fitted to an 8 h.p. Zenith. Observe that the pulley is bolted on to the engine shaft, and the dynamo carried in an inverted position, protected by the magneto mud-flap.



An entirely different position is utilised when fitted to a Douglas. The dynamo is carried on a special bracket attached to the down tube.

MOTOR cyclists have long been on the look-out for a dynamo lighting installation which can easily be fitted to a motor cycle and is not too heavy or cumbersome to be adapted to a solo mount. The Astra dynamo appears to fulfil these requirements exactly.

The dynamo consists of a die cast carcase supporting two tungsten steel magnets, and between their pole shoes a laminated armature with commutator and windings rotates on Hoffmann ball bearings.

The output of the dynamo is governed by armature reaction. As the armature, when rotating, develops a reverse field in opposition to that of the permanent magnets, and as the reverse field increases with the speed of rotation, a point is arrived at when the armature field equals that of the field magnets and so prevents the voltage and current rising to too great an amount. The Astra dynamo is thus self-regulated, and there is no danger either of over-charging or of charging the accumulators too rapidly. To obviate the necessity of a cut-out, the windings are so arranged that the voltage of the battery can only flow through the armature at a steady speed; and although it is desirable that the switch is "off" when the engine is at rest for any appreciable time, the discharge is slight and cannot cause any damage beyond slowly discharging the accumulator.

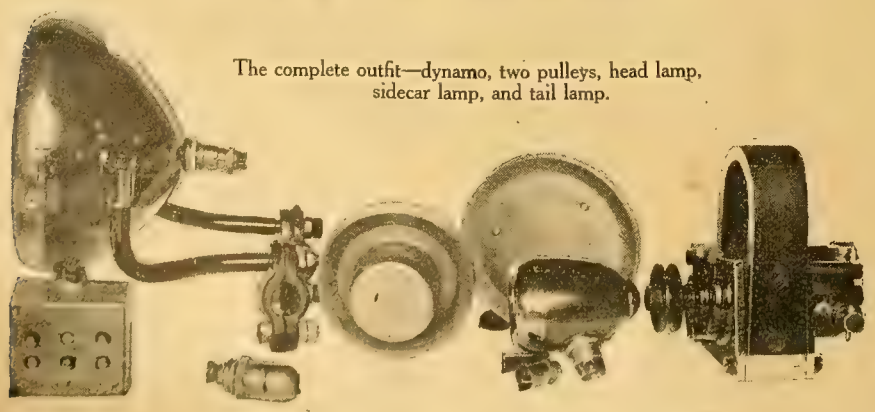
Simplicity of Construction and Operation.

The D.C.1 pattern machine, which is adapted to motor bicycles and sidecar outfits, has a pressure of 4 volts, and generates from two to four ampères when working at normal speed. Thus, its capacity is sufficient to light three lamps of useful size.

The wiring is extremely simple, and provision is made for the insertion of an automatic cut-out and ammeter if desired. These are hardly necessary, but may find a place on a sidecar outfit *de luxe*.

The dynamo may be run in any position, or in either direction, but if it is run in the reverse direction to that indicated by the arrow the colour of the terminals should be changed; as in this case negative becomes positive and positive negative. The dynamo charges at very low engine speeds, and needs very little attention as regards oiling, only one drop every few hundred miles being necessary. The complete outfit consists of a handsome head lamp, an exceedingly neat tail lamp, which also illuminates the number plate, and when sidecar outfits are equipped with the installation, a small but handsome sidecar lamp. The switchboard is fitted to the top tube, and controls the dynamo and also the lamps fitted. Suitable pulleys are supplied for various makes of motor cycles.

The Astra dynamo was formerly known as the M.I.R.A., but is now manufactured in this country by the Astra Dynamo Co., 110, Victoria Street, London, S.W.1.



The complete outfit—dynamo, two pulleys, head lamp, sidecar lamp, and tail lamp.

COMPULSORY ROAD SIGNALS.

AT last there appears to be some hope of compulsory traffic signals being demanded of all vehicle drivers, for a committee is now sitting to advise the Minister of Transport on this important matter.

Up to the present it appears that only two signals may be definitely anticipated as compulsory—one indicating "Stop!" by a vertical uplifting of the hand, the other showing that a right turn is to be made by an outward extension of the arm. Two other useful signals are recommended and illustrated in *The Autocar* this week.

SOME UP-TO-DATE OVERALLS.

SOME time ago our contributor "Ixion" expressed a desire for overalls which could be fastened quickly and surely, and at the same time could be put on and taken off without soiling the interiors, and eventually the rider's trousers. And we think he spoke for the majority of motor cyclists.

We have received from Messrs. E. B. Hamel and Sons, Tamworth, two most excellent leg overalls, which fully meet these requirements. Their chief feature is the method of fastening by a patent seam made by Kynoch, Ltd.; Witton, Birmingham. It consists of two rows of tiny metal steps which may be pulled together by a special clip; and so firmly are they interlaced that it would actually require a pressure of 250 lb. to separate them. A single tug at the clip end, however, and they "rip" apart again as easily as tearing tissue paper. The metal is rustless and apparently indestructible; and the seam, when closed, is hidden from view by a flap.

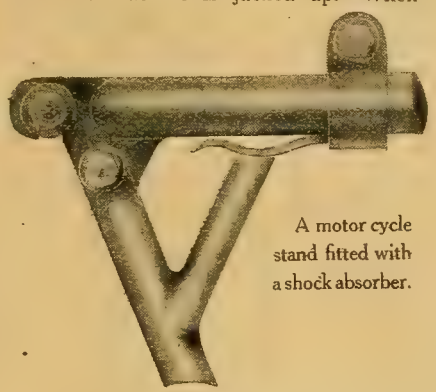
The patent fastener opened from top to bottom of overall.

The overalls themselves are particularly well-made, and are manufactured by the Leyland and Birmingham Rubber Co., Ltd., Kent Works, Maryhill, Glasgow. Of the two pairs sent one has the ordinary short opening, and save for the fastening is merely an example of the usual type of overall; the other pair, on the other hand, are of the type which will cause our friend, "Ixion," to rejoice, since the opening extends from the bottom of the leg to the very top of the garment. Our illustration shows clearly how easy it is to withdraw the soiled boot without even touching the interior of the overalls. They are certainly the most practical garment of their type we have ever seen on the market, and, in our opinion, their success is assured.

Showing how the overalls may instantly be removed without soiling their interior.

A STAND IMPROVEMENT.

A MOTOR cycle stand shock absorber has been invented by Mr. C. J. H. Stevens, 21, Priolo Road, Charlton, London, S.E.7. The clamp piece together with its spring is fitted on to the chain stays, and is adjusted in position so that it meets the prong of the stand when the machine is jacked up. When the correct position has been found the clamp is tightened. The steel spring is made to slide along the chain stays and consequently takes the brunt of the shock when the machine is brought to rest on the stand.



A motor cycle stand fitted with a shock absorber.

A NEW SIDECAR WINDSCREEN.

A PRACTICAL windscreen, enabling the passenger to have a full view of the road, and at the same time protecting him from the elements, has lately been brought out by Mr. W. Richardson, Dene View, Dipton, Co. Durham. It will be noticed that side wings are provided, which give further protection.

The fittings are exceedingly simple, the screen being merely held by two turn studs, which can be operated by the passenger from the inside. When not in use, the screen may be removed, rolled up, and packed in the bottom of the sidecar.

The Con Top windscreen, a design commendable for its simplicity.

AJUSTOSIZE GAITER.

An adjustable legging.

THIS gaiter is specially designed by the College Leather Co., Castle Street, Northampton, so that it can be attached quickly and yet can be adapted to suit the size of the rider's calf. When once the straps have been adjusted to suit the rider's leg, the gaiter can be fastened by means of the press buttons shown in the illustration. As the gaiter is intended to fasten from behind, there is no danger of wet driving in.

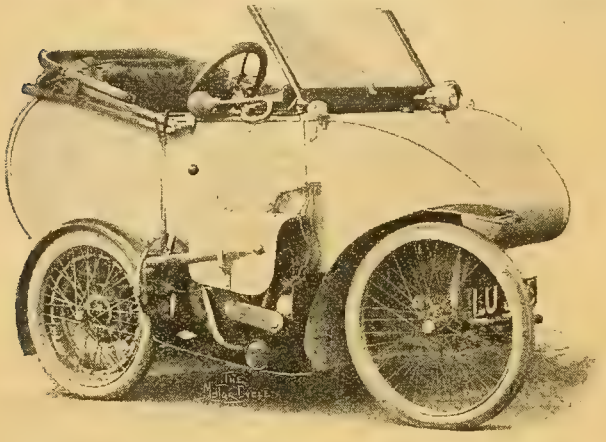
WINTER COMFORT.

Both drivers and passengers of the fair sex will appreciate the motoring helmet illustrated, and which is the registered design of Mr. H. Bednall, a leather specialist, of 55, Sutton Crescent, Walsall. It is made of black leather trimmed in fur, and we anticipate will be much in favour with motor cyclists of both sexes during the coming winter.

A Sociable on Sidecar Lines.

A Three-wheeler neither Sidecar nor Cycle Car.

THE great capabilities of the modern sidecar outfit compared with vehicles costing perhaps a hundred pounds more have caused much thought amongst designers, trade and amateur. Here is one commendable attempt to combine the comfort of the two-seater with the lower production cost and other advantages of the sidecar.



Solving the weather problem. The Austin two-seater sidecar, which has given its owner and designer every satisfaction on the road.

Our issue of August 12th, page 195, contained a description of the patented frame. It is in this case built of ash in the form of a bow girder, the inventor claiming that a steel construction would be much heavier for the same rigidity. The power unit is a 4 h.p. (495 c.c.) V twin J.A.P. carried on two stiff tubular steel bearers, with a Sturmey-Archer three-speed gear box attached to the rear engine plates. Final drive is by belt. By reason of the absence of the usual frame and tank the complete unit may be removed in a few minutes. The front axle is, of course, pivoted, steering being on car lines.

The front wheel, only, is sprung; the steel axle being suspended on an amply proportioned vertical bearing, which should eliminate any jar.

The body, made of sheet steel, is mounted on two semi-elliptic transverse springs, and by inverting the front spring (*i.e.*, ends coupled to the body, and the centre of the frame) side roll is eliminated.

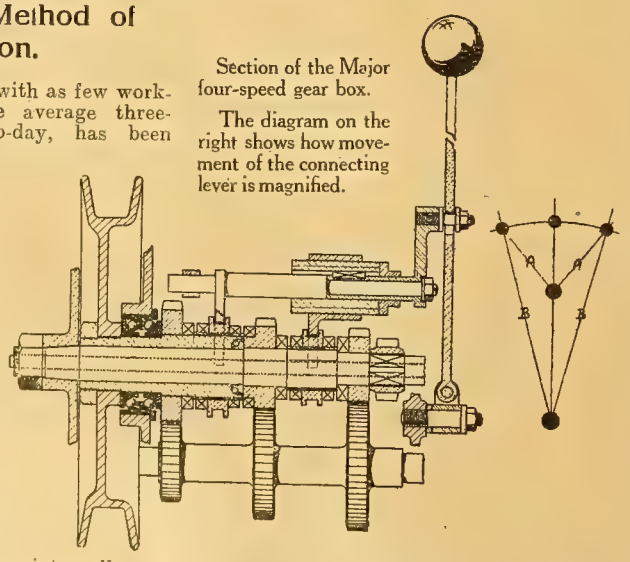
This model has done 3,000 miles, and, it is claimed, averages over 60 m.p.g., attains a speed of over 40 m.p.h., and climbs most hills on top. The designer and builder, Mr. Austin Webb, would be pleased to hear of any firm interested commercially.

A Simple Four-speed Gear Box.

An Unusual Method of Operation.

A FOUR-speed gear, with as few working parts as the average three-speed box of to-day, has been patented by Mr. H. A. Major.

The chief novelty lies in the method of operating the two sliding dog-clutches, one of which moves on a castellated portion of the main shaft, and the other similarly on the loose sleeve carrying the pulley. Bearing in mind that the hand lever works in an ordinary H type gate, the method of sliding the left dog clutch is obvious. But the actuating fork for the right dog is carried on a sleeve which has an internally cut quick operating thread, engaging a similar thread on the horizontal lever. A small back or forward movement of the main lever gives rotation to the horizontal bar, thus in turn giving a longitudinal movement to the right actuating fork.



Section of the Major four-speed gear box.

The diagram on the right shows how movement of the connecting lever is magnified.

How the gears are obtained is best illustrated by following the movements of the hand lever in an imaginary gate. It is now in neutral. Pull it to the left, and the left hand dog clutch immediately engages the pinion on its left. Continuing the motion forward the right hand dog clutch engages on its right, thus giving us the combination for first gear. Now, on a full backward pull, still on the same side, the left hand fork does not move, but the right hand dog clutch moves right over to its left engaging the centre pinion, which gives us second gear. It will be readily understood now that with the main lever on the right hand side of the gate, and thus the left dog clutch engaging the middle pinion, there are two further combinations possible which give third and top gears. The latter is direct: both dog clutches engage the central pinion, thus locking solid the main shaft and pulley sleeve.

WEST MIDLAND OPEN TRIAL RESULTS.

B.S.A. CHALLENGE CUP AND GOLD MEDAL (for best performance of the day).—Frank W. Giles (6 A.J.S. sc.).

TERRY CHALLENGE CUP AND GOLD MEDAL.—L. L. Sealey (3½ B.S.A.).

WOLVERHAMPTON MOTOR SERVICES CHALLENGE SHIELD AND GOLD MEDAL.—Reg Brown (3½ Sunbeam sc.).

SILVER CUP (for second best performance in solo class).—B. L. Bird (2¾ Marloe-Blackburne).

SILVER CUP (for second best performance in sidecar class).—W. E. Smith (8 Enfield sc.).

SILVER CUP (for best performance in single gear class).—J. G. Nickson (3½ Aero).

SPECIAL GOLD MEDAL PRESENTED BY A.J.S., LTD.—B. L. Bird (2¾ Marloe-Blackburne).

Special Prizes for Members of the Organising Clubs.

REDDITCH AND DISTRICT M.C.C.—Gold medal for best performance and silver medal for second best performance in each of the following classes: Up to 500 c.c. solo.—1, A. E. Wood (3½ B.S.A.); 2, H. Poole (3½ B.S.A.). Up to 600 c.c. solo: 1, L. L. Sealey (4¼ B.S.A.); 2, E. Roper (4¼ B.S.A.). Sidecars (unlimited).—1, W. E. Smith (8 Enfield sc.); 2, F. Bicknell (8 Enfield sc.). Special prize for best performance by an amateur.—A. L. Norton (3½ B.S.A.). Gold medal, presented by the Enfield Cycle Co., Ltd. (for the best performance in any class).—L. L. Sealey (4¼ B.S.A.).

WOLVERHAMPTON AND DISTRICT M.C.C. (gold medals for best performances in each of the following classes): Up to 350 c.c. solo.—F. J. Price (2¾ Diamond). Over 350 c.c. solo.—C. Williams (4 Norton). Sidecars (unlimited).—F. W. Giles (6 A.J.S.).

KIDDERMINSTER AND DISTRICT M.C.C.: The Castle Challenge Cup (for the best performance in any class).—F. W. Giles (6 A.J.S. sc.). Gold Medal for Best Solo.—R. Fellowes (4 Triumph). Silver Medal (for Second Best).—W. S. MacFarlane (4 Arab-Blackburne). Silver (for Second Best in Sidecar Class).—G. H. Ratcliffe (4 Triumph sc.).

TEAM PRIZE (three gold medals): Norton team.—L. Paynter (3½ Norton), H. W. Hassall (3½ Norton), and T. F. Watson (4 Norton sc.).

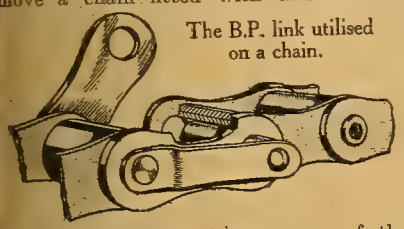
GOLD MEDALS.—J. C. Walker (2½ Edmund-Jap), W. Swiffen (4 Verus), F. W. Giles (5-6 A.J.S. sc.), H. Boynton (6 James sc.), B. Bladder (8 New Imperial sc.), B. L. Bird (2¾ Marloe-Blackburne), Eric Williams (6 A.J.S. sc.), H. Langman (3¾ Scott), L. L. Sealey (4¼ B.S.A.), L. Paynter (3½ Norton), H. W. Hassal (3½ Norton), W. E. Smith (6 Royal Enfield sc.), C. Wilson (3½ Norton), H. B. Denley (10 Morgan), S. Hall (2½ O.K. Junior), W. Handley (2½ O.K. Junior), S. H. Rhodes (2¾ Wolf-Blackburne), E. A. Roper (1¼ B.S.A.), Reg. Brown (3½ Sunbeam sc.), R. B. Clark (2¾ Coulson B), A. Wood (3½ B.S.A.), G. Denley (2¼ Velocette), B. Kershaw (2¾ Verus), and R. W. Duke (4 Triumph).

SILVER MEDALS.—A. Farr (3½ B.S.A. sc.), T. F. Watson (4 Norton sc.), J. Walker (2¾ Marloe-Blackburne), J. M. Philpott (2¾ Wilkin), F. J. Price (2½ Diamond), H. L. Willis (3½ Norton), F. Bicknell (6 Royal Enfield sc.), H. Poole (3½ B.S.A.), J. Dosher (6 Royal Enfield sc.), R. T. Cooke (4 Triumph), R. Cooper (2½ Alldays Allon), L. E. Clulee (2½ Alldays Allon), H. Moule (5-6 Rover sc.), Alec Wilkes (3½ Rover), G. H. Ratcliffe (4 Triumph sc.), R. Fellowes (4 Triumph), A. W. Taylor (4¼ B.S.A.), W. J. Edwards (2¾ Omega), A. MacFarlane (4 Arab-Blackburne), W. Whitehouse (3 A.B.C.), and B. Ivens (——).

BRONZE MEDALS.—J. A. Newman (3½ Sunbeam sc.), F. Arbuckle (4½ Humber), R. O. Bennett (2¾ Federation), T. B. Haddocks (6 A.J.S. sc.), V. Collins (4¼ B.S.A.), W. A. Carr (8 Morgan), Cyril Williams (3½ Norton), J. Wainwright (8 Matchless sc.), D. S. Heather (4¼ B.S.A. sc.), H. Ward (4¼ B.S.A.), G. Dance (3½ Sunbeam sc.), P. Newman (3 Ivy), J. Dudley (3½ Sunbeam sc.), W. J. Chambers (3½ B.S.A.), H. E. Ashley (6 L.M.C. sc.), and A. R. Penmay (2¾ A.J.S.

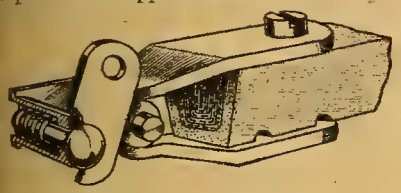
A NEW BELT OR CHAIN FASTENING.

A FASTENING for chain or belt is the subject of a patent granted to Messrs. Brayshay and Paterson, of 24, Queengate, Seagate, Dundee. To remove a chain fitted with this fastener



The B.P. link utilised on a chain.

it is only necessary to press one of the pins inwards, when the link may be swung round, as shown in one of the illustrations. A flat spring keeps the pin in position. Applied as a belt fastener,



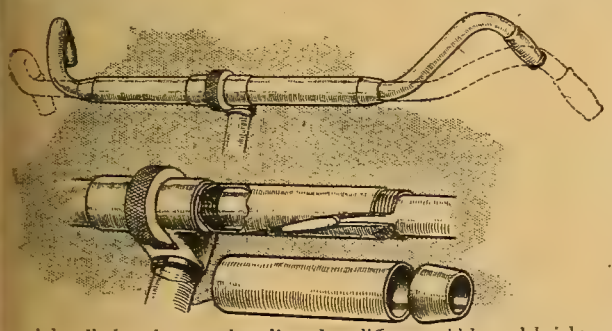
The B.P. link as a belt fastener.

the pin and link are held in place by a coil spring, and in the same way may be pulled out and pivoted round, thus freeing the other half of the fastener.

A NOVELTY IN HANDLE-BARS.

NEW accessories of every type continue to flood the market, but it is seldom that we are shown such an article as an instantly adjustable handle-bar. A fitting of this description has, however, recently been produced by Mr. Murray, of Union Street, Coventry, with the idea of providing a change of riding position while on tour without even dismounting from the saddle.

The construction of the bar will be evident from our illustration, and it is sufficient to point out that by rotating the central milled nut the bars can be made wider by a matter of 6in. and at the same time dropped to a very considerable extent. Any variation between narrow touring bars and wide racing bars can be obtained, though, of course, the length or reach is not materially altered. The construction is strong, and is well carried out.

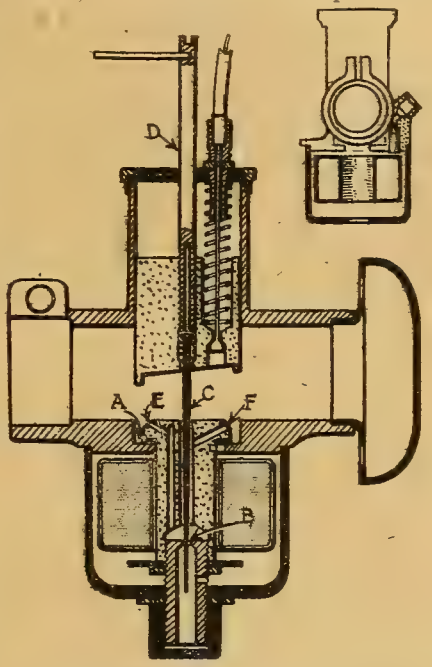


A handle-bar that may be adjusted to different widths and heights by simply revolving a milled nut.

A SIMPLE ONE-LEVER CARBURETTER.

SOME months ago we had the opportunity of trying a Mills single-lever carburetter on a 4 h.p. Douglas and sidecar, which is the property of the designer, Mr. F. A. Mills, the Manor House, Frensham, Surrey. The carburetter is of simple construction, consisting merely of a barrel throttle, to which is attached a taper needle, increasing the supply of petrol as the throttle is opened. In actual practice the carburetter worked extremely well, but since we had the opportunity of trying it it has undergone several improvements.

To start the engine the carburetter is flooded, and a small well of petrol is



A sectional drawing of the Mills carburetter; the letters are referred to in the text. (Inset) The annular float and needle valve.

filled at A. Opening and closing the throttle also enlarges or reduces the jet orifice B by means of a tapered needle C. A screw attached to the needle is provided with a bar so that it may be turned easily, and also has a quick thread of ¼in. pitch for the purpose of adjusting the petrol supply.

The carburetter adjusts itself to different speeds in the following manner: As the revolutions of the engine increase, the suction on the outlet jet E¹ is increased, but, owing to air offering less resistance than petrol, air is drawn down the orifice F, thus supplying a gradually weakening mixture as the engine speeds up, which effect becomes less the wider the throttle is opened, so giving a slightly richer compensation at larger throttle openings. The carburetter gives the maximum of power when the throttle assumes a position settled by experiment, and a stop is provided to prevent it being further opened.

The petrol level has no influence on the working of the carburetter, so long as it is above the lowest portion and below the highest part of the tube or passage connecting the primary jet B with the secondary jet A.

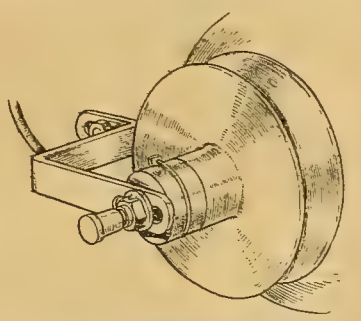
The inventor informs us that he can get eighty miles to the gallon with his 4 h.p. Douglas sidecar, but he does not recommend so attenuated a mixture to be used; he regards sixty miles to the gallon as satisfactory.

The inventor is desirous of getting into touch with any manufacturer interested in the design.

THE COLBRO VARIABLE PULLEY.

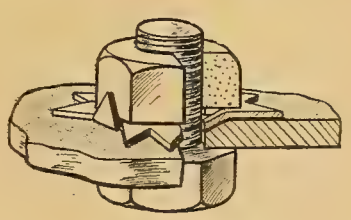
DESPITE its crudity the hand or foot-controlled variable pulley remains the simplest form of change speed gear extant; and, for the many old direct belt driven machines on the road, this advantage probably outweighs its faults.

The Colbro was marketed before the war by Messrs. Collett Bros., 1, Railway Buildings, South Norwood, London,



A handle-bar-controlled variable pulley, adaptable to most old fixed-gear machines.

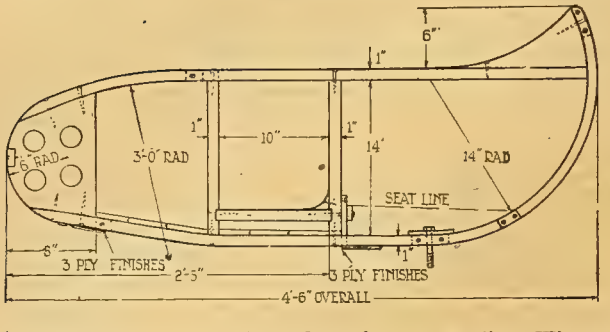
S.E.25, who have now resumed production, and it is an example of this type in its simplest form. Briefly, the outside floating flange is moved laterally by a collar internally engaging with a worm on the pulley shaft. This movement, controlled from the handle-bar, is claimed to give ratios of 4 to 8 to 1; and by allowing the belt to "bottom" on a slip ring a free-engine position is also obtained.

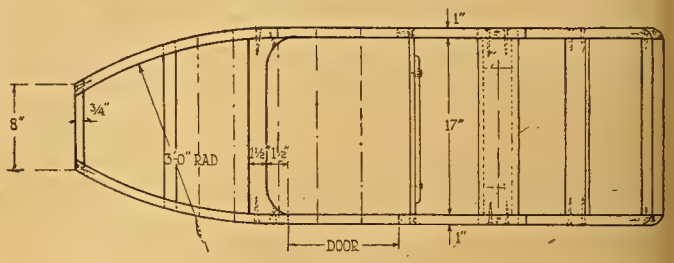


A new locking washer patented by A. E. Bourne, 179, Alexander Road, Acock's Green, Birmingham.

MAKING A SIDECAR BODY.

A Home-made Sidecar. How it was Made, and What it Cost.





Figs. 1 and 2.—Working drawings for the sidecar body.

BEING in need of a light and comfortable sidecar body, and having vainly searched through advertisements and catalogues for one which would be suitable both as regards shape and price, I determined to build one myself, and the result was very gratifying considering that the total cost, including upholstering, amounted (in post-war days) to just over £4.

A Simple Framework.

For the benefit of the many motor cyclists in the same position as myself, and who have a fair idea of wood-working tools, my method of procedure is described below, and, if followed out, should result in a neat and satisfactory job.

The frame consists mainly of 1in. square section ash (or any suitable wood) with a three-ply wood covering, the joints of which are finished with a small wooden bead. Referring to the sectional side elevation (fig. 1), the inner shape and curves of the side members should be set out on a wooden floor and small rough blocks 1in. thick secured at intervals of about 1 foot along the curves, thus forming a jig on which to bend the 1in. square ash.

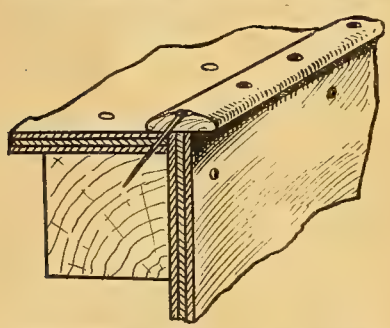


Fig. 3.—Method of finishing the covering.

Assembling.

While these pieces are being steamed or soaked, the two "formers" for the nose can be made from 1in. deal, and to these the side members should be fixed with 2½in. screws preparatory to bending the shape on the jig.

The whole should be framed up complete with all stiffeners and the side bracket pieces above the top member, as shown. It should then be covered with three-ply wood, securely glued and bradded in position before removing from the jig. When completed, the two sides should be joined up with ash cross-members (as shown in fig. 2), starting from the back and working forward, after which the three-ply covering may be fitted as before. Fig. 3 shows a good method of finishing the edges of the covering and fixing the bead.

It should be noted that the front portion of the covering finishes at the front floor support, thus obviating the necessity for handling a large sheet of the covering material during the process of making the curve around the nose.

Fitting the Door.

The floor is necessarily thicker than the rest of the covering and should be made of ¼in. matchboarding, tongued and grooved. This precaution is taken to prevent mud and dirt working up between the joints.

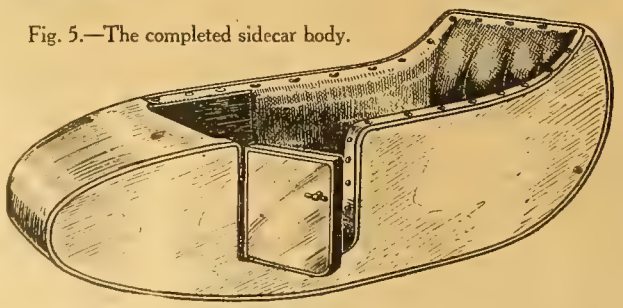
Before cutting the frame for the door the vertical stiffener at the rear of the door should be firmly tied in position by means of the cross-piece supporting the front end of the seat. If carefully cut, the pieces from the frame, together with the three-ply, may be used after framing up, as in fig. 4, for the complete door.

Brass hinges, about 1½in. should be used, and the door hung from the forward edge, so that in the case of its becoming unfastened, it is not blown wide open when the machine is in motion.

The painting may now be undertaken. After rubbing down with glass paper, it is a sound plan to give the whole surface exposed to the weather a coat of gold size, which will effectively keep all damp from the glue in the three-ply wood.

About two coats of lead paint and four coats of the final colour may be applied, and, if well rubbed down with glass paper between each coat, should give a good flat surface.

Fig. 5.—The completed sidecar body.



If it is desired to line the body this should now be done, and to those who are not experts with the brush, an ordinary draughtsman's lining pen and a large French curve are of great assistance.

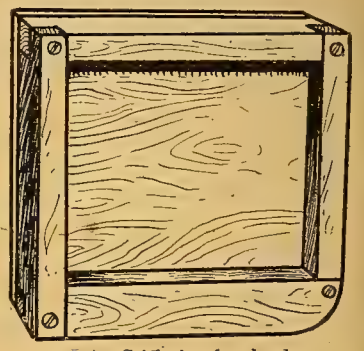


Fig. 4.—Stiffening for the door.

In the case of a wide line, the outside edges should be ruled in with the pen and the intervening space filled in with the aid of an ordinary artist's brush. By this method a first-class line may be obtained although it is a somewhat slow process.

Finishing Touches.

When the whole is quite dry and hard, one coat of good coachmakers' varnish should be sufficient to give a glass-like finish and keep out all wet.

The upholstering is perhaps best left to individual taste. Horse-hair or cocoa-nut fibre forms a very efficient padding, while Rexine (double width) has an excellent appearance, and is easily worked. One yard, if carefully cut, will be sufficient, and when fitted, the edges should be finished off with banding of the same material, held in position by leather-covered studs.

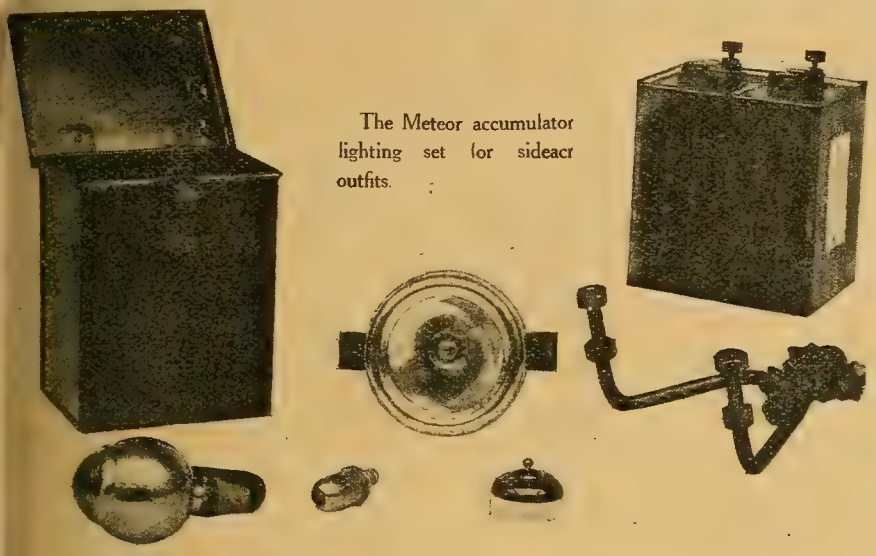
The whole, when completed, presents a most pleasing appearance, as clearly shown in fig. 5. Added to this is the possession of that feeling of satisfaction at "something attempted, something done" which follows completion.

The job is one which should only be tackled by those who have a knowledge of woodwork.

An Accumulator Lighting Set.

A Well-made Example of this Handy and Popular Form of Lighting Installation.

THOSE motor cyclists who have not equipped their machines with lamps must now think of doing so if they are to have unrestricted use of their mounts during the coming winter. The Meteor electric lighting set illustrated will, therefore, be of interest at the present time. It is marketed by the Motor Trading and Garage Co., Meteor House, Summer Row, Birmingham, and consists of a large accumulator in a strong metal case, a medium size head lamp of very substantial construction with a suitable bracket, a small tail light and a switch. When required for a sidecar outfit, a larger accumulator and a ball type side lamp is included.



The Meteor accumulator lighting set for sideacr outfits.

The solo set costs £6 6s., and the sidecar £9 9s.

Practical Experience.

We have one of these sets in use at the present time, and propose at a later date to record our experience of its service on a sidecar machine which is used in all weathers, and with which a great deal of night riding is done. The head lamp gives a splendid light, and so far the set has given no trouble.

Now that accumulators are being designed to withstand a reasonable amount of vibration, this comparatively simple form of electric lighting is becoming deservedly much more popular.

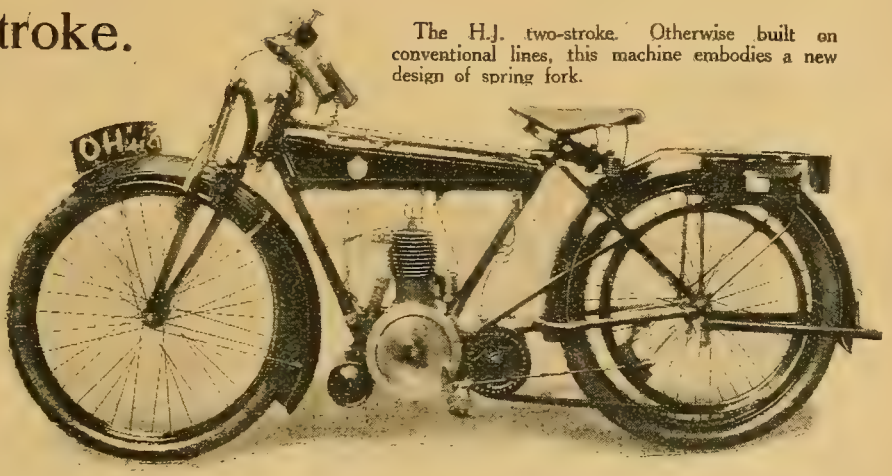
Such a set, of course, depends for its success on regular charging of the batteries, and in many cases, where "continuous" current is supplied, this can be done from the domestic lighting circuits.

The H.J. Two-stroke.

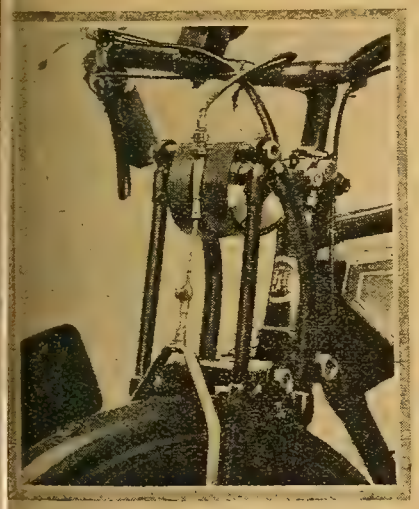
A Popularly Priced Addition to the Lightweight Fold.

ALTHOUGH in the main assembled from well-known component parts, the layout of the H.J. two-stroke shows several instances of careful thought. An extremely neat design of spring fork (pat. 21424) is fitted.

A 70 × 70 mm. Wall engine, Best and Lloyd lubrication, Amac carburetter, Runbaken magneto, and Roc two-speed gear form the specification of the standard model, which sells, with the usual accessories, at £65. A single-geared model, however, is produced at £54.



The H.J. two-stroke. Otherwise built on conventional lines, this machine embodies a new design of spring fork.



The upper portion of the H.J. spring fork showing the action of the leaf springs

Compound Action of Fork Springs.

Reverting to the spring fork, the photograph makes its action almost self-explanatory. Two curved leaf springs replace the usual top links of the Druid pattern fork, and by their design control equally vertical and horizontal movement. Lateral rigidity is maintained by all cross shackle pins being of the floating type and screwed up solidly with the side pieces. The springs are adjustable for load. Howard and Johnson, 19, Hockley Street, Birmingham, are the makers of both the fork and machine.

POLICE PREJUDICE.

DOES this really exist to the extent the following would infer? In some particular districts we are afraid that, perhaps, it does. A correspondent, who was recently mulcted of £17 10s. within a fortnight for two offences in the "driving to the danger of the public" category (which, by the way, he denies), states that he was advised in court by one of the officers to buy a small car, and he should have no further trouble, "for there is a great deal of prejudice against motor cycles and chars-à-bancs." The same correspondent comments on the futility of a system which suspends the licences of well-known expert drivers, and simultaneously grants them to anyone capable of applying.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

COIL OR LEAF SPRINGING?

Sir,—Why is "Ixion" so hard upon coil springs as applied to motor cycles? I know nothing of the theory of the thing, but my experience on a Wooler shows me nothing to complain of. I find that my little 'bus can do 25-30 m.p.h. over surfaces which no rigid frame can cover at more than 15. I have ridden a 1920 spring frame machine using leaf-springs, and would much prefer my own. D. M. O'GORMAN.

ELECTRIC LIGHTING.

Sir,—We ourselves have come across an accumulator which is free from the defects mentioned by your correspondent, *i.e.*, "The Fors" circular type, which has a positive separated from the negative by a porous pot, and, moreover, has rubber sleeves round the lugs and a rubber cushioning base, which absorbs any vibration, and allows of free circulation and freedom from sediment short-circuiting.

We have used this type on cars, sidecar outfits, and solo mounts; and with average care, as regards correct acid, distilled water, and careful charging, it has proved ideal.

The rough roads round this district and neighbourhood have failed to dislodge paste or cause any other trouble after many months' running. EARDLEY GARAGE CO.

Belvedere, Kent.

SANS MAGNETO.

Sir,—I am in agreement with Mr. T. C. Ridings's opinion that an engine continuing to run some few revolutions after the ignition has been cut off cannot be attributed to the Diesel principle.

It is well to note that a Diesel engine starts almost invariably on the first revolution, and from dead cold, the heat being generated by the great compression of the air; and it must be remembered the oil burns and does not explode, and that the compression ranges from 500 lb. per square inch to 900 lb. per square inch, and over in some cases, with a temperature at the period of full compression of 1,000° F.

If these conditions are needed to produce spontaneous combustion, it is unlikely that the engine continues to run from this cause. More likely it is caused by incandescent plug points, or perhaps when the engine is hot (and this has happened with me in the case of large gas engines), there is a badly fitting screw or some pocket that can retain a small particle of flame after the exhaust stroke is completed. At any rate, I see no evidence that the continued running is caused by a reversion to the Diesel principle.

B. HODDINOTT.

MOTORING AND THE PRESS.

Sir,—Now and again one hears complaints of the strange lack of interest shown by the newspapers in regard to things which interest motorists, and especially motor cyclists. Columns are devoted to cricket, football, racing (except motor racing), golf, tennis, billiards, bowling, and skittles—everything except motoring. Brooklands might be non-existent. The "Six Days," though tens of thousands showed their interest in its progress, was almost unnoticed. True, the supposed "slump in the motor trade" is esteemed useful copy. Every day has its paragraphs of motor accidents and the conviction of law breakers for exceeding the speed limit at Little Peddlington. Left-hand drive and the abomination of the char-à-banc emphasise the dangers of the "Juggernaut of the roads." Occasionally half a column is occupied with the opinions (usually ill-informed) of "Our Motoring Correspondent."

One wonders why this should be so. Motoring is the one sport which materially increases production and provides employment. Surely there are as many people who take interest in a great motor trial as in most of the recorded tennis tournaments or golf competitions. Of course, betting at Brooklands is in its infancy, and there are no tipsters to reveal to anxious and expectant sportsmen the secrets of the track.

Stoke Lacy. H. GEORGE MORGAN.

TIMELY AID.

Sir,—I should esteem it a favour if you would grant me space in *The Motor Cycle* to thank Mr. Attwood, the A.C.U. observer, for the assistance he gave me in repairing my broken two-speed gear at Huddersfield in the A.C.U. Six Days Trials. By his skill we were enabled to repair one gear with parts of the other, and so I was able to finish the journey by road instead of rail, though officially retired as per time schedule rule. COMPETITOR NO. 24.

Walthamstow.

LONG EXHAUSTS.

Sir,—May I trespass on a small portion of your interesting and valuable paper in commenting on "Duggie's" letter of the 2nd inst. He infers that long exhaust pipes are an abomination, and stupid, and that machines should be fitted with a large silencer and short tube. Has he considered the various machines manufactured with long exhaust, *e.g.*, Norton, T.T. Rover, Duzmo., etc.? I am sure that no Norton owner would sacrifice his long exhaust for a "jam-pot" and "bit of gas-pipe"! I certainly do admit that nowadays many big towns—particularly seaside towns—are infested by youths who dash about on a noisy little two-stroke with a drain-pipe arrangement in the rear, under the impression that they look "sporty," but they suffer under a delusion, and are more bother than they are worth. A machine properly fitted with a long exhaust should emit a dull deep throbbing sound, and to aid silencing slits may be cut in the last foot length or so of the pipe. F.R.G.

Havant.

M.P.G.

Sir,—Verily "Disabled" must be a stranger to your advertisement pages if he imagines that improvement in consumption ceases at the carburetter, or even at frame design. Whenever any remarkable feat in this line is accomplished, does not every firm concerned, however remotely, lodge its claims in letters large and black?

I call to mind one case in particular, when in a recent trial a rider obtained very high miles per gallon. This excellent result was attributed in turn to almost every accessory on the machine, but I think the palm goes to the makers of his tyres, with their "Why worry about the increase in the price of petrol when you can reduce your consumption by fitting our tyres?" The saving arises, no doubt, from the non-skid properties of the tyres, which eliminate the small percentage of driving wheel slip which always occurs, thereby cutting down the revolutions per mile.

East Sheen H.A.

MYSTERIOUS NOISES.

Sir,—I read with interest "Duffer's" letter regarding a mysterious clinking noise caused by his magneto driving chain. I may say that mine does the same, but rather worse, as it can be heard even when the cover is on. It only occurs when the ignition is two-thirds to fully advanced, and only when the engine is under load. I have tried various methods of stopping it without success.

Gibraltar. ANOTHER DUFFER.

A DISABLED MOTOR CYCLIST'S PREDICAMENT.

Sir,—I hope you will be able to find room in your paper for the following tip, which I trust may be of some use to disabled motor cyclists. A few days ago I had the misfortune to break my exhaust valve on a 3½ h.p. B.S.A. (1912), when three miles from home on a lonely road. As I have lost my right leg I did not know how to get the machine home for a time, but eventually I struck the following idea, which I hope may be useful to others. First I removed the belt and buckled it through the belt of my coat. Then I placed the free end of the loop made by the motor cycle belt over the front number plate, and taking my crutches found that the machine towed easily and steered well.

A B.S.A owner, who, although disabled, pluckily overcame an awkward situation in the manner described in the accompanying letter.

LEWIS R. OLDMEADOW.

THE LIGHTWEIGHT SIDECAR MACHINE.

Sir,—Now that petrol is so dear, and, what is more disappointing, benzole, too, has advanced in price, we are hearing a great deal about the possibilities of low-powered machines, even small two-strokes, as sidecar machines.

The writers of these articles in favour of "flogging the willing horse" seem invariably to overlook the most important item of all, which is the frequence with which these small machines are bound to require renewal of parts.

They tell us that we can do 85 m.p.g. with sidecar and passenger, instead of the usual 50 to 60 with our high-powered outfits, but forget that the little 'bus will probably want new big and little end bearings in about 4,000 miles, at best, whereas I have just seen an 8 h.p. machine which has carried a heavy sidecar and two heavy people a distance of 7,000 miles, and there is no trace of wear in any part. The same thing applies to all the working parts. Wheel bearings, transmission, frames, tyres, spokes, and a hundred other things which give satisfaction when the small machine is used for the purpose for which it was designed, will certainly not stand the strain of hauling along such an admittedly unmechanical contrivance as a sidecar.

A few years ago I did a lot of hard solo riding, and started off with a 2¾ h.p. single-cylinder. It was game, but could not stand the racket for long. Then I got a 3½ h.p. single-cylinder two-speed. That was much cheaper to run, but still required too many replacements for my liking, so I got a 4-5 h.p. twin, with infinitely variable gear.

That was far and away the cheapest solo machine I have ever owned. Its extra power gave me all the speed I needed to do long daily trips; it meant that it was always working well within its power, it needed decarbonising about half as often, and scarcely ever required any new parts. It did 85 m.p.g., 5,000 miles on a 1in. belt, and 5,500 miles on a 26in. × 2¼in. Rom tyre on the back wheel.

I think it is heart-breaking to see a 3½ h.p. machine hauling a sidecar. ELDON.

Reading.

Sir,—I notice with interest your contributor's account of a holiday tour with a 2¾ h.p. sidecar outfit, and can personally testify to the ability of a low-powered machine to give full satisfaction in this respect.

My motor cycle, a 1920 2¾ h.p. Douglas, three speed and clutch, with a light sidecar and passenger, made two return journeys from Leicestershire to Brighton in July last, *via* Buckingham, Slough, and Dorking, and on the second occasion I did a fortnight's touring in Sussex with Uckfield as a centre, the journeys, including trips to Tunbridge Wells over Crowborough Beacon (twice), Lewes, Brighton, Eastbourne, etc. School Hill, Lewes, was climbed on four occasions, the last time with an extra amount of luggage.

The particulars, as near as possible, were: Weight of motor cycle and sidecar, 263 lb.; driver and passenger, 294 lb.; luggage, 70 lb.; total, 627 lb. Distance travelled, 1,021 miles.

The only hill where foot assistance was necessary was on the long hill out of Amersham towards Beaconsfield, commencing with a very sharp corner.

Finally, the Douglas has done over 2,000 miles sidecar work since delivery in May last, the tyres have not been touched, belt required no adjustment till August Bank Holiday, and the engine, taken down once, required very little decarbonising. J.G.B.

Market Harborough.

A DEFENCE OF THE TWO-STROKE.

Sir,—The criticism of my article on the occasional defects in two-stroke machines, signed "B 3972," does not strike me as being remarkable for its consistency. First, this gentleman (who prefers a number instead of a name) accuses motor cycle journalists, notably myself, of devoting too much attention to the big four-stroke, to the exclusion of the two-stroke. Secondly, he alludes to my favourite mount, "the Scott"; and, thirdly, he proves to his own satisfaction that I have had no experience worth speaking about with two-stroke engines!

The fact that my baby two-stroke often four-strokes may be owing to my inability to drive it properly; but if irregular firing with this type of engine can be eliminated only by expert driving, it should be written off as a defect in the breed. The two-stroke represents the machine for the multitude, not merely for the expert two-stroke specialist, and while defects sometimes, or commonly, exist which hinder it in the fulfilment of that ideal, its advocates have no cause to take offence at criticism keeping us alive to acknowledged facts.

My article was written with a full appreciation of the sterling merits of most two-strokes of the day, and there was really no need for "B 3972" to rush off into defensive glorification of the breed. It is not surprising to learn that he regularly obtains 100 m.p.g. from an ordinary two-stroke. As stated in my original article, I have regularly obtained 180 m.p.g.; but, whereas any moderately-skilled tuner can tune up any old 500 c.c. four-stroke to do 120 m.p.g., there are, unquestionably, many tiny two-strokes which cannot be induced by any amount of tinkering to attain 100 m.p.g. The breed varies so very considerably that it cannot be regarded as having attained the stage of settled perfection realised by the four-stroke, and until the dud rider can depend upon even running and low consumption from any recognised make of two-stroke, level-headed criticism appearing in the technical press is bound to reflect favourably on the interests of the purchasing public.

The position as regards the two-stroke of to-day might be summed up as follows: In some respects it is far and away ahead of the four-stroke of the same c.c.; in other respects it falls far short. That its commonest defects are not inherent is proved by the fact that they are not possessed by all, and therefore have no right to exist in any. Retain its superlative features, wash out its shortcomings, and the four-stroke will have to look to its laurels. Improve the two-stroke, and you will automatically improve the four.

CHINOOK.

MOTOR CYCLISTS AS OUTRIDERS.

Sir,—In a recent edition of *The Motor Cycle* the employment of motor cyclists as outriders during H.M. the King's visit to the Isle of Man was mentioned as a comparative novelty; but, if this is so, I am afraid we are behind some other countries in this respect.

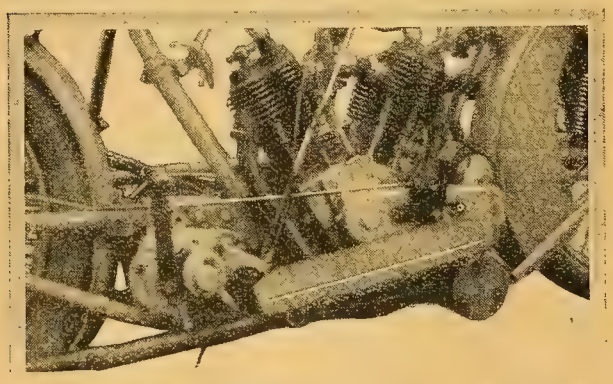
Many of your readers who were in Cairo or Alexandria during the war, and those who are permanently there still, have watched the Sultan driving through the city in his magnificent large red car preceded by a small "squadron" of soldier motor cyclists, who clear the way, and generally act as an escort.

I also happened to be in New York during the visits of the British and French Missions, and saw their respective chiefs, Mr. Balfour and Marshal Joffre, drive through the city on the occasion of their official reception, and on both occasions they were very heavily and carefully guarded, not only by the detectives and Secret Police, who overcrowded the actual car they were travelling in, but also by a large number of police and detectives on motor cycles, who certainly performed their duties most efficiently; so perhaps *our* Home Office might adopt this method of escorting celebrities, etc., also. A.B.C.

Greenock.

AN INTERESTING RENOVATION.

Sir,—The photograph, showing a 1914 three-speed hub gear, 6 h.p. B.A.T.-J.A.P., somewhat converted to modern lines, may be of interest to you; it has now a "Jukes" three-speed box, clutch and starter fitted, wheelbase being lengthened 3in. to allow this. The "family" sidecar seats two comfortably, and was made locally to my sketches, being some-



Improvements to a 1914 B.A.T. described in the letter of T. Cordery, who states that many pleasant hours were spent last winter in converting his machine to a countershaft gear model

what barrel shape at centre to allow width for comfortable seating; the work involved gave many hours of pleasant labour last winter, which has amply been repaid.

T. CORDERY.

CONTRASTED "JUSTICE."

Sir,—Will you kindly allow me to give a word of warning to fellow motor cyclists whose pleasure or business takes them through the village of Amersham (Bucks)? The local police appear to be out to make themselves as unpopular and obnoxious as possible, as the following details will prove.

On August 2nd I was proceeding from Kensington to Amersham to act as timekeeper in a reliability trial organised by my club, when, within less than 100 yards of my destination, I was pulled up by a constable, who abruptly informed me that I was driving my Indian combination in a manner dangerous to the public. Such a charge was ludicrous, as there was not a vehicle in sight nor a soul on the road, neither was my speed excessive or my driving erratic. At the hearing of the case seven weeks later the prosecution called no fewer than four witnesses. Goodness knows where they were at the time of the alleged offence! In the absence of a witness for the defence, all adverse evidence was meekly accepted by the bench, and I was convicted and mulcted in the sum of £10, plus £1 costs. This for a first offence! Compare this imposition with the case of a drunken man driving a combination in Fenchurch Street, E.C., who was, at the Mansion House, fined £3! Surely it is high time that such unfavourable comparisons should be rendered impossible, and that rural benches are brought into line with the more just bodies who mete out punishment fitting to the offence.

Take my advice (if you value the contents of your pocket) and give Amersham a miss whenever possible.

ALAN W. DAY.

A MYSTERIOUS ACCIDENT.

Sir,—I have been much interested in the accident which befell Mr. Boyce, as I had a somewhat similar experience about five years ago.

I am a rider of the opposite sex, and have owned and ridden a motor cycle ever since I left school in 1913.

At the time of the accident I was riding a lady's Douglas, and I remember quite clearly seeing that the speedometer was registering 35 m.p.h. After that I remember nothing more until I hit the road with considerable force, and found the back wheel of my machine buzzing round a few inches off my nose! Being rather a "lightweight," on picking myself up, I found I was as fit as a fiddle, bar a bruise or two, the only damage to the machine being both footboards broken off and sundry scratches to the enamel.

I examined the road most carefully, and found nothing to account for the mishap. I had no "wobble." I was not tired, as I had only ridden thirty miles. I have never fainted in my life, and have nothing the matter with my eyesight. I rode that same machine over 10,000 miles before I sold it, and have never had a similar experience on that or any other machine, and am at a loss to account for it.

In concluding, may I say that I, like "Fairplay," have always met with the greatest courtesy and kindness from all motor cyclists on the road. I find they are always ready to do the very best they can to help, and I, for one, am very grateful to them. DARDENELLA.

Beckenham.

SUMMARY OF CORRESPONDENCE.

We have recently received so many letters of appreciation of various garages' and manufacturers' treatment of their customers that it is impossible to publish them in full. This is a very desirable state of affairs; and the only recent complaint (from Major Beadnell) refers to the abominable treatment meted out to his Douglas outfit by a nameless village repair shop. Messrs. G. E. Smith, P. H. Davie, and G. K. Gibbs respectively praise the work of the Belmont Garage, Bournemouth, the Auto-Electrical and Car Engineering Co., Swansea, and Messrs. W. and L. Leicester, St. Helens; while Messrs. A. Clegg, L. C. Wakeman, W. Lewison, S. J. Granfield, L. F. Barnes, and W. H. Goodenough respectively report generous treatment from Messrs. C. A. Vandervell, John Marston, Ltd., the Villiers Engineering Co., A. Green (Manchester), the Electric Ignition Co., and the Massey-Arran Motor Co. Further letters on the subject of Mr. Boyce's accident continue to reach us, but none of them so far contain a very probable solution.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle.*

	Price net.	By post
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"THE MOTOR CYCLE" ROAD MAPS. England and Wales, Scotland, London (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.	5/6	5/10
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QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Angle of Magneto.

Will you please tell me how to find out the angle of a twin magneto?—J.M.W.

If the degrees are not marked on the magneto, you must measure the angle between the leading ends of the two cams. From this figure deduct 180°, and double the remainder. This will give you the angle of the magneto. For example, if the magneto is one to suit a 50° engine, the angle between the leading ends of the cams will be 265°. Deducting 180° from this gives 25°, which doubled gives 50° as required.

Flat Twin Two-stroke.

(1.) What kind of magneto do I require to fire a flat twin two-stroke engine in which both cylinders fire together? (2.) Can I use a single-cylinder magneto, and if so, how can I take two leads from the same carbon brush? (3.) If two such leads are taken would they fire both plugs equally well, or would the plug with the minimum gap take all the spark?—E.C.L.

(1.) You require a special double spark magneto for this engine. (2 and 3.) A single-cylinder magneto cannot be used satisfactorily.

Engine Vibration.

(1.) I have been troubled some time with engine vibration, which not only makes the machine uncomfortable to ride, but has caused broken petrol pipes, tank bracket, and several cracks in the tank, and I wish to check the balance of the engine. Can you tell me how to find out which is too heavy, the piston or the balance weight? and how much? (2.) If the balance weight is too heavy how can it be most easily corrected?—R.E.C.

The balance weight (at the same distance from the main shaft as the crank pin) should equal the weight of the rotating masses plus half the weight of the reciprocating masses. The crank pin, big end, and lower half of the connecting rod constitute the former, and the top part of the connecting rod, small end, gudgeon pin, and piston, the latter. It is just possible that the balance weight is too heavy, but in all probability it will be the piston from which the weight must be taken. We do not recommend you to make any attempt to alter the balance—it would be better to return the engine to the makers, pointing out its defects.

Blowing Back through Carburetter.

I have just dismantled my 2½ h.p. two-stroke motor cycle, crank case and everything, and given it a good clean. Now when I start the machine I get a lot of blowing back through the carburetter, and I do not seem to have as much power as I had before. Hills that I used to climb on top gear I now have to finish on second gear. Apparently the crank case is air tight, as also are the cylinder joints and exhaust. I have screwed up the Senspray carburetter as hard as possible to the induction pipe. Do two-strokes have to run for a few miles after being cleaned to run themselves in? When I near the top of a hill, in top gear, just before I have to change into second I get a lot of blow back through carburetter.—P.A.C.

Blow-back through the carburetter of a two-stroke is usually due to the mixture being too weak, but it might be caused by the ignition being unduly retarded. During the cleaning operations, you may have allowed a small amount of dirt to enter the carburetter, and this has possibly partially choked the jet. If this is not so, check the timing. The spark should occur when the piston is on top dead centre with the ignition control fully retarded. You do not state whether you removed the piston rings when cleaning. If you did this and scraped out the carbon in the grooves behind the rings, it is quite likely that you will have to run the machine some distance before it regains its normal power.

Rear Light from Magneto.

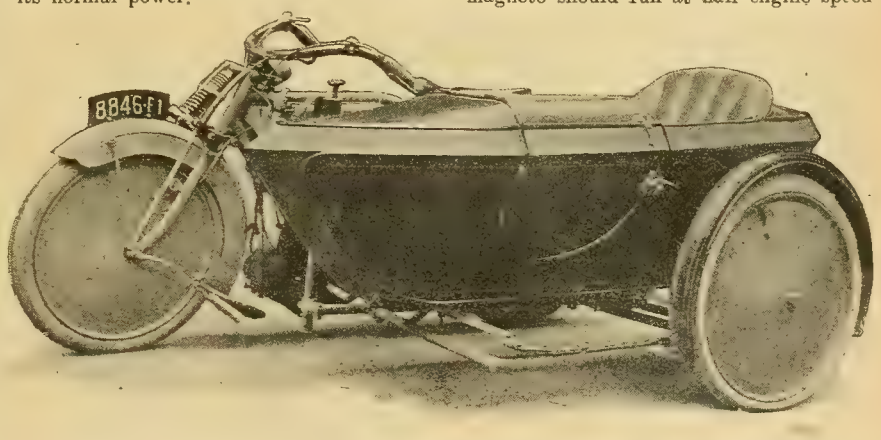
(1.) Can a rear light be obtained from a single-cylinder magneto? (2.) If so, can you give me the dimensions of choking coil gauge of wire, number of turns and diameter of core and length? (3.) To which part of magneto should the wire be attached?—G.P.L.

(1.) You can obtain a light from the single-cylinder magneto if a low-tension switch is fitted on the contact breaker. (2.) The size of the choking coil would have to be determined experimentally, but a complete outfit is on the market, and can be obtained from most of the leading accessory houses. (3.) The connection is made to the low-tension switch.

Conversion to Magneto Ignition.

I have an old gas engine with slide valve ignition. The slides have been faced up so often that they are now worn out on the ignition side through getting scored by carbon deposit. Otherwise the engine is perfect. I intend to fit a magneto and to run it at crankshaft speed. Would a Bosch D.A.2 open type suit, and would an ordinary plug serve?—D.K.

Your question is rather outside our sphere, but you require a single-cylinder magneto running at half engine speed. The D.A.2 magneto would not be suitable unless you remove one of the high-tension brushes, and also the corresponding cam from the contact breaker. This magneto should run at half engine speed



It will be seen that very graceful lines have been obtained in this sidecar designed by the French firm of Garnier and Co., who are exhibiting at Olympia. There is a touch of the nautical about the body, by reason of its pointed bow, its rounded stern, and its curved deck. The workmanship and finish are excellent, and these may be taken as an indication of the close attention that is now being given in France to motor cycle development.

Changed Engine Number.

I bought a motor cycle last month, second-hand. There is no year of make stated on the receipt, nor did the seller commit himself to any year; he merely stated that according to engine number it must be a 1913-14 model. I found the cycle not pulling too well and decided to forward it to the makers to have it thoroughly overhauled. The makers now advise the receipt of the machine, but state that, instead of engine number being 2622, as stamped on it, the real number is 622, and the model a 1910 one, a "2" having been put in front of engine number by some previous owner. (1.) Does this constitute fraud? (2.) Could I legally claim for the return of my money? (3.) As the seller states that he was selling the machine on behalf of another party (whose name he refuses to give), am I right in taking proceedings against him as the seller?—J.R.

No doubt the engine number was changed fraudulently, but you would have to prove that this was done by the person from whom you bought the machine, before you could claim anything from him. If you can prove that the number was changed by the last owner, you could legally claim for a return of so much of your money as would compensate for the difference in value between a 1913 and a 1910 model. You would, of course, proceed against the person who sold the machine, as presumably he was acting as agent for the actual owner.

READERS' REPLIES.

A Remedy that Acted.

Three or four weeks ago you were good enough to suggest a remedy for my Enfield, viz., stronger valve springs, and having tried the 'bus after applying it, I am now writing to express my warmest thanks to you for your advice. The "cure" was instant and complete, and worked a marvellous transformation. Your most valuable aid was all the more welcome since an expert to whom I sent the machine for overhaul had failed to spot the trouble.—A.J.G.

An Untraceable Squeak.

I had a similar trouble to that which "R.P." describes in the issue of September 23rd, and I traced it to the cylinder. On removing it I found a ridge of carbon round the top edge of the piston, on the transfer port side, and after this was cleaned off the squeak ceased.—T.H.K.

EXPERIENCES REQUIRED.

"H.F." (Dublin).—2¾ h.p. Coulson B. as a solo mount, particularly with regard to petrol consumption, cost of up-keep, and hill-climbing. Is a kick-starter advisable?

"A.W." (Bournemouth).—1920 2¾ h.p. Wooler; reliability, power, and economy.

RECOMMENDED ROUTES.

WISBECH TO WOODFORD.—L.V.H.

March, Chatteris, Somerham, St. Ives, Cambridge, Chesterfield, Newport, Bishop's Stortford, Epping, and Woodford.

WOODFORD TO NORTHAMPTON.—D.E.F.

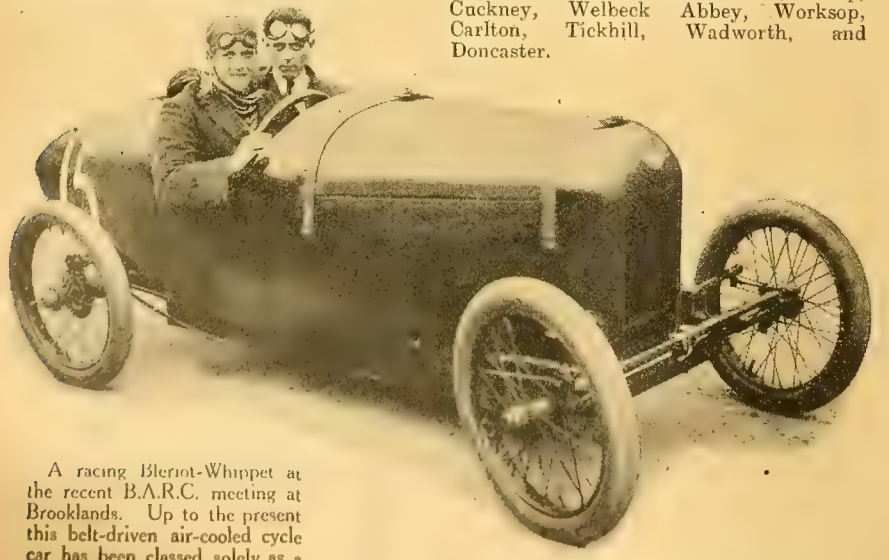
Barnet, St. Albans, Redbourn, Markyate, Dunstable, Hockliffe, Woburn, Newport Pagnell, Gayhurst, Stoke Goldington, Hackleton, and Northampton.

BIRMINGHAM TO BRADFORD.—O.S.

Birmingham, Sutton Coldfield, Lichfield, Burton, Derby, Heanor, Ripley, Alfreton, Clay Cross, Chesterfield, Dronfield, Sheffield, Barnsley, Wakefield, Ardsley, Dudley Hill, Bradford.

BIRMINGHAM TO DONCASTER.—A.F.J.

Erdington, Sutton Coldfield, Bassetts Pole, Tamworth, Nomans Heath, Measham, Ashby-de-la-Zouch, Castle Donington, Sawley Station, Sandiacre Hill, Stapleford, Bramcote, Lenton, Nottingham, Mansfield, Market Warsop, Cuckney, Welbeck Abbey, Worksop, Carlton, Tickhill, Wadworth, and Doncaster.



A racing Bleriot-Whippet at the recent B.A.R.C. meeting at Brooklands. Up to the present this belt-driven air-cooled cycle car has been classed solely as a touring vehicle, but with its streamline body and a high power-weight ratio it should prove a speedy machine also.

SPARKLETS

Tamplins in 1921.

Excepting for minor improvements the present model of the Tamplin runabout will remain unaltered for 1921.

Instructions for Burman Gear Users.

A leaflet containing helpful hints with regard to the popular Burman gear box, and instructing users how to get the best out of it, is now available. It may be obtained from Messrs. Burman and Sons, Ltd., Ryland Road, Birmingham.

Patents for Inventions.

A booklet recently issued by Messrs. King's Patent Agency, Ltd., 146a, Queen Victoria Street, London, E.C.4, should be of interest to those of our readers who are thinking of taking out patents, as it contains much useful information on the subject.

The A.B.C. Skootamota.

The manufacturers of the A.B.C. Skootamota (Messrs. Gilbert Campling, Ltd., 1, Albemarle Street, Piccadilly, London, W.1), state that their output will be in no way affected by the closing down of the Sopwith Aviation Company's A.B.C. motor cycle works, as they are not connected.

"A Word about The Wolf."

A catalogue of the Wolf motor cycles has been issued, which describes the 2¾ h.p. Blackburne-engined model; the Model B, fitted with 2½ h.p. Villiers two-stroke; and the Model C, fitted with 2¾ h.p. J.A.P. engine. Copies will be sent to readers on application to the Wulfruna Engineering Co., Ltd., Brickkiln Street, Wolverhampton.

The A.A. and M.U. Handbook.

The new edition of this handbook for the use of members contains a considerable amount of useful information to motorists in a very small compass. In the section devoted to the A.A. and M.U. patrol system, mention is made of the A.A. first-aid sidecar machines, equipped with spares, accessories, and tools, and driven by mechanics. Amongst other information is a list of 2,700 appointed hotels and garages, and an A.B.C. guide to the motor laws.

Electrical Equipment.

We are in receipt of the latest catalogue of Hunt's motor cycle accessories, published by Messrs. A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, East Croydon, Surrey, which includes details of complete electric lighting sets and lighting accessories.

A separate catalogue is also issued dealing with Hellesen dry batteries. (We have had one of this type in use since the end of March, 1915, and it still appears to be as full of life as ever.) A separate leaflet is devoted to the H.A.H. dry battery hand lamp.

A Motor Cycling Club for Thanet.

We hear that a club has been formed for the Isle of Thanet district, and a meeting is being held on the 14th inst. to discuss matters in general. The subscription is one guinea a year, and the hon. sec., Mr. G. T. Vaughan, Minster (Kent), will be glad to hear from motor cyclists who are interested.

Ealing and District M.C.C.

The above club will hold a hill-climb in the vicinity of Dorking on October 23rd. This will be the last competitive event of the year. The Upton Challenge Cup, presented by the Hon. Mountjoy Upton, will be decided on formula and will be awarded to the rider making the best performance of the day. A prize will be presented for the fastest time of the day, while silver medals will be awarded to the winner of each class.

North-western Centre A.C.U.

A challenge trophy and series of twelve replica cups were presented to this centre by Messrs. J. Blake and Co., of Bold Street, Liverpool. The first mentioned has been won this year by the Warrington M.C. The Stalybridge, East Lancashire, Bury, Bolton, Liverpool, Manchester, North Cheshire, Warrington, Burnley, and Widnes Clubs each have one of the replicas (two, so far, are not allocated). Hence the many Blake Challenge Cup Trials held during the past year in the North-western district.

Stockport M.C.

The results of the successful hill-climb held by the above on the 25th September in Derbyshire are appended. The event was particularly well attended, attracting 102 entries, which very possibly constitutes a record for a closed club event.

CLASS 1.—1, O. E. Carter (Levis), 1m. 53⅕s.; 2, Miss Cowley (Levis), 2m. 42⅖s.; 3, G. Hall Hallam (Dreadnought), 2m. 49s.

CLASS 2.—1, G. Cowley, senr. (A.J.S.), 1m. 27⅘s.; 2, Miss Cowley (Douglas), 1m. 45s.; 3, P. H. Boyd (New Imperial), 2m. 6⅗s.

CLASS 3.—1, E. S. Abram (A.B.C.), 1m. 16⅘s.; 2, J. R. Cruickshank (Norton), 1m. 19⅗s.; 3, T. Simister (Norton), 1m. 19⅘s.

CLASS 4.—1, G. Cowley, junr. (Norton), 1m. 13⅘s.; 2, E. S. Abram (A.B.C.), 1m. 16s.; 3, T. Simister (Norton), 1m. 16⅘s.

CLASS 5.—1, E. Bottomley (Harley-Davidson), 1m. 9⅘s.; 2, G. Cowley, junr. (Norton), 1m. 14s.; 3, E. S. Abram (A.B.C.), 1m. 14⅘s.

CLASS 6.—1, E. S. Abram (A.B.C.), 1m. 14⅘s.; 2, L. Smith (A.B.C.), 1m. 30s.; 3, F. Cheetham (A.B.C.), 1m. 31s.

CLASS 7.—1, S. A. Crabtree (A.J.S.), 2m. 1s.; 2, G. Cowley, senr. (A.J.S.), 2m. 4⅘s.

CLASS 8.—1, G. Cowley, junr. (Norton), 1m. 52⅘s.; 2, T. Simister (Norton), 1m. 46⅘s.; 3, B. Caldwell (Norton), 1m. 57s.

CLASS 9.—1, E. Bottomley (Harley-Davidson), 1m. 23⅘s.; 2, G. Cowley, junr. (Norton), 1m. 33s.; 3, T. Simister (Norton), 1m. 38⅘s.

CLASS 10.—1, E. Bottomley (Harley-Davidson), 1m. 25⅕s.; 2, G. Cowley, junr. (Norton), 1m. 32⅘s.; 3, T. Simister (Norton), 1m. 38s.

Fastest time of the day, E. Bottomley, 1m. 9⅘s.

SPECIAL PRIZES.—J. L. Cruickshanks (Norton), best performance (500 c.c.) by private owner; H. Wild (A.B.C.), best performance by private owner); W. Preston (Sunbeam), best performance (600 c.c. sidecar) by private owner.

Week-end Club Events.

Oct. 14.—Berwick and District M.C. Annual Dinner.
Oct. 16.—M.C.C., Ltd. One Day Reliability Trial.
Oct. 16.—Southampton and District M. and M.C.C. Hill-climb.
Oct. 16.—Coventry and Warwickshire M.C. Reliability Trial and Closing Run.
Oct. 16.—Sutton Coldfield and North Birmingham A.C. Sutton Cup Trial.
Oct. 16.—Bedford and District M.C. and L.C.C. Club Run.
Oct. 16.—Glasgow Western M.C.C. Reliability Trial.
Oct. 17.—N.M.C.F.U. (Portsmouth). Club Run.
Oct. 17.—Stalybridge and District M.C. and L.C.C. Social.
Oct. 17.—Reading and District M.C. and L.C.C. Club Run.
Oct. 17.—Harrogate "Douglas" Trial.
Oct. 17.—Brighton and Hove M.C.C. Hill-climb.
Oct. 17.—N.M.C.F.U. (Coventry). Reliability Trial.
Oct. 17.—Ilkeston and District M.C.C. Club Run.
Oct. 20.—Ilkeston and District M.C.C. Club Run.

Lincolnshire M.C.C.

A reliability trial was held on October 2nd, starting from Horncastle *via* Louth, Binbrook, Caistor, Market Rasen, Wragby, and back to Horncastle (about sixty-four miles). Although the weather was unfavourable all competitors put in an appearance.

The majority finished the course, the winner being H. G. Jennison (2¾ Verus-Blackburne), who made eighty marks out of a possible 100, thus gaining for him the Lincolnshire Motor Cycle Club Silver Cup and gold medal. This was a very fine performance, considering the state of the roads and the difficult route.

A paperchase will be held on October 16th, starting from Wragby, Lincoln.

North Cheshire M.C.C.

A difficult course was chosen for the trial on October 3rd, which eventually proved too stiff for most of the competitors, only seven finally reaching the finish. Among the observed hills were Cowdale and Snow Cop, where many met their Waterloo. Very good performances were made by the following: E. Bottomley (7-9 Harley-Davidson sc.), H. W. Glendinning (3½ Sunbeam), E. W. Wilkinson (4 Indian Scout), T. Jessop (3¾ Scott), and H. Alderley (3 A.B.C.). T. Close (8 Royal Ruby sc.) was troubled by back wheel slip on most of the hills, while B. Eadington made good climbs, but was heavily handicapped by the weight of his 8 Sunbeam solo.

Eastbourne and District M.C.C.

An interesting, although not very arduous, reliability trial was held under the auspices of the above club for the Harold Day and Kett Cups for solo and sidecar machines respectively. The course, which was a circular one of about forty miles, had to be covered non-stop, including two hills and secret checks. The event attracted a good muster, and was enjoyed by one and all. Results: W. J. Hylands, winner of the Harold Day Cup; C. W. Carr, winner of the Kett Cup.

N.M.C.F.U. (Coventry).

A reliability run will be held on the 17th inst. Start, Swan Lane, 10.0 a.m. Entrance fee 2s. 6d. Entries close on Saturday, October 16th, to Secretary T. Mallalieu, 70, Gorton Road, Coventry.

Stourbridge M.C.C.

A sporting half-day reliability trial was held on the 2nd inst., over a circular route which was covered twice, non-stop, and included three observed hills, namely, Hagley Wood, Shut Mill, and Beacon; a flexibility test was held on the first named. This event attracted forty-eight starters, of whom twenty-nine signed the timekeeper's sheet at the finish. The team prize entries included teams from the Worcester and District M.C.C., Kidderminster M.C.C., and the organising club. Rain fell heavily up to the time of the start, thus rendering Shut Mill and Beacon Hill quite formidable propositions, and a heavy crop of failures at these points was reported.

York and District M.C.

The York and District Motor Club held their last trial for the year over a fairly difficult course, including some of the Cleveland hills and moors and the worst portion of the A.C.U. Six Days course in that district. The numerous gates, rough banks, watersplashes, and ridges across the road and a large quantity of farmyard stock on the road were responsible for practically all competitors being late at the Checkers Inn, Slapestones. The day was fine so that the competitors had a very enjoyable and sporting run. G. A. Reed was the winner of the silver rose bowl presented by the Manufacturers' Union, G. Eastwood, a close second, getting a silver flower vase; W. Atkinson, third, a pair of Cooke plugs; and G. Hannon, fourth, a Cooke plug.

Burnley and District M.C.C.

A reliability trial was held on October 3rd for the Blake Challenge Cup.

The route was: Burnley, Fence, Downham, Waddington, Dunsop Bridge, through the Trough of Bowland, Clapham, Austwick, Giggleswick, Bracewell, Colne, Catlow, to the finish at Lane Head. There were thirteen starters, nine of whom finished the course, which was by no means an easy one. The results are as undernoted:

Blake Cup and Three Tyres and Tubes (presented by Messrs. Wood-Milne, Ltd).—W. Place (3 A.B.C. sc.).

Gold Medal (presented by Messrs. Zenith Motors, Ltd.).—H. Pool (6 Royal Enfield sc.).

Sidecar Lamp and Rear Lamp (presented by Messrs. Surridges, Ltd.).—G. Swinglehurst (3½ Bradbury).

Gold Medal for best lightweight performance.—E. Rigg (2¾ New Imperial).

Gold Medal for best heavyweight performance.—J. H. Place (8 Dot sc.).

CURRENT CHAT

Times to Light Lamps

Oct.	14th	... ...	6.39 p.m.
,,	16th	... ...	6.35 ,,
,,	19th	... ...	6.29 ,,
,,	21st	... ...	6.25 ,,

A French Machine's Success.

The success of the 2¾ h.p. Gillet in gaining first, third, and fourth places in the 350 c.c. class of the Liège-Paris-Liège Trial augurs well for this comparatively recent addition to the ranks of Continental makers.

Registration.

Bedford is the latest county to exceed the 9,999 motor vehicles allowed by one registration symbol, and it has been allotted the additional letters N.M. Those in search of two and three-figure registration numbers, please note.

A Widespread Misapprehension.

The similarity of inlet valve gear no doubt leads many owners of 3 h.p. Enfield machines to think that their engines are of M.A.G. manufacture. This is not so: these machines are made by the Enfield Co., to whom all applications for engine-spares, etc., should be addressed.

The Future of Wages and Prices.

Inflation of the purchasing power in the hands of the public and restriction of, or rather failure of, an increase in output proportionate to wage advances, are, according to an interesting eight-page statement by the Federation of British Industries, the real causes of the prevailing high prices. Those who await an imminent fall would do well to consider an authoritative statement such as that referred to above, which, although it deals mainly with the so-called "vicious circle," makes it very clear that such a reduction is impossible.

Motor Taxation Regulations.

With the inauguration of the new scheme of motor taxation, we may expect changes in the method of administration. Therefore, the Motor Legislation Committee's recommendations on this subject are more than timely, and we hope that the Ministry of Transport will consider them as representing the views of those who, after all, are most concerned in the matter. Briefly, they demand that the present freedom to register anywhere be retained, also the system where the identification number is allotted to the *vehicle* and not the *owner*; while they emphatically condemn the proposed additional registration book as neither necessary, advisable, nor justifiable.

Motor Cycling in Ireland.

Motor cycling in Ireland is not quite on a level with the pastime in this country. A reader recently was pulled up very forcibly by a wire across the road, which caused severe injuries.

Milan-Naples.

The condition of the roads in this important Italian road race may be judged by the low proportion of finishers—only eight out of thirty-four starters. Miro Maffeis (4 Indian Scout) was first, completing 893 kilos. in 22½ hours, an average speed of 39.58 k.p.h.

Brakes on Racing Machines.

Should racing machines used on Brooklands track be equipped with brakes, is a question discussed in a leading article in this issue. Attention has been called to the subject by the serious accident which occurred at the last Brooklands meeting, when H. R. Harveyson was unable to stop after crossing the finishing line.

Special Features.

OVER WELSH PASSES.

A TOUR OF THE CORNISH COAST.

MAKING A SIDECAR.

A Sporting Club Event.

Commendable features of the one-day trial, for solo motor cycles only, to be organised by the M.C.C., are a comparatively late start and an early finish. There will be two non-stop sections of fifty miles, and the start will be at Purley, at 10 a.m. on October 16th.

"The Springing of Motor Cycles."

A paper on this subject will be read by Mr. C. H. Savage at the second meeting of the session of the Institution of Automobile Engineers on October 28th at the Chamber of Commerce, New Street, Birmingham. A card of invitation may be obtained on application to the secretary, 28, Victoria Street, S.W.1.

PREPARING FOR EMERGENCY.

One could not seat six adults on a light car with the same comfort as has been obtained on this James sidecarrier, which is equipped with five Tan-Sad seats. Incidentally, this outfit was prepared in case a stoppage of the railway prevented transit to and from the suburbs to a City business house.

POWER-ALCOHOL.

NO more pressing problem exists to-day than that of an alternative motor fuel. The development of the industry is being hindered by the prohibitive cost of petrol and benzole. Every motor cyclist should assist the campaign in favour of a home-produced petrol substitute. The Government are beginning to move in this matter. The first need is a suitable denaturant.

Aggregate Performances during 1920.

In the list of aggregate performances at Brookands during 1920 V. Horsman (Norton) heads the list with 92 marks. J. Emerson (A.B C.) is second with 91 marks, and W. A. Jacobs (Singer) 82 marks.

Imports and Exports for September.

September Board of Trade returns show the very pronounced decrease of £43,010 in the value of foreign motor cycles and parts imported compared with the previous month. The actual figures are:

IMPORTS.

	Sept., 1913.	Sept., 1919.	Sept., 1920.
Number of motor cycles	73	188	105
Value of machines and parts	£11,002	£15,872	£22,774

On the other hand, British exports have considerably increased — 156 machines more than the number exported during August, and an increase of nearly £25,000 in their total values.

BRITISH EXPORTS.

	Sept., 1913.	Sept., 1919.	Sept., 1920.
Number of motor cycles	1,296	664	2,815
Value of motor cycles only	£58,165	£44,614	£227,745
Value of parts and accessories	£17,342	£29,244	£63,528
Total value	£75,507	£73,858	£291,273

North-western Automobile Association.

The trustees of the North-western Automobile Association are desirous of hearing from the officials of clubs that were affiliated with it, previous to its suspension. There are some funds in hand which will be duly apportioned if application is made to Mr. F. Whitehouse, 33, Market Place, Oldham; or Mr. C. E. Kettle, 68, Albion Street, Leeds, who wish to wind up the affairs of the Association.

The Imperial Motor Transport Conference.

The 1920 Imperial Motor Transport Conference, organised by the Imperial Motor Transport Council, is to be held during the week beginning October 18th. A limited number of tickets may be obtained from Mr. H. W. Wyatt, the Imperial Motor Transport Council, Royal Automobile Club, Pall Mall, London, S.W.1.

Several lectures will be delivered which will be of general interest to all motor vehicle users. These deal chiefly with the question of motor fuels.

At 10.30 a.m. on the 18th inst., Mr. E. S. Shrapnell-Smith, C.B.E., M.Inst.T., will lecture at the Pillar Hall, Olympia, on "Motor Fuel Supplies and Prices." At 2.30 p.m. on the same day and at the same place Mr. Harold Moore will lecture on "The Increased Production of Petroleum Spirit," and Mr. George Howell will read a paper on "Petroleum Spirit: Distribution Methods and Efficiency from Well to Consumer." On these two occasions Sir John Cadman, K.C.M.G., C.B., will occupy the chair. On the 19th, at the Pillar Hall, Olympia, Mr. John Wells will read a paper on "Fuel from Waste Vegetation," and Sir Charles Bedford will read a paper on "Power Alcohol in Relation to State Control." In the afternoon of the same day, at 2.30, Dr. Ormandy will read a paper on "Why Power Alcohol is not yet on the Market"; and Mr. G. J. Shave will lecture on "Some Results and Experiments with Alcohol Fuels by the London General Omnibus Co., Ltd." At 10.30 a.m., at the Pillar Hall, Olympia, on Wednesday, the 20th, there will be a discussion on "Roads and Road Development throughout the Empire," opened by Mr. H. C. B. Underdown. Papers will also be read in the afternoon and evening of the same day, and also on the Thursday.

IMPORTANT DATES.

Nov. 4th-13th—
International Automobile Exhibition, Olympia and White City.

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Dec 26th-27th—
M.C.C. London-Exeter Run.

Obscured Turnings.

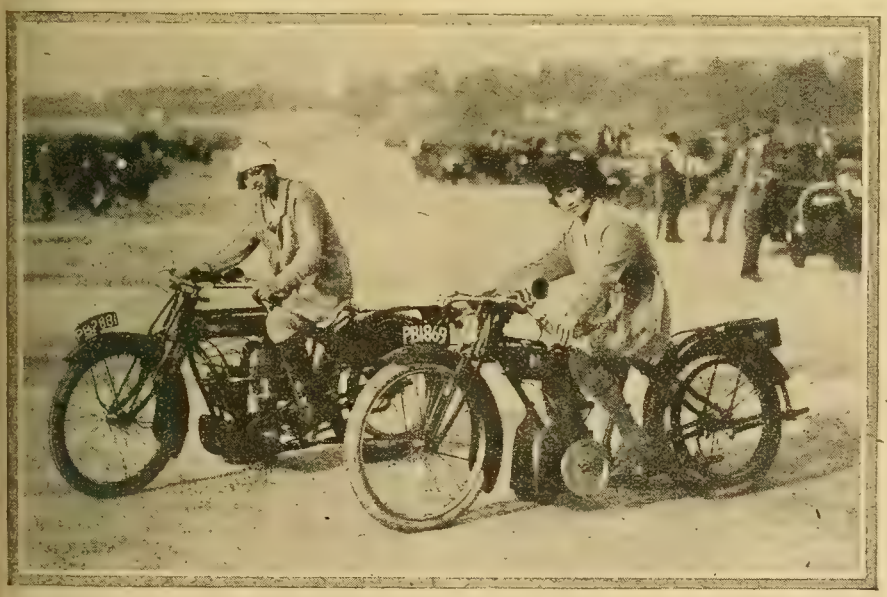
Borough and county surveyors possess considerable powers enabling them to deal with the question of overgrown hedges, bushes, etc., at cross-roads and bad corners; but it is suggested by the A.A. that local landowners also may do much to minimise this danger at little or no expense.

Revelations at Wolverhampton.

At the Wolverhampton meeting of the I.A.E., Mr. Cyril Williams was unable to read his paper owing to indisposition, but an interesting debate on "The Racing Motor Cycle" was opened by Mr. Greenwood, the well-known Sunbeam designer. Some of the points discussed were the design of valve-gears for high-speed engines, aluminium pistons and valve steels. Regarding the last mentioned, high chromium steel was said to be very satisfactory. Mr. H. Stevens (of A.J.S. fame) raised some novel questions, including the effect of the personality of the rider and designer upon results. It was mentioned that compression ratios of as high as six to one were used for sprint work, but were not suitable for road racing. Is this one of the secrets of the wonderful $2\frac{3}{4}$ A.J.S.?

The Trial over Welsh Passes.

At the time of going to press we have received an interesting sidelight on the course chosen for last Saturday's Welsh Trial, particulars of which appear on pages 450 and 451. It seems that complaints have been made by competitors regarding the severity of the course, and that Major Vernon Brook, the A.C.U. steward for the event, came in for a certain amount of invective on account of the fact that he had previously seen it in a semi-official capacity, and had approved of it. It is interesting to know that Major Brook reported the hill at Harlech as being almost unclimbable when dry, and quite unclimbable when wet, and it was suggested by him that the hill should be a bonus one rather than a penalising one. Major Brook makes this explanation in fairness to the A.C.U., which body had nothing to do with planning the course. Next week we hope to deal more fully with the severity of present-day trials.



Lady motor cyclists who are keenly interested in Brooklands activity. (Left) Miss K. Don (Zenith) and Mrs. H. S. Powell (M.T.)

AUTUMN TRIAL OVER WELSH PASSES.

Four New Test Hills in Event organised by the Midland Cycle and Athletic and South Birmingham M.C. Clubs.

NEW trials ground was broken last Saturday by the sixty-nine competitors in the joint event of the Midland Cycle and Athletic and South Birmingham M.C. Clubs. The course was over the Welsh mountain passes, and included at least two hills which might not have been considered had not it been planned for a summer trial.

A Process of Elimination.

Anyone who read the regulations and conditions on the entry form must have realised that the organisers had planned to find winners for the many valuable trophies by a process of elimination without the necessity for a secret check. It was clear that a sidecar machine had practically no chance of winning a gold medal, as the loss of even one mark was sufficient to place a competitor out of the running for a "gold." Probably this was responsible for the comparatively low entry of passenger machines (*i.e.*, 13). All the same no disappointed competitor has cause to complain, as the regulations clearly showed that it was going to be the hardest one-day trial of the year, and that the notorious Alt-y-Bady was not to be the worst hill on the course. To fail on Alt-y-Bady meant a loss of ten marks; on three others the penalty for failing was only five marks. Two of these hills (Gough's Conscience and Whitworth's Grave) were narrow lanes deep in mud for the most part, but presenting no great difficulty so far as gradients were concerned. Another (Urry's Pet) was steep and strewn with boulders that gave it the appearance of a stone staircase, and was considered to be worse than Harden Bank in this year's A.C.U. Six Days by those who had negotiated both. It was so bad, in fact, that all the passenger machine drivers refused to negotiate it.

THE TRIAL IN BRIEF.

Fifty-eight solo and eleven passenger machines started; forty-nine and six respectively finished.

The hardest one-day trial organised this year.

Heavy mists and mud in the mountains.

Gold medals possible for only nine competitors after Alt-y-Bady, one mile from the start.

Drivers of passenger machines refused to negotiate one of the hills.

Reliability of modern machines proved by every rider who finished; autumn conditions reduced trial to a riding test for expert drivers.

Competitors held up for twenty minutes by excited anti-motorist.

The fourth new hill introduced was the Eunant Pass, from Lake Vyrnwy to the top of Bwlch-y-Groes, and could be likened to Stay-a-Little in the 1919 A.C.U. Six Days. As it was perhaps the only one of the four that justified its inclusion in any but a sporting club event, it deserves to go down to posterity under its proper name instead of that given to it by those who planned the course. On the route card it was down as Boydell's Playground—a name, like Urry's Pet, Gough's Conscience, and Whitworth's Grave, suggesting a joke of which only the perpetrator knows the point.

As the trial started and finished at Llangollen, it was practically a three days' outing for the competitors, the numerous marshals and others who were interested in the trial. They seemed to fill Llangollen on Friday night, when sporting prophets were offering ten to one against any sidecar climbing Alt-y-Bady next morning.

Saturday morning broke dull and misty. Five-thirty by the sun on such an October morning was very depressing, and there were long faces at the breakfast room window of every hotel in the town.

Long before 8—or 7 by the sun—Llangollen was astir, but it might have been a town on a plain instead of surrounded by mountains for all that could be seen.

Four Minutes from the Start.

Alt-y-Bady was the first hill—a mile from the start—and it was in a very bad condition.

It was certainly a severe test to give riders who had not been in the saddle four minutes. The approach was deep in mud, as was the hill itself, while the bed-rock on the most difficult portion was as slippery as ice.

The listless trees were shedding their leaves and dripping heavy moisture when Eric Williams, on a 2¾ h.p. A.J.S., took the hill in his usual confident style. The first man up, he proved the hill was climbable, but this brilliant prologue was followed by a less meritorious display, for it was not until half an hour had passed that a second rider made a clean ascent. This was W. R. Brown (2¼ Bown-Villiers), who showed that it was not sheer power that Alt-y-Bady demanded.

In the meantime there had been 25 marked down as having failed. Four more riders completed the 350 c.c. class, but no more were marked as V.G. (very good).

Some Clean Performances.

The "over 350 c.c." class promised to be better, as was to be expected, and the successive clean ascents of G. A. Strange (3½ James), H. Langman (3¾ Scott), A. Wood (3½ B.S.A.), and F. A. Largman (3½ Ariel), led one to suppose that perhaps after all it *was* power that Alt-y-Bady needed, but three failures were recorded before L. L. Sealey (4¼ B.S.A.) made the seventh clean ascent out of thirty-nine attempts. Fifteen more failures preceded the clean ascent by G. Townsend (3½ P. and M.), who was the last of the solo men to get up.

The sporting gentleman of the night before must have felt secure when one after another the sidecar competitors lost their chances of a "gold." True, J. L. Stocks (4½ Ariel sc.) made a clean ascent, but his passenger was on the carrier, and he lost marks on that account. Then came W. T. Woodcock on a 3½ h.p. sidecar of the same make. His passenger was normally seated. Woodcock occupied the

T. F. Blumfield (6 Ariel) and H. Green (4 Triumph) on the lower portion of Gough's Conscience.

Dropping down from the mountains obscured in mist, T. F. Watson (4 Norton sc.) runs into the sunshine near the western end of Lake Bala.

carrier himself, and amid the cheers of the spectators he reached the top—the only sidecar competitor to leave Alt-y-Bady behind with a clean sheet. F. J. Watson (6-7 Ariel sc.) imitated Stocks, and gave culminating proof that what Alt-y-Bady wanted, more than power, luck, or even skill, was all three combined with enough weight to prevent the rear wheel spinning.

H. F. S. Morgan (8 Morgan) would probably have made a clean ascent, but, striking the bank, he turned over. He was immediately bounced back again on to a more level keel and, without assistance, finished the climb.

The Second Test Hill.

Two miles over the summit of Alt-y-Bady was the brake test, then a dozen miles of main road and three along a narrow lane to the second test hill known locally as the Bllaenllawes road to Bwlch-y-ddar, but on the route card as Gough's Conscience. The necessity to change the name is obvious.

It proved to be a muddy lane climbing over the hills as a near cut between two main roads. On a dry day few would have failed, but, as it was, it gave a great deal of trouble even before the *pièce de résistance* was reached. This consisted of a rough and loose patch of slimy stones and a stiff gradient, where fully 90% failed through wheel slip; but H. Langman (3¾ Scott), who had a partly deflated rear tyre, shared the star performance with J. Westwood Wills (2¾ Verus), who made an almost equally good climb.

In another two miles the competitors were on to the main road again, but only for a short five miles, then they were directed through a gate, up another narrow muddy lane, this time with its surface sloping to the left—so much so, in fact, that one of the sidecars actually slipped from under its driver, and finished its slide with the sidecar up the bank and the machine lying almost on its side. This was Whitworth's Grave. As on the hill with the unpronounceable name, it was wheel slip that caused the failures, for those who safely negotiated the grease on the first section almost invariably failed on the hairpin.

As a contrast to this muddy lane among the trees, the riders now had five miles of almost trackless moorland. Everywhere the autumn tints were gorgeous, and mountain furze was seen at its best. Then more main road to Lake Vyrnwy and across the great dam which has turned a deep valley into a gigantic reservoir.

The road along the lakeside had been badly cut up by traction engines, and the ruts allowed little opportunity for the solo riders to enjoy the scenery. In four miles the course left the water and the submerged village of Eunant, and on the next three miles the competitors learned that a new pass had been discovered for trials organisers of the future. Every conceivable kind of surface, excepting the kinds known to the average motorist, was encountered. This was the Eunant Pass. The gradients were not very severe, but any machine that could be driven over it at the schedule speed of 15 m.p.h. and survive, at once proved its strength. Half-way up, lying in a hollow, there was a patch of rocks which protruded from the "surface" at all angles, while the track itself sloped acutely to the left—a place one would be wary in walking over in weather conditions like those of Saturday last. Yet the great majority got through—some only to fail a few yards beyond on a few steep yards of mud and stones.

The Summit of Bwlch-y-Groes.

The second section was undulating, but mounting higher and higher after each dip down. Every few yards there were watercourses—some of them deep enough to be termed watersplashes—and at intervals bed rock, or loose slate or mud.

This pass joins Bwlch-y-Groes near the summit, and a wide hairpin had to be taken to get on to the famous hill.

On the summit of Bwlch-y-Groes a stopping and restarting test had been arranged, but not one competitor failed to do all that was required.

Now on to the lunch stop was an easy run of twenty-seven miles to Barmouth. Descending from Bwlch-y-Groes, sunshine was encountered, and the competitors were able to look back at the clouds through which they had come.

An Almost Impossible Climb.

The worst hill had been reserved for the afternoon. The coast road to Harlech was taken immediately after lunch, and, on arriving at that ancient town, the competitors were taken to the foot of Urry's Pet. As before mentioned, it proved to be worse than Harden Bank, for its stone staircase surface was wet and prevented wheel grip.

It was impossible to see who made clean ascents and to define what was a clean ascent. Certain it is no competitor reached the top without using his feet, but the way in which the spectators cheered C. P. Wood (3¾ Scott) suggested that he had completed the climb in a most meritorious manner.

Drivers of passenger machines refused to try the hill, and, finally, were diverted, but by this time most competitors were nearly an hour beyond schedule, which time was allowed to them.

Returning to Barmouth and Dolgelly, the route now lay to Cross Foxes by the mountain road which proved to be very rough and trying. It was alleged that at this point an anti-motorist with a shot gun held up the tail enders for twenty minutes, bringing these competitors an hour and a quarter behind their schedule at the finish.

Speed Test in Low Gear.

A strong head wind increased the difficulty of the climb over Dinas Mawddwy, then came the ascent of Bwlch-y-Groes, half a mile of which had to be taken as a speed test in bottom gear. The machines seemed very slow, and suggested that the drivers did not intend risk breaking a valve by unduly "revving" their engine with so little to gain.

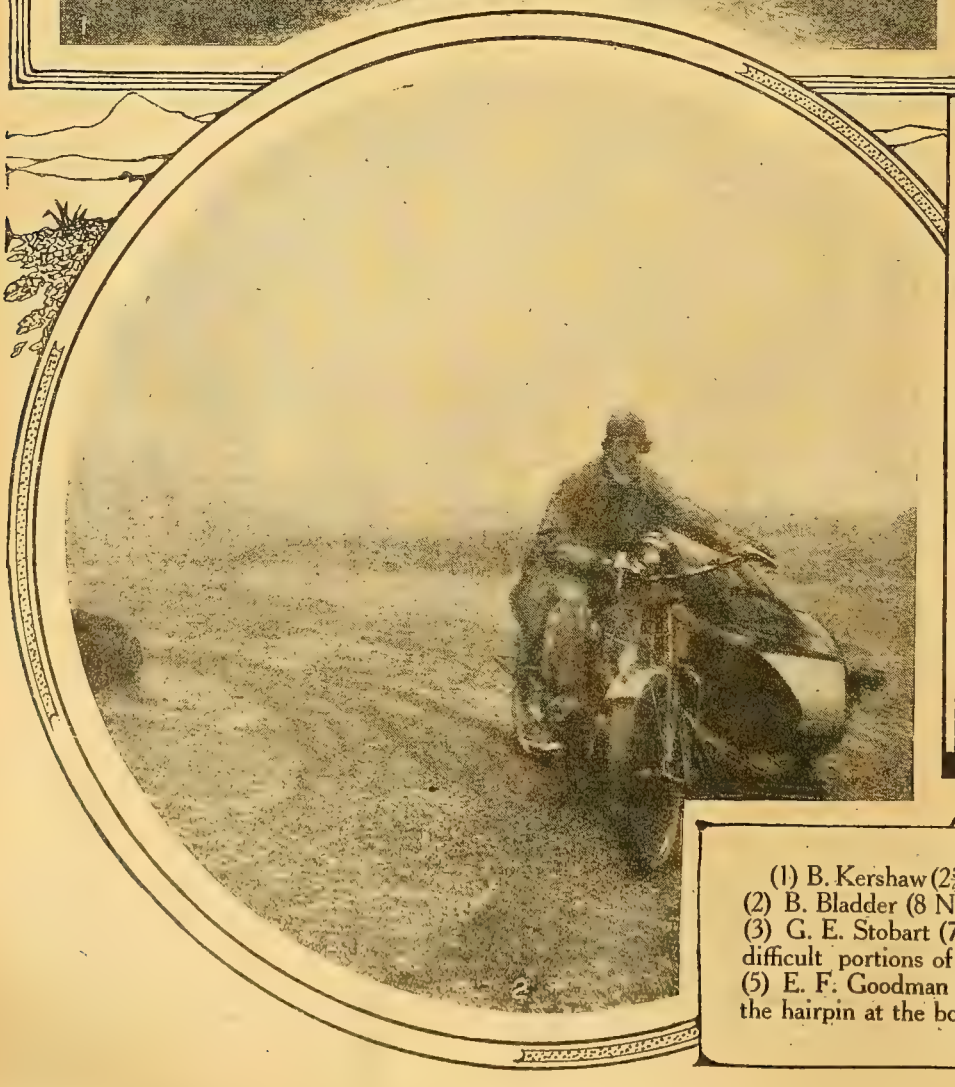
The day had taken its toll. G. Denley (Velocette) had trouble with his ignition, and failed to check in at the finish. F. J. Watson (6 Ariel sc.) was taken ill and elected to stay in Barmouth. A. Phillips (2½ O.K.) was a sixteen-year-old novice who found the course too severe. W. E. Bird (2¾ Marloe) had trouble with a wheel spindle; G. E. Stobart (7 James sc.) punctured and discovered he had lost his pump. He was delayed so long that he decided to withdraw. H. F. S. Morgan (8 Morgan) was not happy about his clutch, and went for a week-end tour after the morning's run.

As regards the machines that finished, a word should be said. The three Allons entered completed the course. The only A.J.S. was a 2¾ h.p. model ridden by Eric Williams. P. Pike (2¾ O.K.) completed the course without leaving the saddle. The Precision-engined Armis machines were consistently good, and, as usual, the Velocettes created a favourable impression.

Of the larger machines, the Triumph, B.S.A., Humber, Scott, Ariels, Norton, and P. and M. all proved their efficiency; while among the sidecars the Ariels undoubtedly made the star performances—three climbing Alt-y-Bady without stopping. T. F. Watson's 4 h.p. Norton sidecar and B. L. Bird's 4½ h.p. B.S.A. outfit were never at a loss for power, and H. B. Denley's Morgan once more proved its reliability.

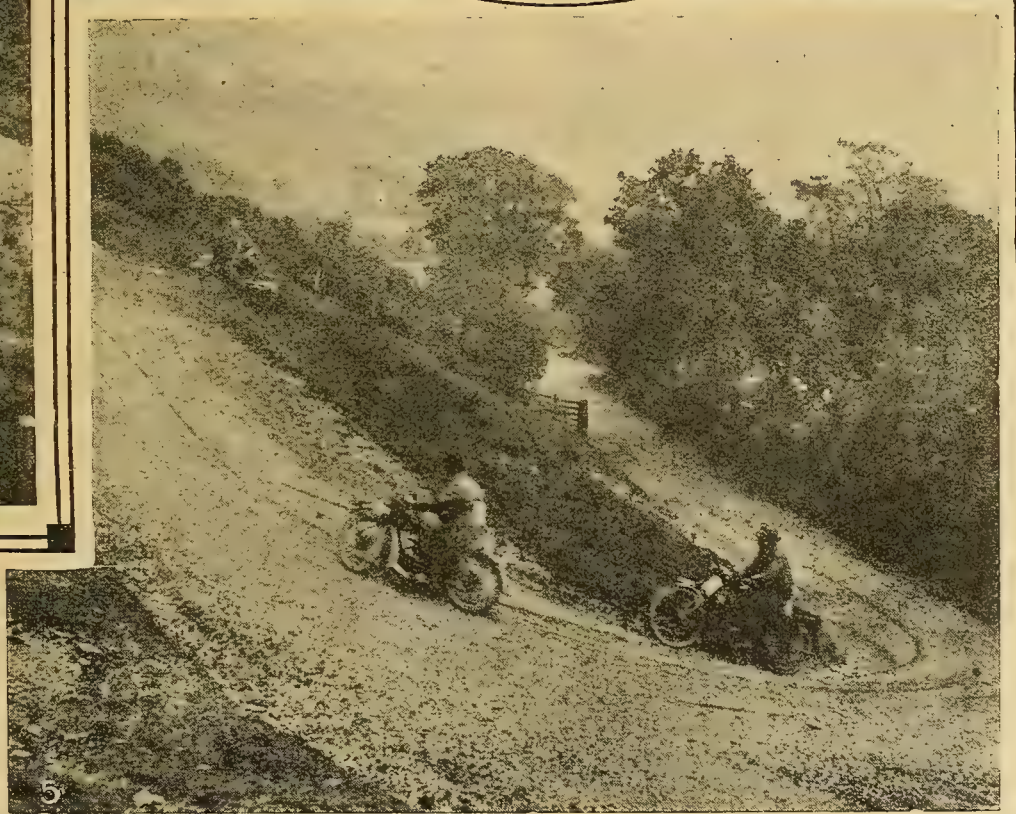
Of the organisation there can be no word of criticism. It was excellent and the arrowing perfect. There must have been three officials for every competitor and everyone knew his duty, and did it.

Over Wel



(1) B. Kershaw (2¾ Verus) commencing the climb of B
(2) B. Bladder (8 New Imperial sc.) in the mists on th
(3) G. E. Stobart (7 James sc.) at the foot of Bwlch-y-
difficult portions of the Eunant Pass being negotiated
(5) E. F. Goodman (2¼ Velocette) and F. J. Johnson
the hairpin at the bottom of Bwlch-y-Groes.

Passes



e afternoon.
unant Pass.
of the most
(6 Ariel sc.)
negotiating

A Championship Meeting at Brooklands.

Several Five and Ten Mile Records Broken during Progress of Hotly Contested Races.

GLORIOUS weather, an excellent programme, a fine attendance, and the breaking of numerous records all combined to make the Seventh 1920 Members' Meeting of the British Motor Cycle Racing Club a real success. At this, as at all purely motor cycle race meetings held by the club, the start and finish took place at the fork, an arrangement which renders the races both safe and interesting, and is in fact the only possible place from which motor cycle events may be run with safety and to the satisfaction of the spectators.

All the events were over a five-lap course, and the following awards were given: First prize, cup value £5; second prize, the club's plaque; third prize, a bronze medal.

The meeting opened with the Championship Scratch Race, Class A, for solo motor bicycles with engines not exceeding 275 c.c. Jacobs, on his ancient, but still highly efficient little Singer, had it his own way from the second lap. In the first lap Prestwich (Diamond-Jap) was leading, closely followed by Jacobs and Eve (Martin-Jap), while Carryer (New Hudson) was some way behind.

An Old Lightweight Wins.

In the next lap Jacobs led, with Prestwich second, Eve third, and Carryer still in the rear. In the third lap Jacobs and Prestwich were not quite so widely separated, but the former increased his lead in the fourth lap. Results:

		Speed.
1.	W. A. Jacobs (2½ Singer)	50.25 m.p.h.
2.	J. V. Prestwich (2½ Diamond-Jap)	—
3.	P. Eve (2½ Martin-Jap)	—

The Championship Scratch Race, Class B, was well supported, and there was only one non-starter. K. Don, on an overhead valve A.J.S., showed his superiority from the start, and at the end of the first lap was streets ahead of the others, who passed as follows: Prestwich (Nut-Jap), Thompson (Douglas), Longden (Dot-Jap), V. Longden (Douglas), E. Longman (Wooler), Hull (Wooler), Temple (J.A.P.), Weatherell (R.W.), Sparks (Douglas), McNab (Wooler), and Watson (Watson-Jap). Don forged ahead in the second lap, followed by Prestwich, E. Longden, Thompson, V. Longden, Longman, Hull, Weatherell, McNab, Temple, Sparks, and Watson. In the third round Don was nearly a lap ahead, the order of the next four did not vary, and the runners up were Hull, Watson, McNab, Sparks, and Weatherell. Don's machine was misfiring slightly as he passed the fork in the fourth lap, but he lost no appreciable ground. The order of the followers was: Prestwich, E. Longden, Thompson, Hull, McNab, Weatherell, and Sparks. At the end of the final lap Don was more than a circuit ahead of his competitors, and had broken two records. Results:

		Speed.
1.	K. Don (2¾ A.J.S.)	63.78 m.p.h.
2.	J. V. Prestwich (2¾ N.U.T.-J.A.P.).	—
3.	E. Longden (2¾ Dot-Jap)	—

Also ran: T. Thompson (2¾ Douglas), J. F. Hull (2¾ Wooler), F. A. McNab (2¾ Wooler), and R. Weatherell (2¾ R. W. Scout).

K. Don (2¾ A.J.S.) was successful in breaking records in Class B (350 c.c.), attaining 69·82 m.p.h. with a flying start. The championship scratch race for machines between 275 and 350 c.c. was also won by him.

Don's fastest lap was covered at a speed of 71.91 m.p.h. He broke the ten mile (Class B) record, standing start, time 8 min. 55.6 sec., speed 67.16 m.p.h., and the five mile record, flying start, time 4 min. 17.8 sec., speed 69.82 m.p.h. The previous best for these records was: 10 miles, S. L. Bailey (2¾ Douglas), time 9 min. 16.8 sec.; 64.65 m.p.h., and the flying 5 miles, the same rider and the same machine on the same day, August 17th, 1920, time 4 min. 32 sec., speed 66.18 m.p.h.

There was also a good entry for the Championship Scratch Race, Class C, for motor cycles with engines between 350 and 500 c.c. In this race, as in its predecessor, the winner had it all his own way from the start and increased his lead at the end of every lap, but there were many retirements. All got away well at the start except A. G. Miller.

The First Lap.

Horsman shot ahead, leading easily at the end of the first lap. He was followed by Pope (Matchless-Jap), whose engine was misfiring. Gayford (Duzmo), Dicker (Norton), Chawner (Sunbeam), Gard (Norton), Martin (Martin), Smith (B.S.A.), and Edmondson (Triumph). Horsman was farther ahead at the end of the second lap; and after him came Gayford, Dicker, Martin, Chawner, Gard, Edmondson, and Smith. In the fourth lap the redoubtable Horsman, who heads the list in the 1920 aggregate performances, was followed by Gayford, Dicker, Martin, Chawner, Edmondson, and Smith, who was passed at the fork by the leader, who was entering his fourth lap. Gard gave up, and Chawner retired owing to lubrication trouble. In the fourth lap that fine old rider, Harry Martin, occupied second place, with Dicker third, followed by Smith and Edmondson. Horsman won by a lap, and broke records.

		Speed. m.p.h.
1.	V. Horsman, 3½ Norton (79×100, 490 c.c.)	72.79
2.	H. Martin, 3½ 2-cyl. Martin (64×77, 496 c.c.)	—
3.	R. E. Dicker, 3½ Norton (79×100, 490 c.c.)	—
	Gem. Smith, 3½ B.S.A. (85×88, 499 c.c.) ..	—

Horsman broke the 10 mile record (Class C.), standing start, time 8 min. 8.6 sec., speed 73.68 m.p.h. Previous best: D. R. O'Donovan (Norton), time 8 min. 11.2 sec., speed 73.29 m.p.h., 17th July, 1914, and his fastest lap was covered at a speed of 76.91 m.p.h.

The Championship Scratch Race (Class E) was for motor cycles with engines between 750 and 1,000 c.c. Harveyson was down to enter for this race, but though he had recovered sufficiently to watch the

A Championship Meeting.—

racing, he was naturally unable to take part in it after his narrow escape the previous Saturday. At the outset it looked like being a ding-dong race between Remington and Le Vack. At the end of the first lap Le Vack (Indian) was leading, with Remington (Nut-Jap) close on his heels, Baldwin (Matchless-Jap) was some way behind, and then followed Reed (Dot-Jap), Martin (Martin), Sawer (American X), and Cushman (Zenith-Jap). Remington took the lead at the members' bridge, and led at the end of the second lap, with Le Vack close behind. Save for Martin, who retired, owing to belt trouble, this order of the remainder did not alter. In the third lap Le Vack increased his lead as Remington suffered plug trouble, which he stopped and remedied at the fork, pluckily starting again. Baldwin was now second, and was followed by Reed, Sawer, Cushman, and Remington. In the fourth lap Le Vack still increased his lead, and the only alteration in the order was that the gallant Remington gained a place, and was also lapped by Le Vack at the fork. Le Vack won easily, and broke two records.

	Speed. m.p.h.
1. H. Le Vack (7 Indian)	81.80
2. O. M. Baldwin (8 Matchless-Jap)	—
3. H. Reed (8 Dot-Jap)	—

Also ran: E. Remington (8 Nut-Jap), G. L. Sawer (7 American-X), L. A. Cushman (8 Zenith-Jap).

Le Vack broke the flying five mile record, Class E, time 3 min. 32 sec., speed 84.82 m.p.h., and the ten mile record, standing start, time 7 min. 20⅘ sec., speed 81.67 m.p.h. Previous best: Flying five miles, C. R. Collier (8 Matchless-Jap), time 3 min. 35 sec., speed 83.72 m.p.h., 11th August, 1911, ten mile, standing start, E. Remington (8 Nut-Jap), time 7 min. 31.4 sec., speed 79.71 m.p.h., Sept. 11th, 1920.

There were only six starters in the Championship Scratch Race (Classes F and G) for motor cycles with sidecars not exceeding 500 c.c. Horsman (Norton) led from the first and got well away. O'Donovan (Norton) ran second in the first lap, and after him came Beach (Norton), Cookson (Norton), Chawner (Sunbeam), and Smith (B.S.A.). The veteran O'Donovan took the lead shortly afterwards in the railway straight, and kept his position in the second lap, with Horsman second, Beach third, Cookson fourth, and Smith well to the rear. In the third lap Horsman was an absentee, otherwise the order was the same. The fourth lap saw O'Donovan *hors de combat* with gear box trouble, with Cookson leading, Beach second, and Smith third, in which order the race was finished.

H. le Vack (7-9 Indian), winner of the Championship Scratch Race at Brooklands for 750 to 1,000 c.c. machines. He also broke the ten mile (standing start) and five mile (flying start) records in Class E, attaining 84·82 m.p.h.

	Speed. m.p.h.
1. H. G. Cookson (3½ Norton)	56.69
2. H. H. Beach (3½ Norton)	—
3. Gem Smith (3½ B.S.A.)	—

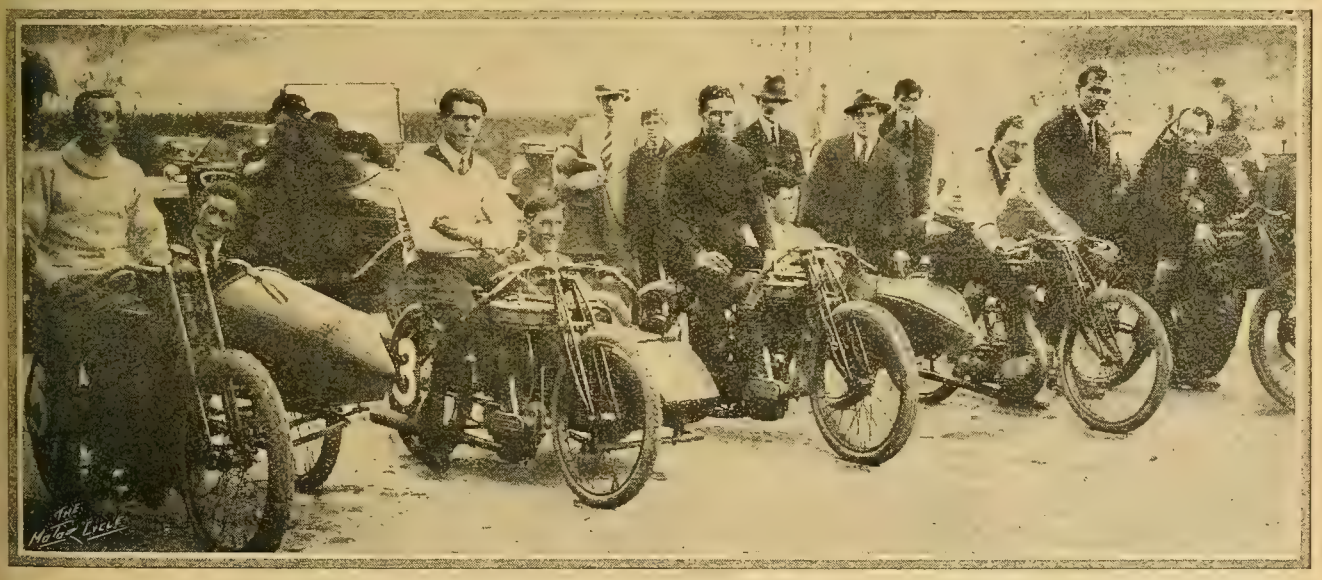
The final event was the championship scratch race (Classes H. and I.). At the start Crawford's Henderson was easily the first away, but the advantage gained availed him but little. Le Vack (Indian) had some difficulty in getting off. From the very first Davidson (Harley-Davidson) had the race to himself, and riding a machine which, to all outward appearances was a practically standard model, he increased his lead lap by lap. The order when passing the fork was: First lap, Davidson, de Lissa (Motosacoche), Le Vack (Indian), Chater-Lea (Chater-Lea), Bond (Zenith), Baragwanath (Zenith), Longman (Harley-Davidson), Dequin (Harley-Davidson), Baldwin (Matchless), Crawford (Henderson), and L. Jepson (Zenith) who had considerable difficulty in starting. Second lap, Davidson, de Lissa, Le Vack, Jepson, Chater-Lea, Longman, Baragwanath, Lushman, Dequin, Bond, and L. Crawford. Third lap, Chater-Lea, Cushman, Longman, Baragwanath, Dequin, and L. Crawford. In the fourth lap the original order did not change save that Crawford was ahead of Dequin. Result:

	Speed. m.p.h.
1. D. H. Davidson (8 Harley-Davidson)	67.47
2. O. de Lissa (8 Motosacoche)	—
3. H. Le Vack (7 Indian)	—

Also ran: H. Jepson (8 Zenith-Jap), E. C. E. Baragwanath (8 Zenith-Jap), L. A. Cushman (8 Zenith-Jap), S. E. Longman (7 Harley-Davidson), and D. Crawford (10 Henderson).

Chater-Lea retired owing to a hole in the piston of his engine. De Lissa made a very fine performance in attaining second place, as he was the oldest driver in the event.

Davidson broke the flying start five mile record (Class I.), time 4 min. 19.2 sec., speed 69.44 m.p.h., and the ten mile record, standing start, time 8 min. 56.8 sec., speed 67.06 m.p.h. Previous best: Flying five miles, D. R. O'Donovan (3½ Norton), time 5 min. 6.2 sec., speed 58.78 m.p.h., 22nd September, 1915. Ten miles, E. C. E. Baragwanath (8 Zenith), time 9 min. 48 sec., speed 61.22 m.p.h., July 17th, 1920.



Experts lined up for a tussle. Left to right: D. H. Davidson (7-9 Harley-Davidson), H. G. Cookson (3½ Norton), V. Horsman (3½ Norton), K. Don (2¾ A.J.S.), and H. le Vack (7-9 Indian).

CLUB NEWS. (Continued from page 447.)

Sutton Coldfield & North Birmingham A.C.

A half-day reliability trial will be held on Saturday, November 20th, over a route in the vicinity of Birmingham, and finishing at headquarters, the Royal Hotel, Sutton Coldfield.

Berwick and District M.C.

The Berwick and District Motor Club held a gymkhana on Monday, 27th September, in the Home Park, Coldstream. The following are the prize-winners for the various events:

SOLO MACHINES.—Slow Race: A. Welsh. Egg and Spoon Race: J. Cumming. Potato Picking Race: G. Gore. Slicing the Lemon: J. Cumming. Slow and Straight Race: G. Gore.

SIDECAR MACHINES.—Picking up Potatoes: J. Cumming. Changing Driver's Race: G. Gore.

Northern M.C.

The Northern Motor Club held its last official event for the 1920 season on the 12th inst., and a most enjoyable and successful day was spent, everything going without a hitch. A picnic lunch was taken, and the day's work was commenced about one o'clock. The event consisted of a speed hill-climb on formula, the winner to hold the Anderson silver gilt cup for twelve months. The rider to take first place was S. Bell (3 A.B.C.), but not being an amateur, according to the club's rule, he could not claim the premier award. Thus the winner of the cup turned out to be A. Detchon (3 A.B.C.) The other awards, which consisted of gold and silver medals, were as follows: 350 c.c. class, 1st, A. Cawthorn (2¾ Douglas). 500 c.c. class, 1st, S. Bell (3 A.B.C.). S. Bell also won the 600 c.c. and unlimited classes. C. Armstrong won the 600 c.c. class for sidecars on a 3 A.B.C. sc., and the unlimited class on a 7-9 Harley-Davidson sc. The fastest time of the day, for which a special gold medal was awarded, was taken by Mr. G. Ross (3½ Norton).

Bradford M.C. and L.C.C.

In this club's speed trials on September 26th over a three-furlong course at Penny-pot Lane, Harrogate, H. O. Wood (3¾ Scott) made fastest time of 17⅘s., while A. Stansfield, similarly mounted, made a good second in 18s.

Dublin and District M.C.C.

The following awards have been made in connection with the concluding event of the Dublin and District Motor Cycle Club, a reliability triel held in Co. Wicklow:

WALKER CUP.—J. Carville (4 Triumph).

FREEMAN CUP.—H. McAllister (A.J.S. sc.).

GOLD MEDALS.—H. W. Nesbitt (4 Douglas), J. Carville (4 Triumph), H. McAllister (6 A.J.S. sc.), A. Carton (4 Indian), and F. Holmes (3½ Rudge).

SILVER MEDALS.—P. H. Hurse (4¼ B.S.A.), J. Browne (2¾ Douglas), E. McEntaggart (7 Indian), S. Woods (7 Harley-Davidson sc.), F. McCullagh (3½ Norton), T. G. Henry (2¼ Velocette), T. E. Green (6 Enfield sc.), A. Wayte (4 Harley-Davidson), P. Murphy (4 Triumph), G. Daly (4 Triumph), T. Murphy (4 Triumph), F. O'Connor (3½ Sunbeam), and Hon. H. Massey (7 Harley-Davidson sc.).

BRONZE MEDAL.—Miss J. Moppett (6 Campion sc.).

North London M.C.C.

Here is a novel idea which worried club secretaries may be able to use to relieve the monotony of ordinary events. Partially hide by the roadside within a prescribed area of about two miles radius, six cardboard boxes of medium size. Despatch competitors from the centre of the selected area, and give them seventy-five minutes in which to find the boxes. Members of the North London M.C.C. found that this was easier said than done, but the scheme provided an excellent afternoon's sport. The three prizes kindly presented to the club by the Dollis Automobile Co., of Finchley, were secured by N. E. Hughes (3½ Sunbeam sc.), R. L. Richardson (3½ Rudge-multi), and F. Roberts (3 A.B.C.).

Bromley M.C.C.

A motor cycle club as above has been formed for motor cyclists in Bromley (Kent) and district. It is proposed later to affiliate to the A.C.U. The headquarters are the Crown and Anchor, Park Road, Bromley, Kent.

N.M.C.F.U. (Rotherham).

All members and anyone interested in motor cycling are asked to attend a special meeting, to be held in the Y.M.C.A., Howard Street, Rotherham, on October 15th, at 7.30 p.m.

Northern M.C.

Amongst many of the social events arranged for by this club for the coming winter, one of the most important will be a "Bal Masque" and Confetti Carnival. The motoring spirit of the club should suggest many novel forms of costume, and it is expected that makes of machines, accessories, tyres and various carburetters will be well represented. Particulars may be had from the honorary secretary. A fixture card has been drawn up for these events and seasonable runs arranged for. Indoor games will be introduced into the club room, and altogether a very enjoyable programme is assured for the coming winter.

North Cheshire M.C.C.

At the time of going to press we learn that the best performances in the recent reliability trial referred to on page 447 were made by E. Bottomley (Harley-Davidson) and T. Jessop (Scott), who tied for first place. Two cups of equal value (one presented by Messrs. Blake and Co. and one by Miss Littlehales and Miss Ferguson) having been offered for the first and second best performances, it was decided that no distinction should be made with these cups, one each being awarded to the two who tied. The course was a stiff one, and included Cowdale.

20 M.P.H. AVERAGE.

Not so easy as it at first appears if Road-Manners are studied.

AN average speed of 20 m.p.h. seems so ridiculously easy that many motor cyclists in planning a journey seldom trouble to set themselves a schedule. Yet the ordinary sidecar driver has difficulty in averaging 20 m.p.h. between two towns at comparatively short distances apart. With a solo machine a higher average than with sidecar is possible, especially when a large amount of traffic is encountered, on account of its lesser bulk.

The writer regularly drives a sidecar between two towns situated twenty miles apart, and finds that to cover the journey in the hour and at the same time drive considerately calls for a good deal of wide throttle on the open road.

During a recent trip careful observations were made to arrive at the reason why 40 m.p.h. was necessary for the major part of the journey in order to average the legal limit, and it is easy to appreciate how much time is absorbed in getting out of one town and entering the other.

On the particular trip in question, for the first half-mile several schools had to be passed at a time when the pupils were leaving. Following this a spurt was made to pick up lost time. Then came a crowded shopping centre. A tram terminus called for a drop to 5 m.p.h. for half a mile, and another half-mile stretch was through traffic, followed by a similar distance of comparatively clear road. The main road was reached by several side streets and corners. This made a total of three and a half miles covered in 21m., leaving sixteen and a half miles to do in 39m. Thirteen miles of this distance is on a good main road with two villages and a dangerous cross road, which made three half-mile sections to be traversed at not more than 15 m.p.h. average. The eleven and a half miles of open road therefore was divided into four sections, each approximately three miles long. By reference to the table which follows it will be seen that the last three and a half miles occupied 16½m., which left a balance of time for the eleven and a half miles of open road of 16½m. also. So each of the four "fast" sections of three miles (approximately) had to be covered at an average of 41.9 m.p.h. Taking into account the time required to get up to a high speed and that lost in decellerating at the end of the stretch, it will be understood that during these three-mile stretches a maximum speed of at least 45 m.p.h. is necessary. It is not every sidecar machine that can do 40 m.p.h.

	Distance.	Speeds (Average).	Time.
Entering town No. 1.	½ mile	10 m.p.h.	3 mins.
	½ "	20 "	1½ "
	½ "	10 "	3 "
	½ "	5 "	6 "
	½ "	10 "	3 "
	½ "	20 "	1½ "
	½ "	10 "	3 "
On the road	11½ "	15 "	6 "
	11½ "	47.9 "	16½ "
Leaving town No. 2.	1 "	15 "	4 "
	½ "	10 "	3 "
	1 "	15 "	4 "
	½ "	20 "	1½ "
	½ "	15 "	4 "
Totals	20 "	20 "	60 "

The unique reliability of the

Morgan Runabout

is shown by the following successes (among many others) in 1920

International Six Days — **Gold Medal**
Scottish Six Days — **Gold Medal**
English Six Days — **3 Gold Medals**

(fastest passenger machine in Hill Climb.)

Morgan Motor Co., Ltd., Malvern Link.

3-9-90.

"With regard to my three hours' ride at Brooklands yesterday when I put up Records in Class F, I really must say how impressed I was by the manner in which my machine stood up to the strain. Although it was raining the whole time, I did not have a single misfire, neither was there any signs of belt slip. The track was, of course, very wet, and quite nasty in parts, and yet I believe I experienced no back wheel slip at all. This I attribute to the spring frame. Considering the bad conditions my ride was a very comfortable one. I must say I consider that your spring frame is ideal for speed work. It is a pity the weather became ultimately too bad for me to continue, as it would have been so interesting to see how long I could have kept going at that speed and with the engine working against such a colossal load."
M. G. Breeze (Capt.).

YOU NEED A SPRING FRAME!

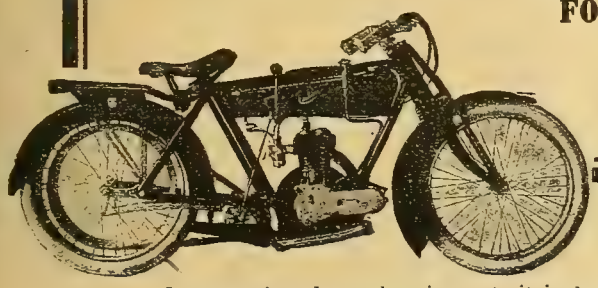
¶ You cannot thoroughly enjoy motor cycling, you cannot get the service you ought from your mount unless it has a spring frame. The

COULSON-B

stands out from all motor cycles in being perfectly sprung—its suspension, with its equal distribution front andrear and both sides of the machine is that of a car, and gives the same full measure of protection from road shocks. With the Coulson spring frame you may ride with pleasure and impunity in conditions that with a rigid mount would be out of the question.

LATEST COULSON-B SUCCESS.
Reliance Cup——————Silver Medal
(Highest Award to any 2¾ h.p.)
Other 1920 awards——6 Gold, 5 Silver Medals
FOUR WORLD'S RECORDS.

Three Models, 95 to 118 Gns.
Early delivery through Agents everywhere.



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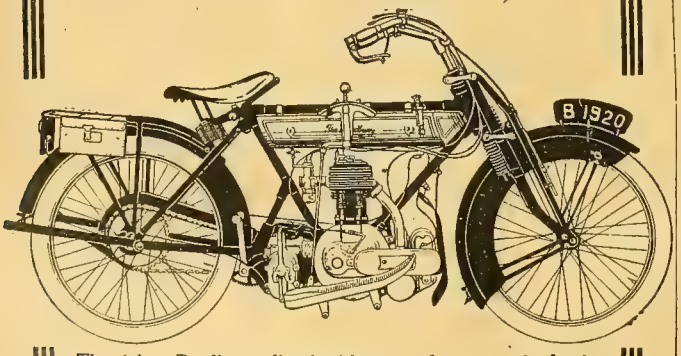
The Bradbury

The Machine par EXCELLENCE for HILL CLIMBING and RELIABILITY.

Read the Testimony of a rider of the Bradbury :-

Mr. E. W. Aldridge, 91, Queen Victoria St., London, E.C., writes :-

"About 6 months ago I bought one of your 4 h.p. machines fitted with a heavy side car. Have done about 3,000 miles always with a load of 4 up—average weight 30 stone exclusive of baggage. It hardly seems fair to tax an old 4 h.p. engine with this load, but, never the less I have not once been stuck on any hill in the South, and, in fact, I am so pleased with the outfit that the lot has been taken down to be thoroughly overhauled and re-enamelled. It might interest you to know that on examination of the engine there is *practically no* trace of wear. I have ridden two brand-new outfits but they do not come up to this old 'Bradbury' for hill climbing and reliability—it never goes wrong."



The 4 h.p. Bradbury, fitted with 3 speed gear, cork clutch kick-starter, and chain drive.

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Please write for List and Name of nearest Agent.

ideal wear

for the motor cyclist.

9306 Tan Leather Waistcoat, as illustrated, single breasted, two pockets £5 5 0 each.
2737/95 Ditto without sleeves, £4 4 0 each.

2218 Chamois Leather Waistcoat, light and comfortable, single breasted, cut specially long with windproof sleeves. **£6 6 0** each.
9341 Tan Leather Waistcoat, double breasted, turned fronts, four pockets with flaps, lined wool, **£5 15 6** each.
2165 Wool Cardigan, all colours, single breasted with sleeves and two pockets, delightfully comfortable and warm from **2 2 0** each.

We specialise in equipment for the motor cyclist and are always happy to quote for any garment made to a customer's own ideas.

230/80 Tan Leather Smock, single breasted with wind flap, lined sateen **£8 8 0**
2343/80 Smock made of fleece **£3 3 0**

2993 Frieze Jacket with fixed Tan leather lining **£7 7 0**
2993a Detachable Leather lining **£8 8 0**
291a Lined Fleece ... **£5 5 0**
From Stock only.
5773 Aviation Cap in best Tan or Black Chrome Leather, with best quality Nutria Fur peak, curtain and chin strap lined Chamois **£3 3 0**
With Chin Muff **£4 4 0**
5773a Similar design to above, but with extra deep curtain at back **£3 10 0**
Silk head lining, quilted Kapok, for high altitudes ... . **10/6** extra.
1844 Racing Cap. Fits tight to head. Pads screen ears from wind and form protection in case of accident. In leather or tweed of any colour, lined silk **21/-**
5319 In Waterproof material. **12/6**
In crash or holland for summer-wear **8 6**

We are always ready to quote for or make articles to customer's own ideas. Our long experience as Equipment Specialists enables us to advise with authority and quote with economy.

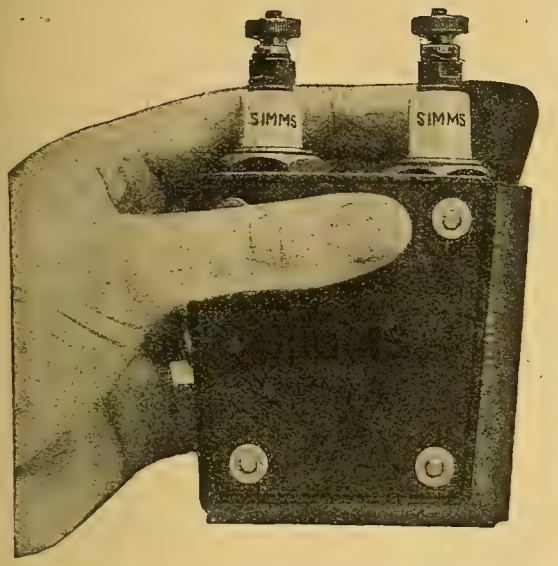
Write for our Motor Cycle Clothing Catalogue sent Post-Free on request.

Dunhills Limited

EVERYTHING FOR THE MOTOR CYCLIST

359-361, Euston Road, London, N.W.1
GLASGOW .. .. 72, St. Vincent Street

Yours for the asking!



A LEATHER PLUG CASE FREE OF CHARGE.

YOU can obtain this fine leather plug case, free of charge, providing you purchase two Simms "Non-Soot" Plugs. A couple of good plugs costs 10/- in any circumstances, but if you buy Simms (and you cannot do better) you also get a strong pigskin case in which to keep them. You will find this case protects your plugs from injury. There will be no more cracked insulators; no more bent contacts. And it is yours, gratis. But you must place your order quickly, as the number available is limited.

If your dealer cannot supply from stock, write direct, stating if plugs are to have single or twin points, and Metric or American threads, and post to us with remittance.

PRICE:
Case complete with 2 Simms "Non-Soot" Plugs, **10/-.** Obtainable from all good dealers.

SIMMS MOTOR UNITS (1920) LTD.
Percy Buildings, Gresse Street, Rathbone Place, London, W.1.

Simms "Non-Soot" Plugs

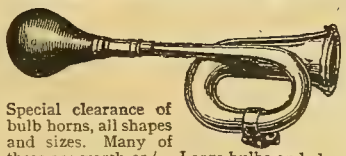
BENETFINKS

"The City's Own Store."

Great Autumn Sale

NOW IN FULL SWING.

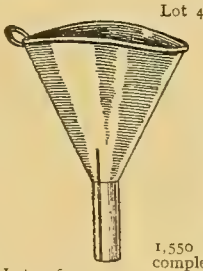
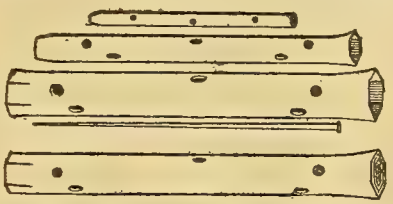
Bargains in Horns, Pliers, Spanners, Lighting Accessories, etc.

Lot 400

MOTOR CYCLE BULB HORNS.
Special clearance of bulb horns, all shapes and sizes. Many of these are worth 25/- All black finish. Large bulbs and deep notes Postage 9d. Sale price **16/9**

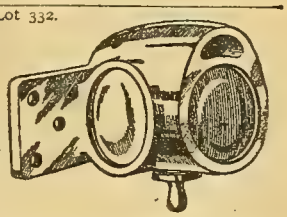
A good selection of MECHANICAL HORNS at 12/11 and 7/11. Well worth your notice. See page 8 of catalogue sent free.

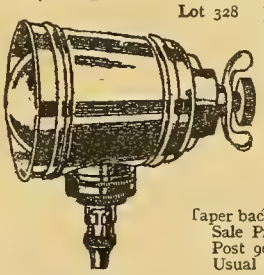
Lot 323. **MOTORISTS' PLIERS.**

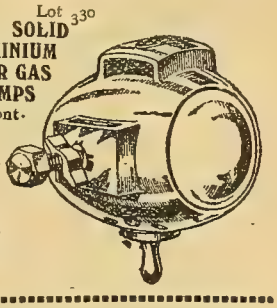
580 assorted 6in. and 7in. Combination Pliers, Burner Grip, Double Cutter. Sale Price **2/5½** Usual Price 3/9 Post 4d.

Lot 405 **MOTOR CYCLE BOX SPANNERS**


1,550 sets hardened steel box spanners, giving 6 sizes complete with tommy bar. Usual Price 2/6 Postage 3d. Sale Price **1/7½**

Lot 405
MOTOR CYCLE PETROL FUNNELS
2,000 assorted round and oval. Tin, and with gauze strainer. Sale price **7½d.** Post 4d.

ELECTRIC REARLIGHTS FOR MOTOR CYCLES.
Lot 332.

125 only (as illustration). Black or nickel finish, takes standard small bayonet bulb, beautifully finished. Sale Price **9/9** Usual Price 12/6 Post 9d.

Lot 328

ELECTRIC MOTOR CYCLE HEADLIGHTS
85 only. Solid brass, heavily nickelled, 3in. lens, detachable bulb holder, takes S.B.C. bulb. Sale Price **21/9** Usual Price 27/6 Post 9d.

Lot 330
150 SOLID ALUMINIUM SIDECAR GAS LAMPS

Paper back, 2½in. front. Sale Price **7/11** Post 9d. Usual Price 11/6

SPECIAL— Lot 410
MOTOR CYCLE PANNIER BAGS
86 only. Armoured pannier bags. Size 7×3½×3, lined fibre. Complete with clips for fixing to carrier. Sale price **5/11** Usual price 8/9 Post 9d.

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BENETFINKS, 107, CHEAPSIDE, LONDON, E.C.2.

Can I come for a ride with you on that nice bike you got from ~

JULIAN'S

84, Broad Street, READING.

NEW MOTOR CYCLES IN STOCK.

1920 Triumph and Sidecar	£182 10s.
1920 Norton Big 4 and Sidecar	£179
1920 B.S.A. 4¼ h.p. and Sidecar	£149
1920 Ariel 3½ h.p. and Sidecar	£157 10s.
1920 Enfield 8 h.p. and Sidecar	£175
1920 Martinsyde 6 h.p. and Sidecar	£170
1920 Matchless and Sidecar. Dynamo lighting	£235
1920 Clyno 2½ h.p.	£75
1920 Cedos 2½ h.p.	£73 10s.
1920 Zenith 4/5 h.p., model C	£123
1920 Zenith 6 h.p., Sports model	£139
1920 Zenith 8 h.p., Clutch model	£162
1920 New Hudson 2½ h.p.	£75
1920 A.B.C. 4-speed	£150
1920 O.K.	£50 8s.
1920 P. and M.	£115
1920 Calthorpe Jap	£78 5s. 6d.
1920 Levis	£60

SECOND-HAND MOTOR CYCLES.

1920 A.B.C.	115 gns.
1920 Calthorpe Jap	57 gns.
1920 Cedos	57 gns.
1920 Clyno	59 gns.
1920 Sporting Norton Big 4 engine and Sidecar	135 gns.
1920 Sporting Norton and Sidecar. Winner of many Medals. Really Hot Stuff.	145 gns.
1920 O.K.	42 gns.
1920 Francis-Barnett	74 gns.

BIGGEST DEALERS IN THE SOUTH.

('Phone 1024 Reading).

In answering this advertisement it is desirable to mention "The Motor Cycle."

MOTOR CYCLES FOR SALE.

Ariel.

ARIEL Combination, C.B., 3-speed countershaft, K.S., lamps, horn, etc.; £65; exchange Douglas. -141, Merton Rd., Wimbledon. [4353

ARIEL 1920 6-7h.p. Twin Combination, bought new 10 days ago at £180, accept £150 for immediate le.—Roland, 299a, West Green Rd., Tottenham, N.15. [4132

1920 6-7h.p. Ariel and new coachbuilt sidecar, wind screen, Cowey speedometer, absolutely new con- tion; trial pleasure; £165.—Lingwood, Brandon. [4526

1920 Ariel 3½h.p. Combination, absolutely as new in every respect, very low mileage; great bargain, 30 gns.—Julian, 84, Broad St., Reading. 'Phone: 024. [4872

ARIEL 1920 3½h.p., Henderson sidecar, Lucas light- ing, brand new Cowey speedometer and horn, mile- e 600; £135.—Wooldridge, Marston, York Rd., oking. [4304

ONGMAN Bros., Bond St., Ealing, 'phone: 689, special Ariel agents; immediate delivery of all odels, new and second-hand; exchanges considered; riel repairs a speciality. [4718

1920 Ariel Combination, 6-7h.p., new condition, small mileage, wind screen, hood, mirror, horn, spare lt, tube, etc.; reasonable offer accepted.—Ariel, 6, dcon Place, Workington. (D) [3765

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cles. All spares stocked.—F. Speakman, Ariel Expert Rochdale Rd., Harpurhey, Manchester. [8231

ARIEL, 1920, brand new 6-7h.p. twin combination, in stock at list price, £177/10; extended terms desired.—Elce and Co., 15-16, Bishopsgate Av., momile St., E.C.3. 'Phone: Avenue 5548. [0074

1920 Ariel Combination, 3½h.p., delivered May, lamps, accessories, spares, Cameo screen, pillion, c., well run in as new; owner buying car; £145.— ury, Saxondale, Orlando Drive, Carlton, Nottingham. [3778

1920 6-7h.p. Ariel Combination, new 31/7/20, 10 months' third party and pillion insurance, 3 new used lamps, Easting screen, Terry's spring links, uith's horn; offer ordered India; £170.—Broadway rage, King's Rd., Fleet, Hants. [3770

Arno.

ARNO 3½h.p. Combination, condition good; £60.— Austin, Hooton and Richardson, Ltd., Raynes rk, S.W.19. 'Phone: Wimbledon 1930. [4429

h.p. Arno 1913 2-speed Combination, all accessories, perfect condition, stored 4 years, any trial; £58. luding insurance —49, Graham Rd., Dalston. [4198

Athlone.

THLONE 5h.p. Twin, clutch, B. and B., mag., new rear Dunlop, in good running order; first M.O. £24 secures.—Treeby, Boar's Hill, near Oxford. [3700

Auto-Wheels

VALL Auto-Wheel, excellent condition; 10 gns.—W., 35, Chelsham Rd., Clapham. [436

UTO-WHEEL, new April, 1920, only done 400 miles; £18.—Ash, 26, Thornfield Rd., Shepherd's sh. [4109

UTO-WHEEL, 1920, mileage 50; no reasonable offer refused.—355, Wetmore Rd., Burton-on- ent. [4516

UTO-WHEEL, in perfect order, with or without gent's 27in. Humber; £10, or £22.—25, Beaumont W. [3956

UTO-WHEEL, perfect condition, new Palmer cover and shock absorber; £14/10.—Schelp, Four rks, Alton. [3701

UTO-WHEEL, attached gent's cycle, both excellent condition throughout, ride 20 miles to intending rchaser; £20.—Hall, Laughton, Theddingworth, igby. [3912

VALL Auto, splendid order, extra powerful climber, attached gent's heavy 25in. cycle, first-class tyres: al here; bargain, £19/10.—Pearce, 14, Lower Church me, St. Michael's, Bristol. [4501

Bat.

BAT.—In stock, 1920 6h.p., countershaft, 3 speeds; £160.—Parker's, Bradshawgate, Bolton. [X4572

920 Bat, little used, all accessories; cost £180, sell £140; or offer.—Cucksey, 6, Manchester Rd., rnton Heath. [3676

BAT Combination, model 4, 1920, 6h.p., done 500 miles; £190.—Hewin's Garages, Ltd., the real rvice firm, Taunton. 4024

920 6h.p. Bat Combination, spring frame; list £204.—R. Bamber and Co., Ltd., 2, Eastbank , Southport. Tel.: 607. [4842

920 Bat, Model 4, brand new, immediate delivery. £160; semi-T.T. handle-bars.—The Premier Motor , Aston Rd., Birmingham. [3790

920 8h.p. Bat Combination, detachable wheels; immediate delivery; £217.—Tel.: 6626 Museum. A.S.C., 60, Mortimer St., W.1. [4418

New & Second-Hand Machines.

Cash or Deferred Payments.

A third purchase with order—balance in 8 monthly instalments, Plus 7½%. Immediate Delivery.

P. & M.

3½ h.p., 2-speed gear, all-chain drive, semi-T.T. bars, W.D. R.A.F. models, all-weather, Service green. Solo .. £78 0 0
Complete with Millford Sidecar ... £109 0 0

INDIAN.

Spring frame, W.D. model, 7-9 h.p., 3-speed, kick-starter, all-chain drive. Finished in makers' colours, and overhauled throughout.
Price £110 0 0

HARLEY-DAVIDSON.

1918 and 1919 W.D. 7-9 h.p. twin, magneto, kick-start, 3-speed gear, clutch, standard model, guaranteed in sound running order, complete with lamps, generator, and horn.
Solo £130 0 0
Combination £168 0 0

ON APPROVAL TERMS.

W.D. Machines sent on three days' approval if full cash price is remitted.

Carriage to be paid both ways if unsatisfactory.

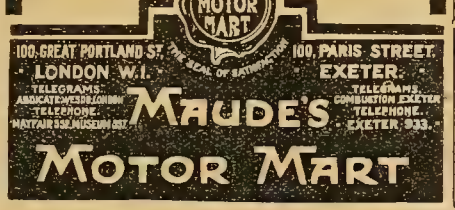
New 1920 Models — Solo.

HARLEY-DAVIDSON, Model J. £192 17 0
HARLEY-DAVIDSON, Model F. £184 11 9
VERUS, 4 h.p. Blackburne engine .. £126 0 0
PORTLAND, 2¾ h.p., 2-speed, J.A.P. . £68 0 0
HUMBER, 3½ h.p., flat twin £125 0 0
ENFIELD, 2¾ h.p., 2-speed £73 10 0
LEA-FRANCIS, 3½ h.p., twin £130 0 0
NEW IMPERIAL, 8 h.p., twin £147 0 0
FRANCIS-BARNETT, J.A.P., 2-speed £88 4 0
HARLEY-DAVIDSON, sports model . £164 9 10
LEVIS, single-sp., standard model .. £60 0 0
ZENITH, 8 h.p., clutch model £152 0 0
ZENITH, 6 h.p., clutch model £162 0 0
NEW IMPERIAL, kick-start £89 5 0
TRIUMPH, 3-speed, Model H £127 10 0
B.S.A., Model K., 4½ h.p., 3-speed, kick-starter, chain-cum-belt £107 0 0
B.S.A., Model H, 4½ h.p., 3-speed, kick-starter, all-chain drive £110 0 0
N.U.T., 3½ h.p. twin, dynamo lighting £165 0 0

SIDECAR COMBINATIONS.

MARTINSYDE-NEWMAN, 6 h.p. £170 0 0
HARLEY-DAVIDSON, Millford Sidecar £237 6 6
ROVER, 3½ h.p., 3-speed £202 13 9
QUADRANT, 4½ h.p. £145 0 0
ARIEL, 6-7 h.p. twin, 3-speed £177 10 0
ARIEL, 3½ h.p., 3-speed £157 10 0
TRIUMPH, 3-speed, Model H £182 10 0
ZENITH, 8 h.p., clutch £204 0 0
VERUS, 4 h.p., Blackburne, Canoelet £160 0 0
B.S.A., Model K, 4½ h.p., 3-speed, kick-starter, chain-cum-belt, B.S.A. Sidecar £149 0 0
B.S.A., Model H, 4½ h.p., 3-speed, kick-starter, all-chain drive, B.S.A. Sidecar £152 0 0

We have a number of **Second-hand Solo and Sidecar Combination Machines.**
Please send for List.



MOTOR CYCLES FOR SALE.

Bat.

8h.p. Bat Combination, 2-speed gear box and clutch, spring frame, perfect mechanical condition; £60.—Moss, Liphook, Hants. [4869

BAT 6h.p., Watsonian sidecar, 2-speed, wind screen, electric light; £95, or exchange lightweight and cash.—44, Eleanor Rd., Stratford, E.15. [4426

MODEL 11 8h.p. Bat Combination, brand new, with acetylene head lamp, electric side and tail lamps, reed horn; £210.—Dover Motor Co., Dover. [3855

BAT 1920 8h.p. Combination, equipped, perfect, £170; new 1920 6h.p., £145; slightly shop-soiled. —Clark, 7, Exhibition Rd., South Kensington. [4039

BAT-J.A.P., 8h.p., T.T. machine, fixed gear, Bosch mag., B. and B. carburetter, completely overhauled, very fast; £85.—Barton, Clapham, Yorks. [0323

BAT 1920 8h.p. Combination, J.A.P. engine, spring frame, 3-speed, chain drive, Henderson Elite sidecar, outfit complete, as new; £175.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0066

BRAND New 6h.p. Spring Frame Bat, 3-speed, countershaft gear, kick starter and clutch, all chain drive model; £160, solo; or can be fitted with any make of sidecar to order.—Wauchope's, 9, Shoe Lane, London. [4350

NEW 1920 Bat Combinations, fitted with the 6h.p. J.A.P. engine, 3 speeds, all-chain drive, clutch, and kick starter, £175; shiping order cancelled, usual price £204.—Wauchope's, 9, Shoe Lane, London. 'Phone: Holborn 5777. Cash or easy terms. [4880

Beardmore.

BEARDMORE-PRECISION, new, slightly soiled; £85.— Marston, 31, Bridge St., Chester. [4589

BEARDMORE-PRECISION, the essence of comfort, from stock; £95.—Hewin's Garages, Ltd., the real service firm, Taunton. [4023

BEARDMORE-PRECISION 3½h.p., 2-speed, spring frame, just delivered; circumstances force sale; cost £98, sell £88.—Porter, 7, Creswell Place, South Kensington. [4817

Blackburne.

BLACKBURNE 4h.p., delivery from stock; £135.— Maudes' Motor Mart, 100, Paris St., Exeter. [4781

WAUCHOPE'S, 9, Shoe Lane, London.—Blackburne 8h.p., £180; with Grindlay sidecar, £225; 4h.p. model solo, £135. [4324

1920 Blackburne, 4h.p., 3-speed, all-chain, as new, mileage negligible; £120.—Dunn's, 326, Euston Rd., London. Museum 5391. [2979

1920 Blackburne Combination, 4h.p., 3 speeds, all lamps, horn, etc., hardly soiled, £155; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, N. [4755

1920 4h.p. Blackburne Combination, lamps, horn, wind screen, pillion seat, etc., mileage 500; £145.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [4417

1920 4h.p. Blackburne Combination, Tan-Sad, luggage carrier, D.A. lighting, original tyres, spares; £140, or exchange with cash for late Morgan.—Dulce Domum, Victoria Rd., Farnborough, Hants. [4016

BLACKBURNE 4h.p. Combination, V.H.L. sidecar, spring chassis wheel, a beautiful machine, brand new; £175.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0320

BLACKBURNE 8h.p. Combination, with original Blackburne sidecar, complete with spare wheel, hood, screen, speedometer, lamps, spare chains, leg shields, etc., in excellent order, thoroughly overhauled; price 198 gns.—Box 8,585, c/o *The Motor Cycle.* [4223

BLACKBURNE 1920 4h.p. Single, £135; 8h.p. twin solo, £180; also a shop-soiled 4h.p. solo at £120; all in stock, with or without sidecars; extended terms.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0070

Bown.

BOWN-VILLIERS 1920 2½h.p., perfect condition, including lamps; £50.—Write, call, Charsley, 23, Clapham Park Rd., S.W.4. [4135

Bradbury

1920 4h.p. Bradbury, complete; £130.—Papworth, Glendale, Elsworth, Cambs. [4721

BRADBURY Combination, 1915, 4¼h.p., lamp, horn; £55.—Stanway, Crundale, Canterbury. 'Phone: Kens. 1917. [4580

4¼h.p. Bradbury Combination, 2-speed, recently overhauled by makers, good condition; £55.—H. Wardle, Youlgrave, Bakewell. [3713

6h.p. Bradbury Combination, 3-speed and kick start, chain, splendid condition, wind screen, lamps; £120, or exchange lower power, Scott preferred.—Weatherill, Holton-le-Moor, Lincoln. [4013

1920 6h.p. Bradbury Combination, 3-speed, K.S., mileage 500, disc wheels, numerous accessories, better new; cost £225, bargain, £155; exchange Morgan —Bleach, 35, Marmion Rd., Portsmouth. [4605

MOTOR CYCLES FOR SALE.

Bradbury.

LATE 1914 6h.p. Bradbury, 3 speeds, clutch, K.S., chain drive fitted, 1920 sporting sidecar, 3 lamps, horn, excellent tyres, re-enamelled blue and silver, perfect condition; £110, or near.—Willson, Pixholme, Dorking. [3875

6h.p. Bradbury, Jan., 1920, and Grindlay double spring sidecar, equipped with gas head, electric side and tail lamps, horn, and very full assortment of spares, choice of two carburetters. This machine has done well in competitions, and has been maintained in thoroughly good tune, recently overhauled by makers, enamel very fair, plating good; any reasonable trial willingly; £165 only for an exceptional outfit.—Apply by letter, or at week ends, Goodfellow, Hatherlow, Birkdale, Lancs. [X4473

Brough.

BROUGH, 5-6h.p., 1920, full equipment, solo and sidecar sprockets, excellent condition; £130.—Smith, 58, Caeran Rd., Newport Mon. [3882

1917 Brough 3½h.p. Twin, very fast, 3-speed, kick start, countershaft, lamp, splendid condition; £75.—Hogg, 23, Hartington St., Derby. [4684

SPECIAL Speed Model 1916 Brough, 4h.p., o.h.v., 2-speed and Philipson pulley, enamel fair, tyres nearly new, mechanically perfect, just overhauled at cost of £9; any trial or examination; £70.—18a, London Rd., Twickenham. [4000

NEW Latest Brough, Type G, 5-6h.p., 3-speed, semi-handle-bars, solo gear, £140; also type G, standard handle-bars, sidecar gear with special Montgomery sidecar, £167; immediate delivery.—Sole Birmingham agents, The Premier Motor Co., Aston Rd., Birmingham. [3792

1920 Brough Combination, 5-6h.p., Sturmey-Archer 3-speed, kick starter, hand clutch, all chain, with handsome Rennoc sporting sidecar, 2 lamp sets, Brooks saddle, Pedley's, Klaxon, very fast and flexible, perfect condition, genuine bargain; £120.—16, Ailsa Av., St. Margarets, Richmond, S.W. [4444

Brown.

3½h.p. Brown, rebored, rebushed throughout, Grado gear, guaranteed mechanically perfect and sound; £40; photo, stamp.—13, Railway Terrace, Loughborough. [3838

3h.p. Brown m.o.i.v. Motor Cycle, new Dunlop covers, Bosch watertight, B. and B., XL'all spring forks; £19.—Syd. Pearson, Gate House, Cheylesmore, Coventry. [X4638

B.S.A.

B.S.A., all models now in stock; delivered anywhere.—Below.

B.S.A. Specialists.—Replacements by return.—County Cycle and Motor Co., Broad St., Birmingham. [4177

B.S.A., all chain, 4½, in stock; list price.—Clifford Motories, Eastwood, Notts. [4476

B.S.A., 1914, 3-speed gear, 4¼h.p.; £100.—Bicycle, Chilton House, Sudbury, Suffolk. [2733

1920 6h.p. Twin B.S.A.; £150.—King and Harper, 6 and 7, Bridge St., Cambridge. [3966

BOLTON.—B.S.A., Models H and K, for immediate delivery.—Grosvenor Garage, Bolton. [X3478

B.S.A., 1914, splendid condition, stored during war; £55.—Hutton, Red Lion Hill, E. Finchley. [X4469

1920 B.S.A. and sidecar, just received; price £149.—Julian, 84, Broad St., Reading. 'Phone: 1024. [3818

1917 B.S.A. 4¼h.p. C. Combination, equipped, ride away; £95.—9, Elvendon Rd., Bowes Park, N. [X4364

1914 B.S.A. Combination, perfect condition, not used during war; £85.—16, Low Hall Lane, Walthamstow. [4088

B.S.A. Model K, 1919, with Millford sidecar, perfect condition; £110.—Coles and Shirley, Chepstow. 'Phone: 48. [0297

1919 B.S.A. 4½h.p., 3-speed, K.S., canolet sidecar, good order; first offer £90 secures.—29, Chapel Rd., West Norwood. [4221

B.S.A. Model H Combination, immediate delivery, makers' price; £152.—Coles and Shirley, Chepstow. 'Phone: 48. [0296

1920 6-7h.p. B.S.A. Twin, brand new, B.S.A. No. 1 sidecar, spare wheel; £207/9.—Freeman, Brighton Rd., Redhill. [4261

B.S.A. Combination, 1915, 3-speed, K.S., coachbuilt sidecar, just overhauled; buying car; £85.—Brooklin, Leas Rd., Guildford. [4314

1916 B.S.A., all-chain, countershaft, unused during war, lamps, Klaxon, new tyres; £80.—157, Lordship Lane, Wood Green. [4190

B.S.A. 4½h.p. Magdyno Combination in stock; list price, Clark, 7, Exhibition Rd., South Kensington, Kensington 4096 [4040

B.S.A. 1914 Combination, 4h.p., 3-speed, K.S., sound machine; £80; would separate.—Apply, 52, Pelham Rd., Gravesend, Kent. [4453

1919 B.S.A. Combination, 4¼h.p., all-chain, recently overhauled, lamps, horn, screen; £100 for quick sale.—Davis, Vyndyke, Amberley, Glos. [3836

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1917 B.S.A. Combination 4¼h.p., 3-speed, Cameo wind screen, all spares, excellent condition throughout; £95.—Almond, Coningsby, Lincoln. [3706

B.S.A. Model H, sidecar, 3-speed, chain, Lucas lighting set, splendid machine, complete, new, run 200 miles.—Write offers, 58, Avonmore Rd., W.14. [4118

B.S.A. 4¼h.p. Model H, July, 1920, all on, mileage 300, and C.B. Gloria sidecar, Easting's Tan-Sad; offers over £140.—20, Camrose St., Plumstead, S.E.18. [3998

B.S.A. Combinations, actually in stock for immediate delivery; price and catalogue on application.—District agents, The Walsall Garage, Walsall. Tel.: 444. [8999

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B.S.A. 1915 Model K, excellent condition, completely overhauled Jan. last, horn, lamp, tools; £80.—Bedwell, c/o Manager, T. Norton's, Ltd., Knighton, Rads. [3772

B.S.A., late 1919, 1920 sidecar, Lucas lamps, speedometer, Cowey horn, Easting, in excellent condition; £140.—Write Brooke, 3, Babworth Rd., Retford, Notts. [4424

B.S.A.—Immediate delivery of models H. and K., solo or combination; £107 and £110 respectively.—Distributing agents, Campion Depot, London Rd., Derby. [4122

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1915 4¼h.p. B.S.A., 3-speed countershaft, guaranteed good and sound condition; any trial; £75; accept 2¾h.p. Douglas part payment.—37, Regent St., Rugby. [X4553

B.S.A., 1916 (late), Millford sidecar, 4¼h.p., 3-speed countershaft, lamps, tools, horn, excellent condition; £105, or near offer.—Badger, 4, Colbeck Terrace, Tynemouth. [3754

B.S.A. 1917 Model K. and sidecar, 3 speeds, countershaft, K.S., lamps, tools, spares, condition as new; any trial; £95, genuine.—5, York House, 71, Venn St., Clapham, S.W.4. [3646

B.S.A. Combination, 1919, 4¼h.p., all-chain drive, coachbuilt sidecar, wind screen, Tan-Sad, tools, and spare tubes, perfect condition; £130.—Powell, 119 Shawbury, Shrewsbury. [X4210

B.S.A. 1916 4¼h.p., countershaft 3-speed, kick, clutch, chain-cum-belt, all accessories, perfect condition, recently overhauled; £68, or nearest.—Cousins, 2, Muswell Rise, N.10. [3719

4½h.p. B.S.A. Motor Cycle with sidecar, 1920, 4 months old, perfect condition, complete with lamps and horn; £150, or offers.—Hobson, Old Hall, Coole Pilate, Nantwich. [3751

1920 4¼h.p. B.S.A. and Special Sidecar, all chain drive, Easting wind screen, only run 100 miles, as new; £155.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4851

B.S.A. Twin, 6-7h.p., just delivered, Lucas lamps, electric horn, unscratched, full guarantee, owner bought car; cost £158; sacrifice, £140.—Wales, Ltd., Oozells St., Birmingham. [4181

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BRAND New Condition, positively without a scratch, Model K 4¼h.p. B.S.A. combination, complete; price £130, and will take half down; this is worth coming to see.—Bunting's Exchange, Wealdstone Close, Sundays. [4774

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DOUGLAS 2¾h.p. 1913, 2-speed, lamps, horn tools; £40 cash, ride away; seen after 6 p.m.—Allerton, Woodside Av., Muswell Hill. [4200

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DOUGLAS 1916 T.T., little used; open expert examination; lamp, horn, very fast; £65.—Millar, Larbourne Farm, Iver, Bucks. [3851

DOUGLAS 1916 2¾h.p., buffer forks, makers' colours, splendid condition; £52.—30, Crystal Palace Park Rd., Sydenham. [4667

DOUGLAS Combination, 4h.p., 3-speed, clutch, and K.S., as new; £95, bargain.—304, Fulham Rd., S.W.10. 'Phone: 2372 Kens. [3011

1919 Douglas 4h.p., Henderson sidecar, as new, complete with every accessory; accept £125.—Barnett, 56, Crediton Hill, N.W.6. [3982

DOUGLAS 2¾h.p., 1915, 2-speed, excellent condition; 50 gns.—Smithe, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. [4878

DOUGLAS 4h.p. Combination, late model, smart turnout; £80, or exchange for 2¾h.p. and cash.—114, Hill St., Peckham, S.E.15. [4116

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DOUGLAS 2¾h.p., 1915, excellent condition; £55. Austin, Hooton and Richardson, Ltd., Raynes Park, S.W.19. 'Phone: Wimbledon 1930. [4431

DOUGLAS 1920 2¾h.p., clutch, kick starter, 3-speed, lamps, horn, speedometer, tools; £85.—Painewright, 7, Grand Av., Hove, Sussex. [4283

DOUGLAS 1919 (late) 4h.p. Combination, electric lighting, pillion; £140, offers; after 5 p.m.—Ingsley, 18, Union Rd., Clapham, S.W.16. [4377

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DOUGLAS 4h.p. Combination, June, 1920, practically unridden, fully equipped; £150; appointment.—160, Franciscan Rd., Tooting, London. [4378

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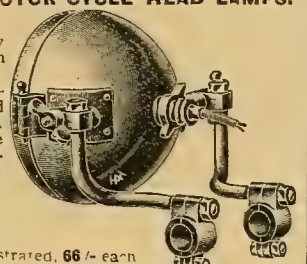

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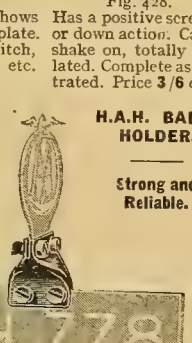

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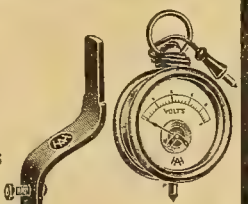

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1915 Douglas 2¾h.p., W.D., 2-speed, in splendid condition, tyres almost new, lamps, footboards. Tan-Sad; £60; after 7.—D.H., 5, Lichfield Rd., Grove Rd., Bow, E.3. [3890

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4h.p. Douglas Combination, Cameo wind screen, apron, lamps, all accessories; any trial given; £115, or near offer.—Write, W., c/o J. Pickett, William St., Slough, Bucks. [4143

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1919 Douglas Combination. No. 6946, enamel, etc., almost unscratched, lamps, tools, Easting wind screen, perfect order; £115, no offers.—182, Sherrard Rd., Forest Gate. [4207

DOUGLAS 1919 2¾h.p., 2-speed, horn, speedometer, complete tool kit, lamps, pump, footboards, excellent condition; seen London; £70.—Box 8,595, c/o *The Motor Cycle*. [4748

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1919 4h.p. Douglas Combination, 3-speed, K.S., lamps, horn, wind screen, hood, excellent order, bargain for quick sale; £125, or offer.—Blackett, 20, Chisholm Rd., Richmond. [4260

£85.—1917 Douglas 4h.p. combination, 3-speed, clutch, K.S., horn, F.R.S. and Lucas lamps, screen, full kit and spares, splendid order.—Write Pearson, 8, Queen's Gate Mews, S.W.7. [3959

DOUGLAS, 1914, 2¾h.p., 2-speed, just overhauled, fitted with new cylinders and pistons, rebushed, kick-starter, clutch, tyres practically new; £75.—Box 8,598, c/o *The Motor Cycle*. [4760

£42; 1914 2¾h.p. Douglas, perfect condition, exceedingly fast, good tyres, lamps, horn, just done 1,000 tour, camping equipment.—Capt. Williams, Five Wento House, Swanley, Kent. [4448

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NEW Douglas 1920 2¾h.p., 3-speed gear, hand-controlled clutch and kick starter; £105; latest improved frame, forks, tank, and Renolds ⅝×¼ chain; in stock, delivered passenger any part of country.—Herbert Robinson, Ltd. (below).

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£46 secures 2¾h.p. Douglas, 1914, thoroughly overhauled, new tyres, chain, belt, rebushed, copper exhaust, all accessories and spares, guaranteed perfect.—Harris, Mortimer, Berks. [4281

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F.O.C.H. have a late 1919 Douglas combination, many accessories, as new.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4054

DOUGLAS 2¾h.p., 1915-16, all-black model, tank makers' colours, sound order, tyres good, lamps, tools, many spares; £60, or near offer; bought car.—53, Ruskin Walk, Herne Hill. 'Phone: 652 Brixton. [4210

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19 19 Douglas 2¾h.p., perfect condition, ridden 2,000 miles, speedometer, lighting, Klaxon, just been thoroughly overhauled and cleaned; may be seen 20 miles London; 80 gns.—Reply, Durlacher, R.N. College, Dartmouth. [3780

£58.—A specially finely engined Douglas, fully lit and equipped, tyres and general condition excellent; I strongly recommend this machine, and will supply under guarantee.—Bamford (see under Consulting Engineers). [4836

DOUGLAS 1920 4h.p. Combination, brand new, £170; 2¾h.p., 3-speed, clutch, kick starter, £105; delivery from stock; extended terms.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0072

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DOUGLAS 4h.p. 1920 Combination, lamps, speedometer, Easting wind screen, spare belt, tube, etc., not ridden 900 miles, perfect; cost over £185, accept £170, or near offer; owner going abroad.—Evans, Yeatsall House, near Rugeley, Staffs. [4322

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DOUGLAS, Douglas, Douglas.—1921 models in stock; 4h.p. combination, £170; 4h.p. solo, £130; 2¾h.p. clutch model, £105; 2¾h.p. without clutch, £100.—Douglas Specialists, Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0315

WAUCHOPE'S, 9, Shoe Lane, London.—2¾h.p. 1920 Douglas, 3-speed models, new, £100; 2¾h.p., 3 speed, clutch, and kick start models, £105; combinations, 4h.p., £170; also 2¾h.p. 1920 second-hand Douglas, excellent condition, £80; trade supplied.—'Phone: Holborn 5777. Easy terms. [4342

DOUGLAS, 1919, with £55 Bamco sidecar, Miller lamp set, Lucas horn, tools, leg shields, engine tray, and discs, sidecar springs encased in nickel plated cases, luggage grid, perfect condition, and smart looking combination; photo obtainable if interested; £170, or nearest offer; seen any time.—E. Imray, Thorpe Bay, Essex. [3895

Edmund.

EDMUND 2¼h.p., spring frame, 3 models; you simply float.—Gourlay, Fallowfield. [6933

EDMUND-J.A.P., 2-speed, spring frame, slightly soiled; £75.—Marston, 31, Bridge St., Chester. [4592

EDMUND Lightweight, Levis engine, Enfield 2-speed; £52.—Platts, 602, King's Rd., Fulham, S.W.6. [4654

EDMUND.—The lightweight with the laminated spring frame 2¼h.p. Jap model, £92/8; 2-stroke model, £86/10; both fitted with Enfield 2-speed gear.—P. J. Evans, 83-91, John Bright St., Birmingham [0251

EDMUND-J.A.P. 1920 2¾h.p., laminated spring frame, practically new, mileage under 400, 2-speed gear, lamps, tools, etc., complete, also insurance; £80.—W. D. Morrish, H.M.S. Valiant, Portland. [4691

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ELITE.—In stock, 1920 2¾h.p., 2-speeds, Amac carburetter; £60.—Parker's, Bradshawgate, Bolton. [X4583

Enfield.

19 15 3h.p. Enfield Twin, 2-speed, perfect condition; £45.—Walker, Fishburn, Ferryhill. [3693

19 20 8h.p. Enfield Combination, new; at list price, £171.—Walker, Fishburn, Ferryhill. [3692

ENFIELD.—In stock, 1920 2¼h.p., 2 speeds; £73/10.—Parker's, Bradshawgate, Bolton. [X4568

6h.p. Royal Enfield Combination, 1916 model; £165.—Wauchope's, 9, Shoe Lane, London. [4334

ENFIELD 2¼h.p. 1919 (Oct.); £60, or nearest.—257, South St., Garrowtree, Rotherham. [4541

3h.p. Enfield, 2-speed, K.S., good tyres and condition, footboards; bargain, £38.—Lyon, Soham, Cambs. [3782

ENFIELD Combination, 6h.p., Lucas horn and lamps, Easting, perfect order.—Buck, Jeweller, Hanley. [3879

ENFIELD 2-speed, 2-stroke, new, slightly soiled, accessories; £70.—Marston, 31, Bridge St., Chester. [4599

19 16 Royal Enfield 3½h.p. Twin, 2-speed, running order; £60.—46, Slade Green Rd., Erith, Kent. [3859

19 20 8h.p. Enfield Combination; list price.—Edwards, 50, Harrington Rd., South Kensington. [5250

ENFIELD and sidecar, 6h.p., just received; price £175.—Julian, 84, Broad St., Reading. 'Phone: 1024. [3822

19 15 6h.p. Enfield Combination, in perfect order, with acetylene lights; £115.—Walker, Fishburn, Ferryhill. [3691

19 19 Enfield Combination, 6h.p., splendid condition, lamps, horn, screen, spares; £160.—59, Staines Rd., Sunbury. [4287

ENFIELD Combination, 1916, dynamo lighting, as new; £125.—Hayes Motors, Malvern Rd., Thornton Heath, S.E. [4552

19 20 Enfield, 2-stroke, 2 speeds, in stock, £73/10; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, N. [4753

ENFIELD 3h.p. Twin, 2-speed, M.A.G. engine, Bosch mag., running order; £30.—Strong, Ezelmont, Bath Rd., Devizes. [3669

19 18 Enfield 2¼h.p., 2-stroke, 2-speed, Lucas horn, lamps, perfect condition; £65.—11, Elms Rd., Dulwich, S.E.21. [4835

£68.—Unused Enfield 2-stroke, 1920.—Clifford Wilson & Company, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4737

19 16 (late) Enfield 6h.p. Combination, lamps, horn, fine condition; £130; offers.—Seen 2, Hogarth Rd., Earls Court. [4441

19 19 Enfield Combination, electric lights, excellent condition; bargain, £149.—Gordon, 3, Wastdale Rd., Forest Hill, S.E. [4650

19 20 Enfield Combination, D.H.P., new July, condition perfect, owner leaving for overseas; £160.—Nichol Beal, Northumberland. [3722

ENFIELD 6h.p. Combination, 1915-16, screen, dash, all lamps, tyres, etc., perfect; £115, or offer.—32, St. Martin's Av., East Ham. [4295

ENFIELD 3h.p. Twin, 1916, 2-speed, kick starter, electric light, several spares, running order; £60.—FitzGerald, 9, Murray Rd., Rugby. [X4514

ROYAL ENFIELD 2-stroke, 1916, 2-speed, condition as new; 40 gns.—Smiths, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. [4877

19 18 3h.p. Enfield, 2-speed, clutch, kick start, horn, speedometer, etc., perfect condition; £75, or nearest.—English, 116, Cowley Rd., Oxford. [X4206

ENFIELD, 1919, 2-speed, 2-stroke, fully equipped, new rings, tip-top condition, does 120 miles per gallon; £54.—12, The Quadrant, Winchmore Hill, N.21. [2668

19 20 8h.p. Enfield Combination, lamps, hood, screen, and many spares, as new, mileage 200; £165.—Munn's, 526, Euston Rd., London. Museum 5391. [2988

ENFIELD 1918 Combination, perfect, standard colours, Easting, lamps; bargain, £135.—Clark, 7, Exhibition Rd., South Kensington. Kensington 4095. [4044

6h.p. Enfield Combination, May, 1920, Magdyno lighting, condition and appearance perfect; £175; by appointment.—Bender, 23, Stepney Green, London, E. [4196

ENFIELD 1919 6h.p. Combination, splendid condition, electric lamps, speedometer, horn, Bosch mag.; £160.—Clarke, 31, Amelia St., Walworth, S.E. [3955

19 19 (late) Enfield 2¼h.p. 2-stroke, 2 speeds, perfect condition, all accessories; trial by appointment; £60, or offers.—Gomme, 20, Charlotte St., Brighton. [3716

ENFIELD 1916 6h.p. Combination, 3 lamps, Cowey speedometer, wind screen, Tan-Sad, good condition, fast; £140.—34, The Avenue, St. Margaret's, Twickenham. [3720

MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD 6h.p. Combination, re-enamelled, replated, overhauled, hood, screen, lamps, spares; £115, or lightweight solo and cash.—W. Nagel, 77, Hoxton St., N. 1. [4133

1918 Enfield 8h.p., engine No. 61307, Enfield coach-built sidecar, all in really new condition, exceptionally smart; £130.—30, Crystal Palace Park Rd., Sydenham. [4666

1920 Enfield Combination, 8h.p., just delivered, unregistered, Magdyno lighting; accept nearest offer list price, or exchange Morgan.—Mulinger, 42, Sheffield Rd., Portsmouth. [3654

ENFIELD.—Delivery from stock. Lightweight, 70 gns.; 6h.p. combination, £175, with Lucas Magneto, £200.—P. J. Evans, Birmingham agent, 83-91, John Bright St., Birmingham. [0300

ENFIELD 6h.p. Combination, 1915-16, fully equipped £116; also 1917 8h.p. combination, Lucas dynamo, fully equipped, both guaranteed, £130. Enfield Depot, 125, High St., Woolwich. [4174

1919 Late Enfield 6h.p. Combination, absolutely unscratched throughout and indistinguishable from new, unused four months (owner's illness), lamps, Luxon; £160.—10, Clonmel Rd., Teddington. (Full station.) [3690

1915 6h.p. Enfield Combination, cycle completely overhauled by makers in May, hood, wind screen, lamps, 2 horns, speedometer, accumulator lighting, insurance, splendid order; £140.—Ivyholme, Dulwich Common, S.E.21. [5889

ENFIELD 6h.p. Combination, late model, dynamo lighting, speedometer, electric horn, wind screen, luggage grid, spare chains and tubes, etc., owner unable to ride; £135, nearest.—18, Marlborough Rd., Old Kent Rd., S.E.1. [4446

ENFIELD Combination, late 1919, 6h.p., electric lighting, Easting screen, mechanical and bulb horns, Tan-Sad, Watkins speedometer, 700×80 tyres, spares, just overhauled; £175.—Ross, 31, Moreton Place, S.W. Victoria 1813. [4267

ENFIELD.—Several fine combinations in stock, from £120 to £200; also latest 1920 model at makers' list price; or half down and 11 payments.—Lamb's, 17, Euston Rd., London, N.W. 151, High St., Walthamstow; and 50, High Rd., Wood Green, N. [4158

1920 (early) Enfield 6h.p. Combination, complete set Lucas lamps, new Easting wind screen, Lucas horn, Clayrite mirror, luggage grid, spares, splendid mount, condition new, mileage 1,500; best over 160 gns.—Turner, Broad St., Banbury, Oxon. Tel.: 28. [X4457

MAGNIFICENT 1916 6h.p. Enfield Combination, hood, screen, new tubes, 12 volt electric lighting, thoroughly overhauled, condition, appearance as new, tank re-enamelled, little used, splendid climber; £160; change late Morgan.—Nash, 125, Wilberforce Rd., Finsbury Park, N.4. [4695

ENFIELD 6h.p. Combination, hood, screen, speedometer, electric lamps, horn, Tan-Sad, and spare chains, etc., in perfect condition, any trial, £135; 6h.p. Enfield 2-stroke, unregistered, list 70 gns.; would consider exchange for late high power combination.—188, High St., Winsford, Cheshire. [X4521

ENFIELD Combination, 6h.p., 1914, lighting set, Stewart speedometer, screen, storm apron, lion seat, back and foot rest, Lucas horn, many spares, insurance, mechanically perfect, coachwork, enamel, etc., like new, 70 m.p.g.; any trial; seen Saturday; £120.—McGhie, 11, Stanmore Rd., West Green, N.15. [4253

1920 6h.p. Enfield Combination, Lucas electric lighting, hood, screen, horn, speedometer, new end fly last, 2,000 miles, unused spares consist tyre, outer cover, inner tube, driving chain, valves, plugs, tyre repairing outfit, spare lamp bulbs, etc.; original intention take with owner abroad; £195.—M. Liddard, Royal Societies Club, St. James's St., London, S.W. [3991

Excelsior.

EXCELSIOR 3½h.p., free engine, in good condition; £24; with sidecar £34.—262, Blackhorse Lane, Walthamstow. [4091

1h.p. Excelsior Combination (British), 2-speed countershaft, all-chain, electric light, first-class order, accessories; £90.—D. Fairman, 43, Clarence Rd., St. Albans. [4188

1921 British Excelsiors, all models; delivery from stock in most cases, or special orders in a few days; list prices only.—Gray and Raynes, 8, Low Rd., Denby, Doncaster. [2783

NEW 1920 Excelsior Models in Stock for Immediate Delivery: 2½h.p. 2-stroke 2-speed, £67; 2¾h.p. 2-speed 4-stroke, J.A.P. engine, £78; 4½h.p. Big Single combination, £160; carriage paid to any address. The Premier Motor Co., Aston Rd., Birmingham. [3794

1920 8h.p. British Excelsior Combination, electric lighting, mechanical horn, speedometer, Tan-Sad, double sidecar, hood, two screens, spare wheel and tyre, enamel and mechanical condition perfect, list price to-day, £260 with accessories, owner bought car; price £215.—Skinner, 6, North Parade, Bath. 'Phone: 270. [3752

F.N.

F.N., 4-cyl., Bosch, Amac, overhauled, worth seeing; £35.—83, Park Rd., Plumstead. [4673

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CALTHORPE, 2¾ h.p.,	£71 8 0	£65 0 0

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A.J.S., 6 h.p. Combination, Hood, Horn	£200 0 0
MATCHLESS, Model H Combination, dynamo lighting, hood, screen, etc.	£220 0 0
ZENITH, 1920, 8 h.p. Henderson Sidecar Easting Windscreen, run 1,000 miles ...	£170 0 0
A.J.S., 1918, 6 h.p. M.M. Combination, Dynamo, Lighting, Spare Wheel, Klaxon, Speedometer, Tan Sad Pillion Seat, Hood, cover, etc.,	£200 0 0
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F.N., 4-cyl., Bosch, Zenith, new shaft, rings, gudgeons; £32.—Barraclough, 10, Cromwell Rd., Bedford. [3776

2½h.p. F.N., 2-speed, hand clutch, in running order; £25, or offers.—The Firs, Broomfield Rd., Chelmsford. [3672

IMMEDIATE Delivery F.N. 7h.p. 4-cyl. Combination and 2½h.p. Lightweight.—The Premier Motor Co., Aston Rd., Birmingham. [3795

1914 F.N., 4-cyl., 2-speed, hand clutch, sloping top tube, saddle tank, disc wheels; £48; photo.—Spencer, Potter St., Bishops Stortford. [4470

F.N. 4-cyl. 5h.p., 1912, enclosed shaft drive, single speed, clutch, stored during war, lately overhauled, all accessories; best offer.—16, West Borough, Wimborne. [3935

F.N. 5-6h.p., 3-speed, clutch, Bosch, Amac, mechanical horn, lamps, panniers, good tyres, sloping frame, good condition; £60, offers.—Hilldene, Oak Rd., Woolston, Hants. [4373

F.N. 5-6h.p. Combination, 2-speeds, handle-bar controlled clutch, lamps, tyres, good, just overhauled; £68; trial any morning before 10.—K., 75, Talgarth Rd., Barons Court. [4823

5-6h.p. F.N., just thoroughly overhauled, enamelled red, and replated, aluminium footboards, and disc wheels, new saddle, goes like wind; £37, or offer.—8, Hatherley Rd., Reading. [4649

THROUGH Illness.—Handsome 4-6h.p. F.N., enamelling, plating, Dunlops, inners all new, Bosch, special carburetter and tank, lamps, etc., not ridden since overhaul; expert examination invited; first £55 secures, rare bargain.—Gil Turner, China Warehouse, 298, Radford Rd., Nottingham. [4068

Francis-Barnett.

1920 Francis-Barnett, 2¾h.p. J.A.P., 2-speed, demonstration model; 74 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [3816

FRANCIS-BARNETT 1920 2¾h.p., Sturmey-Archer 2-speed, hand clutch, head and rear lamps, Dunlop tyres; £80.—Parker's, Bradshawgate, Bolton. [X4567

NEW Francis Barnett 2¾h.p., J.A.P., 2-speed clutch and kick starter, in stock at manufacturers' list price, £88/19; deferred payments 4⅞ extra; only one-fifth deposit, balance by twelve monthly instalments. —Harrods, Ltd., 118, Brompton Rd., London. [4226

Gamage.

1920½ Gamage, 1,750 miles, P. and H. lamps, rear generator, speedometer, Klaxon, heavy oversize Palmers, 2 gallons T.T. oil, coat, Triplex goggles, insurance policy till February; £65; after 5.—38, Barrington Rd., Brixton. [4089

Harley-Davidson.

HARLEY-DAVIDSON New 7-9h.p. Model Full Equipment Combination, slightly soiled; £220.—Clark, 7, Exhibition Rd., South Kensington. [4042

1920 Harley-Davidson Flat Twin, as new, room wanted; offers.—22, Carlton Rd., East Sheen. [4288

HARLEY-DAVIDSON.—In stock, 1920 4-5h.p. flat twin; £157/11.—Parker's, Bradshawgate, Bolton. [X4578

HARLEY-DAVIDSON Sports Model, slightly soiled, new; £150.—Marston, 31, Bridge St., Chester. [4596

HARLEY-DAVIDSON Sports Model, perfectly new; accept reasonable offer.—38, Hawthorn Avenue, Louth. [X4475

HARLEY-DAVIDSON Combination, 1916 model, electric dynamo lighting; £110.—Wauchope's, 9, Shoe Lane, London. [4326

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock; all fully guaranteed.—Ross, 86, High Rd., Lee. [3849

1920 Harley-Davidson 7-9h.p., Henderson Elite sidecar, excellent condition; £190.—Wall, 20, Promenade, Southport. [4017

HARLEY-DAVIDSON.—In stock, 1920 7-9h.p. model, horn, speedometer; £191.—Parker's, Bradshawgate, Bolton. [X4577

HARLEY Combination, 1915, £98; another, 1918, most posh, £155.—Hayes Motors, Malvern Rd., Thornton Heath, S.E. [4554

1919 Harley-Davidson, 7-9h.p., 3 speeds, electric lights; cheap for cash, bargain.—1, Wastdale Rd., Forest Hill, S.E. [4651

1918 Harley Combination, all lamps, many spares, very fast; £115.—Dunns, 326, Euston Rd., N.W.1. Museum 5391. [4862

HARLEY 1919 Combination, new sidecar, Bosch mag.; £125, bargain.—Post Office, Whitehorse Rd. Croydon. 'Phone: 660. [4843

1920 Harley-Davidson and Harley Sidecar, new, only shop-soiled; £219.—Edwards and Co., 50, Harrington Rd., South Kensington. [4788

HARLEY-DAVIDSON, 4h.p. twin, brand new, for immediate delivery.—Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9005

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Harley-Davidson.

HARLEY-DAVIDSON 1919 7-9h.p., excellent condition, accessories, tyres new; £110.—Warwick, 52, Abinger Rd., Bedford Park, W.4. [3678

HARLEY-DAVIDSON.—In stock, 7-9h.p. electrical models, with Mills-Fulford or Henderson sidecars.—Parker's, Bradshawgate, Bolton. [X4576

BRAND New Harley-Davidson 4h.p. Sports Model, with Klaxon horn, speedometer; price £159/16/6. —Fleming's Garage, Amblecote, Stourbridge. [2530

1920 7-9h.p. Harley-Davidson Combination, electric model; list £143/16/9.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4841

HARLEY-DAVIDSON 7-9h.p., 1919, mechanically perfect, appearance as new, £95; also 1918, incomplete, £75.—Hutton, Red Lion Hill, East Finchley. [X4468

HARLEY-DAVIDSON 1920 4h.p. Model with Swan sporting sidecar, electric lighting, mechanically perfect, as new; £190.—Parker's, Bradshawgate, Bolton. [X4562

HARLEY-DAVIDSON 7-9h.p. Combination, 3-speed, K.S., clutch, solo 82 gns.; combination £95; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [4808

HARLEY-DAVIDSON W.D. Models, re-enamelled, 1918, 1919, good running order; first cash secures; £85 and £90.—113, Rectory Lane, Tooting, S.W. [4693

HARLEY-DAVIDSON Combination, 1919, Bosch, electric horn, lights, discs, original tyres; £158; write for appointment.—Motor, 174, Hanover St., Sheffield. [3721

GENUINE Harley Combination, 1915-16, 7-9h.p., screen, horn, lamps, good condition; £130, or nearest offer.—Crouch, Kirkley, Windermere Rd., Coulsdon. [4661

HARLEY 7-9h.p., 1918, new speedometer, Tan-sad, horn, D.A. lighting, spare cover, fully insured, thoroughly overhauled; £115.—271, Camberwell New Rd., S.E.5. [4577

1915 7-9h.p. Harley-Davidson Combination, in sound condition, recently overhauled; £125. — R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4856

HARLEY-DAVIDSON, 1919, mag. model, 1920 Dunhill large bulbous back sidecar, mechanical horn, 3 lamps, generator, etc.; £125.—88, Church Rd., Barnes, S.W. [3733

BRAND New Harley-Davidson 7-9h.p., electric lighting, with Model MM4 Canoelet sidecar and coverall apron; price £232/17.—Fleming's Garage, Amblecote, Stourbridge. [2529

HARLEY-DAVIDSON 1918 Combination, new, special body, hood and screen, new tyres and lamps; £160, or near.—261, Mitcham Lane, Streatham, London, S.W.16. [3728

HARLEY-DAVIDSON 1919 7-9h.p. Combination, fully equipped, head, rear, and sidecar lamps, horn, indistinguishable from new; £190.—Parker's, Bradshawgate, Bolton. [A4561

HARLEY-DAVIDSON Combination, late 1916, Mills-Fulford sidecar, wind screen, lamps, etc., good tyres, in perfect running order; £130, or best offer.—13, Clemence St., E.14. [3658

HARLEY-DAVIDSON.—Ten 1918 and 1919 Harley-Davidsons, 7-9h.p., W.D. models, overhauled and re-enamelled, guaranteed sound; clear at £800.—Box 8,586, c/o *The Motor Cycle*. [4678

1917 Harley-Davidson Combination, just overhauled by makers, lamps, horn, tools, new spare tyre, tube, and chain, insurance policy.—Tel.: 6626 Museum. —A.S.C., 60, Mortimer St., W.1. [4419

1919 7-9h.p. Harley-Davidson Combination, just overhauled and re-enamelled, new tyres throughout, in excellent condition; £150.—Tel.: 6626 Museum. —A.S.C., 60, Mortimer St., W.1. [4421

HARLEY Combination, fully equipped, new large bulbous sidecar, Easting, electric lighting and horn, excellent lot, with K. engine; £145 for quick sale. —K., The Rolls, Highams Park, E.4. [3847

HARLEY-DAVIDSON 4h.p. Flat Twin, 1920, speedometer and lighting set; owner bought 7-9h.p. combination; best offer over £130.—Page, 79, Military Rd., Colchester. Tel.: 111. [4564

1915 4h.p. Harley-Davidson Combination, kick start and clutch, tyres, etc., very good, absolutely no-trouble machine; £90.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4857

1920 Harley-Davidson Flat Twin, speedometer, horn, bought month ago, cost £161, only used 134 miles, new and unscratched; for quick sale, £140.—Alexander's, 115, Lothian Rd., Edinburgh. [3480

HARLEY-HENDERSON Elite Combination, 1919, 7-9h.p., full equipment, wind screen, Tan-Sad, spare, guaranteed perfect condition; first reasonable offer accepted.—3, Park Hill, Richmond, Surrey. [4549

1918 Harley 7-9h.p. Combination, large sidecar, Easting, Klaxon, 3 lamps, new chains, tyres nearly new, thoroughly overhauled and a number of spares; £155. Middleton, 330, Ivydale Rd., Nunhead. [4546

HARLEY-DAVIDSON, 1919-20, 7-9h.p. electric model combination, bulbous sidecar, fully equipped, splendid mechanical condition; £185; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [4810

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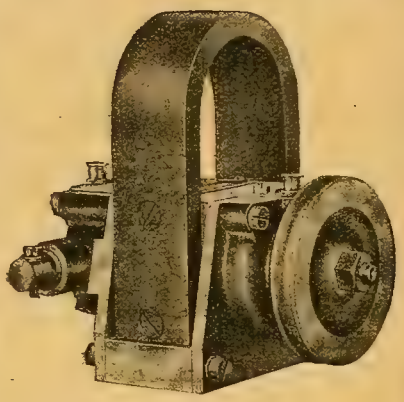

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HARLEY-DAVIDSON 1918 Combination, 7-9h.p., Klaxon, extra large lighting set, insurance, Easting wind screen, very fast, new condition; any trial or expert examination; £155, or offer.—19, Watney Rd., Mortlake. [4660

HARLEY-DAVIDSON 1920 7-9h.p., electric model, speedometer, Montgomery sidecar to match, hood, screen, mileage 1,500; sell £205, or exchange 1920 3½h.p. Sunbeam or Triumph and cash.—Oglesby, 12, Leaside Av., Muswell Hill, N.10. [4518

1919 Harley-Davidson 7-9h.p., new this year, fitted with luxurious bulbous sidecar, upholstered in antique, electric lighting (accumulator) luggage carrier, Cameo wind screen, tyres perfect, guaranteed, £135; exchanges or easy terms.—2 Nightingale Rd., Lower Clapton, N. [4756

HARLEY-DAVIDSON 1919 (November) Special Combination, done 3,000 miles, electric model, hood, screen, speedometer, a magnificent outfit, guaranteed sound; £175.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. Phone: Avenue 5548. [0065

1920 Harley-Davidson Combination, electric lighting, electric horn, Bamco sidecar with wind screen, new March last, run under 1,800 miles, as new; £200.—Williams and Fry, Ltd., 31, Buckingham Palace Rd., S.W.1. Tel.: Victoria 5940. T.A.: Motagens, Sowest, London. [4720

1919 7-9h.p. Harley-Davidson, Mills-Fulford de Luxe sidecar, just overhauled, luxurious outfit, still looks as new, completely equipped throughout, lamps, Klaxon, Easting wind screen, spring luggage grid, tools, etc., fully insured; what offers Any reasonable trial; seen by appointment.—Cooke, 33, Kirkstall Rd., Streatham Hill. [4082

Hazlewood.

1920 6h.p. Hazlewood-Jap Combination, lamp, horn, speedometer, Easting wind screen, the whole outfit in perfect and new condition; £165.—Alexander's, 115, Lothian Rd., Edinburgh. [3482

NEW 5-6h.p. Hazlewood Combination, 3-speed clutch and kick starter, a thoroughly reliable outfit; Harrods have a large number of these in stock for sale at £186 each, or on deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4224

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1920 4-cyl. Henderson, electric model, mileage 250; £155.—50, Huntspill St., Tooting. [4102

HENDERSON 8-10h.p., 4-cyl. clutch model, fast and powerful, go anywhere; £65.—Flt.-Sgt. Smith, West Camp, R.A.F., Cranwell, Lincs. [3924

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A GIFT.—Henderson four, 3-speed, kick start, 1920 Elite sidecar, D.A. lighting, wind screen; any trial; owner going Canada immediately; nearest £160. —32, Victoria Rd., Sheffield. [4321

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HENDERSON 1920-21 Electric Model K, reverse gear, fitted with dark blue Henderson Elite sidecar, most luxurious combination on the road, brand new; write for appointment.—H. Wehrli, 17, Cheapside, E.C.2. [4824

1920 Henderson Combination, 4-cyls., dynamo lighting set, electric and Klaxon horns, Henderson luxurious Elite sidecar, hardly been used and cost £285, must sell immediately; £210, offers.—Maskell, Freda Lodge, 5, Brixton Hill, S.W.2. [4764

Hobart.

HOBART, 2-speed, new, slightly soiled; £65.—Marston, Bridge St., Chester. [4594

1920 2½h.p. Hobart, 2-speed, aluminium footboards, list £70.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4845

1915 Hobart 2½h.p., 2-stroke, single-speed, re-enamelled and overhauled; bargain, £35.—Grand Garage, Morecambe. Tel.: 160. [X4417

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3½h.p. Humber Combination, 2-speed, free, overhauled; £50; exchange lightweight.—Tegg, Dorchester, Wallingford. [4077

HUMBER 3½h.p. Coachbuilt Combination, in splendid condition; £85.—Austin, Hooton and Richardson, Ltd., Raynes Park, S.W.19. 'Phone: Wimbledon 930. [4434

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. 1919 Humber and sidecar, horizontal twin-cyl. engine, coachbuilt sidecar, 3 speeds, clutch, and handle arter; 100 gns. [4328

3½h.p. Humber Coachbuilt Combination, handle start, 2-speed, free engine, electric lighting throughout; ay trial; take 37 gns., as money is urgently needed.—eether, 33, Augusta St., Poplar, London. [3981

THE Combination for the Connoisseur.—1919 Humber, 6h.p., w.c., flat twin, 3-speed, 2 neutrals, andle-bars, clutch, detachable valve pockets, detachable heels, Hobson carburetter (single-lever), C.A.V. dynamo ighting set, head lamps, speedometer, new extra heavy unlop tyres, torpedo Millford sidecar, model de luxe, ecially built, all new condition and excellent running der; one of the smartest and most reliable outfits the road; can be seen any time by appointment; -t offer over £225.—Write, Box 8,546, c/o *The Motor cle.* [38..

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h.p. Imperi, B. and B., Eisemann, automatic pulley, variable jet, tools, pump, carrier, good tyres and lt; ride away; £29.—Dodd, 135, Bathurst Gardens, illesden, N.W.10. [3933

Indian.

NDIAN, 2-speed, clutch, thorough bargain; £48.—Hudson, 181, Dunstable Rd., Luton. [4529

47.—Indian 1914 7-9h.p., new tyres; bargain.—Sharp, 11, Porley Rd., Highgate. (After 6.) [4496

-9h.p. Indian Combination, 2-speed, electric lighting, good order; £85.—County Garage, Brighton. [3675

NDIAN Combination, 1915, all on, any trial; £78. 15, Mervan Rd., Brixton Church, S.W.2. [4252

NDIAN 1915 Solo 7-9h.p., very nice machine; £43, must sell.—Hayes Motors, Thornton Heath. [4653

h.p. Indian, T.T., 1916, just overhauled, fast, all accessories; 65.—Sibley, 106, Market Place, Romford. [4003

NDIAN.—1920 4h.p. Scout, 3-speeds, clutch, T.T. bars, speedometer; £145.—Parker's, Bradshawe, Bolton. [X4587

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DIAN 1920 Combination, elaborate; cost £260 July, £165; going abroad.—Apply, 51, Maplerpe Rd., Thornton Heath, S.E. [4551

20 7-9 h.p. Indian Combination, electrically equipped, only done 50 miles, perfect; £200, or offer.—47, Abbey Rd., Grimsby. [4637

16 Clutch Model Indian, 7-9h.p., completely overhauled, and in good condition; £70, or near offer. ilde, Westleigh, Ash Vale, Surrey. [4495

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20 7-9h.p. Indian Standard Combination, electric equipment, speedometer, etc.; £223/14.—King Harper, 6 and 7, Bridge St., Cambridge. [3962

20 Indian Millford Combination, dynamo lighting, electric and mechanical horn, Easting, tools; a gain, £175.—76, Western Rd., Southall, W. [2799

DIAN, late Powerplus, Mills-Fulford combination, Lucas dynamo lighting, discs, speedometer, good new; £110.—C., 12, Station Parade, Muswell Hill [...01

DIAN Powerplus, 1919, Grindlay De Luxe sidecar, screen, and grid, unpunctured, grand outfit, on; £165, or nearest.—Gilbert, Dunchurch, Rugby. [X4543

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SALE, exchange, Powerplus Indian, 1918, Swan sidecar, electrically equipped, splendid condition; sell £135, or lightweight and cash.—Mee, Chatham St., Leicester. [4311

INDIAN 7-9h.p. C.B. Combination, spring frame, lamps, horn, speedometer, Easting wind screen, smart turnout; £95.—62b, Highgate Rd., Kentish Town, N.W. [4815

1916 Indian 5-6h.p. Combination, 3-speed, clutch, kick start; £115, near offer, or exchange 2¾ h.p. Douglas, money difference.—Renshaw, Kingsway Dairy, Woking. [3777

1920 7-9h.p. Indian Machine, fitted with standard equipment, including electric lighting, horn, and speedometer; £181/14.—King and Harper, 6 and 7, Bridge St., Cambridge. [3972

1916 Indian 7-9h.p. Spring Frame Combination, 3-speeds, dual clutch, electric lighting, voltmeter, aluminium discs, tools; £120; seen by appointment.—35, Doneraile St., Fulham. [4435

1915 3½h.p. Indian Twin, 3-speed, kick start and clutch, electric lighting, long exhaust; a bargain, £70.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4858

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4056

INDIAN 1920 (August) 7-9h.p. Combination, dynamo lighting, electric horn, speedometer, latest large valves, unscratched and perfect; £190, or best offer.—Shuttleworth, 10, Long St., Devizes. [4485

INDIAN 1915 7-9h.p. Spares.—Petrol, oil tanks, frames, cylinder heads, domes, front rear wheels, carriers, clutch, sprockets, chains, chain cases.—Indian, 45, Handcroft Rd., W. Croydon. [4662

1920 Indian Powerplus Combination, electrically equipped, Cameo wind screen, aluminium disc wheels, in very fine running order and condition; first offer nearest £175.—Moore, Castle Rd., Wellingborough. [4011

LATE 1914 7-9h.p. Indian Combination, 2-speed, spring frame, speedometer, lamps, new tyre back wheel, stored 3 years, splendid running order, clutch needs adjusting; £85, or offers.—C. Baldwin, Cholsey, Berks. [3900

INDIAN Sporting Combination, 1916, 3½h.p., 3-speed, K.S., bulbous back sidecar, fully equipped, re-enamelled and plated in makers' colours, handsome appearance, equal new; £100.—236, Monument Rd., Edgbaston, Birmingham. [3915

INDIAN, 1915, 7-9h.p., 3-speed, spring frame, kick start, large C.B. sidecar (Dunhill), Orto screen, hood, electric lamps and horn, speedometer, luggage carrier, petrol tin carrier, tools, just ovehauled; £115, or near offer; Saturday after 3 p.m.—102, The Av., West Ealing. [3896

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NEW INVICTA-J.A.P. 2¾h.p., 2-speed clutch and kick starter, a thoroughly well built and reliable machine, £89/5; also 3½h.p., Abingdon King Dick engine, 3-speed clutch and kick starter, fitted with smart low built sidecar, £143; deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4234

Ivy.

IVY Cycles.—Write, Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

LATE 1919 Ivy, 2-speed 2-stroke, lamps, horn, good condition; £62.—8, Orchard St., Lincoln. [4498

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Harley-Davidson.

HARLEY-DAVIDSON 1919 7-9h.p., excellent condition, accessories, tyres new; £110.—Warwick, 52, Abinger Rd., Bedford Park, W.4. [3673

HARLEY-DAVIDSON.—In stock, 7-9h.p. electrical models, with Mills-Fulford or Henderson sidecars.—Parker's, Bradshawgate, Bolton. [X4576

BRAND New Harley-Davidson 4h.p. Sports Model, with Klaxon horn, speedometer; price £159/16/6.—Fleming's Garage, Amblecote, Stourbridge. [2530

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HARLEY-DAVIDSON 7-9h.p., 1919, mechanically perfect, appearance as new, £95; also 1918, incomplete, £75.—Huttón, Red Lion Hill, East Finchley. [X4468

HARLEY-DAVIDSON 1920 4h.p. Model with Swan sporting sidecar, electric lighting, mechanically perfect, as new: £190.—Parker's, Bradshawgate, Bolton. [X4562

HARLEY-DAVIDSON 7-9h.p. Combination, 3-speed, K.S., clutch, solo 82 gns.; combination £95; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [4808

HARLEY-DAVIDSON W.D. Models, re-enamelled, 1918, 1919, good running order; first cash secures; £85 and £90.—113, Rectory Lane, Tooting, S.W. [4693

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GENUINE Harley Combination, 1915-16, 7-9h.p., screen, horn, lamps, good condition; £130, or nearest offer.—Crouch, Kirkley, Windermere Rd., Coulsdon. [4661

HARLEY 7-9h.p., 1918, new speedometer, Tan-Sad, horn, D.A. lighting, spare cover, fully insured, thoroughly overhauled; £115.—271, Camberwell New Rd., S.E.5. [4577

1915 7-9h.p. Harley-Davidson Combination, in sound condition, recently overhauled; £125. — R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4856

HARLEY-DAVIDSON, 1919, mag. model, 1920 Dunhill large bulbous back sidecar, mechanical horn, 3 lamps, generator, etc.; £125.—88, Church Rd., Barnes, S.W. [3733

BRAND New Harley-Davidson 7-9h.p., electric lighting, with Model MM4 Canoelet sidecar and coverall apron; price £232/17.—Fleming's Garage, Amblecote, Stourbridge. [2529

HARLEY-DAVIDSON 1918 Combination, new, special body, hood and screen, new tyres and lamps; £160, or near.—261, Mitcham Lane, Streatham, London, S.W.16. [3728

HARLEY-DAVIDSON 1919 7-9h.p. Combination, fully equipped, head, rear, and sidecar lamps, horn, indistinguishable from new; £190.—Parker's, Bradshawgate, Bolton. [4561

HARLEY-DAVIDSON Combination, late 1916, Mills-Fulford sidecar, wind screen, lamps, etc., good tyres, in perfect running order; £130, or best offer.—18, Clemence St., E.14. [3658

HARLEY-DAVIDSON.—Ten 1918 and 1919 Harley-Davidsons, 7-9h.p., W.D. models, overhauled and re-enamelled, guaranteed sound; clear at £800.—Box 8,586, c/o *The Motor Cycle.* [4678

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HARLEY Combination, fully equipped, new large bulbous sidecar, Easting, electric lighting and horn, excellent lot, with K. engine; £145 for quick sale.—K., The Rolls, Highams Park, E.4. [3847

HARLEY-DAVIDSON 4h.p. Flat Twin, 1920, speedometer and lighting set; owner bought 7-9h.p. combination; best offer over £130.—Page, 79, Military Rd., Colchester. Tel.: 111. [4564

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HARLEY-HENDERSON Elite Combination, 1919, 7-9h.p., full equipment, wind screen, Tan-Sad, spare, guaranteed perfect condition; first reasonable offer accepted.—3, Park Hill, Richmond, Surrey. [4549

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HARLEY-DAVIDSON, 1919-20, 7-9h.p. electric model combination, bulbous sidecar, fully equipped, splendid mechanical condition; £185; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [4810

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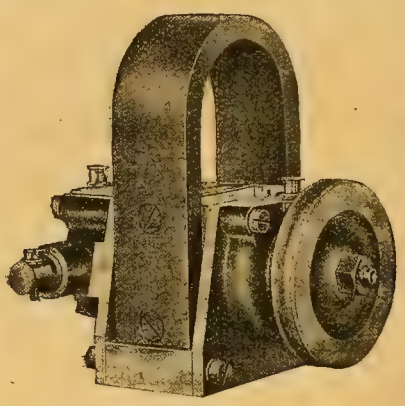

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1920 (July) Harley-Davidson 7-9h.p., electric model, speedometer, splendid sidecar with hood, screen, insurance policy until July, 1921, also some petrol and oil, guaranteed as new; the lot £255.—Rieder, 6, Waverley St., Nottingham. [3949

HARLEY-DAVIDSON 1918 Combination, 7-9h.p., Klaxon, extra large lighting set, insurance, Easting wind screen, very fast, new condition; any trial or expert examination; £155, or offer.—19, Watney Rd., Mortlake. [4660

HARLEY-DAVIDSON 1920 7-9h.p., electric model, speedometer, Montgomery sidecar to match, hood, screen, mileage 1,500; sell £205, or exchange 1920 3½h.p. Sunbeam or Triumph and cash.—Oglesby, 12, Leaside Av., Muswell Hill, N.10. [4518

1919 Harley-Davidson 7-9h.p., new this year, fitted with luxurious bulbous sidecar, upholstered in antique, electric lighting (accumulator) luggage carrier, Cameo wind screen, tyres perfect, guaranteed, £135; exchanges or easy terms.—2 Nightingale Rd., Lower Clapton, N. [4756

HARLEY-DAVIDSON 1919 (November) Special Combination, done 3,000 miles, electric model, hood, screen, speedometer, a magnificent outfit, guaranteed sound; £175.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

1920 Harley-Davidson Combination, electric lighting, electric horn, Bamco sidecar with wind screen, new March last, run under 1,800 miles, as new; £209.—Williams and Fry, Ltd., 31, Buckingham Palace Rd., S.W.1. Tel.: Victoria 5940. T.A.: Motagens, Sowest, London. [4720

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NEW 5-6h.p. Hazlewood Combination, 3-speed clutch and kick starter, a thoroughly reliable outfit; Harrods have a large number of these in stock for sale at £186 each, or on deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4224

Henderson.

1920 4-cyl. Henderson, electric model, mileage 250; £155.—50, Huntspill St., Tooting. [4102

HENDERSON 8-10h.p., 4-cyl. clutch model, fast and powerful, go anywhere; £65.—Flt.-Sgt. Smith, West Camp, R.A.F., Cranwell, Lincs. [3922

10h.p. Henderson, 1920 model, fitted with Swan sidecar, electric dynamo lighting, disc wheels, very fast, sporty looking; £215.—Wauchope's, 9, Shoe Lane, London. [4346

A GIFT.—Henderson four, 3-speed, kick start, 1920 Elite sidecar, D.A. lighting, wind screen; any trial; owner going Canada immediately; nearest £160.—32, Victoria Rd., Sheffield. [4322

NEW 1921 Henderson Models now on the Way. To secure earliest possible delivery, book your order at once with the sole Midland distributors, The Premier Motor Co., Aston Rd., Birmingham. [3790

HENDERSON 10h.p., 1916, speeds, clutch, handle start, bulbous coach 1920 sidecar, underslung, black and gold, solo £95; combination £130.—12, Cornwall Mews, Gloucester Rd., S.W.7. [4812

HENDERSON 1920-21 Electric Model K, reverse gear, fitted with dark blue Henderson Elite sidecar, most luxurious combination on the road, brand new; write for appointment.—H. Wehrli, 17, Cheapside, E.C.2. [4821

1920 Henderson Combination, 4-cyls., dynamo lighting set, electric and Klaxon horns, Henderson luxurious Elite sidecar, hardly been used and cost £285, must sell immediately; £210, offers.—Maskell, Freda Lodge, 5, Brixton Hill, S.W.2. [476

Hobart.

HOBART, 2-speed, new, slightly soiled; £65.—Marston, Bridge St., Chester. [459

1920 2½h.p. Hobart, 2-speed, aluminium footboards, list £70.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [484

1915 Hobart 2½h.p., 2-stroke, single-speed, re-enamelled and overhauled; bargain, £35.—Grand Garage, Morecambe. Tel.: 160. [X441

NEW 2½h.p. Hobart Lightweight 2-speed models in stock at manufacturers' list price, £75; 4% extra for deferred payments; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118 Brompton Rd., London. [422

MOTOR CYCLES FOR SALE.

Humber

HUMBER 3½h.p., Bosch, B. and B., new tyre and tubes; ride away; offers over £20.—G. Low, Kirkconnell, Dunbar. [4014

1h.p. Humber Combination, 2-speed, free, overhauled; £50; exchange lightweight.—Tegg, Dorchester, Wallingford. [4077

HUMBER 3½h.p. Coachbuilt Combination, in splendid condition; £85.—Austin, Hooton and Richardson, Ltd., Raynes Park, S.W.19. 'Phone: Wimbledon 930. [4434

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. 1919 Humber and sidecar, horizontal twin-cyl. engine, coachbuilt sidecar, 3 speeds. clutch, and handle arter; 100 gns. [4328

1h.p. Humber Coachbuilt Combination, handle start, 2-speed, free engine, electric lighting throughout; y trial; take 37 gns., as money is urgently needed.—ether, 33, Augusta St., Poplar, London. [3981

THE Combination for the Connoisseur.—1919 Humber, 6h.p., w.c., flat twin, 3-speed, 2 neutrals, ndle-bars, clutch, detachable valve pockets, detachable eels, Hobson carburetter (single-lever), C.A.V. dynamo hting set, head lamps, speedometer, new extra heavy unlop tyres, torpedo Millford sidecar, model de luxe, ecially built, all new condition and excellent running der; one of the smartest and most reliable ounts the road; can be seen any time by appointment; t offer over £225.—Write, Box 8,546, c/o *The Motor cle.* [382-

Imperi.

h.p. Imperi, B. and B., Eisemann, automatic pulley, variable jet, tools, pump, carrier, good tyres and lt; ride away; £29.—Dodd, 135, Bathurst Gardens, illesden, N.W.10. [3933

Indian.

NDIAN, 2-speed, clutch, thorough bargain; £48.—Hudson, 181, Dunstable Rd., Luton. [4529

347.—Indian 1914 7-9h.p., new tyres; bargain.—Sharp, 11, Porley Rd., Highgate. (After 6.) [4496

-9h.p. Indian Combination, 2-speed, electric lighting, good order; £85.—County Garage, Brighton. [3675

NDIAN Combination, 1915, all on, any trial: £78. 15, Mervan Rd., Brixton Church, S.W.2. [4252

NDIAN 1915 Solo 7-9h.p., very nice machine; £43, must sell.—Hayes Motors, Thornton Heath. [4553

h.p. Indian, T.T., 1916, just overhauled, fast, all accessories; 65.—Sibley, 106, Market Place, Romford. [4003

NDIAN.—1920 4h.p. Scout, 3-speeds, clutch, T.T. bars, speedometer; £145.—Parker's, Bradshawe, Bolton. [X4587

h.p. Late 1915 Indian, 3-speed, clutch, kick start, coachbuilt sidecar, stored 3 years; offers.—Brown, nter, Kendal. [3839

NDIAN 1915 7-9h.p., T.T. model, practically new back tyre; £50, or nearest offer.—Box 766, c/o *Motor Cycle.* [X4640

NDIAN 7-9h.p. T.T., 2-speed, clutch, Bramble coach sidecar, fully equipped; £70.—Webster, Little on, Sutton Coldfield. [X4442

17 Powerplus Indian, 7-9h.p., enamel, plating new, every accessory, perfect; nearest offer.—Grey rt, Thorpe Bay, Essex. [3680

NDIAN Combination, 1919, Oct., fully equipped, spares, mileage 1,400, perfect; offers.—Hawley, 71, ry Hill, Catford, S.E.6. [4375

NDIAN 1920 Combination, elaborate; cost £260 July, £165; going abroad.—Apply, 51, Mapleope Rd., Thornton Heath, S.E. [4551

20 7-9 h.p. Indian Combination, electrically equipped, only done 50 miles, perfect; £200, or offer.—47, Abbey Rd., Grimsby. [4637

16 Clutch Model Indian, 7-9h.p., completely overhauled, and in good condition; £70, or near offer. ilde, Westleigh, Ash Vale, Surrey. [4495

3h.p. Indian, 3 speeds, etc., Swan sidecar, new Dunlops, original enamel, lamps, accessories, like ıd new; £95.—63, Solon Rd., Brixton. [4731

20 7-9h.p. Indian Standard Combination, electric equipment, speedometer, etc.; £223/14.—King Harper, 6 and 7, Bridge St., Cambridge. [3962

20 Indian Millford Combination, dynamo lighting, electric and mechanical horn, Easting, tools; a gain, £175.—76, Western Rd., Southall, W. [2799

DIAN, late Powerplus, Mills-Fulford combination, Lucas dynamo lighting, discs, speedometer, good iew; £110.—C., 12, Station Parade, Muswell Hill [-01

DIAN Powerplus, 1919, Grindlay De Luxe sidecar, screen, and grid, unpunctured, grand outfit, ew; £165, or nearest.—Gilbert, Dunchurch, Rugby. [X4543

DIAN Scout, T.T. bars, lamps, horn, mirror, fully insured, carefully run in, low mileage, 100 m.p.g.; reason for selling; £137.—Gill, West St., Boston, s. [4487

20 Indian Combination, delivered about July, not done 1,500 miles, perfect condition and running ; £165.—104a, Finchley Rd. 'Phone: Hampstead [4791

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SALE, exchange, Powerplus Indian, 1918, Swan sidecar, electrically equipped, splendid condition; sell £135, or lightweight and cash.—Mee, Chatham St., Leicester. [4311

INDIAN 7-9h.p. C.B. Combination, spring frame, lamps, horn, speedometer, Easting wind screen, smart turnout; £95.—62b, Highgate Rd., Kentish Town, N.W. [4815

1916 Indian 5-6h.p. Combination, 3-speed, clutch, kick start; £115, near offer, or exchange 2¾ h.p. Douglas, money difference.—Renshaw, Kingsway Dairy, Woking. [3777

1920 7-9h.p. Indian Machine, fitted with standard equipment, including electric lighting, horn, and speedometer; £181/14.—King and Harper, 6 and 7, Bridge St., Cambridge. [3972

1916 Indian 7-9h.p. Spring Frame Combination, 3-speeds, dual clutch, electric lighting, voltmeter, aluminium discs, tools; £120; seen by appointment:—35, Doneraile St., Fulham. [4435

1915 3½h.p. Indian Twin, 3-speed, kick start and clutch, electric lighting, long exhaust; a bargain, £70.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4858

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-/, including Saturdays. [4056

INDIAN 1920 (August) 7-9h.p. Combination, dynamo lighting, electric horn, speedometer, latest large valves, unscratched and perfect; £190, or best offer.—Shuttleworth, 10, Long St., Devizes. [4485

INDIAN 1915 7-9h.p. Spares.—Petrol, oil tanks, frames, cylinder heads, domes, front rear wheels, carriers, clutch, sprockets, chains, chain cases.—Indian, 45, Handcroft Rd., W. Croydon. [4662

1920 Indian Powerplus Combination, electrically equipped, Cameo wind screen, aluminium disc wheels, in very fine running order and condition; first offer nearest £175.—Moore, Castle Rd., Wellingborough. [4011

LATE 1914 7-9h.p. Indian Combination, 2-speed, spring frame, speedometer, lamps, new tyre back wheel, stored 3 years, splendid running order, clutch needs adjusting; £85, or offers.—C. Baldwin, Cholsey, Berks. [3900

INDIAN Sporting Combination, 1916, 3½h.p., 3-speed, K.S., bulbous back sidecar, fully equipped, re-enamelled and plated in makers' colours, handsome appearance, equal new; £100.—236, Monument Rd., Edgbaston, Birmingham. [3915

INDIAN, 1915, 7-9h.p., 3-speed, spring frame, kick start, large C.B. sidecar (Dunhill), Orto screen, hood, electric lamps and horn, speedometer, luggage carrier, petrol tin carrier, tools, just ovehauled; £115, or near offer; Saturday after 3 p.m.—102, The Av., West Ealing. [3896

INDIAN.—Immediate delivery from stock, 7-9h.p. Powerplus model, with dynamo lighting, electric horn, and speedometer, £181/14; combination, £223/14; also 4h.p. Scout model, 3-speed, £140; local trade supplied.—Sole Birmingham agent, P. J. Evans, 83-91, John Bright St., Birmingham. [0173

1919 Indian Powerplus Combination, spring frame, electrically equipped, complete tools, spares, including chains, 2 spare inner tubes, 1 good spare outer cover, engine just overhauled, fast machine; owner going abroad, must sell; £155, or near offer; seen Saturday or Sunday, or write.—Simpson, 30, Lansdowne Rd., Tunbridge Wells. [2688

1920 (Sept.) 7-9h.p. Indian Combination, dynamo lighting, electric horn, also Cowey, Easting, aluminium discs and number-plates, Tan-Sad, speedometer and ammeter, brand new outfit, only ridden two weeks, fully insured until Sept. next, cost £270; accept £235; cash urgently needed. Huntingdon.—Box 8,520, c/o *The Motor Cycle.* [3744

7-9h.p. 2-speed 1915 Clutch Model Indian Motor Cycle and Sidecar, equipped speedometer to 80 m.p.h., head and tail lamps, brand new chains fitted and Bosch water-tight mag., tyres and tubes in perfect condition, Phœnix torpedo sidecar, with wind screen, painted white enamel and red chassis; price £115.—Taylor, c/o Merton Motor Co., Ltd., Hereford. [X4205

Invicta

NEW INVICTA-J.A.P. 2¾h.p., 2-speed clutch and kick starter, a thoroughly well built and reliable machine, £89/5; also 3½h.p., Abingdon King Dick engine, 3-speed clutch and kick starter, fitted with smart low built sidecar, £143; deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4234

Ivy.

IVY Cycles.—Write, Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

LATE 1919 Ivy, 2-speed 2-stroke, lamps, horn, good condition; £62.—8, Orchard St., Lincoln. [4498

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IVY, the aristocrat of its type, delivery of all models from stock; prices and catalogues post free.—District Agents, Walsall Garage, Walsall. Tel.: 444. [9003

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1916 Ixion-Villers, single-speed, new piston, rings; £35, or nearest.—1, Westgrove, Bath Rd., Stroud. [4402

James.

JAMES Combination, 1916, countershaft gears, kick start, equipped; £66.—202, Munster Rd., Fulham. [3983

1920 James 5-6h.p., and Canoelet sidecar; £135.—Dunn's, 326, Euston Rd., London. Museum 5391. [2975

JAMES 1920 6h.p. Coach Combination, chain drive, hand clutch, equipped perfect; £145.—5, Victoria Av., Surbiton. [4451

1920 James Combination, 4¼h.p., perfect condition; £135.—Ger. Fitton, Ightfield Heath, Whitchurch, Salop. [4475

JAMES.—In stock, 1920 6h.p. combination, 3-speeds, clutch, Lucas accessories; £190.—Parker's, Bradshawgate, Bolton. [X4583

JAMES Brand New Combinations, for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [9000

1920 Twin James 3½h.p., 3-speed, clutch, kick-starter, done 250 miles, any expert examination; £108.—1, Barbourne Terrace, Worcester. [4219

JAMES Combination, 1916, in first-class order, appearance as new; any examination; best offer over £100.—Bailey, Chapel St., Petersfield. [4134

JAMES 1919 3½h.p. Twin Combination, bulbous back sidecar, Easting screen, Lucas lamps; £120—25, Braithwaite Rd., Sparkbrook, Birmingham. [4515

1920 James 5-6h.p. Combination, Lucas Magdyno set, Easting screen, spare tube and tools; £200.—W. Fillingham, 89, Atherton Rd., Hindley. [4010

JAMES 4½h.p. Coachbuilt Combination, Armstrong 3-speed hub, lamps, screen, spares, running order; 60 gns.—Allward, Bramber Rd., N. Finchley. [4187

1920 James Combination, mileage negligible, fully equipped. See displayed advertisement.—Ratcliffe Bros., 200, Gt. Portland St., London, W. [4712

NEW 1920 James 4¼h.p. Combination, £170; 6h.p. combination, £190; free delivery to any address—The Premier Motor Co., Aston Rd., Birmingham. [3797

JAMES 2-stroke, 2-speed, 1920 (May), lamps, tools, spare belt new, insurance policy, splendid condition, about 300 miles; £80.—L. Sparrow, Merrifield Villa, Martock. [3864

JAMES Combination, 1917, 4½h.p., 3-speed countershaft, and clutch, and kick start, first-class condition, new tyres and parts; £85.—D. Browning, Wallbridge, Stroud. [3835

1920 4½h.p. James Combination De Luxe, small mileage, perfect condition; offers, lamp, horn, mirrow included.—Robson, Rosemary Cottage, South Harting, nr. Petersfield. [3877

JAMES 5-6h.p. Combination, De Luxe sidecar, hand and foot clutch, brand new; owner cannot take delivery; first cheque for £185 secures, list price £190.—Pollard, Mitre, Burnley. [4396

JAMES 4¼h.p. Combination, 3-speeds, K.S., clutch, overhauled August, all in good condition, and reliable machine; 85 gns.; appointment.—Thomas, Nurseries, upper Halliford, Shepperton. [4411

JAMES 1920 5-6h.p. Combination de Luxe, brand new, not ridden 50 miles, Lucas Magdyno lighting set, leg shields, luggage grid and horn; bargain, £200.—L. Baker, 28, St. Paul's Sq., Birmingham. [X4444

FOR Sale, 1919 4¼h.p. James combination, [illegible] electric set.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 7752. Hours 9-7, including Saturdays. [4058

1919 4½h.p. James, all accessories, Tan-Sad, first-class [illegible] under 7,000 miles, Paragon [illegible] new 1919, screen, apron, carrier, [illegible] clean, and spare, £95, or near offer. [illegible], Acton Green, Acton, W.3. [4550

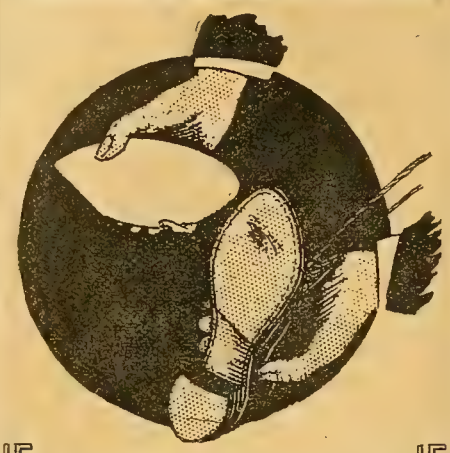
J.A.P.

5 [illegible] Combination, 3-speed, kick [illegible] overhauled; £105.—1, [illegible] [4658

OLYMPIC, 6h.p. J.A.P., brand new, with Canoelet [illegible] £170; [illegible] 2 [illegible] Hampton's Garage, Acrefield, Stourbridge. [2551

J.E.S.

FOR Sale, J.E.S. motorcycle engine, complete, 1914, not used since June, 1915, as new, what offers?—Hampden, Chapel Hill, Stansted, Essex. [3676



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LEA-FRANCIS, M.A.G. engine, in stock; £13 Clark, 7, Exhibition Rd., South Kensington. [4

LEA-FRANCIS, M.A.G. engine; immediate deliv £130.—Meades' Motor Mart, 100, Paris Exeter. [4

LEA-FRANCIS.—In stock, 1920 twin cyl., 2-spe hand-controlled clutch, M.A.G. engine; £13 Parker's, Bradshawgate, Bolton. [X4

LEA-FRANCIS, 1920.—Place your name on waiting list for delivery of these aristoc mounts.—A. J. Sproston, Ltd., 198, Gt. Portland W.1. [0

1920 Lea-Francis, 3½h.p., lamps, horn, speedom ridden under 500 miles, appearance as new perfect condition; £115.—104a, Finchley Rd. 'Pho Hampstead 7822. [4

LEA-FRANCIS 1917 3½h.p., 2 speeds and cl recently overhauled and renovated, fitted brand new 1920 3½h.p. J.A.P. engine; £90.—Park Bradshawgate, Bolton. [X4

1920 Lea-Francis, M.A.G. engine, 2 speeds, cl and kick starter, all lamps, horn, etc., beau machine, only ridden 300 miles, as new; accept £ offer.—10, Amblecote Rd., Grove Park, S.E.12. [4

NEW Lea-Francis, 2-speed, clutch and kick star M.A.G. engine, at list price, £130: or on ferred payments 4% extra; only one-fifth deposit, ance by twelve monthly instalments.—Harrods, L 118, Brompton Rd., London. [4

LEA-FRANCIS, 1920, delivery from stock, 3½ twin M.A.G. engine, 2-speed, enclosed chain dr hand and foot clutch, kick starter; £130; exten terms 4% extra.—City agents, Elce and Co., 15 Bishopsgate Av., Camomile St., E.C.3. 'Pho Avenue 5548. [0

Levis.

1920 Levis Popular, spotless, mileage 100; £5 Rider, Low Catton, York. [3

1920 Levis actually in stock; £60.—Julian, 84, B St., Reading. 'Phone: 1024. [3

LEVIS 1915, single speed, in excellent condit £35.—21, Bold St., Southport. [3

LEVIS, new 1920 model; delivery from stock.—G Worcester Parade, Gloucester. 'Phone: 852 [0

LEVIS, the master 2-stroke, delivery from st £60.—The Premier Motor Co., Aston Rd., mingham. [3

LEVIS 2½h.p. Model E., 1917, Enfield 2-speed g used very little; £50.—Ernest Smart, Brack Northants. [4

1920 Levis Popular Model, in stock at £60; excha or easy payments,—2, Nightingale Rd., Lo Clapton, N. [4

LEVIS, the finest 2-stroke in the world, delivery f stock; £60.—District agents, The Walsall Gara Walsall. Tel.: 444. [9

ONE 2¾ Levis Motor Cycle, 2-speed, Enfield ge lamps, and horn, in perfect condition; £6 Armitage, Alford, Lincs. [4

£34.—Levis Popular, 1916, Brampton Biflex fo accessories, absolutely perfect.—670, High Tottenham. 'Phone: 1889. [4

LEVIS, 1920, 2-speed or single; at list price fr stock; easy payments taken.—Sole Agents, H Engineering Works, Davigdor Rd., Hove. [2

LEVIS, 1914, new tyres, lamps, horn, just thorough overhauled, perfect running order; £45.—Atw 140, Thurlow Park Rd., Dulwich, S.E.21. [3

LEVIS, 1917, perfect condition,- Brooks, lam Klaxon, kneegrips, aluminium legshields, Dunlops; £40.—24, South St., Newport, Wight. [4

1920 2¼h.p. Levis, aluminium discs, P. and lamps, horn, excellent condition; £55.— Bamber and Co., Ltd., 2, Eastbank St., Southpo Tel.: 607. [4

LEVIS Popular, latest model, in stock; £60 Vivian Hardie and Lane, Ltd., 24, Woodsto St. (off Oxford St.), Bond St., London, W.1. 'Phon Mayfair 6559. [0

1920 Levis Popular, lamps, horn, tools, small mi age, guaranteed; cash £60, cost £70; owner b ing combination; after 4 o'clock, side door.—Counc 304, Walworth Rd., S.E.17. [3

Lincoln-Elk.

LINCOLN-ELK 4¼h.p., all belt, Bosch, fast m chine; £23.—Penernig, Harcourt Rd., Wallingt [3

Lloyd.

2¾h.p. Lloyds, sporting model, stored 2 years, co plete with lamps, horn, etc., in excellent ord £25, or nearest.—Pepper, 89, Mill Rd., Lincoln. [4

L.M.C.

L.M.C. 6h.p. (Dec., 1919), Combination, Millf sidecar, screen, lamps, hood, carrier, speedomet Cowey horn, spares, mileage 2,000, as new; £180. near offer.—Hill, 18, Crown St., Oxford. [X4

Martinsyde.

1920 Martinsyde, just received; £170.—Julian, Broad St., Reading. 'Phone: 1024. [3

MOTOR CYCLES FOR SALE.

Martinsyde.

Martinsyde, the super combination; immediate liveries, Norfolk agents.—Norwich Motor Co., Norwich. [2786

TINSYDE-NEWMAN Combination, delivery om stock; £170.—Maudes' Motor Mart, 100, t., Exeter. [4786

TINSYDE Combination, brand new, 6h.p. twin, speed; list price £170.—Fleming's Garage, ote, Stourbridge. [2532

TINSYDE-NEWMAN 1920 6h.p. Combination, isting wind screen, Watford speedometer, Lucas 180.—Lieut. Ellis, St. Columb, Cornwall. [3652

K WHITWORTH, Ltd., 139, New St., Birmingham.—Martinsyde combination, £170, or with ynamo lighting £30 extra, free delivery, splenie. [X4503

TINSYDE-NEWMAN.—Sole agents for London, ssex, Bucks, Surrey, Middlesex, and Hertford, rnwall and Devonshire, for Martinsyde-Newman tion, £170; deliveries now being effected; sub appointed.—Maudes' Motor Mart, 100, Gt. Port , W.1, and Paris St., Exeter. [6618

Matchless.

8h.p. Matchless Combination; £205.—King and Harper, 6 and 7, Bridge St., Cambridge. [3964

Model H Matchless Combination, just delivered; £180.—214, Bow Rd., London, E.3. [4270

CHLESS Combination, recently overhauled, w tyres; £100; exchange.—83, Cranfield Rd., y. [4362

Matchless, magdyno, not done 50 miles, absolute gift; £195.—Edwards, 50, Harrington Rd., Kensington. [3251

CHLESS Combination, Lucas magdyno, delivery om stock; £231/17/6.—Maudes' Motor Mart, aris St., Exeter. [4783

CHLESS 1915 Combination, M.A.G. engine, screen, grid, etc.; £105. — Broomfield, 322, orse Rd., Croydon. [1844

Matchless Combination, dynamo lighting, hood, speedometer, as new; £200.—Clifford s, Eastwood, Notts. [4477

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CHLESS.—In stock, 1920 model H combination, Magdyno electric lighting, M.A.G. engine, wheel and tyre; £230.—Parker's, Bradshawgate, [X4584

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Matchless, Magdyno, hood, triple screen, step, mudshield, speedometer, 6ft. x 3ft. waterproof coach pillion, as new; £235.—90, Crofton Park E. [4512

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P. and M. Combination, 1919, bicycle overhauled, new sidecar, roomy, Easting screen, very smart; £95, or sidecar £25.—Dixon, Builders, Beaufort St., Chelsea. [4531

P. and M. Combination, late R.A.F. model, all accessories, excellent condition; £90; seen after 3 Saturdays by appointment.—Miller, 20, Beckwith Rd., Herne Hill. [4443

1916 P. and M. Combination, excellent condition, very comfortable sidecar, all accessories, insurance; £100, or nearest offer.—Loch, James's Garage, Church Stretton. [4882

F.O.C.H. have a 1919 P. and M. combination, excellent order, fully equipped.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4059

1920 P. and M. Combination, £40 sidecar, luggage carrier, P. and H. lamps, spares and tools, horn, 1,000 miles; £135.—L. F. Jones, 4, Apsley Crescent, Bradford. [4449

1919 3½h.p. P. and M., 2-speed, kick start, etc., lamps, horn, Cowey speedometer; delivered new February, 1920, as new; £105.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4853

P. and M., overhauled 1917 and 1918 W.D. models, makers' colours, perfect condition, all chain drive; £65; trade supplied.—Barnett, 21, Rodborough Rd., Golders Green, N.W. 'Phone: Hampstead 7667. [2676

SOMETHING Special for quality and value, 6h.p. twin P. and M. combination, a marvellous machine for its power, appearance very good, mechanically perfect; exchanges considered; £78.—Lambert, 343a, Finchley Rd., N.W.3 (behind Langfirs Studios). [4805

1920 P. and M. Combination, P. and H. lamps, Klaxon, Cowey, Easting screen, spares, as new, guaranteed perfect, £150; also 1920 Cowey trip, registered 500 miles, £5/5.—39, Walliscote Rd., Weston-super-Mare. [4840

PHELON and Moore, Ltd., have several R.A.F. models for immediate delivery, reconditioned and guaranteed by them. Prospective motor cyclists should not hesitate to procure one of these machines now, whilst prices are low; £90 solo, or £120 combination.—Fullest particulars on application, or one can be inspected at London Showrooms, 4, Berners St., Oxford St. (opposite Bourne and Hollingsworth), W.1. [0314

P. and S.

NEW 2¾h.p. P. and S., fitted with the Villiers 2-stroke engine, 2-speed; £73.—Wauchope's, 9, Shoe Lane, London. [4344

PEARSON-SOPWITH, 1920, 2¾h.p. Villiers, 2-speed, Amac, M-L, Tan Sad, electric lamps, Veedee tripcyclometer, etc., splendid power and condition; £65; buying sidecar outfit.—Merridew, 76, Cromford Rd., East Putney. [4202

Peco.

1917 2¾h.p. Peco, 2-stroke, 2-speed, discs, new tyres, perfect running order; 33 gns.; photo.—205, Newton Rd., Burton-on-Trent. [4559

Precision.

3¾h.p. Precision Combination, 2 speeds, speedometer, lamps, new condition; £70.—83, Arica Rd., Brockley, S.E.4. [3985

3½h.p. Precision Premier and Gloria Sidecar, Sturmey-Archer countershaft, electric light, guaranteed perfect; £70.—Hammond, Wivenhoe. [4428

Premier.

2¾h.p. Premier, 1916, Sturmey-Archer 3-speed, clutch; £45, offer.—123, Claremont Rd., Rugby. [X4592

3½h.p. 3-speed Premier and C.B. sidecar, all accessories; £45.—Gray, 1, Church Rd., Heston, Middlesex. [1493

3½h.p. Premier, roomy sidecar, about 1915, countershaft gear box, clutch, etc., excellent condition; £65.—63, Solon Rd., Brixton. [4732

3½h.p. Premier, 1914 unit, complete, magneto, silencer, exhaust pipes, engine plates, overhauled, spares; £15.—30, Risingholme, Wealdstone, Middlesex. [4408

PREMIER 1914 4h.p., Bosch mag., Senspray carburetter, adjustable pulley, excellent order; 65 gns.; seen by appointment.—Hobbs, Broadway Garage, Knaphill, Woking. [3852

PREMIER Rex 4h.p., big 2-stroke, C.B. combination, B. and B., Dixie, 3-speed, kick start, clutch, fine appearance, fine running order; £55.—Letters, Ellis, 20, Minet Av., Harlesden, N.W.10. [4818

Quadrant.

QUADRANT 3½h.p., fast, powerful, ride away; £25.—10, Boundary Rd., Merton. [4294

QUADRANT Lightweight, wants timing, £13; magneto, £3.—42, Princes Rd., Holland Park. [4290

3½h.p. Quadrant, B.B., Simms mag., 2 speeds, free engine, £27; sidecar for same, £4.—B., 97, Byron Rd., Wealdstone. [4474

NEW 1920 4½h.p. Quadrant Combination, 3-speed, Sturmey-Archer countershaft gear, clutch, and kick starter; £145; extended payments.—Wauchope's, 9, Shoe Lane, Fleet St., London. [4325

MOTOR CYCLES FOR SALE.

Quadrant.

QUADRANT 4½h.p. Big Single; combination £145. solo £115; new machines always in stock; the only moderate-priced outfit left.—Victor Horsman Ltd., 7, Mount Pleasant, Liverpool. [0277

NEW 4½h.p. Quadrant Combination, to makers' specification, at list price, including carriage from works, £147/7/3, or on deferred payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [4231

CLIFFORD WILSON Company, Quadrant sole agents and distributers for South-eastern Counties. Trade enquiries invited. All models from stock. Large selection of second-hand combinations. — 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4734

Radco.

1914 Radco 2-stroke, lamps, Dunlops, perfect order; £27.—Sawyer, 41, Wickham Lane, Welling, Kent. [4142

1916 Radco, good condition, Dunlop, footboards, horn, complete; £35.—2, Weston Av., Esher, Surrey. [4641

RADCO 1916 2-stroke, new condition, electric light, etc.; £36, or with cash adjustment for combination. 35, Freegrove Rd., Holloway, N. [4274

1920 Radco Standard, mileage about 250, unscratched, pump, horn, and tools, climb anything; any trial; 50 gns cash.—Elsden, Sutton, Ely. [4699

BRAND New 1920 Radco, 2¼h.p., 2-stroke, £54/16; 2-speed model, £60/10; one of each only for delivery at this price; carriage paid to any address.—The Premier Motor Co., Aston Rd., Birmingham. [3800

Reading-Standard.

DEALERS.—10h.p. Reading-Standard combination, mileage 60; £120.—Apply particulars private owner, Owen, Corn Merchant, Carnarvon. [2926

READING Standard Combination, barely two months old fully equipped, dynamo lighting; £190; accept half down.—Bunting's Exchange, Wealdstone. Closed Sundays. [4776

1920 (April) 10h.p. Reading-Standard, electrically equipped, sound condition; £170; offers for quick sale.—G. Finch, Mossfield, Pleasington, nr. Blackburn. [4692

1919 Reading-Standard, 10h.p., lamps, horn, tools, etc., roomy sidecar, hood, screen, perfect condition and running order; £145.—104a, Finchley Rd. 'Phone: Hampstead 7822. [4789

Rex.

5-6h.p. Rex, Bosch. C.B. sidecar, just overhauled; £60.—Layton, Guildford Park Rd., Guildford. [3948

3½h.p. Rex, B.B., Bosch, tyres nearly new, in perfect running order, very fast; £38/10.—Senior, Burn, Selby. [4051

6-8h.p. Rex C.B. Combination, 2-speed, electric lighting; any trial; £65.—Sibley, 106, Market Place, Romford. [4004

REX 6h.p. Coachbuilt Combination, 2-speed, lamps, horn, speedometer; 40 gns.—17, Heaton Rd., Mitcham. [4839

LATE 1913 6h.p. Rex Combination, thoroughly overhauled, all fittings; bargain, £75.—Baker, Wootton Pillinge, Bedford [3767

REX 6h.p., 1911, Roc gears, clutch combination; good condition; £65, near offer.—Godwin, 13, Alexandra St., Cambridge. [3703

REX 6h.p., a.i.v., mag., rear cylinder slightly damaged; bargain, £18/10.—Alcock, Fernholme, Hampden Park, Eastbourne. [3662

1912 Rex Combination, 5-6h.p., just been thoroughly overhauled; £30, or offer.—104a, Finchley Rd. 'Phone: Hampstead 7822. [4793

REX-PRECISION 4¼h.p. Combination, 2-speed, F.E., H.S. new tyres and tubes, lighting set; any trial; £47; after 6 p.m.—A. Steptoe, No. 3a, Recreation Rd., Southall, Middlesex. [3650

LATEST Model 55 Rex Combination, brand new, 2½h.p. Blackburne engine, spare wheel, etc.; £218/12/6 inc. delivery to any address.—The Premier Motor Co., Aston Rd., Birmingham. [3799

1920 Rex 2½h.p. Model 66, coachbuilt sidecar, 4 detachable wheels, wind screen, lamps, 2 speeds, Tan-sad, spares, luxurious outfit, perfect ... only 2,000 miles; £165.—Haines, Berrymoor, ... [4499

Roc.

1-... Roc Pedrail, coach sidecar, 2-speed, handle start, ... Woodhead Place, Normanton, Yorks. [3947

RO... 7h.p. 2-speed, B.T., Bosch, good condition, ... 20 gns, or near offer.—... Rd., Hants. [4160

Rover.

ROVER, 7-9h.p. Big T., bargain, £40.—Jessop, 17, Blackburne Terrace, [4548

1914 Rover 4½h.p., 2-speed, lamps, good condition, £30.—15, Kingsland Rd., Hitchin. [4750

ROVER Combination, 1920, 5-6 h.p., as new; £125.—Grimes, 18, Bruton Place, Bond St., W.1. [3285

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Re-enamelled and plated in makers' colours. Engine and gear box thoroughly overhauled in our own workshops, and guaranteed mechanically perfect.

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1920 **COULSON-B.,** 4 h.p., 2-speed, complete with lamps and accessories . **£90 0**

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Rover.

1920 3½h.p. T.T. Rover, fully equipped, fas... perfect; £90.—53, Stourport Rd., Kidderm...

ROVER, 4h.p., 1920, 3-speed, lamps, speedo... slightly soiled; £130.—Marston, 31, Brid... Chester.

1919 3½h.p. Rover and Sidecar, all lamps, ... £109.—Dunn's, 326, Euston Rd., ... Museum 5391.

3½h.p. Rover, clutch, kick start, tyres, enamel, ... engine perfect, equipped; £45.—Bannister, ... St., Midhurst.

ROVER 1914 3½h.p., 3-speed, K.S., good ... £57/10.—Apply, Farrow, Spains Yard, St. ... Rd., Gravesend.

1920 5-6h.p. Rover Twin Latest Model Motor ... £183/5/9.—King and Harper, 6 and 7, ... St., Cambridge.

1920 3½h.p. Rover Philipson Pulley ... £124/3/3.—King and Harper, 6 and 7, ... St., Cambridge.

1918 Rover 3½h.p., 3-speed, kick start, new ... lamps, and tools; £82.—Grand Garage, ... cambe. Tel.: 160.

1920 3½h.p. Rover Countershaft 3-speed ... Machine; £150/15.—King and Harper, ... 7, Bridge St., Cambridge.

1919 3½h.p. Rover Combination, 3-speed ... shaft, splendid condition, lamps, etc.; ... 49, High St., Keynsham, Somerset.

1919 5-6h.p. Rover Combination, makers' ... complete equipment, privately owned; ... Seen Elce and Co., Camomile St., E.C.

ROVER 3½h.p. Coachbuilt Combination, 2 ... Bosch, in splendid condition; £40; week... F. Mew, Killarney, Colindale Av., Hendon.

26 GNS.—Rover 3h.p., m.o.v., drop frame, ... Bosch, accessories, good condition; bar... S. Green, 1, Albert Place, Belle Grove, Welling,

1920 5-6h.p. Rover (J.A.P. Engine) Combi... with latest pattern Rover sidecar; £23... King and Harper, 6 and 7, Bridge St., Cam...

1920 Rover (March), 5-6h.p., 3-speed, chain ... latest clutch, and Rover sidecar; alm... new; £195.—Nag's Head, Dover St., Canterb...

1918 Rover Combination, 3½h.p., 3-speed ... shaft, Lucas lamps, all tyres new Sept... guaranteed sound; 100 gns.—Ancliffe, Asterby, ... Lincs.

W.D. Rover Combination, 5-6h.p. twin J.A.P., ... built sidecar, lamps, Klaxon, guaranteed ... condition, all new; £130; any trial.—38, St. ... Sq., W.10.

1916 Rover 3½h.p. Combination, countersh... speed, clutch, sidecar, brake spares, in s... condition; trial; £100, offers.—Write, Box 76... *The Motor Cycle.*

ROVER 5-6h.p. Combination, W.D., December, ... mileage 300, lamps, accumulator, tools; ... Baylis, Guy's Hospital, S.E.1.; on view at Maude... Gt. Portland St., W.1.

1920 5-6h.p. Rover Combination, mileage 3... on, as new; sell £215, or near; exchang... Morgan or similar with cash adjustment.—Box ... c/o *The Motor Cycle.*

ROVER 5-6h.p., J.A.P. combination, New ... 1919, not W.D., special sidecar body, deta... child's seat, lamps, speedometer, etc., conditio... appearance practically as new; £145.—Legg, 17, ... Rd., Wimbledon, S.W.19.

NEW 3½h.p. Rover Motor Cycle, fitted with ... clutch and kick starter, and with smart con... sidecar; £180, or on easy payments 5% extr... quarter deposit, balance by 12 monthly instalm... Harrods, Ltd., 118, Brompton Rd., London.

ROVER Combination, 5h.p., June, 1919 ... W.D., 1920 clutch, speedometer, watch, ... luggage carrier, complete lamps (gas), spares, ... Dunlops (28×3) whole in perfect tune, 70 ... fully loaded; £160.—Shuffrey, 51a, Berners St., ... Museum 4662.

ROVER 1914 3½h.p. Combination, 3-speed, ... and gears recently thoroughly overhauled, ... lent condition and appearance, fast, sidecar ... sprung, hood, screen, lamps, new extra heavy ... —05; privately owned.—Seen Clarke's Garage, ... St., Romford, Essex.

ROVER 1920 5-6h.p. Twin Combination, ... bulbous back sidecar; list price £235, spe... duced price for cash £205; extended terms, £... cash and 12 monthly instalments of £9/15/10 ... —Elce and Co., 15-16, Bishopsgate Av., Ca... St., E.C.3. 'Phone: Avenue 5548.

Royal Ruby.

2¾h.p. Royal Ruby 2-stroke, 1916, new tyres, ... **24** £39/10.—Sibley, 106, Market Place, Ro...

ROYAL RUBY 2-stroke, single-speed, lamps ... pump, tools; £38.—Lamb, Hextable, ... Kent.

MOTOR CYCLES FOR SALE.

Royal Ruby.

920 3h.p. Royal Ruby, spring frame, new last month; offers over £100.—Mitchell, Lesney Farm, th, Kent. [4471

919 Royal Ruby, 2¾h.p. J.A.P., 2-speed, speedometer, spares, 115 m.p.g.; £43.—69, Laitwood , Balham. [3712

OYAL Ruby-Jap, 2¾h.p., 1917, 2-speed, disc wheels, lamps, recently overhauled; £50, or nearest. ose, Aston Rd., Haddenham, Bucks. [3870

920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydese Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

OYAL RUBY 2-stroke, Villiers engine, lightweight, 2-speed, complete with lamps, horn, excellent conion; bargain, £44.—1a, Richardson Rd., Eccles, Manster. [4479

h.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, equipped with Tan-Sad pillion t, lamps, mechanical horn, etc., very little used, l condition as new; £110; may be obtained on erred payments.—Harrods, Ltd., 118, Brompton Rd., ndon. [4229

Rudge.

UDGE Multi, 3½h.p., T.T., new, slightly soiled; £100.—Below.

UDGE Multi 3½h.p. Combination, new, slightly soiled; £125.—Below.

UDGE Multi 5-6h.p. Combination, new, slightly soiled; £150.—Marston, 31, Bridge St., Chester. [4595

UDGE Multi, 1917, like new; £58.—55, St. James's Rd., Bermondsey. [4806

NUSED 3½h.p. I.O.M. Rudge Multi; bargain, 95 gns.—100, Chesterfield Rd., Bristol. [4484

UDGE T.T. and I.O.M. Models ex-stock; £110; exchanges.—125, High St., Woolwich. [6094

UDGE I.O.M. Multi, new, in stock; £110/5.—Clark, 7, Exhibition Rd., South Kensington. [4045

914 3½h.p. Rudge Multi and Basket Sidecar, in good order.—Walker, Fishburn, Ferryhill. [3694

920 I.O.M. Rudge, as new; £100.—Dunn's, 326, Euston Rd., London. Museum [illegible]. [2981

914 Rudge, clutch model, ready to ride away; £40; appointment.—David, Crowthorne, Berks. [4279

920 Rudge Multi, new condition; £80.—Thompson, 22, Glazbury Rd., West Kensington, W.14. [4653

-6h.p. Rudge Multi C.B. Combination, 1916, as new, accessories; £65.—Sibley 106, Market Place, Romd. [4001

UDGE Multi, believed 1914, Chater coach sidecar; £60.—Taylor, 637, Seven Sisters Rd., Tottenham, 5. [4644

920 3½h.p. Rudge Multi I.O.M. Model; £110/5. —King and Harper, 6 and 7, Bridge St., Camlge. [3971

920 I.O.M. Rudge, new, in stock, £110/5; exchanges or easy terms.—2, Nightingale Rd., Lower ton, N. [4752

UDGE Multi, I.O.M. Model, 1920, run only 300 miles; 91 gns.—Longman Bros., Bond St., Ealing. one: 689. [4714

UDGE Multi 3½h.p., 1915, re-enamelled and plated as new; £50; exchange Douglas.—141, Merton Wimbledon. [4352

920 I.O.M. Rudge, run about 600 miles, T.T. bars, very fast, perfect condition; £95.—Upperton Gar- Upperton Rd., Leicester. [X4402

UDGE Multi 3½h.p., tyres and condition perfect, date 1915-16, tank green and gold; £56.—32, St. tin's Av., East Ham, E.C. [4296

UDGE Multi 3½h.p., 1917-18 model, lamps, etc.; 59 gns.—Write in first place to White, X Dept., St. Paul's Churchyard, E.C. [4816

914 Rudge Multi 3½h.p. Combination, clutch, lamps, horn, good running order; £65.—Flight, Turnpike Lane, Hornsey, N. [4436

920 3½h.p. Touring Rudge, as new, tools, perfect condition, under 1,000 miles; best over £95— e, Central House, Staines. [3863

DGE 3½h.p., T.T. bars, B.B. carburetter, first-class tyres, John Bull belt, fast, reliable; £35.— 61, Ambleside Drive, Southend. [4034

920 (June) I.O.M. Rudge Multi, guaranteed condition as new, lamps, Cowey horn, etc.; £90 for sale.—49, Sidwell St., Exeter. [4633

DGE Multi, 1920, I.O.M. T.T. model, not done 1,000 miles, fitted complete; what offers?—Hewin's ges, Ltd., the real service firm, Taunton. [4018

19 5-6h.p. Rudge Multi and Gloria Sidecar, in excellent condition; no offers, £114.—Wm. ey, 2, Blythe St., Wombwell, near Barnsley. [X4546

h.p. Rudge Multi, hand clutch, accessories, splendid condition throughout, new tyres; £65.— Napier Garage, Forest New Rd., South Woodford. [4686

DGE, Aug., 1919, T.T. and touring bars, tyres, belt, and lamps new; owner bought combination; £75.—Porter, High St., Whitchurch, Salop. [4178

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The above are only a few of the Spares we have in stock. We shall be pleased to quote you upon receipt of your enquiries.

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Rudge.

RUDGE Multi 1914 3½h.p., clutch, pedal starter, lamps, horn, speedometer, good tyres, new belt, excellent condition; 45 gns.—21, Leadale Rd., Stamford Hill, N.16. [4360

1917 Rudge Multi, good condition, oversize tyres, foot pumps, new Dunlop back, Millar set, insurance till next August; £68.—467, Green Lanes, Harringay, London, N. [X4209

RUDGE Multi 3½h.p. Combination, 1918, bulbous, 1920 S.C. clutch, K.S., Binks, lamps, Klaxon, rear wheel rebuilt, new rollers, perfect; £83.—367, Battersea Park Rd., S.W. [4251

RUDGE I.O.M., as new, fully licensed, insured, and equipped with best of everything, best waterproof suit, Triplex goggles; £110 lot, or near offer.—28, Hamilton Rd., Twickenham. [3759

1915 Rudge 3½h.p., splendid condition, fast, Philpson pulley, Lucas lamps, Dunlop tyres and belt, Ingersoll watch, tools, etc.; a real bargain, £58.—Roseleigh, West Hermitage, Shrewsbury. [3944

1920 Brand New I.O.M. Rudge 3½h.p., sloping tank, multi gear and free engine, £110/5; also second-hand Rudge, 1919 model, £85; another, single speed, 1914, £35.—Wauchope's, 9, Shoe Lane, London. [4339

RUDGE Multi 3½h.p., 1919 (Nov.), T.T. model, in excellent condition, Klaxon, tool kit, standard and overlap cams, 2in. copper exhaust or standard silencer if desired, fast; £85.—Bastard, Woodlands, Barkby, Leicestershire. [4284

RACING I.O.M. Rudge Multi, June 1920, specially tuned, insured £140, low mileage, electric lighting, Cowey T.T. bars, every conceivable accessory, discs scarlet and olive, attracts crowd everywhere, all spares; £95.—38, Elmbourne Rd., Balham. [4819

RUDGE Multi, 3½h.p. I.O.M., new January, 1920, acetylene lighting, complete, Watford trip speedometer, mechanical horn, spare belt and new inner tube in leather case, very complete spares, tools, tyres, unpunctured, paint unscratched, engine as new; £90, or near offer.—Lt. Lewis, Brompton Barracks, Chatham. (D) [4457

Sarolea.

2½h.p. Bamber-Sarolea, 1913, Bosch, Amac, new Duplops, excellent, £27; pair 26×2in. wheels and tyres, good, 55/-.—Parker, 46, Shaw Rd., Blackpool. [3993

Scott.

SCOTT, 1920, T.T., slightly soiled; £130.—Marston, 31, Bridge St., Chester. [4594

WAUCHOPE'S, 9, Shoe Lane, London.—New 1920 Scott, deliery from stock; £140. [4333

SCOTT, 1913, good running order, Bates 2¾in. tyres; £50.—Reilly, 215, Overgate, Dundee. [X4474

SCOTT, new 1920 model; delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0301

1920 Scott 3¾h.p., small mileage, lamps, tools; £128.—Grand Garage, Morecambe. Tel.: 160. [X4407

1914 Scott 3¾h.p., painted red, discs, sound machine; £63.—Grand Garage, Morecambe. Tel.: 160. [X4409

SCOTT, 1919, special sidecar with Easting, in good order; 125 gns.—Fortnam, Belmont Rd., Hereford. [3880

1915 Scott, C.B. sidecar, 1920 Binks, fully equipped, good order; £85.—85, Hamilton Rd., Felixstowe. [4277

1919 (Late) Scott Solo, excellent condition, lamps, horn; nearest £100; bargain.—Headlands, Leagrave, Luton. [3670

SCOTT.—In stock, 1920 3¾h.p. solo or combination; £140 and £185 respectively.—Parker's, Bradshawgate, Bolton. [X4585

1914 Scott Combination, fully equipped, overhauled by agents; £60, or near offer.—40, Rice Hey Rd., Egremont, Cheshire. [3987

SCOTT Combination, quite new, done 50 miles, 3in. tyres; £190, or near offer.—Grimes, 18, Bruton Place, Bond St., W.1. [3286

SCOTT 1920 3¾h.p. Model, head and rear lamps, full T.T. bars, very fast, as new; £130.—Parker's, Bradshawgate, Bolton. [X4565

1914 Scott Coachbuilt Combination, lamps, horn, 1 new Palmer, just overhauled; offers.—Thake, Helions Bumpstead, Essex. [4136

1920 Scott, Henderson sidecar, Ace discs, electric light, Cowey horn, speedometer, as new; £170.—19, Courtfield Gardens, S.W.5. [4405

SCOTT T.T. Solo, 1920, specially fine machine, in nearly new condition, Lucas horn, F.R.S. lamps; £110.—Box 756, c/o *The Motor Cycle*. [X4506

1920 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £100.—Dallaway, Fruit Merchant, Smethwick. [0275

SCOTT 1915 Combination, condition good; £75.—Austin, Hooton and Richardson, Ltd., Raynes Park, S.W.19. 'Phone: Wimbledon 1930. [4433

1917 Scott Combination, perfect order, newly painted sidecar, lamps, Klaxon, etc., complete; £100, or offer.—32, Elm Bank Gardens, Barnes. [4282

MOTOR CYCLES FOR SALE.

Scott.

SCOTT Combination, 1917-18, splendid mechanical condition, 1920 mag., new, fast, and economical; bargain, £85.—12, Cornwall Mews, Gloucester Rd., S.W.7. [4812

1920 Scott Combination, Swan sidecar, Lucas lamp, horn, wind screen, luggage grid, perfect, mileage under 1,000; bargain, £130.—248, Hithergreen Lane, Lewisham. [4483

1920 Scot and Henderson Elite sidecar, Aero wind screen, detachable disc wheels, Klaxon, lamps, spares; cost £210, accept £165.—Maltbey, Kinver, Beechwood Rd., Sanderstead. [4795

3½h.p. Scott, perfect, £45, offers: 10h.p. 4-cyl. A.C. engine, £15; carburetter, suit, £1; 50° twin Dixie magneto, £3/15; Jones speedometer, complete, £2 10.—Millett, Hungerford, Berks. [4635.

SCOTT, racing, special engine, triangulated spring frame, large exhaust, speedometer, F.R.S. lamps, D.A., horn, ultra-sporting sidecar fitted with Ace discs, mileage 1,850, medal winner: £180.—Wolfendale, Wolverton, Bucks. [3688

Singer.

SINGER 2¼h.p., 1914, re-enamelled, lamps, generator, etc.; £27.—88, Church Rd., Barnes, S.W. [3734

2½h.p. Singer Motor Cycle, requires assembling; mag., etc.: £6, first cheque secures.—L. Bull, 44, Hills Rd., Cambridge. [4834

SINGER Combination, 4½h.p., 2-speed, kick start, clutch; any trial; £78; take lower power part.—57, Kenbury St., Camberwell, London. [4626

2¾h.p. Singer, just thoroughly overhauled, condition 2/4 like new, also new Giado-multi pulley and White and Poppe carburetter, never used; no reasonable offer refused.—Ward, 27, St. Lawrence's Rd., Coventry. [X4438

Sparkbrook.

2½h.p. Sparkbrook, delivered July 29th, 1920, perfect, 2/2 and any trial; £67/10.—Physick, Beetham, nr. Milnthorpe. [4521

SPARKBROOK 1918 2½h.p., 2-speed, excellent condition, take 2 anywhere; bargain, £52.—Grantham, Parade, Southborough, Kent. [4621

SPARKBROOK 1918 2-stroke 2-speed, splendid order; £55.—Chalmers, 20, Beaumont Mews, High St., Marylebone Mayfair 3896. [3723

Starley.

1920 July, Starley, 2¾h.p. J.A.P., 4-stroke, 2-speed, free engine, spare belt, horn, accessories, etc.; £80, sacrifice; ill health.—Richards, 11, George St., Oldham, Lancs. [4213

Spur.

SPUR 2-stroke, 1915, thoroughly overhauled, belt, tyres as new, accessories; £37; before 6.45 p.m., or appointment.—13, Dunstans Rd., E. Dulwich, S.E. [4141

Sun.

FOR Sale, Sun-Precision C.B. combination, like new: £78.—Rees Evans, Selleck, Ross-on-Wye. [4640

1917 2¾h.p. Sun-Viteesse, 2-speed, lamps, horn, new tyres; £37.—341, Upper St., Islington, N.1. [4123

£35.—2¾h.p. 1916 Sun, 2-stroke, 2-speed countershaft, new belt, Dunlop studded tyres, and guaranteed in perfect condition; £35.—Atkins, 51, Clifton St., Brighton. [3773

1920 Sun-Viteesse, 2¾h.p., Sturmey-Archer 2 speeds, kick starter, h.e. clutch, lamps, horn, new July; cost £80, sell £60; bought combination.—Redfern, Ormonde, Thurlow Park, Torquay. [4012

SUN-J.A.P. 6-8h.p. Combination, late 1917, 3-speed, kick start, Amac, Thomson-Bennett mag., lamps, horn, complete, mechanically perfect; any trial; owner bought car; nearest £150 secures.—32, Coachman Rd., Saltley, Birmingham [4237

SUN PRECISION 3½h.p. 1914 and Coachbuilt Sidecar, wind screen, speedometer, luggage grid, lamps, engine and 3-speed gear both overhauled by makers 4 months ago; any trial; owner taking delivery of a twin; £70, or offer for quick sale.—Sexton, Bookseller, Bexhill-on-Sea. [4183

Sunbeam

1919 3½h.p. Sunbeam, all on, insurance; £135, [illegible] Stell Girl' Grammar School, Watford Herts [4697

SUNBEAM [illegible], muffler, best lamps, horn, nearly [illegible] Sunbeam sidecar; £120 complete.—Stanner's [illegible] Place [4032

SUNBEAM 1919 [illegible], 600 miles, lamps, horn, [illegible] as new, £150.—S. Ledford, 175, [illegible] [3696

SUNBEAM Combination, 6 h.p. 1914 2 speeds, K.S.; [illegible] offer £9 [illegible], Garford St., London, N.W.5. [4273

19[illegible] Lucas Magneto, [illegible] and sidecar, just [illegible] Rd., Putney, S.W. [3917

SUNBEAM 1917 [illegible], kick starter, 3-speed, h.b. clutch, lamps, horn, etc., excellent condition, £160.—[illegible], Clapham, S.W.4. [0.46

19[illegible] Sunbeam Combination, Enclose screen, [illegible] hood, all brand new, £190, or near offer. [illegible] Promenade, Cheltenham [97

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CLYNO 8 h.p. Combination	£250	0
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TRIUMPH "H" Combination	£182	10
LEVIS	£60	0
O.K., single-speed	£50	8
O.K., 2-speed	£65	0
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MATCHLESS Combination, dynamo	£230	0
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DOUGLAS, 2¾ h.p.	£100	0
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N.U.T.	£165	0
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B.S.A. "K"	£107	0
B.S.A. "A" and Sidecar	£198	0
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NEW IMPERIAL 8 h.p. Combination	£185	0
BLACKBURNE 4 h.p. Combination	£165	0
ROVER, 3½ h.p., solo	£147	10
JAMES 5-6 h.p. Combination	£190	0
ARIEL 3½ h.p. Combination	£157	10
ARIEL 3½ h.p. solo	£120	0
RUDGE I.O.M.	£110	5
DIAMOND-J.A.P.	£75	0

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1920 **ROVER** 5-6h.p. Combination	£205	0
1920 **ROVER** 3½ h.p. solo	£132	10
1920 **CALTHORPE**, 2-speed	£69	0
1920 **CLYNO**	£65	0
1920 **TRIUMPH** and Sidecar, many valuable accessories	£165	0
1920 **DIAMOND**, 2-stroke	£76	0
1920 **DOUGLAS**, kick starter, beautifully equipped	£94	0
1920 **A.B.C.**	£135	0
1920 **DOUGLAS** 4 h.p. Combination	£135	0
1920 **HARLEY-DAVIDSON** elec. Com.	£220	0
1920 **WOOLER**	£95	0
1920 **SCOTT**	£127	10
1920 **RUDGE** Combination	£115	0
1920 **JAMES**, 2¾ h.p.	£52	10
1920 **COULSON-BLACKBURNE**, 2¾ h.p.	£84	0
1919 **ENFIELD**, 2¾ h.p.	£58	0
1919 **TRIUMPH** and Triumph Sidecar.	£147	10
1920 **P. & M.** Combination	£135	0
1920 **QUADRANT**	£135	0
1920 **MAXWELL** 5-seater Car	£450	0

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387, Euston Rd., LONDON, N.W.1.
'Phone—Museum 4978.
'Grams—"Lamocy, Eusroad, London."

151, High Street, Walthamstow.
'Phone Walthamstow 169.
'Grams—"Cyclotomo, 'Phone, London."

50, High Rd., Wood Green, N.22.
'Phone Hornsey 1956.
'Grams—"Doulamocy, 'Phone, London.',

MOTOR CYCLES FOR SALE.

Sunbeam

SUNBEAM 1920 3½h.p. Model, Lucas head and [illegible] lamps, bulb horn, indistinguishable from n[illegible] £160.—Parker's, Bradshawgate, Bolton. [X4

SUNBEAM 3½h.p. 1919 Combination, Lucas lam[illegible] horn, excellent condition; £165 all on; bou[illegible] car.—22, Pinewood Rd., Bromley, Kent. [3

1920 3½h.p. Sunbeam Combination, only done [illegible] miles, as new, owner getting car; what offers[illegible] MacKenna, Mossy Green, Oakengates, Salop. [3

SUNBEAM 3½h.p., 1920, and sidecar, done 1,[illegible] miles, condition absolutely perfect; £19[illegible] Hewin's Garages, Ltd., the real service firm, Taunt[illegible] [4

SUNBEAM, brand new 3½h.p., solo model, w[illegible] Lucas lamps and horn; £170.—The Wal[illegible] Garage, Wolverhampton St., Walsall. Tel.: 444. [9

1918 8h.p. Sunbeam Combination, black and g[illegible] hood, screen, all lamps, horn, legshields, perf[illegible] £155.—Dunn's, 326, Euston Rd., London. Muse[illegible] 5391. [2

1919 Sunbeam Roadster, little used, unpunctu[illegible] in perfect order, with complete equipme[illegible] trial Surrey district; £130.—Box 8,575, c/o *The M[illegible] Cycle.* [4

1919 Sunbeam Combination, in perfect condition, [illegible] mileage, lamps, horn, speedometer, Tan-Sad, [illegible] tools; £160; ready ride away.—Lord, 265, Roberts [illegible] Grimsby. [4

SUNBEAM 3½h.p., late model, oil bath, black [illegible] gold, lamps, accessories, new condition throu[illegible] out; £100.—63, Solon Rd., Brixton. Excha[illegible] Morgan. [4

SUNBEAM Late 1916 3½h.p. Combination, bl[illegible] and gold, practically as new, small mile[illegible] lamps, horn, speedometer; £138/10.—Rose's Gar[illegible] Uxbridge. [4

SUNBEAM Combination, 1917-18, 8h.p. J.A.P., [illegible] overhauled every part at cost of £20, luxur[illegible] outfit with all accessories; £195.—The Crest, Dorn[illegible] Park, Surrey. [4

WAUCHOPE'S, 9, Shoe Lane, London.—1919 8[illegible] Sunbeam combination, hood, screen, lamps, sp[illegible] ometer, mirror, warning signal, tools, condition [illegible] new; 200 gns. [4

SUNBEAM, 1917, 8h.p. M.A.G., best sidecar, sp[illegible] ometer, wind screen, electric lighting (Lucas), s[illegible] wheel; best offer, or exchange Ford.—Queen's H[illegible] Waltham Abbey. [3

1920 3½h.p. Sunbeam and Gloria Sidecar, Lu[illegible] lamps, Cowey and Lucas horns, watch, per[illegible] condition; 150 gns.—Edwards, 50, Harrington [illegible] South Kensington. 3

1920 3½h.p. Sunbeam with Montgomery Side[illegible] fitted up with lamps, speedometer, wind sc[illegible] and luggage grid, first-class turnout; £200.—A. M[illegible] 119, Earle St., Crewe. [4

3½h.p. Sunbeam (Sept., 1919), and Dinky £40 side[illegible] new electric lighting, speedometer and horn, [illegible] acetylene lighting, London-Edinburgh gold, etc.—[illegible] Wallscote Rd., Weston-super-Mare. [4

4h.p. All-chain Sunbeam, believed late 1918, bea[illegible] ful machine throughout, indistinguishable [illegible] new, fully equipped with Klaxon, lamps, etc.; £[illegible] or nearest offer.—L. Bull, 44, Hills Rd., Cambrid[illegible] [4

1916 3½h.p. Sunbeam Combination, in perfect [illegible] dition, Cameo wind screen and new cover, [illegible] little used, complete with all accessories and new s[illegible] rear wheel; £135.—Coombs, 19, Norman Rd., St. L[illegible] ards-on-Sea. [3

1920 (Aug.) 3½h.p. Sunbeam Combination, latest-S[illegible] beam sidecar, all wheels interchangeable, w[illegible] screen, Lucas accessories, perfect, small mileage; [illegible] £217, accept £205.—Wrixon, 41, Richmond Park [illegible] East Sheen. [4

1915 3½h.p. Sunbeam with Beautiful Coachb[illegible] Sidecar, complete in every way, lamps, t[illegible] horns, speedometer, insurance policy; accept £1[illegible] appointment.—B.S., The Limes, 16, Woodberry Do[illegible] Finsbury Park, N. [3

1920 (July) 3½h.p. Sunbeam, Binks, Lucas K[illegible] Road lamps, horn, guaranteed mileage [illegible] machine absolutely new, unscratched, cost £170 [illegible] sacrifice, £155; must sell.—Elman, 8, Maple St., H[illegible] Town Manchester. [4

3½h.p. Sunbeam, 1914, 3-speed, K.S., Lucas light[illegible] horn, Smith's speedometer, College legshi[illegible] splendid condition and appearance; £84; exchange [illegible] 2¾h.p. Douglas, 3h.p. Enfield, and cash.—81, L[illegible] Ealing Lane, Ealing. [3

SUNBEAM.—We are Wolverhampton agents; s[illegible] parts in stock; repairs, overhauls, re-enamell[illegible] and plating under the supervision of Mr. T. O. de[illegible] Hay (late Sunbeamland).—The Molineux Garage [illegible] Ltd., Wolverhampton. Tel.: 1160. [3

1920 (July) 3½h.p. Sunbeam Combination, all wh[illegible] interchangeable, Lucas best lamps and h[illegible] Cowey trip speedometer, Sunbeam leg shields, indis[illegible] guishable from new, mechanically perfect; £205.—Jo[illegible] Earlswood, Ellesmere Rd., Shrewsbury. [X4

SUNBEAM 3½h.p. Sports Model (late 1919), c[illegible] plete with P. and H. head, Lucas tail lam[illegible] horn, tools, polished aluminium A.C.E. discs, pli[illegible] exhaust pipe, small mileage, mechanically perfect; £1[illegible] —Howell, St. Weonard's, Herefordshire. [3

MOTOR CYCLES FOR SALE.

Sunbeam.

W Sunbeam 1920 8h.p. Combination, Lucas mag-dyno lighting set, spare wheel, hood, screen, etc., rice, £278/15/6; in stock.—Cambridge agents unbeams, Herbert Robinson, Ltd., 32-35, Green Cambridge. T.A.: Bicycles. Tel.: 995. [4162

19 Sports Model, 3½h.p. Sunbeam, with two lamps and generators, knee grips, horn, speed-er, and sundry spares worth £4, in perfect condi-reason for selling owner got new one; price £140. ppointment.—Holton, Beansheaf Farm, Theale. [4583

20 3½h.p. Sunbeam Combination, latest pattern Sunbeam sidecar, No. 1, with detachable inter-eable wheel, new June, little used, perfect condi-tyres unpunctured; 180 gns.: can be seen any noon by appointment.—C., 151, Woodstock Rd., d. [X4463

NBEAM Combination, 6h.p., 3-speed countershaft, Binks, Lucas horn and lamps, oversize tyres tubes (new), speedometer, several spares, coach-sidecar with screen, excellent condition; reason-price; take lightweight in part.—Jones, 18, lt St., Holywell. [X4544

20 3½h.p. Sunbeam Combination, delivered July 25th, done 500 miles, interchangeable sidecar l, as illustrated in "Motor Cycle," Oct. 2nd, s lighting, never been used, Lucas horn; £210; thing guaranteed as new.—A. F. Perry, 41, East Taunton, Somerset. [4542

Triumph.

IUMPH 4h.p., 3-speed, reconstructed by Triumph: £105.—Motor Co., Glossop. [3940

IUMPH 4h.p., cane sidecar, all guaranteed as new: £129.—Price, Westlea, Abergavenny. [3853

20 Triumph, Model H, just received from makers; £127/10.—Rose's Garage, Uxbridge. [4567

p. Triumph Countershaft, like new; bargain, £75. —13, Pindock Mews, Warwick Av., W.9. [4269

h.p. Triumph, belt, tyres good condition, variable gear; £25.—53, Stanway Rd., Coventry. [X4511

p. Triumph, countershaft, complete, lamps, horn, etc., good order; £85.—Denman, Cuckfield. 4242

IUMPH, late model, only done 300 miles, equipped; £85.—14, Effra Parade, Brixton. [4804

20 Countershaft Triumph, 4h.p., new, mileage 100; nearest list price.—Rider, Low Catton, York. [3731

20 Triumph and sidecar, just received; £182/10.—Julian, 84, Broad St., Reading. 'Phone: 1024. [3821

IUMPH Specialists: latest 1920 model on view.—The Premier Motor Co., Aston Rd., Birmingham. [3801

IUMPH 1916 C.B. Combination, 3-speed, C.S., perfect; £73.—10, Baronsmead Rd., Barnes. [4354

19 Countershaft Triumph, low mileage, acces-sories, spares; £92.—Reeve, Coopers Lane, Potters [4318

18 Triumph, 4h.p., C.S., perfect running order; £75.—Dunn's, 326, Euston Rd., London. Museum [2984

UARANTEED Countershaft Triumph; price £88 — For full particulars apply, Patey, Brasenose, ord. [3952

20 Junior Triumph, little used, perfect condition, horn, tools; what offers?—52, Broad St., Wor-er. [4305

14 Triumph C.B. Combination, 3-speed accessories, sound condition; £65.—Blake, 2, Church St., ntage. [4212

RIUMPH Gloria Combination, just arrived, at makers' price.—Walter Miller, Craven Arms, opshire. [3698

20 Triumph Watsonian Combination, electric light-ing, unscratched; £140, or near offer.—Stainer's ry, Ryde. [4033

RIUMPH 1920, Gloria sidecar, wind screen, speedo-meter; £148.—665, Didsbury Rd., Heaton Mersey, chester. [4702

19 Triumph 4h.p., C.S., and Gloria sidecar; £115.—Dunns, 326, Euston Rd., N.W.1. seum 5391. [4863

RIUMPH Junior, 1919 (Oct.), all accessories, little used; 55 gns.; no dealers.—Lawn Villa, Holly k, Enfield. [4562

18 Countershaft Triumph, nearly new condition, equipped; 82 gns.—1a, Marie House, Brockley w, Forest Hill. [4685

11 3½h.p. Triumph, N.S.U. gear, fine order; end of season bargain, £35, or offer.—Godman, Union e, St. Albans. [4798

18 Triumph, 3-speed countershaft, all accessories; £100; with coachbuilt sidecar, £125.—Pepper, 9, itworth St., Hull. [3753

ABY Triumph, 1919, perfect condition, practically unscratched, little and carefully used; £65.—38, ley Rd., Oxford. [4738

RAND New Triumph Combination, unused; owner must sell, so will sacrifice for £157/10.—Green, 7, wery St., Chesterfield. [X4405

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1920	**B.S.A.** chain-drive Combination	£152	0
1920	**B.S.A.,** 6 h.p., solo	£150	0
1920	**BLACKBURNE,** 4 h.p.	£135	0
1920	**ENFIELD** Combinations	List price.	
1920	**ENFIELD** lightweight	£73	10
1920	**INDIAN,** Scout model	£140	0
1920	**NORTON,** 3½ h.p., T.T. model	£98	0
1920	**TRIUMPH,** 4 h.p., chain drive	£140	0
1920	**TRIUMPH** 4 h.p. Combination	£182	10
1920	**VELOCETTE** lightweight	£75	0
1920	**ZENITH,** 8 h.p., sports model	£139	0
1920	**ZENITH,** 6 h.p., sports model	£139	0
1920	**ZENITH,** 4-5h.p., sports model. Etc., etc.	£123	0

SECONDHAND MACHINES IN STOCK.

1920	**TRIUMPH,** 4h.p., with Sunbeam Sidecar and full equipment	£140	0
1919	**TRIUMPH,** 4 h.p., with Montgomery Sidecar, wind screen, lamps, etc.	£110	0
1919	**ZENITH,** 5 h.p., countershaft, with Swan sporting Sidecar	£140	0
1917	**B.S.A.,** Model K, with C.B. S'car	£95	0
1920	**A.B.C.,** 3h.p., completely equip'd	£120	0
1920	**A.B.C.,** 3h.p., soiled only	£110	0
1920	**ENFIELD** lightweight, as new	£62	0
1920	**NORTON** Big Four, complete as new	£130	0
1920	**ZENITH,** 6 h.p., sports model	£115	0
1920	7-9 h.p. **RUDGE** Multi twin	£110	0
1920	**CLYNO** lightweight, as new	60 gns.	
1920	**A.B.C.** Skootamota, as new	£30	0
1919	**DOUGLAS,** 4 h.p., solo	£85	0
1920	**H.B.-BLACKBURNE,** 2¾h.p., 2-sp	£75	0
1915	**DOUGLAS,** 4 h.p., solo Etc., etc.	£60	0

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MOTOR CYCLES FOR SALE.

Triumph.

1920 Countershaft Triumph, as new, coach sidecar, 3 Lucas lamps and horn; £145; after 7.—16, Bride St., Barnsbury, N.7. [4831

1919 Countershaft Triumph, electric lighting, Ace discs, spare belt, tools; £105.—Bromley, 56, Hartington Rd., Liverpool. [4407

TRIUMPH, 1917, 4h.p., countershaft, just re-enamelled, tyres practically new; £75.—16, The Mount, Whitley, Reading. [3673

3½h.p. Triumph, Henderson coachbuilt sidecar (new), 2-speed, free, perfect; must sell, accept £55 cash. —63, Surrey Sq., Walworth. [4113

TRIUMPH 1920 4h.p. Model with Triumph Sidecar, horn, and Watford speedometer, as new; £180.—Parker's, Bradshawgate, Bolton. [X4558

TRIUMPH 4h.p., 1919, 3-speed countershaft, P. and H. head lights, speedometer, excellent condition; £85.—Green's, Stansted, Essex. [4565

1920 4h.p. Triumph, Model H, 3-speed; list £127/10.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4844

1914 4h.p. Triumph-Gloria Combination, 3 speeds, clutch, etc., lamps, tools, good running order; £65.—21, Milton Rd., Gravesend. [4380

1920 Brand New Triumph and Sidecar, just delivered; list price.—194, Balham High Rd., S.W.12. 'Phone: Latchmere 4441. [3439

1919 Triumph, 4h.p., C.S., and Gloria sidecar, all lamps, horn, etc.; £117/10.—Dunn's, 326, Euston Rd., London. Museum 5391. [2976

1918 Countershaft Triumph, guaranteed mechanically perfect, lamps, tools, spares, trial; £85, offer.—354, Uxbridge Rd., Shepherd's Bush. [3724

1918 Countershaft Triumph; sell or exchange part payment for good combination.—Vernon, Park Corner Farm, near Henley-on-Thames. [4081

1920 Triumph, 4h.p., C.S., new, and Sunbeam unused sidecar, fully equipped; £150.—Dunn's, 236, Euston Rd., London. Museum 5391. [2977

1919 Triumph, countershaft combination, well equipped, smart and perfect outfit, spares; £110.—60, Wallingford Av., North Kensington. [4355

TRIUMPH 1920 All-chain Gloria Combination, just delivered, unridden; sell at list, having bought car.—Horsman, 7, Mount Pleasant, Liverpool. [4543

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Triumph and sidecar, late model, in splendid order; £125; lamps, etc., included. [X4499

1914 Triumph, 3-speed, Montgomery sidecar, fully equipped, splendid condition; £90.—Stevens, 22, Huntingdon Buildings, Bethnal Green Rd., E.1. [3727

1920 4h.p. Triumph, Gloria sidecar, at list price; immediate delivery. See displayed advertisement.—Ratcliffe Bros., 200, Gt. Portland St., W. [4709

ALMOST New 4h.p. 1919 Triumph, perfect running order, T.T. handle-bars, tools, horn, complete; £95, or offers.—Hancock, Solicitor, Shipston-on-Stour. [X4401

LATE 1919 Triumph, countershaft model, solo, like new, speedometer, lamps, knee-grips, spares; best offer; after 6.—Pankhurst, 52, Cheriton Sq., Balham. [4482

£100.—1917 Triumph, 1920 Canoelet sidecar, accessories.—Clifford Wilson Company, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4736

1920 Triumph, Model H, delivered July, mileage 200, Lucas lamps, horn, footboards, complete, as new, guaranteed; best offer.—Box 8,597, c/o *The Motor Cycle* [4752

4h.p. Triumph, reconstructed by makers and just out of their hands, new tyres, the whole as new. —Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [4422

TRIUMPH 4h.p., 1920 model H., all on, including Tan-Sad, insurance, guaranteed absolutely perfect; offers.—Rumbold, 30, Alumhurst Rd., Bournemouth. [4883

1920 4h.p. T.T. Triumph, Model W, lamps, horn, knee grips, spares, little used, in new condition; £92.—Braithwaite, 32, Winchester Rd., Colchester. [4539

TRIUMPH 1913 3½h.p., 3-speed, clutch, splendid machine; seen any time by appointment; £68, or nearest offer.—Archer, Abinger Common, Dorking. [4690

TRIUMPH 1914 4h.p. Model with 3 Speeds and Gloria Coachbuilt Sidecar, fully equipped and in good condition; £90.—Parker's, Bradshawgate, Bolton. [X4559

TRIUMPH, late 1917, countershaft, re-enamelled, reconditioned, plating good, as new; £70, offers.—Laurence, Mill House, Pembury, Tunbridge Wells. [4438

TRIUMPH Combination, 4h.p., countershaft, late 1918, mechanically perfect, lamps; bargain, £110. —5, Becklow Place, Becklow Rd., Shepherd's Bush. W. [4545

1919 Triumph Gloria Combination, electric lighting, speedometer, horn, spares, perfect condition; £120.—Houghton, Clifford Rd., Walthamstow. 'Phone: 80. [4312

£70, nearest.—Countershaft Triumph, 44030, new condition, spare cover, full accessories; lightweight wanted and taken part.—56, Tollington Park, N.4. [4263

MOTOR CYCLES FOR SALE.

Triumph.

1917 Triumph and Sidecar, 1920, large P. and H. lamp, etc., good condition, whole just overhauled; £105; after 5.—M., 141, Merton Hall Rd., Wimbledon, S.W.19. [4405

TRIUMPH, countershaft, 4h.p., late model, 3-speed, kick start, makers' colour, almost new tyres and belt; £78 10.-261, Mitcham Lane, Streatham, London, S.W.16. [3730

£85.—1919 Triumph 4h.p., 3 speeds, kick start, good tyres and belt, very small mileage, condition practically as new; £85, lowest.—Bryan, 51, Clifton St., Brighton. [3774

3½h.p. Triumph, T.T., single speed, adjustable pulley, Bosch, B.S.A. carburetter, lamps, 1912, no wear in engine; £36, near offer.—Williams, Footbridge, Winchcombe. [4015

TRIUMPH 1918 Countershaft, as new, unscratched, brand new tyres, belts, etc.; £95.—Barnett, 21, Rodborough Rd., Golders Green, N.W. 'Phone: Hampstead 7667. [2678

1914 4h.p. Triumph C.B. Combination, 3-speed, clutch, wind screen, lamps, complete, perfect order; £80, or nearest.—Relph, 1, Rathcoole Gardens, Hornsey, N.8. [3858

TRIUMPH Junior, 2-stroke 2-speed, run about 500 miles, absolutely as new, complete, lamps, horn, and pump; £65, or near offer.—Dr. Darling, Eardisley, Herefordshire. [2938

BABY Triumph, 1916, Lucas lamps and horn, condition, enamel, and plating excellent, very small mileage; £70.—Hewin's Garages, Ltd., the real service firm, Taunton. [4020

TRIUMPH, clutch model, T.T. bars, lamps, complete, stored during war, condition as new; sacrifice £38; after 6 p.m.—Parker, 18, Hallswelle Rd., Golders Green. [4618

1919 4h.p. Triumph Combination, Lucas accessories, in beautiful condition; genuine, £150.—R. Bamber and Co., Ltd., 2, Eastbank St., Southport. Tel.: 607. [4855

TRIUMPH, renovated by Triumphs, T.T. bars, absolutely indistinguishable from new; £105. See displayed advertisement.—Ratcliffe Bros., 200, Gt. Portland St., W. [4711

1919 Triumph, Steamport sporting sidecar, 3-speed countershaft, lamps, horn, luggage grid, gloves, waterproof leggings; £125, or nearest offer.—Ward, 99, Wardour St., W.1. [4084

1920 Countershaft Triumph, Rennoe coachbuilt sporting sidecar, 3 lamps, horn, and spares, perfect condition, little used; £140.—Thompson, 158, Park Av., Hull. [4266

TRIUMPH, 1917, 3-speed, countershaft, kick start, hand clutch, horn, Tan-Sad, indistinguishable from new, mechanically perfect; £80.—24, South St., Newport, Wight. [4256

TRIUMPH, W.D., countershaft model, delivered from makers July, 1920, exterior and mechanically perfect, lamps, horn, etc.; £103.—Rose, Cluntergate, Horbury, Wakefield. [3748

TRIUMPH, 4h.p., Model H, 3-speed countershaft, kick starter, entirely renovated by makers, as new, just delivered; £105.—Eagles and Co., 275, High St., Acton, London. [X4550

WILL sell 1919 4h.p. T.T. Triumph motor cycle, new back tyre, Tan saddle pillow seat, very fast, splendid hill-climber, perfect; price £100.—S., Firsleigh, Warberries, Torquay. [2685

1919 (Dec.) Triumph 4h.p. C.S., leg shields, speedometer, spare cover, tube, Best and Lloyd's drip feed, splendid condition; £110, or nearest offer.—Freeman, Brighton Rd., Redhill. [4262

TRIUMPH (July, 1919) Combination, Mills-Fulford sidecar (1920), 3-speed countershaft, fully equipped, perfect condition, trial; £145.—V. S. Knight, 1, Station Rd., Upminster, Essex. [3751

1919 Countershaft Triumph, T.T., perfect mechanical condition, new tyres, new spare belt, valves, etc., discs, insurance policy, splendid machine; nearest 95 gns.—Moss, Liphook, Hants. [4870

TRIUMPH, clutch model, perfect running order, complete with lamps; £45, or nearest offer.—Moore, 11, Avenue, Bickley, Kent. [4146

1920 Triumph and Grindlay Sidecar, Easting wind screen, full set of lamps, Cowey horn, Watford speedometer, perfect condition, as new; £165.—Fulford, 143, Burngreave Rd., Sheffield. [4540

TRIUMPH and Sidecar, clutch, 2 speed, kick start, engine overhauled, lamps, etc., ride away; £48; [illegible] Wright, Church Lane, Wennington, [illegible] or even Barking. [4671

NEW T[illegible] 1920 4h.p., counter shaft model, but [illegible] to use. Cambridge agents for [illegible] Robinson Ltd., 22-25, Green St., [illegible] Tel. [illegible]. [4165

3½h.p. [illegible] Thompson Bennett [illegible] perfect condition, [illegible] £55. Bedford [illegible] Motor Cycle. [4171

1920 4h.p. Triumph, [illegible] Lucas lamps, Cowey speedometer and horn, enamel and plating [illegible] mileage; £150. Wm. T. Pearson, Binfield, Berks. [4641

TAMPLIN

TWO-SEATER FOR £165.

STRONG AND INEXPENSIVE.

We are the only firm in London who can give Immediate Delivery. Call and inspect.

NEW SOLOS. For Immediate Delivery at Makers' Lowest Prices.

NORTON Big Four, 3-speed, complete with all accessories	£145	0
B.S.A., 4½ h.p., chain drive	£110	0
NEW IMPERIAL, 8 h.p. twin, 3-speed	140 gns.	
LEA-FRANCIS, 3 h.p. twin M.A.G.	£130	0
A.B.C., 4-speed, T.T. bars, spring frame	£150	0
BLACKBURNE, 4 h.p., 3-sp., chain drive	£128	0
ZENITH, 8 h.p. twin, K.S., clutch	£161	10
TRIUMPH, 4 h.p., 3-speed, K.S., clutch	£127	10
DOUGLAS, 2¾ h.p., 3-speed	£100	0
DOUGLAS, 2¾ h.p., 3-speed, K.S., clutch	£105	0
DOUGLAS, 4 h.p., 3-speed, K.S., clutch	£130	0
INDIAN, 4½ h.p., single-cylinder, 3-speed, spring frame, K.S., clutch	£125	0
ROYAL RUBY, 3 h.p., spring frame, 2-sp.	£120	0
OMEGA-J.A.P., 2½ h.p., 2-speed	£75	0
COVENTRY EAGLE, 3½ h.p., 3-speed	£117	10
BAT, 6 h.p. twin, spring frame, 3-speed	£160	0
ROVER, 3½ h.p., 3-speed, chain drive	£149	15
ROVER, 3½ h.p., T.T., Philipson pulley	£123	10
N.U.T., Magdyno lighting, 3½ h.p. twin	£165	0
RUDGE Multi, T.T., 3½ h.p.	£110	0
RUDGE Multi, 3½ h.p., I.O.M.	£110	0
RUDGE Multi, 7-9h.p. twin	£150	0
ARIEL, 3½ h.p., 3-speed, K.S.	£120	0
SCOTT, 2-speed, K.S., clutch	£140	0

LIGHTWEIGHTS.

COVENTRY EAGLE, 2-stroke, 2-speed	£72	10
JAMES, 2-stroke, 2-speed	£75	0
IMP, 2-stroke, 2-speed	£75	0
DIAMOND, 2-stroke, 2-speed	£62	0
SPARKBROOK, 2-speed, 2½ h.p.	£75	0
O.K., 2-stroke, 2-speed	£63	0
CALTHORPE, 2-stroke, 2-speed	£75	0
INVICTA, 2-stroke, single-speed	£71	0
METRO-TYLER, Model S	£96	0
CONNAUGHT, 2-stroke, single-speed	£68	0

NEW COMBINATIONS. For Immediate Delivery at Makers' Lowest Prices.

A.J.S. Combination, 6 h.p., 3-speed, spring pillion seat, spare wheel	£210	0
SUNBEAM Combination, 3½ h.p., 3-speed	£200	0
CLYNO Combination, 8 h.p. twin, chain drive, spring frame, spare wheel	£250	0
ROVER Com., 5-6 h.p. twin, chain drive	£230	0
QUADRANT Combination, 4½ h.p., 3-sp.	£145	0
TRIUMPH Combination, 4 h.p., 3-speed.	£182	10
DOUGLAS Combination, 4 h.p. twin, 3-sp.	£170	0
NEW IMPERIAL Com., 8 h.p. twin, 3-sp.	£186	18
B.S.A. Combination, 4½ h.p., 3-speed	£152	0
BAT Com., 6 h.p. twin, spring frame	£204	0
ZENITH Com., 8 h.p. twin, K.S., clutch.	£205	0
LEA-FRANCIS Combination, 3½ h.p. twin	£152	10
HAZLEWOOD Combination, 5-6 h.p. twin	£205	0
JAMES Com., 6 h.p., de luxe Sidecar	£190	0
MATCHLESS Combinat'n, M.A.G. engine, Magdyno lighting set	£230	0
ROYAL RUBY Combination, 8 h.p. twin.	£205	0
AUTOPED Scooter. Immediate delivery.	Special trade terms	£30 0

NEW CYCLE CARS. For Immediate Delivery at Makers' Lowest Prices.

G.N., 2-seater	£242	0
G.N., 2-seater, with lighting set	£275	12 6
BLERIOT WHIPPET, 2-seater, 8 h.p.	£250	0
RICHARDSON, 8 h.p., 2-seater	£262	10
SINGER, 10 h.p., 2-seater, standard or sports	£500	0

SECOND-HAND COMBINATIONS.

RUDGE Multi Combination, 5-6 h.p., 1919	£185	0
A.J.S. Combination, 1914, 6 h.p., 3-speed	£80	0
TRIUMPH Combination, reconstructed model, 3-speed countershaft, makers' guarantee for 3 months	£147	10
LEA-FRANCIS, 3 h.p. twin, 2-speed	£85	0

PERCY & CO.,

314-316, EUSTON RD., N.W.1.

'Phone: Museum 1337.

MOTOR CYCLES FOR SALE.

Triumph.

1920 Triumph 4h.p., 3-speed countershaft, only be used solo, mileage under 500; £120, or a reasonable offer; absolutely as new; Lucas accessori knee grips.—66, Church Rd., Barnes, S.W. [43

1914 4h.p. Triumph Combination, Millford, Sturmey Archer 3-speed, decompressor, waterproof Bosc recently overhauled, lighting set, perfect order; gns.—H. Mason, Thomas St., King's Lynn. [46

1919-20 Triumph Combination, engine No. 6640 tyres and tubes new, plating perfect, electric lighting set, spares, etc., trial by appointment; £125, or ne offer.—Montrose House, Highgrove St., Reading. [44

TRIUMPH 1920 4h.p., chain drive, £140; T. model, £105; immediate delivery from stoc list price.—Elce and Co., 15-16, Bishopsgate A Camomile St., E.C.3. 'Phone: Avenue 5548. [00

TRIUMPH-GLORIA Combination, late 1920, Luc electric lighting, Lucas horn, every accessory a spare, guaranteed perfect condition; insurance; £160 Lyndhurst, Gravelly Hill North, Birmingham. [42

TRIUMPH 1920 Model, speedometer, Klaxon ho Lucas lamps, aluminium footboards, watch, 4,0 miles, Mills-Fulford coachbuilt blue sidecar, wind scree £145.—Dawe, 76, Waterloo Rd., Southampton. [37

1918 Triumph Countershaft Combination, enam and plating unscratched, fully equipped; £12 exchange modern 2-seater, cash adjustment.—Lie James, 72, Longridge Rd., Earl's Court, London. [43

COUNTERSHAFT Triumph, late model, new tyr in excellent condition, only wants seeing; 85 g secures.—Apply, The Royal George, Rotherhithe N Rd., near Canal Bridge, Old Kent Rd., London. [13

TRIUMPH, 1912-13, clutch model, Bosch mag., se T.T. bars, Powell and Hanmer lighting outf overhauled, good condition, spares, and tools; £42/1 —Ellis, Maltese House, Writtle, nr. Chelmsford. [44

TRIUMPH, late 1919, Type H, perfect conditi and running order, recently overhauled at worl new tyre, never had fall, never used for sidecar wor price £110.—Mayfield, Osmonds, Hadley, Droitwich [43

TRIUMPH 1920 4h.p. Model with Triumph Sided Lucas head, rear, and sidecar lamps, horn, Cow speedometer, hood cover and wind screen, indistinguis able from new; £190.—Parker's, Bradshawgate, Bolto [X45

TRIUMPH 1920 4h.p., 3-speed, Watsonian R34 si car, combination new last month, done 600 mil Lucas horn, all accessories; best offer about £140; li new.—Clarke, Ashlea, Sandheys Av., Waterloo, Liv pool. [45

TRIUMPH 4h.p., received from makers May, 192 Lucas head and back lamps, Cowey speedomet horn, knee grips, aluminium discs, with Cancelet si car; £125; must sell.—Long, Moorings, Belmo Surrey. [45

TRIUMPH, 1920 model, in stock, £127/10; al Triumph renovated model, £105; makers' fi price; half down and 11 payments.—Lamb's, 3 Euston Rd., London, N.W. 151, High St., Walthar stow; and 50, High Rd., Wood Green, N. [41

1920 (June) Triumph Combination, condition new, tyres unpunctured, only done 500 mil Swan sidecar, accessories over £12, exceptional smart outfit, guaranteed perfect; £140, with insu ance.—Sturgess, 47, Cecil Rd., Erdington, Birminghar [43

TRIUMPH Gloria 4h.p. Combination, 1920 deliver engine No. 66758, excellent condition inside a out, all lamps, screen, tools, new spare cover and tub an absolutely reliable outfit, will drive up to 150 mil to purchaser upon receipt of cash; £145.—Keen, Bro St., Leominster. [40

1919 Triumph, solo, wonderful model, guarante perfect, 3-speed countershaft, low mileage, sprin pillion, open exhaust or otherwise, horn, tools, et spares, 2 new tyres, 2 tubes, 2 belts, valve, chain, plu barrel spring, waterproof suit, helmet, etc., insuran July; £95; owner going abroad; seen after 6.—War 99, Wardour St., W.1. [40

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4. New 1920 4h.p. Triumph, delivery from stoc £127/10 solo; can be fitted with Gloria or any oth make of sidecar immediately from stock; also new 192 4h.p. Triumph combination, all-chain drive, £195; an 4h.p. W.D. renovated Triumph and sidecar, renovate 1920 by Triumph Cycle Co., £120. [43

TRIUMPH 3½h.p., clutch, new parts fitted, pisto complete, steering column, crank pin, bushe clutch and rear wheel rebuilt at Triumph work recently, tyres Dunlop heavy and Hutchinson T.T. practically new, wide bars, Pedley grips, fast machine large P.H. head lamp if required; £50.—R. Shelto Cookhill, Alcester, Warwickshire. [46

Tyler.

2¾h.p. Tyler T.D.C. 2-stroke, 1920, Amac, U.I mag., excellent running order, just overhaule £36, or nearest; seen by appointment.—Symmon Copford, Colchester. [38

Velocette.

VELOCETTE.—In stock, 1920 2¼h.p., 2 speed £75.—Parker's, Bradshawgate, Bolton. [X45

CYRIL WILLIAMS, for early delivery of Velocett —Chapel Ash Depot, Wolverhampton. [22

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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Road Signals.

A DEPARTMENTAL Committee has recommended that the adoption of a uniform code of road signals shall be made compulsory. In some quarters it has been suggested that such a measure might not be desirable either from the public's or the motorist's point of view.

There is not a motor cyclist or car owner who does not agree that the question of road safety should take precedence over all others, but opinion is divided as to whether the suggested code of signals should be made compulsory or voluntary. The Motor Legislation Committee is in favour of the latter, for which there is much to be said. This Committee is of the opinion that a system of voluntary signalling, with Government authority and recommendation behind it, would add new safeguards to the old ones, while an obligatory system would substitute a new code for that existing at present.

What is more important, however, is the fact that a compulsory signals code will create a new class of punishable offence. There are quite enough regulations concerning owning and driving motor vehicles without the addition of a compulsory signals code, in which connection it must always be remembered that the chief reason motor cycles have not been used very extensively in Germany has been the regulations which have always strangled the industry.

The Legislation Committee considers, if these new proposals were made compulsory, drivers would be looking for signals instead of taking care to avoid possible causes of accident, and if, for any reason, the requisite signal was not forthcoming, accidents might happen which otherwise would be avoided. The views of our readers in this matter would be of interest.

Under existing conditions the signals which have become customary with motor drivers are almost unfailingly used by them when circumstances require; the greatest neglect of them is shown by drivers of horse-drawn traffic.

The Vital Fuel Question.

IT is with great satisfaction that we note the energetic campaign which is being carried on in order to produce and increase the fuel supply for road transport in this country. Our readers are well aware that *The Motor Cycle* and its sister journal, *The Autocar*, have long realised the vital importance of this subject, and have constantly urged the Government to pay more attention to the question. One of the latest developments takes the form of a series of lectures organised by the Empire Motor Fuel Committee, and read before the Imperial Motor Transport Conference held at Olympia during the present week. These lectures deal with the whole question in a most comprehensive manner, and include details relating to the manufacture of producer gas, benzole, shale oil, and alcohol, and also with distribution, denaturing, and Excise difficulties. The new Finance Act will provide greater possibilities for the introduction of alcohol as a power producer, and a real effort is being made to produce a workable scheme for the production and distribution of this fuel in a form to comply with Government requirements.

In the meantime it is interesting to study the results which have already been obtained with alcohol both on the road and on the test bench. A most useful series of experiments has been carried out by the London General Omnibus Co. under the direction of Mr. Shave (the company's chief engineer), by which it was proved that in summer at any rate a 5% alcohol-benzole mixture gave excellent results in a high-compression engine. With an addition of a small percentage of ether a much higher percentage of alcohol was found to be practicable, but the question of heating the mixture is of considerable importance. The L.G.O. have done much pioneer work, for which all motorists and motor cyclists should be duly grateful, and their bench tests, which have been carried out under most careful supervision, are backed by extensive road tests.

An Index to the advertisements in this issue will be found on the page facing the back cover.

Foot-operated Gear Changes.

SEVERAL ex-despatch riders write to say that, though I was correct in signalling out the Scott as the only standard foot-change, they consider the foot-operation of the W.D. Sturmey Archer Triumph the nicest change they have ever known, and regret that the modern edition of that gear box is designed for operation by a frame lever.

Misfiring on Two-strokes.

"CHINOOK" is well able to defend himself against "B3972," or any other critic, but I shall enter the lists, as this champion of the two-stroke makes a little incidental dig at me. If some firm brought a libel action against "Chinook" and myself for what we have written about two-strokes, methinks the judge would sum up somewhat as follows:

1. Most two-strokes misfire at low engine speeds.
2. Most two-strokes misfire at high engine speeds under light load (*e.g.*, downhill).
3. The fuel consumption of two-strokes varies from the sublime to the ridiculous on different makes according to (*inter alia*) their port design.
4. A clever rider gets far better results from two-strokes than a duffer.

I fancy most two-stroke enthusiasts with a varied experience of several makes would endorse these conclusions. Not long ago a member of the Scott staff said to me, "Our new customers either sell the machine within six months, or remain Scott enthusiasts for ever." The *clou* of the two-stroke surely is that it takes a little sympathy and knowledge to get the best out of it, whereas any fool can suck joy out of the average four-stroke.

Mysterious Accidents.

IS it any good dogmatising about the causation of such mysterious accidents as befell Mr. Boyce? A medical man after examination might be able to arrive at the exact cause in any particular case. If the rider is in such perfect health that a faint or an attack of vertigo may be ruled out, it is always possible that a knock on the head will produce forgetfulness of the incidents which led up to the smash. I was once riding with an athlete, when he looked over his shoulder, ran over a big stone, got a wobble on, came off, and bumped his head on the road. When he came round, he remembered nothing whatever of the preliminaries, and was very angry with me for not providing some better justification of his accident. One of Baum Father's "Fragments" summed up a push in France under three spasms on some such lines. A rider who took a bad toss as the result of a speed wobble might easily find his mind a blank as to the wobble, and imagine he had fainted in the saddle. My own experiences of this kind have all ended just short of disaster, and have been uniformly due to falling asleep on long rides.

An Indispensable Gadget.

IT is a marvel to me that so many night riders venture abroad without a reserve supply of carbide, especially when the accessory merchants supply neat little canisters in suitable holsters. On a recent night, for example, I was out as passenger on a big sidecar outfit, and the American generators turned sulky; sometimes we had a head light, sometimes a side light, sometimes a tail lamp, but never all three simultaneously. The distance concerned was short, and, rightly or wrongly, my skipper preferred to chance the police rather than open up his generators, and, finding the whole charge sodden, risk the rest of the trip without even the odd chance of a glimmer somewhere. Mercifully, a night mist descended, and if any bobbies were out on such an inclement night they probably failed to identify us; but a half-pound reserve would have sent us on our way in safety.

Bigger Tyres for 500 c.c. Outfits.

THERE is a slight but laudable tendency in the trade to divorce the 500 c.c. solo mount from the 500 c.c. sidecar mount, and so to relieve the solo man from the extra weight, etc., of the machine which is avowedly built as a dual purpose mount. I think the firms who intend to proceed on these lines might make their sidecar model even a little heavier than the existing two-in-one machine. During the past summer I have heard very bitter complaints from commercial users of the 500 c.c. sidecar outfit on the score of tyre costs. Here and there one meets a man who gets extraordinary mileages from 2½in. covers on the driving wheel of a 3½ h.p. sidecar. But the majority of these outfits seem to be undertyred. I don't drive such a fit-up myself, so I must not dogmatise; but there are a lot of owners who do not get 2,000 miles out of their back covers under such conditions. It is probable that the substitution of a 3in. driving tyre would be a real economy wherever such outfits are used on rough roads in hilly districts. Moreover, a maximum tyre life of 1,500-2,000 miles implies undue frequency in punctures, with the consequence of roadside delays which are serious if the machine is used for business purposes. I should like to see many existing 500 c.c. machines produced in two editions for 1921—viz., a solo model, 100 lb. lighter than the 1920 pattern, and a sidecar model which might justifiably be a little heavier than this year's type.

Oiling up Plugs.

SOME of my correspondence suggests that the average novice feels he is between the devil and the deep sea on his early rides. He knows that a new engine requires lots of oil, but if he keeps on the safe side in this respect, he fouls his sparking plug. Riders and books treat an oiled plug as the merest trifle, but a new plug costs a dollar, many riders are quite impecunious, and many plugs cannot be cleansed when once they are crusted over with charred oil. Perhaps the following tip may help some beginners. Motor cycle lubrication makes great demands on the rider. With every unfamiliar engine you have to study the oiling much as a golfer studies a three-yard putt. Until you have acquired the necessary precision, you will probably oil up a plug or two. When once you have learnt how to oil (*a*) when touring; (*b*) when scrapping; (*c*) on a freak hill, you will be able to keep your plugs clean. During the preliminary period there is only one kind of plug which you can afford to use, viz., the plug which takes to pieces for cleaning. Armed with a couple of these plugs you can over-oil to your heart's content; the sole penalty will be an occasional change of plug on the road, and half an hour at home that evening spent in dismantling and scraping down the two plugs. In the course of a month or so the engine will be nicely run in, and you will have mastered the lubrication. If you then elect to switch over to a non-dismountable type of plug, well and good. It may be that some cemented plugs are less liable to overheat or to soot up than the dismountable patterns—most riders have their fads in this sphere. But the novice's first plug, if only for reasons of economy, should certainly take to bits for home cleaning.

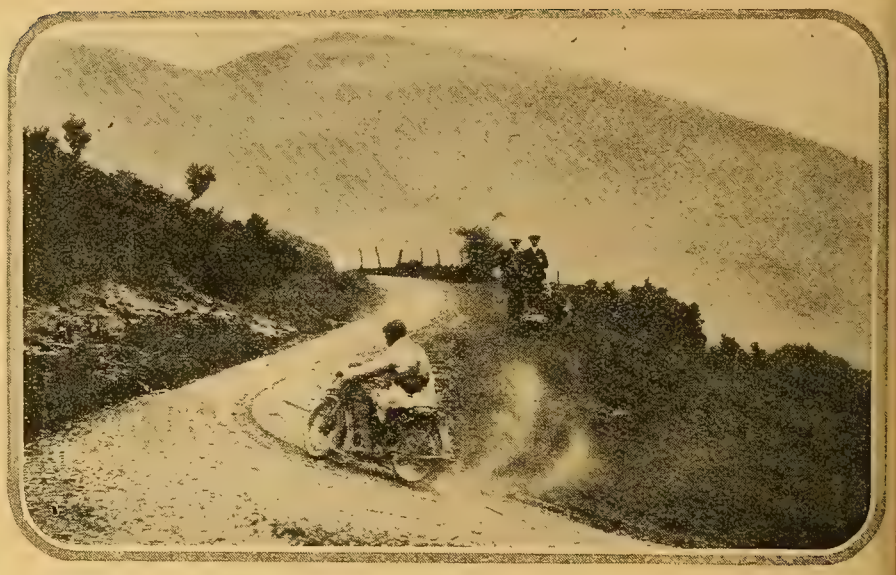
Yet Again.

IS it too late to appeal to the tyre and rubber people for a waterproof glove this winter? I will be absolutely outspoken. I have ridden hard for twenty winters, and have only owned one glove which was perfectly satisfactory in winter use—the rubber-proofed Continental, which, of course, was pure Hun. I never used anything else in pre-war days. My last pair are now tattered to a degree, and must go to the scrap-heap very soon. I have a variety of substitutes, none of them satisfactory. Either they are not genuinely drencherproof, or they are cold, or they are so thick and stiff that I cannot twiddle my levers comfortably. The Continental was as dry as a bone internally after six hours in a snowstorm. It was so thin and light that the levers were just as manageable as when one rode with bare hands in summer. It was unventilated, and kept one's hands warm. If any rubber firm wants to make money, let it study this glove, and see what it can do. Car owners will buy it as greedily as motor cyclists, for the wet blows in through an opened screen as well as across naked handle-bars. Unless somebody comes to my rescue, I must tackle this winter on three pairs of leather gloves discarding each pair in turn as it gets sodden.

EASY GOING.

A "good road" section in the recent trial in Wales. The average member of the community only sees competitors on such good roads as these, and little realises that often the riders have just descended from miles of rough mountain tracks with "surfaces" unimagined by all who have not seen them. Above are depicted P. Pike (2¾ O.K., No. 19) and R. C. Bennett (2¾ Federation, No. 13) on the side of Bala Lake.

TRIALS for MAN or MACHINE—WHICH?



The Present-day Trial Discussed from the View-points of the Competitor, the Makers, the Organiser and the Public.

DO present-day trials create an erroneous impression, regarding modern motor cycles, in the mind of the potential buyer?

Can they be regarded as good propaganda?

Do they prove anything of value?

Do they improve "the breed" of motor cycles?

These four questions are at present exercising the minds of many motor cyclists, and, at the conclusion of the recent Welsh Trial, described in last week's issue, there appeared to be a decided tendency to regard such events as absurd and damaging to the pastime of motor cycling.

We propose to discuss this matter from various viewpoints, and, first, will take that of the competitors, who may be divided into two classes—private owner and trade.

The Private Owner Competitor.

The first is usually an enthusiastic rider who regards all trials as so much sport. Trials riding *is* good sport, and it brings a man in touch with the coterie of experts whose names become well known to all who read *The Motor Cycle*. This class of rider is very keen; keen to show his skill and the power and reliability of his machine, and keen to gain credit. After his first trial, the newcomer to the competitions field is able to realise the difficulties of winning a "gold" which are not always appreciated by the ordinary motor cycling public.

No doubt if a census of opinion were taken of all private competitions riders, the general opinion would be that trials courses could not be made too severe. This does not mean that the private owner agrees with conditions being made more difficult, and there is probably not a competitor in the Welsh Trial of October 9th who will not agree that it was the conditions, and not the course, that gave cause for complaint. The private owner, like every other sportsman, likes a run for his money, and this, in the M.C. and A.C. Trial, he did not get, for Alty Bady was within a mile of the start, and after this first mile only nine were left in the trial to qualify for gold medals. The loss of even one mark was sufficient to rob a man of his "gold," and on such a course the penalty was too severe, especially as a man had but to touch the ground with his feet to be penalised.

The Trade Rider.

From a sporting point of view the trade rider is just as keen as the private owner, but he is in a very different position. He is out to get a "gold" for his firm, the principals of which do not always realise the difficulties and hardships; consequently, to return home with, say, a second or a third-class award is the last thing he desires. It is like a commercial traveller returning with an empty order book.

Again, it is the regulations and not the route which cause dissatisfaction. The trade riders—the experts of this country—know better than anyone else that the modern motor cycle will take its load up any hill where wheel grip can be obtained. The makers know this themselves, and consequently, when their rider returns without a first-class award, though a more lucky competitor may have succeeded, wonder whether it is the man and not the machine that is at fault—whereas actually it is neither.

The Makers' Viewpoint.

Neither class of rider is much concerned whether his success or failure has any influence upon developing the motor cycle or upon the opinion of the public. It is for the trade and the governing body of the movement—the A.C.U.—to decide whether the strenuous trial over mountain tracks is of any value whether as general propaganda, in the interests of design and durability, or as advertisement.

The makers of motor cycles are in the industry to make money, and they appreciate that to do this they must produce a good article, prove that it is a good article, and advertise that proof. Also, they realise that in order to find an outlet to large outputs it may be necessary to advertise motor cycling as well as moto

Trials for Man or Machine—Which?—

cycles. In other words, propaganda is desirable to interest the non-motoring public in the motor cycle as the most economical means of mechanical transportation, and as a vehicle which is reliable and easy to understand.

Do these so-called reliability trials prove reliability, and does failure to win a first-class award prove unreliability?

The makers are coming to the conclusion that the awards do not prove anything of value to themselves or to the buying public, because awards are decided on points not connected with reliability.

The Organiser's Difficulties.

We will now take the viewpoint of the trials organiser. Generally he has to plan a trial to find a single winner for some valuable trophy. He must make an honest attempt to give every competitor—irrespective of the type or power of machine—an equal chance. Since most machines are entirely reliable, he has to devise a means, outside the question of reliability, in order to make one performance appear better than the others. Naturally, for a competitor to win a much desired trophy is a greater honour than to be one of several gold medal winners. Yet the trophy winner may not prove his machine to be any more reliable.

The secret check, which places undue value upon the personal factor, is no longer popular, and this year special tests have been introduced in order to arrive at a decision. These tests have included many features of interest, but are often far from picking out the most meritorious general performance of machine.

Trials' organisers plan their events on the assumption that too many gold medals reduce their value. This is a point very much open to debate.

Always bearing in mind the question of reliability, one is constrained to wonder why, if all the competitors can do *everything* to prove reliability, they should not all have gold medals.

As the recent M.C. and A.C. Trial has revived the question as to whether it is "worth while," we will take this event as an example. Gold medals were offered to all scoring full marks (no bonus marks were given), silver medallists had to secure 90% of the marks. There were no bronze medals. In addition, there were several trophies and special "class" prizes.

The following is a list of the penalties subdivided by us under three headings, *i.e.*, (1) those that have bearing upon reliability as understood by the man in the street, (2) those that have not, and (3) hill-climbing.

1.—RELIABILITY FACTORS.

Failure to start engine within 10 secs., 3 marks.

Brake Test: Failure to stop within 9ft. on a steep hill after traversing 73⅓ yards at 10 m.p.h., 3 marks (more marks are lost if the conditions are not observed both as regards time and distance).

Stop and Restart Test: Failure, 5 marks; running back over tape, 10 marks; stopping in a non-stop section, 10 marks.

According to the route card, it was a non-stop trial, excepting for the luncheon interval.

2.—SOME OTHER PENALTIES.

Going off the course, 20 marks; footing or running into a bank on a hill, 10 marks; for being more than 10 mins. ahead of time, 10 marks; passenger assisting driver on test hills by putting extra weight on the carrier, 10 marks.

3.—HILL-CLIMBING.

For Failures on Hills: Alt-y-Bady, 10 marks; Gough's Conscience, 5 marks; Whitworth's Grave, 5 marks; Boydell's Playground, 10 marks; Urry's Pet, 5 marks; Cross Foxes, 10 marks; Bwlch-y-Groes, 10 marks.

Scenes like this are regarded as damaging to the motor cycle movement because the general public cannot obtain a true impression of the conditions. Even the best of photographs cannot show the gradient, or convey an idea of the difficulties immediately preceding the *pièce de résistance*. The lower picture shows an incident on Gough's Conscience in the M.C. and A.C. Trial. Both riders lose the same number of marks. Above: L. Crisp (4½ Humber) forfeits his "gold" on the same hill, though he did not stop.

Trials for Man or Machine—Which?—

To touch the ground with the feet was accounted a failure, and all this was clear in the regulations. Intending entrants should have known that Alt-y-Bady is usually climbed by about 10% of the soloists only, and in the September trial of the Liverpool Club not one sidecar made a clean ascent. From the regulations it was seen that Alt-y-Bady was not the worst hill, as three others were considered to be bad enough for a loss of five marks only in the event of a failure as against ten for the Llangollen Hill.

It was plain that the organisers had planned a knock-out trial; anyone who had studied the rules could see that there was next to no chance of securing a gold medal.

Alt-y-Bady, the first hill, is in the same category as the Nailsworth Ladder in Gloucestershire, which, incidentally, has many times been climbed by cars and motor cycles, but no trials organiser has had the temerity to include it in a trial. We have yet to hear of a car climbing Alt-y-Bady, yet competitors were not only required to climb it (and over thirty reached the top without stopping their wheels), but were called on to do so without touching the ground with their feet.

Trick Riding v. Reliability Trials.

The public look upon cars as having reached a stage when reliability trials are no longer necessary. From the number of so-called reliability trials organised in this country, an impression must be created that motor cycles have not yet been proved so reliable.

Competent critics know that motor cycles have reached the same stage. That is the reason why it is necessary (?) to reduce the number of likely winners by regulations which turn so-called reliability trials into tests for ultra-expert riders on machines particularly adapted for trick riding.

Gough's Conscience and Whitworth's Grave were muddy lanes up the sides of the mountains. To expect any rider to negotiate them without touching the ground with his foot was unreasonable.

The inclusion of the Eunant Pass or Boydell's Playground, as it was called, was justified. It was no worse than some of the hills in the A.C.U. Six Days of this and last year. Urry's Pet was a stone staircase on which touching with the feet was permitted, but it was a freak hill of the worst kind, and one which should not have been included.

It will be seen from the above that a man had but to touch ground once on the whole of the course to lose his "gold." As it was a "reliability trial," it is very much open to question whether such conditions should be made.

A Few Concrete Examples.

Among the many competitors who did very well in this trial, we will take as an example W. Brandish, junr., who rode a standard 4½ h.p. Humber. He "touched" once on Alt-y-Bady, and once on the slime of Gough's Conscience. If the rules of the trial are adhered to (these notes are written before a final decision on this point has been made), he will be awarded neither a gold nor a silver medal, and, unless he has made the best performance in his class, he will have no award of any kind. Is it fair to the rider, to the maker of the machine, and to that section of the public who are guided in the choice of a new mount by competitions' results? We say—No!

Again, another competitor, P. Pike, on a 2¾ h.p. O.K., completed the course to time without leaving the saddle and without being assisted, but he "touched" several times.

It is the system of marking that is wrong. Utterly to fail on a hill was accounted equally bad as to touch the ground with the toe of a boot. To fail on Cross Foxes only meant a loss of ten marks—a plain straightforward top gear hill for the majority of machines, and one which we covered on second and top gear with a heavy sidecar. We maintain that every rider who finished the course to time and without actually stopping his road wheels is entitled to some recognition of his performance. As a sporting trial, the event under discussion was one of the best that has been organised.

The Motor Cyclist's View.

It is thought by members of the trade that the results of this trial will give an entirely wrong impression to the public as to the merits of the various machines. Incidentally, it is strange that there was a greater trade element at the back of the M.C. and A.C. trial than any other event held this year. To judge whether such trials do give a bad impression, it is perhaps desirable to take each section of the public separately. Well over 100,000 motor cyclists read *The Motor Cycle*, and from its pages can obtain a true perspective of the merit of performances. From our last week's report of the trial, we do not think anyone of our readers can be misled into believing that present-day motor cycles are anything but a marvellous piece of mechanism to have finished the trial with such a small number of retirements.

Propaganda in the Future.

The rest of the public consists of over forty million people, one million of whom may be potential buyers. It is to this section of the community that the knock-out trial may possibly create a wrong impression. They see motor cyclists hurrying along the roads with numbers on their backs and generally think that it is a race. A few perhaps obtain information that such and such a machine failed to get an award, and undoubtedly they are left with the impression that it is not so good as another which has been awarded a medal.

In some quarters it is considered desirable to institute propaganda to popularise motor cycling, and for that reason it is thought that trials should be known as sporting events—tests for men and not for machines. Every week there are so-called reliability trials, and the newspaper reading public must get the impression that motor cycles have yet a long way to go before they reach the same stage of perfection as cars.

Competitions are needed to demonstrate how reliable are motor cycles, and not how few can secure awards. Improving the breed is quite all right in its way, but it should be left to the A.C.U. Six Days event.

Certainly it is impossible to find a single winner for a trophy on points of reliability alone, but the time may come very shortly when manufacturers will refuse to support events in which are included special tests which have nothing to do with reliability.

The Light Weight "3½."

A Word for the Simple Solo Single of the Type made a Decade Ago, and which weighed under 190 lb.

THE idea, now so prevalent, that a solo motor cycle to be effective must be equipped with a three-speed gear, chain drive, and other costly and heavy refinements, is to a great extent fallacious. The simplicity and briskness of a single-cylinder 500 c.c. machine will be found to compensate to a large degree for the lack of a kick-starter and gear box. Certainly an automatic pulley may be fitted to advantage, because it in no way deprives the T.T. motor cycle of its best characteristics, and it eases the engine just when necessary. Experience proved that with such a pulley there was no trouble from belt-slip or excessive wear on belts; in fact, it eases the belt from snatch when the engine is "plugging," and also when it is violently accelerated.

Achievements of a 1912 Model.

In the autumn of 1912, the writer purchased a 3½ h.p. T.T. Premier, fitted with a drilled pulley. Drilled engine pulleys are a constant source of belt-slip, and for serious motor cycling they can be classed with discs as being undesirable. This machine was improved by the substitution of a Philipson pulley, and at the United Services meeting, held on the Brooklands Track in September, 1915 (the machine then being three years old, and, in spite of at least 20,000 miles to its credit, as good as the day it left the Premier Works), it easily won a heat, and almost secured a place in the 600 c.c. Open Sprint, and, *without any adjustment to the pulley*, tied equal *first* in the 600 c.c. Open Test Hill-climb. The weight, stripped, on this occasion was only 156 lb., and the machine as used for touring scaled under 190 lb., with lamps and spares. The carburetter used was a Senspray, which the writer considers to be well adapted to this type of motor cycle. No mechanical trouble was experienced, although the Premier was not specially nursed; but always care was taken, first, not to race the engine until it had warmed up to its work, and secondly, to see that the valves were down on their seatings when a ride was ended; both of which simple rules ensure even expansion or contraction, and make a great difference in preserving the tune of the engine.

Reliability and Liveliness.

For comfort and reliability no less than for high average speed the writer can recommend such a machine, which, with lamps and horn, should not cost more than 70% of the heavy tourist or sidecar medium powered motor cycle.

A valve cap decompressor was found useful during a sojourn in the Metropolis, but for ordinary country use this was discarded. The average consumption was 80 m.p.g. with petrol, and the only time benzole was tried 120 m.p.g. was obtained on easy, but muddy, roads. Twice, through running out of petrol, neat paraffin was requisitioned, and the journey home was completed, but (in common with the writer's experience on other machines) the carburetter insisted on less, and not more, air. As to "speed wobble," a slight "dither" of the rear wheel was noticeable at high speeds, but this in no way affected the control of the machine, as there was never any tendency for the rear wheel to swing right out of track, and one soon became accustomed to it. The wide, low footrests, rigidly supported behind the crank case, helped to steady the cycle, especially on corners, which were taken by leaning the machine well inwards, with as much pressure as was possible on the outside footrest.

The writer on his 1912 3½ h.p. T.T. Premier.

Previous to this the writer's last two machines were a 7-9 h.p. American twin and a 3½ h.p. machine of the same make as the T.T. cycle, but fitted with a Sturmey-Archer hub gear and weighing 230 lb. Neither of the latter was as fast nor as handy as the T.T. machine, and most active riders would have preferred the simpler type for anything except traffic dodging.

Faith in the Single Cylinder.

At present the writer has an I.O.M. pattern 3½ h.p. Rudge-Multi which seems to combine all the best qualities of the purely sporting mount with a capital variable gear and a clutch. The power unit, too, confirms one's belief that the sturdy single of first-class design will more than hold its own with twin or multi-cylindered engines of various patterns.

It must, of course, be understood that personal taste will create a market for almost every type of motor cycle that is known, and that the writer in no way intends to trumpet an overwhelming superiority on behalf of the single-cylinder machine or of the T.T. type. One's own machine may indeed be "another man's poison," but therein lies much of the interest to be had in the progress of the modern motor cycle. In any case, the present-day enthusiast need not fear to plunge for, say, a Norton, Rover, or similar T.T. machine—the Premier is no longer made—if he considers that the price of a more elaborately furnished machine with gears, clutch, and kick starter, is beyond him. His personal inclinations and needs can be reconciled with probably a number of the many excellent machines now being manufactured. VELOX.

THE DOUBLE-PURPOSE 3½ h.p. SINGLE-CYLINDER COVENTRY EAGLE.

MUCH has been said, from time to time, regarding the demerits of the "single-cylinder," and for years critics have prophesied an early death to this type of engine. The same can be said of the sidecar, and yet by far the most popular passenger outfit on the road to-day is a combination of the two, namely, the dual purpose "single."

It is simple, almost foolproof, and easily handled as a solo mount. At the same time it is sufficiently powerful if suitably geared to haul a sidecar should the owner so desire. Among the well-known manufacturers who build this type of machine is the Coventry Eagle Motor and Cycle Manufacturing Co., and for some years this firm has been marketing a 3½ h.p. model on these lines.

Good Delivery Tune.

Recently we were given an opportunity of testing the 1920 Coventry Eagle on the road. The mount taken over was in no way specially prepared—in fact, it was one of several just assembled, and had not done ten miles on the road. Under these circumstances, it might be thought that a lot of tinkering would be necessary before embarking on a long run. This, however, was not the case, the only alteration being a slight slackening of the gear lever spring to allow it to move more freely.

The machine is of conventional design, incorporating well-known components, and is of pleasing appearance.

With up-turned bars and footboards, this is a comfortable touring machine. T.T. bars are an alternative fitment.

The engine is the 3½ h.p. King Dick, made by Abingdon-Ecco, Ltd., of King Dick spanner fame. It has side-by-side valves, B. and B. carburetter, and E.I.C. magneto. A short tail pipe is fitted to the silencer, finishing at the gear box. An improvement would be effected by carrying this further to the rear, as the burnt gases make the kick starter and gear box dirty. The usual chain-cum-belt transmission is used, a Sturmey-Archer three-speed gear box being fitted. The driving chain is enclosed in a substantial aluminium dustproof case.

Aluminium footboards, swept up in front, are fitted, and the rider has the choice of flat T.T. or ordinary touring bars.

Well-valanced Mudguards.

The machine in question was fitted with the latter type, and though we, personally, prefer the flat bar for solo work, the riding position was found to be very comfortable. Both front and rear mudguards are reasonably wide and well valanced, and although quite a distance was covered over very wet roads, and several water-splashes negotiated, little discomfort was experienced from mud and water.

The first 200 miles were covered principally over main roads, and, as the machine was exceedingly "new," we took things fairly easily in order to allow the engine to get properly "run in."

Later, however, quite an interesting 300 miles run was made in connection with a Western club trial,

Road Tests of New Models.—

under conditions which would rarely be encountered in ordinary touring. The course for the most part was over rough stony by-lanes in a hilly district, including a considerable amount of second gear work. The machine behaved excellently, showed no signs of overheating, and was very steady on the rough and greasy surfaces. The engine gave ample power, and on only one occasion was it necessary to use bottom gear; this was on a stiff climb of 1 in 4, where the "change down" was made in order better to negotiate the very bad surface. As regards speed, it can be said that, although no accurate test was made, the 3½ h.p. Coventry Eagle is fast enough to satisfy the average soloist. It is capable of maintaining a good average over long distances without the slightest signs of distress. This was proved on the return journey, when, being without lamps, it was found necessary to cover the last seventy-five miles in under three hours.

Perhaps a better test could have been made had a sidecar been fitted, but, judging by its performance as a solo mount, and from our observations of several we have seen in use with a sidecar, we know that it can truly be described as a dual-purpose mount.

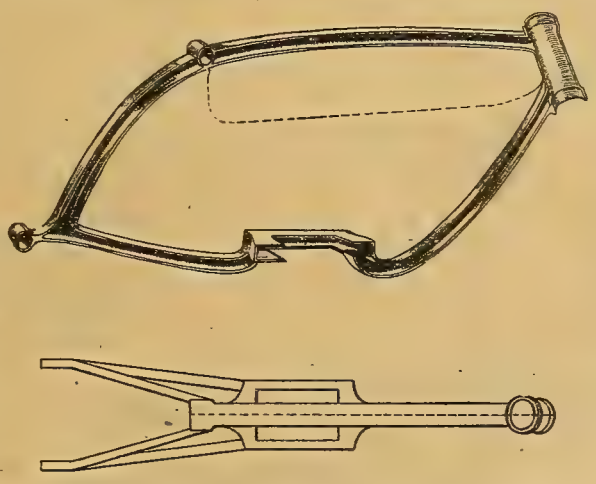
In these days of super-efficient twins riders are apt to overlook the main advantages of the single, viz., its simplicity and lower production costs, which in turn account for its inherent reliability and economy.

Stamped Steel Frames for Motor Cycles.

Pressed Steel Construction advocated from a Constructional Standpoint.

IT is curious to consider how old fashions in engineering construction cling with tenacity to the most modern workshops until, at a bound, they are abolished and some new mode set up. In this connection we have in the tubular motor cycle framework a striking example. The circular section weldless steel tube is, we know, a very tower of strength combined with light weight. But the present processes, which entail such tubes being cut to lengths and jointed carefully by brazing to lugs, leave much to be desired. In effect, the brazed tube construction is quite old, for it belongs to the pedal cycle industry, to which its use is no doubt well suited. When, however, we come to the modern mechanically-propelled road vehicle, can it be denied that the retention of the tubular frame is effete?

There seems to be little doubt that, with to-day's knowledge and wide application of pressed sheet steel, a motor cycle frame could with very considerable advantage be made in that material. And if the procedure proposed be followed, in quantity production the plan means great manufacturing economy, a stronger form of construction, much improved appearance, and lightness of weight.



A suggested form of motor cycle frame construction. The upper sketch shows one half of the pressed steel frame, and the lower a plan view of the frame completed.

The accompanying illustrations show a proposed form of stamped and welded sheet steel frame. The first figure indicates the left channeled half of the frame, in perspective, as it comes from the die, the corresponding half section being similar in every respect.

Almost any style of welding may be utilised to join the two halves together in a vertical plane, *i.e.*, there may be a lap seam, or the edges may be turned in for a V joint, or the two edges may be united in the manner familiar to the user of the now common pressed steel hollow artillery wheel. When the two halves are welded longitudinally together the cross section of the frame is rectangular, so that wherever a junction is made it is of box column formation—an admirable shape for stress resistance, as any practical engineer or architect is aware.

The lower figure is a plan view of the two stampings welded together to form the complete frame. The rear fork stays are, consequently, [section channels, integral with the frame. As to the steering head, this may be a tube welded in, but, preferably, it consists of two U sections or semi-circular integral halves of the whole.

The motor and gear seating is also a channel section, enabling the engine and gear box to be adjustable longitudinally of the frame. These organs, separately, or as a unit, may be clipped firmly, yet neatly, on the lip of their seat, thereby ensuring that chain or belt slack can be corrected without disturbance of the rear wheel axle, which, therefore, may be a fixed point.

Here, then, is a new method well worthy of employment. Strength is by no means sacrificed in any particular, while appearance is markedly improved; the elliptical or egg-shaped form is a style with which most motor cyclists would, it is suggested, be pleased. With regard to the fuel tank, it is possible so to press the sheet metal as to form the top column into a reservoir, as shown by the dotted lines in the upper figure. Such a feature has already appeared in more than one machine, but the writer thinks that no patent rights would be infringed if the enterprising members of the motor cycle manufacturing industry were to make the new style of frame so as to incorporate an integral fuel tank therewith. It should represent a large reduction in production costs.

J.A.

75 M.P.H. up a 1 in 10 Gradient.

Remarkable Speeds at Revived French Hill-climb.

GAILLON hill-climb, which was revived on October 10th, after a lapse of six years, was remarkable for the records established in all classes, for the number of entries, and for the vast amount of interest evinced in it by the general public.

The fastest motor cycle time was made by Pean on a 750 c.c. Peugeot, with which he climbed the kilometre hill, flying start, in 29⅗s., or at the rate of 75½ m.p.h., this being the highest speed ever attained by a motor cycle of any kind on Gaillon Hill. In this class the Frenchman's greatest competitor was the well-known A. H. Alexander, who was defeated by 3⅕s., Pean also rode a Peugeot in the 500 c.c. class, when he again broke a record, with the time of 30⅕s., beating the Alcyon with a margin of nearly 4s. In the 350 c.c. class the Alcyon got the first two places, followed by Alexander on a Douglas, who later secured first place in the 1,000 c.c. class. Porter, on a Levis, was a fairly easy winner in the 250 c.c. class.

British Sidecar Successes.

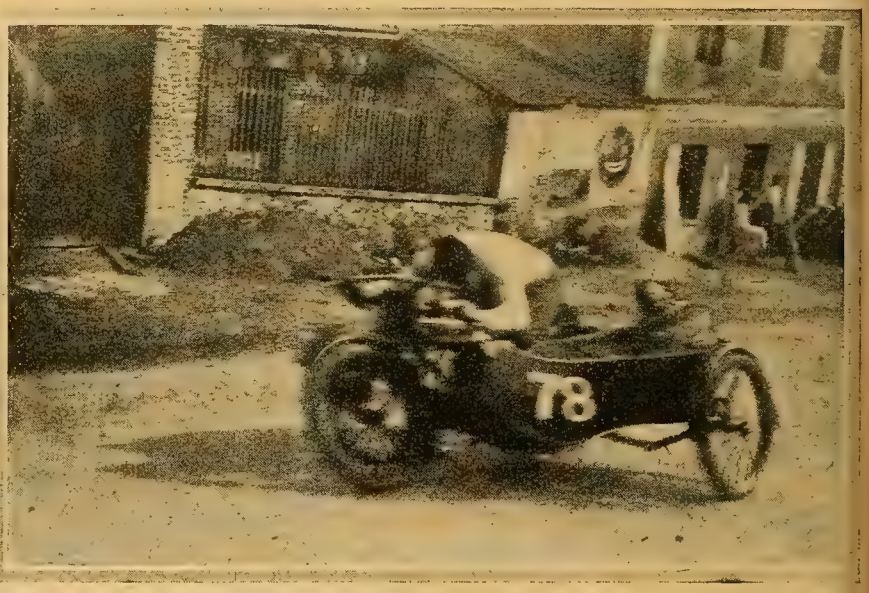
In the sidecar class, A. H. Alexander did very fine work, getting first place in the 500 c.c., 750 c.c., and 1,000 c.c. classes, his respective times being 45⅕s., 46⅗s., and 45⅖s.

The cycle car section was won in 49⅕s. by Violet, on the Major, with which he captured the cycle car Grand Prix at Le Mans only a few weeks ago. The Major was very closely pressed by an Elfe, driven by Mauve, which was only ⅖s. slower. The three Morgans which ran and secured fifth, sixth, and ninth places were French-built under licence. Darmont's Morgan had a special Mag twin-cylinder four-valve engine, but, owing to the proper size carburetter not being available, it was unable to do itself justice.

As the speeds show, it was certainly a day of records, even more for the motor cycles than the cars; for 74 m.p.h. on a 3½ h.p. machine compares more than favourably with the 108 m.p.h. record set up by the 450 h.p. Sunbeam. And, after all, in each case, the vehicle carried the driver only.

The racing, which began in the morning and continued all day, with the exception of the interval for lunch, attracted an immense number of spectators from all over the country, and was a splendid example of the growing interest of the French in motoring events. The organisation was excellent, the road being guarded by troops, and having barbed wire on each side in order to keep too-enthusiastic spectators from crowding on to the course.

The results giving the equivalent speed in miles per hour of the fastest men are appended:



A speed impression of Alexander taking his Douglas sidecar up Gaillon Hill at nearly 50 m.p.h.

		sec.		m.p.h.
	1,000 c.c.			
1.	Alexander (Douglas)	35⅘	..	62.8
2.	Bonnard (Harley-Davidson)	37⅘	..	59.8
3.	Vuillamy (Rover)	37¼	..	59.2
4.	Hartman (Harley-Davidson)	46⅕	..	—
	750 c.c.			
1.	Pean (Peugeot)	29⅗	..	75.6
2.	Alexander (Douglas)	33⅕	..	66.2
3.	Barthelemy (Norton)	42	..	53.2
4.	Copus (Triumph)	43	..	—
	500 c.c.			
1.	Pean (Peugeot)	30⅕	..	74.1
2.	Joly (Alcyon)	34	..	65.8
3.	Alexander (Douglas)	36	..	62.1
4.	Duverne (Rudge)	37½	..	—
	350 c.c.			
1.	Guignet (Alcyon)	41	..	54.5
2.	Meunier (Alcyon)	42½	..	53
3.	Alexander (Douglas)	43⅗	..	51.8
4.	Smyth (D.F.R.)	81⅕	..	—
	250 c.c.			
1.	Porter (Levis)	45⅗	..	49.1
2.	Marc (Thomann)	49⅘	..	45.1
3.	Louis (Alcyon)	53	..	42.2
	SIDECARS.			
	500 c.c.			
1.	Alexander (Douglas)	45½	..	48.4
2.	Naas (A.R.C.)	51½	..	43.7
3.	Grapperon (Blériot)	114⅖	..	—
4.	Brunet (Blériot)	118⅘	..	—
	750 c.c.			
1.	Alexander (Douglas)	46⅗	..	48
2.	Lacour (G. Levy)	55⅘	..	40.3
3.	Lezin (Motosacoche)	66	..	—
4.	Bartlett (B.S.A.)	67	..	—
	1,000 c.c.			
1.	Alexander (Douglas)	45⅘	..	49.2
2.	Boissière (Harley-Davidson)	48⅕	..	46.4
3.	Cuillier (Harley-Davidson)	49½	..	45.4
4.	Bonnard (Harley-Davidson)	51⅘	..	43.3
	CYCLE CARS.			
1.	Violet (Major)	49½	..	45.1
2.	Mauve (Elfe)	49⅘	..	54.4
3.	Leveque (Ruby)	50⅘	..	44.4
4.	Moure (Major)	50⅘	..	—
	MOTOR-ASSISTED BICYCLES.			
1.	Tardevelle (Lumen)	99⅘	..	—
2.	Rimbaud (Motorfly)	100⅗	..	—
3.	Dard (Motorfly)	107	..	—
4.	Pouget (Cyclamotor)	125½	..	—
	SCOOTERS.			
1.	Bertello (B.C.R.)	94⅘	..	—
2.	Antony (Skootamota)	99⅘	..	—
3.	Dieudonné (C.D.R.)	122⅘	..	—

1½ H.P. AND 450 H.P. These two vehicles competed in the premier hill-climb of France. The car accomplished 108·3 m.p.h., as compared with the Skootamota's 24 m.p.h.

The Amphibious Motor Cycle.

A Sporting Trial in the West of England includes Deep Watersplashes and Fords.

THE Bristol M.C.C. recently held a sporting trial, when twenty-eight competitors started over a course planned by E. Kickham, the well-known competition rider, who led the way.

Within two miles of the start the competitors were required to go through some 150 yards of water, which varied up to nearly 2ft. in depth. Needless to say, belt drive machines were soon in trouble. Some miles of greasy lanes led to Dundry Hill, which was taken on the run, and for the next ten miles the route was through a series of narrow farm lanes, with many small splashes, the whole being in an exceptionally greasy and rough condition.

Then came the fording of the River Chew at Chew Stoke. This splash was in some parts very deep indeed, but every one negotiated it without a tumble. Some miles of easy road led to the chief hill of the trial, known as Burledge Hill, near Widcombe in the Mendips. This hill, in dry weather, would merely furnish a stiff climb, but it proved, under the wet conditions, too much for all the competitors. Not a single machine got more than a few hundred yards up, the reason of the failures being wheel spin. The surface was atrocious—simply slime and large pebbles.

A series of stiff climbs and descents led to the finish at Limpley Stoke, where a timed hill-climb was carried out to find a winner. Results:

1, B. Newman (3½ Douglas), ⅗s. error; 2, W. W. Moore (3 A.B.C. sc.), 1s.; 3, F. Cook (3½ Sunbeam sc.), 1⅘s.; 4, E. Colmer (4 Norton sc.), 1⅗s.

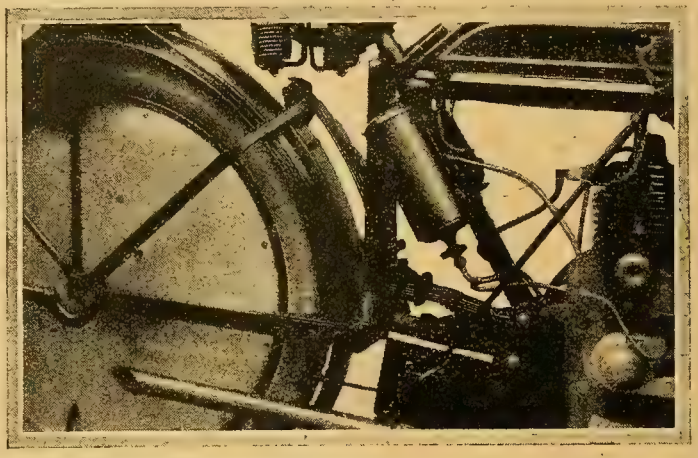
A procession of riders through the first watersplash. This is within the Bristol city boundary, and was on the day of the trial very deep in parts. Only one rider failed to get through. Norton and A.B.C. sidecars are seen preceding two Douglas solo mounts. (Left) A Zenith rider negotiating the splash. (Right) Fording the river Chew, at Chew Stoke, in the Mendips. The leading machine is a 6 h.p. Douglas sidecar.

Simple Springing

A Conversion Set embodying Leaf Springs.

ONE of the most important points which a designer of a spring frame has to consider is the lateral rigidity of the moving members of the frame. It will be quite obvious that a number of moving joints will add considerably to the difficulty of maintaining rigidity, owing to the wear of the pins and bushes.

In the Besant design, which is illustrated in an experimental form, only one articulated point is employed, this being of ample proportions—a steel pin 6½in. long by ⅜in. diameter working in bronze bushes—and having the advantage of complete protection from mud, etc., thrown up by the rear wheel. Great flexibility is obtained by the combined lengths of the two leaf springs, which are rigidly attached to an angle carrier piece pivotally connected to the bottom of the vertical frame members. One free end of the spring bears on a roller (used in preference to shackle links) on the bridge piece connecting the back stays; the other end also rests on a roller which is vertically adjustable. By this means any undue deflection of the frame, due to a heavy rider, can be corrected. This detail is not fitted to the machine illustrated, which is merely an experimental model.



A spring frame, simple in construction, which could be adapted to almost any make of machine.

The patentee, Mr. Besant, 25, Birchdale Road, Waterloo, Lancs., has decided to assist motor cyclists to fit this springing to existing machines.

A Deck-chair Sidecar.

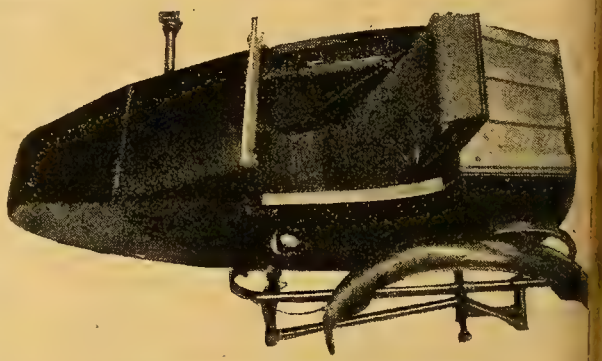
A Single or Double-seater at Will.

THE value of comfort for the sidecar passenger, especially when touring over long distances, cannot be overestimated, and the design of the seats, especially in the case of two-seater sidecars, should enable the passengers, sitting in a more or less confined space for long periods, to alter their position at will.

A sidecar with an adjustable seat and other novel features will shortly be produced by Messrs. Coppen, Allan and Co., 89, Great Portland Street, London, W.1. In it the principle of the deck-chair has been utilised to advantage.

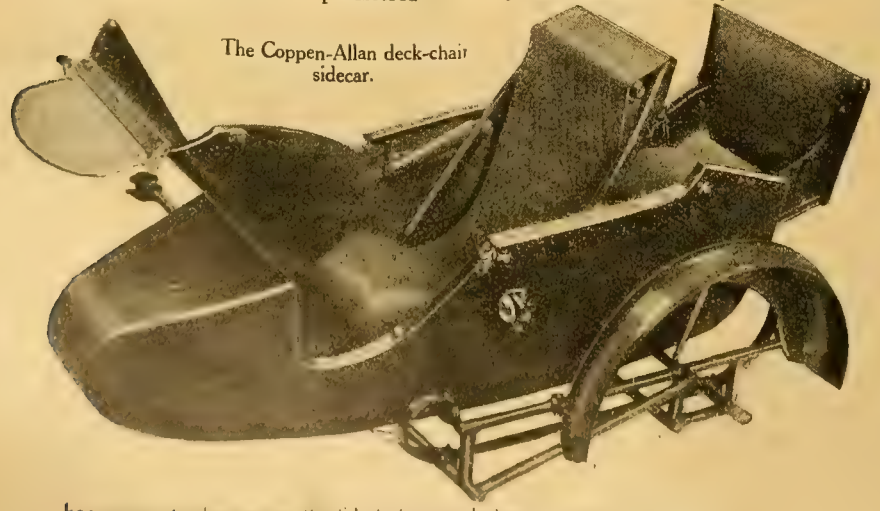
As may be seen in the illustration, the forward seat consists of an upholstered roll, suspended on a bar carried in slots in the body. The fabric extends from the roll upwards, across a spring bearer to a cross bar and is fixed to two supports, which are pivoted on the inside of the body. The back rest is held in the required position by the arm rests, which are capable of being locked. This seat can be removed entirely, or adjusted to any position. If desired, the rear seat back rest may be raised, and the front back rest lowered to its fullest extent, and a recumbent position obtained for a single passenger.

The chassis follows more nearly conventional design; and is as simple and light as is consistent with the strength called for by the two-seated body.



The Coppen-Allan sidecar as a single-seater

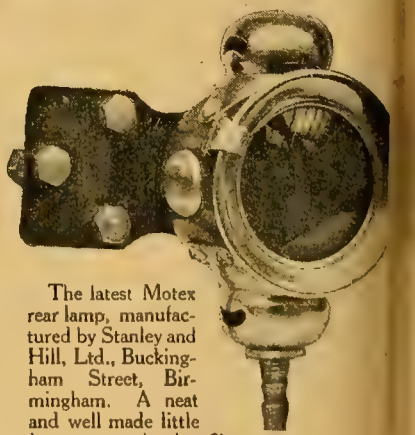
The Coppen-Allan deck-chair sidecar.



For use as a tandem seater, the lid of the rear locker is opened out Observe the door extension on the hinged dash

A NEW REAR LAMP.

It is well-known that on a rigid fram motor cycle the greatest vibration is s up on the carrier. Yet this is the on place where a rear lamp may be carrie To be satisfactory, therefore, a rear lam must be of sturdy construction, a everything else being equal, the small the lamp, the stronger it will be. T new Motex lamp illustrated is both s and strong in construction.



The latest Motex rear lamp, manufactured by Stanley and Hill, Ltd., Buckingham Street, Birmingham. A neat and well made little lamp, measuring but 3in. over al

The Rise of Pelmanism.

AN ESTABLISHED FEATURE OF MODERN LIFE.

ONE of the most remarkable features of the last few years has been the rise of Pelmanism.

Pelmanism has established a New Habit — the Habit of Mind-Training.

In the trenches we knew Pelmanism well. Every battalion had its Pelmanists by the score. And although we sometimes smile at the fervour with which they praised the "Little Grey Books," we recognised that they were good men, who were training their minds on sound lines, and doing their utmost to make the best use of their mental faculties. And succeeding.

But now that Civil Life has come, Pelmanism is making greater strides than ever.

Not only have such distinguished people as

SIR ARTHUR QUILLER COUCH,
SIR H. RIDER HAGGARD,
SIR HARRY JOHNSTON,
SIR JOHN FOSTER FRASER,
GENERAL SIR O'MOORE CREAGH, V.C.,
E. V. LUCAS,
E. F. BENSON,
ARTHUR MACHEN,
W. L. GEORGE,
and others,

written enthusiastic articles in its praise, but thousands of people in Business and the Professions are taking up Pelmanism and finding it of the utmost value in their work.

Thus a Barrister writes :—

"How very glad I am I took the Course. Every day, in an infinite number of ways, I am reminded of the advantages it has conferred. Quick memorization of facts, constant habits of observation, useful aids such as the Memory Calendar, all contribute to make life an interesting occupation, Your Course has quickened the pulse of my vitality."

And an Architect says :—

"Since I commenced your Course of Instruction, my efficiency has vastly increased. My income has gone up 300 per cent. I attribute all this to the Pelman Course."

A Clergyman adds :—

"I feel that now when I sit down to study I know how to use my mind, and that I shall remember the facts. My thinking is becoming orderly, and my memory retentive. The creation of ideas has proved invaluable. I can do my sermons better and in much less time. Also I have gained confidence in extempore delivery. My power of initiative has greatly increased."

And a Manager chimes in :—

"I doubled the turnover of my department last year. This year I am doing better than last. I am always originating new ideas, and have a vivid and well-disciplined imagination."

Thousands of such letters have been received by the Pelman Institute, and readers would be surprised if they knew the names of the people holding high and distinguished positions in the Empire who are enthusiastic Pelmanists.

The New Pelman Course.

In the New Pelman Course (particulars of which can now be obtained gratis and post free), Pelmanism has taken a further forward stride.

It has incorporated in its system the latest discoveries in Psychology, and now deals, amongst other matters, with such subjects as Psycho-Analysis, Repression and Expression, and the question of training the Sub-conscious.

The New Course is based on the experiences of over 500,000 men and women who have practised Pelmanism, and in the opinion of "Truth" it represents an advance of quite 100 per cent. on the old Pelman Course we knew so well in the Army.

Pelmanism enables you to put forth the full powers of your mind. It helps you to save waste of time and energy. It gives you the power to take on work previously beyond your capacity, and it enables you to do this work well and to "make good."

That is why Pelmanists in every profession, business, and occupation are forging rapidly ahead, trebling and quadrupling their incomes, and securing swift promotion to higher positions.

Incomes Trebled and Quadrupled.

The following brief extracts from Pelmanists' letters are cases in point :—

"During the past half-year my income has increased by over 100 per cent."—CLERK.

"Gained increase of £150 per annum."—ELECTRICAL ENGINEER.

"Secured a net increase of salary of 400 per cent."—EX-CAPTAIN.

"Delighted with my progress both monetarily and mentally."—TECHNICAL MANAGER.

"My income has gone up 300 per cent."—ARCHITECT.

"I have improved 300 per cent. in salary."—CLERK.

"I benefit to the extent of £1,000 this year."—IMPORTER.

"Since taking up the Course I have more than trebled my income."—CLERK.

"I have secured three increases of salary in five weeks."—BRANCH MANAGER.

"Thanks in a great measure to the benefits I have received from Pelmanism, my career has been an unbounded success, and I have gone on from one success to another."—CIVIL SERVANT.

"After taking up Pelmanism for about three months I was offered a very high post in the firm in which I am employed. This advancement, which incidentally doubled my salary, I attribute entirely to Pelmanism."—DEPARTMENTAL MANAGER.

Hundreds of similar cases could be quoted did space permit. More will be found in the book describing the New Pelman Course, which any reader may obtain to-day, *free of cost.*

Readers who would like to have particulars of this New Course and who want to know how Pelmanism eliminates quickly and permanently such weaknesses as :—

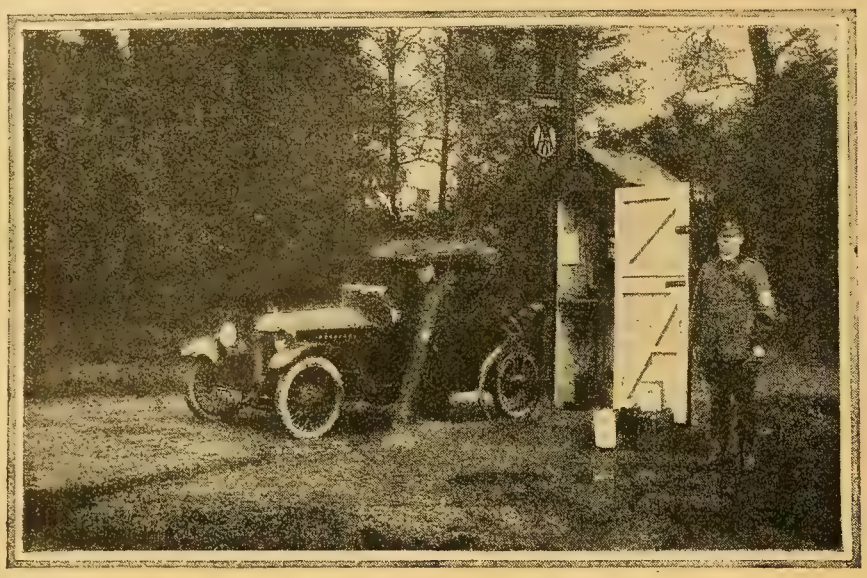
—*Forgetfulness*	—*Weakness of Will*
—*Indecision*	—*Self-Consciousness*
—*Diffidence*	—*Indefiniteness*
—*Brain-Fag*	—*Lack of Initiative*
—*Mind-Wandering*	—*Timidity*

and develops on the other hand :—

—Self-Confidence	**—Mental Grasp**
—Will-Power	**—Keener Observation**
—Clearer Ideas	**—Reliable Memory**
—Imagination	**—Zest for Work**
—Orderly Powers of Thought	**—Initiative**
	—Conversational Power
—Concentration	**—Optimism**
—Sympathy	**—Mental Strength**
—Personality	**—Persuasive Power**

should write to-day for a copy of "Mind and Memory."

This book, which fully explains the New Course, will be sent gratis, with particulars enabling readers to enrol for a Course of Pelmanism on special terms, to everyone who writes for it to-day to the Pelman Institute, 199, Pelman House, Bloomsbury Street, London, W.C.1.



The A.A. Sentry Box at Maidenhead Thicket.

All-the-Year-Round Motoring

How to make the best use of your motor cycle during the Winter.

Every motor cyclist can run his motor cycle for fifty-two weeks in the year with the minimum of inconvenience provided he is a member of the Automobile Association.

The A A. Badge—the symbol of membership—has been described as "The modern motorist's shield and buckler, his passport and his guide." That this description is not an exaggerated one is proved by the following benefits which the badge offers.

ROAD SERVICE.

Over 20,000 miles of main road in the United Kingdom are regularly patrolled by khaki-clad A.A. patrols, all of whom are competent to undertake minor roadside adjustments, will procure replacements or motor fuel when required, and are thoroughly acquainted with all local conditions affecting road users.

ROADSIDE TELEPHONES.

These are installed in patrols' sentry boxes along the main roads and can be used by members free of charge. A special key enables any of the telephones to be used at any hour of the day or night.

MECHANICAL FIRST-AID OUTFITS.

Motor cycles fitted with sidecars, driven by expert mechanics and carrying spares and tools necessary for light repairs to cars or cycles, now work in conjunction with the roadside telephones and will respond to calls from stranded members anywhere within reach.

FREE LEGAL DEFENCE.

The Motor Car Act and Registration and Licensing Regulations bristle with technical points, but in the event of a charge being brought against an A.A. member he is defended free of charge by a solicitor in any police court in the United Kingdom.

The above are merely representative features of the Road Service offered by the Automobile Association. Other benefits of membership include: Home and Foreign Touring Facilities, Motor Fuel Stations, Engineering Advice and Assistance, Officially Appointed Agents and Repairers, A.A. Hotels, a Special Insurance Policy, etc., etc.

It is therefore to the interest of every motor cyclist to join the Automobile Association AT ONCE, if he has not already done so. As subscriptions run for twelve months from the date of joining, there is nothing to be gained by delaying the matter "until next season."

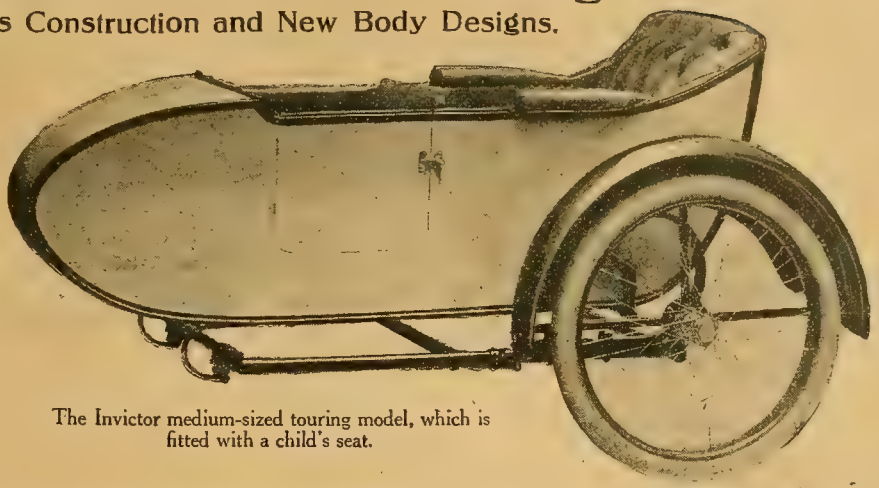
Send a postcard to-day to the Secretary, The Automobile Association, 21, Fanum House, Whitcomb Street, London, W.C.2, for a free copy of the booklet, "The Key to the Open Road," and learn how membership of the Automobile Association will benefit you.

ALWAYS AT YOUR SERVICE

In answering this advertisement it is desirable to mention "The Motor Cycle."

Developments in Sidecar Design.

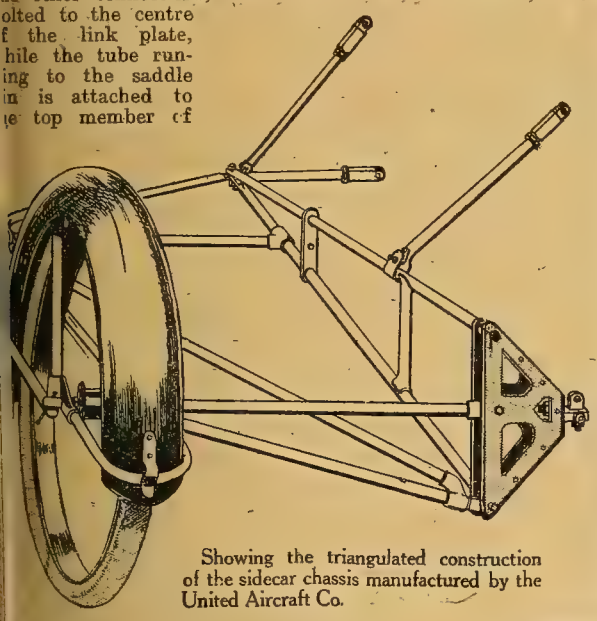
Triangulation in Chassis Construction and New Body Designs.



The Invictor medium-sized touring model, which is fitted with a child's seat.

WHEN the sidecar was first introduced "experts" said that it would have but a short life, as it was grossly unmechanical. Despite their prophecies, however, the sidecar has lived and has not only lived a long life, but prospered to an extent which, in the early days, could never have been realised. Usually designers of sidecars devote their main attentions to body design, but the United Aircraft Co., Ltd., of 4, Great Marlborough Street, W.1, have concentrated upon a chassis which has many points of interest.

In its construction there are practically no curved tubes, and, wherever possible, triangular construction has been embodied. It is attached to the machine at four points, one to the motor cycle head, the second to the down tube, which converges on to a single eye-bolt at the front end of the horizontal or "alignment" tube, as it is called, next to the machine. This tube is in duplicate, the straight members extending to the triangular steel plate also in duplicate, known as the "link" plate. As regards the other connections, the axle tube is bolted to the centre of the link plate, while the tube running to the saddle pin is attached to the top member of the alignment tube; five frame members in all converge to the front end of the alignment tube. A single tube runs from the centre of the outside horizontal member, curves over the wheel and carries it, and also forms the support for the mudguard, continuing under the axle and forming a cantilever brace for the chassis.



Showing the triangulated construction of the sidecar chassis manufactured by the United Aircraft Co.

Behind the sidecar wheel extends the sidecar wheel stand, which, when not in use, serves as an additional stay for the mudguard. A horizontal long diagonal stay runs from the forward end of the member to the bottom of the link plate, taking any weight imposed upon this corner of the frame. The members are bolted to lugs provided with eye-bolts and brazed into the tubes, while the connections of the head and down tubes consist of steel straps surrounding the tube and drawn up tight by means of tapered cotter pins, forming an exceedingly secure fixing, where security is most to be desired.

The designer of this interesting chassis is Mr. H. L. Milner (Whit. Schol.) A.M.I.C.E., who points out that amongst the many advantages claimed is the fact that many of the frame members are detachable, and for packing purposes the chassis can be reduced to a simple triangle occupying but a small space. This, of course, is an important point especially for the export trade.

At the present time these sidecars are being built for Blackburne motor cycles.

Invictor Sidecars.

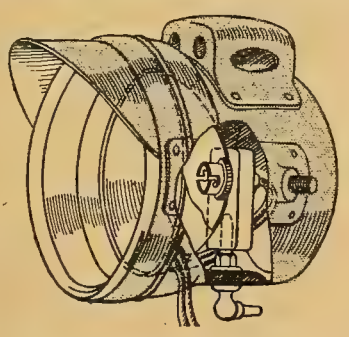
The illustration of a complete sidecar depicts one of the models of Messrs. Bryant and Hancox, of Rupert Street, Birmingham, who make three types, *i.e.*, a semi-sporting model, a tourist machine which can be used with a child's seat, and a larger model. The name chosen for these sidecars is the Invictor.

We recently inspected this firm's productions, and can say that the quality of materials used, the general workmanship, and the finish are all good. The sporting model has a side door and rear locker, and costs £22, or body only, £10; the larger model, illustrated, is £25 10s. and £11 respectively; and £30 and £14 10s. are the prices asked for the full touring model and body respectively. The makers offered the choice of several colours.

A SIMPLE LAMP CONVERSION.

QUITE a number of motor cyclists have a desire for the conveniences of electric lighting for short distances, but are loth to discard their gas lamps. For long journeys an accumulator is to be of large capacity and fully charged to give a brilliant light for several hours on end, and for this reason many prefer to retain their gas lamps, and so to adapt them that they can be fitted with either source of light.

The illustration given here shows how a gas head light may be fitted up so that the electric bulb may be quickly removed. To a small piece of hardwood two holes are drilled—one to receive the lamp holder, and the other to permit this adaptor being pushed on to the acetylene burner (this should be a fairly tight fit). The wires to the accumulator are led through the vent holes at the top of the lamp, a hole may be drilled specially for this purpose at the bottom, or they may be placed through a groove in the front, as shown in the sketch. The latter is the most convenient method, as it will be seen that the complete attachment can be removed without disconnecting the wires to the lamp holder. When fitting, it may be found that better results will be obtained by placing the adaptor so as to allow the lamp to face the existing reflector. Either way will give quite good results, but to obtain a better light a special reflector behind the lamp bulb can be used.



An acetylene head light adapted for electric lighting.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

A ROADSIDE REPAIR.

Sir,—Recently, while riding over a bad road in Lancashire, I had the misfortune to break my saddle-pillar.

I repaired this temporarily, in a way which might interest your readers.

The break occurred at the lower part of the neck, so I put the top broken part in the saddle, tightened up the nuts, and forced this into the piece remaining in the frame, which I found was just a tight fit. A.

Liverpool.

FOOT GEAR CHANGE.

Sir,—With reference to "Ixion's" paragraph regarding gear change for speed and competition work, I am entirely in accord with what he says, but handle-bar control for the clutch is necessary as well. I think if he reads this year's T.T. specifications he will find that many makers fitted Sturmey-Archer gears with the operating lever fitted low down for foot operation—Norton, Blackburne, Levis, Ivy, etc. So designers, as well as riders, appreciate this type of change.

C. N. G. PHILLIPS.

CHAINS.

Sir,—With reference to "Ixion's" remarks about a naked chain which he anticipates being worn out after 2,000 miles, I think this hardly fair. I have completed over 10,000 miles on a well-known outfit with naked transmission, and have just broken my second chain, which has carried me about 6,000 miles. Also my sprocket teeth are not at all worn, and I have not experienced any inconvenience due to open transmission, which I think facilitates adjustment. From observations on the road and in the garage, chain cases and left-hand drive on a sidecar outfit are far from being most desirable. PETER.

London, N.W.

Sir,—Four months ago I was strongly of the same opinion as your correspondent "LY 1509" with regard to naked and enclosed chains. During the last four months I have covered 2,500 miles on a 3½ h.p. three-speed Norton, half this distance being with a sidecar attached. The driving chains on this machine have no protection underneath, where it is most required—a practice guaranteed to set an engineer's teeth on edge. My experience and treatment of them may not be without interest. The machine was new when I got it. The first 350 miles was covered in three days over some of the most trying roads in Kerry, and under dusty conditions. When I got back I noticed the chains had got absolutely dry, and oil and dust, a most excellent abrasive mixture, had done their work very efficiently. From a mechanical point of view, the chains were ruined. I could not leave them in this condition; they made too much noise. That they would break in the near future I had quite taken for granted. I took them off and boiled them in an evil-smelling mixture of tallow and graphite. For over three months I have not touched these chains except on one occasion to mend a puncture in the back tyre, though the machine has been on the road almost every week day. Some time ago I noticed that the rollers of the countershaft chain had turned a most alarming shade of blue, so, in an energetic moment, I repeated the boiling process.

As an ex-car owner, I may say that the major charm of a motor cycle for me is its simplicity, and I would view with uneasiness any machine where transmission design savours of car practice, especially for use under the road conditions that prevail in this country. A departure from standard design which I would like to see at the Show, or in the pages of *The Motor Cycle*, is the location of the driving system, whatever form it takes, on the right-hand side of the machine. Of course, there may be some deep mechanical reason which renders this impossible. It *might* also render tappet adjustment less easy. I was once a passenger on a well-known American machine when we broke both driving chains simultaneously five miles from home. It was pitch dark, and the roads were muddy. For two hours we toiled on our backs with the aid of a flash lamp. Then our patience became exhausted, as did the flash lamp.

I walked three miles to the telephone to summon assistance. The lady in charge shrieked when I entered. I was surprised at the time, but sympathised with her later. I do not think this incident would have occurred had it only been the tappets that required adjustment. SIMPLICITAS.

Cork.

THE UMBRELLA COAT.

Sir,—In "Occasional Comments" in a recent issue of *The Motor Cycle*, I notice mention of the "Umbrella Coat."

I would like to endorse "Ixion's" remarks *re* this type of coat, and, like him, would very much like to know if it is still obtainable, and if so, where? as it is, in my opinion, the only sensible type of waterproof for motor cycling all the year round.

The coat must, of course, be of the black rubber outside proofed variety, as I have no time for the double texture material sold to-day—just two layers of cloth with an interlining of some stuff about as waterproof as butter muslin.

The majority of waterproofers I have been to, trying to obtain the type of coat previously mentioned, have told me that outside proofing is wholly unsatisfactory for motor cycling. Yet I have had one so made for three years: and on Salisbury Plain one gets some weather to test a coat. I suppose there is more profit in the double texture variety, as the proofing is hidden, and in consequence manufacturers can, with their present-day traditions, put any sort of rubbish in. F. A. SUMMERS, Capt.

OUT-OF-DATE BRITISH RECORDS.

Sir,—During the past few months record-breaking has been a very active branch of the sport of motor cycling. Many attacks have been made on existing figures, yet it is apparent that almost all have been made on long distance records in one or two particular classes. Thus, certain records in Class B (up to 350 c.c. solo) have changed hands three and even four times during the last few months. Considerable activity has been displayed in Class C (up to 500 c.c. solo), the Harley-Davidson has captured all long-distance records in the 1,000 c.c. sidecar class, and Nortons, seemingly, are the only people who covet sidecar records in Classes G and H. Beyond this nothing startling has occurred. Classes A and A1 are unchanged since pre-war days, save for one or two odd records recently set up by Jacobs. Cannot the Levis or Diamond figure here?

The 1,000 c.c. solo class seems to be almost wholly neglected, and most of the records standing in this class date from 1913 or thereabouts. The flying kilo speed—93.48 m.p.h. —does not strike one as very up to date, considering that the corresponding American figure is 115 m.p.h., and the 350 c.c. class record, viz., 75 m.p.h., is only 18 m.p.h. slower.

Another noticeable fact is that only two kilo or mile records have been broken since 1915. Why is this? Surely modern machines are not getting slower? How about the little racing A.J.S., the twin Rudge, or the new 500 c.c. o.h.v. Douglas? LEWIS E. GREEN.

SANS MAGNETO.

Sir,—I have been much interested lately in the correspondence on running a motor cycle "*sans* magneto" which has appeared lately in *The Motor Cycle*.

I have experienced the same thing with both a Triumph and a Rudge, after riding the machines fast for a long time. In each case I have noticed it when a somewhat loose waterproof plug connection has become disconnected.

With the Rudge I have more than once kept the engine running like this, with the clutch "out," while I "dabbed" the connection on to the plug again. It was not easy to do this with the Triumph, owing to the nearness of the tank to the top of the plug.

As the somewhat intermittent explosions were accompanied by a sickening knock I only did it for the edification of a friend, to prove that it was possible. PERCY K. DAVIS.

A WARNING TO LADY PASSENGERS.

Sir,—Although a constant reader of your paper for a number of years this is the first time that I have ventured to address you, and I do so in the hope that my experience may prove a warning to some of your readers. A short time ago I was returning from the golf links with a lady passenger in the sidecar. She was wearing a long scarf wrapped once round her neck; and the end of it caught in the sidecar wheel. She not only received a severe wrench, but all the skin on the right side of her neck was taken off. Fortunately we were going slowly at the time, and, fortunately, it was a light summer scarf which broke under the strain. I shudder to think what would have happened if we had been going fast, and it had been a thick woollen muffler. In future my passengers will have their wraps well and carefully tucked away and (despite the traditional pictures) no loose ends floating in the breeze. FELLOW, SALOP.

A MODERN JUGGERNAUT.

Sir,—Whilst sympathising with the victim of the accident with the fire engine, I cannot agree with "Douglas" that it would be a good thing to impair, by imposing a speed limit, the efficiency of this splendid service, which "saves" many lives and much property, because of one unfortunate accident.

I think, and am sure many will agree with me, that this case emphasizes the fact of the prevailing carelessness of a very large number of road users. My reply to the question, "Who turns a corner expecting to meet a huge vehicle doing 30 m.p.h.?" is—Every good rider! The experienced rider knows that almost daily now one has to use one's commonsense rather than rely on L.G.B. regulations and rules of the road to avoid accidents.

This brings me to another point that is noticeable just now, viz., the dangerous practice of relying on the use of a horn to get a "clear passage." If everyone on the road realised that the use of a horn or other noise machine was for the purpose of "giving audible warning" of approach and *not* for "clearing the road," I am sure many accidents would be avoided. TWENTY YEARS ON THE ROAD.

Notting Hill, W.11.

ARROWING THE COURSE.

Sir,—I see some remarks in the issue for October 7th, on the trouble caused by small boys altering directional arrows, in recent trials.

The type of arrow suggested by our correspondent, Mr. F. A. Ellis.

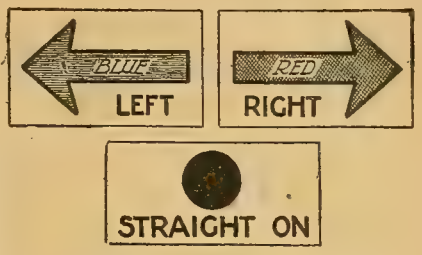
I thought that the enclosed diagram might prove itself somewhat of a solution, the usual arrow being used, but one corner of it slightly "blocked out." It could easily be made known to competitors that the arrow was pointing in the intended direction, when the "block" was on the upper edge of the arrow, or *vice versa*. F. A. ELLIS.

Sir,—I notice in your publication dated 7th October, page 421, reference to the difficulty of arrowing trials, owing to the interference of meddlesome youths and others who remove or turn round existing direction pointers.

Might I submit the following scheme for your approval?

I might say that this scheme worked satisfactorily in the recent Scott Trial, and as far as can be ascertained there were no complaints as to the direction of the arrows.

Briefly the plan is as follows: "Turn to the right" is a white card on which is printed a red arrow (pointing to the right) underneath which is the word "Right." This sign is placed before the turn on the right hand side of the road.



Types of cards suggested by Mr. N. O. Vinter in his accompanying letter.

Turn to the left is a white card, with a blue arrow, with the word "left" underneath. The arrow turns to the left, and the card is placed on the left side of the road.

"Straight on" is a white card "with a black circle in the centre, underneath which are printed the words "straight on." This also is placed on the left side of the road.

It will be quite obvious from the foregoing that not only is it impossible to mistake the turns owing to the two factors, colour and printing; but also should a competitor lose his way and regain the main road, it will be obvious from looking on which side of the main road the arrow is placed as to which way he must proceed. This will prevent the possibility of any competitor following the arrows in an adverse direction. N. O. VINTER.

Sir,—As one who has suffered, perhaps you will allow me to comment on your paragraph on the arrowing of trials. Your suggestion, of underlining, is excellent, but, in my opinion, the use of arrows at all is obsolete. It is frequently impossible to see which way the head points until arriving quite at the turn, particularly when the arrow is fixed to a telegraph or signpost. A far better system is to have coloured cards with the letters R. L. and S. (straight on) on them; but the best system of all is powdered yellow ochre, as used by the Edinburgh M.C. This is cheap, laughs at the efforts of the inevitable small boy," resisted the wettest Scottish Six Days Trial ever known, and yet does not make an unsightly mess of the roads. Confetti is expensive and very hard to see, and, in my opinion, a waste of money.

One word to those misguided clubs which still pin their faith to the mediæval arrow. Instruct your—may I say it?—"archers" to place their arrows where they can be seen by the approaching competitors. Often the arrow is conspicuous when standing close to it, but very hard to see when coming towards it. An eminent competition rider and myself were robbed of golds by inattention to this detail in a recent open trial. J. M. PHILPOTT.

Sir,—As the present prices of fuel make the question of fuel consumption of some pecuniary importance, perhaps my experience may be of interest to fellow readers.

My mount is a 1919 3½ h.p. Sunbeam, fitted with Amac two-lever carburetter; my fuel consumption in 4,000 miles has been:

	m.p.g.
First thousand miles (1,009 miles, 14½ gallons) =	70
Second thousand miles (1,046½ miles, 13 gallons) =	80
Third thousand miles (886½ miles, 9 gallons) =	98
Fourth thousand miles (1,001 miles, 8⅜ gallons) =	119

In the first thousand miles I used petrol for about half the distance, benzole for the rest; after that, save for a rare gallon of petrol, benzole was used entirely. A W.S.R. adjustable jet was fitted at the beginning of the second thousand miles, and mid-way through it "Spots" were used, and have been used ever since. Rather more than half-way through the third thousand miles the gauze at the air-intake of the carburetter was found to be much blocked with a greasy soot, due largely, I have no doubt, to running with too strong a mixture on first using Spots. I have noticed a blow-back only on operating the kick-starter. Before cleaning the gauze I had used the carburetter with the air-lever fully open except for starting; after cleaning I found I had to close the air-lever to (roughly) the same position

as the throttle-lever, and the consumption improved at once by twenty miles per gallon. Included in the fourth thousand miles are two trips each of about one hundred miles, on which the consumption was in the neighbourhood of 130 miles per gallon; otherwise my riding has been short, almost daily, runs, with a halt about every five miles, and mostly on by-roads with a full share of hills. Fuel-level was so set that on removing throttle and air slides the fuel can be seen standing in the holes of the multiple sprayer.

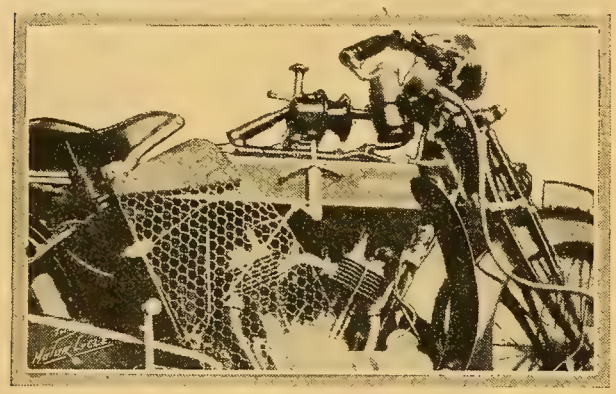
Like some other correspondents, I wish the W.S.R. jet people would make it with a more gradual bevel; even on changing from benzole plus "Spots" to Shell No. 1 the adjusting milled head requires moving only about one quarter turn. SUNBEAM.

Saltburn-by-the-Sea.

AN INEXPENSIVE DRESSGUARD.

Sir,—The photograph shows a simple device which I have made to keep my skirt and top coat from touching against the engine of my motor cycle.

It is a pea seed guard from the garden, straightened out, and bent over the petrol tank, where it is padded with material to prevent it from scratching the enamel, and it is



This dressguard, referred to in the letter of Mrs. Atherley-Jones, cost but 8½d. to make.

held in place by straps put through the wire at the corners and twisted round the supports of the footrests or anything handy that is not in the way of the engine.

The pea-guard cost 8½d., it can be detached in a minute, and does not at all interfere with the cooling of the rear cylinder. (Mrs.) H. ATHERLEY-JONES.

SPEED.

Sir,—I have read your splendid journal ever since I took up motor cycling, and have been particularly interested in your pages of correspondence. The wonderful achievements of some of your readers as regards speed and power of their machines have so stirred me that I have felt compelled to test my own little 'bus, to see what it really can do.

My machine is a 2¾ h.p. four-stroke. Heretofore, I had been content to plod along at a good average 20 m.p.h.—solo, of course. However, determined to try the little 'bus to its uttermost I fitted a coach built sidecar to it and wheeled the outfit out of the garage to start on my great adventure.

Living as I do in the West Riding of Yorkshire, I decided that a trip to Leeds, twelve miles distant, would be a very decent test, as this area has the finest collection of pot-holes, badly laid tram-lines, cobbles, narrow roads and stiff gradients that one could find in a twelve months' tour.

With a twelve stone passenger up I set off. The little engine pulled beautifully. Descending into a No. 1 pot-hole I rushed the opposite gradient of 1 in 4 on top. Elated with this success I faced a long climb of about two miles of 1 in 14 with equanimity. How the little engine purred as I rushed the gradient! Twenty, thirty, thirty-five, forty, the speedometer pursued its course. My passenger cowered in his funk hole. With hands hard gripping and a bubbling heart I watched the distant summit. Forty-five now; fifty, fifty-five—ah! . . . .

The grey, cold, clammy dawn was creeping through the window. Adjusting the sheets I turned over on my left side, happily conscious of three more hours in bed. L.S.

HINGED FOOTBOARDS.

Sir,—I recently had my foot badly crushed by being "jammed" between the footboard and brake pedal, due to a fall. *Verb. sap.* B.

Naas.

THAT ELUSIVE KNOCK.

Sir,—There has been some discussion, from time to time, in motor journals regarding the exact cause of "knocking" in single-cylinder engines.

A correspondent recently attributed it to "detonation," explaining that a "detonated" and an "exploded" charge were two different things altogether. He also explains that in the case of detonation, the chemical change takes place throughout the whole mass of gas under compression *simultneously, i.e.*, each molecule unites, or breaks away, as the case may be at one and the same time, causing a violent "hammering" effect on the piston and cylinder walls—whereas in the ordinary explosion set up by the spark at the plug, the rate of combustion is slower, and not so violent.

Assuming the above to be correct, it should be possible to get "knocking" even with the spark fully retarded. Personally, I have always regarded "knocking" to be caused by an ordinary explosion of the gases taking place when the piston is "dead top," or before top centre: particularly when there is violent resistance to its downward progress owing to a steep hill, or too high a gear. The subject is interesting, and I should like to hear other readers' views.

RONALD S. WHITING.

SUMMARY OF CORRESPONDENCE.

A useful tip for P. and M. owners has been discovered by "F.H.M.C.," who states that a Ford valve may be readily adapted to the 3½ P. and M. engine when a proper spare is not available. It has the additional advantage of costing only 4s.

Two products of the chemist receive their mead of praise from motor cycling correspondents this week. Miss Kathleen Turnbull, of Spennymoor, speaks of a greatly reduced petrol bill after using "Spots": while the claims of "Twinko" as a quick method of cleansing the hands after road or garage adjustments are voiced by the Rev. F. Lyle Uppleby.

Entire satisfaction in his 1919 4 h.p. Triumph is expressed by Mr. G. H. Rogers, who asserts he has now done 7,000 miles without any tinkering, breakdowns, or even a single misfire. Consequently the cost of repairs and upkeep in this period has been *nil*.

Equally enthusiastic is Mr. W. Hexter Drew with his 1920 4¼ h.p. B.S.A. sidecar outfit. The outfit weighs, with two passengers, 8 cwt.; and succeeded in climbing Porlock Hill at its worst after dropping but one passenger.

The following agents and garages have recently been mentioned by correspondents for prompt and fair treatment: Messrs. J. L. Love and Co., Bromley; County Cycle and Motor Co., Birmingham; Maudes Motor Mart, London; and Streets, Tetbury.

BOOKS AND MAPS FOR MOTOR CYCLISTS

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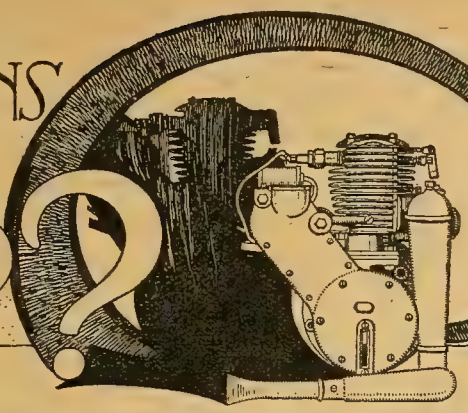
QUESTIONS AND REPLIES



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Tyre and Rim Sizes.

My machine is a 1914 4¼ h.p. single-cylinder model, and I am troubled with the rear tyre chafing at the beads. The rim is marked "Dunlop, 26 × 2¼," and I use tyres of the same size.—S.P.

The tyre trouble may be due partly to your methods of driving. If you allow the engine to labour on top gear, or if you use the clutch harshly, it is quite likely that the tyre will creep in the rim. You do not say whether security bolts are fitted, but if not, we should certainly advise you to use them. You might find also that oversize covers (26in. × 2⅜in.) would give you better results.

Gear Box Adjustment.

I have in my possession an N.U.T.-J.A.P. fitted with a Sturmey-Archer three-speed countershaft gear box. Recently, I had the misfortune to damage the constant mesh wheel on the layshaft. Having since fitted a new shaft together with a new ball race—on the kick-starter end—I have had trouble in getting the gears adjusted correctly, *i.e.*, when adjusted for neutral and engine is started, a clicking sound is clearly audible, and second speed engages suddenly without any movement of the speed lever. When adjusted nearer first speed it engages in the same manner. It appears to me that there is not sufficient space in the gear box for neutral. Therefore, can you please tell me, have I replaced the gears and race correctly? (In my opinion both are all right.) I might add that I have driven some 150 miles with it in its present condition, and all three speeds function correctly whilst engaged.—N.U.T.

Without inspecting the gear box we cannot tell you the cause of the trouble; it may be due to a slight variation in the layshaft dogs, or perhaps you have omitted to replace the layshaft spring washer when reassembling. Another possible cause of the trouble might be excessive wear of the small yoke-end pins on the operating mechanism; if play is allowed to develop at these points, the middle gear is quite likely to engage, even though the gear lever is placed in the neutral position.

Higher Gear Required.

(1.) How can I raise the gear on my 4 h.p. Triumph from 5 to 1 to 4 or 3½ to 1? (2.) What is the highest speed I should get with the present 5 to 1 gear? (3.) What difference in speed would a 3½ or 4 to 1 gear make? (4.) What is the best size jet to use on a Triumph carburetter for speed?—G.H.

(1.) You can raise the gear by fitting a larger sprocket on the engine shaft, but we strongly recommend you not to exceed a top gear of 4¾ to 1. 3½ or 4 to 1 are quite useless. (2.) About 50 m.p.h. (3.) The running would be exceedingly harsh on such a gear, and it is quite likely that the maximum speed would not even be so high. (4.) Size 30 or 32.

IMPORTANT DATES.

Nov. 4th-13th—
International Automobile Exhibition, Olympia and White City

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Dec 26th-27th—
M.C.C. London-Exeter Run.

Irregular Firing of V Twin.

Recently a valve rocker arm broke in my 5-6 h.p. twin, and consequently the engine had to be retimed. No. 1 cylinder now seems at fault, and although good compression is obtained there is very little power. With both cylinders firing, the running seems very irregular, and on testing each cylinder separately No. 1 cylinder is almost impossible to start (air leak tested). No. 2 cylinder starts immediately. Will you give me the correct valve timing for this?—M.G.S.

The exhaust valve should close when the piston reaches the top dead centre (or it may close slightly after the piston has passed this position); at the same point the inlet valve should be just commencing to open. If the compression in each cylinder is equally good, and if the valve timing is correct, the trouble is probably due to an ignition fault. Possibly the sparking plug is defective, or the high-tension cable may be damaged. Make sure also that the platinum points of the contact breaker separate equally for each cylinder. The ignition timing also should be verified; the spark should occur when the piston is on top dead centre of compression stroke with the ignition control two-thirds retarded.

An Incorrect Contact Breaker.

I have a pre-war 6 h.p. V twin. I have lately had the engine down for overhauling, and on reassembling, when I went to time the magneto, I found that I could not time both cylinders correctly. If I timed the back cylinder with the magneto two-thirds retarded, piston dead centre, and points just breaking, and then joined up, on turning over the engine till the front cylinder was dead centre, the points would not be breaking, and would not commence to break till the piston was about a quarter of an inch on the downward stroke; and, of course, if I timed the front cylinder correctly the points would be breaking too early on the back cylinder. I shall be much obliged if you can inform me: (1.) Is not this wrong? (2.) Could this be caused by any error in reassembling the engine, or would it most likely be a worn magneto cam? (3.) Can I have the magneto cam altered to make the break at the correct time, or, if not, what ought I to do?—H.A.B.

(1.) If the timing is as you describe, it is certainly incorrect. (2.) Possibly you are using the wrong cam in the contact breaker casing, and it would be well to verify this, and make sure that each cylinder is connected to the terminal from which the high-tension current is delivered when the contact breaker is being operated by the corresponding cam. (3.) Without actual inspection, we cannot tell you whether the magneto is suitable for the engine, but it is just possible that you have a magneto for an engine of a different angle. A slight alteration of the cams would probably put matters right. Both cylinders should be timed in exactly the same way, and there should be no variation in the ignition point.

Life of Plain Bearing Engine.

I have a two-stroke machine fitted with a well-known proprietary engine. Will you kindly give me your candid opinion as to the following points: (1.) I understand this engine has plain bearings throughout. Are these satisfactory? (2.) How do they compare with ball or roller bearings for wear? (3.) Should I be likely to get equal service from such an engine as I should from a machine made throughout in one factory?—H.K.S.

(1.) The engine in common with most small two-stroke power units has plain bearings. These are quite satisfactory, provided that proper lubrication is maintained. (2.) With an adequate lubrication system, the life of plain bearings is almost as long as that of ball or roller bearings. (3.) You should expect to get the same service from your machine as you would from any other machine of similar class or price.

READERS' REPLIES.

Has Benzole a Deleterious Effect?

Referring to "G.A.C.'s" letter in *The Motor Cycle* dated September 23rd, I think I can help him in his trouble. I am works chemist connected with the manufacture of benzole, and have found by test that a good quality benzole (*i.e.*, well washed) has absolutely no ill effects. As every manufacturer knows, however, it is very difficult to obtain benzole in quantity perfectly free from water. This water probably will not show at first, but after standing for a considerable time, as in the tank of a machine, settles down to the bottom. In time, after using a fair quantity of benzole, you get fairly large size globules of water. This, of course, will soon rust a poorly lined tank, and you get what "G.A.C." found. With a slight increase in production cost, this water could be eliminated.—L.D.

Chain Stretch.

With reference to "H.A.H.'s" query and your reply in the issue of October 7th regarding chain stretch, I recently wrote to Messrs. Hans Renold, Ltd., on this point, and their reply would probably be of interest. They wrote me as follows: "The test as to when a new chain should be put on a machine is when the old one ceases to gear well with the large sprocket wheel owing to extension of pitch due to wear. In general it is practical to use chains up to about 3% extension when pulled taut." I may add that my chains, running in oil-bath gear cases, have done over 11,000 miles, and do not yet show any considerable signs of wear; the extension is only about 1% on the rear chain, and a little more on the front.—W.D.M.

EXPERIENCES WANTED.

"W.K." (Liverpool).—Degory and Cox Atmos carburetters on Scott machine.

RECOMMENDED ROUTES.

ALFRETON TO TRING.—F.C.T.

Ripley, Nottingham, Melton Mowbray, Oakham, Uppingham, Kettering, Finedon, Wellingborough, Newport Pagnell, Hochliffe, Dunstable, Tring.

SPALDING TO ASHFORD (AVOIDING LONDON).—T.J.

Peterborough, Norman Cross, Alconbury Hill, Biggleswade, Hitchin, Hatfield, Barnet, Eltham, Wrotham Heath, Maidstone, Charing, Ashford.

LEICESTER TO MARGATE.—F.H.

Leicester, Market Harborough, Kettering, Higham Ferrers, Bedford, Shefford, Hitchin, Stevenage, Hertford, Ware, Harlow, Chipping Ongar, Brentwood, East Horndon, Tilbury, by ferry to Gravesend, Rochester, Chatham, Sittingbourne, Canterbury, Sarre, Margate.

The first sidecar taxi to be licensed in Surrey. Alex. Willis, the owner, has fixed his charge at threepence per mile for one passenger and sixpence if the extra seat is also occupied. Threepence per mile, as a commercial proposition, would appear to be cheap when all expenses are considered.

South African T.T.

In August the first South African T.T. race was held over a 142½ miles course. An Indian won the junior event (500 c.c.), with a Douglas second, while in the intermediate class a Triumph was first, and a Douglas again took second place.

S.A.T.T.

"The Birmingham House for Motorists," as Mr. P. J. Evans's premises at 83-91, John Bright Street, are termed, is shortly to be considerably extended. When the improvements are completed the motor cycle and car sections will be departmentalised.

A New Accessory Firm.

A preliminary folder, with the title "Dekla Details," has just been compiled by Messrs. Clayton-Wright Bros., of 168-169, Hampton Street, Birmingham. In it are described the firm's various accessories, such as cycle lamps, motor horns, and observation mirrors.

Cowey Speedometers.

On page 413 of our issue of October 7th, a paragraph embodied in an article on "Testing a Speedometer," gives an impression that the sales of the popular Cowey instruments in London are controlled by one firm. This, of course, is not so, as the products of the Cowey Engineering Co., Ltd., are obtainable through all agents of standing.

Taxi-sidecars in Devon.

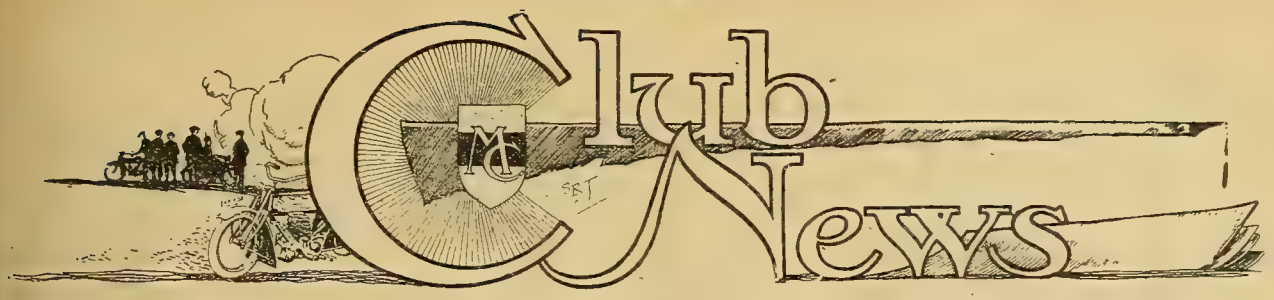
In our issue of July 15th we referred to a service of luxuriously fitted taxi-sidecars installed by the "X" Motor Cycle Co., of 55, Parkfield Road, Torquay. We understand that these sidecars are doing extremely well, and cover about sixty miles a day. One of the machines is always available for hire on the rank up to midnight.

Bull Dog Motor Cycles.

The maker of the Bull Dog motor cycles, which are fitted with Coventry Victor flat twin engines (Mr. H. H. Timbrell, 59, Slaney Street, Birmingham), has been compelled to relinquish his business, and the premises and stock have been taken over by Messrs. The Slaney Engineering Co., from whom spare parts may be obtained.

Bowden Brake Co., Ltd.

The directors' report of the well known Tyseley (Birmingham) firm, which specialises on the manufacture of Bowden fittings, shows a very satisfactory state of affairs for the year ending August 31st, 1920, there being a net balance of £45,033 11s. 2d. available for distribution, as against £26,737 11s. 5d. of the previous year. An interim dividend of 10% free of tax has already been paid. A final dividend, making a total of 15% for the year, is recommended. After allotting large sums to various funds and reserves, £15,033 11s. 2d. remains to be carried forward.



N.M.C.F.U. (Portsmouth).

The N.M.C.F.U., Portsmouth, are holding their first petrol consumption trial, open to all club members, on Saturday next, over a ten mile triangular course, starting from the George Hotel, Portsdown Hill. It will be run on A.C.U. formulæ, and the course will be observed.

Romford and District M.C.C.

A reliability trial to Cambridge and back, a distance of 105 miles, was held on the 3rd inst. Competitors were each allotted one hundred marks at the start, and one mark was deducted for every minute early or late at a named or secret check. There were six named and four secret checks. The results are as follows: 1, D. Maitland (2¾ Douglas), 94½ marks; 2, W. S. Welsford (4 Triumph sc.), 93½ marks; 3, R. C. Fox, jun. (2¼ Triumph), 92½ marks. In addition, seven first, seven second, and four third-class certificates were awarded.

Stourbridge M.C.C.

As reported in our last week's issue only twenty-nine finished out of forty-eight starters in this club's half-day trial; and as the course was under fifty miles in all, this gives some indication of the severity of the event. The following results are now to hand:

CLASS A (350 c.c.).—1, B. Kershaw (2¼ Verus); 2, F. J. Price (2½ Diamond-Jap).

CLASS B (500 c.c.).—1, F. Drew (3½ N.U.T.); 2, F. J. Wilkes (3½ Rover).

CLASS C (over 500 c.c.).—1, J. Dosher (8 Enfield); 2, F. Jew (3½ Norton).

CLASS D (Sidecars).—1, E. Williams (5-6 A.J.S. sc.); 2, B. Bladder (8 New Imperial-Jap).

SINGLE-GEAR PRIZE.—C. Higgs (4 Triumph).

TEAM PRIZE.—Worcester and District M.C.C. "C" Team (B. Kershaw, J. Dosher, and B. Bladder).

Southend and District A.C.

Some excellent speeds for a closed club event and ideal weather conditions favoured the Kilometre Speed Trials on October 9th. In the solo classes H. G. R. Stewart (3 A.B.C.) and N. A. Lowe (2½ Diamond-Jap) made the "star performances," as the results, on time, show:

CLASS I. (350 c.c.).—1, N. A. Lowe (2½ Diamond-Jap), silver medal (speed 45 m.p.h.).

CLASS II. (500 c.c.).—1, H. G. R. Stewart (3 A.B.C.), silver medal (speed 53.4 m.p.h.); 2, D. A. Bennet (3½ P. and M.), bronze medal.

CLASS III. (Unlimited).—1, H. G. R. Stewart (3 A.B.C.), silver medal (speed 51.4 m.p.h.); 2, Lt. Kenny (4 Triumph), bronze medal.

CLASS IV. (350 c.c., Sidecar).—1, N. A. Lowe (2½ Diamond-Jap sc.), silver medal (speed 36.15 m.p.h.).

CLASS V. (500 c.c., Sidecar).—1, N. A. Lowe (2¾ Diamond-Jap sc.), silver medal (speed 36.15 m.p.h.).

CLASS VII. (Unlimited).—1, Lt. Kenny (4 Triumph) (speed 51.2 m.p.h.); 2, H. G. R. Stewart (3 A.B.C.).

CLASS VIII. (1,100 c.c., Cycle Cars).—1, Austin Webb (4 A.S.C.) (speed 37.38 m.p.h.); 2, L. Taylor Morgan).

Special Prize of 6-gn. SILVER CUP for fastest time of day.—H. G. R. Stewart (3 A.B.C.).

2-gn. FLOWER VASE for fastest time of any three-wheeled cycle car.—A. W. Webb (4 A.S.C.).

SILVER MEDAL for best performance by a scooter.—E. Temple (A.B.C. Skootamota).

Week-end Club Events.

Oct. 23.—Sheffield and Hallamshire M.C.C. Bisby Trophy Trial.
Oct. 23.—Coventry and Warwickshire M.C. Speed Judging and Reliability Trial.
Oct. 23.—Dewsbury and District M.C.C. Reliability Trial.
Oct. 23.—North London M.C.C. Annual Dinner.
Oct. 23-24.—Public Schools M.C.C. 300 Miles Trial.
Oct. 24.—Lancaster, Morecambe, and District M.C.C. Reliability Trial.
Oct. 24.—Brighton and Hove M.C.C. Gymkhana.
Oct. 24.—Birmingham M.C.C. Captain's Day.
Oct. 24.—Reading and District M.C. and L.C.C. Club Run.
Oct. 24.—Stalybridge and District M.C. Social.
Oct. 24.—Eastbourne and District M.C.C. Consolation Event.
Oct. 24.—Manchester M.C. Closing Run.
Oct. 24.—Bedford and District M.C. and L.C.C. Closing Run.

Lancaster, Morecambe, and District M.C.C.

The Lancaster, Morecambe and District Club recently held a run to the notorious Park Rash (Kettlewell), and experienced a most enjoyable day. The weather was perfect, and although not as many members turned out as was expected, a fair amount of sport was witnessed on the hill. The surface was dry, and in better condition than it is wont to be. Good climbs were made by most of the competitors after their second or third attempts. R. F. Mansergh (3½ N.U.T.) succeeded in getting within inches of the top at his first attempt at the hill, and J. Whalley (3 A.B.C.) (solo machine) was successful in climbing the hill with a lady sitting on the carrier, after previously "conking out" at the first bend. Other good climbs were made by C. R. Wolfendale (6 Zenith) and G. H. Ducksbury (3½ Norton). Only one sidecar machine, an 8 h.p. Clyno, driven by R. C. Ducksbury, tackled the hill and eventually got up comfortably with the passenger on the carrier.

Coventry and Warwickshire M.C.

Three valuable trophies, which will be allocated on the basis that the highest value goes to the class receiving the largest entry, are offered in the closing run of this club. The event, taking place on October 23rd, and not October 16th, as previously arranged, will take the form of a speed-judging and reliability competition.

Luton and South Beds A.C.

Successful speed trials were held by the above club on October 9th at Putteridge Park, near Luton. The course was 350 yards in length with approximately fifty yards start and 300 yards finish. Over 100 entries were received, and the results with the respective figures of merit, which were worked out on the formula $\frac{C \times T^2}{W}$ are as follow:

CLASS 1 (275 c.c., Solo).—1, F. F. Biggs (2¼ New Hudson), 341; 2, L. Kell (2¼ New Hudson), 441; 3, S. Risden (2¼ Kingsbury), 486.

CLASS 2 (350 c.c., Solo).—1, F. F. Biggs (2¼ New Hudson), 334; 2, S. Risden (2½ Kingsbury), 350; 3, P. Child (2¾ Douglas), 374.

CLASS 3 (500 c.c., Solo).—1, T. Bourlet (3 A.B.C.), 306; 2, J. Hill (3½ Rudge-Multi), 320; 3, F. F. Biggs (2¼ New Hudson), 322.

CLASS 4 (750 c.c., Solo).—1, J. Saddington (5-6 James), 296; 2, G. Davison (2¼ Levis), 314; 3, J. Hill (3½ Rudge-Multi), 320.

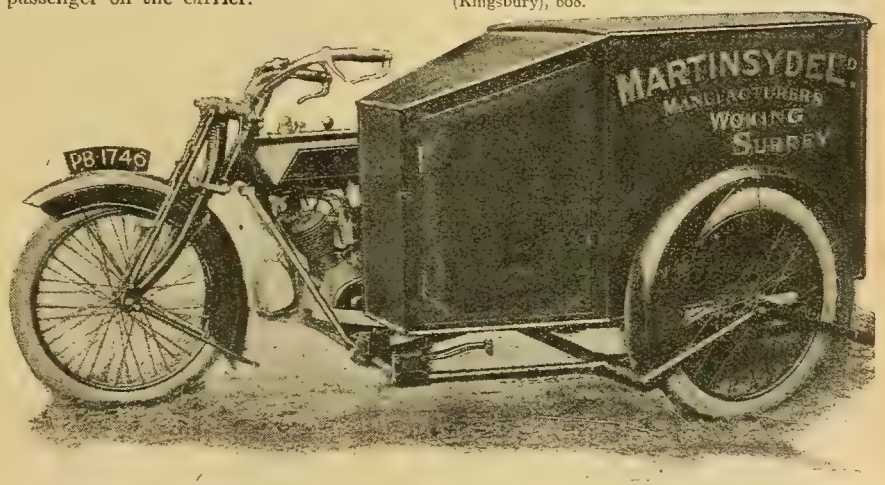
CLASS 5 (1,000 c.c., Solo).—1, J. Saddington (5-6 James), 260; 2, T. Bourlet (3 A.B.C.), 306; 3, G. Davison (2¼ Levis), 314.

CLASS 6 (500 c.c., Sidecar).—1, G. Davison (2¼ Levis sc.), 301; 2, J. Hill (3½ Rudge-Multi sc.), 340; 3, J. Simpson (3½ Ariel sc.), 342.

CLASS 7 (750 c.c., Sidecar).—1, G. Davison (2¼ Levis sc.), 286; 2, J. Simpson (3½ Ariel sc.), 292; 3, J. Hill (3½ Rudge-Multi sc.), 294.

CLASS 8 (1,000 c.c., Sidecar).—1, J. Simpson (3½ Ariel sc.), 282; 2, G. Davison (2¼ Levis sc.), 307; 3, H. Reyre (5-6 James sc.), 310.

CLASS 9 (Cycle Cars, 1,000 c.c.).—1, A. F. Nash (G.N.), 182; 2, P. Child (Morgan), 483; 3, S. Grigg (Kingsbury), 608.



The great potentialities in the sidecarrier field of business have been foreseen by Messrs. Martinsyde, Ltd., who have produced this soundly-constructed carrier. It is of ample dimensions, having a capacity of eighteen cubic feet.

CURRENT CHAT

Times to Light Lamps.

Oct.	21st	... ...	6.25 p.m.
,,	23rd	... ...	6.20 ,,
,,	25th	... ...	5.16 ,,
,,	27th	... ...	5.13 ,,

French Morgans.

The Morgan Runabout is now being made in France under licence.

A World's Tour by Petrol.

An American yachtsman is about to start on a cruise round the world in a 120ft. motor boat. His party includes a number of students who will study fish and animal life, and for whom several motor cycles will be carried in order to explore the interiors of the various countries visited.

The Use of a Formula.

With many varying machines and a limited entry, the average club hill-climb or speed event undoubtedly calls for the use of a formula in allocating a certain proportion of the premier awards. But when the entry permits a complete range of capacity classes, the larger and heavier machines do not get justice if lightweights are allowed to run against them solely on formula. Instead of, say, the classification "under 750 c.c." or "under 1,000 c.c.," the fairer limitations are "500 c.c. to 750 c.c." and "750 c.c. to 1,000 c.c." It is ancient knowledge that to equal the figure of merit of a 2½ h.p. machine which does 30 m.p.h. a big twin must often do nearly 80 m.p.h.!

Second-hand Prices.

The fact that any particular machine or model is omitted from this list must not be regarded as a reflection on the importance of that make: it is solely that a lack of sufficient machines on offer make it impossible to base useful figures. The prices below are the highest and most figures quoted last week in our [illegible] advertisement columns.

[illegible]

Petrol Prices.

The deputation to the Mayor of Coventry concerning petrol prices, organised by the local branch of the A.A., appears likely to bear fruit. The Mayor brought the matter before the council, who decided that copies of the resolution be sent to all other councils requesting their support. Last week the Coventry Chamber of Commerce adopted a resolution couched in similar terms, which is being sent to all chambers of commerce throughout the country for endorsement.

It is only by energetic and persevering effort on the part of everyone affected that the Government will be brought to realise the vital importance of the necessity for a fuel produced within the Empire.

IN PICTURESQUE ROTTSENTHURM.

The owner of this Junior Triumph is a Swiss motor cycle enthusiast, who has covered 20,000 miles on his mount over all kinds of roads, and there are many varieties in Switzerland, as may well be imagined. His enthusiasm is a tribute to the makers of his machine.

Special Features.

A SPORTING TRIAL.

TRIALS FOR MAN OR MACHINE—WHICH STAMPED STEEL FRAMES.

Putting the Clocks Back.

Unless extended by a further Order in Council "summer time" reverts to normal after midnight, October 24th.

Racing in Holland.

A Royal Ruby, an A.B.C., a Harley-Davidson Sports, and a 7-9 h.p. Harley respectively, gained first places in the 350 c.c., 500 c.c., 750 c.c., and 1,000 c.c. amateur classes in recent sprint races at The Hague. At the same meeting Flinterman, on an Indian, won the 5,000 metre handicap for trade riders; while Brinkof (7-9 h.p. Excelsior) won the scratch race.

An Open Trial in Kent.

The last open event of the year will take place on November 6th, when the Woolwich, Plumstead, and District M.C. will hold its one day trial for the Matchless Cup. The course, which starts at Orpington, Kent, will be a secret one of about 100 miles, to be covered non-stop; and although the precipitous mountain tracks of some recent Midland trials may not be available, a strict marking system and late autumn weather conditions alone should make things sufficiently strenuous for most. Entries close on October 30th.

How . . . ?

"The running time for the journey will be *at the rate of twenty miles per hour*. A competitor *exceeding the speed allowed by law*, whether in villages or in open country, will render himself liable to disqualification. Drivers must *proceed cautiously through towns and villages*, and show consideration to other users of the road. . .". That is Rule 7 of a forthcoming trial. The italics are ours. We repeat—How . . . ?

Worse.

Apropos the above, which is, after all, but a detail error in drafting the rules, and is not very wrong in principle, a trial, which shall be nameless, takes place this week-end, in which the average speed for one section of approximately eighty miles is 24½ m.p.h. Add to this the fact that the event is on a Sunday, and we get a fair reason why competitions tend to become unpopular alike with the police and the public.

A Matchless Cycle Car.

It is not impossible that one of the 1921 Matchless models will be a cycle car.

A Retirement.

Mr. C. A. Hyde, managing director of B.S.A. Cycles, Limited, having decided to retire from the services of the Birmingham Small Arms Co., Ltd., has tendered his resignation to the Board, by whom it has been regretfully accepted.

The Coal Strike.

The coal strike and threatened curtailment of railway service caused an increase in the demand for petrol last week. Later on restrictions may be placed on petrol for private use, but probably everyone who has need of his machine will be able to obtain supplies. During a crisis of this character very few motor cyclists will want to use their machines needlessly.

Harley-Davidsons at Brooklands.

No doubt owing to the fact that in America, big twin racing engines of over 1,000 c.c. are fairly common, a rumour gained birth that the 7-9 Harley-Davidson that has recently been so successful in sidecar events at Brooklands was also oversize. The identical machine, however, went for the five and ten miles records in the later 1,000 c.c. sidecar championship, incidentally smashing both, and as is usual in such cases the engine was officially measured. This examination disclosed the fact that the engine was slightly undersize—and this after 9,000 miles on the road.

Clovelly High Street Climbed.

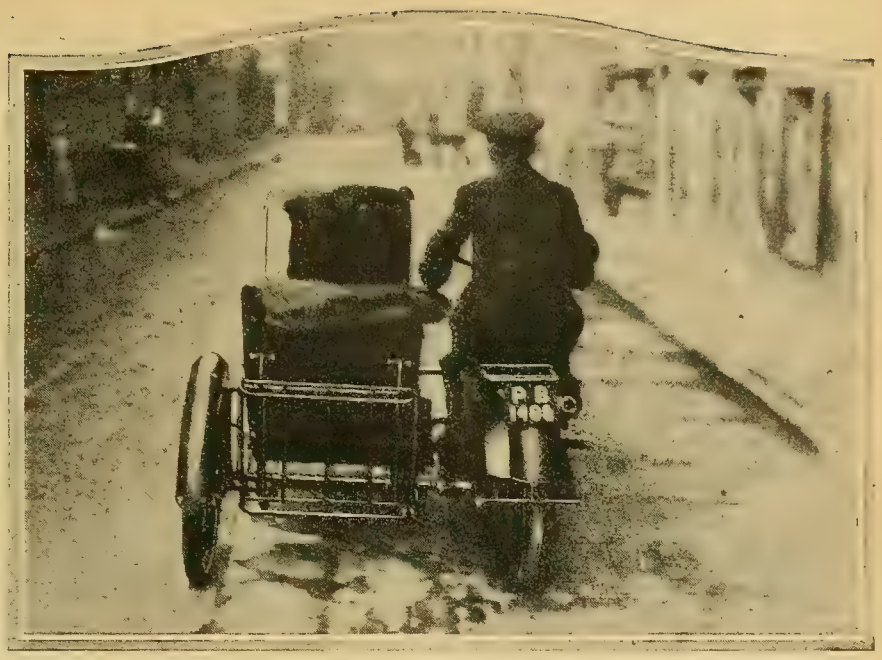
In pre-war days W. H. Carson was well-known on account of his successful attacks on freak hills. He has now recommenced his hobby by climbing Clovelly High Street on an Excelsior sidecar, on Friday of last week. This street, as most readers are aware, is practically a series of terraces or steps, which are paved with kidney stones. The steps number forty-six, and vary in height from 3in. to 7in. Both the approach and the end portion of the "street" are steep in gradient and difficult to negotiate. R. E. Walker also climbed the street non-stop on a 2½ h.p. two-stroke model of the same make.

A Number Plate Suggestion.

When taxes are increased next year, there will naturally be greater reluctance on the part of motorists to pay the annual tax promptly. If such is the case, we may witness and be inconvenienced as during the present year by hold-ups by the police. Mr. W. H. Wells, of

A number plate suggested by Mr. W. H. Wells

Indian motor cycle fame, suggests that the authorities adopt the principle in vogue in America by issuing number plates themselves which would bear the name of the county instead of index letters, and the year of currency. The illustration on this page shows the form these number plates would take.



THE COAL STRIKE.

A careful householder making sure of the household supply of coal with the aid of his sidecar.

An Echo of the West Midland Trial.

It will be recalled that several competitors in the recent West Midland trial missed one of the special tests through the removal of arrows by mischievous boys. We have before us correspondence relating to this matter from Mr. J. A. Newman and the organising secretary, but the matter is not of general interest. It was, of course, distinctly unfortunate for competitors to lose marks on this account, but as the organising committee has made its decision, no good purpose can be served by ventilating the discussion in our columns.

The Wiles of the Motor Cycle Thief.

A prospective buyer of a 4 h.p. Douglas after a trial run on the carrier expressed a desire to try the clutch, and, in the words of our correspondent (Mr. A. E. Barrett, 205, Elmhurst Mansions, Edgebury Road, Clapham), "he did try the clutch, and that was the last I ever saw of my machine." This ingenious gentleman is described as between thirty and thirty-four years, fair-haired, and possessing a round, puffy, clean-shaven face. Sellers beware!

B.M.C.R.C. Annual Dinner.

The club banqueting season once more draws near, and the British Motor Cycle Racing Club, to the fore as usual, is among the earliest to announce its annual dinner. This will be held at the Holborn Restaurant on Wednesday, December 1st, during the Motor Cycle Show week. The dinner will be confined to male members of the club, and after the repast the prizes won at Brooklands during the 1920 season will be presented. An excellent musical programme has been arranged. Early application for tickets is requested, the arrangements being in the care of Mr. F. W. Barnes, Zenith Motor, Ltd., Hampton Court, and Mr. W. Pratt, the Nook, 113, Rectory Lane, Tooting, S.W.

The New Taxation.

Even some people who should be better informed appear to labour under false impressions regarding the taxes for 1921. Weight, *not* h.p., is the basis; machines up to 200 lb. are to be taxed 30s., over 200 lb. 60s.; sidecar attachments, 20s. The idea that the owner of a 7-9 h.p. outfit will pay £7 or £8 is quite erroneous; £4 is the maximum.

Satisfactory Trading.

The balance sheet of the Enfield Cycle Co., Ltd., shows a total credit balance of £81,677 14s. 11d., of which sum a dividend of 7% has been paid on A preference shares for the half-year ended 28th February, 1920. The directors now recommend a further dividend of 7% on these shares for the half-year ended 31st August, 1920, and a dividend of 15% (free of income tax) on both B preference and ordinary shares for the period ended 31st August, 1920. £45,604 1s. 8d. is carried forward.

Numbered Roads.

The Ministry of Transport scheme for numbering and classifying roads throughout Great Britain is nearly completed, and will be put into operation early next year. It is estimated that there are, roughly, 1,000 first-class or main roads and 1,000 second-class roads, and each will bear a distinctive number on signposts throughout its length. The London-Edinburgh road will be No. 1.

The scheme is quite an extensive one. All the old signposts now on the roads will become obsolete and be taken down and replaced by the new numbered posts, which will also show the district in which they are situated and the distance to the nearest town.

Second-class roads will bear signs of different colour from first-class.

At the entrance to every village, on all main roads, a large sign will be erected giving the name of the village.

C7

Detail Improvements in the 1921 Matchless.

Larger Hubs and Smoother-running Engine.

NO startling improvements will be found in the popular Matchless sidecar outfit for 1921, but several small details have undergone alteration and improvement, and the largely extended Matchless works are now in a position to turn out quite a good number of machines per week. Not only have Messrs. H. Collier and Sons, Ltd., 44, Plumstead Road, London, S.E.18, produced their new model, but they are in the position to supply it immediately.

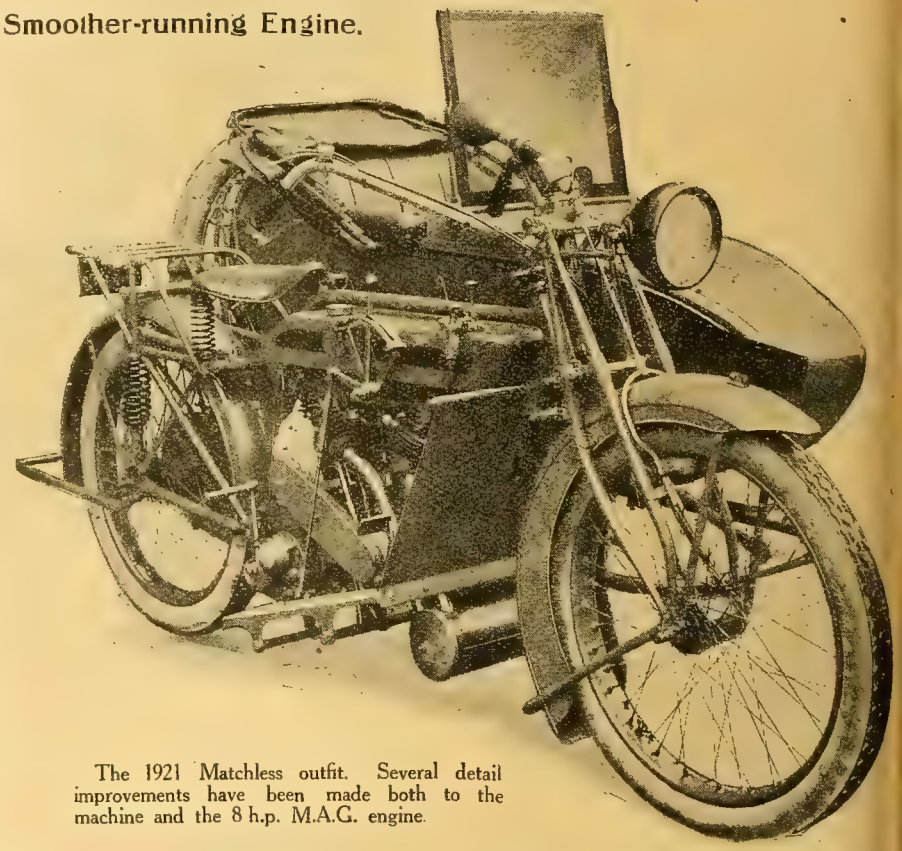
The chief 1921 innovations consist of larger hubs and wheel bearings allowing ⅜in. balls to be used. The lower front fork links have now been lengthened, and this increases the rake, improves the steering, and also enhances the efficiency of the fork. The sidecar is now fitted with a wider glass screen, affording better protection for the passenger, while the shape of the body has been slightly altered, so as to allow more clearance for the sidecar axle. As an extra, a band brake will be fitted to the front wheel if desired.

M.A.G. Engines now Standard.

All Matchless sidecar outfits are fitted with the latest model M.A.G. engine, which has undergone some improvement since the last Show. The three cams actuating the valves have been altered so as to give an increased lift to the valves, thereby improving the power of the engine. Yet another important improvement is the fact that the balance of the engine has been very much altered for the better, and the slight "period" has been removed from the neighbourhood of thirty miles an hour to a much higher speed.

Throughout the machine steel stampings are being used for the lugs in lieu of malleable castings, and everything which is humanly possible has been done to obtain highest possible efficiency in manufacture.

Bearing in mind the high quality of the Matchless, no change of price may be anticipated in the near future.



The 1921 Matchless outfit. Several detail improvements have been made both to the machine and the 8 h.p. M.A.G. engine.

While going round the excellently equipped and beautifully organised erecting shop, we saw a Matchless sidecar outfit fitted with box body, which is being supplied to Messrs. D. Napier and Sons, Ltd., for their road service.

The M.C. and A.C. Welsh Trial.

THE sporting open trial organised jointly by the Midland Cycle and Athletic Club and the South Birmingham M.C.C., which was dealt with fully in last week's issue, brought forth a great deal of comment in the Midlands owing to its severity. We refer to it, as an example of the present-day reliability trial, in the article "Trials for Man or Machine" on pages 460-462 of this issue, and give some of the rules and regulations as regards penalties.

We have now received the official results, together with a statement from the Committee to the effect that, owing to the weather conditions, it was decided to make a concession so that no competitor has been penalised for "touching" or "just hanging," only palpable failures counting against them.

Despite the fact that one rider—C. P. Wood (3½ Scott), did actually complete the course without loss of marks on the original rules, this is quite a fair way to deal with the matter, as the course was planned for a June trial when it might confidently be expected that conditions would be different from those prevailing in October. It may be recalled that the trial was postponed owing to a clashing of dates. By this "washing out" of the penalties for "touching" on hills, the very sporting event has been brought into the category of the true Reliability Trial.

Only those who traversed the course can fully appreciate the very fine performances put up by competitors who secured awards, and, knowing the conditions, we heartily congratulate all riders and the makers of their machines.

The Trophy Winners.

M.C. AND A.C. TROPHY (presented by Mr. C. F. Dawes) for best performance of the day, irrespective of class.—C. P. Wood (3½ Scott), lost no marks.

TRADER TROPHY (presented by the proprietors of the "Motor Cycle and Cycle Trader") for the best performance by any solo machine over 350 c.c.—C. P. Wood (3½ Scott), lost no marks.

B.N. BOWL (presented by the proprietors of "Bicycling News") for the best performance by any lightweight machine of 350 c.c. or under.—Neville Hall (2¾ O.K.-Junior), lost 10 marks.

GOUGH TROPHY (presented by Gough and Co.) for the best performance by any machine of 275 c.c. or under.—E. F. Goodman (2¼ Velocette), lost 10 marks.

PALMER TROPHY (presented by Palmer Tyres, Ltd.) for the best performance by any single-cylinder sidecar.—W. T. Woodcock (3¼ Ariel), lost 21 marks.

JORDISON TROPHY (presented by Mr. A. A. Jordison) for the best performance by any twin-cylinder passenger machine.—B. Bladder (8 New Imperial), lost 26 marks.

CLUB PRIZE, for best performance by a member of the M.C. and A.C.—A. E. Rollason (3¼ Ariel).

CLUB PRIZE, for best performance by a member of the South Birmingham M.C. Club.—J. F. Blumfield (6 Ariel).

CLUB PRIZE, for best performance by private owner.—H. J. Willis (3½ Ariel).

Medals.

LIGHTWEIGHT CLASS (275 c.c. or under).—Gold medal: E. F. Goodman (2¼ Velocette), lost 10 marks; silver medal, J. F. Lidstone (2¼ James), lost 20 marks.

SOLO MACHINES (350 c.c. or under).—Gold medal: Neville Hall (2¾ O.K.-Junior), lost 10 marks; silver medals: P. Pike (2¾ O.K.-Junior), lost 15 marks; J. W. Wills (2¾ Verus), lost 15 marks; B. Kershaw (2¾ Verus), lost 20 marks; L. A. Bees (2¾ Armis), lost 20 marks.

SOLO MACHINES (over 350 c.c.).—Gold medal: C. P. Wood (3½ Scott), no losses; silver medals: H. Langman (3½ Scott), lost 5 marks; A. E. Rollason (3¼ Ariel), lost 5 marks; W. Brandish, Junr. (4¼ Humber), lost 5 marks; L. L. Sealey (4½ B.S.A.), lost 7 marks; F. A. Longman (3¼ Ariel), lost 8 marks; T. W. Blumfield (6 Ariel), lost 10 marks; H. J. Willis (3¼ Norton), lost 10 marks; H. Hassall (3¼ Norton), lost 10 marks; L. Crisp (4½ Humber), lost 10 marks.

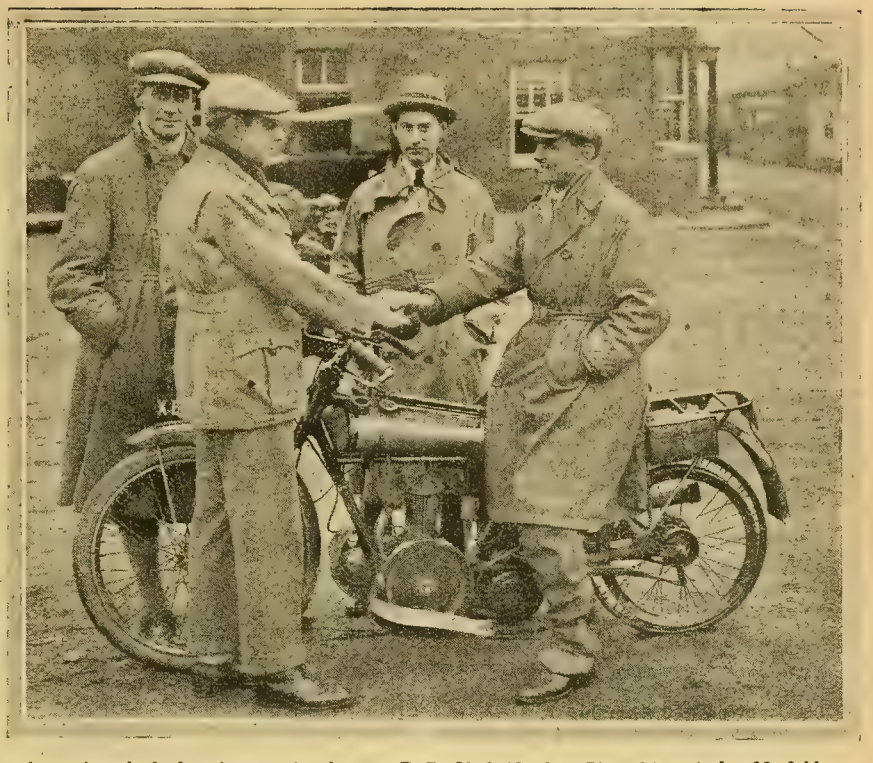
PASSENGER MACHINES.—Gold medal: W. T. Woodcock (3¼ Ariel), lost 21 marks; silver medal: B. Bladder (8 New Imperial), lost 26 marks.

Testing a Spring Frame.

Twenty-five Miles without a Tyre on the Rear Wheel.

IN order to test the Coulson spring frame, the makers of the 2¾ h.p. Coulson B motor cycle produced two of their machines at Golders Green during the week-end, one of which had no tyre on the rear rim, while the other had its tyres filled with Rubberine tyre filling. Before starting Dr. Low tested the spring frame with his bouncemeter, and proclaimed the results to be good. Both machines then proceeded to Hatfield, Rex Mundy riding the Coulson with Rubberine filling in the tyres, and R. B. Clark riding the other mount on the bare rim. The latter arrived at its destination in fine condition, without a spoke loose or a dent visible anywhere.

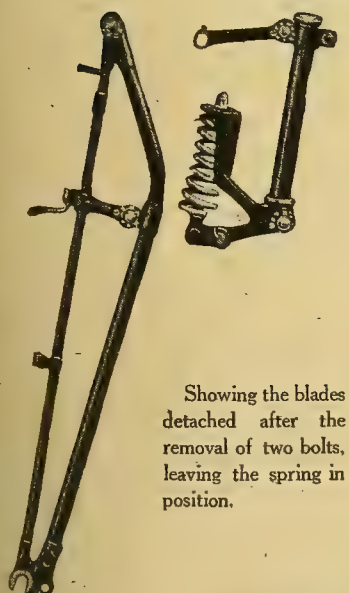
We tried a short run on Mundy's machine, and certainly with the spring frame it was difficult to notice any appreciable difference from riding upon air-filled tyres. Such tests, however, are not of much value unless of a prolonged nature under official observation, so we were not surprised to learn that Rex Mundy is shortly to take a 2¾ h.p. Coulson B with sidecar from London to Edinburgh without stopping the engine, and at the same time testing Rubberine in the tyres, under the official observation of the Auto Cycle Union.



A novel method of testing a spring frame. R. B. Clark (Coulson B) on his arrival at Hatfield, having ridden from Golders Green minus the back tyre.

A Simple Spring Fork.

Detachable Blades and no External Side Plates.

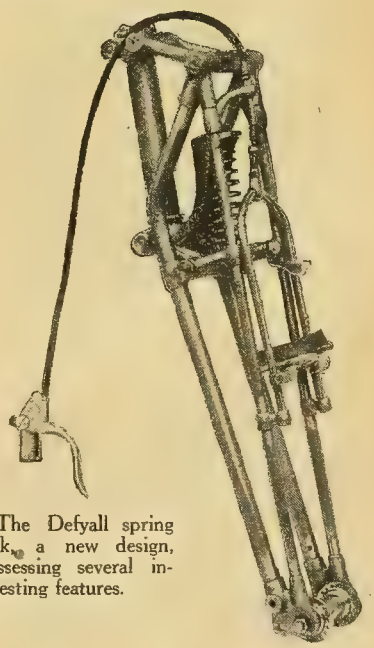


Showing the blades detached after the removal of two bolts, leaving the spring in position.

DURING the past few months a great deal of attention has been paid to the subject of front springing, as is instanced by the number of new spring forks which have appeared. The latest example which we have had the opportunity of examining is known as the "Defyall." This fork is manufactured in three sizes, for heavyweights, middleweights, and lightweights. It is neatly constructed, and has several rather unusual features. To begin with, the single centrally mounted spring is compressed between two links which move in opposite directions. The spring ends are fixed by studs attached to the ends of the coil with the nuts carried externally. Thus the nuts are easy of access, and can be examined at any time for looseness. In the unlikely event of a spring breakage there is but little danger of an accident, since the broken coil will simply close up, and finally the brackets will meet. A simple adjustment is provided to take up side play, and the bolts which are fixed in the blades work in very long bearings duly provided with oil grooves.

Easily Dismantled.

In addition to these advantages the blades can be entirely removed without disturbing the spring by merely detaching two bolts. Brake lugs are formed integral with the forks and stand, and mudguard fittings are also supplied. The fork is stoutly constructed and has a pleasing appearance, the detail work being well carried out. An unusual refinement is incorporated in the bearing bolts, as a special method for locking the nuts is provided, by means of which an adjustment of 1-300th of an inch can be made in order to take up any lateral play. Communications should be addressed to 14, New Street Birmingham.



The Defyall spring fork, a new design, possessing several interesting features.

C9

A Two-speed Gear for Lightweights.

Well-known Firm of Motor Car Gear Specialists producing for the Motor Cycle Market.

IT is with special interest that we are able to announce the entry of the Moss Gear Co., Ltd., the well-known gear specialists of Thomas St., Aston, Birmingham, into the motor cycle world.

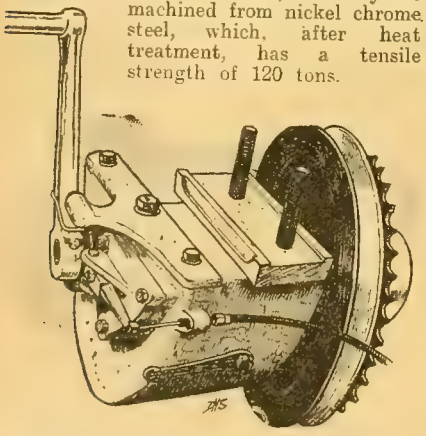
Naturally, they are specialising on a gear unit, a component which they are in an admirable position to produce. The gear is a lightweight two-speed box, with clutch and kick starter, suitable for use with single-cylinder engines up to 2¾ h.p. or multi-cylinder engines of 4 h.p., and it is capable of transmitting the drive of a 3 h.p. sidecar outfit.

In the designing of a two-speed countershaft gear it is extremely difficult to depart from an orthodox layout, and the makers in this case have not in any way endeavoured to seek departures from standard practice in the mere effort to be unconventional.

Orthodox Practice Followed.

In general appearance the Moss gear box follows closely the lines which have been made familiar by various proprietary gear boxes of similar specification.

The gears themselves are carried in a one-piece aluminium casting, all the parts being inserted for assembly through the main bearing housing behind the pulley, while the kick starter mechanism is introduced through a detachable cover plate on the top of an integrally cast extension on the right-hand side. The gears are in constant mesh, and they are machined from nickel chrome steel, which, after heat treatment, has a tensile strength of 120 tons.



The Moss gear box for lightweight machines; the simple kick-starter arrester and clutch operation are clearly shown.

The gear teeth are of the stub form, a type in which the Moss Gear Co. specialise. This form of tooth gives great strength, and is silent in action. The gears are engaged by a double dog clutch on splines formed upon the case-hardened mainshaft. In this connection it is interesting to note that the bore of the clutch dog, and indeed all other splined or spiral bores in the moving parts, is bonded; the machining process gives very accurate results, and permits absolute interchangeability of all parts so produced. The free end movement of the double dog, for example, is not allied with any shake or backlash,

As can be seen, the Moss gear can be easily fitted without alteration to standard frames. A convenient operating lever is mounted beside the tank.

a result due entirely to the use of this method.

The clutch is of very simple construction, and is mounted upon the end of the mainshaft in the ordinary manner, and the drive from the engine is transmitted to the 40T half-inch pitch chain wheel which runs upon a single-row ball bearing; the outer clutch plate is pressed up against the cork inserts carried in the chain wheel through the medium of a large diameter coil spring of rectangular section.

Perhaps the greatest departure from accepted practice is to be observed in the kick starter parts. The starting apparatus consists of two wheels in constant mesh, one of these being rigidly fixed on a squared extension of the mainshaft; the other, which has internally-cut ratchet teeth, runs upon an enlarged portion of the pedal spindle. This enlarged portion is pierced diametrically by a squared hole in which slides a spring-loaded plunger of high tensile steel. When the pedal is returned by its spring to the inoperative position, the plunger strikes against a cam which forms part of the spindle bush, and is, in consequence, depressed, so that its end does not project above the outside of the spindle. When the starting pedal is rotated, however, the plunger is free to move outwardly under the agency of its spring, and the specially shaped end engages with the ratchet teeth of the starting pinion.

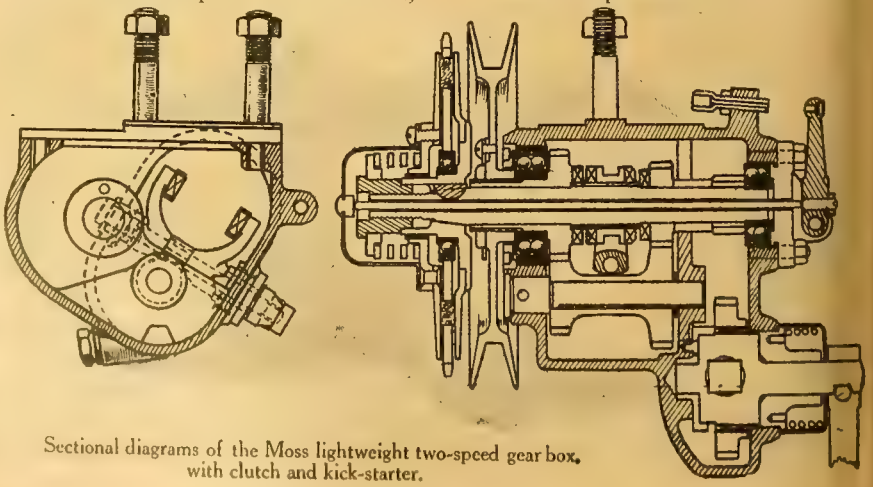
In all respects the Moss gear box conforms to standard practice in the matter of frame attachments, chain and belt lines, and standard gear box brackets may be used to support it.

As may be expected in a product coming from a firm with so much experience in the manufacture of high-class gears for motor cars, no attempt has been made to produce an ultra-cheap unit. Rather, the effort has been to manufacture a gear box embodying the best that is possible alike in design, workmanship, and material.

Visible Control.

A word must be added with regard to the gear change mechanism. The designers have arrived at the conclusion that it is preferable to have the gear change of such construction that the position of the gear lever shall be readily seen, and in consequence a control lever is mounted alongside the tank.

The gear change is remarkably easy, and on a test machine which we tried we were able to change gear from high to low and back again repeatedly without using either clutch or exhaust lifter, even while the engine was pulling under considerable load. Such a result is indeed excellent, as it follows that if the box will stand such treatment it is hardly likely that it will suffer in the hands of the most inexperienced novice.



Sectional diagrams of the Moss lightweight two-speed gear box, with clutch and kick-starter.

A PASSENGER MACHINE FOR £1.

MY reminiscences have moved Mr. H. Wilson, of West Bromwich, to send us the accompanying photograph of an old Bollée three-wheeler, which he purchased for a sovereign last summer, and drove in the West Bromwich peace pageant, winning a prize of £5 for the turnout. It is rigged up as a skit upon a local 'bus service which is not renowned for speed or reliability. The machine has not been put into daily use, as it suffers from various defects of construction and design, but it behaved nobly in the pageant, and the fact that it shed its exhaust pipe on the great day only added to the fun. There is no accommodation for the feet of the two passengers occupying the front seats, and they are apparently intended to place their boots in the driver's lap. Braking is primitive; the belt pulley is slid forward into contact with a fixed brake block, whilst the second brake is a spoon digging into the tyre in the direction of rotation. The joy-stick must be operated with restraint, or it may throw the passengers out. The flywheel must be removed in order to adjust the contact breaker. The exhaust valve rocker measures 2ft. 6in. long. The vibration is so terrific that rusty nuts, which had defied the application of a blowlamp, literally flew off when once the engine was started up.

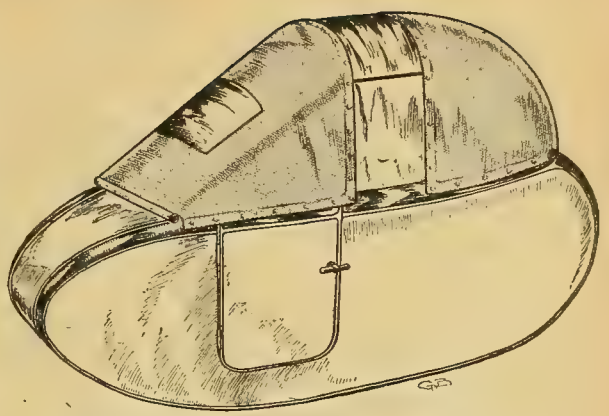
Hardly a "No-trouble Mount."

In the peace procession the control of the machine kept Mr. Wilson's hands well occupied. The throttle rod snapped, so the driver jammed the throttle open, and began to control the machine on the ignition switch. This led to severe pre-ignition, after which the inlet valve was used, as its stem protruded accessibly. After two miles, rust inside the petrol tank caused carburetter starvation, and thence to the finish one of the passengers kept on priming the engine by squirting petrol into the inlet valve—an exciting job. Skidding defies description, and Mr. Wilson has not yet dared to change up on to high gear, as the steering is geared so low that he cannot turn the handle fast enough to correct the gyrations. Towards the end of the procession the main bearing cap fell off one end of the crankshaft, which is suspended from the side members of the frame, and the shaft kept bumping against the chassis, but did not object to this rough treatment.

Mr. Wilson, whose address is 39, Bull Street, West Bromwich, would be interested to hear the date of manufacture, original list price, and whether any engineering museum would care to house his tandem.

It certainly has earned an honourable resting place for the remainder of its days.

IXION.



The latest Easting screen patent which will interest, among others, sidecar passengers who intend to participate in the London-Exeter run.

TO CONVERT SIDECARS INTO COUPES.

MR. C. A. EASTING'S name is now a household word among sidecar owners and passengers, therefore any forecast of future activities as revealed by the patent files is of interest to all who study the question of sidecar comfort.

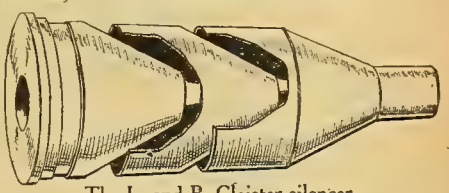
The combined hood and screen illustrated is the subject of a patent filed twelve months or more ago that has only recently been completed, otherwise one would be justified in thinking that Mr. Easting and his co-designer, Mr. P. Pridmore-Hill, had been inspired by road faring experiences this summer.

As will be seen from the illustration, the new device consists chiefly of an ordinary Easting windscreen, placed vertically and having a small window in the apron. Extending from the rear edge of the screen there is a hood which completely encloses the passenger, thus turning an open body into a coupé.

A SILENCER TO MINIMISE BACK PRESSURE.

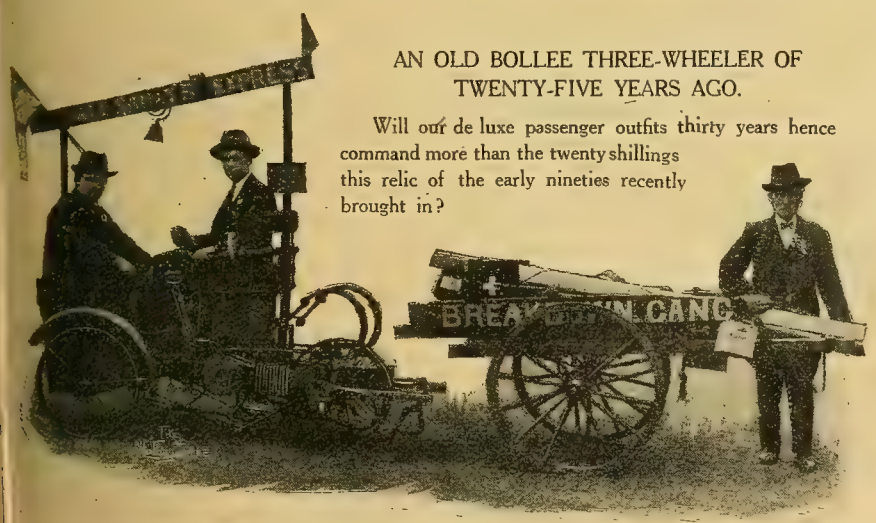
THE numerous attempts that have been made from time to time to design a silencer which will effectively reduce the noise of the exhaust gases, and at the same time permit their unobstructed exit without causing back pressure have, as a general rule, proved unsuccessful.

A novel type of silencer which has been marketed by Messrs. Walker and Gordon, Ltd., 12-13, Henrietta Street, Strand, London, W.C.2, has introduced the principle of the megaphone, but, of course, in this instance its action has been reversed. A number of cones are placed at equidistant points inside the cylindrical case. The gases pass through the base or wide diameter ends of the cones, and pass out of a hole, slightly smaller in diameter than the exhaust pipe, cut in the apex of the cones. The reduction in diameter of the small holes is one-sixteenth of an inch less than that of the exhaust pipe, and has been found to restrict the noise sufficiently.



The L. and B. Cloister silencer.

It is maintained that back pressure is very low with this silencer: but even an open exhaust pipe is not entirely free from this defect.



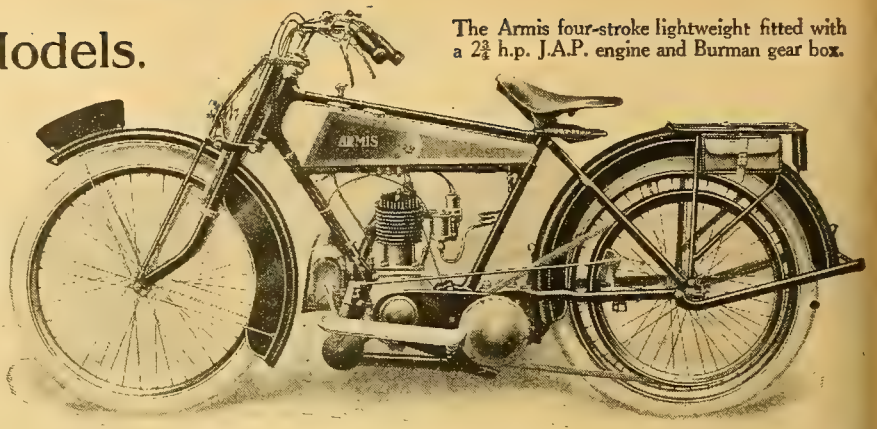
AN OLD BOLLEE THREE-WHEELER OF TWENTY-FIVE YEARS AGO.

Will our de luxe passenger outfits thirty years hence command more than the twenty shillings this relic of the early nineties recently brought in?

A new model of the Ideal pillion seat, which has a combined air and spring cushion. It is made by the Coventry Ideal Pillion Seat Co., of St. Michael's Road, Stoke, Coventry, and costs £2.

New Armis Models.

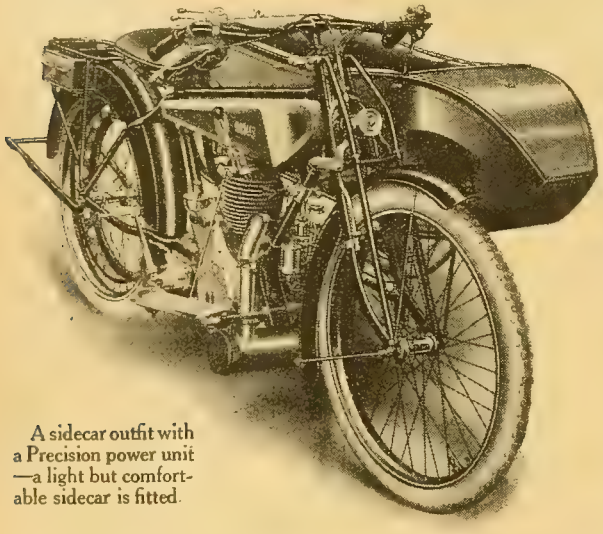
A Lightweight Sidecar Outfit and a Solo Mount.



The Armis four-stroke lightweight fitted with a 2¾ h.p. J.A.P. engine and Burman gear box.

AMONG the several new makes introduced since the revival of the motor cycle industry after the war, the Armis, made by the Armis Cycle Manufacturing Co., of Heneage Street, Birmingham, is not the least known. It entered the market unostentatiously and with a modest output, which has gradually increased so that this year quite a creditable number are on the roads and giving satisfaction.

The first model introduced was a neat solo machine with a Precision 350 c.c. two-stroke engine, sloping top tube frame, 26×2¼in. tyres, Burman two-speed gear box with clutch and kick-starter, Saxon forks and usual first class equipment sells at £85.



A sidecar outfit with a Precision power unit—a light but comfortable sidecar is fitted.

Two more models have now been introduced, and a third, of 5 h.p., will follow by the time the Show opens. The first of these is a runabout sidecar outfit consisting of the Precision-engined machine and a light but exceedingly neat sidecar of the type known as "semi-sporting," but which is quite comcomfortable, has a side door and a convenient rear locker. The price of the complete outfit is £115.

Probably next year quite a large number of machines of this type will be in use as sidecar machines, as they fill all the requirements of many who are content with a moderate speed, and do not require a machine for heavy loads.

Second in the range is a J.A.P.-engined machine on the lines of the two-stroke, and also fitted with a Burman gear box and equipment as mentioned above. It makes an attractive little mount, which should appeal to those who require a handy solo machine and prefer the four-stroke engine. Like the two-stroke, it is a comfortable machine to ride, being well balanced and affording a low riding position.

A Dual-purpose Mount.

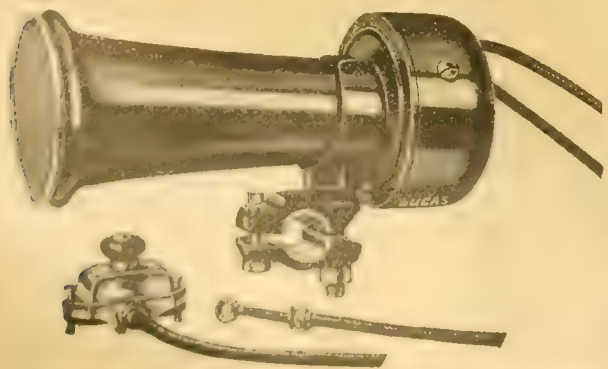
Of the third model, we are not at liberty to say much at the present time, but it will be of a type which next year will be popular for both solo and sidecar use, being eminently suitable for both purposes.

From what we know of the experimental machine it seems to strike a new note in external design.

A LUCAS ELECTRIC HORN.

An Additional Fitting to Complete the Magdyno Outfit for 1921.

DURING this year the Lucas Magdyno, which combines the high-tension magneto and a six volt dynamo in one machine, has given every satisfaction in the hands of both competition riders and those private individuals who have been fortunate enough to possess the equipment.



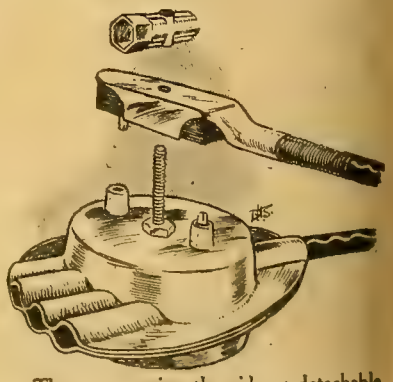
A new electric horn for use either with the Lucas Magdyno outfit or with a separate six-volt battery.

Indeed, so successful has been the results of continued usage that no alterations are meditated for next year's production, which will be on a larger scale than heretofore. The only item needed to make the set complete in the past has been a suitable electric horn, and this omission has now been rectified—an excellent warning signal of the usual Lucas quality and appearance now being available. Provision for the horn connections are provided on the usual junction box, and a very neat handle-bar switch.

The mechanism of the horn is strong and substantial, and is readily accessible for adjustment of the contact screws should this become necessary. A large condenser, however, connected across the contacts should eliminate any undue sparking and wear while the horn is in operation.

A little refinement has been added to the detachable plug of the junction box, which is arranged for conveniently separating the wiring when detaching the sidecar. In the 1920 models the plug was secured by a finger nut, but this will be replaced by a special form of nut which embodies a hexagon box key fitting the terminal nuts inside the junction box itself.

A fully illustrated description of the Magdyno appeared in the issue of *The Motor Cycle* dated October 30th, 1919, when the internal construction was explained.



The nut securing the sidecar detachable plug forms a box-key for the terminal nuts in the junction box of the Magdyno wiring system.

A Sporting One-day Trial on Surrey Hills.

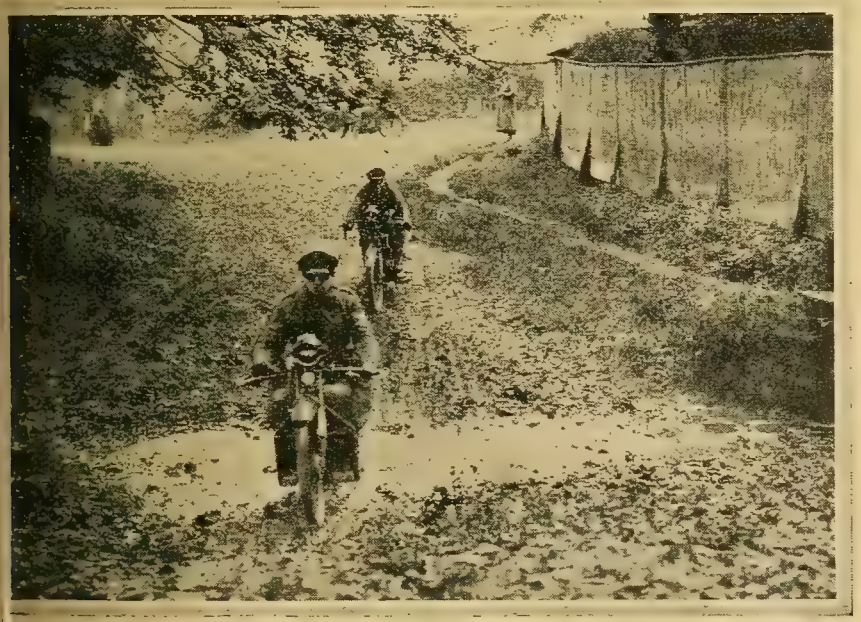
Knock-out Trial for Members of the Motor Cycling Club.

PEOPLE have often expressed their opinion that the Motor Cycling Club's trials have been too easy in the past, and not without reason.

Saturday's course, however, was by no means an easy one; sporting it certainly was, but there were few sections indeed where the going was good, while the condition of the roads added to the difficulties. Had the surfaces been dry, there would probably have been a fair percentage of gold medals, but they were very much the reverse. Starting at Purley Corner, Mr. F. T. Bidlake was, as usual, the timekeeper; and at 10.1 a.m. he walked down the line of eighty-one entrants, sending off each man one minute after his predecessor. The marshalling was ably carried out by Messrs. W. H. Wells, W. Cooper, and W. Albert. The men who chiefly mapped out the course were Vivian Olsson, who started first on a 7 h.p. Indian, and Ernest Bridgman, who was responsible for the arrowing. So intricate and difficult was the course that any failure in the direction signs would have led to appalling confusion, and the whole success of the trial depended on the efficiency of the marking. However, the arrowing was excellent, and there were also blue powder marks on the road, so that no one could go astray. Olsson started with assistance, while the two Bashalls, mounting Martinsyde twins, glided silently away on their clutches. F. Applebee, senr., was there riding a Levis fitted with his famous T.T. engine. The last man to leave was Rex Mundy on a Coulson B (No. 81), who did not figure in the programme owing to the late arrival of his entry. There was one very interesting machine at the start—a 2¾ h.p. flat twin Levis, fitted with two C.A.V. magnetos driven by a single chain, a Burman two-speed gear box, and very efficient mudguards.

A "road" chosen by the M.C.C. for their sporting one-day trial last Saturday.

After a short spin down the main Eastbourne road, the course turned left and ascended by a long easy rise to the back of Upper Warlingham. Then through leafy lanes with overhanging trees to Cudham Church Hill, up Salt Box Hill, then over what was described as a piece of real Colonial road known as Sunningdale Avenue. Among the unfortunates at this point were Love (Douglas), Longman (Wooler), Clennell (Blackburne), and Spikins (Harley-Davidson), who ran off the course, while Cowlin (P. and M.) fell. Watson (Harley-Davidson) came up too fast and failed. Other failures were Driscoll (Indian) and Huggins (Zenith).



At the foot of Chalk Pit Hill competitors had to negotiate this watersplash. Only three entrants claimed non-stops throughout this section.

Appalling Surfaces.

But all this was child's play compared with what was to come. The *pièce de résistance* of the morning, if not of the whole day, was Chalk Pit Hill, the old coach road which runs parallel with Pitsey Hill proper. It was approached by a water splash, which in itself was not terrifying, then came grease and then more grease, deep, sticky and skidsome. This at the bottom; but from the summit downwards things were not quite so bad. First there was a gradient of about 1 in 5 on a fair surface, then many leaves which hid deep ruts, then more ruts, and finally the conditions just described. Olsson arrived wrestling with his big Indian. The appalling surface and the absence of a handle-bar clutch control were his undoing. Near him was Morgan on a Harley-Davidson, then Spikins on a similar machine was also in trouble. It was clearly a hill on which the heavier mounts were at disadvantage. Some of the lightweights put up a good deal better performances than their heavier brethren, but clean ascents were few and far between. As they passed us the two Martinsydes, ridden by the brothers Bashall, were travelling well and were most skilfully ridden, but the riders had their feet on the ground, as also had everyone else on that treacherous surface, on which it was difficult enough even to stand. Most of the riders skidded from one rut into another, or at times right across the road.

Below this point where the gradient really began, there came a sharp corner with a surface of semi-fluid slime. Pluckily the competitors tackled this

A Sporting One-day Trial on Surrey Hills.—sector and nearly all skidded into one particular spot on the near side of the road. At this stage, when the observers' reports have not all been handed in, it is impossible to say definitely who made clean ascents, but so far as can be ascertained at present Ammon (Metro-Tyler) climbed the hill successfully. He rode with extreme skill, keeping his engine running just fast enough to drive. Gayford (Zenith) also claims a successful climb, while Carey (Harley-Davidson) claimed a stoppage through traffic. A Triumph, ridden by Staunton, was also stated to have got up. According to the rules, riders were allowed to claim clean ascents provided they did not stop their road wheels or leave their saddles, so foot slogging or trailing the feet on the ground did not count against a competitor.

After the terrors of Chalk Pit there was nothing serious before lunch. By lunch time at Reigate the ranks of the competitors had been sadly thinned, and many of the late arrivals had actually retired. The course doubled back on itself, twisted, turned, and wound about in a manner which baffles description. There has been only one like it before, and that was the course used for the last Arbuthnot Trophy Trial, which served as a model for Saturday's event.

After lunch the main Reigate road was followed to the turning to Pebblecombe, when a turn to the right was taken leading up this famous hill, which nowadays causes little trouble.

Gorgeous Scenery.

Next followed the descent into Little Switzerland; then Juniper Hill accounted for very many failures. An ascent through woods on "colonial lines," where the humour of an S.O. (straight on) notice was keenly felt by Applebee, since few could keep on and no one could keep straight. Then to Dorking, up to Leith Hill, by the back way and over a mountain track, all through Surrey's most gorgeous scenery, finishing with Bright's Hill, Guildford, and the run back to Ripley, where tea was taken by the survivors.

The ascent over Leith hill was worth watching; the course suddenly left the main road by some cottages and went straight up the hill side. The ruts and gulleys had been filled with sand-stone, and to dodge them necessitated swinging from one side of the track to the other. Consequently, the riding could hardly be described as pretty. There were, however, few failures. The Brothers Bashall, as usual, handled their Martinsydes very skilfully, and came up well; good ascents were also made by Morgan and Spikins (Harley-Davidsons), both smiling; Reyre (A.B.C.) scattering his tools as he rode; Boyer (8 Rover), Whithy (Triumph), Tilt (Triumph), Battley (Triumph), Dunford (Verus), F. W. Applebee (Levis), Bourlet (Ariel), Gotley (Omega), Roberts (A.B.C.), Ammon (Metro Tyler), Carey (Harley-Davidson), Aitken (Indian), Clennell (Blackburne), Barclay (Reading Standard), Julian (A.B.C.), Labin (Indian Scout), Tait (Harley-Davidson), Gayford (Zenith), and Bennet (Metro-Tyler). Bright's Hill, Guildford, accounted for very few failures, but it defeated Reyre (A.B.C.), who had been travelling fifteen miles on one cylinder, while Bourlet's Ariel shed its belt.

At the end of the trial only three competitors claimed non-stop runs, J. T Bashall (Martinsyde), Staunton (Triumph), and Gayford (Zenith).

CLUB NEWS. (Continued from page 475.)

Berwick and District M.C.

The results of the recent reliability run to Edinburgh are now to hand: 1 (club gold medal), W. Skelley (3½ Lea-Francis); 2 (club silver medal), W. H. Dodds (2¾ A.J.S.); 3 (club bronze medal), W. Murray (3½ Sunbeam).

Cambridge University M.C.C.

A one-day reliability trial will be held on October 24th, starting from Barton Road, Cambridge, at 9 a.m. This will be the first event of an interesting programme arranged for the present term. Any members of the University wishing to join the club are requested to communicate with the hon. secretary, C.U.M.C.C., 28, Malcolm Street, Cambridge.

Cardigan and District M.C. and L.C.C.

Somewhat unfavourable weather conditions for such an event, a strong head wind and driving rain, prevented any very sensational times at the speed trials recently held on the Crymmych-Pentregalar road. However, as the course was threequarters of a mile long, the fastest time (45⅘s.), made by J. George (3½ Sunbeam), works out at nearly 60 m.p.h. The results were:

[illegible] -1, E. Griffiths (2½ Sun-Villiers), 1m. [illegible]; 2, A. Jones (2½ Royal Enfield), 1m. 40⅘s.; 3, R. E. Thomas (2½ Velo), 1m. 47⅘s.

[illegible] -1, Dr. Cave (2½ Douglas), 1m. 21s.; 2, D. Stephens (2½ Douglas), 1m. 30⅘s.; 3, O. Jones (Omega), 1m. 44s.

[illegible] -1, J. George (3½ Sunbeam), 45⅘s.; 2, [illegible] E. O. Evans (2½ Rover) and D. J. [illegible] Norton, 56s.

[illegible] -1, M. Davies (3½ Sunbeam), [illegible] D. J. [illegible] (7 Norton), 54⅘s.; 3, E. O. [illegible]

[illegible] M. Davies (3½ Sunbeam), 49⅘s.; [illegible] 56s., 3, D. J. Jones (3½

Bradford M.C. and L.C.C.

The first of a series of winter lectures will take place on Thursday, October 28th, after a general meeting at the club headquarters, when Mr. E. W. Stanfield will speak on "Magnetos and Magdynos."

The detailed final results of the recent hill-climb and speed trial on handicap are now to hand, and are as follows:

HANDICAP HILL-CLIMB, TONG HILL, NEAR BRADFORD.

SOLO.—1 (gold medal), J. C. Neilson (7-9 Harley), 7 sec.; 2 (silver medal), R. T. Cawthorne (7-9 Indian), scratch; 3 (bronze medal), R. W. Stanfield (3⅘ Scott), 4 sec.

SIDECARS.—1 (gold medal), G. Townsend (3½ P. & M. sc.), 12 sec.; 2 (silver medal), R. T. Cawthorne (7-9 Indian), scratch; 3 (bronze medal), C. Sidney (3 A.B.C. sc.), 17 sec.

DYSON SHIELD (competed for by winners of Solo and Sidecar Classes).—J. C. Neilson (7-9 Harley), solo, scratch, beat G. Townsend (3½ P. & M. sc.). 14⅘ sec. Won by ten yards.

SPEED TRIALS AT PENNY POT LANE, NEAR HARROGATE.

SOLO.—1 (gold medal), W. Drake (3½ P. & M.), time 18 sec. = 66.6 m.p.h.; 2 (silver medal), W. Baines (3½ P. & M.), time 20 sec. = 60.0 m.p.h.; 3 (bronze medal), R. Rushworth (3 A.B.C.), time 18 sec. = 66.6 m.p.h.

FASTEST TIME.—Gold medal: H. O. Wood (3⅘ Scott) time 17⅘ sec. = 68.2 m.p.h.

SIDECARS.—1 (gold medal), S. Lockwood (4 Triumph sc.), time 24⅘ sec. = 48.7 m.p.h.; 2 (silver medal), G. Townsend (3½ P. & M. sc.), time 23⅘ sec. = 50.8 m.p.h.; 3 (bronze medal), S. Haigh (6 Ariel sc.), time 26⅘ sec. = 44.7 m.p.h.

FASTEST TIME.—Gold medal: G. Townsend (3½ P. & M. sc.), time 23⅘ sec. = 50.8 m.p.h.

Glasgow Western M.C.C.

The Western Motor Cycling Club, Glasgow, held its final trial of the year on Saturday, this being a fifty miles non-stop speed-judging competition for the Bates Trophy, presented by Messrs. W. and A. Bates, Ltd. Competitors were set to cover a course of fifty miles non-stop at a scheduled speed of 20 m.p.h. without the aid of a speedometer, watch, or other recording instrument. The Bates Trophy was awarded to the rider covering the course non-stop with the smallest aggregate time error at the three secret checks, and prizes were also awarded to the three riders next in order of merit. The competition proved a popular one, and provided a most enjoyable afternoon's sport. It is interesting to note that, without exception, the riders underestimated their speed, the total time errors varying from 5½ mins. to 18 mins. Results: 1, Bates Trophy and gold medal, D. S. Alexander (8 Enfield sc.)—total time error, 5m. 44⅕s.; 2, J. Littlewood (6 A.J.S. sc.), 6m. 55⅘s.; 3, G. Hope Wilson (7-9 Indian sc.), 7m. 8⅖s.; 4, R. A. Law (3½ Rudge), 7m. 12s.

Bedford and District M.C.

The Bedford and District Motor Club are organising a non-stop reliability trial, to take place on Thursday, October 21st, over a circuitous course of about ninety miles with easy reach of Bedford. The following trophies are being put up for competition: The Lindley shield, for the best team performance, and club's medal to each member of the winning team; the Thurburn cup and club's miniature for the best individual performance; and the Berrie cup (to be won outright) for the best performance on the oldest machine.

The competition is open to club members only, and new members wishing to join for this event will be entitled to full membership next season without payment of additional subscription.

The start will take place at 1.45 p.m. from St. Peter's Street, Bedford. Further particulars from Mr. F. Luddington, 131, Midland Road, Bedford.

Southampton and District M.C.

The Southampton Motor Cycle Club held a very successful inter-club hill-climb on Saturday, October 16th, at West Dean Hill, near Whiteparish, Hants. The hill was in a very bad condition owing to the heavy rains during the week. The results, on time only, are as follows:

CLASS 1 (350 c.c.).—1, D. Robertson (2¾ Douglas), 2m 5⅖s.; 2, R. A. Beazley (2¾ Douglas), 2m. 6⅕s.; 3, E. C. Prince (2¾ Douglas), 2m. 13⅕s.

CLASS 2 (UNLIMITED).—1, — Chawner (3½ Sunbeam), 1m. 43⅖s.; 2, R. A. Beazley (7-9 Indian), 1m. 44⅖s.

CLASS 3 (PASSENGER MACHINES).—1, L. A. Apsey (8 Royal Ruby), 1m. 52⅕s.; 2, D. B. Ware (4 Norton), 2m. 20s.; 3, B. B. Tebbutt (10 Morgan), 2m. 26⅕s.

Still more Brooklands successes!

The season draws to a close, but still each week brings its quota of successes on Palmer Cord Tyres. We shall have a long season's list by the time the show is here. Meanwhile, note—

B.M.C.R.C. Championship Meeting, Oct. 9th.

10 Mile Record—Classes C. & D.

1st in Ten Mile Race for Solos up to 500 c.c.

Also 3 Seconds and 3 Thirds in Ten Mile Championship Race.

—ON—

Also Scottish Two-Day Reliability Trial

10 Gold Medals

1 Silver

Special Prize for Best Sidecar Performance.

Special Prize for Best Amateur Performance.

PALMER

(ORIGINATORS OF THE THREE RIB TREAD)

CORD TYRES

THE PALMER TYRE, Ltd., 119, 121, 123, Shaftesbury Ave. W.C.2.
Cycle and Motor Cycle Warehouse: 103, St. John St. Clerkenwell, E.C.1

Here are definite proofs

of the supremacy of the 2¼ h.p. Royal Enfield Two-stroke Lightweight Motor Cycle. The specification of this popular lightweight is unique in its completeness and the performances set forth below are indicative of its outstanding superiority.

A.C.U. Six Days Trials, 1920.

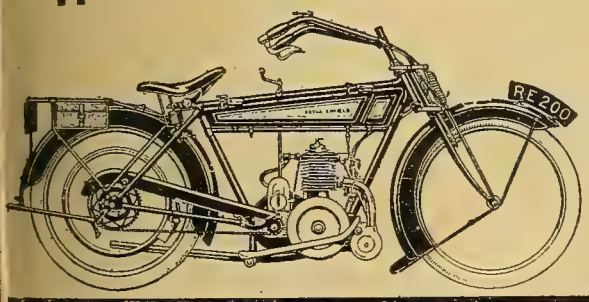
One machine entered—gained **GOLD MEDAL.**

Worcester M.C.C. Hill Climb, October.

One machine entered—gained **FIVE FIRSTS.**

Rand M.C.C. Open Lightweight Trial.

100 Miles, typical colonial roads. Won by only ROYAL ENFIELD entered. **FIRST.**



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The ENFIELD CYCLE Co. Ltd.

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58 Records in 28 Days

Some recent **JOHN BULL** Successes.

September 2nd, 1920. 4 records set up by Capt. M. C. Breese, on a 2¾ Coulson and sidecar.

September 9th, 1920. 12 records put up by H. Beech, of O'Donovan Motors, Ltd., riding a 3½ Norton and sidecar.

September 9th, 1920. 2 records put up by F. A. McNab, riding a 2¾ Wooler.

September 20th, 1920. 2 records put up by D. R. O'Donovan, riding a 3½ Norton and sidecar.

September 20th, 1920. 32 records, including 6 world's records, put up by J. S. Holroyd, riding a 2¾ Blackburne.

September 30th, 1920. 6 records put up by D. R. O'Donovan, on a 3½ Norton solo.

All of these riders were using "JOHN BULL" belts and other sundries, such as Knee Grips and Cushion Grips and in the case of Holroyd, a "JOHN BULL" Patent Belt fastener was used.

September 2 — 4 RECORDS.

September 9 — 12 RECORDS.

September 9 — 2 RECORDS.

September 20 — 2 RECORDS.

September 20 — 32 RECORDS.

September 30 — 6 RECORDS.

THE LEICESTER RUBBER CO., LIMITED, LEICESTER.

1692

THE FINEST LIGHT CAR IN THE WORLD

The Richardson

IMMEDIATE DELIVERY.

SPORTING 2-3 SEATER

LIGHT CAR

ECONOMY THE ORDER OF THE DAY

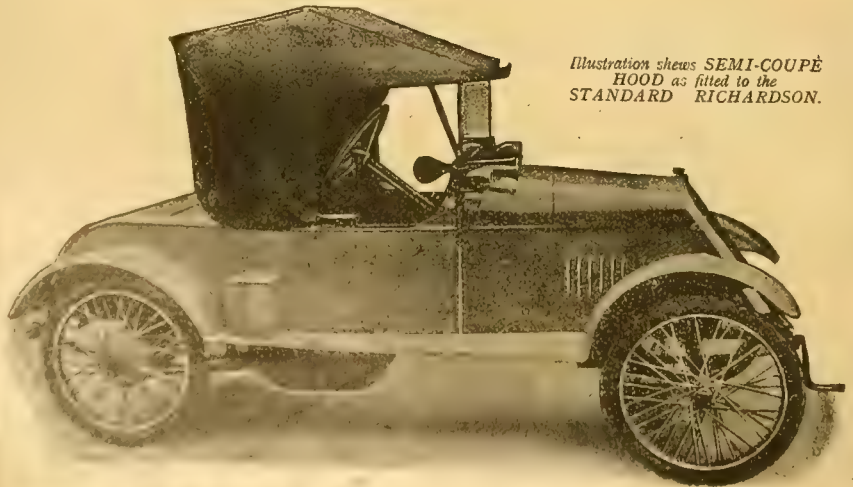

Illustration shews SEMI-COUPÈ HOOD as fitted to the STANDARD RICHARDSON.

The Richardson Light Car

Is the most economical car of its kind upon the market, as the following points will show—

1st Its First Cost is Low, £262-10-0.
2nd Tax is Low.
3rd Running Costs are Low, averaging only ¾d. per mile on petrol.

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WE are now fixing up our Agencies for next season; applications for same should be made at once before our output is booked up.

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With special repairs and spares departments we can give quick deliveries and prompt attention to all repair questions affecting our machines.

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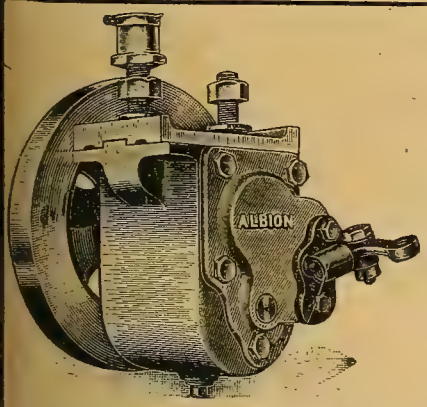

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Same fitting belt and chain line as kick-starter.

Price, £7 - 10 - 0

CAN BE FITTED TO ALMOST ANY MAKE.

Every assistance given.

Send full particulars, make of machine, engine, with sketch of bracket.

Special Adaptors for converting

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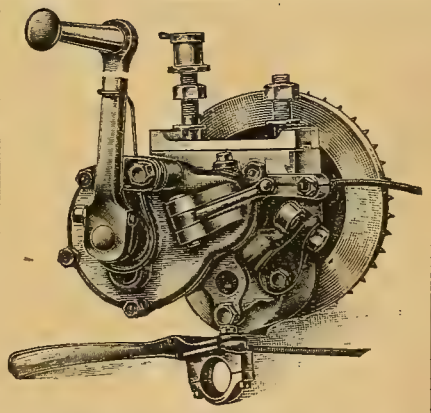
Single-speed, without alteration to frame.



Kick-starter, 1921 model, clutch hand control. Same fitting belt and chain line as plain box.

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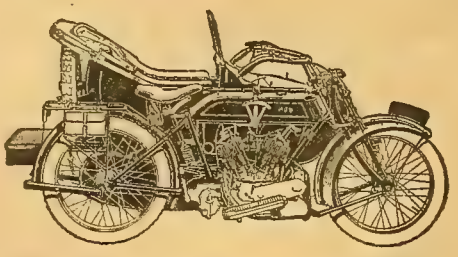

1920 A.J.S. Sidecar Combination.
We have a few of these excellent outfits ready for immediate delivery.

Motor Cycles, Sidecars, Light Cars, Accessories, Spare Parts, Motor Clothing

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SPECIAL SALE OF SHOP-SOILED MOTOR CYCLES.

Make.	h.p.	Description.	Price.
A.B.C.	3	standard machine, run less than 100 miles; cost £150	£137 10 0
BLACKBURNE.	4	2-speed, kick-starter; cost £138 10s.	£125 10 0
SCOTT.	3¾	2-stroke, 2-speed; cost £144 10s.	£137 10 0
CALTHORPE.	2½	2-stroke, 2-speed; cost £71 19s.	£65 0 0
CALTHORPE.	2¾	2-stroke, 2-speed; cost £67	£59 10 0
CALTHORPE.	2¾	J.A.P., 2-speed; cost £78 5s.	£69 10 0
ROYAL RUBY.	3	spring frame, 2-speed, clutch, and kick-starter; cost £120	£99 10 0
SIDECAR.		Watsonian Monarch; cost £31 3s. 9d.	£27 10 0

NEW 1920 MODELS IN STOCK.

A.J.S.	6	Combination, dynamo lighting, hood, and cover	£243 15 0
A.J.S.	6	Combination, Lucas acetylene equipment, Cowey speedometer	£225 12 6
A.J.S.	6	standard Combination	£210 0 0
TRIUMPH.	4	Combination, Model H.	£182 10 0
TRIUMPH.	4	Combination, chain drive	£195 0 0
HARLEY-DAVIDSON.	7-9	and Sidecar, acetylene equipment	£234 12 6
ROYAL ENFIELD.	8	standard Combination	£177 10 0
B.S.A.	4	Combination, chain drive	£152 10 0
ZENITH.	8	and Sidecar, Model H.	£196 4 0
B.S.A.	7	twin, Sidecar extra	£150 0 0
LEA-FRANCIS.	3½	twin (standard)	£130 0 0
EXCELSIOR.	6	Sidecar extra, if required	£154 0 0
BLACKBURNE.	4	Burman 3-speed gear	£138 10 0
G.N.	10	2-seater Light Car, dynamo	£275 12 6

SECOND-HAND MOTOR CYCLES IN STOCK.

BLACKBURNE.	8	1920 Combination, spare wheel, dynamo lighting, fine condition	£220 0 0
DOUGLAS.	4	1920, 3-speed, acetylene lamps, Cowey, horn, etc.	£110 0 0
ZENITH.	8	1920, and Henderson Sidecar, run only 1,000 miles, Easting windscreen	£170 0 0
MATCHLESS.	8	1920 Combination, dynamo lighting, electric Lucas horn, hood, screen, spare wheel and tyre, run only 2,000 miles	£220 0 0
A.J.S.	6	1918 M.M. Combination, dynamo lighting set, electric horn, also Klaxon, Watford speedometer, hood, screen, spare wheel, and new tyre, hood cover, and Tan-Sad pillion seat	£200 0 0
SCOTT.	3¾	1920, and Henderson Sidecar, H.A.H. electric lighting set, Cowey speedometer and horn, watch, run only 1,300 miles	£170 0 0
LEA-FRANCIS.	3¾	1920, 2-speed, Lucas head lamp and tail lamp	£115 0 0
AMERICAN EXCELSIOR.	7-9	1920, and Henderson Elite Sidecar, acetylene lighting, run only 300 miles	£180 0 0
A.J.S.	6	1918 M.M. Combination, electric lighting (accumulator), also acetylene head and tail lamp set	£170 0 0
NEW IMPERIAL.	8	1918, and coachbuilt Sidecar, Lucas acetylene lighting set	£110 0 0
HARLEY-DAVIDSON	7-9	1916, and A.J.S. Sidecar, electric model	£110 0 0
A.J.S.	6	1920 Combination, Klaxon horn, hood, and hood cover, like new	£195 0 0

CHEVROLET CAR.
4-Seater, self-starter and dynamo lighting. Shop-soiled.

1921 BRITISH EXCELSIOR Blackburne 2¾ h.p. engine, 2-speed, clutch and K.S. **£96**

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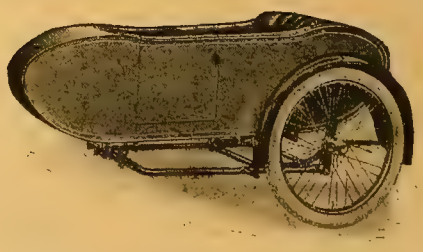

1920 Watsonian Sidecars *in stock in large varieties.—Trade supplied.*

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MOTOR CYCLES FOR SALE.

Blackburne.

BLACKBURNE 1920 4h.p., 3-speed S.A., nearly new; £120.—Hircock, 139, Northfield Rd., Coventry. [X5089

1920 Blackburne, 4h.p., 3-speed, all-chain, as new, mileage negligible; £118.—Dunn's, 326, Euston Rd., London. Museum 5391. [2979

1920 (June) 4h.p. Blackburne and Millford Corvette sidecar, 28in. wheels, lamps, etc.; reasonable offer accepted.—15, Clarendon Rd., Leytonstone. [5506

1920 Blackburne 4h.p., new, unridden; makers' price at works £135; accept 122 gns., carriage paid.—Postmaster, Sinnington, Yorkshire. Tel.: 1. [X4781

BLACKBURNE 4h.p. Combination. V.H.L. sidecar, spring chassis wheel, a beautiful machine, brand new; £175.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0320

BLACKBURNE 8h.p., 1920, large coachbuilt sidecar, lamps, Cowey speedometer with spare drive on spare wheel, Klaxon, all spares, winner of several medals; 200 gns, or nearest.—W. A. Fell-Smith, 56, Kensington Park Gardens, W.11. [5862

1920 4h.p. Blackburne Combination, absolutely complete with very best equipment, and everything required for touring, nothing more to buy, insurance, many ways better than new; £160 lowest; gladly supply full particulars proving above is genuine offer, or arrange appointment.—93, Amesbury Av., Streatham, S.W.2. [5708

Bown

BOWN'S Baby 2-stroke, Dalm engine, new Dunlop tyres, speedometer, all lamps, etc., perfect; a snip, £36/10; easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [5879

Bradbury

BRADBURY, 4h.p. and 6h.p. models, prompt delivery.—Agents, Bright and Hayles, 78, Church St., Camberwell, London. [5364

BRADBURY 1915 Combination, wicker sidecar, lamps, horn, etc., perfect running order; £70; would separate.—202, Trinity Rd., S.W.17. [5131

4¼h.p. Bradbury, watertight Bosch, 1920 Capac, new Dunlop belt, Hutchinson, fast, flexible and perfect; £38.—J. Palmer, 13, Hampton Court Rd. [5673

BRADBURY 1914 4h.p. Coachbuilt Combination, 3-speed, kick start, screen, lamps, etc., excellent condition; £85.—Woollam, Boot Repairer, Whitchurch, Salop. [5010

1920 Bradbury and coachbuilt sidecar, only run 100 miles, Easting screen, lamps, tools, spare tyre; £150, or nearest offer.—Mr. J. Walls, 139, Euston Rd., Morecambe. [5119

FOR Sale, 1920 4h.p. Bradbury motor cycle, perfect condition, with canolet sidecar, complete with accessories and tools; £115, or nearest offer.—Hartwell's Garages, Ltd., Park End St., Oxford. [5690

6h.p. Bradbury, Jan., 1920, and Grindlay double spring sidecar, equipped with gas head, electric side and tail lamps, horn, and very full assortment of spares, choice of two carburetters. This machine has done well in competitions, and has been maintained in thoroughly good tune, recently overhauled by makers, enamel very fair, plating good; any reasonable trial willingly; £165 only for an exceptional outfit.—Apply by letter, or at week ends, Goodfellow, Hatherlow, Birkdale, Lancs. [X4473

Brough.

NEW Latest Brough, Type G, 5-6h.p., 3-speed, semi-T.T. bars, £140; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [5582

1920 Brough Combination, 5h.p., S.A. 3-speed, K.S., complete with all lamps (head Lucas), speedometer, sidecar fitted with cover-all apron, practically new; £160.—110, Bold St., Liverpool. [5019

BRAND New Latest Brough, Type G, 5-6h.p., 3-speed, standard handle-bars, sidecar gear ratio, fitted with Montgomery No. 2 sidecar; £167; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [5585

1920 Brough, 5h.p. h.o. twin, superb show model Brough sidecar, small mileage, fully equipped, unscratched, owner driving machine Scotland to London next week; best offer over £155.—Dickinson, Coachbuilder, Kirkcudbright, Scotland. [5191

NEW Latest Brough, Type G, 5-6h.p., 3-speed, semi-handle-bars, solo gear, £140; also type G, standard handle-bars, sidecar gear with special Montgomery sidecar, £167; immediate delivery.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [3792

Brown.

3½h.p. Brown, running order; £20.—21, Whittlesey St., Waterloo, S.E. [5621

BROWN 3½h.p., variable gear, overhauled, renovated, fast machine; £35.—98, Winchester Rd., St. Margaret's, Twickenham. [5471

B.S.A.

B.S.A., all models now in stock; delivered anywhere.—Below.

B.S.A. Specialists.—Replacements by return.—County Cycle and Motor Co., Broad St., Birmingham. [4177

The Best Answer to a Miners' Strike—A Motor Bike

New 1920 Models in Stock include:

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'Phone: 7091 Mayfair
(2 lines).

MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. 1912 3½h.p., 2-speed, cane sidecar, head light, new tyres; £60.—Chandler, Leigh, Cheltenham [5167

1916 B.S.A. 4¼h.p. Combination, all-chain, insurance; offers.—79, Plashet Lane, East Ham, E.6. [5571

1916 4¼h.p. B.S.A. Combination, accessories, tools, spares; £111.—48, St. Mildred's Rd., Ramsgate. [5552

1920 B.S. A. 6-7h.p. Combination; list price.—Cleale and Hadler, Ltd., Chelmsford. [5705

B.S.A. Solo, 3½h.p., good running order, newly overhauled; £60, or nearest.—Trail, Bookseller, Fraserburgh. [5228

1920 B.S.A. Combination, Model H, small mileage, as new; £140.—Quibell, 16, Newberry Terrace, Weymouth. [5209

B.S.A. Model K, 1919, with Millford sidecar, perfect condition; £110.—Coles and Shirley, Chepstow. 'Phone: 48. [0297

1915 B.S.A. Combination, chain drive, equipped, sound condition; trial; £90.—45, Livingstone Rd., Gillingham, Kent. [5039

B.S.A. Combination, 1920, original tyres, lamps and Klaxon, insurance 7 months to run.—18, Eastwood Mount, Rotherham. [5640

B.S.A. Model H Combination, immediate delivery, makers' price; £152.—Coles and Shirley, Chepstow 'Phone: 48. [0296

B.S.A. 4½h.p. Magdyno Combination, in stock; list price.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5596

£68.—Combination, 4¼h.p. B.S.A., all chain, 3-speed, K.S., Millford coachbuilt sidecar, lamps.—King, Egrove Farm, Oxford. [X5078

FOR Sale, B.S.A. tourist bicycle and Wall Auto-wheel, both nearly new.—Apply, G. Matty, Horseley House, Tipton, Staffs. [5436

B.S.A. Combination (1914), 3-speed countershaft, Easting, 3 lamps, perfect order; £90.—86, Heather Rd., Small Heath, Birmingham. [4990

4h.p. B.S.A., 3-speed, chain drive, perfect condition; £73, or with 1920 B.S.A. sidecar.—A.M., 46, Claremont Rd., Forest Gate, London, E.7. [5095

B.S.A. 1920 4¼h.p. Combination, dynamo lighting, all-chain drive, guaranteed as new; £175.—Maudes', 100, Gt. Portland St., W.1. [5771

1920 B.S.A. Combination, mag. dynamo, Lucas horn, perfect condition; 132 gns.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. 5790

1920 4¼h.p. Model H B.S.A. Combination, complete with lamps, etc., mileage 500, guaranteed perfect; £148.—Young, Misterton, Somerset. [5692

1913 B.S.A. 3½h.p., 2-speed, free engine, lamps, horn, good condition and running order; £30.—104a, Finchley Rd. 'Phone: Hampstead 7822. [5839

B.S.A. Combination, 4¼h.p., all-chain, condition and appearance as new, Lucas lamps, spare cover and tube; £98.—2, Addiscombe Grove, Croydon. [5340

B.S.A., 4¼h.p., 3-speed gear, 1916, in good condition, with strong sidecar, go anywhere; what offers —T. A. Winwood, Imperial Av., Kidderminster. [5064

B.S.A. Combinations, actually in stock for immediate delivery; price and catalogue on application.—District agents, The Walsall Garage, Walsall. Tel.: 444. [8999

B.S.A.—Immediate delivery of models H. and K., solo or combination; £107 and £110 respectively.—Distributing agents, Campion Depot, London Rd., Derby. [4122

B.S.A. 4¼h.p. 1916 (late) Combination, perfect condition, stored 2 years, lamps, horn, tools, and spares; £105, or near offer.—Wiggins, Sapperton, Cirencester, Glos. [5707

1920 B.S.A. Combination, 4¼h.p., all chain, Lucas lamps, screen, luggage grid, Tan-Sad, usual spares, perfect; what offers.—Warren, Slough Brewery, Brierley Hill, Staffs. [5454

B.S.A. 4¼h.p. Combination, in excellent condition, Mills-Fulford, Easting, speedometer, lamps, new tyres back wheel; any fair trial here; 100 gns.—Webb, The Square, Fordingbridge. [X4789

B.S.A. 4¼h.p. C.B. Combination, 3-speed countershaft, all chain, lamps, speedometer, screen, grid, perfect running; nearest £80 secures.—97, Rosebery Rd., Muswell Hill, N.10. [5007

B.S.A. 1920 6-7h.p. Twin Combination, complete with spare wheel and all accessories, little used; cost £215, best offer.—Barrow, 155, Middleton Hall Rd., King's Norton, Birmingham. [5121

4¼h.p. B.S.A., countershaft, chain-cum-belt, 3-speed, kick starter, Millford coachbuilt sidecar, just returned from thorough overhaul, new piston and cylinder, all in good order; 110 gns.; purchased car.—Humphris, 99, High St., Thame. [5457

£70 B.S.A. 3½h.p. Coachbuilt Combination, countershaft gears, kick starter, laid up during war, guaranteed first-class condition throughout, everything on, nothing to spend, insurance included, absolutely reliable outfit, no weak points, property of engineer ordered abroad, any trial; £70.—35, Shakespeare Rd., Acton, W.3. [5550

MOTOR CYCLES FOR SALE.

Calthorpe.

CALTHORPE 2-stroke, 2-speed, as new, mileage 1,000, lamps; £45.—Smith, 229, Maryvale Rd., Bournville. [X5067

CALTHORPE-J.A.P., 1916, 2¾h.p., 2-speed, excellent order, lately overhauled; £40.—Nutt, Killay, Swansea. [5527

1920 Calthorpe, 2¾h.p., 2-stroke, 2-speed Enfield gear, small mileage, new heavy Dunlop and belt; £55.—Westwood, 7, Brewery Cottages, Nine Elms, S.W.8. [4886

CALTHORPE-J.A.P. 2¾h.p., 2-speed, 1918, absolutely new tank, cylinder, piston, tuned up, complete lamps, spares; 50 gns.—Heeley, Newington, Sittingbourne. [5012

CALTHORPE Motor Cycles, wholesale and retail agents for the county of Devon, all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE Motor Cycles.—2¾h.p. J.A.P. model, £78/5; two-stroke model, £75; both fitted with Enfield 2-speed gear; delivery from stock.—P. J. Evans, 83-91, John Bright St., Birmingham. [0174

CALTHORPE-J.A.P. 1920, Enfield 2-speed, brand new, but slightly shop soiled; usual price £74/11; must be cleared under cost; a bargain, £65; first cash secures.—Wilkins, Simpson, opposite Olympia, London. [51

1917 Calthorpe-Jap, 2¾h.p., 2-speed, clutch just overhauled and repainted, complete with P. and H. large lamp set, horn, etc., a fast and economical mount; Huddersfield district; offers.—Box 8,578, c/o *The Motor Cycle.* [4169

Campion.

CAMPION 2¾h.p. Twin, Bosch, lamps; reasonable offer.—2a Church Gardens, S. Ealing. [5082

TO Sell, 1920 (July) Campion 6h.p. and Grindlay de Luxe sidecar, very good condition, insurance, Easting, luggage grid, etc.; £185, or nearest offer.—84, Grove Rd., Millhouses, Sheffield. [4932

Carfield.

1920 Carfield, Union engine, 2¼h.p., 2-stroke, 2-speed, lamps, horn, perfect condition, speedy climber; £60; list £70.—Write or call, 64, Gladesmuir Rd., Highgate, N.19. [5333

Cedos.

1920 Cedos 2½h.p., complete with all lamps, tools, etc.; £50.—110, Bold St., Liverpool. [5020

Centaur.

CENTAUR 3h.p., mag., footboards; £18.—59, Scarletts Rd., Colchester. [5362

Chater-Lea.

CHATER-LEA 8h.p., all-chain, 3-speed, C.B. sidecar, new tyres, fast and reliable; £70.—198, Sheen Lane, Mortlake. [X4974

Chater-Lea-Jap.

CHATER-LEA-J.A.P., 8h.p., 3-speed, Rennoc 2-seater sidecar, Cameo and Tan-Sad; £90.—Stanley, 37, St. Peter's St., Islington Green. [5310

BELIEVED 1914 3½h.p. Chater-Lea-Jap Combination, waterproof Bosch, drip feed oil, with lamps, horn, complete, good order throughout, comfortable sidecar; bargain, £35.—T. Hayes, Jun., 2, Chapel St., King's Lynn. [5659

Chater-Rex.

CHATER-REX 5-6h.p., Druids, Bosch, new John Bull, bearings perfect; ride away; £25.—78, Longley Rd., Harrow. [4998

Cleveland.

WRITE for Catalogue of the 3h.p. Cleveland, with kick starter, clutch, and 2-speed gear; price £85 —Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool [0279

Clyno.

1920 Clyno 2½h.p., nearly new; 57 gns.—Evans, Garage, Newport, Salop. [5632

1921 Clyno Model, just delivered; £250.—Turpin's, 22-29, Preston Rd., Brighton. [0204

CLYNO Lightweights and Combinations. Write Bothwell and Milbourne, Cowleigh Garage, Malvern [1795

CLYNO Combination, perfect, all on; £115, or nearest. Wade, Clyno, 32, Clarence Rd., Kentish Town, N.W. [5318

CLYNO, 1920, 2-stroke, 2-speed, hand clutch, as new, £55.—Sampson, 7, Camborne Ter., Richmond. [5846

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CLYNO 1921 8h.p., spring frame, electric lamps, spare wheel; £240, cost £260, bargain.—Geo. Taylor, 28, Lower Addiscombe Rd., East Croydon. [5505

CLYNO Combination, 3 speeds, kick start, 4 interchangeable wheels, lamps, screen, fine order; trial; £110, or near; bought car.—Smith, 16, Browning Rd., Worthing. [5521

5-6h.p. Clynos, 1916-17, less mag. and carburetter, £40; these want renovating, and are worth £130 when finished and overhauled.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W. [5892

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3459

CLYNO 1920 2-stroke, 2-speed and clutch, brand new, but slightly shop soiled; usual price £75; to be cleared under cost; a bargain, £59/15; this offer cannot be repeated.—Wilkins, Simpson, opposite Olympia, London. [5163

1921 8h.p. Spring Frame Clyno Combination, delivered 3 weeks, with many extra spares, also 12 months' insurance policy; price £250; owner purchasing car, reason for selling.—Apply, The Bridgwater Motor Co., Co., Ltd., Bridgwater. [5276

CLYNO 8h.p. 1921 Combination.—Batchelor and Co., East Surrey agents, have a new 8h.p. combination; demonstration runs given; orders booked for very early delivery.—Batchelor's, Clarence St., Kingston-on-Thames. 'Phone: 1809. [2874

CLYNO 5-6h.p. 1916 Countershaft Combination, 3 speeds, kick starter, 4 interchangeable wheels, new Dunlop spare, electric lighting, wind screen, apron, hood, horn, Tan-Sad, re-enamelled plated, smart; nearest £140.—19, Halstow Rd., Greenwich. [5156

CLYNO 6h.p., 3-speed, K.S., spare wheel, Binks just fitted, Dunhills bulbous sidecar, Easting, all lamps and Lucas horn, spare chains and box of tools, new cover on rear; £125, or close offer.—Day, Central Hotel, Percy St., Tottenham Court Rd., W.1. [5389

CLYNO Lightweights, 1920, 2¼h.p., 2-speed, £75, or fully equipped with head lamp and generator, tail lamp and tubing, horn, L.C.C. registration, petrol, and oil, £79/15.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [0281

CLYNO 5-6h.p., late W.D. models, 3-speed, kick-start, re-enamelled, replated, and overhauled, new carburetters and mags., rebuilt as new, practically unused; few available from £75; combinations with Clyno sidecar, repainted and retrimmed, £110.—Hearn, 117, Loughborough Park, Brixton. 'Phone: Brixton 2888. [4826

Connaught.

CONNAUGHT 1916 2½h.p., in splendid condition; what offers.—Wilson, Emcroft, Farnborough, Kent. [5374

CONNAUGHT Motor Cycles.—2½h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. J. Evans, 83-91, John Bright St., Birmingham. [0252

Coulson.

COULSON 2¾h.p., 2-speed, clutch, new, slightly soiled; £100.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5597

COULSON-B, 4h.p. Blackburne engine, 2-speed, spring frame, shop-soiled; £100.—Motorcycle Marts, Ltd., Chatham. [4939

1920 (August) 4h.p. Coulson B, spring frame, 3-speed, Millers, Klaxon, etc.; £115; cash wanted.—32, Rudgard Lane, Lincoln. [5036

COULSON B.—All models in stock; sole agents for Wiltshire.—Wessex Motors, Ltd., incorporated with H. P. Moore and Sons, Salisbury. 'Phone: 72. [4053

LATE Coulson-B, 2¾h.p. Blackburne engine, fully equipped, trip speedometer, 21-in. Dunlop spares, mileage 300, unscratched, guaranteed perfect; £85; must sell.—28, Gloucester St., S.W.1. [5723

NEW Coulson B, 2¾h.p., £99/15; fitted with 2-speed gear, spring frame, Blackburne engine; 2¾h.p. model, with clutch and kick starter, £110/5; 4h.p., with 3-speed, clutch, and kick starter, etc., 118 gns.; if fitted with smart boat-shaped sidecar, painted royal blue, £162/10, or on deferred payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [6798

De Luxe.

DE LUXE 2¾h.p., 2-stroke, Druids, Amac, E.I.C., Palmer, perfect; £30.—Thomas and Gilbert, 13, Union St., Smethwick, Birmingham. [6843

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CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266

LATEST 2¾h.p. Diamond 2-stroke, £62; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [3795

DIAMOND 2¾h.p., 2-stroke, £58, unused, slightly soiled.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5598

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1920 Edmund, 2¾h.p. J.A.P. model, Enfield 2-speed gear, spring frame, perfect; £75.—Baldwin, Overton Hall, Ashover, Chesterfield. [5040

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ENDURANCE, 2½h.p. 2-stroke Arden engine, shop-soiled; £87.—Motorcycle Marts, Ltd., Chatham. [4943

Enfield.

6h.p. Enfield Combination, fine condition, lamps, horn; £115, offers.—Kemp, Louth, Lincs. [X5008

6h.p. Enfield Combination, fine condition; any trial; £105.—63, Walm Lane, Cricklewood, N.W.2. [X5071

1915 Enfield, 3h.p., 2-speed, lamps, perfect condition; £50.—Smith, Wymeswold, Bushey, Watford. [5413

1913 Enfield Coachbuilt Combination, mechanically perfect; £78; exchanges.—89, Spencer Place, Leeds. [5212

ENFIELD Combination, 1916; £120; must sell; worth £135.—260, St. John St., Clerkenwell, E.C. [5849

ENFIELD 1918 8h.p. Combination, like new, new lamps; £110.—29, St. Leonard's St., Bromley-by-Bow. [5424

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ENFIELD 8h.p. 1920, Tandem sidecar, lamps, horn, screen, nearly new; what offers.—Cooper, Easemore Rd., Redditch. [X5075

3h.p. Enfield, 1916, 2-speed, new tyres, lamps, etc., excellent condition; £63.—18, Fulham Place, Paddington, W.2. [5564

ENFIELD 3h.p. Twin, 1916, long exhausts, special handle-bars, perfect; £60, or nearest.—Rhodes, Caius, Cambridge. [4899

ENFIELD Combination, 1916, dynamo, practically new; £120.—51, Maplethorpe Rd., Thornton Heath, S.E. (Any time.). [5381

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1920 Enfield 2-stroke, little used, excellent condition, just overhauled; £60.—Ware, 10, Queen's Gate Terrace, S.W.7. [4993

1918 Enfield 2¼h.p., 2-stroke, 2-speed, Lucas horn, lamps, perfect condition; £55.—11, Elms Rd., Dulwich, S.E.21. [5409

£68.—Unused Enfield 2-stroke, 1920.—Clifford Wilson Company, 70, Royal Hospital Rd., Chelsea, S.W.3 Tel.: Kensington 7113. [4737

1918 8h.p. Colonial Model Enfield Combination, splendid condition, £110; also one £115.—Ross, 5, High Rd., Lee, S.E. [5273

ENFIELD 1914 6h.p. Combination, Bosch, Easting, spares, 3 Lucas lamps, perfect; £95.—Collins, Music Warehouse, Stirchley. [X5053

1920 8h.p. Enfield Combination, slightly shop soiled, new; £170.—Edwards, 50, Harrington Rd., South Kensington, S.W.7. [5789

ENFIELD Combination, 6h.p., 1915-16, speedometer, screen, fully equipped; £115.—Barden, 11, Barnabe Av., Streatham Hill, S.W.2. [5476

1919 (Sept.) 8h.p. Royal Enfield Combination, first-class outfit, for 1919-20 Triumph and cash, or sell 45; trial.—150, Columbia Rd., Grimsby. [X4992

1920 3h.p. Twin 2-speed Enfield, small mileage, all on, guaranteed perfect; real bargain, £76.—27, London Rd., Sutton Coldfield, Birmingham. [X5028

1920 Enfield Combination, 8h.p., brand new; in stock at list, £177; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [5871

ENFIELD 3h.p., 1917, September, appearance and mechanically perfect; £65.—8a, Blue Ball Yard, St. James St., Piccadilly. 'Phone: Gerrard 6536. [5888

1920 Enfield 2-stroke, 2 speeds, brand new; in stock at list, £73/10; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [5872

SACRIFICE 1920 8h.p. Enfield Combination, absolutely unused owner having got delivery of car; first cheque £169.—Mid-Cork Motor Works, Macroom, Ireland. [5180

ENFIELD 1914 6h.p. C.B. Combination, lamps, horn, new pistons, bushes and gear, first-class running order; nearest £95.—Astin and Barker, Ltd., Todmorden. [5646

3½h.p. 1920 Enfield, 2-speed, chain drive, legshields and tools, low mileage, excellent condition; bargain, £60.—Seen at Geo. Heath, Ltd., John Bright St., Birmingham. [4970

8h.p. Enfield Combination de Luxe, 1920, mileage about 500, Lucas Magdyno lighting; cost £200 exact; accept £185, or near offer.—Fortnam, Higham, Hereford. [5548

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1919 **TRIUMPH,** Model H, with Canoelet Sidecar **£135**

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ENFIELD 1917 Coachbuilt Combination, electric lighting, new Easting wind screen, Klaxon, complete; £125; exchanges.—Newnham, 223, Hammersmith Rd., W.6. [5736

ENFIELD 2¼h.p., fully overhauled, new carburetter, rear Dunlop, toolcase, perfect tune, and thoroughly good order, lamps, tools, etc.; £40.—Maxey, 37, Raven's Lane, Berkhamstead. [4910

1918 Enfield, 8h.p., engine No. 61307, Enfield coachbuilt sidecar, all in really new condition, exceptionally smart; £130.—30, Crystal Palace Park Rd., Sydenham. [5456

ENFIELD Combination, engine 62042, standard model, Easting, many spares, perfect order; £130.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. Kensington 4096. [5600

1916 Enfield Combination, perfect condition, Cameo wind screen, P. and H. lighting set, good tyres; must sell: £125, no offers; owner buying car.—Box 8,777, c/o *The Motor Cycle.* [5648

1919 Royal Enfield 6h.p. Combination, dynamo lighting, Tan-Sad, hood, screen, tyres as new, storm apron, inspection lamp, many spares; £160.—85, Lavender Grove, Dalston. [5448

1920 8h.p. Enfield Combination, only done 1,000 miles, in perfect condition, as new, lamps, horn, speedometer, mirror, etc.; £155.—Southern Motor Exchange, Bromley Rd., Catford. [4961

ENFIELD 3h.p., engine No. 3209, 2-speed, free engine, K.S., lamps, speedometer, Klaxon, good tyres, reliable machine; £72/10, or offer.—F. W. Pinhard, 3, Wavertree Rd., Streatham Hill, S.W.2. [5339

ENFIELD Combination, 1917, coachbuilt sidecar, tyres, enamel, engine, in excellent condition, electric light, Cowey horn, low mileage; £135.—Turner, 353, Hither Green Lane, Lewisham, S.E.13. [5793

ENFIELD 6h.p. Combination, 1917, excellent order throughout, Magdyno lighting, Lucas lamps, Easting, Bonniksen, W.S.R., 700×80, tyres, spares; £145; appointment.—10, Borneo St., Putney. [X5052

3h.p. Enfield, 1915, 2-speed, T.T. bars, spare touring bars, new chain and clutch ring, lamps, horn, etc., excellent condition; £60.—Doran, Engineer's Office, Albert Dock Extension (South), North Woolwich. [5334

1919 8h.p. Enfield Combination, mileage 2,800, carefully used, excellent condition, lighting set, speedometer, wind screen, luggage carrier, Tan-Sad; £160; appointment, trial.—136, Boundaries Rd., Balham. [5411

ROYAL ENFIELD 6h.p. 1916 Combination, semi-T.T. bars, discs, painted light and dark green, speedometer, horn, lamps, hood, screen, smart, sporty appearance, fast; £160. Sporting single wanted.—Cosycotte, Ernest Rd., Hornchurch. [5441

ENFIELD 1920 8h.p. Combination, complete with every accessory, Cowey horn, speedometer, electric side lamp, Lucas acetylene front and rear, tools, as new, registered; £180; cost £200; owner must sell.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [5827

ENFIELD 8h.p. Combination, £175, dynamo lighting £200; also 1914, 1915, and 1916 combinations in stock, from £110; deferred terms; suggestions invited; exchanges.—Lamb's, 151, High St., Walthamstow; 50, High Rd., Wood Green, N.22; 387, Euston Rd., London, N.W. [5240

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NEW 2½h.p. Excelsior 2-stroke, 2-speed, as listed at £67; reduced as shop-soiled to £57; carriage paid to any address.—The Premier Motor Co., Aston Rd., Birmingham. [5585

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BRITISH Excelsior 2-speed 2-stroke, done 200 miles only, fitted Ace disc wheels and polished copper exhaust pipe, smart machine; £65.—Hircock, 139, Northfield Rd., Coventry. [X5088

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EXCELSIOR, 2¾h.p. J.A.P., 1920, 2-speed, only done 100 miles; £78, or near offer.—65, Croydon Rd., Caterham Valley. [5045

Fafnir.

FAFNIR 3h.p., Simms mag., going order; £9/10.—295, Harrow Rd., Paddington, W. [5193

F.N.

F.N., 4-cyl., 2-speed, good running order; £30.—65, Croydon Rd., Caterham Valley. [5044

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NEW 1920 F.N. 7h.p. 3-speed Combination, shaft drive, 4-cyl. engine, coachbuilt sidecar, hood, wind screen, list price £205, slightly shop-soiled; £190 cash; free delivery to any address.—The Premier Motor Co., Aston Rd., Birmingham. [5586

Forman.

2¾h.p. Foreman, Bosch waterproof mag., variable jet B. and B., Saxon forks, new tyre and belt, running order; £17.—Payne, West View, Ludlow. [X5095

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NEW Francis Barnett 2¾h.p., J.A.P., 2-speed clutch and kick starter, in stock at manufacturers' list price, £88/19; deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5799

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1914 Grandex, 2¾h.p., climb any hill; ride away; £30.—Clifton, Hooe, Battle, Sussex. [5418

Harley-Davidson.

HARLEY Sports, new, in stock.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5601

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1918 Harley, mechanically perfect and in good condition; £85.—Ward, 33, Cecil Rd., Muswell Hill, N.10. [4963

HARLEY-DAVIDSON.—Immediate delivery all 1920 models at makers' list price.—Parker's, Bradshawgate, Bolton. [X5037

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BRAND New Harley-Davidson, 4h.p. model, solo, £142; sidecar, £166.—Hamilton, 26, Roseneath Terrace, Edinburgh. [5655

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HARLEY-DAVIDSON 1915 Coachbuilt Combination, Magdyno, excellent order, lately overhauled, tools and spares; £120.—Nutt, Killay, Swansea. [5528

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HARLEY-DAVIDSON 1919 7-9h.p. Combination, head, rear, and sidecar lamps, horn, indistinguishable from new; £190.—Parker's, Bradshawgate, Bolton [X5031

HARLEY-DAVIDSON 1918 Smart Combination, fully equipped; any trial; £138, or exchange lower power.—143, Ravensbury Rd., Earlsfield, S.W. [5691

HARLEY-DAVIDSON.—Two powerplus 1918 combination electric models; what offers?—The American Automotive Sales Co., 112, West Parade, Hull. [5898

HARLEY-DAVIDSON 1920 4h.p. Sporting Model, new April, speedometer, Klaxon, lamps, Tan-Sad; [illegible] offer.—Sandbrook Davies, 43, Wind St., Neath. [X5026

HARLEY 1917, mag., electric lighting, Triplex screen, [illegible] tyres, hood, £45 sidecar, not military [illegible]; exchange lower power.—97, Angell Rd., [illegible] [5474

BRAND New Harley-Davidson 7-9h.p., electric light [illegible] to May, 1921 model sidecar and coverall [illegible] Fleming's Garage, Amblecote, Stourbridge. [2529

1920 Harley and Harley Sidecar, fully equipped, new, but slightly shop-soiled; £217, list price £246 Edward, 50, Hartington Rd., South Kensington, S.W.7. [5788

SPORTING Harley, 1916, recently reconditioned, etc., TB gear, TT bars, outlet exhaust, 10in. head lamp, D.A. lighting; offers.—Redmede, 1, Margaret St., Oxford St., W.1. [4898

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7, SOUTH SIDE, CLAPHAM COMMON, S.W.4.

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'Grams: "Burlington Motors, Clapham."
(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY-DAVIDSON 1920 4h.p. Sports Model, lighting set, speedometer, tools; this machine is unscratched, and mileage very low; £150.—Box 8,755, c/o *The Motor Cycle*. [5262

1915 7-9h.p. Harley-Davidson Combination, good running order, mag. model, electric lights; will ride 30 miles to meet purchaser; £115.—Hewan, Longdons, Agard St., Derby. [5519

1919 Harley, 7-9h.p., Henderson Elite sidecar, handsomely equipped, 70 m.p.g., insurance, very low mileage, quite indistinguishable from new; trial; offers.—3, Park Hill, Richmond, Surrey. [5400

HARLEY-DAVIDSON 4h.p. Flat Twin, 1920, speedometer and lighting set; owner bought 7-9h.p. combination; best offer over £130.—Page, 79, Military Rd., Colchester. Tel.: 111. [4564

1920 Harley, 7-9h.p., Model 20F, Montgomery sidecar, tools, lamps, speedometer, and Klaxon horn, 1,200 miles, splendid condition, trial by arrangement; £220.—Crowther, Sandfield, Bacup. [4969

1916 Harley Combination, late colour, expert examination, any trial, few spares, lamps, horn, mirror, pump, hood, screen; £130, or will exchange with late Henderson and adjustment.—Pirie, Cranleigh. [5515

1920 Harley-Davidson 4h.p. Combination, Swan sporting sidecar, painted aluminium, fully insured, delivered July, done 1,000, all accessories, overhauled makers; £180, or near.—Somerleyton, Sutton, Surrey. [5423

HARLEY-DAVIDSON 7-9h.p. Combination, in almost new condition, electric lighting, speedometer, disc wheels, electric and Klaxon horns, a luxurious outfit; £120; seen Saturday afternoon.—25, Battersea Rise, S.W. [5375

1918 7-9h.p. Harley-Davidson Combination, new bulbous back sidecar, fully equipped with lamps, horn, pump, and tools, guaranteed perfect throughout; £130.—Langford's, 37, Broadway, Cricklewood, N.W.2. 'Phone: Hampstead 8616. [5607

HARLEY-DAVIDSONS.—We have a specially good selection of 1919 and 1918 models, enamelled, and in running order; £90 and £85; sent on approval against cash and carriage both ways; special quotations for quantities.—Owen, 59, Scholefield Rd., Upper Holloway. [X5080

HARLEY-DAVIDSON 1918-1919 7-9h.p., ex W.D. stock, thoroughly overhauled, complete with lamp, generator, and mechanical horn, £130; fitted with new 1920 Montgomery sidecar, guaranteed by us, £168; deferred payments no extra.—Maudes', 100, Gt. Portland St., W.1. [5773

Hazlewood

NEW 5-6h.p. Hazlewood Combination, 3-speed clutch and kick starter, a thoroughly reliable outfit; Harrods have a large number of these in stock for sale at £186 each, or on deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5797

Henderson

HENDERSON 1920 Model A Light Sidecar, as new; 16; cost £23.—20, Heath Rd., Twickenham. 'Phone: Richmond 96. 5826

HENDERSON Four, 3-speed, kick starter, D.A. lighting, Elite sidecar; any trial; quick sale necessary; £160.—32, Victoria Rd., Sheffield. [5686

1915 Henderson 4-cyl. Combination, first-class condition, sidecar reupholstered, lamps, hood, screen, tools; trial Hendon; offers.—Box 8,785, c/o *The Motor Cycle*. [5757

HENDERSON 4-cyl. Combination, 2 speeds, electric light, Cameo wind screen, hood, first-class; £125.—Walker, Pumping Station, Coulsdon. 'Phone: Burgh Heath 4. [5058

1920 Henderson, Swan de Luxe sidecar, Easting, week old, as new; cost £225, sell £200; consider exchange Morgan or M.B.—Hufham, 39, Exchange St., Norwich. [4931

NEW 1921 Henderson Models now on the Way. To secure earliest possible delivery, book your order at once with the sole Midland distributors, The Premier Motor Co., Aston Rd., Birmingham. [3790

ORDERS Now Booking for October delivery of the new 1921 Model K Henderson, with improved engine, frame, forks, etc., finished deep blue with gold lines, the aristocrat of motor cycles.—Sole Midland distributers, The Premier Motor Co., Aston Rd., Birmingham. [5581

Hobart.

HOBART, 2¾h.p. Villiers, Albion 2-speed, tyres as new, lamps, horn; £33.—3, Park St., Wellington, Salop. [X5091

HOBART, 2¾h.p., clutch, P.S., adjustable pulleys, good condition, any trial; bargain, £25.—Norman, Walton St., Long Eaton. [5711

HOBART-VILLIERS 2-stroke, 2¾h.p., thoroughly overhauled, excellent condition; any trial £35, bargain.—Norman, Walton St., Long Eaton. [5712

HOBART-J.A.P. 2¾h.p., Bosch, B. and B., almost new Dunlop tyres, new Dunlop belt, new valve and compression tap, good running order; £38.—Bayley, 2, Mount Pleasant, Congleton. [5681

MOTOR CYCLES FOR SALE.

Hobart.

NEW 2¼h.p. Hobart Lightweight 2-speed models in stock at manufacturers' list price, £75; 4% extra for deferred payments; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5800

Hoskison.

HOSKINSON, 2¾h.p. Union 2-stroke engine, 2-speed, kick-starter, and clutch, will take a sidecar; £72; shop-soiled.—Motorcycle Marts, Ltd., Chatham [4941

Humber

2h.p. Humber Lightweight; £25; ride away.—Platt, 602, King's Rd., Fulham, S.W.6. [5390

£32.—3½h.p. Humber, excellent running order, good condition.—11, Eastfield St., Stepney, E.14. [4911

HUMBER 3½h.p., B. and B. carburetter; £25.—L'Estrange, 2, Lower Bank Rd., Fulwood, Preston, Lancs. [5051

3½h.p. Humber Coachbuilt Combination, 2-speed; ½ Best offer.—Manager, Theatre de Luxe, Gloucester [5460

1918 3½h.p. Twin Humber, all black, perfect condition.—Seen, 11, Hammersmith Rd., opposite Olympia. [5283

2¾h.p. Humber, 3-speed, clutch, lamps, tools, new ¾ tyres; £40, offers.—Bradley, 684, High Rd., Tottenham, N.17. [5213

HUMBER Combination, 3½h.p., 2-speed, H.S., C.B. sidecar, new gear, lamps; £65, nearest.—42, Pembroke Rd., South Norwood. [5483

ONE 6h.p. Water-cooled Humber, fitted with commercial sidecar, including all lamps and accessories, in perfect order; £145.—110, Bold St., Liverpool. [5023

HUMBER Motor Cycle, 3-speed, and sidecar,, all in first-class condition, nearly new tyres; bargain, £60.—Beecher, 472, Archway Rd., Highgate, London, N. [5905

HUMBER Combination, 3½h.p., 1912, 2 new tyres, tools, spare tyres, etc.; £70; only sold as owner 3rd up.—Capt. J.C., 23, St. James's Rd., Edgbaston, Birmingham. [5094

HUMBER 3½h.p. Combination (wicker), 2-speed, handle start, new tyres, tube, belt, new Binks carburetter, O.K. condition; £52.—41, Leathwell Rd., St. John's, Deptford, S.E.8. [4906

3½h.p. Humber Combination, 3 speeds, kick start, ½ new tyres, belt, any examination and trial, all excellent order; £50; offer considered.—Builder, 62, Cottage Grove, Clapham Station. [5502

1916 Humber, 6h.p., with brand new Mills-Fulford sidecar, Lucas lamps, usual spares, Easting green, in perfect condition, and like new; what offers? Evans, Cilgwyn, Llanerchymedd, Anglesey. [5654

HUMBER Combination, 4h.p., 1914, 3-speed, clutch, kick start, coachbuilt sidecar, lamps, horn, good tyres, in good condition; £65, or exchange car or chassis.—Hill, 3, Bedford Rd., West Ealing, W.13. [5700

Indian.

-9h.p. Indian and Sidecar, good condition; £55.—38, Diamond Rd., Slough. [5722

1914 Indian, clutch model, good condition; £55.—80, York Rd., Battersea, S.W.11. [5397

ONE New 7-9h.p. Indian Motor Cycle (ex American army stock); 99 gns.—110, Bold St., Liverpool. [5024

NDIAN Combination, 7-9h.p., 1915 model; offers, or would exchange lightweight.—77, Acre Lane, S.W.2. [5742

NDIAN 1920 Combination, mileage 400; sacrifice. £160.—Hayes Motors, Malvern Rd., Thornton Heath, S.E. [5382

NDIAN 7-9h.p., re-enamelled and overhauled, mechanically sound; £95.—Maudes', 100, Gt. Portland St., W.1. [5775

NDIAN Combination, late 1914, 7-9h.p., fast, excellent condition; trial; £85.—Benson, Bungalow, Hital, Cheshire. [X5100

1915 7-9h.p. Indian, 2-speed, spring frame, disc wheels, fast, fine condition; £75.—3, Ladysmith R., Cradley, Staffs. [X4779

1920 Indian Combination, dynamo lighting, wind screen, all accessories; £160.—16, Devonshire Place, Eastbourne. [5629

NDIAN 1915 7-9h.p., T.T. model, practically new back tyre; £50, or nearest offer.—Box 766, c/o the *Motor Cycle*. [X4640

-6h.p. Indian Combination, 3-speed clutch, electric light, new tyres, fine condition; £80.—Green, 2, Gt. Dover St., S.E.1. [5357

ONE 7-9h.p. Second-hand Indian, thoroughly overhauled, reconstructed, and re-enamelled, etc.; 89 gns.—110, Bold St., Liverpool. [5025

NDIAN Combination, splendid condition, 1914, stored during war, fast, economical, reliable; £70.—9, Sandison Rd., Clapham Common. [X4975

1920 Electric Indian Combination, 3,400 miles, luggage grid, Easting; £160.—Mr. Hogg, 4W, Pickenhall Mansions, Baker St., W.1. [4967

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£100.—7h.p. Indian combination, 1915, electric lighting, new bearings throughout, perfect condition.—Potts, 10, Highbury New Park, Highbury. [5072

INDIAN 7-9h.p. 1915 T.T. Road Racer, good condition, just overhauled, Binks carburetter; £65.—Nicholson, Clavadel, Merstham, Surrey. [5372

INDIAN 1920 7-9h.p., Swan sporting sidecar, disc wheels, dynamo lighting, speedometer, ridden 2,000 miles; £150.—29, St. Leonard's St., Bromley-by-Bow. [5425

1914 Indian 7-9h.p. Combination, C.B. sidecar, Lucas lamps, speedometer, all accessories, good running; £85.—Dace, School House, Nutfield, Surrey. [5314

INDIAN 1919 7-9h.p. Powerplus, makers' colours, large lamp set, complete, £90; 1915 5h.p., 65 gns.; exchanges.—Newnham, 223, Hammersmith Rd., W.6. [5735

1920 Indian Combination, delivered about July, only done 2,500 miles, perfect condition and running order; £155.—104a, Finchley Rd. 'Phone: Hampstead 7822. [5838

1916 7-9h.p. Powerplus Indian Combination, 3-speed, K.S., electric light, luggage grid, accessories, just overhauled; any trial; £120.—Hudson, Arden Arms, Stockport. [4983

INDIAN 7-9h.p. 1920 model, Mills-Fulford sidecar, dynamo lighting, as new, any trial; offers; or exchange G.P. Morgan.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E3155. [5861

INDIAN 5h.p., 1916, 3 speeds, clutch, Amac single lever, tyres nearly new, thoroughly overhauled, perfect condition; £80.—Learned, Greenbank, Monument Green, Weybridge. [5353

1917 Indian Powerplus, good C.B. sidecar, splendid condition, excellent appearance, fast, sporting, discs, accessories; £95.—P. W. Brower, Woodeaton, Islip, Oxon. [5720

INDIAN 1915 7-9h.p. 3-speed Combination, E.L., Klaxon; trial given; bargain, £105, offers; consider exchange good single.—Letters, P., 20, King St., Covent Garden. [5717

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting; bargains.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5257

1919 Powerplus Indian, military model, 7-9h.p., 3-speed, hand and foot clutch, spring frame, horn, mirror, etc., guaranteed in perfect condition throughout; £100, or offer; owner bought car.—7, Market Sq., Chesham. [5234

1920 7-9h.p. Powerplus Indian. Henderson Elite sidecar, with wind screen, electric lamps, horn, all tools, speedometer, done 2,000 miles, excellent condition; £190.—Write, Major Watson, 50, Palace Mansions, W.14. [5420

INDIANS.—Ten models 7-9h.p. and two 18h.p., all overhauled and mechanically perfect, from £50 to £80; two powerplus 1918 combination electric models, as good as new; what offers?—The American Automotive Sales Co., 112, West Parade, Hull. [5897

SPECIAL 1919 T.T. Indian Powerplus, 2¾ to 1 top gear, kick start, enamel and plating absolutely unscratched, 80 m.p.h., 75 m.p.g.; exchange good Norton, Blackburne, Sunbeam, or similar; sell £155.—9, Red Hill, Bassett, Southampton. [5461

INDIAN 7-9h.p. Powerplus, electrically equipped (dynamo), speedometer, ammeter, 1917 model, with brand new special Swan sports sidecar, discs, good tyres, tools, and in excellent condition throughout, really smart outfit; £145.—Forwood, Pembroke College, Cambridge. [5080

INDIAN.—Immediate delivery from stock, 7-9h.p. Powerplus model, with dynamo lighting, electric horn, and speedometer, £181/14; combination, £223/14; also 4h.p. Scout model, 3-speed, £140; local trade supplied.—Sole Birmingham agent, P. J. Evans, 83-91, John Bright St., Birmingham. [0175

1919 Indian Powerplus Combination, spring frame, electrically equipped, complete tools, spares, including chains, 2 spare inner tubes, 1 good spare outer cover, engine just overhauled, fast machine; owner going abroad, must sell; £155, or near offer; seen Saturday or Sunday, or write.—Simpson, 30, Lansdowne Rd., Tunbridge Wells. [2688

7-9h.p. Indian, spring frame, 3 speeds, kick start, electric lamps, horn, tools, overall, helmet, and oilskin suit, Montgomery sidecar, 5-point attachment, underslung chassis, wind screen, in perfect condition throughout, doing 70 m.p.g., solely ridden by owner and carefully looked after, low mileage, willing to give 100 mile trial. Also 4in. Drummond screw-cutting lathe, new, complete with Cushman chuck, face plate, milling attachment, and foot motor; emery wheel, with heavy base and foot motor; 4-speed drilling machine, stand, and foot motor; 1h.p. horizontal petrol engine, w.c.; 25 volt dynamo, switchboard, 12 lamps, and coil of 3-20 wire; £250 the lot; owner leaving England.—Vere, 25, Claxton St., Portsmouth. [5791

Invicta

NEW Invicta-Jap, 2¾h.p., 2-speed, clutch and kick starter, a thoroughly well built and reliable machine, £89/5; also 3½h.p., Abingdon King Dick engine, 3-speed clutch and kick starter, fitted with smart low built sidecar, £143; deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd London. [5807

MOTOR CYCLES FOR SALE.

Invicta

1920 Invicta-Abingdon King Dick 3½h.p. Mills-Fulford Combination, new in June, condition perfect, only done 400 miles, complete accessories, lamps unused; sale owing to ill-health; cost £145; price £120, including insurance policy; no offers.—Write, Capt. Stanbrough, 6, Mornington Av. Mansions, West Kensington, or can be seen at Olympia Motor Co., 1, Hammersmith Rd., opposite Olympia. [5324

Ivy.

IVY Cycles.—Write, Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

IVY, 2-stroke, 1914-15, perfect; £38, or near offer.—Jelley, Hill Top, Leatherhead, Surrey. [5077

1920 Ivy 2-stroke, Sturmey 2-speed, clutch, kick start, legshields, in practically new condition; £69.—Box 8,786, c/o *The Motor Cycle*. [5761

IVY, the aristocrat of its type, delivery of all models from stock; prices and catalogues post free.—District Agents, Walsall Garage, Walsall. Tel.: 444. [9003

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt Portland St., W.1. Mayfair 4084. [0023

Ixion.

1916 Ixion, Villiers, single speed, lamps, tools, fine condition; £39.—161, High St., Blaina, Mon. [5459

James.

1920 James 5-6h.p., and Canoelet sidecar; £135.—Dunn's, 326, Euston Rd., London. Museum 5391. [2975

JAMES 4¼h.p. Combination, hardly used, as new; £95, or exchange solo, Douglas preferred.—36, Oxford Rd., Windsor. [5173

JAMES.—Immediate delivery 1920 6h.p. combination, 3 speeds, clutch, all accessories; £190.—Parker's, Bradshawgate, Bolton. [X5039

1916 James 4¼h.p. Combination, 3-speed countershaft, Easting, lamps, spares; trial; £100.—2a, Delafield Rd., Charlton, S.E. [5663

JAMES Brand New Combinations, for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [9000

1920 James 4¼h.p. Combination, new in May, mileage 700, lamps, horn, etc.; £145.—Littlefield, 81, Llanshaw Rd., Portsmouth, Hants. [4972

NEW 1920 James 4¼h.p. Combination, £170; 6h.p. combination, £190; free delivery to any address—The Premier Motor Co., Aston Rd., Birmingham. [3797

F.O.C.H. have a 1919 4¼h.p. James combination, new condition, large electric set; cheap.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5258

IMMEDIATE Delivery of Brand New Latest 6h.p. James Combination, £190; 4¼h.p. combination, £170; both with model de luxe sidecars; free delivery to any address.—The Premier Motor Co., Aston Rd., Birmingham. [5588

4¼h.p. James Combination for sale, 3-speed, 1917 model, Binks carburetter, extra heavy Dunlop tyres, in good running order, head lamp and horn, tools and spare steel studded cover; £95, complete.—Geo. Coleby, Stationer, E. Dereham. [5128

J.A.P

8h.p. J.A.P. Combination, C.B. sidecar; £38.—Motorcycle Marts, Ltd., Chatham. [4945

J.A.P. 4-5h.p. Twin, sprung frame, Bosch, Amac, lamps, etc., just been relmished, ride away; £50, offer.—Stratford, 148, Marlborough Rd., N.19. [4979

6h.p. Twin J.A.P., 2-speed, clutch, kick start, latest Amac, Bosch mag., good tyres; £37, cheap to clear.—Hill, 3, Bedford Rd., West Ealing, W.13. [5699

J.A.P. 5-6h.p. Combination, engine No. 11545, Bosch, Jardine countershaft, Swan coachbuilt sidecar, newly relushed; £85, lowest.—30, Haverfield Gardens, Kew. [4995

Len-Francis.

LEA FRANCIS, M.A.G., delivery from stock; £130.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5602

LEA FRANCIS, M.A.G. engine, immediate delivery; [illegible] Maudes' Motor Mart, 100, Paris St., [illegible] [5251

LEA FRANCIS, 1920.—Place your name on our [illegible] list for delivery of these aristocratic [illegible] Motor Section, Ltd., 198, Gt. Portland St., W. [0099

LEA FRANCIS [illegible] from stock, £130. [illegible] Clyde Agent, Elec[illegible] Ave., Carpenter St., E.C.4. Phone: Avenue 5549. [0066

NEW Lea Francis, 2-speed, clutch and kick starter, M.A.G. engine, at list price, £140; or on deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments.—Harrod's, Ltd., 118, Brompton Rd., London. [801

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Levis.

LEVIS, 1920, lamps, etc., splendid condition; £48, bargain.—33, Shirley Rd., Luton. [5358

LEVIS 1917 2-stroke, Enfield 2-speed, good running order; £45.—Knight, High St., Reigate. [5162

LEVIS 1919 2¼h.p., fully equipped.—Hopkinson, Kensington Rd., Oakhill, Stoke-on-Trent, Staffs. [5081

1920 Levis Popular, W.S.R. jet, cyclometer, tools, pump; £52/10.—168, Risley Av., Bruce Grove. [5614

1920 Levis, brand new, still wrapped; 5% under list price.—Wallis, 23, Hartington Grove, Cambridge. [5288

LEVIS, new 1920 model; delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0302

LEVIS 1919 2¼h.p., splendid condition; clearance price, £44.—Maudes', 100, Gt. Portland St., W.1. [5769

1917 Levis, perfect condition, lamp, horn, speedometer; £40; ride away.—18, Gloucester Rd., Teddington. [5328

LEVIS, the master 2-stroke, delivery from stock; £60.—The Premier Motor Co., Aston Rd., Birmingham. [3798

LEVIS, the finest 2-stroke in the world, delivery from stock; £60.—District agents, The Walsall Garage, Walsall. Tel.: 444. [9001

1920 Levis Popular; in stock at list, £60; easy payments or exchanges.—2, Nightingale Rd., Lower Clapton, N.E. [5873

ONE 2¾ Levis Motor Cycle, 2-speed, Enfield gear, lamps, and horn, in perfect condition; £60.—Armitage, Alford, Lincs. [4062

LEVIS, 1917, re-enamelled, overhauled, Bosch, Amac, aluminium footboards, lamps, as new; nearest £40.—Ray, 98, Michael St., Shrewsbury. [5176

BRAND New Latest 2¼h.p. Levis, Popular Model, delivery from stock; £60; the master 2-stroke.—The Premier Motor Co., Aston Rd., Birmingham. [5589

LEVIS Popular, latest model, in stock; £60.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0318

Lincoln-Elk.

3½h.p. Lincoln-Elk, 1914, Bosch, Amac, T.T., adjustable pulley, new belt and tyres, splendid condition; £25; trial any time by appointment.—21, Windsor Rd., Denmark Hill, S.E.5. [5529

L.M.C.

L.M.C. 1920 6h.p. Twin, 3-speed countershaft, Millford sidecar, Easting wind screen, electric light, first-class running order; £160.—G. F. Wood, Trinity College, Oxford. [5046

1920 L.M.C. 6h.p., S.A. 3-speed and K.S., a machine to take a sidecar anywhere; we can supply you with a sidecar suitable and save you money; price (shop-soiled—has been ridden) £125.—110, Bold St., Liverpool. [5026

1920 L.M.C. 6h.p., special rear springing, most comfortable to ride, exceedingly flexible; send your cheque, don't miss this opportunity; price (shop-soiled—has been ridden) £130.—110, Bold St., Liverpool. [5027

L.M.C. Combination, 1920, 6h.p., with Millford Corvette sidecar, in first-class condition throughout, fitted with lamps, horn, wind screen, luggage grid, and all tools; an opportunity for anyone who wishes to secure a no-trouble, go-anywhere combination at a very low figure; owner is going abroad, and must realise £126.—The Layton Garages, 90, High St., Oxford. Tel. 784. 'Grams: Integrity, Oxford. [5107

Lugton.

1913 3½h.p. Lugton-Precision, Mabon gear, Bosch, Cox Atmos, large P. and H. lamp, Klaxon, pump, light low machine, will take sidecar, tank, gear, brakes and lamps new this summer; £45; ride away.—Youngman, 17, St. Alphonsus Rd., Clapham, S.W.4. [5347

Martin.

MARTIN 1914 4h.p., o.h.v., special speed model, new Hoffmann roller bearings, Senspray, 65 m.p.h., touring trim, splendid condition; £55; exchanges.—Bramwell, 4, Market Sq., Stony Stratford. [5647

Martinsyde.

6h.p. Martinsyde, the super combination; immediate deliveries, Norfolk agents.—Norwich Motor Co., Ltd., Norwich. [2718

MARTINSYDE-NEWMAN Combination, delivery from stock; £170.—Maudes' Motor Mart, 10, Paris St., Exeter. [6218

MARTINSYDE Combination, brand new, 6h.p. twin, 3-speed; list price £170.—Fleming's Garage, Amblecote, Stourbridge. [2518

1920 Martinsyde Combination, fully equipped, only in beautiful condition throughout, mileage 2,800, price £175.—West, Outfitter, Beeston, Notts. [5518

1920 Martinsyde Combination, in perfect condition, complete with all lamps, horn, speedometer, tool, etc., sidecar fitted with Cameo screen and apron, appearance like new, tyres good; for quick sale £145.—110, Bold St., Liverpool. [5019

MOTOR CYCLES FOR SALE.

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MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford, also Cornwall and Devonshire, for Martinsyde-Newman combination; £170; delivery ex stock; trade supplied; exchanges and deferred payments.—Maudes', 100, Gt. Portland St., W.1., and Paris St., Exeter. [5777

Matchless.

MODEL H. Matchless in stock, Lucas lamps, etc.; £215.—Cross, Agent, Rotherham. [X4784

MATCHLESS, Model H, acetylene lighting; £180.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5605

MATCHLESS (War Finish) Combination, hood, screen, etc., splendid condition; £175.—Rist, 90, High St., Marylebone. [5078

MATCHLESS 6h.p. J.A.P., Villiers clutch, kick starter, first-class condition; £47.—Box 8,743, c/o *The Motor Cycle*. [5126

MATCHLESS Combination, 8h.p. twin, belts, Sen-spray; trial; £55.—Scholfield, 22, Hall Park St., Bilston, Staffs. [X5098

MATCHLESS Combination, Lucas Magdyno, delivery from stock; £231/17.—Maudes' Motor Mart, 100, Paris St., Exeter. [5249

MATCHLESS 8h.p. J.A.P., 2 speeds, kick start, just rebushed; bargain, £60.—27, Longsight Rd., Harwood, near Bolton. [X4976

MATCHLESS Combination, 1920, fully equipped; £180; done 1,200 miles.—25, Davisville Rd., Askew Rd., Shepherd's Bush. [5504

1920 Matchless Combination, C.A.V. lighting, fully equipped, as new; £190, or nearest offer.—365, King St., Hammersmith. [5578

1920 Matchless, 7-9h.p., dynamo model, hood, screen, speedometer, mileage 100; £210.—Dunn's, 326, Euston Rd., London. Museum 5391. [2989

MATCHLESS Model H, complete lamps, hood, horn, leg shields, etc., low mileage; sacrifice £187; appointment.—Alva Cottage, Ashford, Middlesex. [5393

MATCHLESS-M.A.G. 8h.p. 1914 Combination, accessories; any trial; seen by appointment; £85.—Sutton, 13, Princes Av., Old Trafford, Manchester. [5171

1920 Matchless Combination, complete equipment, except hood, perfect; any trial; must sell £178.—Southlands, Pollard's Hill West, Norbury, S.W. [4928

MATCHLESS.—Immediate delivery 1920 Model H combination, Lucas Magdyno, M.A.G. engine, spare wheel and tyre; £230.—Parker's, Bradshawgate, Bolton. [X5036

1915 Matchless Combination, M.A.G., electric horn, fully equipped with all spares, guaranteed 55 m.p.h., 60 m.p.g.; £140.—Phillips, 46, Liverpool Rd., N.1. [5070

MATCHLESS Victory Model, guaranteed perfect condition throughout, new tyres, fully equipped, must sell; best offers.—125, Grays Inn Rd., London. [5136

1920 H Matchless, nearly new, Magdyno, hood, screen, speedometer, leg shields, sidecar step, pillion seat, spares £220.—175, New North Rd., Islington. [5330

MATCHLESS Combination (2-speed), kick start, clutch, chain drive; 100 gns.; take lower power, ash adjustment.—57, Kenbury St., Camberwell, London. [5432

MATCHLESS Combination, Victory model, 1919, hood, screen, spare wheel, lamps, horn, mileage 2,000, perfect condition; £145.—Hedgcock, 246, High St., Rochester. [5377

MATCHLESS Combination, 1921 model dynamo, in stock.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.) Bond St., London, W.1. 'Phone: Mayfair 6559. [0317

MATCHLESS Victory Combination, Aug., 1919, Lucas lighting, spare wheel, all tools, condition like new; £140.—Clark, 7, Exhibition Rd., S.W.7. 'Phone: Kensington 4096. [5606

MATCHLESS, delivery from stock of new spring frame model, equipped to your requirements; replacements for Matchless models of all dates.—Tassell, 1a, Bloomfield Rd., Plumstead. [1958

MATCHLESS 1915 Model 8B Combination, electric lamps, 2 horns, Cowey speedometer, very fine condition throughout; £125.—Mylam and Co., 197, London Rd., Croydon. 'Phone: 2379. [5617

1920 Matchless, Model H, M.A.G engine, hood, screen, speedometer, Lucas Magdyno, absolutely as new; £215; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [5874

1920 Matchless Combination, spare wheel, hood, screen, lamps, Watford speedometer, Klaxon, many extras and spares, absolutely as new, cost £230; sacrifice, £190.—Bannister, West St., Midhurst, Sussex. [5488

MATCHLESS 1920 Model H Combination, M.A.G. engine, only used for a few miles; exceptional bargain, £175.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

MATCHLESS Combination, 1920, 8h.p., electric, accessories, Cowey horn, new type luggage grid, 55-60 m.p.g., small mileage, owner buying car; £240.—Telford Garage, 47, Streatham Hill, London, S.W.2 [5267

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,,	Palmer Cord	39/-	52/6
,,	Bates No. 1 Special	37/6	67/-
,,	Beldam Heavy	34/-	58/-
,,	Hutchinson T.T.	33/6	59/-
26×2⅜	Clincher de Luxe Ex. Hy..	42/6	68/6
,,	Beldam Extra Heavy ...	40/-	68/6
,,	Bates No. 1 Special	39/6	71/6
,,	Hutchinson T.T.	39/6	61/9
,,	Palmer Cord Heavy	39/6	66/-
,,	Kempshall Anti-skid	37/6	75/-
,,	Avon Tricar Rubber Stud.	34/6	72/6
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28×3	Goodrich Safety Tread ...	52/6	93/6
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Matchless.

MATCHLESS 1920 Model H., spring frame, 8h.p. J.A.P. engine, Lucas Magdyno electric lighting, spare wheel, Easting hood, screen, leg shields, sidecar step; offers over £198.—Mills, Chemist, Platt Bridge, Wigan. [5115

MATCHLESS, dynamo lighting, £230; and standard model, £205; in stock; deferred terms if desired; exchanges.—Lamb's, 151, High St., Walthamstow; 50, High Rd., Wood Green, N.22; 387, Euston Rd., London, N.W. [5241

MATCHLESS Combinations.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [3850

1920 Matchless M.A.G.-engine Combination, with discs, leg shields, screen, hood, Lucas electric lighting, done 420 miles, practically new; cost £250, accept offer over £200.—E. J. Keay, Ridholme, The Hermitage, Richmond. [5238

MATCHLESS Latest Model H Combination, dynamo lighting, hood, screen, spare wheel, etc., immediate delivery; also shop-soiled and second-hand models.—Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10, or 'phone Greenwich 751. [3300

1920 Matchless Combination, Model H., 8h.p. J.A.P., done 1,000 miles, Lucas lamps, never lit, horn, Watford rear drive speedometer, makers' hood, mudshield, spares, suit heavy waterproofs, screw jack, tyres unpunctured, insured June next; going abroad; nearest offer £200.—Welton, 3, Victoria Drive, West Kirby, Cheshire. [4914

1920 (June) Matchless M.A.G. Combination, only ridden 550 miles, £25 worth accessories, including Lucas lamps and horn, Easting and Orto screens, speedometer, mudshields, etc., indistinguishable from new, spare wheel unused; owner getting car this month; any trial by appointment; price £170.—Apply, Eccles, Oaks, Sulhamstead, near Reading. [5172

Metro.

1920 Metro-Tyler 2½h.p., Model S, the sporting lightweight machine; price (shop-soiled—has been ridden) £75.—110, Bold St., Liverpool. [5028

METRO-TYLER, 1916, 2-speed, disc wheels, new tyres, thoroughly overhauled; £55.—Hewin's Garages, Ltd., the real service firm, Taunton. [5204

METRO-TYLER, 1918, 2½h.p., 2-stroke, 2-speed, Amac, E.I.C., overhauled and as new; bargain, £45.—Shingler, 23, Priory Rd., Kenilworth. [X5064

METRO-TYLER, type S, latest model, brand new, 2¾h.p., 2-speed, with enclosed mag. and gear box; £80; delivery from stock. Local trade supplied.—Sole Birmingham agent, P. J. Evans, 83-91, John Bright St., Birmingham. [0260

Minerva.

MINERVA Combination, mag., m.o.i.v., new piston, runs well.—Saxton, 6, Devonshire St., Islington, London. [5442

Moto-Reve.

MOTO-REVE 2¼h.p., single, mag., Druids, running order; £12.—Lodge, Avenue, Birstall, Leeds. [5637

Motosacoche.

MOTOSACOCHE, fine condition, Amac carburetter; ride away; £16.—W. Hartley, 14, Porchester Mews, Bayswater, W.2. [4652

New Hudson.

1920 New Hudson 2-stroke, 2-speed, new condition, full equipment; £68.—97, Nightingale Rd., Wood Green. [4093

1915 New Hudson, 2¾h.p., clutch, 3 speeds, ride away; £48, complete.—Clifton, Hooe, Battle, Sussex. [5417

1920 New Hudson Lightweight, 2 speeds, little used, like new; £60.—Metcalf, Lodge Hollow, Hoddesdon, Herts. [X4939

NEW HUDSON, 3½h.p., 3-speed, clutch, discs, powerful, splendid condition; £50.—Greenshields, Albion St., Chipping Norton. [5223

NEW HUDSON, 2¾h.p., 3-speed, clutch, lamps, etc., beautiful condition; Sunday morning; £38.—Price, 93, Salop Rd., Walthamstow. [5404

NEW HUDSON 6h.p., 1915 model, complete, 3-speed gear, speedometer, lamps, horn; £75; private owner.—Jackson Bros., Horsham, Sussex. [5468

1920 New Hudson, absolutely perfect condition, unscratched, ridden only 400 miles, toolbag never used, complete except lamps; £65.—Beecroft, Rhos-on-Sea, N. Wales. [5111

1914 New Hudson Coachbuilt Combination, 4½h.p., 3-speed Sturmey-Archer gear box, lamps, horn; send photo; excellent running order; £90, or nearest.—E. C. Flatt, Quidenham Home Farm, Attleborough, Norfolk. [4107

NEW HUDSON Lightweights, 1920, 2¼h.p., 2 speed £75, or fully equipped with head lamp and generator, tail lamp, and tubing, horn, L.C.C. registration, petrol, and oil, £79/15.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [0280

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL Lightweight, 2-speed, good condition, all on.—6, Powis Villas, Brighton. [5543

1919 (Late) 8h.p. New Imperial, 3-speed, clutch, K.S., Klaxon, and spares, khaki, perfect; £105.—Gray, Eastgate, Barnsley. [X5092

NEW IMPERIAL, 1919, 2¾h.p. J.A.P., 2-speed, guaranteed as new; £66.—Maudes', 100, Gt. Portland St., W.1. [5767

1919 New Imperial, 2¾h.p., 2-speed, splendid condition, any trial; £60.—Just, 45, North Parade, Ashby, nr. Scunthorpe. [5143

NEW IMPERIAL, 2¾h.p. J.A.P., bought new March, 1920; price £70; Barnsley district.—Apply, Box 8,752, c/o *The Motor Cycle*. [5216

8h.p. New Imperial-Jap Combination, 1917-18, screen, electric lamps, etc., Binks carburetter, perfect condition; £85.—Samuel's Garage, Chorley. [5099

£120.—Unused W.D. New Imperial combination.—Clifford Wilson Company, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4735

NEW IMPERIAL-J.A.P. 8h.p. Combination, run only 300 miles; great bargain, 125 gns.—Longman Bros., Bond St., Ealing. 'Phone: 689. [4713

145 m.p.g.—1920 New Imperial 2¾h.p., 2-speed, nicely run in, Dunlops, Miller lamps, Klaxon, Watford speedometer; £87/10.—Simmonds, 13, Tregunter Rd., South Kensington. [5179

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £80/17; with clutch and kick starter, £89/5.—P. J. Evans, 83-91, John Bright St., Birmingham. [0262

1920 New Imperial 8h.p. Combination, Canoelet sidecar, Cameo screen, complete set of lamps, Lucas and mechanical horns, Cowey speedometer, in excellent condition; £160, or nearest offer.—15, Victoria Villas, Station Mill, Oakengates, Salop. [5118

1920 New Imperial 8h.p., with A.J.S. sidecar, 2 powerful head lamps and tail lamp, Klaxon, Bonniksen speedometer, Tan-Sad, sidecar cost £50, outfit only done 2,400 miles, fully insured for £200; any trial given; price £175.—Apply, A. D. Cruickshank, Hill House, Wheatley. [3788

NOV., 1918, New Imperial combination, 8h.p., 3-speed countershaft, hand-control clutch, P. and H. head lamp set, rear and sidecar lamp, large Lucas horn, 3 new Dunlop extra heavy rubber-studded covers, lovely large Sunbeam sidecar; £120, a bargain.—Wallis, 23, Hartington Grove, Cambridge. [5287

1919 (late) New Imperial-Jap 8h.p. Combination, guaranteed perfect mechanical condition; any trial; mileage low, electric lighting, hood, screen, speedometer, luggage carrier, all tools, many spares, including tyre and tube, extra strong, powerful, fast, 60 m.p.g.; £150.—91, Drayton Gardens Garage Co., South Kensington, S.W.10. [5506

New Ryder

NEW RYDER 2-stroke Lightweight, good condition, and useful; £22.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [5513

New Scale.

3½h.p. New Scale, the solo and sidecar machine; £90, delivery from stock.—Agents, Gray and Raynes, 8, Low Rd., Dalby, Doncaster. [2785

Norton

1920 T.T. Norton; list £98.—Dunn, 326, Euston Rd., N.W.1. Museum 5391. [5911

3½h.p. Norton, 3-speed sporting model; list price. Pickering, Mardol, Shrewsbury. [5710

1920 (August) 3½h.p. T.T. Norton, hardly used; £98.—64, Frederick St., Loughborough. [X4791

NORTON, new T.T., Philipson, horn, unregistered; £107, or offer.—Padget, Howden, E. Yorks. [5187

NORTON.—North Yorkshire agents: R. H. L. Pickering and Co., 239, Linthorpe Rd., Middlesbrough. [2997

1917 T.T. Norton, fully equipped, splendid bike, fast; £80.—32, Winchester Rd., Colchester. [4889

1920 (July) Norton Big Four, small mileage, perfect; £130, I want.—Box 8,787, c/o *The Motor Cycle*. [5762

NORTON 1916 3½h.p., 3-speed, lamps, speedometer, horn, first-class condition; £95.—Maudes', 100, Gt. Portland St., W.1. [5768

NORTON Big 4, October, 1919, Lucas lamps, horn, etc., low mileage, excellent condition; £95.—Ll., [illegible] College, Cambridge. [5495

NORTON Brooklands special, 1915, certificate, Philipson pulley, enclosed lubrication, sound throughout; seen [illegible] Box 8,786, c/o *The Motor Cycle*. [5755

1919 [illegible] Norton, countershaft, all accessories, [illegible] speed, tyre, tube, very fast £100. [illegible] Stevenage Ave., Leicester. [X5047

1916 T.T. Norton, dress painted black and white, accessories, just overhauled, first nearest £65.—A.M.A., 71, Hemingford Rd., Cambridge. [5509

OCTOBER, 1919, T.T. Norton Combination, Eastings, lamps, horn, knee-grips, top-hole condition; nearest £155 secures.—Rushin, Market St., Wolverhampton. [4915

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Norton.

1920 (June) T.T. Norton, lamps, horn, knee-grips, and spare belt, Philipson variable gear, absolutely as new; £108.—O. Whatley, Aston Lodge, Malvern. [5132

NORTON (Sept., 1920), 3½h.p., 3-speed model, horn, lamps, as new; owner buying car; £135, or offers.—Hodgson, Manor Grange, Egerton Rd., Birkenhead. [4977

NEW 1920 3½h.p. T.T. Norton, hand-controlled Philipson pulley, Lucas, accessories, 5 to 70 m.p.h.; £105.—62, Howard Rd., Leicester. 'Phone: 4201. [X5056

1919 Norton Big Four Combination, Swan sporting sidecar, aluminium discs all round, lamps, horn, etc., excellent condition; £145.—Norwich Motor Co., Ltd., Norwich. [4962

1920 4h.p. Norton and Sporting Canoelet Sidecar, Mabon variable gear, mileage under 500, as new in every respect, real snip; 130 gns.—Julian, 84, Broad St., Reading. 'Phone 1024. [4965

FOR Sale, 1916 Big 4 Norton and sidecar, Sturmey-Archer gear, chain-cum-belt, Stewart speedometer, P. and H. lamps, horn, tools, and spares, in first-class order; price £100.—L. Newbigin, Narrowgate, Alnwick. [5684

1920 3½h.p. T.T. Norton, only run 400 miles, winner of several medals in hill-climbs, indistinguishable from new, really hot stuff, knee-grips, and horn; £90.—Julian, 84, Broad St., Reading. 'Phone: 1024. [4964

N.S.U.

N.S.U. 3½h.p., good running order; £22, or near offer.—Mason, St. Bernard's, Sherwood Park Rd., Sutton. [3312

6h.p. N.S.U. Coach Combination, 2-speed, K.S.; nearest £55; week-end or appointment.—20, Airedale Av., Chiswick, W.4. [5343

N.S.U. 3½h.p., 2-speed, F.E., Bosch mag., B. and B. Triumph pattern tank, nearly new tyres, lamps, horn; £28/10.—Knight, High St., Reigate. [5161

N.U.T.

N.U.T. 3½h.p. Twin. Magdyno lighting, delivery from stock; £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [5245

1920 N.U.T., run few months, engine and lighting just overhauled trial offers.—Pattinson, Mobberley, Cheshire. [4974

N.U.T., June, 1920, dynamo lighting, electric horn, speedometer, watch, everything posh; cost £185, accept best offer.—13, Church St., Halesowen, Birmingham. [5113

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114.

N.U.T. Combination, 4 months' old, Magdyno, Ace discs, Cowey horn, covers, tubes, unpunctured, luxurious outfit, cost £210; what offers?—Drew, 25, Wood St., Stratford-on-Avon. [4897

N.U.T.—Delivery from stock of these models, equipped with magdyno lighting, price £165; sole wholesale and retail agents for Staffordshire, the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [9002

1914 (Nov.) T.T. N.U.T.-J.A.P., 6h.p., 3-speed gear, clutch, Amac, new tyres, lamps, horn, tools, enamel unscratched, engine and gear perfect, 60 m.p.h., 80 m.p.g.; sporting appearance, and as new; £85.—Lt. Bonnerman, Tidworth. [5675

N.U.T. 3½h.p., special Brooklands racing model, o.h.v., single gear, adjustable pulley, engine perfect, just overhauled and re-enamelled to tune of £30, brand new Binks carburetter, new inner and outer tubes on back wheel, new saddle, new belt, also spare, 2 long nickel exhaust pipes, T.T. bars, replated throughout, new torpedo tank, new saddle-bags, disc wheels, lamps, horn, very fast and sporty; 95 gns.—Box 8,781, c/o *The Motor Cycle*. [5756

O.K.

O.K., 2¾h.p. Union engine, shop-soiled; £42.—Motor cycle Marts, Ltd., Chatham. [4942

O.K. Junior, 48 gns., for value; deferred terms; send us your suggestions.—Lamb's, 151, High St., Walthamstow; 50, High Rd., Wood Green, N.22; 387, Euston Rd., London, N.W. [5242

Olympic.

OLYMPIC, 6h.p. J.A.P., brand new, with Canoelet sidecar and coverall apron; great bargain, £136; fitted with Enfield 2-speed gear.—Fleming's Garage, Amblecote, Stourbridge. [2531

Omega.

2¾h.p. Omega-Jap, the sporting single; immediate deliveries.—Norwich Motor Co., Ltd., Norwich. [2787

OMEGA 2½h.p., 2-stroke, 2-speed, lamps, horn etc., splendid condition; bargain, £45.—S., 1, Aylife St., New Kent Rd., S.E. [5536

OMEGA-J.A.P.'s in Stock.—Models B, 2-speed, £72 C, 2-speed, hand clutch, kick start, £80; carriage paid.—Washburn, Cheadle, Staffs. [1565

OMEGA-J.A.P.'s, 2¾h.p., 2-speed, the best and smartest lightweight; from stock, list price.—Agents, Gray and Raynes, 8, Low Rd., Dalby, Doncaster. [2785

MOTOR CYCLES FOR SALE.

Omega

1919 Omega-Jap 2¾h.p., 4-stroke, 2-speed, good tyres, tools, Miller lamp, Cowey speedometer, Spartonet horn, knee grips, mudshield; £70; inspect.—Owen, 6, West Derby Village, Liverpool. [5189

P. and M.

P. and M., 1920 (July), solo, particulars, photograph; ill-health.—Glenthorne, Oswestry. [5150

P. and M. 1920 Model, delivery from stock; £115.—Maudes' Motor Mart, 100, Paris St., Exeter. [5246

1918 R.A.F. Model P. and M., 2-speed, K.S., splendid order; £68.—7, Dorset Av., Harehills, Leeds. [5652

1919 P. and M., not W.D., receipt shown, fully equipped, perfect condition; £80.—Wilkinson, 48, Liverpool Rd., N.1. [5071

£90 or thereabouts.—1919 P. and M. combination, absolutely sound, all spares, thorough going order.—Crompton, 176, Corporation St., Stafford. [5681

1920 P. and M., latest model, P. and H. lamps, horn, just delivered; owner unexpectedly ordered abroad; accept reasonable offer.—Briggs, Whitchurch, Salop. [5622

1919 3½h.p. P. and M. Combination, small mileage, guaranteed perfect throughout, not W.D.; £98.—Langford's, 37, Broadway, Cricklewood, N.W.2. Phone: Hampstead 8616. [5608

P. and M. W.D. 3½h.p. Model, overhauled and guaranteed by us, £78; complete with Mills-Fulford sidecar, £109; deferred payments no extra.—Maudes', 100, Gt. Portland St., W.1. [5774

DEC., 1919, P. and M., done 1,500 miles, Miller lamps, full kit, tyre, Dunlop heavy, condition excellent; owner selling; bought light car; £90.—D. O. Jave, Pleasant View, Stone Rd., Stafford. [X5066

F.O.C.H. have a 1919 P. and M. combination, excellent order, fully equipped; bargain.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [5259

1920 P. and M., R.A.F. model, fitted with Fallolite head lamp, speedometer, mirror, luggage and petrol carrier, Millford sidecar, splendid running condition; £120.—39, St. Peter's Sq., Hammersmith. 'Phone: Hammersmith 513. [5395

PHELON and Moore, Ltd., have several R.A.F. models for immediate delivery, reconditioned and guaranteed by them. Prospective motor cyclists should not hesitate to procure one of these machines now, whilst prices are low; £90 solo, or £120 combination.—Fullest particulars on application, or one can be inspected at London Showrooms, 4, Berners St., Oxford St. (opposite Bourne and Hollingsworth), W.1. [0314

P and S.

P. and S. Combination, 2-speed gear, clutch, kick-starter; £105.—Motorcycle Marts, Ltd., Chatham. [4948

1919 P. and S., 2-stroke, 2-speed, kick starter, lamps, horn, mud shields, all as new; naval officer going abroad, must sell; £65.—Tufnell, Langleys, Chelmsford. [5032

Paragon.

£52! £52! £52!—Genuine urgent sale. Paragon 2-stroke, list price £70, brand new, unregistered, 2 speeds, spring frame.—24, Beauval Rd., East Dulwich. [5795

PARAGON 1920 2¾h.p., 2-stroke, 2-speeds, new, list price, 68 gns.; accept £46 quick sale, or exchange.—3, The Mews, Victoria Rd., Clapham. 'Phone: Latchmere 4290. [5886

Precision.

2¾h.p. Precision Combination, 3-speed, lamps, spares, good condition; £65.—S. Fenn, Church Rd., Leigh-on-Sea. [5076

2¾h.p. Precision, 2-speed C.S., guaranteed perfect; any trial; £45; exchange 4h.p. Triumph, C.S., good condition, lamps, with Precision; deposit.—Brown, Heath Rd., Haywards Heath. [5097

Premier.

3½h.p. Premier Motor Cycle, excellent condition; bargain, £27.—Woodfield, London Rd., Northfleet. [5062

PREMIER Combination, 3½h.p. (dependable), any trial; best offers.—Niblock, 77, Grafton St., Mile End, E1. [5185

PREMIER 1914 3-speed Combination, just overhauled, perfect condition; £50.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [5824

1914 3½h.p. Premier Combination, Millford Skiff, 3-speed countershaft, lamps, speedometer, new condition; £75.—66, Nunhead Lane, S.E. [5166

PREMIER 1914 4h.p., Bosch mag., Senspray carburetter, adjustable pulley, excellent order; 65 gns.; seen by appointment.—Hobbs, Broadway Garage, Knaphill, Woking. [3852

3½h.p. Premier T.T., 1914, 3-speed, clutch, recently overhauled and enamelled, good tyres and belt, lamps, horn, etc., capable sidecar machine; £48.—Clarendon Lodge, Clarendon Rd., South Woodford. [5202

GENUINE
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SPARE PARTS
Ex W.D. STOCK.

Large quantities of 2¾ h.p. and 4 h.p. parts in stock, at makers' prices. Some at special prices as follows:—

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2¾ h.p. & 4 h.p. Frames £5 each.

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28 x 3	26 x 2½
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Carriage Extra.

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CRABTREE & SON, Ltd.,
Motor Engineers,
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MOTOR CYCLES FOR SALE.

Pioneer.

PREMIER 3½h.p., 3-speed, coachbuilt sidecar, splendid condition, machine in perfect mechanical order, appearance as new, complete, all on; price £65.—Melksham Motor Works, Melksham. [5197

PREMIER 3½h.p. Combination, 1915, 3-speed countershaft gear box, clutch, and kick starter, Easting wind screen, coachbuilt sidecar, Dunlop extra heavy tyres, nearly new lamps, Bosch mag., B. and B., splendid condition, any trial; bargain 75 gns.—R. H. F. Bart, Retailer, 83, Gt. Dover St., Bow, S.E.1. [5069

P.V.

P.V., 3h.p. Precision engine, 2-speed, spring frame, shop-soiled; £87.—Motorcycle Marts, Ltd., Chatham. [4940

Quadrant.

QUADRANT 1920 4½h.p. Combination, electric lighting, all accessories, only run 600 miles; £135.—Clarke, Builder, Eastwood, Notts. (D) [5125

QUADRANT 4h.p., Bosch, drop back frame, guaranteed perfect and complete, less back wheel and saddle; £18.—Marriott, 18, Key Hill, Birmingham. [X5049

1915 4½h.p. Quadrant, S.A. 3-speed clutch hub, K.S., P. and H. lamps, spares, fast, powerful, in exceptional condition; bargain, 55 gns.—10, Outcast, Ulverston. [5687

QUADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the only moderate-priced outfit left.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0277

NEW 4½h.p. Quadrant Combination, to makers' specification, at list price, including carriage from works, £147/7/3, or on deferred payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [5804

CLIFFORD WILSON Company, Quadrant sole agents and distributers for South-eastern Counties. Trade enquiries invited. All models from stock. Large selection of second-hand combinations. — 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4734

Radco.

RADCO Lightweight, 1920, 2-speed, 2-stroke, fully equipped, hardly soiled; bargain, £55; cash or deferred payments; exchange entertained; closed Sundays.—Bunting's Motors, Wealdstone, Harrow. [5833

BRAND New 1920 Radco, 2¼h.p., 2-stroke, £54/16; 2-speed model, £60/10; one of each only for delivery at this price; carriage paid to any address.—The Premier Motor Co., Aston Rd., Birmingham. [3809

BRAND New 1920 Radco 2¼h.p., 2-stroke. £54; 2-speed model, £60/10; these prices have now been increased 10%, but we have only one of each type for delivery at the old price.—The Premier Motor Co., Aston Rd., Birmingham. [5590

Reading-Standard.

1920 Reading Standard, Canoelet sidecar, all electrics, hand and foot clutch, unscratched; price £165, sacrifice.—144a, Portway, West Ham, London, E.15. [5716

1919-20 Reading-Standard, 10h.p., lamps, horn, tools, etc., roomy sidecar, hood, screen, perfect condition and running order; £145.—104a, Finchley Rd. 'Phone: Hampstead 7822. [5837

Rex

3½h.p. Rex and Sidecar, thoroughly overhauled; first cheque £28.—Box 8,753, c/o *The Motor Cycle.* [5217

REX 3½h.p., dropped frame, Bosch, spring forks, reliable; £26.—Ball, 49, Riverside, Kingston-on-Thames. [X5043

5-6h.p. Rex, B.B., and R.E. mag., 1910, good running order; £15.—Wheatsheaf, Loose Rd., Maidstone. [5450

8h.p. Rex Combination, 2-seater sidecar, excellent condition; £60, or near offer.—Tutt, 8, East Hill, Ashford, Kent. [5645

REX 5-6h.p. Combination, Bosch, Capac, coachbuilt, also trade box body; £70.—131, Pathfield Rd., Streatham Common. [5003

6h.p. Rex, twin-cyl. long exhaust, discs, sporting machine; bargain, £37.—Seen at J. Whitaker, 61, High St., Eton, Windsor. [5033

6h.p. Rex Combination, Roc gear, 2 speeds; £65, nearest offer.—T. Marshall, 23, Vale Grove, Windsor Rd., Slough. [5412

REX 1912, 1914 4½h.p. Precision engine, everything new except frame and engine; any trial; £55—51, Mayfield Grove, Harrogate. [5014

1912 Rex Combination, 5-6h.p., just been thoroughly overhauled; £25, or offer.—104a, Finchley Rd. 'Phone: Hampstead 7822. [5841

6h.p. Rex Combination, new heavy tyres, good condition, with cash, for Clyno or Enfield: sell £65.—[illegible]2, Narboro Rd., Leicester. [X5083

1914 8h.p. Rex Coachbuilt Combination, 3-speed gear box model, chain drive, smart, fast, and reliable: any trial; bargain, £85.—27, Dorset Place, Weymouth. [5531

REX Motor Cycle, 5-6h.p., clutch, everything brand new except the engine; any trial here; what offers?—Apply, Green, Potter's Green, Walsgrave-on-Sowe, nr. Coventry. [X5141

MOTOR CYCLES FOR SALE.

Rex

REX 3½h.p. Combination, 3-speed Sturmey-Archer hub, Bosch, Klaxon, Cowey speedometer, accumulator lighting; any trial; £50.—Lewis, Photographer, London St., Reading. (D) [5630

LATEST Model 55 Rex Combination, brand new, 8h.p. Blackburne engine, spare wheel, etc.; £218/18; free delivery to any address.—The Premier Motor Co., Aston Rd., Birmingham. [3799

5-6h.p. Rex Coachbuilt Combination, 2 speeds, handle starting, foot clutch, Bosch, hood, lamps, horn, new tyres, appearance and mechanical condition as new; trial willingly; bargain, £45.—7, Killarney Rd., Wandsworth. [X5313

NEW Model 55 Rex Combination, 8h.p. Blackburne engine, coachbuilt sidecar, cantilever springing, detachable wheels and tyres list price £218/18, used for few demonstration runs only; reduced to £195 cash.—The Premier Motor Co., Aston Rd., Birmingham. [5591

Rover.

2¾h.p. Rover, Bosch, Amac, good tyres; £18.—Houlston, 560, King's Rd., Fulham. [5573

1920 Rover 5-6h.p., J.A.P. engine, countershaft 3-speed gear, Gloria sidecar; genuine bargain, £200.—Back's Garage, Wye, Kent. [5435

5h.p. Twin Rover, as new, with Sunbeam sidecar, stormproof apron, Dunlops as new, no offers; £130, bargain.—Beecher, 472, Archway Rd., Highgate, London, N. [5906

1919 3½h.p. Rover, 3-speed, new tyres and belt, Lucas lamp set and horn, in new condition; 85 gns.—R. Backhouse, Black Lion Hotel, High St., Bridlington. [5106

1918 T.T. Rover, Philipson (h.b.), enamel and plate good, in perfect running order; £70, or nearest.—Lionel Warrilow, Amesbury House, Chippenham, Wilts. [5102

NEW Rover Combination, 1919 model, 3½h.p., luggage carrier on sidecar, fitted with Lucas lamps; £170, or nearest offer.—Apply, A. R. Kilby, 1, Museum Sq., Wisbech. [5022

1920 T.T. Rover, electric lighting, Stewart horn, week old; cost £120, sell £100; latest model; consider exchange solo with speeds.—Huffam, 39, Exchange St., Norwich. [4950

ROVER 1919 3½h.p., 3-speed countershaft, lamps, accessories, spares, absolutely spotless condition throughout; £100, near offer.—Bell, 88, Broadway, Northampton. [5565

3½h.p. T.T. Rover, brand new, only been 500 miles, Philipson pulley, hand controlled, Cowey horn, complete, a real snip; £90 cash.—Wallis, 23, Hartington Grove, Cambridge. [5290

1918 3½h.p. Rover Combination, 3-speed, kick starter, coachbuilt sidecar, all lamps and accessories, perfect condition, very little used; £125, or nearest offer.—Barrett, Benwick Rd., Whittlesea, Peterborough. [5508

ROVER 3½h.p. (believed 1915) Sporting, clutch model, Bosch, B. and B., lamps, horn, pump, etc., footboards, disc wheels, leg-shields, new inner tubes, fine condition; £60.—31, Hadyn Park Rd., Shepherd's Bush. [5522

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart coachbuilt sidecar; £180, or on easy payments 5% extra, one quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5805

1920 5-6h.p. Rover Combination, only done 1,700 miles, as new, Stewart warning and bulb horns, speedometer, acetylene lamps, College mudshields, Bluemel wind screen and hood, Tan-Sad with footrests; £210.—Southern Motor Exchange, Bromley Rd., Catford. [4960

Royal Ruby.

1919 8h.p. Royal Ruby Combination, very fast and smart; £160, or offer.—McArthur, Jesus, Cambridge. [4907

ROYAL RUBY 3h.p., 2-speed, spring frame, slightly soiled; £98/10.—Collier's Motories, Horton St., Halifax. [5303

2¾h.p. Royal Ruby Motor Cycle, excellent condition and good running order.—Cyril Bryce-Smith, Preston Mountford Hall, Shrewsbury. [X5006

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

8h.p. Ruby Combination, 1919 (late), complete with hood, screen, all lamps, 2 horns, speedometer, spare tube and tube, condition perfect and as new; any trial; [illegible] Westad, Infirmary Rd., Sheffield. [5001

1[illegible] Royal Ruby, J.A.P., mileage about [illegible] been stored one year, enamel as new, me[illegible] owner going abroad; [illegible] Weedon, White House, Northwich. [5680

1[illegible] Royal Ruby 3h.p. J.A.P. Combination, with Lucas lamps, horn, spare chains, and accessories, very fast; price £115; owner leaving car Tuesday.—112, West Parade, Lincoln. [5292

3h.p. Royal Ruby, spring frame 2-speed, clutch and kick starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used, and condition as new; £110; may be obtained on deferred payment system. Harrod, Ltd. 118, Brompton Rd., London. [5802

JULIANS OF -READING-

1920 3½ h.p. Norton Sports,

3-speed and Canoelet racing sidecar. All lamps. Winner of several gold medals in hill climbs. In good condition, great bargain

132 Gns.

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mileage about 300, in beautiful condition, winner of gold medals in hill climbs. Indistinguishable from new.

85 Gns.

1920 6 h.p. Sports Zenith,

Demonstration Model.

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1920 2½ h.p. New Hudson,

as new in every respect.

57 Gns.

1920 Calthorpe Jap,

only run 200 miles, splendid condition, 2-speed.

59 Gns.

1920 Cedos,

demonstrator, as new, not run 200 miles.

55 Gns.

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84, Broad St., READING.

'Phone 1024

MOTOR CYCLES FOR SALE.

Rudge.

RUDGE T.T. and I.O.M. Models ex-stock; £110; exchanges.—125, High St., Woolwich. [6094

RUDGE, 3½h.p., re-enamelled, overhauled; £35.—Harvey, 168, Clive Rd., West Dulwich. [5542

1920 I.O.M. Rudge, as new; £100.—Dunn's, 326, Euston Rd., London. Museum 0991. [2981

RUDGE Multi, T.T., I.O.M., 1915, perfect; £75, or offer.—175, Merton Rd., Wimbledon, S.W.19. [5378

RUDGE Multi 3½h.p., August, 1920, lamps, must sell; £97.—Ross, 25, Rectory Sq., Stepney, E.1. [5492

RUDGE Multi, T.T., 3½h.p.; list £110/5; recently delivered; offers.—Tupling, Ltd., Whitchurch, Salop [5669a

3½h.p. Rudge Multi, late model, enamel unscratched, lamps, horn, etc., any trial; £75.—Batchellor, Honley. [5034

RUDGE I.O.M. Multi, delivery from stock; £110/5.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5603

1920 Rudge, mileage 50; £100, or lightweight part.—Spink, 52, Brodrick Rd., Wandsworth Common. [5721

1920 Rudge T.T. Multi, with Lucas accessories, mileage under 500; £100.—Handley, Cleveland St., Stourbridge. [X4996

RUDGE Multi, I.O.M. Model, 1920, run only 300 miles; 91 gns.—Longman Bros., Bond St., Ealing. 'Phone: 689. [4714

£75.—1919 3½h.p. Rudge Multi, fully equipped, perfect; any trial; must sell; bargain.—Grubb, 218, Windmill Rd., Chatham. [5668

RUDGE Multi 1916 3½h.p., C.B. sidecar, wind screen, accessories, good condition; £85.—Jacobs, High St., Tenterden, Kent. [5639

T.T. Rudge Multi, new Whitsuntide, Miller lamps (used once), excellent condition, Klaxon; £100.—Box 8,768, c/o *The Motor Cycle*. [5744

1920 I.O.M. Rudge, new; in stock at list £110/5; exchanges or easy payments. 2 Nightingale Rd. Lower Clapton, N.E. [5875

1919 3½h.p. Rudge Multi Combination, discs, speedometer, wind screen, etc.; £95, bargain; sell separate.—57, Villiers St., Stoke, Coventry. [X5042

1919 3½h.p. Rudge Multi Combination, nearly new Watsonian sidecar, 3 lamps, horn; £115, or near offer.—S. W. W. Bigg, High St., Stotfold, Beds. [5066

RUDGE Multi T.T., 1920, mileage negligible, Watford speedometer, P. and H. lighting set, knee grips, spare belt; £92.—300, Marylebone Rd., London [5055

1920 Rudge Combination, 6h.p., with Rudge-Whitworth best sidecar, immediate delivery; list price J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [572

1920 (June) I.O.M. T.T. Rudge Multi, lamps, Klaxon, knee-grips, spare belt, all tools, very fast and reliable; best over £90.—Seymour, Castle St., Rugby. [X4994

1920 (August) Rudge Multi 3½h.p. Touring, new condition, lamps, horn, buying combination; nearest £90.—Amos, Grittleton, Chippenham, Wilts. [5567

3½h.p. Rudge Multi, clutch, engine No. 12755, perfect condition, new tyre on back, lamp, horn, etc.; 59 gns.—Hall, Bay Cottage, Halliford Rd., Sunbury. [5567

RUDGE Multi, 1920, 3½h.p., electric lighting, Tan-Sad, cost £122 August, not done 300; accept £95; condition as new.—382, York Rd., Wandsworth, S.W.18. [5[illegible]

3½h.p. Rudge Multi, 1916, head lamp, rear lamp, horn, spare parts, tools, complete, in excellent condition; £60.—Redland House, Carshalton Rd., Sutton, Surrey. [52[illegible]

3½h.p. Rudge Multi, recently overhauled, tanks renovated by makers, excellent condition, lamps, horn, and Rudge spanners; £65.—Rogers, Hartshead, Liversedge, Yorks. [56[illegible]

1920 Rudge Multi 3½h.p., Henderson sidecar, lamps, horn, speedometer, Easting, perfect; £120, offers; exchange higher power.—22, Grosvenor Av., East Sheen, S.W.14. [55[illegible]

RUDGE 1914 T.T., 3½h.p., Philipson pulley, new tyres, lamps, horn, tools, spare pulley, belt, valve, etc. in excellent condition; £60, or near offer.—Wallows Garage, Scunthorpe, Lincs. [50[illegible]

1920 Rudge Multi 3½h.p. (touring), engine No. 166[illegible] complete with lights, Tan-Sad, and spare, [illegible] 400 miles, perfect condition; £95 for quick sale.—E. Jewell, Trafalgar Lawn, Barnstaple. [49[illegible]

RUDGE Multi Combination, overhauled, new gudgeon pin and bearings, tank green and gold, hand clutch, splendid running order and appearance, all accessories; 58 gns.—59, Hampden Rd., Hornsey, N.8. [5[illegible]

3½h.p. Rudge Multi, specially built from new W[illegible] stock, a new machine throughout, guaranteed over 50 miles per hour, Lucas lamps, Bonniksen speedometer and all other fittings and accessories value £[illegible] exchange for higher power machine not later than 1916; call after 6.—45, Princess Rd., Kilburn, N.W. [5[illegible]

MOTOR CYCLES FOR SALE.

Rudge.

MAGNIFICENT 1920 (May) Rudge 7-9h.p. Combination, luxurious Rudge sidecar, very little used, perfect condition, fast, reliable, and economical (65 m.p.g.). 172 gns.—21, Sherriff Rd., W. Hampstead. (D. [5679

Scott.

SCOTT, new 1920 model; delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0301

1919 (Late) Scott Solo, excellent condition, lamps, horn; nearest £100; bargain.—Headlands, Leagrave, Luton. [3670

SCOTT 1920 3¾h.p. Model, head and rear lamps, full T.T. bars, as new; £130.—Parker's, Bradshawgate, Bolton. [X5035

1914 Scott, Bosch, Binks, brand new tyres and chains, splendid condition; £70, offer.—Caunter, 29, Compton Terrace, Highbury. [X5009

1920 Scott Combination, with Lucas accessories, Cowey speedometer, absolutely perfect; £150, bargain.—Adams, Lye, Stourbridge. [X4995

1920 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £100.—Dallaway, Fruit Merchant, Smethwick. [0275

SCOTT 1915 Combination, perfect order, wind screen, full insurance and equipment; must be sold; best offer over £70.—Seen at Waffords, 165, Battersea Rise, S.W. [5181

SCOTT, 1920, engine 4224, P. and H. head lamp, horn, just been thoroughly overhauled, perfect order; best offer over £120.—J. E. Currie, Trinity College, Cambridge. [5065

1920 Scott Combination, Easting screen, Lucas lamps, etc., condition perfect, small mileage; £180, or near offer.—Boulton, Avenue Rd., Whittington Moor, Chesterfield. [5561

1914 3¾h.p. Scott, just completely overhauled, 2 sets handle-bars, disc wheels, complete set spare chains, perfect condition, accessories; £70, or near offer.—Capt. Reeves, Park Rd., Wellingborough. [5470

SCOTT, 3¾h.p., 1920, sports model, only been ridden few miles, enamel and tyres as new, Cowey mechanical horn, Lucas lamps and generator; price £130, or offer.—Moore, Ivy House, Weaverham, Cheshire. [X5086

Singer.

3½h.p. Singer, N.S.U., ride away; £28/10, or near offer.—29, Selkirk Rd., Tooting, S.W. [5829

SINGER Combination, 4½h.p., 2-speed, kick start, clutch; £78; take lower power part.—57, Kenbury St., Camberwell, London. [5433

Sparkbrook.

1917 Sparkbrook, 2-speed, 2½h.p.; a bargain, £35.—60, Hanger Lane, Ealing, W.5. [4989

SPARKBROOK 2¾h.p., 2-speed, splendid condition; any test; £48.—15, Temple Rd., Chiswick Park. [5050

SPARKBROOK 2-stroke Countershaft Lightweight, nearly new; £32.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [5512

1914 6h.p. Sparkbrook Combination, recently overhauled and guaranteed in first-class condition; open to any examination; owner purchased car, no further use; price £100.—M. Egremont, Blashford, Ringwood. [5268

Sun.

SUN-VILLIERS, new engine fitted March, 1920, by makers; accessories, minus head lamp; £45.—Wilde, 10, Brompton Rd., S.W. [4994

SUN Vitesse 2½h.p., 1915 model, 1919 piston and cylinder rebushed, throughout perfect.—G. Read, Dairy, Watergate, Grantham. [5454

1917 Sun-Villiers, 2¾h.p., 2-speed, countershaft, new tyres, lamps, tools, take 2 anywhere, as new; £35.—145, Leander Rd., Brixton Hill, S.W.2. [5856

Sunbeam

1920 Sunbeam 3½h.p., just delivered; 148 gns.—Evans, Garage, Newport, Salop. [5631

1915 Sunbeam Combination, 6h.p., perfect; trial; £160.—50, Taurus St., Oldham. [5188

SUNBEAM for sale, 1920, perfect condition, nicely running; £145.—W. H. Foster, Stonecroft, Barby, Lincs. [5236

1919 (October) 8h.p. Sunbeam Combination, everything on, fine condition; £225.—64, Frederick St., Loughborough. [X4792

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; £90.—C. Barton, Clapham, Yorks. [0246

SUNBEAM 1918 3½h.p., new condition, privately owned; can be seen in London any evening; £125. Box 8,706, c/o *The Motor Cycle*. [4953

3½h.p. Sunbeam Combination, April, 1920, small mileage, condition as new, Lucas lamps and horn; £165.—Chirney, Harpenden, Herts. [5108

1920 Sunbeam, 3½h.p., brand new; in stock at list, £155/8; easy payments or exchanges.—2, Nightingale Rd., Lower Clapton, N.E. [5870

DON'T ORDER YOUR MACHINE FROM US until you have compared prices.

ZENITH, 1920, 4-5 h.p., mileage under 500, absolutely as new.
99 gns.

CEDOS, 1920, 2-speed, as new in every respect.
52 gns.

NORTON, 1920, Big 4, and canoelet racing sidecar discs, lamps, etc., Mabon variable gear, complete.
130 gns.

TRIUMPH, 4 h.p., renovated by Triumph Co.
100 gns.

LEVIS, in stock.
£60.

MATCHLESS Combination, new 1920, M.A.G. engine, dynamo lighting.
£235.

H. Julian,
84, Broad Street, READING.
Phone: 1024.
Biggest Dealers in the South.

MOTOR CYCLES FOR SALE.

Sunbeam.

SUNBEAM 1920 3½h.p. Model, head and rear lamps, bulb horn, indistinguishable from new; £160.—Parker's, Bradshawgate, Bolton. [X5030

SUNBEAM Combination, 1920, brand new, just delivered; £12 under list prices, or near offer; must sell.—Norman Whitehouse, Bridgtown, Cannock. [5295

SUNBEAM, brand new 2½h.p., solo model, with Lucas lamps and horn; £170.—The Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9004

1920 3½h.p. Sunbeam, new July 16th, Lucas best lamps, Klaxon horn, unridden 6 weeks; offers over £150.—82, Montague Rd., Hucknall Torkard, Notts. [5670

1919¾ Sunbeam 4h.p., mileage 600, Lucas lighting, Klaxon; trial or examination; indistinguishable from new; £118 10.—55, Watling St., Wellington, Salop. [5642

MAGNIFICENT 1920 Sunbeam 8h.p. Combination, fully equipped, Lucas lighting, horn, perfect condition; £245, offers.—Kennedy, Bank, Houghton-le-Spring. [4904

1920 3½h.p. Sunbeam, 2 months old, semi-T.T. bars and footboards, Cowey horn and speedometer, carefully driven; £165.—12, Mayfield Rd., Wimbledon, S.W.19. [4976

1918 8h.p. Sunbeam Combination, black and gold, hood, screen, all lamps, horn, legshields, perfect; £155.—Dunn's, 326, Euston Rd., London. Museum 5391. [2990

SUNBEAM 1914 6h.p. Combination, excellent order, overhauled lately, good tyres, extra size, speedometer, etc.; getting car; price £110.—Beger, 6, Park St., Windsor. [4937

SUNBEAM Combination, 3½h.p., 1915-16, 1920 Watsonian R34 sidecar, lamps, speedometer, horn, perfect condition and appearance; £140.—Charnley, 18, Narrow St., Peterborough. [5153

8h.p. Sunbeam, family sidecar, hood, wind screen, M.A.G. engine, electric lighting, 700×80 Dunlops, spare wheel; 145 gns.; beautiful turnout.—Roberts, 81, Dundee Rd., South Norwood. [5547

1920 3½h.p. Sunbeam Combination, lamps, Bonniksen trip speedometer, Cowey horn, tools complete, excellent turnout; £190, or offer.—Pearman, 148, Elborough St., Southfields, S.W. [5518

1914-15 Sunbeam Combination, 3½h.p., new C.B. sidecar (July), Bosch, Binks, 2 new tyres, spares, tools, expert examination; little used; bargain, £138, no offers.—Market Hotel, Bacup, Lancs. [5054

1920 3½h.p. Sunbeam motor cycle with dinky sidecar attached, and having fitted all lamps, Lucas horn, hardly been used, cost £225 month ago, must sell; £200.—Maskell, 5, Brixton Hill, S.W.2. [5[illegible]

SUNBEAM 1914 3½h.p., very fast and powerful machine, in tip-top condition, with all accessories; any trial or examination with view to purchase; price £95.—Melksham Motor Works, Bath Rd., Melksham. [5198

4¼h.p. Sunbeam Combination, Military Model, new Sept., 1919, all-chain, mechanically perfect, 2 new tyres, 2 spare tubes, 2 horns, speed indicator, 3 lamps; all in, £130.—J.P., Greenbraes, Highland Rd., Purley. [4950

1919 Sunbeam Combination, 8h.p., hood, screen, apron, luggage carrier, leg shields, P. and H. lamps, Lucas horn, locker in sidecar; bargain, £150; as new.—Dunn, 326, Euston Rd., N.W.1. Museum: 5391. [5910

LATE 1917 3½h.p. Sunbeam, Henderson Elite combination, fully equipped, condition perfect; £145, or close offer; exchange countershaft Norton solo; ride reasonable distance.—Tynedale, Aldershot Rd., Guildford. [5507

1920 Sunbeam Combination, black and gold, leg shields, knee-grips, Lucas lamps and horn, spare Palmer cord covers, tyres unpunctured, perfect condition, mileage 2,000; £192, no offers.—Barnes, Tontine Sq., Hanley. [5103

SUNBEAM 1920 Combination, 8h.p., complete with spare wheel, Lucas lamps, Klaxon horn, and all accessories, fully insured, run only a few hundred miles, condition as new; £265, or nearest offer.—Box 8,751, c/o *The Motor Cycle*. [5215

1916 3½h.p. Sunbeam Combination, Rudge aluminium front sidecar with luggage grid, 3-speed countershaft, kick start, hand clutch, 3 lamps, tyres practically new, tools, horn, etc., really reliable; £140.—20, Rectory Grove, Clapham, S.W. [5085

1920 Sunbeam, 3½h.p. (June), 1,000 miles, Cowey trip, Cowey horn, full lighting set, knee-grips, Tan-Sad, unpunctured, complete set of spares, insurance; £165, or offer.—Call or write, 76, Haydn Av., Whitworth Park, Manchester. [4890

3½h.p. 1915 Sunbeam Combination, Gloria coachbuilt sidecar, luggage carrier, 3-speed, hand clutch, K.S., electric lamps, horn, foot pump, back and front tyres new, enamel very good; open expert examination; £120, or near offer.—Grindriod, Column House, Shrewsbury. [5086

1920 3½h.p. Sports Sunbeam, fuly equipped, with best accessories and spares costing over £20; this machine is very fast and winner of several competitions; unmarked; mileage 800; cost over £170; will accept best offer; must sell.—Box 8,788, c/o *The Motor Cycle*. [5763

MOTOR CYCLES FOR SALE.

Sunbeam.

1919 (Nov.) 3½h.p. Sunbeam and 1920 Mills-Fulford (Olympia Corvette model) sidecar, fully equipped, electric light, re-enamelled and overhauled by makers, whole outfit as new; first cheque £140 secures.—Blackmore, Horse Market, Kettering. [5...

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay (late Sunbeamland).—The Molineaux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

SUNBEAM 3½h.p., new June, 1920, Lucas lamps, only ridden 800 miles, £145; also A.J.S. combination, new Aug., 1920, Lucas lamps, spare wheel, etc., £200 for quick sale; seen by appointment at Uxbridge. —Box 8,714, c/o *The Motor Cycle*. [4988

3½h.p. Sunbeam, 1916, thoroughly overhauled, engine at makers, fitted throughout Lucas accessories, guaranteed excellent condition, any trial or examination, £112; also 8h.p. Sunbeam combination, 1920.—Percy Hart, Bradley, Wylam, Northumberland. [5165

NEW Sunbeam 1920 8h.p. Combination, Lucas magdyno lighting set, spare wheel, hood, screen, etc., list price, £278/15/6; in stock.—Cambridge agents for Sunbeams, Herbert Robinson, Ltd., 32-35, Green St., Cambridge. T.A.: Bicycles. Tel.: 995. [5278

1920 (July) 3½h.p. Sunbeam, very little used, largest P. and H. lighting set, Cowey speedometer, Klaxon, A.K. knee-grips, spare valve, tools, fully insured until July, 1921; owner returning abroad; £160, cash.—Gibbons, Rathgar, Lincoln Rd., Peterborough. [5525

1920 8h.p. Sunbeam Combination, tuned to 65 m.p.g., Lucas dynamo lighting, Klaxon, speedometer, Bluemel wind screen, Tan-sad, petrol carrier, various spares, perfect mechanical condition, fully insured; £250; owner buying car.—26, Frankfurt Rd., Herne Hill, S.E. [5901

8h.p. Sunbeam Combination, delivered end of 1919 only used week-ends during last summer, mileage about 1,700 only, condition practically unmarked, hood, screen, spare wheel, Cowey trip speedometer, Stewart horn, F.R.S. and Lucas lamps, and other accessories; £220; owner mought car.—Osborne, Sackville House, Grimsby. [5141

T.D.C.

3½h.p. T.D.C., 2-speed, excellent condition; £50. offers.—Apply, 34, Stoke Rd., Guildford. [5405

1920 2¾h.p. T.D.C. 2-stroke, Runbaken mag., Senspray carburetter, unit complete; £15. —Long, Manningtree, Essex. [5438

Triumph.

TRIUMPH, brand new, 1920; list price, £127/10. —Tippen, Marden, Kent. [5347

TRIUMPH Junior, 1919, little used; 60 gns.—107, King St., Hammersmith. [4921

1919 Triumph, with accessories, new tyres; £90.—Ross, 86, High Rd., Lee, S.E. [5274

TRIUMPH 1913 3½h.p., splendid machine; £50.—Maudes', 100, Gt. Portland St., W.1. [5770

1913 3-speed Triumph Combination for sale.—100, Aldborough Rd., Seven Kings, Essex. [4905

1913 3-speed Triumph, lamps, etc., good order; 48 gns.—King, Egrove Farm, Oxford. [X5079

TRIUMPH Gloria Combination, like new, all on; £150.—3, Ladysmith Rd., Cradley, Staffs. [X4796

TRIUMPH Combination, 2-speed gear, wants rebushing.—F. C. Edwards, Engineer, Tenterden. [5013

1917 Triumph Combination, lamps, horn, and tools; £90.—Motorcycle Marts, Ltd., Chatham. [4946

TRIUMPH Specialists; latest 1920 model on view.—The Premier Motor Co., Aston Rd., Birmingham. [3801

BARGAIN.—1920 T.T. Triumph, only done 150 miles; as new; for £99.—Reynolds, Waterbeach, Cambs. [5732

1920 Triumph Combination, coachbuilt sidecar, horn, etc., very good condition; £150.—Joy, Buxted. [5650

TRIUMPH 1916 C.B. Combination, 3-speed, C.S., perfect; £72. 10, Baronsmead Rd., Barnes. [5452

TRIUMPH 3½h.p., good running order; no reasonable ... removal.—Collyer, Guildford Rd., Farnham. [5402

TRIUMPH Countershaft C.B. Combination, excellent ... £115. 62, Bicester Rd., Aylesbury. [5399

19 ... Countershaft T.T. model, late last year change, ... £54. 77, Arlington Rd., Surb... 5437

19 ... 3½h.p., C.S., perfect running order; ... 72a, London Rd., London. Mu... 2934

... throughout £..., ... Rd. Hill Ba..., Scotl... 5462

19 ... Model H T.T. model, T.T. ... Arlington Rd., Surb... 5217

19 ... Triumph ... ... Rd., Streatham Rd., ... 5470

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MOTOR CYCLES FOR SALE.

Triumph.

1920 Triumph 4h.p., Canoelet sidecar, 3 lamps, wind screen, leg shields; £140.—Milton, King Sq., Bridgwater. [5624

TRIUMPH 4h.p., fixed gear, 1916 engine, disc wheels very fast; 60 gns.—Box 8,771, c/o *The Motor Cycle*. [5747

TRIUMPH, 1919, excellent, engine 61418, C.B. sidecar; £120.—Henman, 35, Hereford Rd., Acton, W.3. [5449

3½h.p. Triumph, overhauled, rebushed, new tubes, rings, belt; £40, offers.—Thomson, Acorn Mount, Ilkley, Yorks. [4985

TRIUMPH, latest model H in stock; £127/10.—Mylam and Co., 197, London Rd., Croydon 'Phone: 2379. [5615

1919 Triumph 4h.p., C.S., and Gloria sidecar; £115.—Dunns, 326, Euston Rd., N.W.1. Museum 5391. [4863

TRIUMPH, countershafts, 3-speed; £75 and £85; trial; exchanges, American X, solo.—Rogerson, Newtown, Wigan. [X5085

1919 Triumph-Gloria Combination, in new condition, fully equipped; £125.—Woods, 10, New St., Covent Garden, W.C.2. [5192

TRIUMPH, late model, equipped, splendid condition, carefully ridden only; £85.—43, Brailsford Rd., Water Lane, Brixton. [5231

TRIUMPH 3½h.p., 3 speeds, free engine clutch, good tyres, perfect running order; £35.—Appleton, 16 Ribble Rd., Blackpool. [5674

1918 Triumph, C.S., renovated 3 months, not done 500 miles; cost £100, must sell £85.—7, Dorset Av., Harehills, Leeds. [5653

TRIUMPH, 1914, 3-speed, with coachbuilt sidecar thoroughly overhauled, splendid condition; £87.—Tippen, Marden, Kent. [5348

1914 Triumph and Coachbuilt Sidecar, 3 speeds complete lamps, etc.; £85.—55, Edgar Rd., Sanderstead, Surrey. [531

1920 Triumph, Model H, not unpacked, with new Lucas accessories; £131.—4, Lyall Mews, Chesham Place, S.W.1. [569

IMMEDIATE Delivery from Stock of any model by the Triumph specialists, The Premier Motor Co., Aston Rd., Birmingham. [559

TRIUMPH 3½h.p., 2-speed, lamps, smart, fast, overhauled, tip-top order; offers over £40.—66, West Side, Clapham Common. [530

TRIUMPH Combination, Gloria sidecar, Model H, list £182/10; recently delivered; offers.—Tupling Ltd., Whitchurch, Salop. [566

1919 Triumph T.T., like new, insurance policy worth £6/10, lamps, horn; £89.—Watkins, Holly Bush, Maybank Rd., S. Woodford. [498

1920 4h.p. T.T. Triumph, little used, as new, full equipped; £100.—Emmett, 48, Leverton St., Kentish Town, London, N.W. [546

1920 Triumph, all chain drive, fitted luxurious bulbous sidecar to match; £175; easy payments or exchanges.—Below.

1920 Triumph, all chain drive, new; in stock at list, £140; exchanges or easy payments.—... Nightingale Rd., Lower Clapton, N.E. [587

TRIUMPH 1920 4h.p. Model with Triumph Sidecar, horn, and Watford speedometer, as new; £180.—Parker's, Bradshawgate, Bolton. [X503

TRIUMPH 4h.p. 1919-20, countershaft model, spare valves, chain, other accessories; bargain, £95.—41, Cowley Rd., Brixton, S.W.9. [585

1919 Triumph, 4h.p., C.S., and Gloria sidecar, lamps, horn, etc.; £117/10.—Dunn's, 32 Euston Rd., London. Museum 5391. [29...

TRIUMPH 3½h.p. Clutch Model, driven here, but requires overhauling, tyres excellent; £25, clear.—Bunting, Wealdstone, Harrow. [58...

LOOK.—Triumph, brand new, unregistered, 4h. model H; any reasonable offer considered; must sell.—22, Praed St., Paddington, W. [53...

TRIUMPH-GLORIA Combination, 1920, original tyres, mechanically perfect; 130 gns.; bought of —Ball, 24, Castle St., Birmingham. [55...

1920 Brand New Triumph and Sidecar, just delivered; list price.—194, Balham High Rd., S.W.12. 'Phone: Latchmere 4441. [34...

TRIUMPH 3½h.p., sidecar, clutch, trial; examine daylight; must sell; £29 everything.—Taunton, 1 Albion Grove, Stoke Newington, N.16. [51...

TRIUMPH 3½h.p., 1912, hand controlled clutch, Lucas lamps, horn, Dunlops, spares; £44; trial 348, Darlaston Rd., Pleck, Walsall. [X50...

TRIUMPH, 1918, countershaft, splendid condition, re-enamelled throughout as new, ride 30 miles; £85.—298, Romford Rd., Forest Gate. [53...

TRIUMPH 4h.p., 3-speed countershaft, lamps, horn, new Feb. last; £95, or nearest; High Wycombe district.—Box 9,730, c/o *The Motor Cycle*. [45...

1920 Triumph, 4h.p., C.S., new, and Sunbeam used sidecar, fully equipped; £150.—Dunn 236, Euston Rd., London. Museum 5391. [21...

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 3½h.p., clutch model, Bosch, new cover on back, engine guaranteed perfect condition; 34.—Marriott, 18, Key Hill, Birmingham. [X5050

£45, or near offer.—Triumph, 1913, clutch, new tyres and tubes, thoroughly overhauled, lamps, tools, est.—174, Leander Rd., Brixton Hill, S.W.2. [5855

TRIUMPH, Grade gear, latest improvements, lamps, overhauled, renovated, excellent condition; £39.—8, Winchester Rd., St. Margaret's, Twickenham. [5472

LATE 1919 Triumph, enamel and plating unscratched, low mileage, number spares and accessories, very ust.—R. A. Stringer, London Rd., Boston, Lincs. [5047

TRIUMPH, 3½h.p., 2-speed, f.e., Bosch, 1920 carburetter, Tan-Sad, toolkit, overhauled by makers, gem; offers.—63, Newlands Park, Sydenham. [5068

1919 Triumph Countershaft, T.T. bars, lamp set, tools, in new condition, very fast; £95, barain.—280, Gloucester Rd., Morfield, Bristol. [5532

£115.—New 1920 Triumph run about 25 miles, must sell, cost over £127 less than a month ago.—horter, 275, Uxbridge Rd., Shepherd's Bush. [5490

1919 Juuior Triumph, perfect condition, tools, pump, P. and H. lamps, lately decarbonised; £65, near offer.—Taylor, 65, Warendon Av., Chiswick. 4. [5514

1920 Triumph with Gloria Sidecar, guaranteed equal to new, used few times, fully equipped, quick le; £149/10, or nearest.—353, King St., Hammerith. [5576

1917 (Nov.) 4h.p. Triumph, racing sprocket, new Dunlop, fast machine, in excellent order, lamps, rn, knee grips; £80.—Lynton Cottage, Fitzgerald Rd., anstead. [4884

TRIUMPH, 1916, countershaft, and C.B. sidecar, all as new, £92/10; another, 1915, clutch model, with B. sidecar, nice outfit, £70.—308, Upper Richmond l, Mortlake. [X4973

TRIUMPH Model W.D.B., 4h.p., renovated and guaranteed by makers, indistinguishable from new; 105.—Mylam and Co., 197, London Rd., Croydon hone: 2379. [5615

½h.p. Triumph Combination, 2 speeds, free engine, ½ recently renovated, lamps, spares, excellent condin, ready to ride away; £50.—Hutson, 96, Minard l., Catford, London. [5101

WILL sell 1919 4h.p. T.T. Triumph motor cycle, new back tyre, Tan saddle pillow seat, very fast, endid hill-climber, perfect; price £100.—S., Firsgh, Warberries, Torquay. [2685

½h.p. Triumph, controlled Philipson gear, new ½ piston, tube, tyre, lamps, generators, spares, long exhaust, powerful, reliable; £36, or offer.—, Parkville Rd., Fulham, S.W.6. [5831

h.p. Triumph Combination, coachbuilt,, Sturmey-Archer 3-speed countershaft and clutch, electric ting, good order; £70.—Morley, 219, Hornsey Rd., lloway. 'Phone: Hornsey 2257. [5326

TRIUMPH, 3½h.p., 1912, clutch model, just been overhauled, new back tyre, all black, in good ning order, with tools, lamps, Klaxon; £45/10.—ter, 8, Graemesdyke Av., Mortlake. [4887

RIUMPH Combination, 1920, as new, Lucas lamps, horn, Cowey speedometer, pillion seat, and motor t, mileage 1,200, unpunctured; £160, or nearest.—yes, 160, Birmingham Rd., Redditch. [5135

1917 4h.p. Countershaft Triumph and light Henderson Sidecar, guaranteed perfect throughout, ly equipped; £98.—Langfords, 37, Broadway, Cricklod, N.W.2. 'Phone: Hampstead 8616. [5609

1920 4h.p. Triumph, Swan best sidecar, Lucas lamp, Cowey speedometer and horn, enamel and plating new, guaranteed sound and perfect; cost £190, lowest 50.—West, Popeswood, Binfield, Berks. [4074

RIUMPH Countershaft, polished cases, new cover, long exhaust or otherwise, T.T. or touring bars, erproof suit, and many spares; 75 gns.—Day, Central tel, Percy St., Tottenham Court Rd., W.1. [5387

RIUMPH, 1913, clutch, tyres and belt good, recently renovated by makers, engine just thoroughly overled, rebored, rebushed, absolutely perfect; £45.—rned, Greenbank, Monument Green, Weybridge. [5354

55.—3½h.p. Triumph, 3-speed, Philipson pulley, Klaxon, lamps, 2 generators, back tyre, tube, t, and breast-down overalls new August, insured Sepber next; illness obliges sale.—Fly, 19, Park St., rksop. D] [X4977

1918 Triumph, C.S., 3-speed, etc., new lamps and Klaxon, speedometer, guaranteed in perfect conion, very little used, everything ready for the road, hing to buy; £80; any trial.—33, Hackford Rd., xton, S.W. [5863

1920 3½h.p. Sunbeam, less than 1,000 miles, Lucas lamps and horn, leather knee-grips, Claudel-Hobson B. and B. carburetters, perfect; any trial or exination; £147, or near offer; Cornwall.—Box 8,772, *The Motor Cycle.* [5748

TRIUMPH H £127/10, combination £182/10, lightweight, all in stock; deferred terms; send us your gestions; exchanges.—Lamb's, 151, High St., lthamstow; 50, High Rd., Wood Green, N.22; 387, ston Rd., London, N.W. [5243

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MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 4h.p. W.D. Model, thoroughly overhauled and equal to new, all lamps, horn, etc., specially recommended, £100; another 1919 combination, excellent order, all accessories, £115.—Maudes', 100, Gt. Portland St., W.1. [5776

READ This.—1920 May! 4h.p. Triumph, 3-speed countershaft, fitted with new tyres, 2,000 miles, and B.S.A. sidecar, luggage grid, lamps, horn, speedometer, Stirling guards, in perfect condition; £176.—Verity, 28, Park Parade, Cambridge. [X5004

NEW Triumph 1920 4h.p., countershaft model, list price, £127/10; 4h.p. Triumph, chain drive, £140; 4h.p. fixed engine Triumph, sporting, £105; in stock Cambridge agents for Triumphs.—Herbert Robinson, Ltd., Green St., Cambridge. T.A.: Bicycles. Tel.: 995. [5279

NEW Models in Stock for immediate delivery; Type D Triumph 4h.p., single-geared, £105; Type H, 3-speed, £127/10; Type H combination, £182/10; Type SD combination, £195; Type LW, 2¼h.p. lightweight, £75; free delivery; free tuition; all Triumph spare parts in stock.—The Premier Motor Co., Aston Rd., Birmingham. [5595

TRIUMPH Countershaft Combination, 3-speed, hand clutch. This machine is as new in every way, and guaranteed perfect. Montgomery special sidecar, Jones speedometer, 3 Lucas lamp sets, spare generator, pump, tube case; the whole outfit practically unscratched; any trial or inspection at any time; price £110.—H. Richardson, 2, Kelton Villas, Hawks Rd., Kingston-on-Thames. [5817

Velocette.

CYRIL WILLIAMS, for early delivery of Velocette —Chapel Ash Depot, Wolverhampton. [2265

1914 Velocette 2-stroke, new belt, nearly new tyres and lamp set; nearest £36.—Box 8,802, c/o *The Motor Cycle.* [5867

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

NEW 1921 Model D2 Velocette, the sensation of the Six Days Trial, now in stock for immediate delivery; £75; carriage paid to any address.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [5594

IMMEDIATE Delivery from Stock of the Wonderful Velocette, Model D2, 2¼h.p., 2-speed, all-chain drive, £75; no alteration will be made in this model for the 1921 season; carriage paid to any address.—Sole Birmingham Agents, The Premier Motor Co., Aston Rd., Birmingham. [3802

Verus.

VERUS-BLACKBURNE, all models, delivery from stock.—Maudes' Motor Mart, 100, Paris St., Exeter. [5248

1920 Verus-Blackburne, 4h.p., 3-speed, spare belt, etc., as new; £115; exchange for A.B.C.—Gray, Hallgate, Doncaster. [5110

Villiers.

VILLIERS 2-speed 2-stroke, complete (1918); nearest £50.—Lester, 10, London Rd., Northfleet. [5174

Viper.

1920 2¾h.p. Viper-Jap, 2-speeed, excellent order, done about 200 miles; £70, or near offer.—Jones, Steam Roller, Kyre, Tenbury, Worcestershire. [X5074

V.S

1914 6h.p. Twin V.S. Combination, 2-speed, kick start, Indian red, Millford sidecar, Bosch, B.B., not scratched, very fast, Lucas lighting set, mechanical horn, guaranteed perfect; any trial; 50 gns; too powerful.—H. Mason, Ivy House, Thomas St., King's Lynn. [5661

Wilkin.

1920 Wilkin, B4, semi-T.T. bars, highly finished; price (shop-soiled—has been ridden) £125.—110, Bold St., Liverpool. [5029

Williamson.

1918 Williamson 2-seater Combination, like new, open to best offer or will exchange with modern 2-seater, cash adjustment.—1, Rustic Av., Streatham, S.W.16. [5916

Witall

WITALL, June, 1920, 2¼h.p., 2-stroke, 2 speeds, countershaft, Brampton forks, sloping tank, Best and Lloyd, special saddle, semi-T.T. bars, aluminium footboards, electric lighting, aluminium streamline lamps, tool bags, hooter, absolutely as new; cost £75, accept £50.—G., 63, Solon Rd., Brixton, S.W.2. [5440

Wolf.

WOLF 1915 2¾h.p., new cylinder, piston, etc., lamps, ride away; £29.—54, Marcellas Rd., Hornsey Rd., N.7. [5327

Wooler.

1920 Wooler, only run 100 miles, as new; £80.—Lawes, Triangle, Aldershot. [5558

WOOLER, 1920, lamps, Cowey horn, quantity of spares, small mileage; bargain, £85.—Coles and Shirley, Chepstow. 'Phone: 48. [0313

WOOLER Flat Twin, 2¾h.p., 1920, as new, mileage under 200, P. and H. lamp set; best offer over £85.—Scott, 79, Military Rd., Colchester. Tel.: 111. [4563

MOTOR CYCLES FOR SALE.

Wooler.

WOOLER, 1920, flat twin, countershaft, lightweight, shop-soiled only, perfect, list £103/10, first cheque £83/10 secures. Douglas S. Cox, The A.S.M.M., 6, Lansdowne Hill, West Norwood. [5786

WOOLERS.—Longman Bros, Bond St., Ealing, and Uxbridge Rd., Acton, 'phone: Ealing 689, special agents; we have several second-hand machines for disposal, used only for competition work, guaranteed as new; £70 to £75 each. [4717

COX'S Bargains in Motor Cycles:—1920 Wooler nat twin, countershaft lightweight, list price £103, shop-soiled only, £83/10; 4h.p. 1918¾ Douglas coachbuilt combination, 3-speed, kick-starter, clutch, £87/10; 6h.p. 1914 A.J.S. coachbuilt combination, 3-speed countershaft, kick-starter, hood, screen, £118/10; and an absolutely posh 1918 Harley-Davidson super-sporting combination, dynamo lighting, low Zeppelin-shaped coachbuilt sidecar, "it," £178/10. Also see under Cars.—Douglas S. Cox, The A.S.M.M., 6, Lansdowne Hill, West Norwood, S.E. [5784

Yale.

7-8h.p. Yale Combination, twin-cylinder, sidecar repainted, with hood; price £85.—Frank Burtenshaw, Ltd., Bell St., Reigate. 'Phone: 226. [3750

YALE 7-9h.p. Combination, 1916, 2-speed, clutch, kick start, lamps, horn, wind screen, new tyres, chains, pillion seat, excellent condition any trial; £90, or offer.—125, Cumberland Rd., Plaistow. [5396

Win.

WIN-PRECISION, 3½h.p., wicker sc., Grade gear, Bosch, B. and B., take three anywhere, ride away; £50.—132, Goldhawk Rd., W. [4888

Zenith.

1914 Zenith 4h.p. Twin, countershaft, coachbuilt sidecar; £75—2a, Delafield Rd., Charlton, S.E. [5664

1928 8h.p. Countershaft Zenith Combination, electric light; best offer accepted.—17, Arden Av., Mitcham, S.W. [X5044

1920 Zenith 6-8h.p., clutch and K.S., done 50 miles; £156.—Dunn's, 326, Euston Rd., London. Museum 5391. [2980

1920 8h.p. Sporting Zenith, as new; cost £145, what offers? Tried by appointment.—Warren, Cliff Farm, Hunstanton, North. [4923

ZENITH 1915 6h.p. Combination, wicker sidecar, lamps, horn, speedometer; £85, or would separate.—202, Trinity Rd., S.W.17. [5129

ZENITH 3½h.p. and sidecar, sporting model, very fast, excellent condition; £68, or nearest offer.—Heseltine, Ropley, Hants. [5120

BARGAIN.—Brand new 8h.p. sporting Zenith, unpacked; list price £139, sacrifice for £129.—Reynolds, Waterbeach, Cambs. [5733

ZENITH 1914 6h.p., discs, just enamelled and plated, special 3in. exhaust, fast; consider exchange.—W., 38, Thrale Rd., Streatham. [5146

1920 Zenith, brand new, just delivered, 8h.p. sports model; accept £10 under list.—Wallis, 23, Hartington Grove, Cambridge. [5291

8h.p. Zenith-Gradua, J.A.P., Bosch, Henderson sidecar, lamps, speedometer, etc.; £115, or offers.—6, Etheldene Av., Muswell Hill, N.10. [5363

ZENITH-GRADUA 3½h.p., water-cooled, o.h.v., pillion, lamps, fast; what offers, or exchange more power.—29, Selkirk Rd., Tooting, S.W. [5830

7-9h.p. Zenith C.B. Combination, 1914, Bosch mag., wind screen, hood, perfect condition; can be seen at 110, Leyton High Rd., Leyton G.E.R., E.10; price £85. [5000

19 ZENITH, touring model, 1917, kick start, countershaft, good condition; £85; approval, deposit; exchanges entertained.—57, Gt. George St., Liverpool. [4511

ZENITH Combination, 8h.p., 1913, new coachbuilt sidecar, copper exhaust, etc., perfect; £76; seen Saturday afternoon; exchange.—Gardam, The Wharf, Stanie [illegible] [5564

ZENITH 8h.p. Sporting Model in stock; £139.—Vernon Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St., Bond St., London, W.1. 'Phone: Mayfair 6559 [0319

3½ Zenith, J.A.P. engine, Bosch mag., recently [illegible] very fast, and splendid hill-climber; [illegible] Mackintosh, C/o Brown, 16, Gillespie Cres., Edinburgh [5227

SPORTS Model Zenith, 6h.p. 1919-20, Swan sport [illegible] exceptional combination, [illegible] Street Lines, £140.—Arthur Payne, [illegible] Coventry [X5046

ZENITH Combination, 4h.p., 1918, T.T., all accessories and paint perfect, very fast, sport model; owner, offered going abroad; £75. Stone Lane Motor Works, Bexhill [illegible] [X5041

ZENITH [illegible] Engine, Bosch head and [illegible] Also [illegible] wheels and tyres and engine and [illegible] to new, in perfect condition; £170.—Parker's, Bradshawgate, Bolton. [illegible]

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Government tyres. Just purchased. Selection of all sizes and leading makes at big reductions. All covers brand new, only marked W.D. If not satisfactory, I will willingly refund remittance. Give me a trial. Terms, cash with order. Carriage paid, passenger train. All orders delivered guaranteed same day as received.

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26 × 2½ for 2¼ or 2 Rims.

Palmer Cord Heavy	39/6

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Dunlop Heavy	39/6
Dunlop Combination	55/-
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1920 Zenith 8h.p., clutch, kick starter combinat as new, mileage 700, with numerous accesso cost £240; offer at £215 or very near; buying ca Box 8,757, c/o *The Motor Cycle*. [5

LATE 1919 8h.p. Zenith-Gradua, all accessories, been overhauled by makers; reason for sell owner bought car; price £105.—Lt. Anderson, c/o Da 22, Tooting Bec Rd., S.W.17. [5

ZENITH 1920, 4-5h.p., sporting model, run app 400 miles, and is unscratched; reason for sell owner has 8h.p. same make; cost £123; any reason offer to Hovenden, 99, Church Rd., Barnes. [4

1920 Zenith, 4-5h.p., in beautiful condition, about 800 miles, indistinguishable from owner bought kick-starter model; great bargain, 99 —Julian, 84, Broad St., Reading. 'Phone: 1024. [5

F.O.C.H. have a 1919 6h.p. Zenith, T.T. h accessories, grand condition; cheap.—5, Heath Hampstead (near Hampstead Tube Station). 'Pho Hampstead 3752. Hours 9-7, including Saturdays. [5

ZENITH 1916 Combination, 6h.p., clutch, starter, speedometer, horn, discs, copper exha splendid condition; any trial; £120, offers; w separate.—M., c/o Shepherd, Wellington, Chertsey [5

1920 Zenith, sports model, 8h.p., fitted Fl Middleton sidecar all lamps, horn, etc; only 3 months old; as new; £127/10; changes or easy payments.—2, Nightingale Lower Clapton, N.E. [5

NEW 8h.p. Zenith Model H Combination; £ or on deferred payments; one-fifth dep balance by 12 monthly instalments, a small c charge being made for credit terms.—Harrods, L 118, Brompton Rd., London. [5

ZENITH-GRADUA 6h.p., countershaft, kick st brand new heavy tyres, and unused equipm has been stored, with canoelet touring sidecar; £1 guaranteed by me for six months, any trial.—Bam (see under Consulting Engineers). [4

ZENITH, 1920, special racing model, 3½h.p. M.A.G. engine, practically new, built to sp order, exceptionally fast, practically new; £1 Elce and Co., 15-16, Bishopsgate Av., Camomile E.C.3. 'Phone: Avenue 5548. [

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WREAK Motors, great attraction, seat 14in. from ground; 60 gns.—57, Kenbury St., Camberwell, ndon. [5434

1h.p. Villiers-J.H., 3-speed, S.A., clutch, new engine, £37; also 3h.p. machine, £28.—Gwennap, sing Brook, Stafford. [5628

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OOTH'S Motories, Halifax.—1919 P. and M., with new sidecar, £110/10; 7-9h.p. Indian, with torlo sidecar, £60/10.

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IUMPH, 1919, sidecar, £130; Triumph, 1912, clutch, £48; Enfield 2-stroke, 1919, £55; Clyno oke, Dec., 1919, £60; Douglas, 1912, £35; all perly equipped. — Wright, Feathers, Rickmansworth, e. [5410

OUGLAS 4h.p., kick start, clutch, 3 speeds, good condition, £65, quick sale, owner going abroad; also aught, 2-speed countershaft model, take 2 anye, £42; sidecar, cane canoelet, £5. Evenings—37, i Rd., Addiscombe, Croydon. [4895

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[illegible] [illegible]

[illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [

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[IDDLETON'S Racing Cars have been, and are, used by the leading racing men.

[IDDLETON'S Racing Sidecars are built for all speeds, but we caution friends and enemies not travel over 175 m.p.h. unless the chassis is first ght to us for a coat of special secret speed enamel.

[IDDLETON'S Matrimonial Mask will be closed during the cold weather. We hope, however, reopen same before the cuckoo returns, providing the perature is satisfactory. Meanwhile, we shall be sed to execute any repairs to any make of sidecar, sis, or bodywork. We do everything and everybody. shall also be pleased to convert your old-fashioned d chains to spring wheel type, thereby doubling the of same. Trade enquiries invited.

[IDDLETON'S have four models—the Flyer, for racing; lightweight coach, for 2¾h.p. machines, ; medium touring coach, for 3½h.p. upwards; and ial tourers for big twins, Zenith, Harleys, Hender-, Indians, including spring frame model, etc.

IDDLETON'S Spring Wheel, the finest device of this kind, now ready; £4 extra on any model.

IDDLETON'S, London's oldest established sidecar makers, 27, Stroud Green Rd., Finsbury Park. 'Phone: 1584 Hornsey. [9351

DIAN 2-seater Sidecar, hood and screen, brand new, cost £55; accept £35.—Barker's Motors, 194, Bal-High Rd. 'Phone: Latchmere 4441. [4959

ONTGOMERY Sidecars for Triumph, B.S.A., Blackburne, Indian, Harleys, etc.—Bastone's, 228, tonville Rd., King's Cross, London, N.1. [4865

ENDERSON Sidecars.—All models instock. Elite, £45; Model B1, £31; featherweight, £23.—P. vans, 5, Thornfield Rd., Shepherd's Bush, W. [0176

NE Sidecar, with door and lift-up flap, well upholstered, complete, £4; or exchange billiard-dining , cash adjustment.—35, High St., Dartford. [5224

RTON Bulbous Back Sidecar, complete, off 1919 Big 4 Norton, wind screen, 26in. wheel and Dunbeautiful order.—Batho, Broome, Ellemere. [X4880

LLFORD.—All models in stock. Model de Luxe, £40 14; Corvette, £31/10; Skiff, £27/15/6.—P. vans, 83-91, John Bright St., Birmingham. [0177

NBEAM Sidecars, unused, but re-enamelled, suitable for Harleys, Triumphs, Sunbeams, etc.; to quickly, £22 each.—336, Gray's Inn Rd., W.C.1. [0267

ACHBUILT Underslung Bulbous Back Sidecar, complete with apron, new, £25; also a 2-seater special.—Stock, 107, Coningham Rd., Shepherd's [5725

NDERSON Elite Sidecars, also Dinky sidecars, in stock for immediate delivery; list price. e supplied.—J. Smith and Co., 52-54, Hampstead N.W.1. [0303

W Sunbeam sidecar, complete with stormproof apron, less tyre, 4-point fixing chassis, only few bargain, £17.—Beecher, 472, Archway Rd., High-London, N. [5904

NOELET.—All models in stock. MM.4, £39/5; touring model, £31/10; sporting model, £25; r; £18/18.—P. J. Evans, 83-91, John Bright St., ingham. [0178

VERTISER has a number of store-soiled sidecars for disposal, all of high-class make, covered by rs' guarantee; good bargains.—Write Box 8,744, *The Motor Cycle*. [5127

NOELET Sidecar, new coachwork, re-enamelled black and gold, fitted Easting wind screen, wants uard; £15 the lot.—Seen at Goldney Carriage s, Goldney Rd., Paddington. [4971

ORIA Sidecar, practically new, unscratched, hood, wind screen, Triumph attachments, colour mauve, panel; any reasonable offer.—C. F. Attneave, field, Mether St., Finchley, N.3. [5074

R a really good sidecar, moderately priced, ask for particulars of our Model 19a, topping value; sidecar bodies, best value in the trade.—Melville (Halifax), Ltd., Clarence Works, Halifax. [0218

NDERSON Elite Sidecars in Stock for immediate delivery, suitable and painted Harley-Davidson r, also Henderson colour; all models in stock.—mith and Co., 52-54, Hampstead Rd., N.W.1. [0244

E have a great number of second-hand sidecars and bodies for disposal. These accumulated during a season when we had no time to trouble with them. end take your choice. Shop-soiled sidecars from —Sandum Sidecars, 336, Gray's Inn Rd., W.C.1. ne: Holborn 933. [0322

THE CENTRAL HOUSE for BARGAINS

"The sporting chance you have been waiting for for twelve months has come at last. No waiting. Machines quoted below for immediate delivery at makers' list price. No charge for carriage or crate for machines quoted below. Free fill up with petrol. These are the generous terms which we have been waiting to give you for many months."

COMBINATIONS.

1920 **MATCHLESS** Combination, M.A.G. engine, Lucas dynamo lighting, speedometer, etc., new ..... **List price**

1920 **RUDGE** Combination, 6 h.p., with Rudge-Whitworth best sidecar. Immediate delivery.

1920 4 h.p. **DOUGLAS** Combination, brand new ..... **List price**

1920 3½ h.p. **SUNBEAM** Combination, brand new ..... **List price**

1920 Model H **MATCHLESS** Combination, M.A.G. engine, Lucas acetylene lamps, Lucas horn, speedometer, legshields. Immediate delivery ..... **List price**

1920 **A.J.S.** Combination, complete. Immediate delivery ..... **List price**

1920 8 h.p. **ENFIELD** Combination, Lucas Magdyno, brand new ..... **List price**

1920 8 h.p. **ENFIELD** Combination, standard model ..... **List price**

1920 8 h.p. **ZENITH,** countershaft model, Swan sporting Sidecar, complete with lamps. Special bargain; under list price **£195**

1920 4½ h.p. **B.S.A.** Combination, all-chain drive model, brand new ..... **List price**

1920 6 h.p. **B.S.A.** Combination, immediate delivery ..... **List price**

1920 latest chain drive 4 h.p. **TRIUMPH** Combination; immediate delivery. **List price**

1918 Powerplus **INDIAN** Combination, excellent condition **£140**

1919 6 h.p. **BRADBURY** and Sidecar, very small mileage **£160**

1920 7-9 h.p. 4-cylinder **F.N.** Combination, complete with all accessories, Lucas lamps, speedometer, hood, windscreen **£190**

1914 8 h.p. **MATCHLESS** Combination, M.A.G. engine, just been thoroughly overhauled and re-enamelled at Matchless works **£125**

1920 **HENDERSON** Combination, dynamo lighting set, electric horn, and Henderson Elite sidecar ..... **Offers**

1920 **EXCELSIOR** Combination, dynamo lighting set, electric horn, and Henderson Elite sidecar **£165**

SOLO MACHINES.

1920 4 h.p. **TRIUMPH,** countershaft model, brand new ..... **List price**

1920 **RUDGE-MULTI,** I.O.M., immediate delivery ..... **List price**

1920 3½ h.p. **LEA-FRANCIS,** J.A.P. engine, immediate delivery ..... **List price**

1920 3½ h.p. **LEA-FRANCIS,** M.A.G. engine, immediate delivery ..... **List price**

1920 8 h.p. **ZENITH,** countershaft, kick-starter model, immediate delivery. **Makers' list price**

1920 **A.B.C.,** 4 speeds, brand new, immediate delivery ..... **List price**

1918 7-9 h.p. **HARLEY,** just been overhauled and re-enamelled at Harley-Davidson's, special bargain. Only wants seeing **£110**

SIDECARS.

Immediate delivery, **Henderson Elite Sidecars,** suitable for Harleys, Hendersons, etc.; also famous **Dinky Sidecars,** all models in Stock.

1920 **G.N. Light Car,** with or without dynamo. Immediate delivery ..... **List price**

WANTED.—**First-class Combinations.**

J. SMITH & CO.,

52 & 54, Hampstead Rd., London. N.W.1.

(Bottom end of Tottenham Court Rd.)

'Phone: Museum 5938

SIDECAR ATTACHMENTS.

BURLINGTON Sidecars.—No. 2 model, coachbuilt, underslung, bulbous back with locker, spring seat, and back upholstered in best Pegamoid, strong and well-made chassis, complete with tyre; £28/10.—Below.

HARLEY Model, coachbuilt, bulbous back with locker, spring seat and back, upholstered in best Pegamoid, a sidecar de luxe, with extra strong chassis, specially constructed to withstand the strain imposed by this heavy machine, complete with tyre and tube; £35/10.—Below.

SPEEDY Model (or Bird Catcher). The ideal sidecar for sporty riders. They are just the things for Triumphs. Specification as above. Complete with tyre, £24.—Below.

PLEASE Note that our Sidecars are Solidly Constructed, and are not blown together.—Below.

THE Burlington Motor Cycle Co., Ltd., 7, South Side, Clapham Common, S.W.4. 'Phone: Brixton 2417. T.A.: Burlington Motors, Clapham (50 yards from Clapham Common Underground Station). [5819

CHASSIS.—The Sandum lightweight, £9/9; heavyweight, £12/12; heavyweight enclosed wheel type, £22; spring wheel type, £27. Ask to see our special sidecar connections. Trade enquiries invited.—Sandham Engineering Co., 336, Grays Inn Rd., W.C.1. 'Phone: Holborn 933. [0325

SIDECAR.—Have a Hopley folding sidecar. No need to pay garage. You can keep motor at home; will go through passage 28in. when folded on any motor. Any shape body fitted. They have been well tested for six years on motors up to 8h.p.—Hopley, Upper Highgate St., Birmingham. [0152

RUNABOUTS AND CYCLE CARS.

1920 A.V. Monocar, 6h.p. J.A.P., like new, fitted with electric lamps; to clear £135.—110, Bold St., Liverpool. [5022

3-WHEELED Chassis, engine, gears, radiator; £22; separate; exchange.—Wright, 4, Maison-dieu Terrace, Deal. [5643

1914 Morgan, 8h.p. A.C., in good condition, lamps, screen, etc.; £135.—Bridgwater, 61, Amery St., Alton, Hants. [5222

MORGAN, new sporting models in stock.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. Kensington 4096. [5604

A.C. Sociable, B. Type, splendid condition; trial; hood, screen, lamps, spares; £90.—A.R., 44, Linden Av., London, N.W.10. [5194

1920 Morgan Model de Luxe, guaranteed perfect, run 200 miles only; price £225.—Shaw, Mozart House, Sherborne, Dorset. [5551

CARDEN Monocar, 1917, fine condition, new tyres, disc wheels, chain drive, 2-speed; £75, offers.—3, Ludysmith Rd., Cradley, Staffs. [X4780

1920 A.V. Monocar, 8h.p., fitted with rear cushion for passenger; price (shop-soiled—has been ridden) £180.—110, Bold St., Liverpool. [5030

1920 Tamplin, with spares, accessories, insurance, and waterproof housing, excellent order; £150.—Jones, 227, Willesden Lane, N.W.2. [4896

T.B. Cycle Car, J.A.P. engine, complete lamps, horn, and spare wheel discs, delivery from stock; £275.—Maudes' Motor Mart, 100, Paris St., Exeter. [5253

1914 Morgan, appearance like new, crimson lake, fully equipped; nearest £155; motor cycle part.—Allston, Bergholt, High St., Harpenden, Herts. [5868

A.C. Sociables, modern types, fully equipped, mechanically sound, good appearance; from £60 to £85; trial.—29, Allsop St., Upper Baker St., N.W.1. [3866

1920 Bleriot Whippet, mileage negligible, splendid order; first cheque £225 secures.—Oscar V. Cox, Waylett Place, West Norwood. 'Phone: Streatham 2759. [5569

PREMIER Super Runabout, one just to hand for sale, £300, fully equipped, horn, lamps, etc.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X5087

1920 A.V. Bi-car (2-seater), fitted with hood and screen, 8h.p. J.A.P., 2-speed gear; price (shop-soiled—has been ridden) £230.—110, Bold St., Liverpool. 5031

1916 Trumbull 2-seater, 10h.p., very good engine, 3 speeds and reverse, electric lighting, 5 new tyres; what offers over £150 —P. Frossard, 28, Bridge St., Taunton. [5114

TAMPLIN 1920 2-seaters; £165; immediate delivery. We specialise in these cars and all necessary accessories for same.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [5825

GIBBONS Mark III. Cycle Car, reduced to £115; delivery within one month; trials any time by appointment. Agents required.—Gibbons and Moore, Chadwell Heath, Essex. [4838

BLERIOT Whippet, hood, screen, spare wheel, electric lighting, only done 500 miles, perfect; £230; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [5882

MORGAN Grand Prix in stock, green and white finish; £224; makers' price.—Lamb's, 151, High St., Walthamstow; 50, High Rd., Wood Green N.22; 387, Euston Rd., London, N.W. [5244

RUNABOUTS AND CYCLE CARS.

G.N. 1920 Touring, delivered August, mileage 1,100, 5 oversize Palmer cord tyres, acetylene lighting, spares, perfect throughout; cost £270, accept £230.—Jameson, Kenton, Northumberland. [5178

G.W.K. 1915 2-seater, detachable wheels and spare, hood, screen, lamps, etc., in splendid order: £225. — Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0070

SPLENDID Little 2-seater, 8-10h.p. J.A.P., hood, screen, lamps, etc., fine condition throughout; £130; cash or deferred payments; exchange motor cycle.—Bunting's Motors, Wealdstone, Harrow. [5834

MORGAN.—We are sole Wolverhampton agents; our allotment for this season is already booked, but send us your old machine for repairs, overhauls, or repainting.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3460

LATE 1914 Victor Cyclecar, Precision W.C. engine, 2-speed reverse gear box, stored 1915 to 1920, condition as new, smart appearance, hood, screen, lamps, etc.; £175; photo 6d.; good solo considered part.—1a, Richardson Rd., Eccles, Manchester. [5613

TAMPLIN 1920 2-seater, delivered May, exceptionally smart little car, fully equipped with hood, screen, electric lamps, comfortable back seat, running boards and domed wings; £195.—Seen and tried any time, 65, Croydon Rd., Caterham Valley, Surrey. 'Phone: 188. [4935

1914 Sporting 2-seater, 8h.p. w.c., live axle, gate change, disc wheels, dynamo lighting set, very smart; first cheque £150 secures.—Oscar V. Cox, Waylett Place, West Norwood, S.E.27. 'Phone: Streatham 2759. [5570

NEW Bleriot Whippet 8h.p. Cycle Car, 2-seater, with latest handle starter, hood and screen, detachable wire wheels, standard equipment; £250, or on easy payments 4½ extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [5809

NEW Tamplin Tandem, 8h.p. J.A.P. engine, 3-speed Sturmey-Archer gear, clutch, and foot starter, fully equipped with hood and screen, discs on all wheels, lamps, and horn; £189/7, or unequipped £165; may be obtained on Harrods deferred payment system, 4½ extra.—Harrods, Ltd., 118, Brompton Rd., London. [5808

G.N., 1920.—Delivery from stock, standard touring model, dynamo lighting, full equipment, including speedometer, horn, spare wheel, £275/12/6; without dynamo lighting, £241/17/6.—Official Contracting Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

CARS FOR SALE.

BELSIZE Taxi, in good running order; £95.—S.M.C., 77, Acre Lane, S.W.2. [5740

ASTRO-DAIMLER 28-80h.p., C.A.V., quite a late model; 500 gns.—S.M.C., 77, Acre Lane, S.W.2. [57[illegible]

NEW Pick 2-seater, 15h.p., dynamo lighting, in good order; £125.—S.M.C., 77, Acre Lane, S.W.2. [5739

8h.p. Rover 2-seater and dickey, hood, screen; £95; exchange combination.—84, Greenside Rd., Croydon. [5421

PAXTON.—12h.p. Motobloc 2-seater repainted, running order, hood and wind screen; absolute bargain, £85.

PAXTON.—Special bargain: 16h.p. Bell light delivery van, new body, live axle, gate; £185.

PAXTON.—12-16h.p. Unic 1-ton van, solids behind, 4 cyl. monobloc, sump lubrication; bargain, £250.

PAXTON.—12-15h.p. Opel landaulet, 4-cyl. monobloc, gate, Zenith, cord, fine condition; £285.

PAXTON.—1915 Overland 4-seater, fine touring car, self-starter, dynamo lighting, excellent condition; £365.

PAXTON.—12-14h.p. Crossley 2-seater, detachable wire wheels, enclosed valves, smartly repainted; £365.

PAXTON.—1920 All American famous 25-30-cwt. [illegible] chassis, in stock; at list price: £585.

PAXTON Car Depot (Stanley J. Cook, proprietor). [illegible] Rd., West Norwood, Victoria to [illegible] or Crystal Palace 'buses to Paxton Hotel. [5781

DAIMLER 30h.p. Limousine 1911 model, C.A.V., [illegible] £650 Cecil Trimble, 53, Havent Rd., [illegible] [5738

1.5 [illegible] Stepney, discs, [illegible] 1920—Knight, 4, Pave. [5913

C[illegible] [illegible] [illegible] [

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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Over-production?

SPEAKING in the House last week on the question of the proposed datum line for coal output, Mr. Brace, the miners' leader, contended that much unemployment in this country was due to over-production. He specifically mentioned the motor trade of Coventry as an example. With the basis of Mr. Brace's remarks the policy of this paper is not concerned, but when he particularises on the subject of the motor industry it is time to enquire into the accuracy of his statements.

Has the motor cycle industry suffered from over-production? Surely the vast number of imported motor cycles provides a convincing answer! In the month ending September, 1920, motor cycles and parts to the value of £22,774 were brought into the country, and the figure for the nine months preceding that date was no less than £343,712. These imports have taken place in order to supply the demands of British riders, whose requirements have not been satisfied by home manufacturers. Foreign machines are not always imported because riders actually prefer them to the home-produced article, but largely because they have been unable to obtain prompt delivery of British machines at a reasonable figure. In addition to this, there is an enormous and unsatisfied demand for British machines in Overseas markets. This demand is being fulfilled chiefly by American manufacturers, but there is evidence that buyers in many cases prefer our products.

What, then, is the cause of the temporary slump, if slump there be? Partly it is due to the normal slackening of orders at this time of the year, coupled with the high cost of living, but mainly it is due to the high prices demanded for motor cycles. Surely it must be obvious that, with given overhead charges, the greater the output the lower the cost per machine, since these charges can be distributed over a greater number of machines. Therefore, it would seem that the remedy lies in *increased* production.

Taxation Favours Lightweights.

MOTOR cycles next year will be divided into two classes for taxation purposes, *i.e.*, those below and those above 200 lb. in weight. The time has come, therefore, when approximate catalogue weights will fail to serve a useful purpose. In the past there has been a certain amount of laxity on this point, and one could never be sure whether the weight quoted by a maker was arrived at by means of a weighing machine or a vague calculation on the part of the catalogue compiler. Instances have occurred in which machines given as weighing 230 lb. have been actually as much as 20% higher. Such wide differences between the printed and actual figures are sufficient to cause the purchaser justifiable disappointment, and next year the difference of a few pounds, when the machine weighs something in the neighbourhood of 200 lb., will represent to the owner a matter of 30s., one way or the other.

Undoubtedly the choice of a certain number of purchasers will be in favour of the motor cycle subjected to the lower taxation, and it behoves makers of machines under, but near, 200 lb. in weight to take more than ordinary care to ensure that such buyers obtain what they require, *i.e.*, a machine on which only a 30s. tax is demanded.

It will not be sufficient for a maker to weigh the first sample machine and take it for granted that all the production models are of the same weight.

At the present time there are quite a number of machines near the dividing line, and consequently the next taxes may have some influence in inducing manufacturers to reduce weights. Properly carried out this will be all to the good, as of recent years the tendency has been to overlook the most attractive feature of the small solo machine—its low weight. Everything else being equal, the lighter machine is bound to be the more economical, and economy should be the keynote of every design.

An index to the advertisements in this issue will be found on the page facing the back cover.

OCCASIONAL COMMENTS

By Ixion.

Two 1911 Machines.

THE other-day business took me into one of the hilliest counties in England, where I presently foregathered with two riders of 1911 machines—a Rudge and a Triumph respectively. Ancient memories revived as I handled these aged crocks, as the modern knut would doubtless stigmatise them. The main impression they made upon me was that of an extraordinary lightness—both felt much more like babies than 500 c.c. machines. The Rudge had an N.S.U. gear, but the Triumph was still fitted with single fixed gear; both machines are accustomed to tackle anything short of an A.C.U. freak hill, and as far as I can judge, their climbing is better than that of a modern 500 c.c. on its top gear. They look quaint and have grown very shabby, but they are fine goers still. Neither of them has required any major replacements in ten years of hard service, and the original cost of each was some £50. Cheap transport, gentlemen.

The Solo Windscreen.

TWO firms were advertising windscreens for solo machines in the last issue of *The Motor Cycle*. I tried a home-made gadget of this type many years ago, and experienced a lot of trouble in making it sit up at the correct angle against head winds, especially when I was speeding. It is, I suppose, a logical adjunct to the leg shields which many all-weather riders now fit, but it stands in quite a different category from the car windscreen. When you are seated in a deep coach-built body with a good screen ahead of you, you can keep both dry and warm at speed in any weather. On a motor cycle you must trust your clothing, and not any gadgets carried on the machine, for warmth and dryness. Whether you carry a wind-[illegible] net, you must wear good, thick, waterproof [illegible]. To my mind the windscreen offers two [illegible]. Its chief merit is that if its dimensions are correct, it protects that vulnerable gap between the coat and the chin, and prevents spindrift from [illegible] down the front of your neck. Its other value is that if you are butting into an ice-edged nor'-easter on a dry day, your face need not get frost-bitten. So long as you don't expect it to keep your whole body dry and warm, it is fine. I am not sure that the best motor cycling windscreen is not one of those towel things which Eastern women tie round the lower three-quarters of the faces; I once met a rider wearing such a contraption on a snowy day, and whilst I deplored his appearance, I envied the comfort he was enjoying. My own face was frozen stiff, and all my underclothing was positively slushy.

The Comfortable Sidecar.

I CANNOT remember ever having seen it admitted in print that a really first-class sidecar is probably the most comfortable seat, bar none, in the whole gamut of road travel. Many a rider proudly makes the transit from a combination to a cycle car or even a light car, only to find that his wife or sweetheart hankers sadly after the superior suspension of the sidecar. The comfort of both cycle cars and light cars varies enormously. A few of the very best are excellent. One or two of the worst ride as coarsely over pot holes as a rigid-framed bicycle with a fifth-raté fork. The average experience of the sidecar couple who promote themselves to a cycle car is that the driver gains little in comfort, and that the lady loses a lot. If the change is to a light car, everything depends on the make, but the lady is not likely to score much by the change in suspension, though the driver may relish his new experience, quite apart from weather protection. I fancy not the least reason for the vogue of the combination is that the occupant of the sidecar rides as comfortably as anybody on the road.

Instrument Lamps for Motor Cyclists.

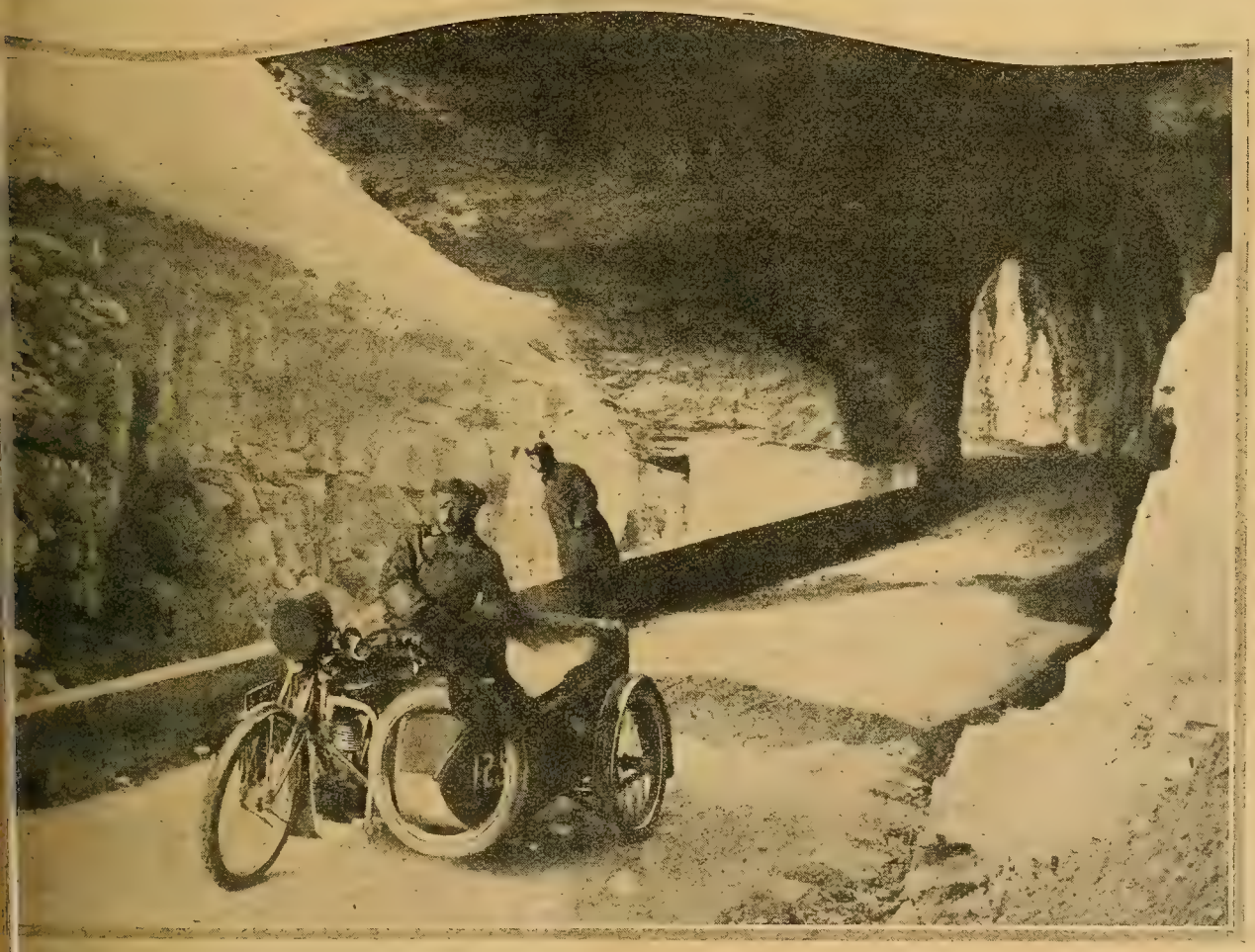
I HAVE received an enquiry for a bijou handle-bar acetylene lamp from a night rider, who wants to illuminate his speedometer and oil drip. The distractions and monotony of long-distance work must doubtedly tempt the traveller to forget about his lubrication, and when no reminders are visible, the rider is quite liable to sink into a subconscious condition, as every "Twenty-four" medal winner knows. I replied with the suggestion of a dry battery gadget. My own experience of low capacity acetylene burners is not gratifying, and many riders prefer to run acetylene tail lamps off a tiny separate generator. Has any reader lore to distil on the subject of instrument lamps for prolonged night work?

The Problem Simplified?

THERE was every excuse for hand pump oiling so long as our engines had plain bearings of somewhat inadequate area, and their cylinders and pistons were specially designed to distort as much as possible. But it was distinctly disappointing to find the old-fashioned type of oiling perpetuated on a *fin de siècle* 'bus like the A.B.C. with not an oil-thirsty bearing in the engine, with symmetrical cylinders of even wall thickness, and pistons developed from aero engine practice. I believe Mr. Bradshaw's original design included sump oiling, and it would be interesting to hear what snags his testers struck in a system for which most lazy riders continue to sigh. A cynic of my acquaintance avers that there is an unholy alliance between engine designers and sparking plug manufacturers in this matter, the idea being to compel the clumsy owner to buy a fresh plug once a month; but I cannot swallow this foul libel. Meanwhile, I plaintively proclaim my ideal. A colleague on the staff of *The Autocar* lives on board a small, cheap car. He has an oil indicator on his dash, but it never works, and never has worked. He never buys any oil by the roadside. He never carries any oil (outside his engine, *bien entendu*). He never thinks about oil, except at the monthly go-over-everything. He never carries a spare plug. He never cleans his plugs. He never buys any plugs. I envy him. There are four seven-and-sixpenny plugs waiting on my desk now. All of them are charred and blackened. I shall get myself into a filthy mess scraping them. Next month they will want scraping all over again. Such is life. Incidentally most of my small engines consume more oil than his large engine per 1,000 miles.

A Needle Wanted.

HAVING lost three tool-rolls this season I have just had a brain-wave, and sewn one end of my tool-roll firmly to the lower inside corner of its pannier bag. If another fastener should jolt open under the combined inducement of my average speed and our vile roads, I stand a fair chance of saving some of my tools. Instead of the tool-roll hurtling like one thing into the heather in malicious silence, the roll will hang down and flap against my chain case; and the odds are I shall hear in time to recover some of the equipment. Of course, it *may* get taggled up in the spokes of the back wheel; but I shall risk that. I commend this very simple tip to the trade. Oddly enough, I do not think I have shed a bolt or a nut all the year. Most of my riding has been done on Scott, Norton, A.B.C., and B.S.A. machines, all of which seem to be top-notchers at holding their nuts over vile roads.

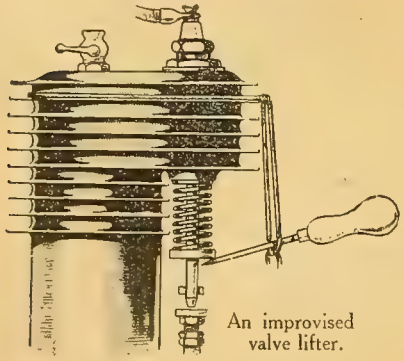


This photograph conveys a good idea of the engineering difficulties that road builders experience in mountainous countries. The scene depicts a Triumph in the French Alps, on the road to Paget Thenier from Nice, a district noted for its magnificent scenery.

IDEAS: Useful and Ingenious.

An Improvised Valve Lifter.

MORE barked knuckles result from attempts to remove valves without a proper tool for the purpose than, probably, from any other adjustment on the motor cycle. Yet there is an extremely simple method which only calls for a strong screwdriver or similar tool, and a length of string or, preferably, wire. The illustration shows how the loop is made to act as a fulcrum for the lever.—G.H.



An improvised valve lifter.

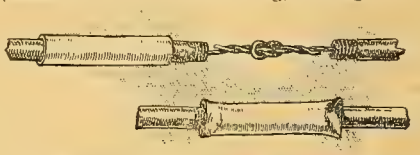
Spring Luggage Grid for Millford Sidecar.

THIS home-made grid has the advantage of being sprung without the necessity of disfiguring the sidecar body. The sides are of 1in. × ¼in. wrought iron, also one of the cross-pieces, which, as shown, has two ⅜in. clearance holes about 2in. from a bend at either end. The remaining cross-pieces are of ½in. round bar riveted in place, but the inside bar must not be fitted until everything is ready for attachment. The clamps, two of each pattern, are easily made by a blacksmith. Spiral springs on the projections of the rear clamps support the carrier, and are adjustable in tension by means of locknuts. The grid, of course, pivots on the forward clips, while for certain classes of work it may be found advantageous to prolong the spring carriers on the rear clamps and thus fit springs *above* the cross-piece as well as below. C.C.M.

An ingenious method of making a sprung luggage carrier for a Millford sidecar.

Repairing a Bowden Wire.

IN the event of a Bowden wire breaking, a temporary mend may be effected as illustrated. First, the position of the break is discovered, then the cover is cut at that place and the casing removed for about two inches. The wire is then joined by twisting, a piece of metal-tube (about half or one inch long) having first



A temporary method of mending a broken Bowden wire.

been slipped on to the wire as in the higher illustration. The tube is then slipped over the exposed wire and the two ends of it are hammered flat, so as to keep it in position. This method can, of course, only be adopted on certain occasions.—G.T.W.

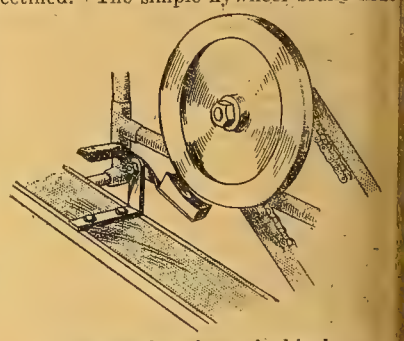
Improving an Old F.N. Distributer.

PROBABLY one of the most irritating points on the older types of F.N. machines is the distributer. Oil and dirt here cause misfiring, which is most unpleasant at low speeds. Some riders have gone to the expense of a magneto with a self-contained distributer, but the old distributer, as fitted to the end of the camshaft, can be made entirely satisfactory if the following plan be followed.

Remove the carbon brush and check the diameter, then get a few inches of soft 18 S.W.G. wire, and coil this on a spoke or a nail to an outside diameter equal to the brush. Withdraw the former on which the wire is wound, and turn the sharp ends of the wire down the hollow centre out of harm's way. The overall length of the copper coil should be just enough to allow the distributer to be slipped over when the coil takes the place of the carbon brush. Having made the coil of the right dimensions, remove it, and slightly open the turns. If it is now replaced it will form a very weak spring, just strong enough to keep the two ends in good electrical contact. This brush will function under almost any conditions. —W.F.A.

Flywheel Brake on a Douglas

NUMBERS of W.D. Douglases are now on the road minus a front brake, and if their owners are to avoid police persecution this omission must be rectified. The simple flywheel brake illus-



A substitute for a front wheel brake on outside flywheel machines.

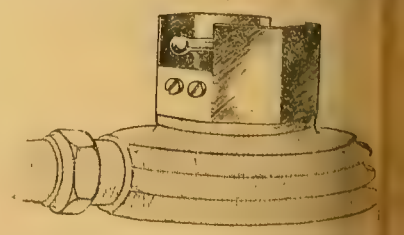
trated costs about 2s. 6d., compared wit 40s. for a new Douglas front wheel brake

Aluminium Number Plates.

THESE can be made quite easily a home, and when fixed to the moto cycle have a very neat appearanc Procure sheet aluminium preferabl about 10 gauge, or ⅛in. thick, and cu to size. Carefully paint on the require registration numbers, using black japa or cycle enamel. When the lettering quite dry and hard, immerse the plat in hydrochloric acid or spirits of salt About five minutes is sufficient for th acid to bite deeply into the aluminiu plate, which should then be taken ou well washed, and the enamel remove from the lettering, which will be foun to stand well up from the backgroun The lettering may now be polished an the background blacked.—H.C.F.

Shield for Villiers Engine Compression Release.

IF over-oiling be indulged in with th engine, there is a tendency for oil be thrown out by the decompresso The illustrated shield, made of str



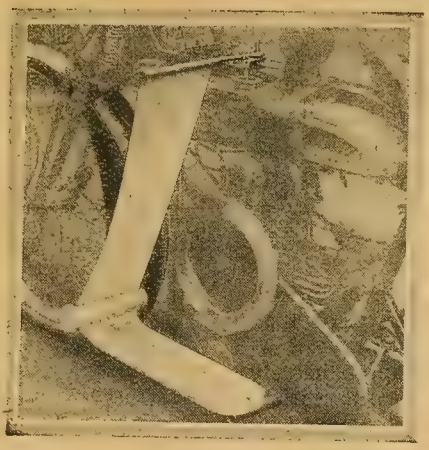
An easily made compression release shield.

copper, is a remedy within easy reach any amateur who possesses a hammer a chisel or pair of snips.—T.G.W.

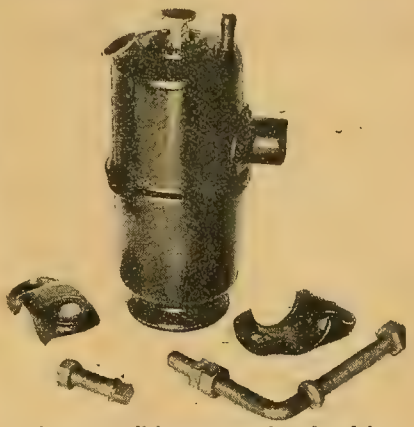
AMONG THE ACCESSORIES.

Some New and Practical Fittings Appealing to the Motor Cyclist.

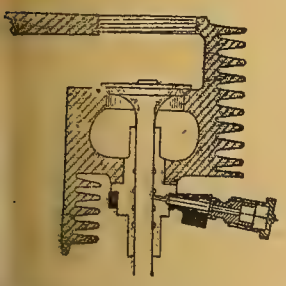
A new spring fork designed by A. Skinner, 15, Norcross Avenue, Tinsley. The illustration is self-explanatory.



A practical mudshield designed by Mr. H. B. Oxley, Messrs. F. Oxley and Co., 82, Caledonian Road, London, N.1. Each footboard consists of an aluminium casting, at the forward end of which is a cylindrical chamber enclosing a spring-controlled roller blind. When out of use the shield rolls away in the cylindrical casing, and is thus unobstructively stored.

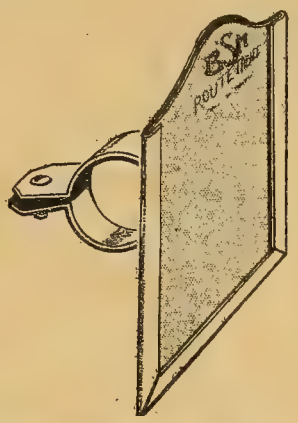


A neat rear light generator introduced by D. F. Lintine and Co., 86, Church Street, Shoreditch, E.1.

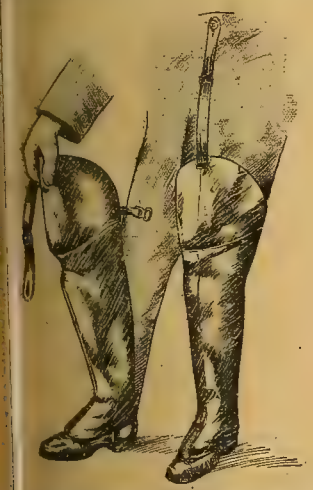


The A. and S valve stem lubricator ...rketed by the A. and S. Lubricating ..., 16, Rosebery St., Monk Wearmouth, ...nderland.

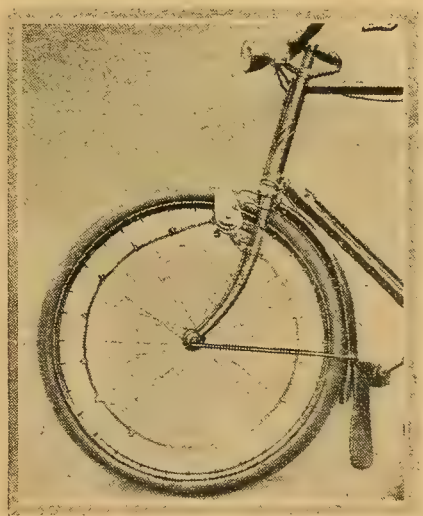
An adjustable belt fastener, the idea of Dr. F. McLaren, The Leuchold, Dalmeny House, Edinburgh. This adjuster will be on the market very shortly



The above handy route-card holder, consisting of a plated body and clip and a protective celluloid front, has been placed on the market by Messrs. H. Taylor and Co., Ltd., 21a, Store Street, Tottenham Court Road, London, W.C.1.



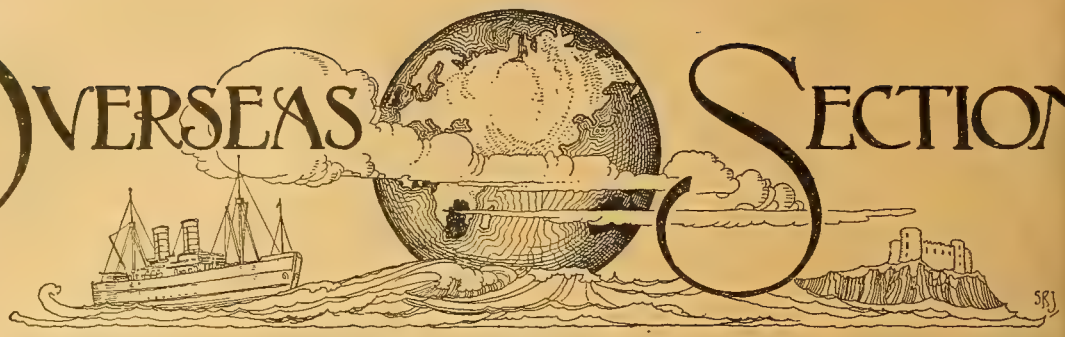
...ost motor cyclists who use their ...lines for all the year round business ...oses find the need for quick attachable ...detachable leggings. The Brooks patent ...g leggings meet this need, and are sold ...e form illustrated. They are made of ... waterproof canvas, for 45s. 6d.



A unique method of transmission for small dynamos. Attached to the spokes are a number of hooks which carry the small round driving belt. As the wheel revolves the belt is lifted from the hooks at that point where it passes over the dynamo pulley. J. Earnshaw, of 21, Harrington Street, Gorton, Manchester, is the patentee.

The Ace petrol filler, sold by Messrs. Gardner and Robertson, 576, Argyle Street, Glasgow, is an accessory which should be of great value to motor cyclists, as it enables a tank to be filled without waste. It can be stowed in the can itself when not in use, as it screws into the filler cap thereof, so that it is always available.

OVERSEAS SECTION



A Commentary based upon Practical Experience and a Study of Overseas Opinions.

Exports Up. DURING September the value of British motor cycles exported was more than four times the corresponding figure in 1919. Allowing for enhanced values, this still means approximately three times the number of machines. Such a gratifying increase is good medicine for those pessimists who constantly decry British designs and British methods in the matter of overseas requirements. Incidentally it substantiates our claims of last month that 1920 machines are suited for any conditions where the horse or the Alpine-stock are not, obviously, the better aid to travel.

♔ ♔ ♔

The Question of Service. ON the other hand, why is it that British manufacturers cannot dispense with the present seasonal slackness and busy themselves in meeting the *summer* demands of the Southern hemisphere? The answer is partly lack of sufficient demand, caused by insufficient facilities for regular service. Only the paramount importance of the question forces us to hark back to this subject—important both to this country, where increased trade would lessen industrial tension by giving full-time employment to thousands and abroad where British products are much preferred

♔ ♔ ♔

Is there a Remedy? IF, in view of the tightness of money manufacturers cannot individually afford to establish depots in far-lying corners of the globe, why should not half-a-dozen leading firms combine their efforts and form an association for setting up and running *joint* overseas service depots? Such a scheme should embody efficiency with economy. The actual selling of new machines might well be left to existing agencies. A rapid and sustained increase in sales should quickly follow the knowledge that spares and repairing facilities were in reasonable reach.

ROUND ABOUT CAPETOWN.

These scenes are very reminiscent of our own country, and the roads, too, bear comparison with many of our own.

Entirely Advantageous to the Buyer. THE buyer, on the other hand, need not fear that such an organisation would tend to become a "trust" in its worst meaning. American competition alone should effectively prevent this, and it is more than possible that if one batch of British firms made a success of such a scheme, the remainder would not be long in following suit. Such depots would require in each case the services of a really competent engineer to take complete charge, and as the expenses would be shared by the various firms it should

Overseas Section.—

not be necessary to stint the effort by a failure to offer a salary which would attract the really efficient men. After all it seems like ignoring a special opportunity not fully to develop a demand that reaches its zenith yearly just when things are slackest in the home country. It has been proved time and again that British motor cycles will do the work required of them under any circumstances, and of recent times special attention has been paid to overseas requirements. It remains, therefore, to perfect the organisation and distribution of spares in order to satisfy riders in out-of-the-way parts and materially to increase our export trade.

A Selection of Letters from Readers scattered all over the World.

Some Australian Experiences.

An Australian correspondent gives an interesting account of his early machines, and a few words on present-day requirements :

"My experiences extend over a number of years. First, I had an old Griffon with accumulator ignition. This 'bus developed a cracked cylinder, and was enough to drive the most enthusiastic away from the pastime. Next a 5 h.p. twin Peugeot—a fine machine that gave place to a 4¼ h.p. Fafnir-engined Colonial-built mount. This, on the whole, proved satisfactory, but the flywheels seemed on the small side, and consequently could not pull as slowly as was sometimes necessary in hilly country. So I sold it, and got an overhead 85 × 65 mm. twin Matchless-Jap, and it was some bicycle. You could push the Cowey speedometer round to zero again any time, and it would climb anything. It was geared about 2¾ to 1, and pulled magnificently. I remember it was geared high, with the idea of keeping the revolutions down, and thus saving the valves. (I have never yet broken a valve on any machine.) It was followed by a 4 h.p. J.A.P., another good machine; and in 1915 I got a Douglas, my first with gears. It was used near the Murray, where I had to do a daily journey of about twenty-four miles. This machine averaged 120-140 miles per week for 'work' and as much again for pleasure, often double banked, and was most consistent, only a spoke and front fork spring going once in a while. After a fair amount of work I went to a very mountainous district, parting, for the time being, with motor cycles, but still retaining a love for them.

"Being married, and wanting another machine, I thought it best to invest in a sidecar outfit, so purchased an 8 h.p. three-speed Harley-Davidson and sidecar. The machine itself was good, but the sidecar would not stand up to its work, the connections often breaking, considerably frightening the occupants. So it all had to go. This was in November, 1918. I have got the motor fever again, must have another machine, and now for my story.

"I am an Australian, and want to have, all things being equal, or up to a fair thing in favour of a British mount, a machine produced within our Empire, which, of course, boils down to England. But what do we find? The Americans have practically captured these markets during the war, and are not, after getting a decent business together, going to drop them if they can help it. The English manufacturers should open branches in Melbourne and Sydney for their products, and sell at competitive prices. *One must not forget that there seems to be an idea getting around out here, and probably in the other Dominions, that the Yankees are turning out stuff that lasts, whereas, owing to the greater war stresses, the British article has not improved at the same rate.* At the time of writing, about eight months after the war, it is almost impossible to get a British high-powered motor cycle with a decent three-speed. Such machines are advertised in your paper, but, so far, that's our share of them."

Motor Cycles in Nyassaland.

A reader from this part of the world writes : "There are quite a few motor bicycles in the country, and of all makes. I have seen Triumphs, senior and baby, Scott, B.S.A., Douglas, Omega, P. and M., Matchless, Enfield, F.N., Humber, Clyno, Forward, Edmund, Indian, Henderson, Excelsior, Harley, Rudge, Rex, J.A.P., Peugeot, and last and about the least, the N.S.U.

"The roads are good for about forty miles, and run from Blantyre to Zomba, and are suitable for lorries. The rest are nearly good enough for motor cycles; in places they are mere native tracks with hectic bridges, and are as a rule quite good in the dry season, but in the rains I have had to run alongside a P. and M. in low gear on dead level to get it through the sticky mud. Where the mud is merely oily and greasy most surprising skids may be accomplished without any trouble whatever. The old P. and M. is a fine machine out here. It is ten years old, but it will take twelve stone over most of the hills in top. In fact, I put a high gear sprocket on the countershaft in place of the large low gear sprocket, thus giving a bottom gear of about 6½ to 1, which I find ample for any road in the district. It is not exactly a sound mechanical job, but it has worked perfectly for about 1,000 miles, and is vastly preferable to the absurd low gear of 9 to 1, as fitted by the makers.

"Personally, I am all in favour of the type of machine as ridden by one of your contributors, 600 c.c. single, low compression, variable jet carburetter, and single gear. Such a machine soundly constructed, and, perhaps, with a Phillipson pulley or engine shaft gear (no countershaft), should be ideal for this country. I am rather in favour of some sort of clutch and gear, as in places it is necessary to go dead slow, and also have plenty of power in hand, owing to atrocious surface, stone and mud, etc., too often terminated by a steep rise."

Pioneer Motor Cycling in India.

The Rev. G. W. Park, of Bombay, writes an appreciative letter containing interesting reminiscences of early motor cycling days abroad :

"I have been a reader of your paper since its first number, and have often had the idea of dropping you a note to say how much I appreciate it all these years. I think I rode one of the first motor bicycles in Bombay. This was an American Mitchell, a two-baby-power machine, which consulted its own pleasure in regard to running. I indulged in two other Americans before I decided that there would be no more Stars and Stripes machines for me. They had the old sky-scraper kind of frame, and needed adjustments every five minutes and every fifty yards. Thereafter I had a succession of English bicycles, winding up in 1914 with a 1913 single-geared Triumph. This was the best of the lot, but was not powerful enough to pull my sidecar against a heavy wind.

"On returning from furlough, I brought with me a 1915 big twin Indian with spring frame. This has proved itself the best of all my machines. I have ridden it 10,000 miles over all kinds of roads, mostly in Bombay. Three nuts have dropped off owing to my carelessness. No parts have had to be renewed except two parts of the front fork. I have never been stopped except for punctures, and the twist grip control is all one could wish. I have no interest in this machine except as a satisfied rider. Ten thousand miles is nothing to a modern first-class bicycle, and so no appreciable wear can be detected on mine.

"This is a great city. Our roads would make the angels weep. They are the product of home rule, which means repairs in the dim future, if ever. Pot-holes in the main streets in which one could hide. Pavements cluttered up with all sorts of rubbish, so that pedestrians take the middle of the streets. An endless procession of motors, horse vehicles, and bullock carts. No rule of the road which is observed by anybody. Policemen on point duty, whose signals would puzzle a Philadelphia lawyer. I find that the only way to cross the main streets safely is to ignore the policeman on point duty, and use my own judgment, and then go ahead. Otherwise I should have to stop to figure out what his signals meant. We have a speed limit of 20 m.p.h. in the city, but this is ignored until a bullock cart turns to the right square across your front. We are loaded down with taxation, and pay 5s. per gallon for petrol in order that the vendors may pay dividends of 30%."

The Motor Cycle in Czecho-Slovakia.

Activity in the New Republic. British Design becoming Standard on the Continent. New Motor Cycles and Seat Type Scooters.

(By Our Special Correspondent.)

IN view of the importance now attached to the export side of the motor cycle industry, it is interesting to know that British motor cycle design now sets the vogue in many countries where hitherto the motor cycle has not been at all popular.

Due to faulty development, poor engine design, etc., local makes were not much sought after, while the more advanced British types were speedily bought up by the public, who had a keen eye for the practical side of the pastime, and refused to ride the hopelessly top-heavy mounts supplied by many Continental makers.

British Influence.

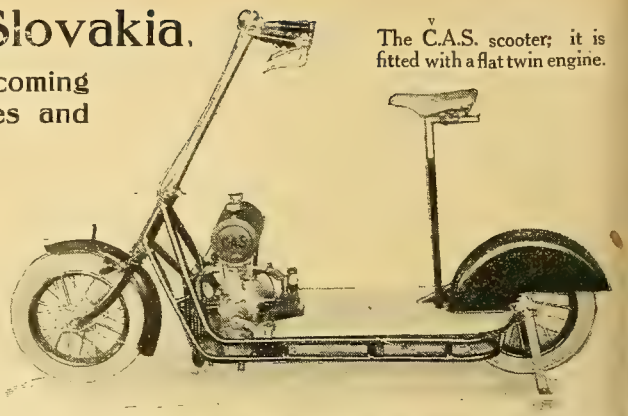
At present, the latest models of the Continental makers have a strong British flavour, as is illustrated in the leading Czecho-Slovak make, the Č.A.S.

The motor scooter, too, is popular here, which fact in itself speaks volumes for this new style of vehicle. For in such a hilly country the standard of efficiency for machines to be of any practical use must needs be a high one.

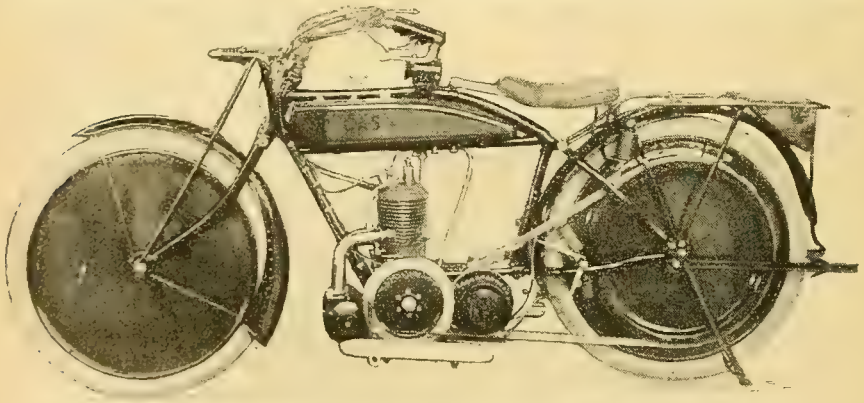
Both machines mentioned were exhibited at the recent Prague Show, where they met with much favourable comment, many orders being booked by the Č.A.S. Co.

While writing of Continental makes, it may be noted that the leading German manufacturers have abandoned most of their antiquated designs for machines built more on British lines. An example is the new type of Wanderer, one of which, ridden by L. Hunse, made a non-stop in the Dutch Trials; while others, like the N.S.U., seem to conform more to American ideas, minus, however, the twist grip control, which since the very early pioneer days has not been favoured in Central Europe.

Incidentally, as in many other of the new allied countries on the Continent, there is a ready market for British machines in Czecho-Slovakia.



The Č.A.S. scooter; it is fitted with a flat twin engine.



Novel saddle suspension and two belt rim brakes working on a common pivot are distinctive points of the Č.A.S. lightweight; otherwise it closely follows British lines.

Renewed Racing Activities in Central Europe.

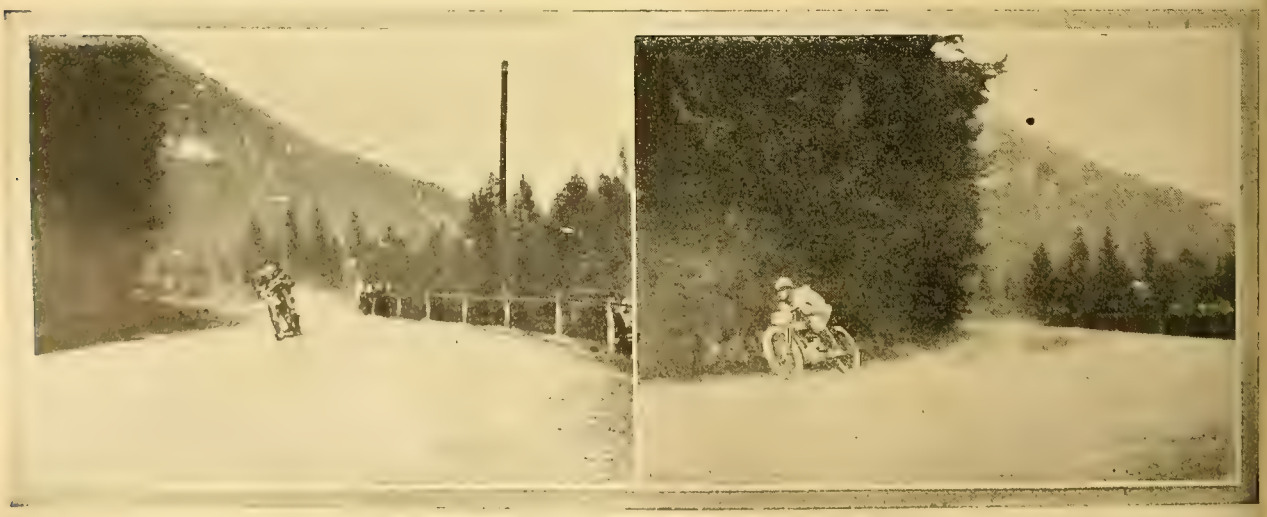
In spite of the general distress in Central Europe, motor cyclists there seem very keen on racing. The Semmering hill-climb (the Austrian classic event) was run off recently—the first since 1913.

All the events were won by imported machines of pre-war standard types, which, however, made fast times up the pass, which has a gradient of 1 in 4 on the worst bends.

One of the riders was Rainer Hapsburg, an ex-prince of the deposed Imperial house, who showed himself an expert in corner work.

The winners in the respective classes were :

Class 1, Krathy (S.I.A.M.T.). Class 2, Kaeslner (N.S.U.). Class 3, 1 Reikh (Triumph), 2 Braudtner (Triumph), 3 Rainer Hapsburg (Triumph). Class 4, Otto (Motosacoche). Class 5, Hartman (Henderson). Class 6, Brosh (Reading Standard sc.).



THE SEMMERING HILL-CLIMB. (Left) Rainer Hapsburg (Triumph), a former Archduke of the ex-Imperial house of Austria, on one of the bends. (Right) Hartman (Henderson), who made fastest time.

A VENTURI TYPE SILENCER

A NOVEL type of silencer in which the venturi tube principle has been successfully employed will shortly be placed on the market by Messrs. Keith Thompson and Co., 2, The Broadway, Wimbledon.

As may be seen from the illustration, the circular box contains a series of

The venturi silencer. The arrows indicate the direction of the exhaust gases.

double cones, which permit the gas to pass through the restricted holes in their centre or through slots cut on the outer circumference. It is claimed that the maximum amount of silence is obtained, with a minimum back pressure. This is achieved by using a series of venturi tubes and by releasing a proportion of the gases at the point of maximum pressure and lowest velocity it allows them to expand fully and cool in the outer chambers.

We witnessed a demonstration of this silencer fitted to a 4 h.p. Triumph motor bicycle and sidecar, and it was obvious that a considerable reduction in noise was effected. In fact, it was impossible to hear the noise of the exhaust above the tappet noise of the engine. The rear end of the box remained sufficiently cool to enable it to be held by the hand.

Further bench tests are to be made when interesting data regarding the amount of back pressure set up and the loss of horse power will be forthcoming.

This silencer is manufactured by Messrs. Parnaby and Coope, 7, South Parade, Leeds.

DRY BATTERY LIGHTING.

IT is always gratifying when a large and important firm turns its attention to the manufacture of accessories appertaining to motor cycles, and it is with pleasure that we are able to announce that Messrs. Siemens Brothers

The Siemens sidecar lighting set.

and Co., Ltd., Caxton House, Westminster, London, S.W.1, have recently introduced dry battery lighting sets for both sidecar outfits and motor bicycles. The company does not believe in the lighting of head lamps by dry batteries, but it is, rightly, of the opinion that for the side lamp and tail lamp this method is practically ideal. Needless to say the manufacture of the articles in question is beyond reproach. The bulbs are of the ordinary flash lamp type which can be obtained from any accessory dealer.

The dry batteries have excellent keeping properties. The best results, however, are obtained when on each occasion the lamps are in use the lighting period does not exceed two hours.

We were informed on the occasion of our visit to Messrs. Siemens that a No. 717 battery recently connected to a sidecar lamp, lighted for two hours per day for six days a week, gave fifty hours' light; so the rear lamp may consequently be expected to give the same result.

The batteries are contained in a neat black leather case provided with a metal frame designed to fit to some wooden portion of the sidecar. The lamps themselves are made from heavy drawn brass with machine-cut threads, and each is provided with a neatly designed self-contained turn switch. Each lamp is provided with five feet of waterproof twin flexible wire.

A similar set is supplied for use as a rear light, illuminating the number plate for solo machines, and also a rear lamp without a means of lighting the number plate.

A MOTOR CYCLIST'S TOOL KIT.

THE firm of Messrs. Alfred Herbert, Ltd., Coventry, whose machine tools are world-famous, is now turning its attention to the needs of motor cyclists. The illustration depicts the toolkit, which contains a nickel-plated oilcan, a pair of 6in. pliers, a 6in. half-round file without its tang, a belt punch, a 4×$\frac{3}{8}$in. knurled punch, a 6in. adjustable spanner, a good screwdriver, two one-minute tyre levers, and three tubular spanners to fit $\frac{9}{16}$in., $\frac{1}{4}$in., $\frac{5}{16}$in., and $\frac{3}{8}$in. nuts, and a $\frac{9}{32}$in. square nut.

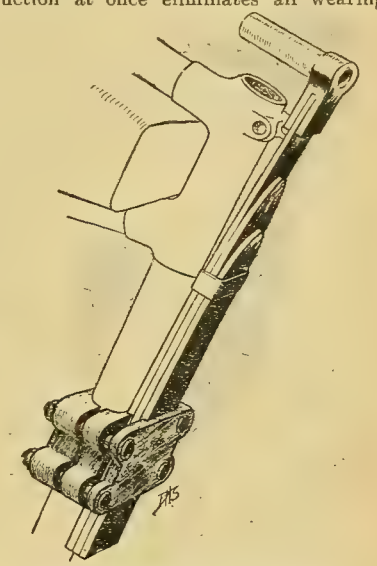
The tools are carried in a good quality canvas roll, fitted with steel frictionless spacing loops. It is strongly bound at the edges and provided with a pocket for carrying the oilcan.

A motor cyclists' tool-kit by a world-famous house of tool specialists—Alfred Herbert, Ltd

A SATISFACTORY SPRINGING ARRANGEMENT.

AT the present moment, no doubt due to the combination of existing road surfaces and our lack of spring frames, a number of devices to ensure the comfort of the rider are being produced.

Prominent among these are a variety of spring seat-pillars, which more or less insulate the rider from the rigid portion of his machine. Of late we have been testing one of these, which is known as the Flexa spring seat-pillar. It is of extremely simple construction, since it consists merely of a pack of leaf springs (with a suitable attachment at the extremity on which the ordinary saddle clip is fixed) and a clamp by which it is secured to the saddle tube of the ordinary motor cycle frame. This construction at once eliminates all wearing



The Flexa seat-pillar, which consists of a laminated spring.

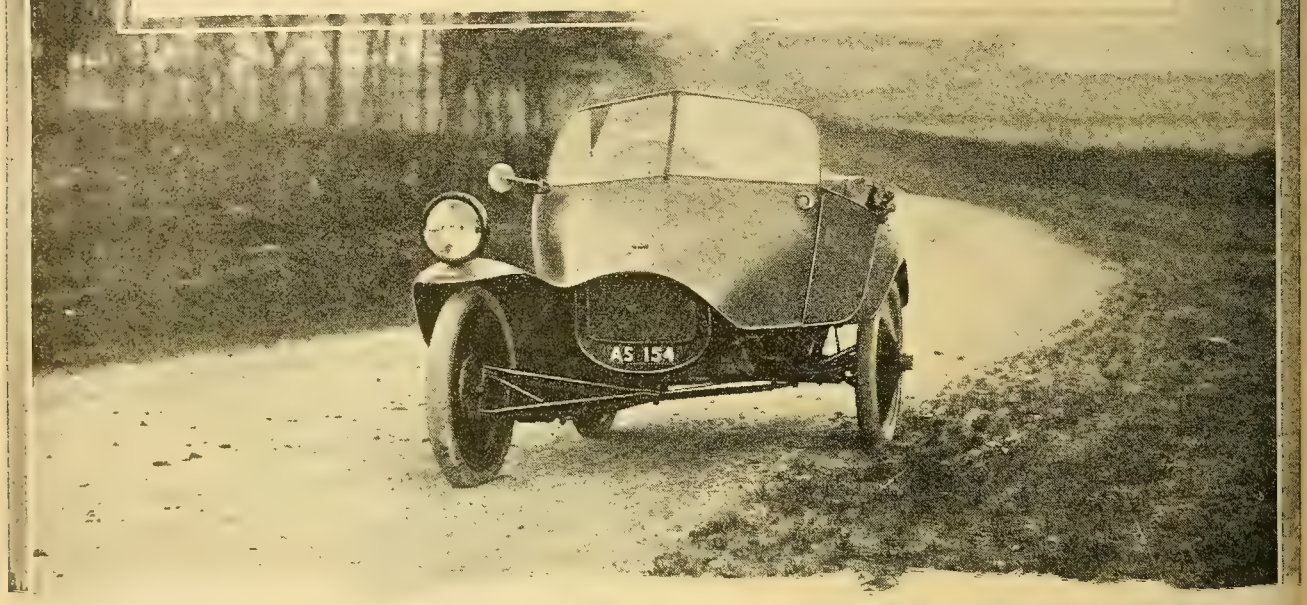
joints, and provides a never-failing assurance against lateral movement, which is the chief objection of most springing systems, whether auxiliary or a part of the original design.

Adjustment for Varying Weights.

By sliding the spring clamp higher or lower, the resilience of the spring may be checked or increased, so making the device adjustable for varying weights. No attention is required once the fitment is installed, except an occasional spot of thin oil inserted between the leaves of the springs.

Of the comfort afforded we can speak very highly, since, in conjunction with a good saddle, it appears to make a spring frame quite unnecessary—at any rate, as far as the rider's comfort is concerned. The price, moreover, is extremely reasonable. The maker is Mr. E. H. Derricott, 72, Lozells Road, Birmingham.

A DEVELOPMENT OF THE SIDECAR.



After Five Years of Testing, the Scott Sociable will be on View at Olympia. First Description of the Final Production Model.

TWO or three machines stand out in the history of the motor cycle movement, since they bear that stamp of true inventiveness which marks the work of the creative engineer.

It is significant that two such productions have been fathered by the same brilliant designer.

The Scott Sociable has had, in all probability, a more interesting and painstaking development than any other production which has been placed before the motor cycle public.

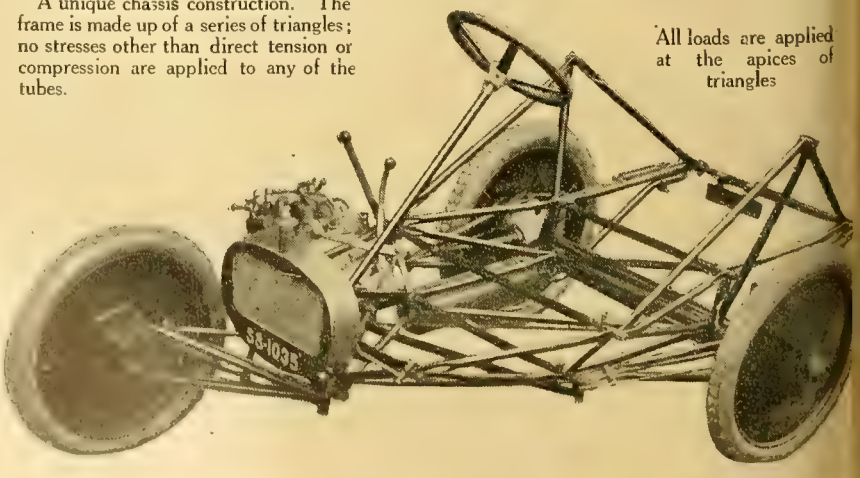
In the early days of the war the authorities who used the Scott machine gun sidecars demanded greater power and range of gearing. The designer realised that to do this would need much alteration of existing models, and, consequently, decided to lay down a chassis for the specific purpose of gun-carrying. All the qualities of the motor cycle and sidecar were to be retained, since, as a vehicle, the sidecar is not to be excelled in its lightness of weight, possibilities of load carrying, [illegible] handiness, and remarkable [illegible] to the extreme steering [illegible] three-foot two-track layout [illegible] feature of design [illegible] triangulated [illegible] the chassis of [illegible] to which the [illegible] is subjected when negotiating uneven ground.

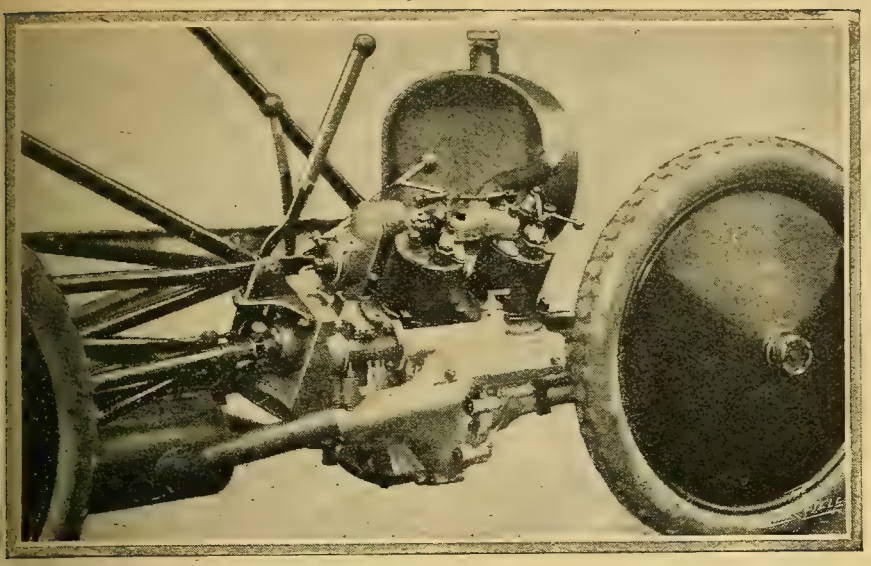
Chassis Assembly.

The chassis consists of a tubular framework of triangular plan, truncated towards the front. Struts cross this frame in all directions, along which stresses exist, so that the whole structure becomes a series of triangles with apices wherever a load is applied. By this method of construction, the tubes are freed from torsional or bending stresses, and every frame member is in direct tension or compression.

A word is necessary as to the method of building. No brazing is employed in the chassis, since all the tubes are of standard lengths, formed with suitable eyes at the ends, through which bolts pass; the bolts also are alike in every case. Three standard tube lengths are used, and two lengths of standard eye-bolt, consequently one spanner is the only tool necessary in the assembly of the chassis from the component parts.

A unique chassis construction. The frame is made up of a series of triangles; no stresses other than direct tension or compression are applied to any of the tubes.





The Scott Sociable two-stroke engine (578 c.c.); a complete unit, with gears and clutch attached to the chassis with four bolts.

The suspension is by means of coil tension springs, used in pairs, and ten exactly similar springs are used in all.

At the front the wheel is carried on a "fork" swinging on trunnions upon a transverse member of the chassis. The fork is also built of standard tube lengths, and all its triangles converge at the steering head and stub axle which it carries. A rack and pinion steering gear is fitted.

A similar method is used in building up the back axle, which consists of four tubes. These are bolted at each end to aluminium castings, which serve to carry the brakework and the stub axles, upon which the ball-bearing hubs of the detachable wheels are mounted. (Only the off side wheel is driven, but an independent brake is fitted to each side.)

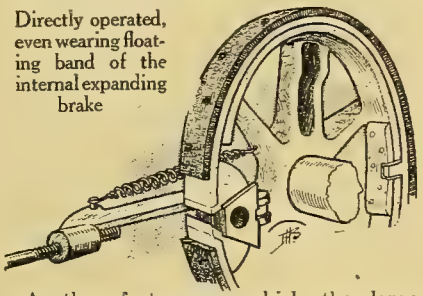
A system of links and coil springs insulate the chassis from the rear axle, which is located by radius rods at each side. There is also a transverse distance rod from the near side of the chassis to the bevel gear casing of the off-side wheel in order to prevent lateral sway when cornering.

Unit Engine and Gear Construction.

The base casting of the 578 c.c., two-cylinder, two-stroke, rotary valve engine contains a flywheel clutch, hand starter, and three-speed constant-mesh gear box. The entire unit, together with the complete controlling gear, is removable from the chassis by loosening four nuts and the cover of the propeller-shaft universal joint. The engine has two cylnders (76.2×63.5 m.) with cranks set at 180° and central flywheel. Symmetrical cylinders are used, machined all over, and the water-jackets are steel pressings welded into position. Slting-down flanges are situated about half-way up the cylinder walls, so that a very long spigot projects into the crank case, and all the ports (both exhaust and transfer), as well as the lower water passages, are cast integrally with the cylinder. It will thus be seen that only one packing, common to all gas and water joints, is needed.

An unusual shape of gas deflector is used on the piston, which has three rings at the top and one at the skirt. A parallel gudgeon pin is fitted, secured by pins at each end; the latter are recessed in slots cut in the piston walls. The engine, except the small end, is equipped with double row roller bearings throughout.

Gas is supplied by a Zenith carburetter by way of a cast aluminium combined inlet and exhaust manifold, while rotary inlet valves are employed to increase the efficiency of the engine.



Directly operated, even wearing floating band of the internal expanding brake

Another feature on which the large power output depends is the double pole ignition, which has finally been made satisfactory by the use of the Scott double pole plug; this enables the M-L magneto to give two simultaneous sparks at the moment of firing. An M-L impulse starter is fitted to the magneto, and it is found that this greatly facilitates starting.

Transmission Details.

The clutch is carried inside the flywheel, and is of such a nature that once assembled inside the engine it cannot be reached. No adjustments are either provided or needed, as the action consists of a combination of the metal cone and expanding ring type, which is entirely self-adjusting as wear proceeds.

The drive from the clutch is by a double helical pinion to the gear box, mounted in an extension of the crank case casting. Very simple construction has been achieved in the change-speed mechanism, which consists of six wheels in constant mesh. The top gear is direct, and changes are effected by a cam mechanism, which is always locked until the clutch is released.

In the opposite end of the casting is carried a shaft which is concentric with the gear mainshaft. This shaft is used for the starting mechanism, and also is extended to drive the centrifugal water circulation pump.

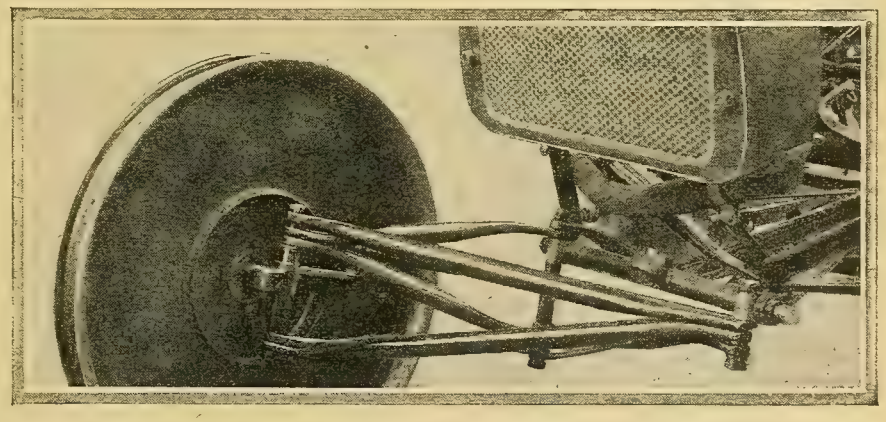
Provision is made for a lighting dynamo on the top of the gear casing.

The drive from the gearshaft to the bevel-driven back wheel is through a simple sliding and universal joint, mounted in a spherical housing at the front end of the propeller-shaft torque tube.

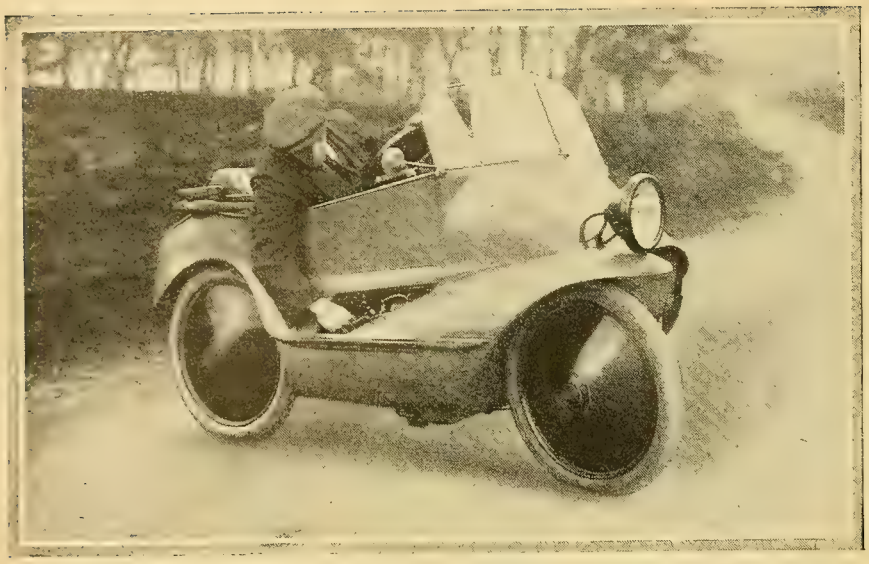
Bodywork.

Bodywork is quite as unconventional as the chassis. In motor car construction the coachbuilder necessarily uses a heavy framework of timber to resist the effect of torsion in the chassis; but as the Scott Sociable suffers little in this direction, and as the seats are directly mounted on the chassis, the body merely acts as an encircling shell (carrying only the hood and screen) for the purpose of protecting the passengers. It is noteworthy that number plates, lighting equipment, controls, and seats are all directly fixed to the chassis, and if the body be removed, the car still remains in a drivable state, complying with all requirements, mechanical and legal.

The seat and backrest are suspended from the apices of triangular chassis members, and are instantly detachable, while the body, being constructed of a fibrous material, is extremely light, does not suffer in minor collisions, and is



Front wheel bracket; it is a structure which can only collapse or distort by the absolute fracture of one of its tubular members.



On the road the Sociable is remarkable for its accessibility. The "engine house," with its "roll-top" cover opened. The driver turns on the petrol and floods the carburetter preparatory to using the internal starting lever.

easily cleaned. A sliding cover somewhat like a roll-top desk completely encloses the engine, which is carried outside the chassis on the off-side; the cylinders have a slightly outward slope, and are perfectly accessible from the driver's seat.

Over the front wheel the petrol tank is carried, so that it serves the additional purpose of a wing for the front wheel; otherwise there are no mudguards, for the body itself overhangs the rear wheels. A specially commendable feature is the fact that there are no excrescences on the body with the one exception of the radiator cap; cleaning is therefore a matter of a few minutes' work with hose and sponge. The wheels are also conducive to cleanliness, since they are constructed of sheet steel pressings.

Protection and Comfort.

In order to protect the occupants a V shaped screen is fitted, and this has an observation slit which permits the driver to obtain a clear view of the road, even when the screen is obscured with mist or snow. The angle of the screen is such that air is deflected past the slit and beyond the sides of the car; even when the hood is raised there are no back draughts inside the body.

During a shower it is the work of a moment to raise the hood, which can be secured and released without stopping, if the driver so desires.

At each side of the seats are capacious lockers, while there is a convenient shelf for oddments such as gloves, pipes, and [illegible] in the dash.

The spare wheel is carried beneath the [illegible] kept free from mud [illegible] handle when required. [illegible] is a large flat [illegible] capacious hood [illegible] or any [illegible] be stowed; or if an extra passenger has to be accommodated, the lid of the boot may be instantly erected as the back rest of a dickey seat.

Wheels and Brakework.

Although the drive is to one wheel only, there is a brake on each near wheel; the foot-brake acts on the side wheel while the hand-brake works on the driver.

Internal expanding bands are used, and these are operated by a direct pull of the control rods which draw wedges into the joints of the fabric faced spring steel rings. These rings are not divided and hinged, but are merely prevented from rotating by a loosely fitting stop. In consequence the ring expands equally, and wear on the braking surfaces is distributed over the entire circumference of the shoe; the detachable wheel hub-shells are formed with an enlarged portion acting as the brake drum. Incidentally, the wheels themselves are most simple in construction, consisting of two stamped discs assembled over the hub-shell and electrically welded in position, after which the tyre rim is welded to the outside edge. Under test a dead weight axle load of six tons was found necessary entirely to collapse one of these wheels.

A ROAD TEST DESCRIBED.

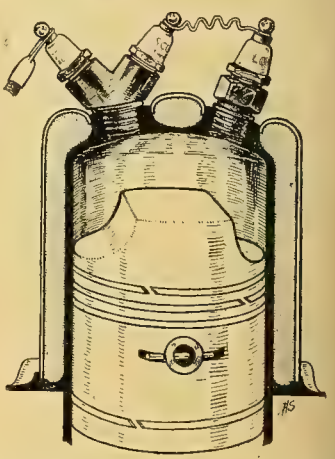
After having carefully examined a number of machines in the course of erection, and also observed the accurate production of parts in the Scott Autocar Company's Works at Lidget Green, Bradford, we were handed over to the care of Mr. Frank Philipp, well known as a rider in pre-war motor cycledom, who is now demonstrating the possibilities of Mr. A. A. Scott's latest creation.

Before leaving the works several of the features which will appeal to the owner-driver were demonstrated. For instance, in order to examine the action of the brakes, it was shown that the wheels could be detached (with the use of a tyre lever) in a matter of ten or fifteen seconds; the arrangement of the hub lock nut, however, is such, thanks to the positive locking device which operates at any position that it cannot come off the hub unless it is released by hand, even though it be only engaged upon one or two threads.

The light weight of the Sociable was shown by lifting both back wheels off the ground, while the side wheel may be lifted to almost any height, thus giving easy access to the underneath parts for cleaning purposes; incidentally the effectiveness of the springing was also made clear, since after lifting up the wheels to a height of at least 3ft. the machine was dropped suddenly, and the resilience of the suspension simply allowed the machine to rise and fall at a gradually diminishing rate until it finally came to rest.

An Inside Starting Lever.

Everything now being ready for our trip upon the road we took our seats, and the driver, leaning over the side, opened the "roll top" cover above the engine. Having primed the engine, the cover was closed down again and a pull given to the starting lever beside the driver's seat; the engine at once responded, and after freeing the gear lever by withdrawing the clutch, low gear was engaged and the car started away up a steep and rough gradient. (Mr. Scott appears to have a penchant for situating his works at the foot of freak hills of the A.C.U. type!)



Unusual design of the piston; showing also a section of the cylinder and Scott patent double-pole sparking plug.

Once out of the congested traffic of Bradford, we took over the steering wheel and found that the driving of the Sociable was delightfully easy—in fact, after the usual motor cycle or light car control, it was found a little difficult at first to accommodate ourselves to the delicacy of all the operations. For instance, the steering is managed with one finger on the wheel, while the three-speed constant mesh gear box, being spring operated, causes the lever to go almost of its own accord into the various notches of the quadrant.

Power and Speed.

There was no suggestion of the machine being under-powered, since all ordinary running, even up quite considerable hills, was done on top gear, while congested traffic scarcely ever calls for a

A Development of the Sidecar.—

gear change, thanks to the remarkable acceleration which this 578 c.c. engine affords.

On the level the speed (by Bonniksen speedometer) is from 40 to 42 m.p.h., and this was reached in a surprisingly short distance; when hill-climbing, if the speed on top gear drops to about 18 m.p.h., it is advisable to change to second in order to keep up a higher average pace, since 25 to 28 m.p.h. can easily be attained up hill on second.

As the engine is lubricated by the petroil system, the driver has no worries regarding the continuity of oil supply. Oil consumption is about one pint per 200 miles, while the amount of fuel used is one gallon per fifty miles under average touring conditions.

Ease of Steering.

One of the most attractive features of the Sociable is its extraordinary mobility. No reverse is fitted, nor is it necessary, for it can be turned quite easily in its own length; for example, a signpost was over-shot in a narrow lane where an ordinary light car could not have been turned until a suitable opening was found for reversing. With the Sociable, however, it was no trouble simply to swing round in the road, using the side wheel as a pivot. So great is this power of turning in a confined space that the designer has fitted "rubbing strips" of hard wood around the engine casing, so that accidental impact with gate posts, or the corners of walls, may not cause any damage; this idea, of course, has been adapted from boat practice.

The springing is probably better than that of most motor cars, and full speed may be maintained over roads of any description. Even over the worst pot-holes the shocks felt by the occupants are only of a minor nature, and have nothing in common with the sickening jolts experienced with most light vehicles.

Curious Braking Effects.

Until one has become accustomed to the steering control, a curious sensation is experienced when applying the brakes. The foot brake has most general use, and this acts upon the side wheel. The hand brake works on the driving wheel. When decellerating on a straight road, we found that when the clutch is withdrawn and the foot brake applied, the tendency is for the car to run towards the left-hand side. If, however, one slows down by simply releasing the accelerator pedal or by applying the hand brake, the tendency is for the side wheel to over-run the driving wheel, and so swing the machine over to the right. After a little practice, these tendencies are automatically corrected by the steering wheel, and we were told that after more experience the driver is able to use braking to considerable advantage when taking corners.

Afterword.

Altogether, we were very much impressed by our experiences of the Scott Sociable, alike as regards its design, the methods employed in this production, and its performance on the road. It is perhaps but seldom that the journalist finds a machine which is so replete with innovations that he can thoroughly extend himself. The vehicle under review, however, has so many new features (even the door latches and the strap buttons on the hood have their points) that amidst such a mass of interesting details it becomes almost impossible to do more than hint at the possibilities of the design. All we cay say is that the Scott Sociable strikes a new note in machines of the motor cycle type; the claims made for it are very ambitious, and yet appear to be fulfilled entirely. To describe closely every one of its commendable features would require more than a complete issue of *The Motor Cycle*, and we can only advise our readers to make a point of inspecting this production at the forthcoming Olympia Motor Cycle Show. Those who are not able to do this will no doubt see it upon the road in numbers which will assuredly increase as time goes on.

Competitions in Many Lands.

Some Brief Reports of Trials and Races from our Overseas Mail Bag.

USTRALIA—

1,114½ Miles in 24 Hours.

NOW that motor cycles are capable of such high speeds, thousand-mile road records are only possible in untries less congested than Great itain. For that reason Australian, rican, and American motor cyclists ve a form of sport unknown to riders this country.

To cover over 1,114 miles on the road twenty-four hours is good going—it almost the average speed for the T.T. ch a run was made in August last at le by Harold Parsons on an Indian out. The previous record for this ie was 851 miles, established in South stralia.

UTH AMERICA—

Races at Santiago de Chili.

On Sunday, September 5th, a somewhat able road race of 215 kilometres took ce in the region of Santiago, between capital and Puente Alto, which was cribed as the Tourist Trophy Race. The 215 kilometres were run in five s of 43 kilometres each. An extrainary amount of excitement was evit owing to the presence of the four able Valparaiso riders — Maillard, lson, Thiele, and Moreno.

The winners were :

A. Friedmann (Indian); 2, G. Thiele (Harley-idson); 3, A. Follert (Indian); 4, C. Saez (Exor).

Other race winners were as follows :

A. Rodriguez (Cleveland); 2, J. Aberlaida mph); 3, R. Gonzalez (Cleveland).

DECARS.—1, M Sepulveda (Harley-Davidson). HALF-POWER" MACHINES.—1, G. Higueras ian).

SWITZERLAND—

The Flying Kilometre Speed Trials at Geneva.

The historic flying kilometre speed trials were recently run off by the Moto-Club de Pâquis. The record established by Lavanchy was not beaten, the best time being made by Pélissier (Motosacoche), namely, 42.1s. standing start, and 30.3s. flying start. Results :

SIDECAR CLASS.—500 c.c. Junior: 1, Plumettaz (Motosacoche), 46.8s.; 2, Schallier (Motosacoche), 45.8s. 750 c.c Expert: 1, Schorp (Motosacoche), 46s.

1,000 c.c.—Junior: 1, Rolland (New Imperial), 41.9s.; 2, Frilliard (Motosacoche); 3, Curtenaz (Motosacoche). Experts: 1, Gex (Motosacoche), 39.2s.; 2, Weber (Indian); 3, Laeser (Harley-Davidson).

250 c.c. CLASS.—Gubexan (Condor), 43.1s.

TOURING CLASS.—Junior: Meyer (Condor), 55.1s. Expert: Sordet (Skootamota), 83.8s.

350 c.c.—Junior. 1, Brot (Omega), 46.1s.; 2, Jean (Douglas); 3, Pythoud (New Imperial). Experts: 1, Nutzli (Douglas), 43.2s.; 2, Delmont (New Imperial); 3, Wuillemin (Condor).

500 c.c. CLASS.—Juniors: 1, Dunant (Motosacoche), 35.2s.; 2, Plumettaz (Motosacoche); 3, Pelligot (Motosacoche). Experts: 1, Demont (Norton), 35.8s.; 2, Guiguet (Motosacoche); 3, Sonvairan (Motosacoche).

750 c.c. CLASS.—Juniors: 1, Lenn (Indian), 36.3s 2, Staub (Indian); 3, Neri (Motosacoche). Experts: 1, Speide (Quick), 32.5s.; 2, Meylan (Moser); 3, Moebus (Indian).

1,000 c.c. CLASS.—Junior: Borsetti (Harley-Davidson), 35s. Experts: 1, Pélissier (Motosacoche), 30.3s.; 2, Jonneret (Indian), 32.1s.; 3, Bouvin (Motosacoche).

The following are the results of the kilometre standing start :

JUNIOR CLASS.—250 c.c.: Meyer (Condor), 1m. 10.4s. 350 c.c.: 1, Sevhaud (Moto-Rêve), 56.6s.; 2, Brot (Omega), 56.6s. 500 c.c.: 1, Dumant (Motosacoche), 49.6s.; 2, Dalavy (Condor), 53s. 750 c.c.: 1, Lenn (Indian), 47.8s.; 2, Staub (Triumph), 50.4s. 1,000 c.c.: Borsetti (Harley-Davidson), 46s.

EXPERT CLASS.—250 c.c.: Sordet (Skootamota), 1m. 18s. 350 c.c.: 1, Demont (New Imperial), 56s.; 2, Wuillemin (Condor), 56.8s. 500 c.c.: 1, Guiguet (Motosacoche), 46s.; 2, Fournier (Moto-Rêve), 46.6s. 750 c.c.: 1, Speidel (Quick), 44s.; 2, Moebus (Indian), 52.4s. 1,000 c.c.: 1, Pélissier (Motosacoche), 42.2s.; 2, Jonneret (Indian), 44.4s.

ITALY—

The Circuit of Brescia.

On the 10th inst. the Italian race meeting, known as the Circuit de Brescia, took place in extremely bad weather. A total of sixty competitors turned out, but owing to the continual rain, and the condition of the roads, almost 50% retired without completing the course.

The distance of each lap was approximately forty-three miles, and had to be covered by the 350 c.c. class four times, 500 c.c. five times, 1,000 c.c. five times, and by the 1,000 c.c. sidecar twice. The fastest time of the day was made by D. Maloisi (Harley-Davidson), who covered the course in 4h. 9m. 38⅕s. The following are the results :

350 c.c.—1, E. Musso (Della-Ferrera); 2, O. Garanzini (Verus); 3, R. Tassinari (Beardmore-Precision).

500 c.c.—1, G. Ricci (Triumph); 2, A. Marcoli (Triumph); 3, A. Poletti (Frera); 4, G. Zanchetta (Gilera); 5, E. Cauali (Triumph).

1,000 c.c.—1, D. Malvisi (Harley-Davidson); 2, P. Bordino (Harley-Davidson); 3, E. Visioli (New Imperial); 4, C. Contarini (Harley-Davidson); 5, Nuvolari (Harley-Davidson).

SIDECARS (1,000 c.c.).—1, C. Contratti (Harley-Davidson); 2, U. Manganotti (Excelsior); 3, F. Casati (Excelsior).

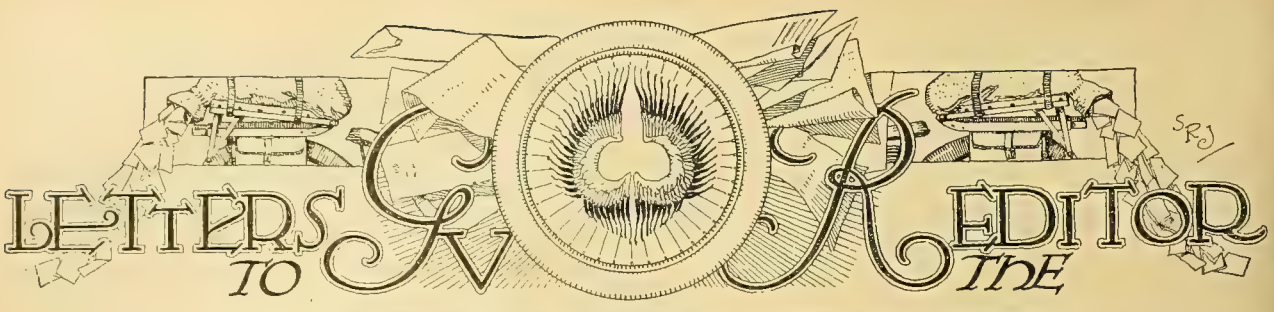
The Circuit of Rome.

Another Italian event was the Circuit de Rome. The results were as follows :

750 c.c. CLASS.—1, Garettoni (Harley-Davidson); 2, Loreti (B.S.A.); 3, Urgesi (B.S.A.).

500 c.c. CLASS.—1, Moretti (Frera); 2, Robbio (B.S.A.); 3, Viscana (Frera).

350 c.c. CLASS.—1, Petrucco (Douglas); 2, Urgesi (Douglas); 3, Valentini (Douglas).



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

PETROL CONSUMPTION TESTS.

Sir,—Having read in your most interesting paper a letter from a correspondent which stated that he had travelled for a distance of twenty-four miles on a pint of petrol, I have made two attempts at improving this on a 2¾ h.p. 1920 Wooler. The first attempt was at an average speed of about 27 m.p.h., on a main road, with normal barometer, and a temperature of 62° F. The amount tested was half a pint, on which the machine ran eleven miles. This gave twenty-two miles to the pint, which was not satisfactory. After adjustment and certain slight alterations, I made the following test: Speed, 25 m.p.h. (economical); barometer, 29.51"; thermometer, 61° F.; start 11.40 a.m., speedometer showed 1140.8; finish, 1 p.m., speedometer showed 1168.9—28.1 miles.

The pint measure and speedometer were both checked, the former by an impartial observer, the latter by milestone readings.

The road chosen was the Aylesbury-Uxbridge. A standard B. and B. carburetter (with Wooler pilot jet) was fitted. A little extra air was admitted by a priming cock on the induction pipe. Carburine motor spirit was used. This all works out at 225 m.p.g.

C. M. M. BELL.

SILENCE AND PRESENT-DAY TRIALS.

Sir,—As a constant reader of your paper, I am much interested in the different opinions on the subject of long exhausts.

It is an established fact that a lot of young swell-heads like to boast about their huge exhaust pipes, and to accelerate constantly with a maxim gun effect when passing through crowds.

After trying both kinds of exhausts on a very aged Douglas, I find that the engine keeps cooler, pulls better, and also that misfiring disappears when using a long pipe, but, at the same time, by the usual method of backward saw cuts, it can be silenced with the same effect as an expansion chamber.

CHARLES PACKER.

Sir,—There seems to be a lack of the "live and let live" feeling amongst your correspondents who are now raising an outcry against that part of the fraternity who have "open exhausts." I am afraid that I must confess to be one of the "spoilers of a good sport" (to quote a recent letter), because to me an open exhaust means *power*, and power means *speed*, and speed means *all*. If I care to sail close to the wind in this matter, whose fault is it but my own if I am fined?

I would willingly enter for all the trials which are held, except that I have some regard for my machine, and I am by no means a Rothschild. What sport is there in going in for a trial in which you risk getting your frame broken, your tyres slit to ribbons, and yourself covered with bruises? I [illegible] that I am voicing the complaints of many such [illegible] when I say that "bumpometers" and "audio-[illegible] are [illegible] the spoil of our trials. Granted that [illegible] the breed, but after all, very few of the people [illegible] in on to an end." Some people will call me [illegible] I have made a point of asking if "all is well" [illegible] the road sides, and I go slowly through [illegible] on the open road I give my 3½ T.T. [illegible] and "tread." When trials cater for me I will enter, but until they stop hampering me with their [illegible] and the [illegible] which only mislead the [illegible] of 1920 machines.

RUDGE RIDER.

EFFECT OF TYRES ON M.P.G.

Sir,—Your correspondent "H.A." in his attempt to be facetious has fallen into an error of which no pedal cyclist (especially one with racing experience) would be guilty. It is common knowledge that light tyres mean increased speed for the same exertion, and, conversely, less exertion for the same speed.

In terms of power, as less power means less fuel, then light tyres must mean less fuel. A practical difficulty arises in the fact that too light tyres mean diminished reliability. Therefore, when extreme economy in fuel is desired, the aim should be to use as light a tyre as will last the distance over which the fuel consumption is measured.

It should be noted that a woven fabric absorbs much more power than a cross-laid fabric.

In conclusion, I should advise "H.A." to take a short spin on an ordinary roadster pedal cycle, and then on a racing machine fitted with racing tyres. The result will surprise him.

J. COHEN.

MYSTERIOUS ACCIDENTS—A POSSIBLE SOLUTION.

Sir,—The correspondence on the subject of mysterious accidents while motor cycling is most interesting.

I knew a lad who, before enlisting, was a van boy, and used to ride on the tail of the van and frequently "fall asleep" and drop off on to the road. In the Service, he would fall asleep while on sentry duty, and be punished for it. He always maintained that he couldn't help it. Finally he was sent to hospital where the Neurologist discovered that he was an auto-hypnotic subject, *i.e.*, he would hypnotise himself without knowing it and without being able to help it. He underwent certain treatment and is now cured. It seems not entirely impossible for this to be the explanation of these mysterious accidents. Hypnotic sleep is induced by looking at some bright object, *e.g.*, the top of a lamp or the ring of a speedometer. Clearly these accidents are not caused by a bump in the road or some mechanical defect in the motor cycle. It is significant that the subjects of them do not appear to sustain any serious injury. Sleep-walkers seldom do.

T. W. L. CASPERSZ, Chaplain, R.N.

SANS MAGNETO.

Sir,—With reference to the discussion in your columns relating to the engine running without a magneto, the possibility of the engine working on the Diesel principle need not be considered.

In the Diesel, as your correspondent, Mr. B. Hoddinott, points out, the compression reaches upwards of 500 lb. per square inch, but the gas thus compressed is pure air plus gas due to incomplete scavenging. At the top of the compression stroke the fuel is forced in at about 1,000 lb. pressure, and the high temperature due to this great and rapid compression of the air causes spontaneous combustion.

Now, in the Diesel there is no explosion in the sense of that occurring in the petrol engine, but a burning of the gases for about a quarter of the firing stroke, after which the gas expands adiabatically, *i.e.*, without further gain or loss of heat. The maximum pressure after burning commences is not greater than that due to compression, but actually falls. As the average person knows, in the petrol engine the burning is so rapid as to give a large increase in pressure practically instantaneously.

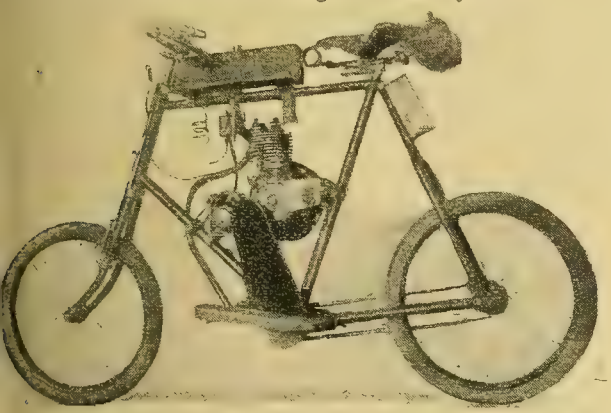
Glasgow. REVS.

HIPPO HIDE AND A MOTORISED BICYCLE.

Sir,—I was much interested in a photograph of "An Ingenious Motorised Bicycle," which appeared in *The Motor Cycle* dated June 3rd. My interest lay in the fact that for the past three years I have been riding a similar outfit made up by myself, the method of attaching the engine being very similar.

I am still using the original cycle frame, but with 20in. Autowheel rims. I find these wheels much stronger, and tyres are better also. I scrapped the pedals and brazed a piece on to the end of the bottom bracket axle, and fixed the sprocket wheels on both ends, and thus made an all-chain drive. The footboards are from locally cut cedar wood, and I have fitted the engine to the frame with a specially shaped and carefully fitted piece of *hippopotamus hide*, which is splendid stuff to stand any strain, as it does not split or tear. I use it for file handles (it goes up to 2in. in thickness).

I think this is the first instance in which hippopotamus hide has been used in the making of a motor cycle.



A Rhodesian reader's motorised bicycle described in the letter of J. W. Soper. The engine is held in the frame by pieces of hippopotamus hide.

We have only one road here, viz., to Livingstone, but it s a good one and eight miles long.

I can get 25 m.p.h., as my gear ratio is 7 to 1, much higher han that of your other correspondent, whose engine, I should ink, would be inclined to overheat. J. W. SOPER.

South Rhodesia.

STHEY DID TWENTY YEARS AGO.

Sir,—Your issue for September 23rd contains some informa on regarding the Roc 3 h.p. Kelecom engined motor cycle. his article I have to thank for affording me considerable lightenment as to the makers of my own 'bus.

My machine has L.T magneto (with substantial magneto ntact breaker and non-trembler coil) ignition system, hich has proved perfectly reliable in dry weather.

I myself made and fitted spring forks, foot brake, long haust pipe, etc.

I just completed my overhaul and "rebuilding" in time r my holidays. So close did I run that, previous to my liday trip, I had no time for a trial run. My contemplated n was from Gateshead-on-Tyne, through Easingwold to eslerton (near Scarborough), nearly 100 miles. I intended ving Gateshead early on the Saturday morning, but only cceeded in having a "breakdown" to start with. The inlet tomatic valve stem nuts loosened, and finally came off, owing the valve itself to fall on top of the exhaust valve. e nuts were extracted from above the piston and a washer ade from an old hack-saw blade) and pin substituted on the lve stem.

I covered about five miles when the washer and pin repeated e performance of the nuts. I removed the induction pipe, , hooked the inlet valve spring itself through the pin hole ad previously drilled in the valve stem, removed washer, , from the cylinder, reassembled, and started once more ill southwards).

The ten miles ride to Darlington was uneventful. I ained more petrol and oil, and did the next thirty miles hout the slightest trouble from the machine. As I left rlington, however, it began to drizzle, rapidly settling vn to proper rain. I made a voluntary stop in Thirsk. On trying to restart the engine refused to fire. It was still raining, so I suspected the high-tension cable terminal on the coil. I therefore dried this as best I could, after which a restart was easily acccomplished. About two miles after this my belt began to slip hopelessly. However, under a sheltering tree I removed about 1½in. of belt whilst watching competitors returning from Sutton Bank. This operation completed, I set off again. About three miles before reaching Easingwold the rain on the high-tension terminal repeatedly caused stoppages, till finally, with still two miles to go, I removed the belt, and pushed in preference to restarting.

Eventually I put the machine in the garage in Easingwold at 9 p.m. Next morning I went for the machine, which, to my surprise and pleasure, restarted without the slightest inconvenience. I hit Bulmer Bank all right; one cannot help it (unless, of course, one purposely avoids it). I had to do a bit of really hard work, but I did reach the top eventually. Here I noticed the petrol tap was leaking seriously. I could not do much to remedy this as it was the tank bush that was loose. Here also I had partially to dismantle the engine cylinder to renew the copper wire packing at the base of the cylinder. On remounting, after completing the above, I caught my trouser leg in the magneto chain, which is exposed. The ignition was most effectively retarded thereby; but a certain farm hand had been holding forth as regards petrol levels during the hill-climbing, etc., so I rode away on retarded spark to a safe distance before correcting it. I had two further mishaps before I reached Malton—one a broken stand, the other the inlet valve. The hooked portion of the spring gave way this time. I stretched the spring a little, made a more substantial hook, fitted up, and off once again. After passing through Malton the cylinder again worked loose, but, as I just had about eight more miles to go, I determined to keep on, as the petrol was still leaking badly. When almost within sight of my destination, I pushed the throttle over, and finished up in fine style after all.

ROBERT BROWN.

BENZOLE-PARAFFIN MIXTURE.

Sir,—In the issue of September 9th, 1920, C. C. King states that he is running a 4 h.p. Triumph on a mixture of three parts benzole to one part paraffin, and that the experiment is a wonderful success. Further that he tried half and half.

May I ask what carburetter he uses and size of jet?

I have tried, in the interval, similar mixtures, and cannot say that the results are equal to benzole or petrol in a pure state. My machine is a B.S.A. 4½, and a B. and B. carburetter is used, having a variable jet.

DAVID SHARP.

PILLION RIDING.

Sir,—I agree that there is a risk of danger when riding a passenger on the carrier of a solo machine; but if people were to consider the cause of practically 80% to 90% of the accidents which befall pillion riders they would find that the real cause lies in the fact that the driver was not sufficiently experienced to carry out such work. He probably thought he was, and after a short run on some straight and open road took it for granted he was quite capable. I have in mind one or two actual happenings of this kind which had bad results when traffic was encountered.

Before any newcomer attempts passenger riding he should master his machine first, get thoroughly acquainted with traffic riding, and in this way he will learn to judge distances and the speed of vehicles other than his own. He will also know what his engine is capable of at slow speeds, and whether it and his brakes will respond to his needs. This, coupled with a few frights, gives him the experience, which, I believe, is so sadly lacking in many motorists who like to take their friends out in pillion fashion.

An experienced rider will not find pillion riding very difficult, and after a week or so his passenger's movements and conversations will make practically no difference to the stability of his machine, and there is no more risk of accident than with any other outfit.

I myself have had fourteen years of motor cycle and sidecar outfits, and certainly prefer a sidecar outfit; but I write these lines in defence of the man who prefers pillion riding.

I ride at present a T.T. Brough two-speed, and no clutch, and do a lot of pillion riding. I have no difficulty in negotiating the worst traffic, and I think the whole explanation can be summed up in these words, experience first and drive carefully.

F. KIRKMAN.

BABY ON TOUR.

Sir,—Having taken delivery in January of a brand new 1920 baby, the accompanying snap may be of interest to others who hesitate between the responsibilties of motherhood and the lure of the open road.

Having always been ardent motorists, my husband and I decided to have our usual summer tour, accompanied this time by "Her Babyship."

Before starting the tour, we gave her a number of short runs of ten-fifteen miles (she was then seven months old). Having expressed herself quite satisfied with the springing of the sidecar, etc., we decided to carry out our plans.

Starting early. (See letter, Mrs. R. J. Carter.)

Our first day's run was Portsmouth to London, which was soon covered, taken by easy stages of fifteen-twenty miles each. The Cameo screen gave baby ample protection, in fact, the only time she woke was at the stopping places. All baby's necessities were carried in her enamel bath on the luggage grid. In the course of visiting London friends we had to cross the City four times, which greatly interested the young lady, especially at the "hold-ups," where she had time to look round.

We completed the tour in seven days, covering a respectable mileage, and without mechanical or infantile trouble of any kind.

I may add she was caught a little while ago "inwardly digesting" the covers of your esteemed paper, so we are expecting big things of her. The above snap was taken on the Hog's Back, near Guildford.

(Mrs.) R. J. CARTER.

CHAIN DRIVE ON SPRING FRAME MACHINES.

Sir,—Permit me a word on this subject, as bearing upon the remarks of recent letters, and particularly that of G. Harold Durston in the issue of August 26th. It would appear that many have begun quite recently to consider a problem which, though to them new, has, as a matter of fact, received attention over quite a number of years, and passed already through many stages of development. I, of course, fully agree with your correspondents as to the necessity of maintaining constant tension of the driving media, notwithstanding the relative movements of the fore and rear portions of the spring frame.

While I do not pretend to know what may be the nature of the mechanical arrangements suggested, but not disclosed, by Mr. Durston, for achieving this object, I do profess to have applied and published a most obvious and simple arrangement of the parts involved, which is entirely satisfactory, both in theory and in practice.

As briefly as possible, I will endeavour to state how this is achieved, not going fully into detail, but giving the general principle. There are the three points to consider (1.) The [illegible] (2.) The countershaft. (3.) The rear wheel sprocket, or belt drum. These, by the general build of the [illegible] that a straight line drawn from the engine to the rear wheel spindle will cut through the point occupied by the countershaft spindle when the machine [illegible]

In one arrangement I house my countershaft (preferably of the well-known ball type, in what, in bygone parlance would be called the pedal bracket lug, *i.e.*, a lug-housing at the root of the saddle-pillar tube, and forming also the anchorage for the rear engine-plates. The countershaft housed in this way may be immovably fixed, or may be mounted eccentrically or slidably if of a type where such movement is most practicable.

First let the countershaft be fixedly housed. Now the distance between the engine sprocket and the countershaft is constant. I swing or pivot the forward ends of my rear spring frame upon a suitable bearing formed by or upon the casing surrounding the countershaft spindle and housing that spindle *in its centre*. Consequently, all radii of a circle being equal, there can be no variation of the tension of the chain or belt as between the countershaft and rear wheel, even though the rear portion of the frame were caused to describe a complete circle around its pivot.

In another arrangement the countershaft may be housed in approximately the same position, but in a lug not of the pedal bracket type, but so formed as to permit of a slidable adjustment, the bearing for the forward ends of the rear frame being still, as before, around the countershaft spindle and having that spindle at its centre.

We now come to adjustment for the chain slack. Under the first arrangement (fixed countershaft) I mount my rear wheel in the old-fashioned slotted fork ends, providing positioning washers to retain the spindle of the wheel in the desired position. I know the objections to this method, but one cannot possibly have everything. For adjusting the front chain, I either use a jockey sprocket (*à la* Beardmore-Precision), or suitably slot my engine plates so that the whole unit (within the very narrow limits required) may be slid or pivoted upon its front bolts.

In the second arrangement, when the countershaft is adjustably housed, the rear wheel is fixed, and for the front chain adjustment the same methods as the above are employed. These arrangements answer all purposes desired perfectly as applied to my patent designs of spring frames; and I venture to think that the problem of keeping constant the tension of the driving media, the relative movements of the front and rear portions of the frame notwithstanding, is thereby solved satisfactorily. C.E.P.

Bath.

SERVICE.

Sir,—I am a business man, and use, in connection with my business, a big single, to which is attached a box carrier made by the makers of the single. Having trouble with my countershaft gear, I sent the complete gear box, through my agent, to the makers, who had promised to do the repairs in eight to ten days. It was despatched on June 1st, and is still to return. Every letter of enquiry brings back a promise of delivery next week. But next week is like to-morrow, which never comes. Consequently, I am the loser in time and money each week to the extent of about twelve hours wasted and 30s. From being a satisfied rider I have become a dissatisfied owner. A machine without good service is of no use to A BUSINESS MAN.

TORQUE AND COMFORT.

Sir,—It is interesting to note the large number of new designs for motor cycles, engines, etc., that appear in your columns. To my mind, as an engineer, many of these designs are the work of enthusiastic *motorists*, and aim chiefly at improvements of "luxury" and "comfort" without giving much serious attention to the strictly engineering side of the question, which I maintain is really the principal factor. For example, most of the designers are paying great attention to the "springing" of machines to ensure comfortable riding. Now I consider that the obtaining of an even driving torque would do away with much of the necessity for this springing. To those who have any doubt on this point I would advise them to try the following: Ride over a given stretch of fairly rough road on any old "unsprung" single cylinder machine, and then try the same stretch on an old four-cylinder F.N. machine. This, I think, will convince them of the importance of an "even driving torque" as effecting comfortable riding with a minimum of springing. With this end in view I have designed an engine which is double acting, viz., firing on each stroke, the piston being "fired" up and down, similar to the action of the present day double acting steam engine. In the meantime I should like to have the opinion of readers as to the possibilities of such an engine. A. NEWSHAM.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

The New Taxation.

I should be extremely obliged if you could give me a little enlightenment on the following point. I understand that under the new taxation scheme, a lightweight motor cycle pays 30s. revenue, provided that it does not exceed 200 lb. in weight. Now, I have a single-geared 3½ 'bus which with the removal of a few gadgets I can easily reduce to under 200 lb. What I want to know is, can I class my old 'bus as a lightweight, on account of its not exceeding the weight limit, or will it be taxed on bore and stroke?—PUZZLED.

Obviously as weight is to be the basis of taxation, and not engine dimensions, if your machine does not exceed 200 lb. you are only liable to pay the 30s. tax. If the machine exceeds 200 lb., no matter what its power, it will be liable to the £3 taxation.

Overheating Two-stroke.

I have a 2½ h.p. two-stroke two-speed. I have just had the cylinder off, decarbonised it, and fitted new rings on the piston. Before I did this the engine used to overheat and stop, and it also consumed a lot of petrol. The size of the jet in the Senspray carburetter is 30. I have now cleaned it and fitted new rings and a smaller jet. It overheats worse than it did before, and does not seem to have half its previous power, as I only go a short distance, and it pulls up with the oil boiling out of the release valve. I have allowed about 5-1000ths space in the rings, and ground them in well. The piston appears to work freely. The engine seems very jumpy, especially when I slow down going round corners. Can you please tell me the cause of this, and what size jet to use? I have put the piston in right, with the big slant towards the exhaust.—F.N.

It is very difficult to tell you the cause of the trouble. Quite possibly the carburetter requires cleaning and adjustment. Most decidedly it should not require a No. 30 jet. You might also make certain that the ignition is timed correctly. The spark should occur when the piston is on top dead centre with the ignition control fully retarded. Also carefully make the joints between the two halves of the crank case, and also the one at the cylinder base. We presume that you have examined the engine internally to make sure that the crankshaft revolves freely. A 26 or 28 jet should be satisfactory.

Burnt Valves.

I have a 5-6 h.p. Rudge-Multi and sidecar. I experience a great deal of trouble with the exhaust valve. After about 400 miles the compression begins to fail and I find a flat place burnt on the valve face. I have checked the timing, and it appears to be quite in accordance with makers' instructions. Senspray carburetter, 48 jet; have tried smaller jet, but with no success. Valve guide rather worn. Machine runs very well when valve is in order, but the flat burnt on the valve is so extensive as to make it of little further use. Machine is 1913, but in quite good order generally. Can you help me?—B.S.

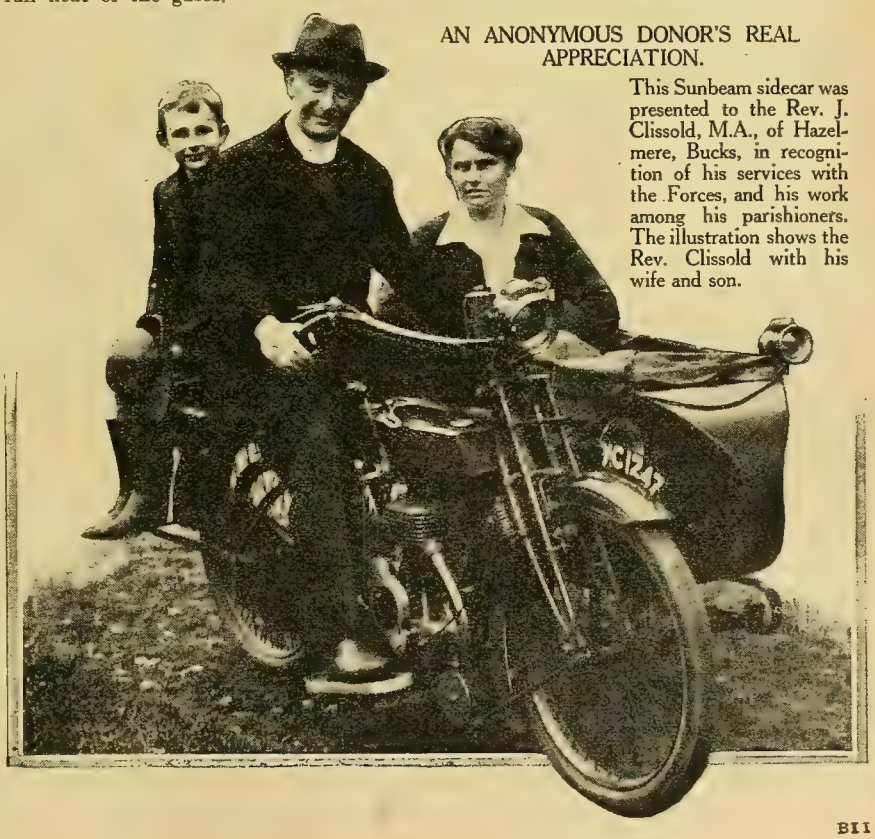
The trouble is probably due to the exhaust tappet requiring adjustment. Should the clearance be too small there is every chance that the valve stem will expand so much as to prevent the seating closing down properly, and in consequence it becomes burnt, being subjected to the full heat of the gases.

Failure to Spark.

I have a 3½ h.p. Centaur, and, owing to back hub trouble, have had it off the road for six weeks, and have just got my wheel back, and find that: (1.) I can only get a spark when the plug is outside the cylinder. (2.) If I dip the plug in petrol, this spark *is* sufficiently strong to fire it; the magneto is a Bosch. (3.) What is the correct method of timing? (4.) Would this materially affect the spark when the plug is in the cylinder?—G.A.B.

(1 and 2.) From what you say in your letter it appears that the magneto is in order. (3.) The ignition should be timed as follows: Place the piston exactly on top of the compression stroke, and connect up the magneto with the points just about to break, and the ignition lever two-thirds retarded. (4.) The trouble is probably elsewhere than in the magneto. Are you sure that the jet is clear? The timing cannot affect the intensity of the spark.

AN ANONYMOUS DONOR'S REAL APPRECIATION.



This Sunbeam sidecar was presented to the Rev. J. Clissold, M.A., of Hazelmere, Bucks, in recognition of his services with the Forces, and his work among his parishioners. The illustration shows the Rev. Clissold with his wife and son.

Douglas Timing Gear.

I have just fitted a new timing locking plate to my 1915 2¾ h.p. Douglas. Will you kindly inform me if the following is the correct method? I fitted the plate on to the studs first, then the washers and nuts. This has left the plate touching the timing wheels, etc., at every point, although they apparently revolve freely. The reason I enquire is that the washers are of a different pattern from the original ones, and only fit after the plate.—R.R.H.

Up to 1914 tapered copper split rings were inserted and the nuts placed on the pins afterwards. In 1915 and afterwards double cone locking washers were fitted. These are put on first, then the locking plate, and then the nuts.

A Starting Difficulty.

(1.) I cannot get the kick starter of my R.A.F. model P. and M. to work properly, and have only succeeded in starting the engine by it a very few times. Starting by pushing in low gear is quite easy. The kick starter turns the engine well, but does not appear to me to have sufficient travel. (2.) I have tried all means of stopping the escape of gas from the inlet and exhaust valve caps, and round the plug, without success. New copper-asbestos washers make very little difference. The faces do not appear to be damaged.—E.N.E.

(1.) The kick starter in question does not give a very great amount of movement to the engine, but with the half compression device in operation, there should be no difficulty in starting. It is possible that the difficulty is due to the magneto being out of adjustment, and not providing a satisfactory spark at low speeds. Advance the ignition fairly well before attempting to start. (2.) Try the effect of smearing the washers with Seccotine.

High Petrol Consumption.

I have a 2¾ h.p. New Ryder-Villiers two-stroke, and the carburetter is an Amac. So far as I can make out, the average m.p.g. is 40 at the most, which, I am sure, is far too small. (1.) What should the average m.p.g. be for this type of engine? (2.) What is the cause of this excessive consumption? (3.) Is there a remedy? If so, what? (4.) In what proportion should the oil and petrol in the tank be mixed, and which is the best oil? (5.) What is the correct level in comparison with the mouth of the jet, for the carburetter?—H.J.M.

(1.) The machine should do about 80 or 90 miles to the gallon. (2 and 3.) Probably too large a jet is fitted. (4.) Half a pint of oil to one gallon of petrol. Any [illegible] brand of oil, such as Prices' Heavy de Luxe, Castrol, or Vacuum T.T. (5.) In the Amac carburetter the level is [illegible] the angle jet orifice, and [illegible] about [illegible] on below the [illegible] immediately above the [illegible] jet is required [illegible] but you will be [illegible] the working heat if you adjust up to [illegible] needle, so that there [illegible] play between the float and the needle spring clip.

Contact Breaker Trouble.

I am the owner of a machine fitted with a U.H. magneto and have been for months experiencing a most peculiar trouble. At times the machine will start with one pull of the starting handle, and other times I may turn the handle for hours without the slightest result. To cure this I widen the gap of the platinum points and the machine will then start every time and run beautifully for about fifty miles, then the old trouble recurs. The engine in all other respects is perfect.—W.P.

As a temporary cure is effected by re-adjusting the platinum points, it would appear that this is the source of the trouble, and we would suggest that you ascertain whether it is caused by the points themselves wearing down, or the adjusting screw moving from its position. If the points themselves are wearing, it will be necessary to have new ones fitted, but if it is the adjusting screw which has become loose in its thread, we would suggest that you have a new one made.

IMPORTANT DATES.

Nov. 4th-13th—
International Automobile Exhibition, Olympia and White City

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Dec. 26th-27th—
M.C.C. London-Exeter Run.

Difficult Starting.

My machine is a 1912, 3½ fixed gear Triumph, which up till lately has been running very well. Now I have great difficulty in starting even after priming the engine. When it does start it goes for about a mile, then suddenly conks out. I have then noticed smoke coming from the air chamber of the carburetter. I get a good spark at the plug, and have taken down the carburetter which seems in good order. Can you suggest a possible cause of the trouble?—A.J.T.

The trouble may be due to an unsuitable plug which is causing pre-ignition. The difficulty in starting, however, does not seem so easy to diagnose. It may be due to air leaks at the carburetter or induction pipe unions.

READER'S REPLY.

I have read with interest "P E.T.'s" letter on "Mysterious Lack of Power." I suffered recently in a similar way, my machine being an Omega-Jap, with only a very small mileage, I eventually found that the holes in the cylindrical silencer with which 2¾ h.p. J.A.P. engines are usually fitted were choked with soot, and on poking these out with a pricker my trouble disappeared.—W. L. HOUGHTON.

EXPERIENCES WANTED.

"F.J.S.M." (Brixham). — T.B., Richardson, and G.N. cycle cars; speed, reliability, climbing, and consumption.

SPARKLETS

Easting Windscreens in London.

The Easting Windscreen Company has opened a depôt in London, at 24, Finsbury Square, E.C.2, under the control of Mr. H. W. Holmes, late of Maudes Motor Mart and also of the Harley-Davidson Motor Co.

Two-stroke Lightweight in Africa.

Cabled information advises that in a reliability trial for lightweights organised last month by the Rand M.C.C., the winner was mounted on a 2¼ h.p. Royal Enfield two-stroke. The success of such an event, over a hundred miles of typical South African roads, is ample proof that lightweight machines are practical mounts for Overseas conditions in almost all cases.

A Three-wheeled Scooter.

A booklet has recently been published entitled "The Abbottsford Motor Supa Scoota," giving full details of the only three-wheeled scooter on the market. These scooters can be delivered in one month from the date of order. A copy of the booklet will be sent to any reader on application to the Abbotsford Motor Scooter and Engineering Co., Ltd., 5a, Surbiton Road, Kingston-on-Thames.

Humber Agents Entertained.

Some 150 motor dealers and agents who handle Humber products were invited to the Coventry works of the firm in order to view the new models which will be staged at Olympia. They were welcomed to lunch by Lord Russell (chairman of the company), and a discussion on the firm's policy took place, in the course of which it was stated that, despite the reported depression of trade in some quarters, it was even yet impossible to fulfil all the demands which were being made for the various products of the Humber factory.

Brooklands Speed and Distance Table.

We have recently received a new Brooklands speed and distance table, compiled by Lieut.-Col. Lindsay Lloyd. The first part of the book is devoted to speed tables for cars running on the 50ft. line, and the second part of the book to speed tables for motor cycles running on the 10ft. line. The time of the laps is given in seconds, opposite which are the miles per hour; for instance, a lap in 97s. equals a speed of 100.65 m.p.h. Lap distances are also given; for instance, one lap on the 10ft. line means a distance of 2 miles 1,263 yards. Another table which is quite interesting is the mileage expressed in laps on the 10ft. line. One hundred miles, for example, means 36.80 laps, or 18 laps, 1 mile 144 yards. Interesting facts are also given regarding Brooklands test hill, and at the beginning of the book there is an excellent plan of the track.

Club News

North London M.C.C.

The theatre night at the London Coliseum on the 16th inst. was very successful, upwards of sixty stalls being occupied. After the performance the party adjourned to the Corner House to partake of light supper.

The winter programme is under consideration, and will probably consist of three outdoor events, in addition to several social functions.

Glasgow Western M.C.C.

Last week we gave a brief report, received by wire, of the speed-judging competition for the Bates Trophy. Later information reaches us that D. S. Alexander, who was given as Trophy winner, is not now placed. J. Littlewood (6 A.J.S.) therefore takes first place, with a total time error of 6m. 55⅘s., and the third and fourth men of last week, G. Hope Wilson and R. A. Law, become second and third respectively.

Doncaster M.C.C.

The Doncaster M.C.C.'s mid-season dinner took place at the Red Lion Hotel on a recent evening, the president, Mr. Joseph Franks, J.P., C.C., being in the chair. Nearly every one of the club's hundred members were present, and the atmosphere was distinctly sporting—typical of what a motor cyclist's dinner should be. Later, the trophies, medals, and prizes were presented. Included in these were four silver cups, one being *The Motor Cycle* trophy. This was won by Mr. F. B. Leach, on a Scott, when he made the fastest time of the day at the club's first speed trials on the road adjoining the racecourse. The trophy was last won by Major Axford in 1914. A most enjoyable musical programme followed.

Colchester and District M.C.

The results of the hill-climb held on Thursday, October 14th, near Lawford, are as follows:

EVENT 1 (up to 350 c.c.), on formula.—1, A. Medcalf (2¾ Douglas); 2, R. W. Tracy (2¼ Enfield); 3, H. Collins (2¼ Levie).

EVENT 2 (sidecars up to 650 c.c.), on time.—1, T. S. Wilkin (4 Norton sc.), 23⅘; 2, R. W. Tracy (4¼ B.S.A. sc.), 29⅗s.; 3, H. Cook (4 Triumph sc.), 37s.

EVENT 3 (sidecars up to 750 c.c.), on time.—1, R. C. Charlesworth (5 Zenith sc.), 19⅗s.; 2, T. S. Wilkin (4 Norton sc.), 26⅘s.; 3, R. W. Tracy (4¼ B.S.A. sc.), 30s.

EVENT 4 (sidecars up to 1,000 c.c.), on formula.—1, T. S. Wilkin (4 Norton sc.); 2, R. C. Charlesworth (5 Zenith sc.); 3, R. W. Tracy (4¼ B.S.A. sc.).

EVENT 5 (1,000 c.c. solo), on formula.—1, R. C. Charlesworth (5 Zenith); 2, A. Medcalf (2¾ Douglas); 3, H. Cook (4 Triumph).

EVENT 6 (650 c.c. solo), on time.—1, A. Medcalf (4 Triumph), 18⅘s.; 2, H. Cook (4 Triumph), 23⅕s.; 3, R. W. Tracy (2¼ Enfield), 27⅕s.

EVENT 7 (750 c.c. solo), on time.—1, R. C. Charlesworth (5 Zenith), 17s.; 2, A. Medcalf (4 Triumph), 19⅘s.; 3, C. Collins (5-6 Indian), 22⅘s.

FASTEST TIME of the day was made by R. C. Charlesworth (5 Zenith) in 17s.

Week-end Club Events.

Oct. 30.—Surbiton and District M.C.C. Ballard Cup Trial.
Oct. 31.—Reading and District M.C. and L.C.C. Club Run.
Oct. 31.—Ilkeston and District M.C.C. Special Day Run.
Oct. 31.—Stalybridge and District M.C. Hill-climb.
Nov. 4.—Colchester and District M.C.C. Speed Trials.

The Motor Cycling Club.

On the occasion of the One Day Sporting Trial on the 16th inst., fully described in our last week's issue, the following gained gold medals: J. T. Bashall (6 Martinsyde), G. Gayford (6 Zenith), R. H. Baxter (2¼ Radco), R. C. Staunton (4 Triumph), and S. Guy (2¾ Coulson). The case of F. W. Stevenson is under consideration. Only five gold medals, therefore, have been awarded out of seventy-two starters, which was mainly due to the appalling condition of Chalk Pit Hill.

Southend and District A.C.

We gave the results on time and the awards of the speed trials near Shoeburyness in our issue of last week. The formula placings are now to hand, and are as follows:

CLASS 1 (350 c.c.).—1, N. A. Lowe (2¾ Diamond-Jap), 34.79; 2, J. Cockerill (2¾ Coulson B.), 46.2.

CLASS 2 (500 c.c.).—1, G. H. Stewart (3 A.B.C.), 33.45; 2, N. A. Lowe (2¾ Diamond-Jap), 35.4.

CLASS 3 (unlimited).—1, G. H. Stewart (3 A.B.C.), 35.7; 2, N. A. Lowe (2¾ Diamond-Jap), 38.3.

CLASS 5 (500 c.c. sidecar).—1, N. A. Lowe (2¾ Diamond-Jap sc.), 28.48.

CLASS 6 (1,000 c.c. sidecar).—1, N. A. Lowe (2¾ Diamond-Jap sc.), 27.6.

CLASS 8 (1,100 c.c. cycle cars).—1, Austin Webb (4 A.S.C.) and W. Whiffen (8 Morgan) tied, 38.2.

Levis Athletic Club.

The Levis Athletic Club is holding a concert at the Levis Works, on Saturday, November 6th, when the prizes won in the recent Levis Reliability Trial will be awarded. Tickets, price 2s., 1s., and 6d., plus tax, can be obtained from Mr. G. W. Reynolds, c/o Levis Works, Stechford.

Another Surrey Motor Cycle Club.

It has been decided that a motor cycle club should be formed in Wallington, Surrey. Several challenge cups will be offered for competition when the club attains sufficient members, and, for the present, particulars can be obtained from Messrs. Houghton Bros., motor engineers, Woodcote Parade, Wallington.

Birmingham M.C.C.

The tie for the Olai lightweight trial was settled on the 16th inst., on a course from Birmingham to Farlow. At Farlow the competitors had to traverse the Farlow loop six times, the competitor who had the greatest non-stop mileage to his credit being the winner. A puncture stop did not penalise the competitors, as such had to be repaired under official observation, travelling marshals officiating for this purpose. The wet weather made the course rather tricky, but it is satisfactory to know that a winner was found without putting in any special tests. The results of this trial have been decided on *reliability* alone.

Winner of Olai sideboard, value 26 guineas, G. Kuhn (2½ Levis); winner of Hoskison award, value 5 guineas, E. J. Bastock (2½ Levis). Both of the above prizes are won outright.

The start of the Birmingham M.C.C. Re-run Lightweight Trial, the course of which was six circuits of the "Farlow loop." The event was won by G. Kuhn (Levis), on extreme right of group.

CURRENT TOPICS

Times to Light Lamps.

Oct.	28th	... ...	5.11 p.m.
,,	30th	... ...	5.7 ,,
Nov.	1st	... ...	5.3 ,,
,,	3rd	... ...	4.59 ,,

Rev. Bischoff leaves the Clyno.

The Rev. P. W. Bischoff, who gave up the Church to enter the motor cycle trade, will, in future, be associated with Sunbeam motor cycles, having joined the staff of John Marston, Ltd.

The Craze for Luxuriousness.

It is passing strange that the motor cyclist should be all for complete electric lighting sets as an integral part of his mount, and yet the light car owner in a recent *Autocar* bemoans the fact that it seems impossible to buy a good two-seater *minus* electrical equipment. Will we ever reach that stage?

Ten Standard Steels.

All those who desire copies of the Report of the Steel Research Committee of the I.A.E. on the ten standard steels published in Report No. 75 of the British Engineering Standards Association, are asked to make early application to the secretary of the Institution, at 28, Victoria Street, London, S.W.1. The price of the report is 33s., including carriage.

The Institution of Automobile Engineers.

A paper will be read on the report referred to above, by Mr. J. H. S. Dickenson, at the general meeting of the Institution at Storrey's Gate, London, S.W.1, on Wednesday, November 10th.

Point-to-point Records in U.S.A.

Point-to-point records are permitted in America. In May last F. Clymer (Henderson) established a record of 19 m.p.h. average for the 1,224 miles between Denver and Chicago. Last month H. Scherer on a Harley-Davidson beat his record by 7.4 m.p.h. The mileage of Scherer's route was 1,260, and his average speed 26.4 m.p.h.

Meanness.

I. Z. Love in one of his latest books recently finds the limit in this direction reached by the man who saves his tobacco-tin for Queen Alexandra Day the following year. Probably he has not heard of the frugal gentleman who habitually obtains a day or two's free garaging by ordering some very minor adjustment, and returning for the machine only when he requires it again.

Found.

Messrs. Quinby Bros., 15, High Street, Baldock, Herts., advise us of having found a pillion seat on the road between Baldock and Biggleswade. Enquiries direct, please.

Stolen.

Bromley, Kent, is the scene of yet another motor cycle theft. This time it is a 1920 4 h.p. Triumph, registered No. D.C. 1634, with semi-T.T. bars (bent), and throttle lever nearly broken. An undershield was fitted, and a Klaxon horn secured by a strap. A £12 reward is offered by Messrs. G. Dix and Co., 11, Grocers' Hall Court, Poultry, London, E.C.2, for information leading to its recovery.

THE MOTOR CYCLE
Special Show Numbers
. . . 1920 . . .
November 18th—
LIGHTWEIGHT NUMBER.
November 25th—
SHOW FORECAST.
December 2nd—
SHOW REPORT.
December 9th—
PASSENGER NUMBER.

The 3½ h.p. Sidecar Outfit.

In view of the general tendency for makers of single-cylinder machines to increase their capacity slightly for sidecar work, it is interesting to recall that the best sidecar performance in the recent M.C. and A.C. Trial—the most severe of the year—was made by a 3½ h.p. Ariel outfit. It was the only sidecar to make a clean ascent of Alt-y-Bady without the passenger on the carrier.

Weights.

Next year motor cycles of under 200 lb. in weight will be taxed 30s., over 200 lb. 60s., and sidecars 20s. extra. Everything else being equal the difference in a few pounds may influence the purchase of a new machine, therefore it behoves makers to give the accurate weight of their productions. Approximate weights serve no purpose, but apart from the question of taxation it is desirable that every maker should take care to include weight in detailing his specifications.

Special Features.

NEW MODELS.
THE DEVELOPMENT OF THE SIDECAR.
OVERSEAS.

Registration Marks.

Nottingham County Council has been allotted the letters NM in addition to the present AL.

A Step in the Right Direction.

In view of recent complaints of obstruction on the road by lorries and chars-à-bancs, a trailer in the service of Maples, the furniture people, is worthy of careful note by other transport contractors. It has an elevated compartment in the extreme rear, giving an unrestricted view in all directions—very reminiscent of French railway brake vans, and, presuming the occupant to possess means of communicating with the driver, very useful, too.

Trials Results.

Most official lists of awards contain errors in the spelling of names or the makes of machines. In fairness to riders and makers we have to correct two errors, which are not our own. H. J. Willis, who won the special prize for best performance by a private owner in the M.C. and A.C. trial, rode a Norton, and not an Ariel, as stated last week; while S. Lunn Whitehouse (3 A.B.C.) won a silver medal in the recent West Midland event.

40,000 Motor Cyclists in London.

During the quarter ending September 30th, 1920, 2,581 motor cycles were registered by the London County Council, while the total number of motor cycle registrations up to September 30th amounts to 39,701.

The total number of motor car and motor cycle licences to drive issued during the quarter ending September 30th was 24,567, while the total up to September 30th was 185,706.

A Reunion Dinner.

Officers who served at the engine repair shops, Royal Air Force, France, are holding a reunion dinner at the Holborn Restaurant, London, on Friday, 12th November. This is being held during the Motor Show period to suit the convenience of those attending, the officers of the depot in question being, in practically every case, associated with the motor industry. Full particulars can be obtained on application to D. Drover, A.M.I.A.E., Room A.243, Air Ministry, London.

An Internal Combustion Turbine

In Germany there are motor boats fitted with internal combustion turbines of quite moderate size. Shall we ever see them on motor cycles?

M.P.G.

We have now received details of the recent A.C.U. observed test (referred to on page 425 in our issue for October 7th) of a P. and M. motor cycle fitted with a standard mechanical oil pump, which consists of a small reciprocating plunger driven at one-fortieth engine speed, and delivers a definite quantity of oil alternately to cylinder and crank pin at each half-revolution.

The carburetter is fitted with an Amac, type HYD, with overhead feed and a No. 28 jet, while the gear ratios were 4.83 and 8.89 to 1. A non-stop run of 54¼ miles, at an average speed of 19.04 m.p.h., was made to Oxford. The return journey was made at an average speed of 20.09 m.p.h. The petrol consumption for the 112½ miles was at the rate of 144.6 m.p.g., and the oil 1,125 m.p.g.

Last week we recorded W. H. Carson's successful attack on Clovelly High Street steps. The photograph depicts him with his Excelsior sidecar negotiating the "terraces," which are paved with round stones and which were very greasy on the day the climb took place.

A Lying Jade.

For the benefit of those alarmists who feared otherwise, "Old Chalky," or Chalk Pit Hill, which proved such a quicksand in the recent M.C.C. trial in Surrey, is not to be included in the Matchless Cup trial which is to be held on November 6th.

The Cleveland for 1921.

The Cleveland is America's leading lightweight, and is quite a nice machine possessing several distinctive features. The 1921 model has a larger engine, 26×3in. tyres, and a 2¼ gallon tank, yet weighs but 175 lb. The price in America is 275 dollars.

Up-to-date Methods.

To demonstrate the utility of the kinematograph film for the purpose of British motor trade propaganda abroad, an exhibition was arranged last week by H.M. Department of Overseas Trade for the Empire delegates to the 1920 Imperial Motor Transport Conference.

The Springing of Motor Cycles.

At 7.30 to-night (Thursday) Mr. G. H. Savage will read a paper on the springing of motor cycles before members of the Institution of Automobile Engineers at the Chamber of Commerce, New Street, Birmingham. An interesting discussion should follow.

Power Alcohol.

In addition to the several papers on the fuel question referred to on this page, on the 18th inst., Professor H. B. Dixon, C.B., F.R.S., gave a paper on "Alcohol Research" at the R.A.C. The lecturer showed that the results already arrived at had conclusively demonstrated the suitability as a fuel for internal combustion engines of alcohol, which compared favourably in test with petrol and other hydrocarbons.

The Fuel Problem.

Petrol Supplies and Power Alcohol discussed at Imperial Motor Transport Conference.

INTERESTING facts regarding the fuel position and possibilities of future supplies were discussed at the Imperial Motor Transport Conference.

According to Mr. E. S. Shrapnell-Smith, C.B.E., F.C.S., M.Inst.T., the Department of Scientific and Industrial Research is alive to the urgency of the problem of motor fuel supplies and prices.

In the course of a very interesting paper, Mr. Shrapnell-Smith stated that the Research Department is in close co-operation with producers and would-be producers of new motor fuels, and that the Empire Motor Fuels Committee was willing to give assistance to any private worker in the motor fuel field of research.

Mr. Shrapnell-Smith was by no means encouraging as regards prices. He maintained that all pre-war estimates of prices of such fuels required to be at least doubled, the single possible exception under the head of fuel supply being benzole. A potential extra volume of this excellent fuel is available in this country from the stripping of coal gas to the extent of not fewer than thirty million gallons per annum, if Parliament chooses to impose on the gas consumer a small sacrifice for the benefit of the motor user.

Dealing with power-alcohol, the lecturer gave an extraordinary case of Government interference with the introduction of a new and satisfactory fuel. A sample lot of 500 gallons of a mixed alcohol fuel was shipped last summer to this country from America, but was refused clearance by the Customs authorities in London.

Scottish Shale.

Some illuminating facts were also given concerning oil. As regards Scottish shale, we were told that the combined yields of a number of refiners have never exceeded 4,500,000 gallons in one year. If "cracking," which is now so largely used in America, were adopted, a considerable portion of the kerosene gas oil could be converted into motor spirit of fair quality, and it is estimated that as much as 20,000,000 gallons per annum could be produced in this way.

Dr. W. R. Ormandy, D.S., F.I.C., M.I.A.E., M.I.Pet.Tech., has for many years been a contributor to *The Autocar* on the fuel question, and has long been an advocate of the use of power alcohol. His paper rather disposed of the theory that power alcohol is comparatively easy to produce from vegetation.

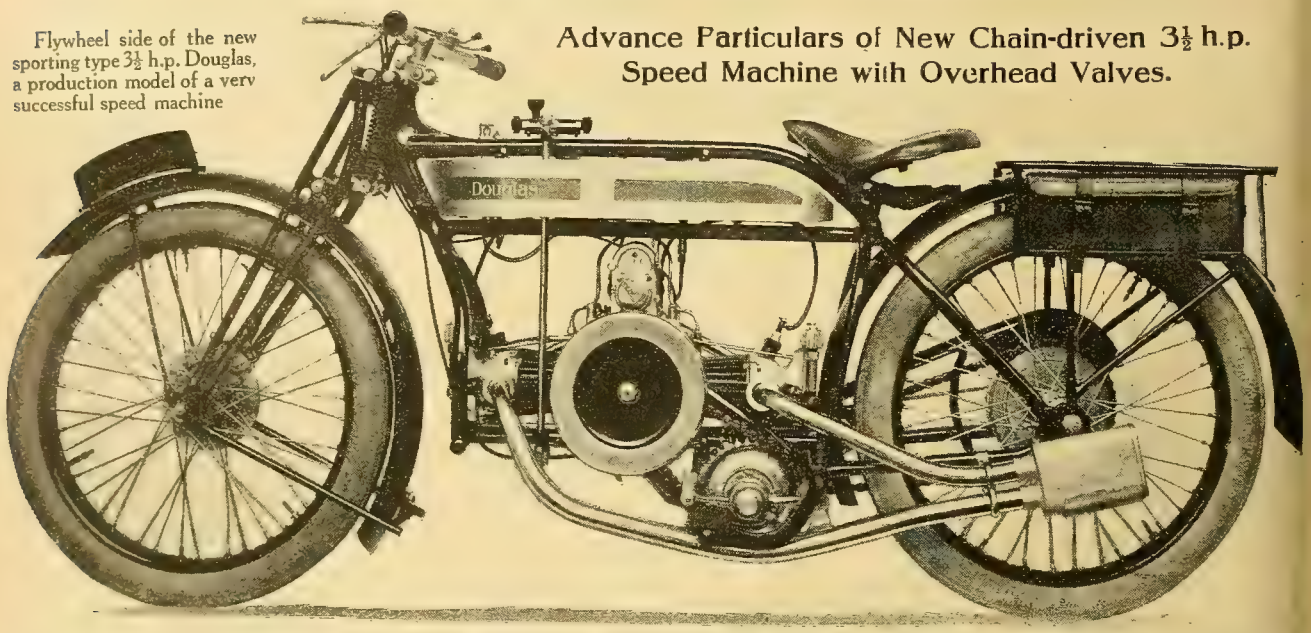
The final paper on the fuel question by Mr. G. J. Shave, M.I.M.E., M.I.A.E., engineer to the London General Omnibus Co., dealt with the first facts which have been brought before the public on the actual running conditions carried out on internal combustion engines using alcohol, or rather a mixture of alcohol and benzole. it was found that the best results were obtained from a 50% mixture and a compression of 123 lb. Summarising the tests, it was found that the greater the percentage of alcohol, the higher can the compression be raised, with a consequent rise in thermal efficiency.

It was observed that the best all-round results were obtained with a 70-30% mixture, although the 50% mixture gave quite good results.

The next best results were with a 75% benzole and 25% alcohol mixture; with petrol 7.19 m.p.g. were obtained, and 7 m.p.g. on the 50% mixture.

A SPORTING MODEL DOUGLAS.

Advance Particulars of New Chain-driven 3½ h.p. Speed Machine with Overhead Valves.



Flywheel side of the new sporting type 3½ h.p. Douglas, a production model of a very successful speed machine

EVER since Douglas motor cycles were first introduced, they have been prime favourites with the sporting element of the great motor cycling fraternity. Right from its inception, the speedy little "2¾" took a place in the front rank—in fact, it may be said to have made smaller machines fashionable among both "speed merchants" and tourists of that day, for about that time a lightweight was not regarded very seriously as a practicable mount.

Further, the early Douglas machine will always be a milestone in the evolution of the motor cycle. It was fitted with the first practical "flat twin" engine, a type which has proved to be so satisfactory that it was destined to be the prototype of many similar designs produced in every country where motor cycles have been manufactured.

These two facts make any new Douglas model of more than usual interest, and when that new model has been designed as a sporting mount—and has been proved to be exceptionally fast—there is no doubt that it will hold large courts each day at Olympia during the Show next month.

Early Successes.

The engine has been on the track, the speed hill, and the racecourse in various forms during the past year. It formed the nucleus of the machine with which A. H. Alexander put up such good speeds in the Isle of Man. For some reason the Scottish speedman could not keep his belts on. In the Grand Prix chain drive was adopted, but the combination of a really "hot-stuff" engine and chain transmission was a new proposition to the Douglas experts, with the result that valuable data were obtained concerning shock-absorbers. It has been considered by those competent to judge that Alexander would have won the Grand Prix but for a too enthusiastic spectator, who, after a roadside stop, assisted him to restart, and so caused his disqualification. His speed was infinitely superior to that of any other competitor, and many miles per hour faster than the actual winner. At the Gaillon hill-climb on the 10th inst., Alexander put up a very fine performance, securing four firsts and two seconds.

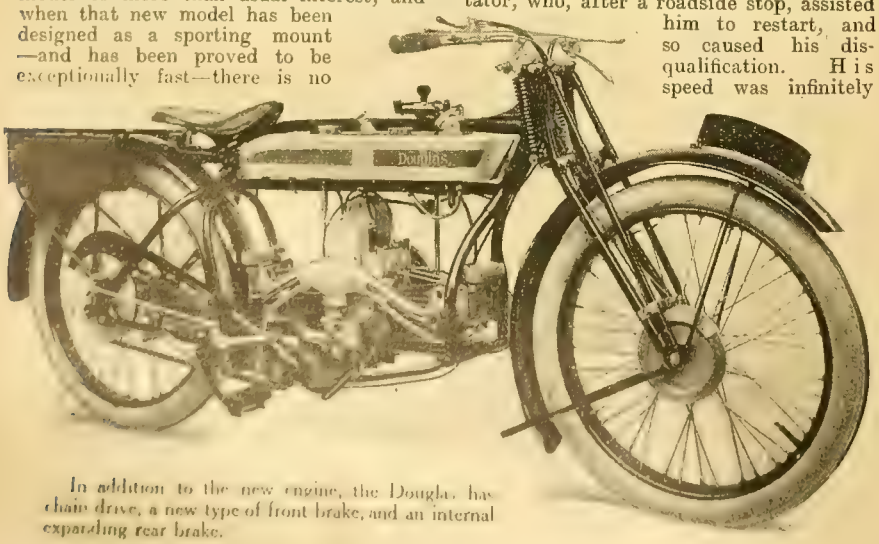
In the meantime various sample engines have been tried out at the hands of well-known riders, including S. L. Bailey, who broke several records in the 350 c.c. class at Brooklands. These were the flying five miles, 4m. 32s. (66.18 m.p.h.), and standing ten miles, 9m. 16⅘s. (64.65 m.p.h.). Bailey also secured four firsts in races with this engine. Alexander, too, secured two firsts at the Scottish speed championship meeting and at the recent Bristol open hill-climb. H. Thorpe, riding one of the new machines, gained nine firsts, three seconds, and one third, and a further six firsts in other classes in which the awards were not given, as the machine was ruled to be "not standard."

Flexibility and Acceleration.

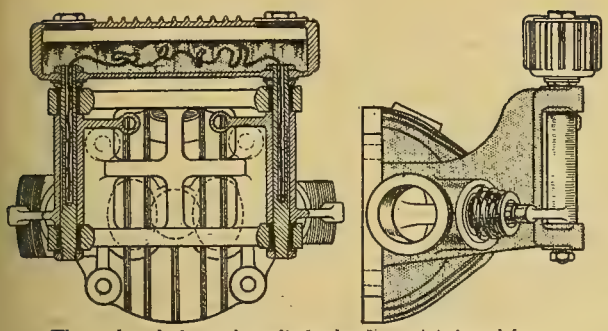
This is all the more interesting because the engines which have performed so satisfactorily are uniformly good, and have required no "faking"—that is to say, that it is not a case of a star engine out of a batch, usually difficult to duplicate, and generally impossible as a marketable proposition.

The speed of the new Douglas engine lies in its design, and any difference next year between the speeds of S. L. Bailey and the private aspirant for honours in the field of high speeds will be one of tune and skill.

One astonishing thing about this engine is that, although it is capable of remarkably high speeds, it is quite docile for traffic work, and extremely flexible. Its acceleration is wonderful, and, *sans* silencer for track work, it has an exhaust note sharp enough to please the most meticulous critic who judges efficiency by sound.



In addition to the new engine, the Douglas has chain drive, a new type of front brake, and an internal expanding rear brake.

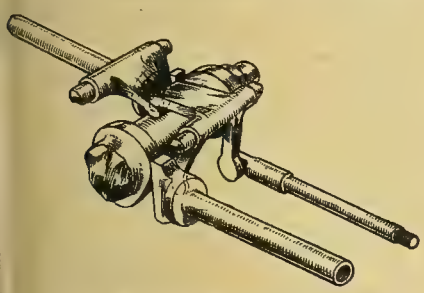


The rocker shafts at the cylinder heads are lubricated from a reservoir feeding the bearings by wicks.

Without doubt the new engine chiefly owes its efficiency to its overhead valves and its hemispherical combustion head. This, of course, is detachable, fixed by four studs, and having a flush joint with a copper-asbestos gasket.

Lubricating the Rocker Shafts.

The valves are of comparatively large diameter, and the pockets are entirely free from awkward corners which might impede the flow of the gases. Short in length and light in weight, the valves are set at 90° to each other, and are actuated directly by rockers mounted on vertical shafts carried in long bearings



The exhaust valve lifter mechanism of the new Douglas engine.

which are lubricated in a rather novel way. Over the heads of the standards containing the shafts, and forming a bridge between the two, there is a large aluminium reservoir containing oil. In this there is a long wick with its ends threaded into the rocker shafts which are drilled to receive them. From the interior of the shafts oil finds its way through a small duct to a groove on the outer surface and so lubricates the whole of the bearing. How well this system works was demonstrated to us on one of the several engines we inspected.

More or less conventional Douglas timing gear is embodied, a transverse camshaft extending across the compartment below the magneto base. The tappets and push rods, therefore, are on the upper side of the cylinders. The former are adjustable and have spherical heads which fit into the cup-shaped ends of the push rods. A similar arrangement is also provided at the rocker ends of the rods, which incidentally are instantly detachable without the use of tools.

In the engines we inspected hand-controlled drip-feed lubrication only was installed, but in the final model it is proposed to embody a mechanical pump at the head of the timing case which will give a constant supply through the drip, and the hand pump will be an auxiliary by which the rider may give an extra charge of oil when desired, without altering the adjustment of his mechanical system. Oil enters the engine at the base of the cylinders.

The cylinders are 68 × 68 mm., and on the greater part of the cylinder barrel are longitudinal fins, which diminish in area as they approach the base. The heads are amply provided with cooling surface, and have integral with them the standards for supporting the rocker shafts.

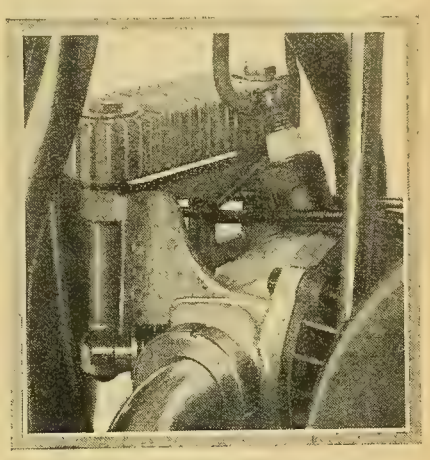
Double-row Roller Big Ends.

Cast iron pistons, with two rings are fitted, and, in order to obviate any tendency to whip, the connecting rods are of H section and rather wider than usual, but so carefully have they been designed that they are exceptionally light, being but 7 oz. each.

The big ends each have a double row roller bearing, and as the crankshaft is of the one-piece type, considerable ingenuity has been necessary in designing means for inserting the rollers, which are contained in split cages, with a two-piece retaining washer on one side.

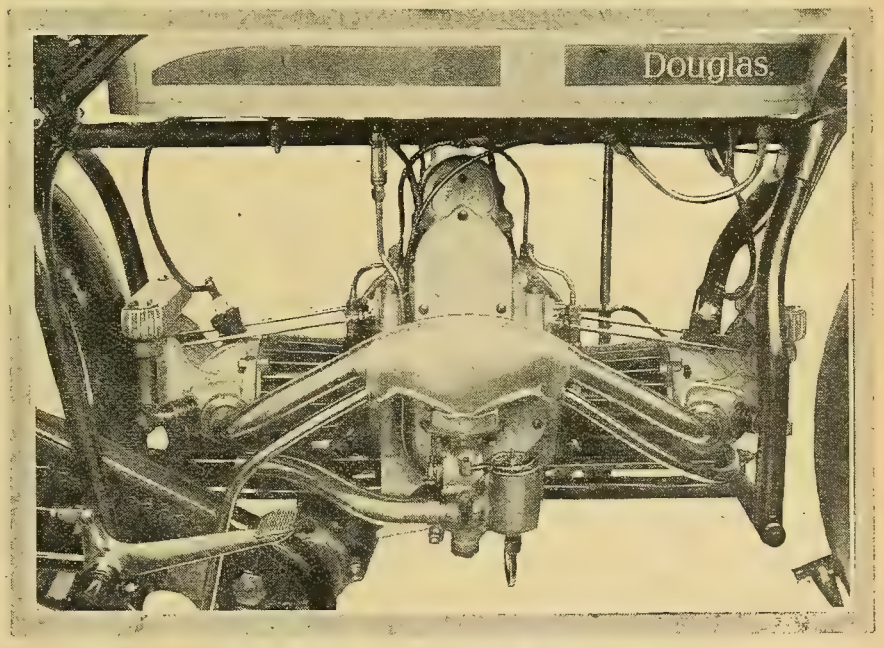
Although the three-speed gear box is new in design, many of the parts of the present 4 h.p. gear box are interchangeable with those in the new model. The kick start mechanism is on the left side of the machine, but the starting crank has been brought to the right side by means of a well supported shaft.

The frame and detail work are very good—in fact, there appears to have

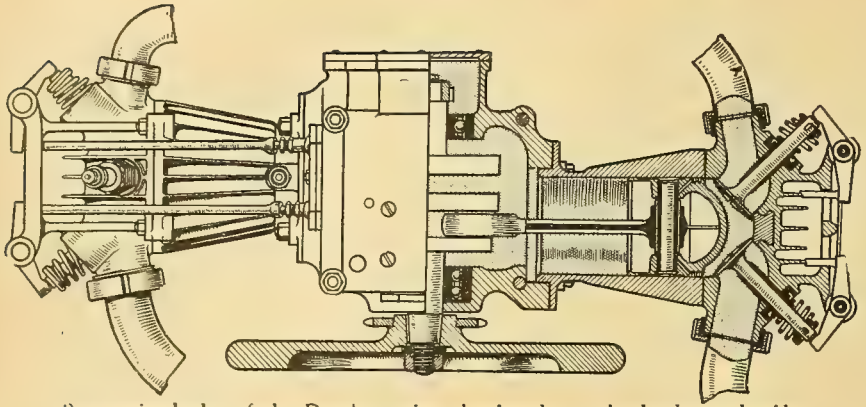


One of the aluminium oil reservoirs for lubricating the rocker shafts.

been a really serious effort to "clean up" frame design generally. Of the semi-duplex type, the frame has mostly welded joints, but the head lug, which is very substantial and extends to the fork of the front part of the frame, is brazed. The rear part of the frame is exceptionally pleasing, and leaves plenty of room for cleaning purposes. The illustrations show the details better than any number of printed words, but one little detail, worthy of mention, is not observ-



The new power unit, showing the detachable cylinder heads, overhead valve gear, and induction system. The kick-starter is fitted at the right-hand side of the machine



Part sectional plan of the Douglas engine, showing the overhead valves and wide big end bearings which have double rows of rollers.

able. We refer to the method of fixing the engine and gear box. The power unit rests on the two longitudinal frame members which are bridged by two pieces of steel welded on the under side of the tubes. In each of these bridges there are two slots through which pass bolts from the base of the engine. By these means the engine may be slid to a limited extent in order to adjust the primary drive.

The gear box is supported from a similar bridge, but is not movable, the rear chain adjustment being effected by push screws. Among the many details of the specifications are 650×65 mm. tyres on interchangeable wheels, and a novel type of front wheel brake, which takes the form of a steel disc with an inverted V periphery upon which works a double-faced shoe.

This brake is very powerful, but sweet in action, and remains undisturbed when the wheel is removed. The rear brake is of the internal expanding type, and, with the transmission, is also undisturbed by the removal of the wheel.

One other little point will appeal to the rider. The guard over the primary drive chain is secured by spring clips, and so may be removed without the use of tools.

Low Riding Position.

Incidentally, the height of the machine is 1½in. lower than any previous Douglas model, and, when stripped for a speed competition, it weighs but a little over 200 lb.

Altogether, we were most favourably impressed by this latest product of the Bristol firm, not only as a speed machine, but a sporting tourist's mount, and we heartily congratulate those responsible for its design and production.

In addition to the new sports model "3½," the popular 2¾ h.p. solo and 4 h.p. sidecar machines will be included in the Douglas 1921 range.

Wooler Improvements for 1921.

Engine Details, Adjustable Handle-bar, New Speedometer Position.

THE 2¾ h.p. Wooler has acquitted itself very creditable this year, both in local club events and at Brooklands, the long-distance records broken recently by Macnab testifying to its staying powers. It is a most interesting little mount, and fitted with a flat twin engine of 65 × 60 mm. (345 c.c.). It possesses many novel features, including a spring frame, which make it a very suitable mount for solo work.

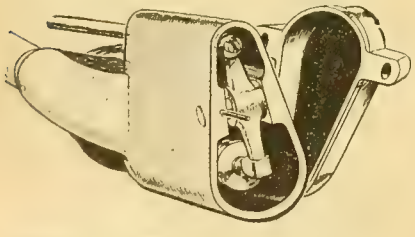
Among the chief innovations for next year is a new inlet dome, which is now held by two long studs taking the pressure of the whole casting.

The new toolbags are fastened to the carrier stays by means of six bolts, which screw into the threaded lugs on the stays so that there are externally no visible means of support.

The speedometer is carried on the near side front fork member, has a short cable, and the spur wheel is held on a bracket which moves with the front wheel spring plate. The position of the speedometer has been so arranged that a glimmer of light proceeding from the ventilating holes underneath the lamp impinges on the speedometer dial.

The crank case is now die cast, and the same method is applied to the casting of the footboards, with the result that these are extremely neat. The whole machine has been most carefully thought out, the detail work is excellent, and the manufacturing methods are all that can be desired.

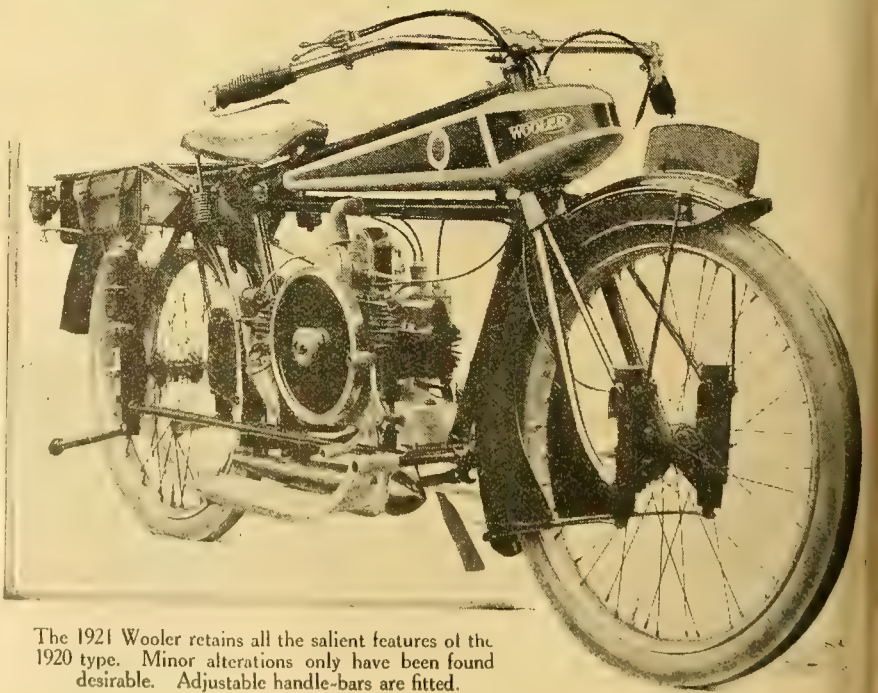
The manufacturers are the Wooler Engineering Co., Ltd., Alperton, London.



One of the new features on the 2¾ h.p. Wooler engine—the new inlet valve dome.

It may be remembered that the Wooler engine has a timed crank case release through the magneto wheel leading into the [illegible] frame tube, and finally running [illegible] the centre of saddle tube. The oil [illegible] into a ½in. pipe running down the centre of the saddle tube, in which it condenses gradually, filling up the tube with oil. A small pipe is now fitted, which drains this oil back into the crank chamber, consequently considerable economy in lubricant is effected.

Everything possible has been done to render the design as simple as possible, and practically only two size of nuts are used.



The 1921 Wooler retains all the salient features of the 1920 type. Minor alterations only have been found desirable. Adjustable handle-bars are fitted.

Twenty-three Important Records Go.

The 2¾ h.p. A.J.S. exceeds 80 m.p.h. on Brooklands. Norton secures Further Long Distance Records.

A SERIES of wonderful records were put up in the early part of last week, H. R. Davies, riding a single cylinder 2¾ h.p. A.J.S. (74 mm. × 81 mm., 349 c.c.), gaining several class B and class F records at extraordinary speeds. His time for the flying five miles, with sidecar, was 5m. 11⅘s., a speed of 57.77 m.p.h., beating S. L. Bailey's 1914 long standing class F record. He also succeeded in beating the class F ten mile standing start record, time 10m. 52⅘s., 55.18 m.p.h., the previous best again being Bailey's Douglas times in 1914. Davies's flying kilo and mile records follow in tabular form, making a total of fourteen records.

CLASS B.—SOLO MOTOR CYCLES (350 c.c.).

	Time.		Speed.
Flying kilom.	27.87 sec.	..	80.47 m.p.h.
Flying mile	47.4 sec.	..	75.95 m.p.h.

PREVIOUS BEST PERFORMANCES.—Flying kilom.: J. Dance (Sunbeam), 29.8 sec. (75.07 m.p.h.; flying mile: S. L. Bailey (Douglas), 51.4 sec. (70.04 m.p.h.).

AVERAGE MEAN SPEED RECORD.

Flying kilom.	29.9 sec.	..	77.40 m.p.h.
Flying mile	49.1 sec.	..	73.32 m.p.h.

CLASSES F. G. AND H.—WITH SIDECAR (350 c.c., 500 c.c., AND 750 c.c.).

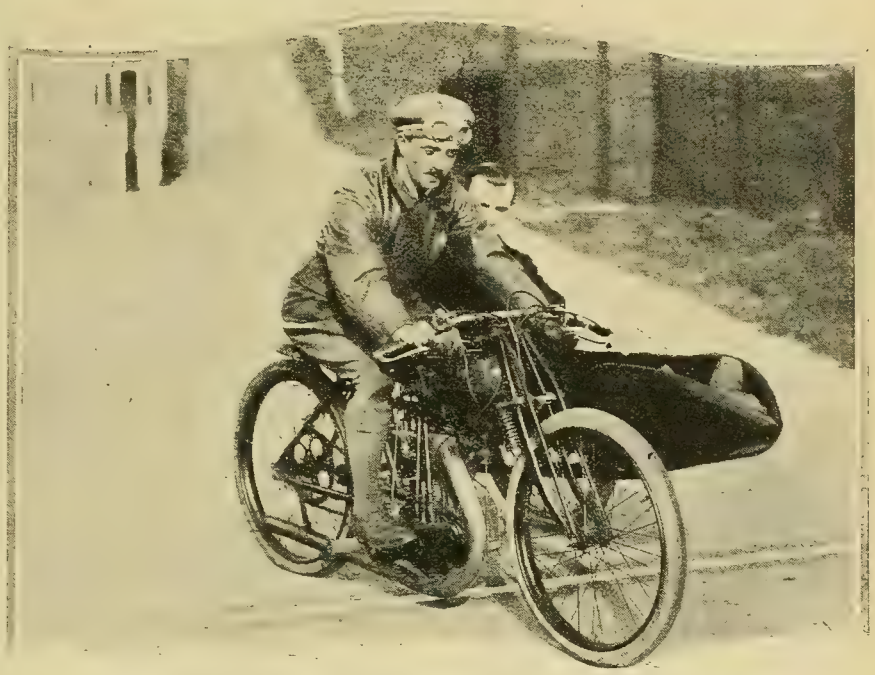
Flying kilom.	33.2 sec.	..	67.38 m.p.h.
Flying mile	55.2 sec.	..	65.22 m.p.h.

PREVIOUS BEST PERFORMANCES.—Class F.: Flying kilom., S. L. Bailey (Douglas), 42.2 sec. (53.01 m.p.h.); and flying mile, 1 min. 8.2 sec. (52.79 m.p.h.). Classes G. and H.: Flying kilom., D. R. O'Donovan (Norton), 34.6 sec. (64.65 m.p.h.), and flying mile, 58 sec. (62.07 m.p.h.).

AVERAGE MEAN SPEED RECORD.

Flying kilom.	35.6 sec.	..	62.84 m.p.h.
Flying mile	59.7 sec.	..	60.30 m.p.h.

D. R. O'Donovan (Norton) starting off after filling up with petrol during his twelve hour record-breaking ride.



H. R. Davies, who, on a 2¾ h.p. overhead valve A.J.S., broke records last week.

Equipment of the Record-breaker.

The equipment of his machine was as follows: Avon tyres, Empire de Luxe saddle, Watsonian sidecar, Thomson-Bennett magneto, Amac carburetter, Hans Renold chain, K.L.G. plugs, Shell spirit, and Castrol oil.

Proving Staying Power again.

On the same day D. R. O'Donovan, on a 3½ h.p. Norton, carried off no less than nine records in classes C, D, and E. His equipment consisted of Dunlop tyres, C.A.V. magneto, Binks carburetter, John Bull belt, Forward fastener, Speedwell oil, Pratt's spirit, and K.L.G. plugs.

The following table gives his times and the previous best performances:

CLASSES C, D AND E (500 c.c., 750 c.c., AND 1,000 c.c.).

				Speed.
8 hours	442 ml.	716 yd.	..	55.30 m.p.h.
9 hours	494 ml.	820 yd.	..	54.93 m.p.h.
10 hours	545 ml.	1,286 yd.	..	54.57 m.p.h.
11 hours	598 ml.	679 yd.	..	54.40 m.p.h.
12 hours	651 ml.	842 yd.	..	54.27 m.p.h.
450 miles	8h. 15m.	23⅘s.	..	54.50 m.p.h.
500 miles	9h. 5m.	38⅘s.	..	54.98 m.p.h.
550 miles	10h. 4m.	20⅘s.	..	54.61 m.p.h.
600 miles	11h. 58m.	22⅘s.	..	54.27 m.p.h.

PREVIOUS BEST PERFORMANCES.—Classes C, D, and E: 8 hours, C. G. Pullin and T. E. Greene (Rudge), 419 ml. 823 yd. (52.42 m.p.h.); 9 hours, J. S. Holroyd (Blackburne), 451 ml. 1,207 yd. (50.17 m.p.h.); 10 hours, J. S. Holroyd (Blackburne), 504 ml. 133 yd. (50.40 m.p.h.); 11 hours, J. S. Holroyd (Blackburne), 551 ml. 96 yd. (50.09 m.p.h.); 12 hours, J. S. Holroyd (Blackburne), 602 ml. 658 yd. (50.19 m.p.h.); 450 miles, J. S. Holroyd (Blackburne), 8h. 58m. 9s. (50.17 m.p.h.); 500 miles, J. S. Holroyd (Blackburne), 9h. 55m. 18.2s. (50.39 m.p.h.); 600 miles, J. S. Holroyd (Blackburne). 11h. 57m. 11.8s. (50.19 m.p.h.).

HIGH SPEEDS ON PEBBLECOMBE.

Ealing and District M.C.C. Hill-climb.

PERFECT weather conditions prevailed last Saturday for the Ealing and District M.C.C. hill-climb, which was well supported by members. The hill was Pebblecombe, which has an excellent surface, allowing high speeds to be attained safely. The gradient at the steepest part is between 1 in 5 or 6.

A class introduced at the last moment for all comers resulted in some of the fastest ascents, those outstanding being Capt. Frazer Nash on "Kim II." (23⅖s.), who was 1s. faster than before, his cornering and pull-up at the top being most spectacular. C. F. Temple (3½ Norton), in 26s., was the fastest motor cycle, being over 1s. faster than the next man, H. S. Keogh (7-9 Harley-Davidson), 27⅕s.

J. A. Masters (7-9 Harley-Davidson sc.), 27⅘s., made a very fast climb, being only ⅗s. slower than Keogh.

The results on time follow:

350 c.c. CLASS.—1, S. E. Longman (2¾ Wooler); 2, H. Hyem (2¾ Douglas); 3, F. A. Longman (2¾ Wooler).

500 c.c. CLASS.—1, R. M. Knowles (3½ Norton); 2, A. Giladjiam (3½ Norton); 3, P. Cunningham (3½ P. and M.).

750 c.c. CLASS.—1, R. M. Knowles (3½ Norton,; 2, R. Dequin (6 Zenith) and A. Giladjiam (3½ Norton) tied.

1,000 c.c. CLASS.—1, C. F. Temple (3½ Norton); 2, R. M. Knowles (3½ Norton); 3, H. S. Keogh (7-9 Harley-Davidson).

1,000 c.c. SIDECAR CLASS.—1, J. A. Masters (7-9 Harley-Davidson sc.); 2, R. Dequin (7-9 Harley-Davidson sc.).

CYCLE CAR CLASS.—1, W. D. Hawkes (G.N.); 2, Frazer Nash (G.N.).

The Whole Art of Watersplashing.

Four Watersplashes, each taken Twice, on Coventry Club's Closing Run.

UNFORTUNATELY, within its immediate vicinity, Coventry has not a single gradient which would trouble the most indifferently tuned solo machine.

As a consequence, therefore, the Coventry and Warwickshire M.C. cannot count upon hill-climbing failures as an eliminating factor in the process of finding a winner in its trials.

During the closing run, which took place on Saturday afternoon, the forty odd starters found that, despite the mild and sunny atmospheric conditions, their troubles were destined to be watery ones.

Scarcely had the engines time to get warm when a turn off the main road down a narrow lane brought the riders headlong into six or eight inches of water.

Of those who took the water there were one or two who entered it too fast and had anxious moments, as their expressions of pained surprise indicated, but, nevertheless, they recovered in time to change down and make a safe crossing; in this category were the Rev. J. M. Philpott (2¾ Wilkin) and E. Marshall (4¼ Humber), but C. Massey (2¾ Hoskison) was unable to change into low before his engine stopped.

How it is Done.

Some of the riders, especially the sidecar men, adopted weird attitudes in the endeavour to protect their lower limbs from a wetting, but none of the soloists attempted to ride with their feet upon the tank. One or two, however, found a lodgment for their toes on the front down tube of the frame, and so kept their boots above water. Perhaps the most spectacular showing, however, was that of S. R. Philpot, who gripped the tank of his 2¾ h.p. Douglas high up with his knees, and spread out his feet in the air well above the spray, steering a perfectly steady course withal. The same cannot be said of all.

The trial savoured more of an aquatic carnival than a reliability test, since the riders took to the water eight times. E. Marshall (4¼ Humber) negotiating the stream at Canley.

Four watersplashes were included in the Coventry and Warwickshire M.C. Trial last Saturday, and these had to be taken twice on the circuit. The illustration depicts E. Astley (5-6 Rover sc.) negotiating the Kenilworth ford

Another smaller splash was crossed, then a splendid main road run to Kenilworth followed, where the ford near the Castle was crossed (by those whose luck held out!). Only a dozen yards at most, and barely 6in. deep, this obstacle caused innumerable failures.

Few got over under power, suffering either from "shorted" sparking plugs or from excess of back pressure owing to the exhaust pipe being submerged. One rider, W. G. Blatch (7 Rudge sc.), made provision against wetting his feet by having a length of rope secured to the front forks. The moment his belt commenced to slip his passenger hurled the end of the rope to land and spectators towed the outfit across with its engine still running.

After this point some twelve miles of narrow lanes, very greasy in places and containing another brook to cross, brought the competitors, sadly thinned in numbers, to the starting point for a second circuit of the same course. Here some of those who had a clean sheet previously found that their luck had deserted them, while others, profiting by previous experience, went warily, and survived for the final section—a main road to Coleshill, where the eighteen finishers took tea.

The results were:

CLASS 1 (SOLO MOTOR CYCLES).—E. A. Barnett (3½ Invicta). Time error, 3m. 36s.

CLASS 2 (SIDECAR MACHINES).—E. Astley (5-6 Rover sc.). Time error, 8m. 10s.

Their awards were a rose-bowl and a cup respectively, presented by the Cycle and Motor Cycle Manufacturers' and Traders' Union.

Dispensing with the Carbide Container.

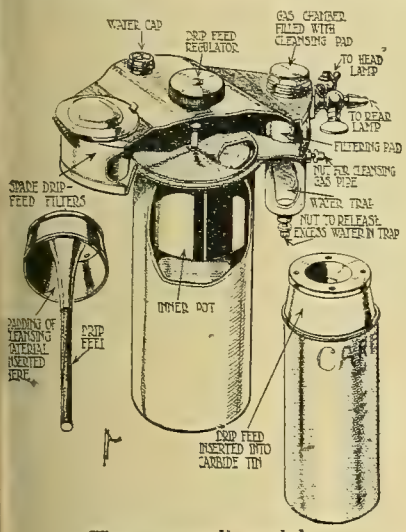
A Novel Acetylene Gas Generator in which the Carbide Tin is utilised.

MOST motor cyclists have at times grumbled about the inconsiderate behaviour and "messiness" of the average acetylene gas generator. Probably, there are few acetylene lighting installations which do not, at some time, prove themselves unreliable after neglect on the part of the owner.

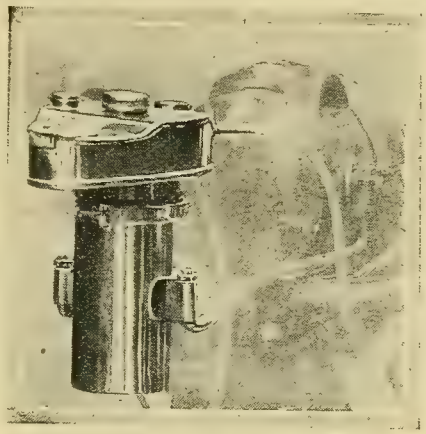
We illustrate here a very novel type of generator which has been designed by Mr. Hawley Morgan, who, it will be remembered, produced a forced draught cooling system some time ago. The object of the design has been to remove all the undesirable features which tend to make the refilling of the generator a very messy procedure. As a motor cyclist, the inventor has, regardless of conventional design, produced this device essentially for the motor cyclist.

The principal feature is the use of the actual tin in which the carbide is purchased, and, when expended, the old tin may be thrown away and a new one rapidly replaced. The unpleasant business of cleaning the carbide container is therefore avoided. Provision has been made so that half and one pound tins may be utilised.

So far as the water system is concerned, it follows general practice. The water container is located at the top, and only its oval streamline shape is somewhat unconventional. At the edge of the water container is a small cylinder containing a number of spare *papier mâché* filters, and at the front is another cylinder, partly filled with cotton wool, through which the gas passes before its exit through the two taps screwed to the outside of the container.



The generator dismantled.



Showing the "carbide tin" container in use on the Hawley Morgan generator.

A compensating device is incorporated in the drip feed, which is controlled by a brass milled head, and the usual needle valve fits into a tapered hole drilled in the base of the container.

Clean and Rapid Refilling.

Brazed beneath the water container is a brass cylinder, inside which is housed a shorter cylinder, provided to accommodate the carbide tin. In the top of this is the aperture through which the water drips. In order to secure a gastight joint, a rubber washer is fixed round the feed pipe, and is shaped to coincide with the tapered recess in the cap placed over the carbide tin.

The water is conducted first to the bottom of the carbide by a central tube drilled and covered with lamp wick. When one charge of carbide is expended, the *papier mâché* filter, placed on top of the carbide, is renewed and the cap replaced over another tin. Since these are the only operations required to refill the generator, it is obviously a clean and exceptionally rapid procedure.

The lower half of the generator, shown in the second drawing, accommodates the top cylinder and carbide tin, which compresses a coil spring located in the bottom half of the generator, and is, therefore, immune from rattle. A rubber washer is housed in an annular slot cut round the top of the lower half of the container, and is contracted round the top half by means of a floating ring and segment clamp closed by a bolt and butterfly nut. This telescopic arrangement permits the accommodation of a half or a one pound tin of carbide.

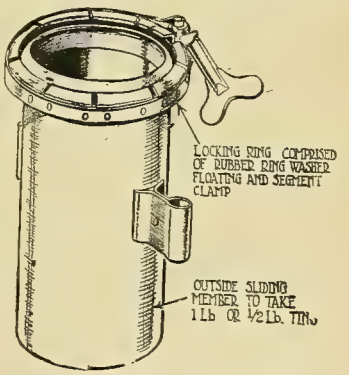
So far as the functioning of this device is concerned, it has throughout the extensive tests that we have given it generated consistently, and it will not, though the water regulator is turned fully on, generate sufficient excess of gas to create a flare at the burners.

Lengthy Burning Capacity.

The act of changing the carbide tin is a real pleasure after the messy business common to most carbide containers.

The burning capacity is sufficient to light a head and tail lamp for three hours on a half-pound charge, and for six hours on a pound tin.

Another feature that calls for comment is the brilliantly white and unflickering light produced over the worst of roads.



Showing how the lower half of the generator accommodates the carbide tin.

NUMBER PLATES FOR THREE-WHEEL CYCLE CARS.

AS our readers will be aware, there are two legal sizes of number plates: the large size for vehicles above a ertain minimum weight, and the smaller or motor cycles and runabouts below hat minimum. The deciding factor in hichever size number plate is to be used the weight of the car, tricycle, or otor cycle concerned.

Taking the case of the three-wheel nabout, which, in the eyes of the law, regarded as a motor tricycle, many wners have thought that, because they ay only £1 per year tax on the motor cle basis, they are at liberty, therefore, use the smaller size number plate as ed on motor cycles for that reason. This is perfectly correct so long as the weight of the runabout does not exceed 3 cwt. In the event, however, of the vehicle exceeding that weight, *it must by law be fitted with the full size number plates*, and, incidentally, be registered as a car at £1 instead of a fee at 5s. where the weight is below 3 cwt.

Although only taxed on a motor cycle basis, a good many Morgan Runabouts are above 3 cwt. in weight, and should, therefore, be fitted with the larger number plates on which the size of the letters and figures must be 3½in. high and 2½in. wide (except the figure "1"), and each part of the letter or figure must be ⅝in. broad. The space between adjoining letters and figures must be ½in., and the margin from the nearest part of any letter or figure and top or bottom edges of the plate is to be ½in., and at the sides of the plate at least 1in. Where a square, instead of an oblong, plate is used with the letters above the figures, the space between the row of letters and figures must be ⅜in.

In the case of motor cycle type number-plates, the dimensions as given may be halved, and the shape of the plate need not be rectangular so long as the minimum margin between any letter or figure and the top, bottom, and sides of the plate is preserved.

CLUB NEWS. (Continued from page 503.)

Marlow and District M.C.C.

A visit was paid by the club to Hampton Court on the 24th inst., and an enjoyable afternoon was spent. It is hoped to carry on the club through the winter.

Mansfield and District M.C. and L.C.C.

This club is holding speed trials at Clipstone Drive on Saturday, October 30th, starting at 1.30 p.m. The event is open to all residential members of the club, and so far fifty entries have been received.

North London M.C.C.

The Dukes Salon at the Holborn Restaurant was the scene of a brilliant and successful function on Saturday last when the North London Motor Cycling Club held its first annual dinner. Toward the close of an impromptu musical programme the various cups and awards won by members during the season were presented by the president, Mr. Kennedy Jones, M.P., who, in a few well-chosen words, congratulated the club on its marked success during the first season, and expressed his intention of presenting a trophy for competition next season. Short secretarial and financial reports were given by Mr. B. Staley and Mr. G. W. Townsend respectively, the former receiving quite an ovation in virtue of his being the founder of the club. The hearty and repeated singing of "Auld Lang Syne" brought a most successful function to a close, and there is every prospect of a largely increased membership next year. A full list of officers and particulars of winter social events will be published shortly.

Ilkley M.C. and L.C.C

A motor cycle trial on particularly interesting lines was held on October 17th for a trophy presented by two of the vice-presidents, Messrs. W. Moore and W. Mangham. It took the form of a despatch rider's trial, and, whilst the competitors responded well to the test in time and reliability riding, there was quite a number who proved to be weak in map-reading ability. Apart from the announcement that arrangements had been made to serve lunch at Burnsall the route was secret, but the committee, evidently with their minds upon previous events this year over the Yorkshire Dales, were good enough to announce that the ninety-mile route would not include any watersplashes or freak hills. As each competitor started from headquarters he was handed a card marked with a destination a town or village clearly marked on Ordnance Survey Map No. 9. The card also gave the distance by the nearest route. Upon arrival he was given another card, with another destination, the being repeated until he arrived back at headquarters. Twelve controls were arranged in Wharfedale and Airedale and with thirty one miles [illegible] interesting trial was [illegible] The [illegible] were as follows: J. Moore and Mangham Trophy and gold medal, H. O. Wood (3), Scott, no error 9m. 5s. 2 silver medals, W. Bradley (7) Indian, error 19m. 2s. 3 bronze medals, H. Pendle (6), B.S.A., error 17m. 55s.

N.M.C.F.U. (Coventry).

The following are the final placings in the trial for the Martin Cup, held on October 17th. The event was decided on total time variations from schedule, as many gained 100% marks: 1, Winner of Martin Cup, T. Mallalieu (4 Triumph sc.); 2, S. Healy (4 Triumph sc.); 3, A. Vice (4 Triumph sc.); 4, R. P. Vann (4 Triumph sc.).

Stevenage and North Herts M.C. and L.C.C

The results of the club's reliability trial, in which thirty competitors started, are now to hand:

CLASS 1 (Under 350 c.c.)—Gold medal, R. Shelford (2¾ Coulson-B); silver medal, S. W. Watson (2¾ Douglas).

CLASS 2 (Over 350 c.c.)—Gold medal, W. Fitch (4 Triumph); silver medal, O. D. Hall (3½ Ariel).

CLASS 3 (Passenger).—Gold medal, J. Gibson (10 Morgan); silver medal, C. Bourlet (3½ Ariel sc.); bronze medal, R. Madgin (3½ P. and M. sc.)

The club is shortly holding a hill-climb and autumn dinner, and is arranging a series of concerts during the winter for its members. The hon. secretary, A. Egan, will be pleased to hear of any motor cyclists in the district who are interested.

North Lindsey A.C.

A well-attended hill-climb was held on West Halton Hill on October 16th. The results are as follows:

CLASS 1 (350 c.c. Two-strokes).—1, Nurse Clarke (2¼ Levis).

CLASS 2 (350 c.c.).—1, J. Clark (2¾ Douglas), fig. merit 1,632; 2, F. G. Howard (2¾ Invicta), 1,688.

CLASS 3 (570 c.c.).—1, F. M. Long (3 A.B.C.), fig. merit 860; 2 B. York (3½ Norton), 1,000.

CLASS 4 (570 c.c. to 1,000 c.c.).—1, F. G Howard (8 Zenith), fig. merit 1,207; 2, H. Jarvis (6 Bat), 1,215; 3, H. Nelson (5 Zenith), 1,353.

CLASS 5 (570 c.c.), on time.—1, B. York (3½ Norton), 26s.

CLASS 6 (Unlimited), on time.—1, F. G. Howard (8 Zenith), 23s.; 2, H. Jarvis (6 Bat), 26s.; 3, F. M. Long (3 A.B.C.), and B. York (3½ Norton), 27s.

CLASS 7 (Passenger machines above 350 c.c.).—1, J. Clark (5 Rudge sc.), fig. merit 1,502; 2, F. G. Howard (8 Zenith sc.), 1,622.

The fastest time of the day was made by F. G. Howard (8 Zenith), 23s.

Loughborough and District M.C.C.

There was a very large entry for the petrol consumption trial arranged by the above club on the 24th inst. The formula used was one supplied by the A.C.U., but it was found that the heavier machines had undue advantage, and on their allowance travelled two or three times as far as the lightweights. A quantity of petrol, varying according to formula, was measured out in cubic centimetres at the start of the thirty miles run to Alvaston, and the three machines which travelled furthest were proclaimed winners. Some had sufficient to take them over the course and to Leicester and back—an additional eighteen miles—whilst the winning three went even further on the allowance which was calculated to carry them thirty miles. The winner was A. J. Foster, whose consumption worked out at 81.4 m.p.g. on a 6 h.p. A.J.S. sc., fitted with Binks carburetter. Next came F. Craner (4 Rex sc.), with 90 m.p.g.; third, E. Oliver (10 Morgan), who carried three passengers, and had a figure of 55 m.p.g. The best solo performance was made by Harold Petty (3½ Norton), who did nearly 150 m.p.g., and B. Greaves (3½ Rover), 130 m.p.g.

N.M.C.F.U. (Barrow and District).

The annual general meeting and dinner took place on Thursday, October 14th, at the Imperial Hotel, Barrow. There was a good muster of members and friends, and the prizes won during the past season were presented.

An attractive programme is being arranged for next year, and intending members should communicate with the hon. secretary, W. A. Singleton, 144, Sutherland Street, Barrow.

Proposed Yorkshire Centre A.C.U.

A meeting has been arranged for the purpose of forming a Yorkshire centre of the A.C.U. Representatives from all motor cycle and light car clubs in Yorkshire are invited to attend the above meeting, which will be held at the Griffin Hotel, Boar Lane, Leeds, on Saturday, October 30th. It is essential that representatives of all clubs be present, in order that a centre be duly formed and receive the assent of the A.C.U. prior to the annual meeting at Olympia during the Motor Show.

Surbiton and District M.C.C

The Ballard's Cup Trial for motor cycles and cycle cars will be held on Saturday next, the 30th, starting at 10 a.m., from the Talbot Hotel, Ripley. The course will be about one hundred miles in length, and will include the principal hills in Surrey. The chief awards will be the Ballard's Cup, value 25 guineas, presented by Messrs. Ballard's Motors, to be held for one year, together with a gold medal, for the best non-stop performance of any machine; the special Zenith gold medal, presented by Zenith Motors Ltd., for the second best non-stop performance; the Haslam prize, presented by the Rev. W. Haslam, for the best performance of a lightweight under 350 c.c.

Brighton and Hove M.C.C.

At a recent hill-climb of the above club some excellent sport was witnessed by large crowds. The hill was black with spectators; and a fairly easy gradient and a good surface allowed some very fast times to be put up by the competitors. In the 350 c.c. class Moreton, on a 2¾ Douglas, made a fine climb, being 4⅕s. faster than the next man. The 600 c.c. class resolved itself into a duel between the A.B.C.'s and Nortons, Volk (3 A.B.C.) eventually proving the winner after a dead heat. The Nortons, however, made fastest time of the day, and won the unlimited solo class. J. Chater Lea (8 Chater Lea sc.) simply soared up the hill in the unlimited sidecar class, his Brooklands racer making the excellent time of 29s. The light car class was won by Welford on a G. P. Morgan. The times were as follows:

350 c.c. CLASS.—1, H. W. Moreton (2¾ Douglas), 26⅘s.; 2, D. Longstaff (2¾ Douglas) 30⅘s.

600 c.c. CLASS.—1, C. Volk (3 A.B.C.), 24⅘s. 2, D. Carden (3½ Norton), 25s.

UNLIMITED CLASS.—1, D. Carden (3½ Norton), 23s.; 2, C. Volk (3 A.B.C.), 24⅘s.

UNLIMITED SIDECAR CLASS.—1, J. Chater Lea (8 Chater-Lea sc.), 29s.; 2, C. Farley (4 B.S.A. sc.), 51⅘s.

LIGHT CAR CLASS.—1, W. Welford (G P Morgan) 37s.; 2, H. Hawkins (10 G.N.), 40⅘s.

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Motor Cycles

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SOLO MACHINES

LEVIS	2¾ h.p. Popular Model	£60
INVICTA	2¾ h.p. Villiers two-stroke engine, single-speed	£71
HOBART	2¾ h.p. Villiers two-stroke engine, Albion 2-speed gear	£75
SPARKBROOK	2¾ h.p. Villiers two-stroke engine, single-speed	£69
SPARKBROOK	2¾ h.p. Villiers two-stroke engine, two-speed	£75
ALLDAYS-ALLON	2¾ h.p. Model de Luxe, 2-sp., clutch and k-starter	£85
CLYNO	2¾ h.p. Lightweight, 2-speed and clutch ..	£75
INVICTA	2¾ h.p. J.A.P. 2-speed, clutch and kick-starter	£89 5
FRANCIS-BARNETT	2¾ h.p. J.A.P. engine, 2-speed	£88 19
COULSON B.	2¾ h.p. Blackburne engine, spring frame, Albion 2-speed	£99 15
COULSON B.	2¾ h.p., spring frame, clutch and kick-starter	£110 5
COULSON B.	4 h.p., 3-speed, clutch and kick-starter, spring frame	£123 18
LEA-FRANCIS	3½ h.p. M.A.G. engine, 2-speed, clutch & kick-starter	£130 0
DOUGLAS	2¾ h.p. 3-speed Model, clutch and kick-starter	£105 0
NEW IMPERIAL	2¾ h.p., 2-speed, clutch and kick-starter	£90 4 9
RUDGE MULTI	3½ h.p., T.T. model	£110 5
A.B.C.	3½ h.p., dynamo lighting model, run about 300 miles ..	£150 0
ROYAL RUBY	3 h.p., spring frame, 2-sp., clutch and k-s., nearly new	£110 0

WITH SIDECARS

DOUGLAS	Combination, 4 h.p., including carriage from Works	£173 10
HAZLEWOOD	Comb. 5-6 h.p. countershaft 3-speed, clutch and starter	£186 0
ROVER	3½ h.p., 3-speed, clutch. Smart coach-built sidecar	£180 0
ZENITH	8 h.p. Combination, Model H ..	£204 0
QUADRANT	4½ h.p. Combination, including carriage from Works	£147 7
HATCHLESS	8 h.p., with detachable wheels & dynamo lighting outfit, etc.	£231 17 6
B.S.A.	6-7 h.p. Twin, with B.S.A. No. 1 sidecar, 3-sp., clutch and kick-starter. A fine outfit.	£200 0
COULSON B.	4 h.p., clutch & kick starter, spring frame, smart boat-shaped sidecar	£162 10

CYCLECARS & SCOOTERS

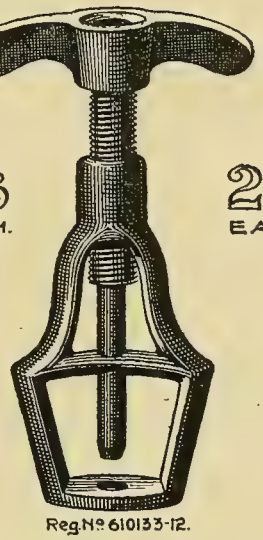
AMPLIN TANDEM	8 h.p. fully equipped	£189 7
LERIOT WHIPPET	8 h.p., complete to maker's specification	£250 0
KOOTAMOTA	A.B.C. Model IC. Straight from works	£55 0

In some cases a small charge is made to cover packing and carriage from works to London.

HARRODS SYSTEM OF EASY PAYMENTS is available for those who desire credit terms. With few exceptions 4% is added. Deposit is one-fifth of price, balance being payable in 12 monthly instalments.

HARRODS MOTOR SHOWROOMS
116-118 BROMPTON ROAD LONDON SW1

SPHINX
BELT PUNCHES
Universally used



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Reg. No. 610133-12.

Made for ¾" ⅞" 1" & 1⅛" Belts.

SPHINX Belt Punches are distinguished by several exclusive features. In order that there may be no possible chance of the punches breaking away, and also to ensure that they shall be exactly concentric, they are formed from the same piece of steel as the screws. Apart from the merit of the design, this construction gives maximum strength. Note also the guide which makes it impossible to cut a hole in the belt except through the exact centre.

Obtainable from all Agents of repute or direct from the Manufacturers at the following prices—

Single Model (as illustrated) 2/6
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The Sphinx Mfg Co LTD
Bradford St. Birmingham.

Something like a Testimonial for "SPEEDWELL" OIL

S. M. ADAMS,
Motor Agent,
BELFAST,
writes 2/9/20:—

On Saturday last at Magilligan Strand, I got first in the 350 c.c. 5 mile Scratch Race on a 2¾ Verus Machine. This was my first experience on "SPEEDWELL" Motor Cycle Oil, and the result in using your Oil proved conclusively that ONE CANNOT SAY TOO MUCH FOR IT.

In my opinion it is a SUPERIOR OIL TO ANY I HAVE USED IN MY SIX YEARS' EXPERIENCE OF RACING. Needless to say in all forthcoming events I shall run on nothing else.

"SPEEDWELL" OILS
are stocked at all leading Garages.

Insist on having "SPEEDWELL"

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THE BRITISH OIL & TURPENTINE CORPORATION · LIMITED,
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The FINEST LUBRICANTS YET PRODUCED
Ask for "KINGSPEED" MOTOR CYCLE OILS
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HILTON, RIDER & Co. LTD
G^T SUFFOLK HOUSE, SOUTHWARK, S.E.1.
PHONES: HOP. 837 & 2829 (ESTABLISHED 1850)

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was put up by F. A. McNab when he made the 7 hrs. RECORD on a Wooler, using the
"STANDARD"
BRITISH BELT FASTENER.
He had no belt trouble throughout the ride
FIT ONE TO YOUR MACHINE.
"Simplex" Improved, 1/- "Simplex" Adjustable, 1/
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All sizes same price.
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To Manufacturers and Works Engineers.

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By D. H. Ogley, B.Eng.

With a Preface by Prof. E. W. Marchant, D.Sc.

THE importance of good lighting in the factory and workshop is now fully recognised. In this book all kinds of illuminants—gas, electricity, and oil—are fully dealt with, their efficiency as light producers discussed, and their application to modern works' conditions described and illustrated. A chapter is also included dealing with natural lighting.

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All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

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In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements the mention of the district in which the machine offered may be seen and tried.

☞ DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt. The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½ %. All deposit matters are dealt with at Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited. The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally generous, but have not advised us to that effect.

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MOTOR CYCLES FOR SALE.

A.B.C.

TWO Great Bargains.

A.B.C. Combination de luxe, Lucas dynamo lighting, horn, tools, etc., all-steel comfortable roomy sidecar, perfect condition, ridden only 650 miles; list, £210. Also brand new B.S.A., 4¼h.p. solo chain-cum-belt; ridden 25 miles; list, £107; no reasonable offer refused; must sell.—Box 825, c/o *The Motor Cycle.* [X5615

1920 A.B.C., 4 speeds, done 150 miles; £135.—Dunn's, 326, Euston Rd., London. Museum [2978

THE CENTRAL HOUSE for BARGAINS

Special Bargains offered for one week only.
Machines quoted below are shop-soiled only. Guaranteed unused.
£10 reduction on all Machines.

COMBINATIONS.

1920 **MATCHLESS** Combination, M.A.G. engine, Lucas dynamo lighting, speedometer, etc., new ..... **List price**
1920 **RUDGE** Combination, 6 h.p., with Rudge-Whitworth best sidecar. Immediate delivery.
1920 4 h.p. **DOUGLAS** Combination, brand new ..... **List price**
1920 3½ h.p. **SUNBEAM** Combination, brand new ..... **List price**
1920 Model H **MATCHLESS** Combination, M.A.G. engine, Lucas acetylene lamps, Lucas horn, speedometer, legshields. Immediate delivery ..... **List price**
1920 **A.J.S.** Combination, complete. Immediate delivery ..... **List price**
1920 8 h.p. **ENFIELD** Combination, Lucas Magdyno, brand new ..... **List price**
1920 8 h.p. **ENFIELD** Combination, standard model ..... **List price**
1920 8 h.p. **ZENITH,** countershaft model, Swan sporting Sidecar, complete with lamps. Special bargain; under list price **£195**
1920 4½ h.p. **B.S.A.** Combination, all-chain drive model, brand new ..... **List price**
1920 6 h.p. **B.S.A.** Combination, immediate delivery ..... **List price**
1920 latest chain drive 4 h.p. **TRIUMPH** Combination; immediate delivery. **List price**
1918 Powerplus **INDIAN** Combination, excellent condition **£140**
1919 6 h.p. **BRADBURY** and Sidecar, very small mileage **£160**
1920 7-9 h.p. 4-cylinder **F.N.** Combination, complete with all accessories, Lucas lamps, speedometer, hood, windscreen **£190**
1914 8 h.p. **MATCHLESS** Combination, M.A.G. engine, just been thoroughly overhauled and re-enamelled at Matchless works **£125**
1920 **HENDERSON** Combination, dynamo lighting set, electric horn, and Henderson Elite sidecar..... **Offers**
1920 **EXCELSIOR** Combination, dynamo lighting set, electric horn, and Henderson Elite sidecar **£165**

SOLO MACHINES.

1920 4 h.p. **TRIUMPH,** countershaft model, brand new ..... **List price**
1920 **RUDGE-MULTI,** I.O.M., immediate delivery ..... **List price**
1920 3½ h.p. **LEA-FRANCIS,** J.A.P. engine, immediate delivery ..... **List price**
1920 3½ h.p. **LEA-FRANCIS,** M.A.G. engine, immediate delivery ..... **List price**
1920 8 h.p. **ZENITH,** countershaft, kick-starter model, immediate delivery, **Makers' list price**
1920 **A.B.C.,** 4-speed, brand new, immediate delivery ..... **List price**
1918 7-9 h.p. **HARLEY,** just been overhauled and re-enamelled at Harley-Davidson's, special bargain. Only wants seeing **£110**

SIDECARS.

Immediate delivery, **Henderson Elite Sidecars,** suitable for Harleys, Hendersons, etc.; also famous **Dinky Sidecars,** all models in Stock.

1920 **G.N. Light Car,** with or without dynamo. Immediate delivery ..... **List price**
WANTED.—**First-class Combinations.**

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52 & 54, Hampstead Rd., London. N.W.1.
(Bottom end of Tottenham Court Rd.)
'Phone: Museum 5938.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, like new, small mileage, guaranteed per test, owner got car; lowest, £138.—Goodall, 1, Finkle St., York. [6069

A.B.C.—Immediate delivery 1920 3h.p. model, 4 speeds, kick start, clutch; £150.—Parker's, Bradshawgate, Bolton. [X5507

1920 A.B.C., winner of several gold medals in hill-climbs, beautiful machine, and real snip; 115 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6697

A.B.C., 1920, T.T., just overhauled, mileage 1,500, Lucas dynamo lighting, Klaxon, speedometer, kick-starter, spares; £137/10.—Box 8,812, c/o *The Motor Cycle.* [6313

A.B.C., 1920, mileage 3,500, condition as new, back tyre new, dry battery, electric lights, horn, tools, spare rockers, chain, etc.; owner buying combination; quick sale, £110.—Slingo, 11, Hythe Bridge St., Oxford. [6532

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only run about 300 miles, condition as new; cash £150, list price £173/10; may be obtained on deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [6376

A.B.C., 1920, Fallolite head, special generator, Lucas rear lamp, Cowey horn, complete set spare valves, rockers, springs, washers, just decarbonised, special silencer, mileage 3,500, speed over 55; owner buying sidecar; price £130.—Muntz, 47, Jesus Lane, Cambridge. [6487

A.B.C. 1920 Combination, luxurious coachbuilt sidecar, dynamo lighting set, electric horn, Bonniksen speedometer, tools, etc., ideal for winter, complete protection from mud, absolutely reliable; sole reason for selling, owner must have cash; accept £195 for immediate sale.—H.R., 5, College Mews, Westminster, London. [6814

Acme.

ACME-J.A.P. New 8h.p. Combination; £213/15, or exchange.—Motories, 25, Horton St., Halifax. [6223

NEW 1920 8h.p. Acme Combination, J.A.P. engine, spare wheel and tyre, £213; immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [3739

A.J.S

DAN GUY, Weymouth.—5-6h.p. A.J.S. combination in stock; £210. [5958

A.J.S. Combinations, delivery from stock.—Pickering, Mardol, Shrewsbury. [6687

1920 6h.p. A.J.S. Combination in stock; list price.—Cross, Agent, Rotherham. [X5562

CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premium. [9993

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29 Preston Rd., Brighton. [0202

1920 A.J.S. Combination, unused; first cheque £200 secures.—30, Greenhill Rd., Harlesden. [6654

A.J.S. 6h.p. Combination, spare wheel, screen, etc.; £210.—Marston, 31, Bridge St., Chester. [6626

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [9624

DAN GUY, Weymouth.—Sole district agent of A.J.S. motor cycles; trade supplied early delivery 1921 models. [5957

A.J.S., 2¾h.p., T.T., excellent running order, lamps, accessories; £60.—Broadhead, 56, Albert Rd., Epsom. [6499

1920 5-6h.p. A.J.S., Cowey trip, legshields, mileage 700, equal new; £160, or best offer.—Crouch, Ilminster. [X5536

A.J.S. Combination, 6h.p., hood, screen, speedometer, Lucas lamps; sacrifice £100.—24, Wood St., Walthamstow. [6106

6h.p. A.J.S. S.C. Combination, good running order; a real bargain, £90.—Stott, Fox Hill, Patricroft, Manchester. [6022

A.J.S. 2¾h.p., 1915-16, complete with accessories; bargain, £60.—Williams and Co., Portland St., Cheltenham. [X5553

A.J.S. 5-6h.p. Combination, 2-speed, clutch, kick start; £68; Douglas part.—Reed, Freemantle, Pavilion Rd., Worthing. [6070

A.J.S., June 1920, with hood and spare wheel, like new; best offer over £195.—George Wray, Engineer, Southport. [6540

1915 A.J.S. Combination, detachable wheels and spare, lamps, etc., mechanically perfect; £120.—Stretton's, Worcester St., Gloucester. [X5240

1920 A.J.S. Combination, mileage 500, complete with lamps, speedometer, horn, etc.; £200.—Freakley, Mornington House, Dudley Port, Tipton. [X5483

1920 (June) A.J.S. Combination, disc wheels, leg shields made to match, lamps, etc.; exchange 1920 Morgan.—Rodber, Richmond, Yorks. [X5459

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S., 1920, genuine combination, spare wheel, hood, screen lamps, little used; 175 gns.; exchanges.—Spurling, 8, Courthope Rd., Hampstead, N.W. [6311

A.J.S. 1916 2¾h.p., 3-speed, clutch, kick start, fully equipped; £70, or exchange countershaft Triumph.—Pickett, 17, St. Thomas Rd., Finsbury Park, N.4. [6440

£205; 1920 A.J.S. 6h.p. combination, spare wheel, screen, shopsoiled.—Clifford Wilson Co., 70, Royal Hospital Rd., Sloane Sq., S.W. Tel.: Kens. 7113. [6793

1920 A.J.S. Combination, specially fine engine, Lucas Magdyno lighting set, special hood, in perfect condition; £240.—Box 826, c/o *The Motor Cycle*. [X5616

F.O.C.H. have a new A.J.S. combination; list price. —5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6240

A.J.S. 6h.p. 1916 Combination, spare wheel, 4 good tyres, Lucas lamps, Easting screen, 1920 coachbuilt sidecar, perfect condition; £145.—Collier, 33, Grove St., Leamington. [6250

A.J.S. 1920 6h.p. Combination, dynamo lighting, speedometer, hood, screen, hood cover, side curtains, Klaxon horn, Tan-Sad pillion seat, equal to new; £250.—Parker's, Bradshawgate, Bolton. [X5494

A.J.S Combination, 6h.p., late 1916, stored 2½ years, overhauled makers, new chains, tyres (over-size), spare wheel, Tan-Sad; £135.—72, Longridge Rd., Earls Court. 'Phone. Western 1344. [6386

1916 A.J.S. 6h.p. Combination, four interchangeable disc wheels, Easting screen, speedometer, electric lighting, sporty, exceptional condition, photo; £131, or nearest.—50, Holker St., Barrow-in-Furness. [6544

A.J.S. 1920 6h.p. Combination, latest model, just received from works; £210; extended terms 4⅔ extra.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0072

F.O.C.H. have an A.J.S. combination, detachable wheels, spare, lamps, horn, grid, screen; £115.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6236

A.J.S. 1919 Combination, hood, screen, spare wheel, electric lighting, speedometer, horn, several spare parts, all tools, excellent condition, mileage about 2,000; £180; owner going abroad.—Elphinston, Upper Deal, Kent. [3902

1919 A.J.S. 6-7h.p. Combination, hood, screen, spare wheel, Lucas lamps and horn, car tyres, Watford speedometer, spare valves, chains, cover, tube, T.T. bars, discs; £147/10.—Dunns, 326, Euston Rd., N.W.1. Museum 5391. [4864

A.J.S.—Immediate delivery of this high-grade 6h.p. combination from stock. Standard model, with detachable wheels and spare, £210; Lucas dynamo lighting set, £28 extra; local trade supplied.—P. J. Evans, sole Birmingham agent, 83-91, John Bright St., Birmingham. [0299

A.J.S. Specialists: Walsall Garage, Wolverhampton St., Walsall, Tel. 444, can give delivery from stock of these world-famous outfits; price £210; write for catalogue. [8998

Alecto.

ALECTO 3½h.p., 2-stroke, July, 1920, C.A.V., Bramptons, Dunlops, tools, Amac, W.R.S. jet, fine condition, climb anything, will ride 50 miles to purchaser.—Cowley, 19, Westbourne Av., Hull. [X5541

Alldays

ALLDAYS Allon, perfect condition, 2-speed; £52, or near offer.—Apply, 92, White Horse Rd., West Croydon. [6039

1920 Alldays Allon, 2 speeds, hand clutch, kick starter, etc.; £70.—R. Hole, The Broadway, Burgess Hill. [6042

PRACTICALLY New Allon, 2 speeds, speedometer, lamps, Klaxon, many spares, unscratched; nearest £55.—89, East Hill, Wandsworth. [6498

ALLDAYS Allon 2¾h.p., 1916, 2-speed, leg shields, [illegible], capital order, any trial; first offer [illegible], Stanley Terrace, Castlefields, Shrewsbury. [6048

American X.

1916 7-9 [illegible] Combination, electric model, [illegible] condition; exchange for good 3½h.p. [illegible]; £120.—6, Bell, 13, Osborne St., Barrow. [6672

ALLDAYS, [illegible] 1919 7-9h.p., very little used [illegible] new, all accessories, a real [illegible] Grove Farm Rd., opposite [illegible]. [6849

7 [illegible] 1920 model, only [illegible] Wood, 1, Leonard Place, [illegible]. [6347

A [illegible] New [illegible] Combination, 1920 [illegible] condition, [illegible] exchange, [illegible] Rd., Kensington. [illegible]

THE BIRMINGHAM HOUSE

P. J. EVANS

FOR MOTORISTS

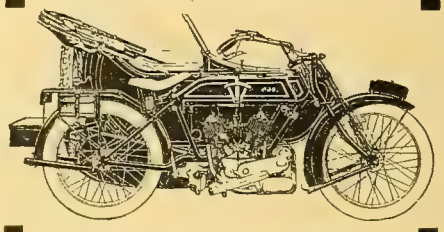
81-91, John Bright Street.

'Phone: Mid 2910 (3 lines)
'Grams: Lytcar, Birmingham.

IF YOU ARE A BUYER
OR WISH TO "TRADE" YOUR
OLD MACHINE FOR A NEW ONE
READ THIS LIST.

ALL NEW MODELS.

6 h.p. **A.J.S.** Combination	£210	0
With dynamo lighting	£238	0
6 h.p. **ENFIELD** Combination	£175	0
8 h.p. **ENFIELD,** Lucas dynamo	£202	0
2¾ h.p. **ENFIELD** Lightweight	£73	10
7-9 h.p. **INDIAN** Combination, dynamo	£223	14
4 h.p. **INDIAN** Scout	£140	0
6 h.p. **ZENITH** Sporting	£139	0
8 h.p. **NEW IMPERIAL** Combination	£187	0
2¾ h.p. **NEW IMPERIAL,** 2-speed	£80	17
4 h.p. **TRIUMPH** Combination (new chain-drive model)	£195	0
4 h.p. **TRIUMPH,** 3-speed	£127	10
2¾ h.p. **TRIUMPH** Lightweight	£75	0
4½ h.p. **HUMBER** Flat Twin	£140	0
3½ h.p. **ROVER** Combination	£180	0
3½ h.p. **ROVER** T.T.	£114	11
3½ h.p. **RUDGE-MULTI**	£110	5
8 h.p. **BLACKBURNE,** 3-speed	£180	0
4 h.p. **BLACKBURNE,** 3-speed	£135	0
2¾ h.p. **MASSEY-ARRAN,** Sturmey gear	£80	0



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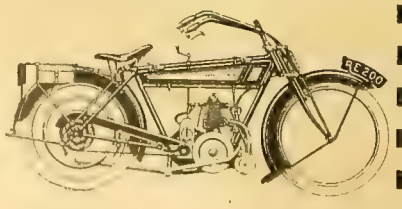
A FEW NEW BUT SHOP-SOILED MODELS AT CLEARANCE PRICES.

2¾ h.p. **EDMUND-J.A.P.,** spring frame	£84	0
2¾ h.p. **CALTHORPE-J.A.P.,** 2-speed	£66	0
2¾ h.p. **CALTHORPE,** 2-stroke, 2-speed	£63	0
2¾ h.p. **METRO-TYLER,** 2-speed	£75	0
2½ h.p. **CONNAUGHT,** 2-speed	£60	0
2½ h.p. **CONNAUGHT,** single-speed	£52	10
2¼ h.p. **JAMES,** 2-speed	£60	0

A FEW SHOP-SOILED SIDECARS IN STOCK AT SPECIAL PRICES.



EXCHANGES ARRANGED.

Trade Enquiries Invited from Birmingham and District.

MOTOR CYCLES FOR SALE.

American X.

NEW 1921 Model American X., just arrived, now on view, Model 20R., 7-9h.p., 3-speed, improved spring forks, finished deep blue, 3½in. tyres, 165 gns.; Model 20S., with separate dynamo lighting equipment, 185 gns.; Millford De Luxe sidecar to match, £44. Orders booking for early delivery.—The Premier Motor Co., Aston Rd., Birmingham. [6787

Ariel.

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. 1916 Ariel and sidecar; £95. [6866

CYRIL WILLIAMS, for early delivery of Ariels.—Chapel Ash Depot, Wolverhampton. [2267

ARIEL Combination, 1914, 3-speed, and sporting sidecar; £38, a real bargain.—135, Edgware Rd., W.2. [6078

ARIEL 3½h.p., 3-speed and clutch, sidecar chassis, accessories, as new; £65.—1a, Luxor St., Camberwell. [5994

DAN GUY, Weymouth.—Sole agent for Ariel motor cycles; early delivery given of all-chain 1921 model. [5959

£160; Ariel 6h.p. combination, shopsoiled.—Clifford Wilson Co., 70, Royal Hospital Rd., Sloane Sq., S.W. Kens. 7113. [6794

1920 6h.p. Ariel Combination; list price, £177/10. —R. Bamber and Co., Ltd., 33, Liverpool Rd., Birkdale, Southport. [6470

1920 3½h.p. Ariel Combination, engine 9851, equipped, original tyres perfect; £130.—64, Gladsmuir Rd., Highgate, N.19. [6836

ARIEL 1919 3½h.p., special T.T. engine, 3-speed countershaft, speedometer, lamps, horn, good condition; £90.—Peerman, Nantwich. [6581

ARIEL Combination 3½h.p., late 1919, splendid condition, climb anything with sidecar, guaranteed sound; £125, or good offer.—Mactavish, 63, Lancaster Gate, W. [6344

1920 Ariel 3½h.p. 3-speed Combination, demonstration model, as new in every respect; cost £157/10, only 130 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6696

ARIEL 1919 5-6h.p., Montgomery sidecar, luggage grid, speedometer, etc., numerous spares, 2 new Dunlops; £135; garaged Camberwell; no offers.—F.C., 11a, Empire Parade, Sydenham. [6368

6-7h.p. Ariel Combination, August (1920), Terry links, 3 unused lamps, Easting screen, faultless condition, insured to August, 1921; must sell, £159.—Baston, 6, Broadway, King's Rd., Fleet, Hants. [6573

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [8231

ARIEL 3½h.p., 1912, 3 speeds, clutch, decompressor, horn, lamps, etc., speedometer, spare tyre, stored since 1916, only done 5,000 miles, thoroughly good machine; £50.—Pye Trinity College, Cambridge. [6188

1920 3½h.p. Ariel Combination, a really good turnout, carefully used, tyres practically new, all accessories; a reasonable offer wanted; exchange for new solo Triumph or Norton entertained.—29, Fylde St., Gt. Lever, Bolton. [5934

1919 Ariel (1920 model) 6-7h.p. Combination, 3-speed countershaft, new condition, seldom ridden lamps, horn, Easting, luggage carrier, spares, original tyres excellent; £145.—24, South Av., Burnage Lane, Levershulme, Manchester. [5943

Auto-Wheels.

AUTO-WHEEL, Raleigh cycle, accessories; £25; good order.—G., 109, Albany St., N.W.1. [6331

AUTO-WHEEL, £14, with scooter attachment, as new; £23.—P., 60, Loughborough Park, Brixton. [6501

AUTO-WHEEL, thoroughly overhauled, excellent condition; £12/10.—Hiley, Station Rd., Wobur Sands, Beds. [619

Bat.

BAT-J.A.P., 4h.p., recently overhauled; £40.—Venn, 12, Theobald St., Swindon. [654

BAT.—Immediate delivery 1920 6h.p. countershaft 3 speeds; £160.—Parker's, Bradshawgate, Bolton [X550

1920 Bat-Jap, Model 4, not done 200 miles; absolute bargain, £130.—F. Boulton, Smallthorn Staffs. [X554

BAT 1920 New 6h.p. Model; cost £160; will accept £145 or near offer.—Hobbs, Chiltern, Cotton Rd Potters Bar. [60

1920 (June) Bat 6h.p., Binks, lamps, sporting C sidecar; £160, or nearest.—George, Stafford House, Stamford, Lincs. [62

1920 8h.p. Bat Combination, detachable wheels, immediate delivery; £217.—Tel.: 6626 Museum A.S.C., 60, Mortimer St., W.1. [67

BAT 8h.p. Combination, 3-speed, clutch, kick starter, shop-soiled; £175.—Motorcycle Mart Ltd., Fair Row, High St., Chatham. [61

MOTOR CYCLES FOR SALE.

Bat.

AT-J.A.P., 8h.p., T.T. machine, fixed gear, Bosch mag., B. and B. carburetter, completely overuled, very fast; £85.—Barton, Clapham, Yorks. [0323

AT 1920 6h.p. Twin, brand new, spring frame, slightly soiled, £145; also a 1920 combination £175.—Elce and Co., 15-16, Bishopsgate Av., Camole St., E.C.3. 'Phone: Avenue 5548. [0071

AT, 8h.p. J.A.P., 1920, 3-speed, kick start, beautiful sidecar, in perfect condition, electric lamps, re chains, a real grand lot; sacrifice, £140.—Herpin South Lambeth Rd., Vauxhall, London. [6832

AT 1920 Combination, 8h.p., wind screen, electric lighting, perfect order, £170, any trial; new .p. 1920 solo, £145, slightly soiled.—Clark, 7, hibition Rd., South Kensington, S.W.7. [5595

EW 1920 Bat Combinations, fitted with the 6h.p. J.A.P. engine, 3 speeds, all-chain drive, clutch, l kick starter, £175; shiping order cancelled, usual ce £204.—Wauchope's, 9, Shoe Lane, London. hone: Holborn 5777. Cash or easy terms. [6863

Blackburne.

LACKBURNE.—Delivery from stock of 8h.p. with Swan sidecar.—Pearsons', 52, Elm Grove, Southsea. [6252

LACKBURNE 4h.p. and 8h.p. Models in stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverol. [6177

920 4h.p. Blackburne, 1,000 miles, perfect, lamps, horn, spares, etc., £125; bargain.—Hiselton, 30, rk Rd., West Hartlepool. [5989

920 Blackburne, 4h.p., 3-speed, all-chain, as new, mileage negligible; £118.—Dunn's, 326, Euston ., London Museum 5391. [2979

LACKBURNE, July, 1920, Binks, Sturmey gears, tyres unpunctured, good machine, carefully run; 20.—Ross, 38, York Mansions, Battersea Park. V.11. [6225

920 4h.p. Blackburne, 3 speeds, H.B. clutch, large P. and H. lamps, horn, perfect condition roughout; offers over £110.—H. J. Morton, The ll, Thorney, Peterborough. [6260

LACKBURNE 4h.p. Combination, V.H.L. sidecar, spring chassis wheel, a beautiful machine, brand ; £175.—Vivian Hardie and Lane, Ltd., 24, Woodck St. (off Oxford St.), Bond St., London, W.1. one: Mayfair 6559. [0320

920 4h.p. Blackburne Combination, No. 2 Montgomery sidecar, 3-speed Sturmey-Archer, £10 ex electric lighting set, £3 Cowey horn, tools, excel- condition and appearance, expert examination in- d; reason for selling, financial, near Leicester; cost 3 in July; £153; no offers.—Box 8,870, c/o *The or Cycle.* [5974

Bown.

OWN-VILLIERS 2¾h.p., 2-speed, leg shields, knee grips, lamps, unscratched, perfect; £60.—ert Marsden, Mawdesley, near Ormskirk. [6609

OWN'S Baby 2-stroke, Dalm engine, new Dunlop tyres, speedometer, all lamps, etc., perfect; nip, £36/10; easy payments.—2, Nightingale Rd., er Clapton, N.E. [6766

Bradbury

AUCHOPE'S, 9, Shoe Lane, London.—1920 4h.p. 2-speed Bradbury; £75. [6874

RADBURY, 4h.p. and 6h.p. models, prompt delivery.—Agents, Bright and Hayles, 78, Church Camberwell, London. [6427

RADBURY 1920 4h.p., 2-speed, F.E., not done 500 miles, all on, beautiful condition; £90, or nearest ; sell.—130, Chonmert Rd., Peckham, S.E. [6014

.p. Bradbury, 2-speed countershaft, kick start, light sidecar, coachbuilt, wind screen, apron, 3 s, perfect condition; £35.—39, Avondale Rd., re's Lane, Finchley. [6649

p. Bradbury Combination, wicker sidecar, Bradbury, N.S.U. 2-speed, just overhauled by makers, tyres and belt, waterproof Bosch, top feed B. B., W.S.R. adjustable jet, lamps, splendid running ; £42.—Robinson, 18, Charleville Circus, Sydenham, S.E. [6838

Brough.

h.p. Brough, Model H, engine, with all accessories, in good condition.—Garage, Horsmonden. [6328

OUGH 5-6h.p. Twin Combination, latest model, just delivered, Sturmey 3-speed; £180.—Boult Bros., Holywell St., Chesterfield. [X5424

W Latest Type G. Brough, 5-6h.p., 3-speed, all-chain drive, standard handle-bars, fitted Montgomery ar; £165; immediate delivery.—The Premier Motor Aston Rd., Birmingham. [6788

Brown.

; 3½h.p. 1911 Brown, re-bored, piston, Bosch mag., good condition, lamps, tool bag, cane side- or exchange 2-speed lightweight.—93, Tranmere Earlsfield, S.W.18. [6587

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1915 3½h.p. B.S.A.; £42; perfect.—20, Edith Rd., East Ham, E. [6227

B.S.A. Model K in stock, with Canoelet sidecar.—Pickering, Shrewsbury. [6688

B.S.A. 4¼h.p., all-chain drive combination; £152.—Marston, 31, Bridge St., Chester. [6627

1920 B.S.A. All-chain Combination, fully equipped as new; £130.—Dunn, 326, Euston Rd., London. [6844

B.S.A. Model K, 1919, with Millford sidecar, perfect condition; £110.—Coles and Shirley, Chepstow. 'Phone: 48. [0297

1920 4¼h.p. B.S.A. Combination, speedometer, mileage 1,000, as new; £140.—Blyth, 92, Tavistock St., Bedford. [6583

1913 B.S.A. 4h.p., 2-speed, clutch, first-class condition, tyres new, fully equipped; £55.—131, Mantilla Rd., Tooting. [6356

B.S.A. Model H Combination, immediate delivery, makers' price; £152.—Coles and Shirley, Chepstow. 'Phone: 48. [0296

B.S.A. 4½h.p. Magdyno Combination, in stock; list price.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5596

1919 Late B.S.A. Combination, complete, electric lighting, mileage 500, perfect; £130.—45, Waterlow Rd., Highgate. [6594

B.S.A. 1920 4¼h.p. Combination, dynamo lighting, all-chain drive, guaranteed as new; £175.—Maudes', 100, Gt. Portland St., W.1. [6776

1920 B.S.A. Combination, little used, Easting screen, Lucas lamps, horn, insured; £140.—35, Golden Hillock Rd., Small Heath, Birmingham. [6193

4½h.p. 3-speed 1915 B.S.A. (countershaft), new tyres, good condition; £72/10, or exchange 2¾h.p. Douglas and cash.—37, Regent St., Rugby. [X5548

1920 4¼h.p. B.S.A. Combination, Magdyno, speedometer, horn, spares, perfect condition; £170.—Edwards, 50, Harrington Rd., South Kensington. [6706

1915 B.S.A. Combination, nearly new sidecar, new cylinder, thoroughly overhauled, 3 lamps, Klaxon, splendid condition; £90.—Upperton, Fittleworth. [6105

B.S.A. Combination, all-chain, June, 1920, mileage 600, Lucas accessories, Cameo wind screen, spares, perfect; £145.—Armstrong, 1, Aglioney St., Carlisle. [X5234

B.S.A. 3½h.p. Combination, 2-speed, free engine, in excellent condition, complete with lamps, horn, speedometer; sacrifice, £55.—109, Crouch Hill, N.8. [5971

B.S.A. Millford Combination, May, 1920, luxuriously equipped, electric lighting, perfect; £150 lowest; appointment.—Drew, Instow, The Gardens, Harrow. [6614

B.S.A. Combinations, actually in stock for immediate delivery; price and catalogue on application.—District agents, The Walsall Garage, Walsall. Tel.: 444. [8999

B.S.A.—Immediate delivery of models H. and K., solo or combination; £107 and £110 respectively.—Distributing agents, Campion Depot, London Rd., Derby. [4122

1916 B.S.A. C.B. Combination, 3-speed countershaft, all-chain drive, in splendid condition, lamps; £98.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [6409

B.S.A. Combination, 4¼h.p. (1918), 3-speed, clutch, kick start, belt drive, Klaxon, 2 lamps, and canebuilt sidecar, excellent condition; £90.—28, Trinity Rd., Ware, Herts. [X5508

1920 B.S.A. Combination, 4¼h.p., all chain, Lucas lamps, screen, luggage grid, Tan-Sad, usual spares, perfect; what offers.—Warren, Slough Brewery, Brierley Hill, Staffs. [5454

B.S.A., Model K. £107, H. £110, D. £90, A. £150; combination, Model K. £149, H. £152, A. £198; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London, W.1. [0330

B.S.A., latest model, 6-7h.p. twin, £150, in stock; also models H, £110, and K, £107; No. 2 sidecars, £42; immediate delivery; exchanges entertained. Eagles and Co., 275, High St., Acton, London. [X5547

LATE 1919 B.S.A. Model K. and Mills-Fulford sidecar, apron, lamps, horn, Watford trip speedometer, hand and foot clutch, 3-speed countershaft; any trial; £130, or nearest offer.—Field, 2, Oriental Parade, Monument Rd., Woking. [6297

B.S.A. 1915, laid up during war, new cylinder June, 1919, with Millford (family) sidecar, countershaft, chain-cum-belt, 3-speed, kick starter, Lucas horn, Stewart speedometer, reflex mirror, 3 new electric lamps, 2 accumulators, spare (new) belt, all tools and sundries; £110, or near offer.—Rev. Olivier, Rectory, Letchworth (34 miles London), or by appointment, Mason's Garage, Commerce Av. [6667

Calcott.

1915 Calcott, standard model, tyres good, tube unpunctured, enamel, plating unscratched, recently overhauled, lamps, horn; £25; see Triumph.—Harveston, University Club, Birmingham. [6185

MOTOR CYCLES FOR SALE.

Calthorpe.

1916 Calthorpe-Jap, 3½h.p. twin, Enfield 2-speed, C.B. combination; £85.—1a, Luxor St., Camberwell. [5993

CALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed, good running order; £37/10.—103a, High St., Wandsworth. [6467

1920 Calthorpe-Jap, demonstration machine, absolutely equal to new; 63 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6703

CALTHORPE 1920, 2¾h.p. J.A.P. engine, Enfield 2-speed gear and clutch, fully equipped; £80.—Parker's, Bradshawgate, Bolton [X5492

£40.—1917 2-speed 2-stroke Calthorpe, excellent condition, Lucas lamps, complete.—14, Dorlcote Rd., Trinity Rd., Wandsworth Common, London. [6491

1920 Calthorpe, 2¾h.p., 2-stroke, 2-speed Enfield gear, small mileage, new heavy Dunlop and belt; £55.—Westwood, 7, Brewery Cottages, Nine Elms, S.W.8 [4886

JUXE (1920) Calthorpe-Jap 2¾h.p., 2-speed, free engine, lamps, Klaxon, Tan-Sad, discs; bargain, 55 gns.—Wright, 44, Lorrimore Rd., Kennington, S.E.17. [6137

CALTHORPE 2¾h.p. J.A.P., Enfield 2-speed, guaranteed perfect condition, with lamps, speedometer, and horn; £40, or offer.—P. W. Simpson, Hertford College, Oxford. [6017

CALTHORPE Motor Cycles, wholesale and retail agents for the county of Devon, all models in stock for immediate delivery.—The Caritou Motor Co., 33 Torwood St., Torquay. [0201

CALTHORPE-J.A.P. 2¾h.p., 1916, Enfield gear, speedometer, lamps, etc.; £50; just overhauled and in perfect condition; illness cause of sale.—Griffin, 87, Walton Rd., E. Molesey, Surrey. [6678

CALTHORPE Motor Cycles.—2¾h.p. J.A.P. model £78/5; two-stroke model, £75; both fitted with Enfield 2-speed gear; delivery from stock.—P. J. Evans, 83 91, John Bright St., Birmingham. [0174

1917 Calthorpe-Jap, 2¾h.p., 2-speed, clutch, just overhauled and repainted, complete with P. and H. large lamp set, horn, etc., a fast and economical mount; Huddersfield district; offers.—Box 8,578, c/o *The Motor Cycle*. [4169

CALTHORPE-J.A.P. 1920 Models in stock, 2-speed Enfield gear, £78/5/6; chain drive model, £80/15/6; extended terms 4% extra.—City Agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

Campion

3½h.p. Campion-Jap, 3-speed, bargain, £40; with new sidecar, £56.—Geo. Siddall, Stanton, Rowsley, Derbyshire. [6277

Cedos.

1920 Cedos, shop-soiled; 60 gns., wonderful bargain.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6701

Chater-Lea

1915 Chater-Lea 6-7h.p., 3-speed, handle starting, coachbuilt sidecar, Cameo wind screen, Tan-Sad, lamps, Klaxon, splendid condition; £110.—Campbell, Brooklea, Fleet, Hants. [6049

CHATER-LEA 8h.p. Combination, 3-speed countershaft, Bosch, B. and B., speedometer, horn, hood, lamps, pillion seat, spares; £110; Friday, Saturday, Sunday, 37, East Dulwich Grove, S.E. [6839

CHATER-LEA 8h.p. 1920 No. 7 Combination, just delivered by makers, not done 500 miles, Lucas head lamp, side, and tail, Stewart speedometer, very heavy Kempshall special tyres, beautifully upholstered sidecar, perfect condition, cost £215; sacrifice £185; buying car.—Edes, Farcham House, Albion Hill, Hemel Hempstead. [X555]

Chater-Lea-Jap.

FOR Sale, Chater-Lea-Jap 8h.p., 3-speed, handle starter, coachbuilt sidecar, lamps, speedometer, all accessories, 3in. tyres, in splendid condition; any trial given. 80, Rosencath Rd., Clapham Common, London. [6490

Cleveland.

WRITE for Catalogue of the 3h.p. Cleveland, with clutch, starter clutch, and 2-speed gear; price £85. Archer Hoorman Ltd., 7, Mount Pleasant, Liverpool. [0279

Clyno

BRAND New Clyno 1920 model, 475.—Garage, Hors[illegible] [6332

19[illegible]; good new; 57 gns. Evans, Gu[illegible] [5632

19[illegible] model, £250.—Turpin's, [illegible] [0504

19[illegible] immediate de[illegible] Leeds. 'Phone: [illegible] [6419

19[illegible] with sidecar, [illegible] Rd., Wilt[illegible] [6[illegible]

CLYNO Lightweights and Combinations in stock, Bothwell and Milbourne, Cowleigh Garage, Malvern [1765

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3½ h.p. **RUDGE-MULTI**, Isle of Man model	£119 [illegible]
8 h.p. **ZENITH**, sports model	£139 0
5-6 h.p. **JAMES** Combination	£190 0
8 [illegible] **MATCHLESS** Combination'	£205 0
8 h.p. **MATCHLESS** Combination, dynamo lighting	£230 0
1920 **A.J.S.** Combination.....	£210 0
1920 2-stroke **TRIUMPH**.....	£75 0
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1915 4 h.p. **TRIUMPH** and accessories ..	£90
1920 2-stroke 2-speed **JAMES** and accessories	£72
1920 4 h.p. **DOUGLAS** Combination and accessories	£162
1915 4 h.p. **TRIUMPH** and Sidecar	£110
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1920 8 h.p. dynamo **MATCHLESS** Combination, all accessories, as new	£210
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MOTOR CYCLES FOR SALE.

Clyno.

1921 Clyno 8h.p. Combination, brand new, unridden, list £250; accept £225.—Box 8,921, c/o *The Motor Cycle*. [6728

DAN GUY, Weymouth.—Sole district agent for Clyno motor cycles; new 8h.p. combination, £250; 2-strokes, £75. [5960

STANDARD 1921 Clyno Model Combination, delivery from stock; £250.—Maudes' Motor Mart, 100, Paris St., Exeter. [6456

CLYNO 6h.p., countershaft, believed 1918, accessories; ride away; 90 gns.—Mitchell, 44, Wellington St., Camden Town, London. [6360

1913 Clyno 6h.p. Combination, 2-speed, Cowey, 3 lamps, horn, neew tyres, complete; £60.—52, Loampit Hill, Lewisham. [6230

1920 Clyno 2½h.p., 2-speed, new Lucas lighting sets, 500 miles; offers over £55 considered.—Goldsack, Pound Lane, Godalming. [6492

CLYNO 5-6h.p. 1913 Combination, coachbuilt sidecar, lamps, horn, spare wheel, new clutch; what offers?—Apply, Ash, Charing, Kent. [6052

BRAND New Clyno de Luxe Combination, 1921 model, dynamo lighting, electric horn, etc.; will accept short price for quick sale.—Garage, Horsmonden. [6331

1920 2½h.p. Clyno 2-strokes, new, fitted with clutch and 2-speed gear, trade supplied; £75.—'Phone: 5777 Holborn.—Wauchope's, 9, Shoe Lane London [6871

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3459

CLYNO, 8h.p. J.A.P. combination, all Lucas accessories, spare wheel, screen, £130, equal to new; Clyno lightweight, 2-speed clutch, slightly soiled, £65.—Marston, 31, Bridge St., Chester. [6634

1920 Clyno 2-stroke, 2-speed, clutch, mileage under 500 by mileometer; reason for selling, owner too short to straddle; £65, or offers.—At St. Pancras Garage, Judd St., Euston Rd., N.W. [5955

CLYNO 1920 Brand New Lightweight Model, latest type, 2-speed, clutch; list price £75, offered for cash at £55.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

CLYNO 1917 6h.p., 3-speed, all chain, interchangeable wheels, re-enamelled and plated as new, property of a gentleman returning to sea; genuine bargain £65.—8, Chatsworth Rd., Forest Lane, Stratford. [6135

CLYNO 8h.p. 1921 Combination.—Batchelor and Co., East Surrey agents, have a new 8h.p. combination; demonstration runs given; orders booked for very early delivery.—Batchelor's, Clarence St., Kingston-on-Thames. Phone: 1809. [287

1915 Clyno Combination, 3-speed, clutch, kick starter spare wheel, Cameo, electric lighting, recently overhauled and rebushed, excellent condition, many spares; £115, or near offer.—23, Skelwith Rd., Hammersmith, W.6. 'Phone: Kensington 7215. [650

CLYNO Lightweights, 1920, 2¼h.p., 2-speed, £75 or fully equipped with head lamp and generator, tail lamp and tubing, horn, L.C.C. registration, petrol and oil, £79/15.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [028

EXCEPTIONAL Opportunity.—1920 Clyno, 2½h.p. nearly new, only run a few hundred miles, in perfect condition and appearance, complete with unused head lamp and all accessories; price £58.—Apply, James and Co., 34, Regent St., W.1. Tel.: Gerrard 4394. [60

CLYNO 5-6h.p., late W.D. models, 3-speed, kick-starter re-enamelled, replated, and overhauled, new magnetos and mags., rebuilt as new, practically unused; few available from £75; combinations with Clyno sidecar, repainted and retrimmed, £110.—Hearn, 117, Loughborough Park, Brixton. 'Phone: Brixton 2888. [48

Connaught

CONNAUGHT 1920 2¾h.p., countershaft 2-speed F.E., all on; £60, or nearest.—130, Chonmert Rd., Peckham, S.E.15. [60

CONNAUGHT Motor Cycles.—2¼h.p. 2-speed model £70; single speed, £62; immediate delivery.—J. Evans, 83-91, John Bright St., Birmingham. [02

2¾h.p. Connaught, 1916, perfect, new belt, tyres and tube, all accessories; ride away; £42.—E. Rainer, Fern Lawn, Parsonage Lane, Clewer, Berks. [61

Coulson.

COULSON 2¾h.p., 2-speed, clutch, new, slight soiled; £100.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5

1920 Coulson B., 2¾h.p. Blackburne engine, 2 speed spring frame, lamps; £80, lowest; Richmond 'Phone Wilcox, City 5391. [5

COULSON-B, 4h.p. Blackburne engine, 2-speed, spring frame, shop-soiled; £100.—Motorcycle Marts, Ltd., Fair Row, High St., Chatham. [6

COULSON-BLACKBURNE 2¾h.p., almost new, scratched; gift, £76.—Shackleton, Burnbank, Crookford Park Rd., Addlestone. [6

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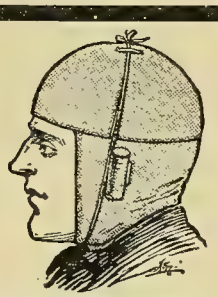

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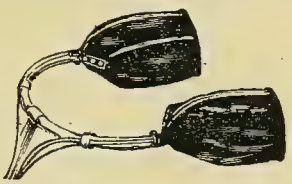

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DOUGLAS 1916 2¾h.p., stove enamelled and plated throughout, new tyres, tubes, and toolbags, guaranteed as new, ready for the road; our price, £60; lamps, horn, etc.—W. S. Bird and Sons, 13, Henrietta Park, Bath. [6310

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1920 Edmund, spring frame, 2¾h.p., speedometer, horn, kick starter, sidecar chassis and carrier box, only run 130 miles; £85, without chassis £8 Rev. Davenport, Lechlade. [6

EDMUND.—The lightweight with the laminated spring frame 2¾h.p. Jap model, £92/8; 2-str model, £86/10; both fitted with Enfield 2-speed P. J. Evans, 83-91, John Bright St., Birmingha [0

Elite.

ELITE.—Immediate delivery 1920 2¾h.p., 2 spe Amac carburetter; £60.—Parker's, Brndshaw Bolton. [X

Enfield.

ENFIELD 2-stroke, 1920, as new; £56.—Ware, Queen's Gate Terrace, S.W.7. [

1918 8h.p. Enfield Combination; £100.—29, Leonard's St., Bromley-by-Bow. [

ENFIELD Lightweight, new 1920 model; £ Marston, 31, Bridge St., Chester. [

MOTOR CYCLES FOR SALE.

Enfield.

h.p. Royal Enfield Combination, 1916 model; £165. —Wauchope's 9, Shoe Lane London. [6864

920 Enfield 2-speed, 2-stroke, unridden; 65 gns.— Write, Owner, 35, Lithos Rd., Hampstead, N.W. [6085

917 Enfield Combination, complete, any trial.— Offers to Moseley, Dixon Ground, Coniston. [6145

NFIELD 2¼h.p., 1919, 2-speed, equipped; £55.— 18, Marlborough Rd., Old Kent Rd., S.E.1. [6510

913 6h.p. Enfield Combination; exchange lightweight or 3½h.p., sell £85.—Box 819, c/o *The Motor cle.* [X5235

NFIELD Magdyno Combination, new, in stock.— Harvey, Hudson's, South Woodford (next The rge). [6083

NFIELD 1913-4 6h.p. Combination, good mechanical order, had little wear; £100.—Box 8,898, c/o *The tor Cycle.* [6157

NFIELD 6h.p. 1917 Combination, lamps, tools, accessories, screen, hood; £125.—48, King St., mmersmith. [5975

919 3h.p. Enfield Twin, 2-speed, kick start, perfect, owner going abroad; £72.—Dennis, Buscaveran, ze, Cornwall. [6217

.p. Royal Enfield Combination; £85; perfect condition, bargain.—Mosedale, 30, Canterbury Rd., urn, N.W.6. [6543

NFIELD Combination, 1916, privately owned; any trial; seen by appointment; price £110.— kins, Guildford. [6805

.p. Enfield Twin, 1913, requires attention, less carburetter; £15.—Syd Pearson, Gate House, ylesmore, Coventry. [X5613

8.—Unused Enfield 2-stroke, 1920.—Clifford Wilson Company, 70, Royal Hospital Rd., Chelsea, S.W.3 : Kensington 7113. [4737

920 Enfield Combination, 6h.p., Magdyno; best offer; solo in part payment considered.—F. W. n, Cowley Rd., Oxford. [6560

NFIELD 1917-18 3h.p., speedometer, Tan-Sad, lamps, perfect order; £75.—108, Edward Rd., khorse Rd., Walthamstow, E.17. [6564

920 Enfield, 2-stroke, 2-speed, mirror, horn, tools, done 300 miles, perfect condition, A.C.U. policy; near offer.—61, Argyll Rd., Ilford. [6350

16 6h.p. Enfield Combination, dynamo lighting set, fully equipped, splendid condition; £120.— heatley, 34, St. Barnabas Rd., Cambridge. [6216

20 3h.p. Enfield, perfect condition, Lucas accessories, will do 110 m.p.g. and 6 to 60 m.p.h.; £ –86, Lyndhurst Rd., Wood Green, N.22. [6046

20 Enfield 8h.p. and sidecar, very little used, absolutely perfect in every way; 150 gns.— n, 84, Broad St., Reading. 'Phone: 1024. [6704

15 3h.p. Enfield, like new, perfect running order, very fast, 120 m.p.g., nearly new tyres, all acies; £60.—143, Percy Rd., Shepherds Bush. [6529

20 Enfield 2-stroke, 2 speeds, brand new; in stock at list, £73/10; exchanges or easy pay- .—2, Nightingale Rd., Lower Clapton, N.E. [6759

20 Enfield Combination, 8h.p., brand new; in stock at list, £177; exchanges or easy pay- .—2. Nightingale Rd., Lower Clapton, N.E. [6758

FIELD Combination, 1916, dynamo lighting, mileage 2,000, £120; another, 1915, £85.— Motors, Malvern Rd., Thornton Heath, S.E. [6484

FIELD 6h.p. Combination, perfect condition, 1915, Lucas lamps, accessories, wind screen; near offer.—Chissold, Cookley, Kidderminster. [6660

5 Enfield Combination, 6h.p., usual equipment, good condition; any trial; delivery car, reason ; nearest 100 gns.—Ward, Hazelroyd, Whitkirk, [X5523

. Enfield, 1915 T.T. model, 2-speed, kick start, just overhauled, all accessories, stored during war; or offer.—Leavey, Stationer, Hartley Wintney, [6568

FIELD Combinations in stock; 8h.p. £180, fitted with Magdyno lighting, makers' hood and screen, including carriage.—Noyce, Northgate, Gt. Yar- [6180

9 2¼h.p. Royal Enfield, just overhauled and tank re-enamelled, as good as new; £55; week- after 6 p.m., or by appointment.—The Gables, n, Orpington. [6537

0 8h.p. Enfield Combination, just delivered; list price, £177; also 1919 6h.p. Enfield combina- Lucas lighting set, screen, etc., £157.—Rumsey, I.O.W. Tel.: 152. [6666

FIELD Combination, engine 62042, standard model, Easting, many spares, perfect order; —Clark, 7, Exhibition Rd., South Kensington, Kensington 4096. [5600

FIELD.—Delivery from stock. Lightweight, 70 gns.; 6h.p. combination, £175, with Lucas Mag- £200.—P. J. Evans, Birmingham agent, 83-91 Bright St., Birmingham. [0300

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MOTOR CYCLES FOR SALE.

Enfield.

1920 Enfield Combination, Magdyno lighting, not done 15 miles, new, £183; standard combination, 8h.p., slightly shop-soiled, £170.—Edwards, 50, Harrington Rd., South Kensington. [6851

1920 8h.p. Enfield Combination, 3 lamps, Cowey speedometer, additional front mudguard, Easting wind screen, all tools, 1,000 miles only, carefully run in, very fast and quiet, all as new; offers.— Todd, St. Margaret's, Newland Park, Hull. [6384

6h.p. Enfield Combination in perfect condition, complete with all lamps, speedometer, etc., and extra brand new 2-seater body, never used, only reason selling bought new outfit; £140, or nearest offer.— Rev. Burnaby, Sampford Courtenay, Devon. [6460

ENFIELD Latest 6h.p. and 8h.p. Models in Stock, £175, £177, and £200, dynamo lighting; also lightweight £73/10; deferred payments and exchanges if desired.—Lamb's, 50, High Rd., Wood Green, 151, High St., Walthamstow, and 387, Euston Rd., London, N.W.1. [6506

ENFIELD Combination, 1915, fully equipped, electric light and horn, speedometer, screen, Tan-Sad, Klaxon, new heavy Palmers, Zenith carburetter, spare tyre, chains, etc., excellent condition and mechanically sound; any trial; bargain, £110.—19, Raymead Av., Thornton Heath, Surrey. [6245

ENFIELD Combination, late 1917, 6h.p., Lucas dynamo lighting set, Lucas electric horn, bulb horn, mirror, watch, Watford speedometer, Bosch mag., ideal pillion seat, tools, spares, perfect mechanical condition, indistinguishable from new; £160.— Brown, Waterworks, Fradley, Lichfield. [X5559

ENFIELD (1919, August) Combination, hood, wind screen, cover, Stewart speedometer, mechanical horn, P. and H. headlight, Lucas back, separate generators, self-contained sidecar lamp, spares, all unused, include 700×80 Palmer cord, driving chain, valve, etc., spare tube, Tan-Sad complete, enamelling and plating actually as new, front and sidecar tyres unpunctured, back tyre one puncture, mileage 3,800, full insurance to August, 1921; £150.—86, Mitcham Rd., Tooting, S.W. 17. Tel.: Streatham 1419. [6401

Excelsior.

3½h.p. Excelsior, 1911, Bosch, complete except cyl.; offers.—Adams, Snowflake, Saffron Walden. [6200

EXCELSIOR Big 6 Combination, all accessories, in fine condition; best offer accepted.—Williams and Co., Portland St., Cheltenham. [X5554

1914 Excelsior, 7-9h.p., just been thoroughly overhauled and painted, in first-class order; any trial: what offers?—Boxer, Swingfield, Dover. [6394

NEW 2¾h.p. Excelsior, 4-stroke J.A.P. engine, 2-speed, as listed at £78; reduced as shop-soiled to £66.—The Premier Motor Co., Aston Rd., Birmingham. [6789

1921 British Excelsiors, all models; delivery from stock in most cases, or special orders in a few days; list prices only.—Gray and Raynes, 8, Low Rd., Balby, Doncaster. [2783

LATE 1919 British Excelsior, 2¾h.p., J.A.P. engine, 2-speed gear box, semi-T.T. handle-bars, in good condition; £70, or near offer.—Lt. G. S. Ross, 3, Auchentorlie Terrace, Paisley. [6546

NEW 4½h.p. Excelsior Big Single Combination, 3-speed, 650×65 Dunlop tyres, bulbous back sidecar, £160; reduced as shop-soiled to £145; carriage paid to any address.—The Premier Motor Co., Aston Rd., Birmingham. [6790

F.N

F.N. 7h.p. Combination; delivery from stock.—Pearsons', 52, Elm Grove, Southsea. [6253

F.N. 2½h.p., Bosch, 2-speed, clutch, go anywhere; ride away.—84, Clarence Rd., Hackney. [6355

F.N. 4-cyl., 5-6h.p., thoroughly overhauled; ride away; cheap; offers.—Morgan, Vicarage, North Shoebury, Southend-on-Sea. [6007

F.N. 1920 7h.p. Combination, 4-cyl., hood, screen, and lamps, guaranteed as new; £170.—Maudes', 100, Gt. Portland St., W.1. [6777

F.N. 4-cyl. 6-7h.p. Combination, coachbuilt sidecar, excellent condition; bargain, £50; apply after 6. —Pont, 66, Felsham Rd., Putney. [6442

F.N. 5-6h.p., 2-speed, with T.T. bars, disc wheels, electric lighting, splendid condition, perfect; £30, or will exchange for clutch model.—Bath Tavern, Mitcham. [6637

5-6h.p. F.N., 2 speeds, clutch, in good condition, and spring wheel, girder frame sidecar, cane body; £52, or nearest.—Bratherton, 133, Rivington Rd., St. Helens, Lancs. [6522

NEW 1920 F.N. 2½h.p. 4-stroke Lightweight, 2-speed, kick starter, clutch; as listed, at £89/5; reduced as shopsoiled to £75; free delivery to any address.—The Premier Motor Co., Aston Rd., Birmingham. [6791

Francis-Barnett.

1920 Francis-Barnett, not ridden 500 miles, magnificent condition; 70 gns., very great bargain.— Julian, 84, Broad St., Reading. 'Phone: 1024. [6702

FRANCIS-BARNETT, late 1920, 2¾h.p., 2-speed, clutch, kick-starter, complete with lamps, horn; £70, owner bought car.—Uzzell, 88, Ellesmere Rd., Saltley, Birmingham. [X5537

MOTOR CYCLES FOR SALE.

Francis-Barnett.

NEW Francis Barnett 2¾h.p., J.A.P., 2-speed clutch and kick starter, in stock at manufacturers' list price, £88/19; deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments. —Harrods, Ltd., 118, Brompton Rd., London. [6372

Harley-Davidson

HARLEY-DAVIDSON, all models from stock.—Pickering, Mardol, Shrewsbury. [6689

HARLEY Sports, new, in stock.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5601

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock; all fully guaranteed.—Ross, 86, High Rd., Lee. [3849

1915 7-9h.p. Harley and Henderson sidecar, electric lighting, etc., all accessories, in first-class order. —Garage, Horsmonden. [6329

1920 Harley, electric, £85 sidecar, hood, Otto screen, speedometer, petrol carrier; £180.—110, Woodgrange Rd., Forest Gate. [6051

1920 Harley F., Harley sidecar, fully equipped, new, slightly shop-scoiled; £218.—Edwards, 50, Harrington Rd., South Kensington. [6854

HARLEY-DAVIDSON, 7-h.p. twin, brand new, for immediate delivery.—Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9005

HARLEY 1916 Combination, hood, screen, leg shields, Tan-Sad, in sound order.—C/o Chivers and Co., Garage, Belfast Rd., Stoke Newington. [6006

HARLEY-DAVIDSONS.—Delivery from stock of 7-9 h.p. with dynamo lighting, and 4h.p. flat twin sports models.—Pearsons', 52, Elm Grove, Southsea. [6254

1919 Harley Combination, electric model, luxurious sidecar, perfect order; any trial; £185.—Oakfield Cottage, Upper Elmers End Rd., Beckenham. [6229

NEW Harley-Davidson Combination, 7-9h.p., £228; new Harley-Davidson sports model, slightly soiled, £150.—Marston, 31, Bridge St., Chester. [6622

1920 4h.p. Harley, electric lamps, speedometer, first-class condition; no reasonable offer refused for quick sale.—Boxer, 151, Burnt Ash Hill, Lee, S.E. [6815

1917 7-9h.p. Harley-Davidson Combination, lamps, horn, speedometer, spare tube, hood, screen, splendid condition; £150.—5, Hill Terrace, Aberavon. [6516

HARLEY 7-9h.p., late 1915 K. engine, Bosch mag., new bulbous sidecar, Tan-Sad, stored during war, any reasonable trial; £140.—66, Hinton Rd., Herne Hill, London. [5983

HARLEY-DAVIDSON, 1918, fitted with new specially designed C.B. sidecar, hood and screen, new tyres, smartest on the road; £155.—261, Mitcham Lane, Streatham. [6723

1920 Harley-Davidson, mag. model, Montgomery sidecar, Barkers valances, lamps, speedometer, Klaxon, Tan-Sad, tools, practically unused; £220, or near offer.—11a, Shaftesbury Place, Brighton. [6108

1920 Harley 7-9h.p., bought two months ago, new, fully insured, speedometer, horn, lighting set, Tan-sad, trial, going abroad; sacrifice £125.—Wetherill, 32a, The Parade, Palmers Green, N. [6286

1915 4h.p. Harley-Davidson Combination, lamps, horn, in excellent condition, enamel very fair; a bargain at £85.—R. Bamber and Co., Ltd., 33, Liverpool Rd., Birkdale, Southport. [6469

1920 Harley-Davidson, magneto model, Montgomery sidecar, Barker's valances, lamps, speedometer, Klaxon, Tan-Sad, tools, splendid condition; £210, or near offer.—Mason, 45, Preston Rd., Brighton. [6074

HARLEY-DAVIDSON 1919 and 1918 Models, £85 to £90, good appearance and running order, exceptional value, approval if carriage paid both ways; trade supplied.—Owen, 59, Scholefield Rd., Upper Holloway. [X5518

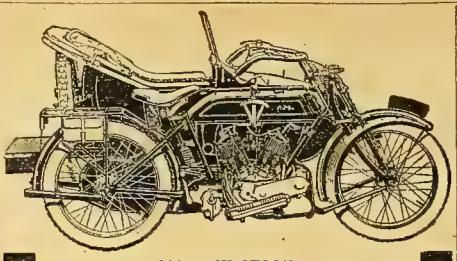
HARLEY-DAVIDSON 1918 7-9h.p., special semi-T.T. bars, all accessories, new tyres, very fast and sporting machine, a real snip; £120 for quick sale.—Smith's, 86, Chalk Farm Rd., off Chalk Farm Tube Station. [6848

HARLEY-DAVIDSON 1920 7-9h.p., with Grindlay sidecar, gas lamps, Easting screen; £195.—Hogg, 23, Hartington St., Derby. Lightweight considered part payment. Seen and tried Campion Garage, London Rd., Derby. [6115

HARLEY-DAVIDSON.—Immediate delivery 1920 4-5h.p. flat twin, 7-9h.p., with horn and speedometer; prices £157/11 and £191 respectively; can be fitted with Mills-Fulford or Henderson sidecars.—Parker's, Bradshawgate, Bolton. [X5502

HARLEY-DAVIDSON 1919 Combination, electric model, special large sidecar, hood, screen, disc wheels, only done 3,000 miles, oversize tyres, a splendid outfit, in perfect order; £175.—Elce and Co., 15/16 Bishopsgate Av., Camomile St., E.C.2. 'Phone: Avenue 5548 [0070

HARLEY-DAVIDSON 1918-1919 7-9h.p., ex W.D. stock, thoroughly overhauled, complete with lamp, generator, and mechanical horn, £130; fitted with new 1920 Montgomery sidecar, guaranteed by us, £168; deferred payments no extra. Maudes', 100, Gt. Portland St., W.1. [6778



£210. IN STOCK.
Extra dynamo lighting, £28.

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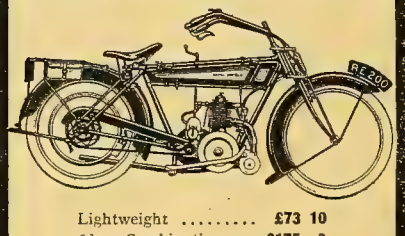
TRIUMPH "H"	£127	10
TRIUMPH and Sidecar, disc wheels	£180	10
TRIUMPH Baby	£75	0
O.K., single-speed	£50	8
O.K., 2-speed	£65	0
CLYNO lightweight	£75	0
CLYNO 8 h.p. Combination	£250	0
MATCHLESS, dynamo	£230	0
LEA-FRANCIS	£130	0
DOUGLAS, 4 h.p., and Sidecar	£170	0
DOUGLAS, 2¾ h.p.	£100	0
ROVER 5-6 h.p. Combination	£235	0
ROVER, 3½ h.p., T.T.	£147	10
CALTHORPE, 2-stroke	£74	19 4
DOUGLAS, 2¾ h.p., k/start	£105	0
DIAMOND, 2-stroke, 2-sp., k/start	£63	3
A.B.C., 3 h.p.	£150	0
ALLON, 2¾ h.p., 2-speed, k/start	£85	0
HARLEY-DAVIDSON, 4h.p., sports model	£164	10
N.U.T., 3½ h.p.	£165	0
ZENITH, 8 h.p.	£139	0
DIAMOND-J.A.P., k/start, 2-speed	£90	8
LEVIS Popular	£60	0
P. & M. Combination	£150	0
ARIEL, 3½ h.p.	£120	0
ARIEL Combination	£152	10
JAMES 4¼ h.p. Combination	£170	0
JAMES, 6 h.p.	£190	0



Lightweight	£73	10
6 h.p. Combination	£175	0
Dynamo lighting	£200	0

ALL IN STOCK.

SOILED MACHINES.

1919	**TRIUMPH** and Sidecar	£147	10
1917	**TRIUMPH,** fine	£80	0
1914	**TRIUMPH,** hub gear	£92	10
1920	**WOOLER**	—	
1918	**HARLEY-DAVIDSON** Com.	£160	0
1920	**HARLEY-DAVIDSON,** elec.	£210	0
1919	**HARLEY-DAVIDSON**	£110	0
1915	**HARLEY-DAVIDSON** and torpedo Sidecar	—	
1920	**QUADRANT,** 4¼ h.p.	£125	0
1919	**P. & M.** Combination	£125	0
1919	**ENFIELD,** 2-stroke	£52	10
1916	**ENFIELD** Combination	£120	0
1916	**ENFIELD** 6 h.p. Combination	£125	0
1915	**ENFIELD** Com., dynamo	£140	0
1920	**DOUGLAS,** 4 h.p.	£145	0

LAMB'S

387, Euston Rd., LONDON, N.W.1.
'Phone—Museum 4978
'Grams—"Lamocy, Eusroad, London."

151, High Street, Walthamstow.
'Phone—Walthamstow 169.
'Grams—"Cyclotomo, 'Phone, London"

50, High Rd., Wood Green, N.22
'Phone—Hornsey 1956.
'Grams—"Doulamocy, 'Phone, London."

MOTOR CYCLES FOR SALE.

Harley-Davidson.

1918 Harley-Davidson, perfect condition, lamps, horn, tools, new spare tyre, tube, and chains, electric lighting; £150.—Chamberlain, Wallingford, Berks. [612

HARLEY-DAVIDSON 7-9h.p. Combination, 191 thoroughly overhauled last July, perfect runni order, very comfortable sidecar, very fast, comple with lamps, Stewart speedometer, watch, wind scree Bosch mag.; best offer over £105; by appointment. 36, Madrid Rd., Barnes. Tel.: Hammersmith 93. [65

Hazlewood.

1920 Hazlewood 6h.p. J.A.P., Combination, 3-spee etc., unused; £165.—Dunn, 326, Euston Rd London. [68

HAZLEWOOD Brand New 5-6h.p. Combinatio offered £180, very slightly soiled, guaranteed ne —Victor Horsman, Ltd., 7, Mount Pleasant, Liverpo [61

NEW 5-6h.p. Hazlewood Combination, 3-speed clut and kick starter, a thoroughly reliable outfi Harrods have a large number of these in stock for sa at £186 each, or on deferred payments 4% extra; on one-fifth deposit, balance by twelve monthly insta ments.—Harrods, Ltd., 118, Brompton Rd., London [63

Henderson

1920 Henderson Electric Model Combination, Cow Tan-Sad, etc.; nearest £180, bargain.—Evu 61, Lillieshall Rd., Clapham. [59

1916 Henderson Combination, 2 speeds, perfe order throughout; offers wanted; exchange sell; letters only.—Knight, 16, Longmead Rd., Too ing, S.W.17. [64

10h.p. Henderson, 1920 model, fitted with Sw sidecar, electric dynamo lighting, disc whee very fast, sporty looking; £215.—Wauchope's, 9, Sh Lane, London. [68

HENDERSON 10h.p., 4-cyl., 2-speed, clut Klaxon, just been overhauled, rebushed, Brambl sidecar, Cameo screen, fast, powerful outfit, perfe £127.—462, Lea Bridge Rd., Leyton, E.10. [68

NEW 1921 Henderson Models, just arrived, now view; Model KR, 12h.p., 4-cyl., 3-speed, 3½ tyres, finished deep blue, £210; Millford model luxe bulbous back sidecar to match, £44.—Buy aristocrat of motor cycles from the Premier Mo Co., Aston Rd., Birmingham. [67

Hobart.

1920 2½h.p. Hobart, 2-speed, aluminium footboa shopsoiled; a bargain at £68.—R. Bamber Co., Ltd., 33, Liverpool Rd., Birkdale, Southpor [6

HOBART-VILLIERS 2-speed 2-stroke, splendid r ning order; £55, or best offer; lamps, speedome insurance, etc.; owner gone abroad.—Write, 33, C Rd., Croydon. 'Phone: Croydon 719. [5

NEW 2½h.p. Hobart Lightweight 2-speed models stock at manufacturers' list price, £75; 4% ex for deferred payments; only one-fifth deposit, bala by twelve monthly instalments.—Harrods, Ltd., Brompton Rd., London. [6

Hoskison

HOSKISON 2-stroke, 2¾h.p. Union engine, 2-sp kick-starter and clutch, will take a sidecar, s soiled; £72.—Motorcycle Marts, Ltd., Fair Row, St., Chatham. [6

Humber

HUMBER 4½h.p. Flat Twin; delivery from sto Pearsons', 52, Elm Grove, Southsea. [6

HUMBER Lightweight, fine order and condit £25.—90, Queenswood Rd., Forest Hill. [6

HUMBER 1920 4½h.p. Combination, lamps, h spares; £155.—32, Masons Hill, Bromley, K [5

HUMBER Combination, 3½h.p., 1914, 2-speed, h splendid condition; £52.—Marwood, Graffham, worth. [

HUMBER, Villiers engine, 2¾h.p., Bosch, just hauled; £28, or offer.—Moden, Staines Boys H Ashford, Middlesex. [

HUMBERETTE, W.C., overhauled, repainted, hood, perfect order; £169; exchange consid —Margrave, Mottram, Manchester. [X

1920 3½h.p. Humber, solo or combination, engine, 3-speed; list price.—Lankester Engi ing Co., 82-83, Victoria Rd., Surbiton. [

HUMBER 3½h.p. Coachbuilt Combination, 3-s H.S. lamps, horn, tyres, new, perfect r order; sacrifice, £35.—139, St. Michael's Hill, B [2

HUMBER Lightweight, condition as new, B B. and B., new tyres, tubes, lamps, s bargain, £30; 150 miles per gallon.—68, Hyde Greenwich.

1916 Humber, 6h.p., with brand new Mills-Fu sidecar, Lucas lamps, usual spares, F -screen, in perfect condition, and like new; what o —Evans, Cilgwyn, Llanerchymedd, Anglesey. [5

1919 3½h.p. Flat Twin Humber, handle st hand clutch, Binks carburetter, Brooks saddle, Cowey speedometer, new chains, new back m lop, just overhauled throughout, excellent cond 75.—Dawbarn, Tunnery, Market Harborough.

MOTOR CYCLES FOR SALE.

Humber.

UMBER 1919 Combination, 6h.p. twin water-cooled, most completely equipped, hood, screen, ps, speedometer, luggage grids, mirror, etc., one the finest outfits on the road, absolutely un-tched; bargain, £160; accept half down or ex-ge.—Bunting's Motors, Wealdstone, Harrow. [6714

Indian.

15 Clutch Model Indian 7-9h.p., very fast; must sell, £60.—Parker, Printer, Keighley. [X5545

DIAN 7-9h.p., re-enamelled and overhauled, me-chanically sound; £95.—Maudes', 100, Gt. Port-St., W.1. [6780

DIAN Combination, 1920, new, chance for some-body; £165, or exchange.—51, Maplethorpe Rd., nton Heath, S.E. [6483

h.p. Indian, 1915 model, 3-speed clutch, in ex-cellent condition; will sell at sacrifice for quick —Garage, Horsmonden. [6334

h.p. Indian, clutch model, fast and powerful; ex-change lower power, 4h.p. Triumph preferred; sell —7, Jerningham Rd., New Cross. [6247

15 7-9h.p. Indian Combination, 3-speed, electric lighting, disc wheels, new tyres, perfect condition; .—H., 13, Linden Gardens, Bayswater. [6363

16 Indian 5-6h.p., 3-speed, clutch, K.S., just over-hauled, in perfect order, lamps, etc., leaving ; sacrifice £80.—Semer Lodge, Ipswich. [6035

DIAN.—Stock delivery of new and second-hand com-binations. Write for list of bargains.—Victor nan, Ltd., 7, Mount Pleasant, Liverpool. [6178

h.p. Indian Combination, late 1917, Swan side-car, discs, electrically equipped, Magdyno, new tion, not W.D.; £110.—1, Grosvenor Rd., Rugby. [X5531

16 7-9h.p. Indian Combination, sporting coach-built sidecar, excellent condition throughout; in, £100.—P, Wheatley, 34, St. Barnabas Rd., ridge. [6215

DIAN 7-9h.p., spring frame combination, 2-speed, clutch, kick start, complete; bargain, £75, or near in good condition.—Ingram, 17, Coleman St., rhampton. [X5232

0 Indian Combination, Millford sidecar, dynamo lighting, speedometer, etc., new condition; £200; through illness.—Richards, Belle Vue, George idderminster. [5956

6 Indian 7-9h.p. Spring-frame Combination, 3 speeds, dual clutch, electric lighting, voltmeter, ium discs, tools; £120; seen by appointment.— veraile St., Fulham. [6673

C.H. for Indian Combinations, 1916 and 1920, ynamo lighting; bargains.—5, Heath St., Hamp-(nr. Hampstead Tube Station). Phone: Hamp-3752. Hours 9-7, including Saturdays. [6238

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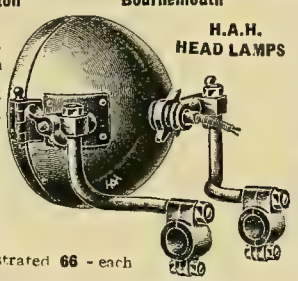

Fig. 893, as 895, but with stem instead of handle-bar fitting, **66**/- each.

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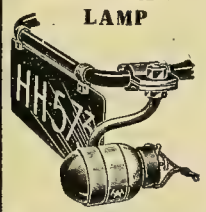

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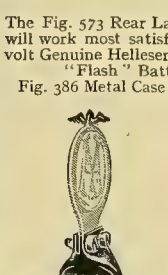

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6h.p. J.H. and Sidecar, complete, lamps, horn, and M.A.G. engine; £71.—Cross, Agent, Rotherham. [X5564

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2¾h.p. Kelecom, single-speed, C.A.V. magneto, B. and B., good condition; £25.—Lowe, 3, Church Lane, Windsor. [6278

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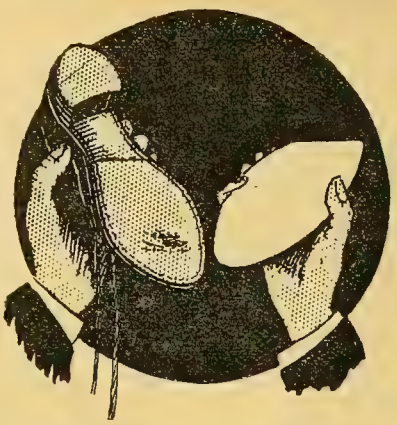

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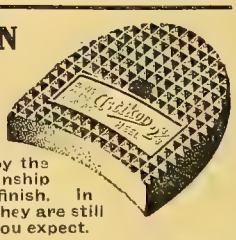

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1920 Matchless H. Model Combination, M engine, as new, fitted with spares to value all at £210, offer.—Sargent, 91, Main Rd., S Kent.

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,,	Palmer Cord Heavy	39/6	66/-
,,	Kempshall Anti-skid	37/6	75/-
,,	Avon Tricar Rubber Stud.	34/6	72/6
26×2¾	Palmer Cord Heavy O.S..	59/-	74/5
28×3	Goodrich Safety Tread ...	52/6	93/6
,,	Wood-Milne Extra Heavy	42/6	81/-
,,	Moseley Extra Heavy 3 rib	35/-	78/-
,,	Elite E. Hy. Gvd. Retreads	33/	—
650×65	Palmer Cord Heavy	68/-	79/6
700 ,, 80	Dunlop Grooved.....	75/-	99/6
,,	Avon Sunstone	72/6	86/3
,,	S. Moulton 3-rib	72/6	94/10
,,	Wood Milne Gruvrib	72/6	94/10

CARRIAGE PAID
AND
ON APPROVAL
(Seven days against remittance.)

TUBES—New and fully guaranteed.

*26×2	6/6	26×2¼ ..	7/6	26×2½	8/9
*26×2¼	7/-	*26×2½ ...	7/9	*28×3	11/9
*26×2¾	7/6	*26×2½×2¼	8/3	28×3	11/9

* Endless.

BELTS—IN STANDARD LENGTHS

	⅝in.	¾in	1in	1¼in
Dunlop, Pedley, Bates, etc. Per Foot.	1/7	1/9	2/2	2/9	3/-

ELITE RUBBER Co LTD
Tyre Specialists
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Telephone: Victoria 6553.

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL, 1919, 2¾h.p. J.A.P., 2-speed, guaranteed as new; £66.—Maudes', 100, Gt. Portland St., W.1. [6774

NEW IMPERIAL 2¾h.p., 2-speed, accessories, T.T. bars, good running order, late model; £45.—325, Essex Rd., Islington. [6825

£120.—Unused W.D. New Imperial combination.—Clifford Wilson Company, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4735

1919 New Imperial, 2¼h.p., 2-speed, clutch, K.S., just overhauled and rebushed, excellent condition; £55.—Taylor, Hurst Lodge, Hadley Rd., Barnet. [6033

WAUCHOPE'S, 9, Shoe Lane, London.—2½h.p. 1920 New Imperial-Japs, 2-speed clutch, and kick start models; £89/5; with 2-speed, only £80/17 [6879

1920 New Imperial, 2¾h.p. J.A.P., 2 speeds, new, in stock, at list; £80/17; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [6770

1920 New Imperial Combination, 6h.p. J.A.P., just arrived, at list; £186/18; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [6769

NEW IMPERIAL 1919 8h.p. Model, 3-speeds, kick start, hand-controlled clutch, with Sunbeam sidecar, fully equipped; £150.—Parker's, Bradshawgate, Bolton. [X5491

1920 New Imperial-Jap, 2¾h.p., 2-speed, kick-starter, fitted lamps and horn, new, unridden, cost £94; first cheque £85.—Cathcart House, Mablethorpe. [6729

1920 2¾h.p. New Imperial with K.S. and clutch, fully equipped and insured, mileage 300, cost £100; accept £75; bought combination.—Apply, Box 8,901, c/o *The Motor Cycle*. [6160

NEW IMPERIAL-J.A.P.—Immediate delivery from stock of this popular 2¾h.p. machine, 2-speed model, £80/17; with clutch and kick starter, £89/5.—F. J. Evans, 83-91, John Bright St., Birmingham

NEW IMPERIAL 1920 Brand New Lightweight, 2¾h.p. J.A.P. engine, 2-speed gear, list price £80/17; special cash price, machine slightly shop-soiled, £68.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0066

[0262

New Ryder

NEW Ryder 2-stroke, 2-speed countershaft, good tyres, perfect running order; £30.—87, Fulham Palace Rd., Hammersmith. [6556

New Scale.

3½h.p. New Scale, the solo and sidecar machine; £90, delivery from stock.—Agents, Gray and Raynes, 8, Low Rd., Dalby, Doncaster. [2785

Norton.

1920 T.T. Norton; list £98.—Dunn, 326, Euston Rd., N.W.1. Museum 5391. [5911

1920 Norton Big Four, mileage small, perfect; £130. —Box 8,918, c/o *The Motor Cycle*. [6319

NORTON.—North Yorkshire agents: R. H. L. Pickering and Co., 239, Linthorpe Rd., Middlesbrough. [2997

NORTON 1920 T.T., Philipson, Bonniksen, small mileage, very fast; £112.—Gripper, Stansted, Essex. [6065

NORTON T.T. 3½h.p., 3-speed. Sports Model, in stock, just delivered; £132.—Boult Bros., Ltd., Holywell St., Chesterfield. [X5426

NORTON Big 4, 3-speed, 700×80 tyres, sports sidecar, or separate; awaiting cheque at works.—Long, Crowle, Doncaster. [6028

NORTON 1916 3½h.p., 3-speed, lamps, speedometer, horn, first-class condition; £95.—Maudes', 100, Gt. Portland St., W.1. [6775

NORTON Big Four, delivered Sept., accessories perfect; owner buying car; £140.—Barber, 9, Oakwood Rd., Swansea. [6407

1920 T.T. Norton, just delivered, very fast; £98; will ride 100 miles on receipt deposit.—30, Greenhill Rd., Harlesden. [6655

DAN GUY, Weymouth.—Sole agent for Norton motor cycles; 3½h.p. sports, all-chain, £132, from stock; early delivery Big 4 combination. [5963

NORTON 1920 Big Four Model, with Sandum sporting sidecar, Cameo wind screen, fully equipped; £150.—Parker's, Bradshawgate, Bolton. [X5490

1920 Norton 3½h.p., T.T., only run 250 miles, won several medals, as new; 85 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6700

1920 (April) T.T. Norton, Philipson, lamps, Klaxon, tools, good condition, very fast; £100, or near offer.—Smith, 5, Lancaster Place, Blackburn. [6150

1920 Big 4 Norton and Canoelet racing sidecar, Mabon gear, specially constructed for hill-climbing, as new in every respect; 127 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6698

1920 3½h.p. Sports Norton, 3-speed, and racing Canoelet sidecar, winner of many gold medals in hill-climbs, splendid condition; 138 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6695

MOTOR CYCLES FOR SALE.

Norton.

19[16] Norton 3½h.p., sporting model, aluminium discs, dynamo lighting, every possible accessory; can be seen in London by appointment; £87; would exchange for A.V. Monocar.—Sodbury House, Gt. Clacton, Essex. [6136

19[20] Big Four and Norton de luxe sidecar, complete with electric horn, head and sidecar lamps, engine No. 20223; 145 gns., Bonniksen speedometer £4/10 extra.—Evergreens, Leigh Woods, Bristol. [6801

19[20] Norton Big Four, mileage small, tip-top condition, Miller head lamps, Klaxon horn, speedometer, knee-grips, only run solo, 2 sprockets, sidecar and solo; 125; London, N.W.10.—Box 8,873, c/o *The Motor Cycle*. [6002

19[19] B.R.S. Norton, winner numerous open competitions, excellent condition and tune, many useful spares, including carburetters, tyres, belts; open expert examination and trial; £115.—Claude Duncan, Belmont, Dalkeith, Scotland. [6203

NORTONS.—Try Horsman for immediate deliveries. Present stock includes new T.T. belt drives, B.R.S. models, Big 4, and all model sidecars; second-hand Big 4 and sidecars. Write or wire.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [6173

19[16] T.T. Norton, Philipson, lamps, horn, knee grips, tanks re-enamelled, exhaust pipe replated, new handle-bars and tyres, thoroughly overhauled and tuned for speed, stored 2½ years of war, perfect condition; Bath district; 87 gns.—Box 8,938, c/o *The Motor Cycle*. [6847

N.S.U.

FOR Sale, 1914 3½h.p. N.S.U., spring frame, 2-speed, splendid order; £35, near offer.—19, Luxor St., Camberwell. [5992

N.U.T.

N.U.T.—In stock 3½h.p. sporting model, Magdyno lighting; £165.—Noyce, Northgate, Gt. Yarmouth. [6182

N.U.T. Twin, Magdyno lighting, delivery from stock; £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [6453

N.U.T., July 1920, dynamo lighting, only run about 500 miles; £125, genuine bargain.—Hughes, 11, West St., Porthill, Stoke-on-Trent. [6547

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [6052

N.U.T.—Delivery from stock of these models, equipped with magdyno lighting, price £165; sole wholesale and retail agents for Staffordshire, the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [9002

O.K

O.K. Junior, Villiers latest model, new; £50.—Marston, 31, Bridge St., Chester. [6633

O.K., 2¾h.p. Union engine, shop-soiled; £42.—Motorcycle Marts, Ltd., Fair Row High St., Chatham. [6165

O.K.-VILLIERS 2¼h.p., shop-soiled, not been on the road; £47/10.—103a, High St., Wandsworth. [6468

O.K. Junior, 1915, 2-speed, lamps, horns, tools, good tyres, belt, 125 m.p.g. perfect; £38.—12, Ravleigh Rd. Basingstoke. [6184

O.K.-UNION 2¾h.p., 1920 (June), lamps, horn, etc., splendid climber; bargain, 43 gns., no offers.—86, High Rd., Wembley. (Evenings, week-ends.). [6062

BRAND New O.K. Junior, 2½h.p. Villiers engine, 2-speed, accept £55; also O.K. Union, single-speed, £50; in stock.—Birch's Garage, Wolverhampton. [6154

UNION 1920 2¾h.p. 2-stroke, Burman 2-speed, kick starter, hand clutch, B. and B. variable, Lucas lamps, as new; £65.—Ferguson, Lorne Terrace, Darlington. [6135

Omega.

2¾h.p. Omega-Jap, the sporting single; immediate deliveries.—Norwich Motor Co., Ltd., Norwich. [2787

OMEGA 1917 2-stroke, fine condition throughout, owner going abroad, bargain; nearest £44.—20, Somerset Rd., Walthamstow. [6579

2¾h.p. Omega-Jap, 2-speed, original tyres, 120 m.p.g.; £45; photo; exchange Douglas.—Argyle Lodge, Newton Rd., Burton-on-Trent. [6615

OMEGA-J.A.P.'s, 2¾h.p., 2-speed, the best and smartest lightweight; from stock, list price.—Agents, Gray and Raynes, 8, Low Rd., Balby, Doncaster. [2784

P. and M.

P. and M. 1920 Model, delivery from stock; £115.—Maudes' Motor Mart, 100, Paris St., Exeter. [6454

NEW 1920 P. and M. Combination, fully equipped; £145.—133, Broomwood Rd., Clapham, S.W. [6342

19[19] P. and M. Combination, bought new August, very little used; £100.—Myers, 28, Oriental Place, Brighton. [6127

P. and M. Combination, 3½h.p., late model, good condition; any trial; £67/10.—103a, High St., Wandsworth. [6466

P. and M. 3½h.p., mag., 2 speeds, countershaft; must sell, £29/10.—53, Swaffield Rd., Wandsworth, S.W.18. [6611

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Ex-Government Brand New Heavy Motor Cycle Covers.

Still for sale at

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Large quantities of new 2¾ and 4 h.p. parts in stock.

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SAMPLE PRICES.

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Big-end Bushes ..		2	0
Small-end Bushes ..		2	0
Pistons		12	0
Valves Complete ..		6	6
Fork Link		1	6
Engine Sprockets ..		4	0
Pulleys		8	0
Chains		9	0
Front Brakes	1	2	6
Fork Springs		2	6
2¾ Frames	5	0	0
4 h.p. Frames ..	5	0	0

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CRABTREE & SON, Ltd.,

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MOTOR CYCLES FOR SALE.

P. and M.

3½h.p. P. and M., guaranteed as new, mileage bargain. £90.—31, Claremont Rd., Alex Park, Manchester. [

19[20] P. and M. Combination, unscratched, n 400, Lucas lamps; £135, or nearest offe Dover Rd., Brighton.

P. and M., R.A.F. model, good order and con lamps, etc.; £55, quick sale.—11, Banbur Battersea Park Rd., S.W.11.

3½h.p. P. and M. Combination, late 1918, used, all accessories; £90, or exchange h.p. mount and cash.—31, Halford Rd., Fulham.

P. and M. Combination, late R.A.F. model, me cally perfect, enamel new, finished blue an (1920 colours); would separate; £75.—114, Hi Peckham, S.E.15.

P. and M. Combination, Jan., 1920, fully equ insurance, perfect condition, little used, No. Herne Hill district; 135 gns., or offer.—Box c/o *The Motor Cycle*.

19[19] 3½h.p. P. and M., 2-speed, lamps, Cowey speedometer, delivered new in Feb., absolutely as new; £100.—R. Bamber and Co., 33, Liverpool Rd., Birkdale, Southport.

P. and M. Combination, 1919, blue and go speed, kick starter, Henderson sidecar, fast, and reliable, perfect order; £95 delivered, sacr Bernard, 42, Clenthorn Rd., Jesmond, Newcas Tyne.

19[18] P. and M. 3½h.p. Combination, appeara new, complete with lamps, tools, horn, tubes, and other accessories, in perfect order; or nearest offer.—W. S. Bird and Sons, 13, He Park, Bath.

P. and M., W.D., 3½h.p. model, overhaule guaranteed by us, £78; others, not overh but in running order, £68; complete with Fulford sidecar, £109; deferred payments no e Maudes', 100, Gt. Portland St., W.1.

P. and M. Combination for Sale, 1919, 3½h.p. lute good machine, mechanically perfect splendid condition, tyres as new, all lamps, tools, apron, kick-starter, speedometer, a real good M., fully insured; all for £109, privately owned wants seeing; bargain.—Rich, 100, High St., Ha N.W.10. [

PHELON and Moore, Ltd., have several R.A.F. for immediate delivery, reconditioned and teed by them. Prospective motor cyclists shou hesitate to procure one of these machines now, prices are low; £90 solo, or £120 combination.— particulars on application, or one can be inspe London Showrooms, 4, Berners St., Oxford St. (o Bourne and Hollingsworth), W.1.

P and S.

NEW 2¾h.p. P. and S., fitted with the Vill stroke engine, 2-speed; £73.—Wauchope's, Lane, London.

P. and S. 2½h.p., 2-stroke Villiers engine, shop-soiled; £65.—Motorcycle Marts, Ltd Row, High St., Chatham.

Peugeot

5-6h.p. Peugeot, 2-speed, clutch, H.S. combi exchange lightweight; sell £55.—Box 8,9 *The Motor Cycle*.

Pope.

7-9h.p. Pope and Sidecar, with all accessorie class condition; any inspection; £90.—Seen Hudson's, South Woodford (next The George).

P.V.

P.V. 2-speed 2-stroke Motor Cycle, spring fra in stock; £75.—Boult Bros., Ltd., Holyr Chesterfield.

P.V., 3h.p. Precision engine, 2-speed, spring shop-soiled; £87.—Motorcycle Marts, Ltd Row, High St., Chatham.

Premier.

3½h.p. Premier, 2 speeds, running order; Speechley, 1, Gunnersbury Lane, Acton

PREMIER Lightweight, splendid condition, overhauled; £35.—Owen, Seale Hayne Newton Abbot.

Quadrant.

WAUCHOPE'S, 9, Shoe Lane, London, E.C. 4½h.p. Quadrant Combination, late model; £145.

DEMONSTRATION Quadrant Combination, all-chain, perfect; bargain, £95.—Parti Lascelles Rd., Dover.

4½h.p. Quadrant Combination, 3-speed, kick splendid condition, as new; price £13 House, North Stifford, Grays, Essex.

QUADRANT 4½h.p. Big Single; combinati solo £115; new machines always in st only moderate-priced outfit left.—Victor Ltd., 7, Mount Pleasant, Liverpool.

NEW 4½h.p. Quadrant Combination, to specification, at list price, including carr works, £147/7/3, or on deferred payments 4 Harrods, Ltd., 118, Brompton Rd., London.

MOTOR CYCLES FOR SALE.

Quadrant.

CLIFFORD WILSON Company, Quadrant sole agents and distributers for South-eastern Counties. Trade enquiries invited. All models from stock. Large selection of second-hand combinations. — 70 Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4734

Reading-Standard.

READING-STANDARD, Model 1920, with Henderson Elite sidecar, dynamo lighting, and all up-to-date accessories, has only been used for a few demonstrations, in absolutely new condition; will accept first reasonable offer.—Garage, Horsmanden. [6333

Rex

REX 5h.p. Twin, 2 speeds, perfect; trial; £25.—17, Heaton Rd., Mitcham. [6441

3½h.p. Rex, Bosch, B.B., running order; £30.—Coppin, Lanivet, Bodmin, Cornwall. [6296

REX 5-6h.p., F.E., Bosch, B. and B., Dunlops, Tan-Sad, lamps, etc., good condition; ride away; after 6—27, Lismore Rd., Gospel Oak. [6064

REX 1913 5-6h.p., 2-speed, and Philipson 1914 coach-built sidecar, wind screen, apron, all in good order, including tyres; £50.—Rogers, East St., South Molton. [6143

3½h.p. Rex Motor Cycle and Wicker Sidecar, 2-speed, free engine, new cylinder and piston; £35, ready to ride away.—16, Wells St., Buckley Wells, Bury, Lancashire [6813

REX Motor Cycle, 5-6h.p., clutch, everything brand new except the engine; any trial here; what offers?—Apply, Green, Potter's Green, Walsgrave-on-Sowe, nr. Coventry. [X5141

LATEST Model 55 Rex Combination, brand new, 8h.p. Blackburne engine, spare wheel, etc.; 18/18; free delivery to any address.—The Premier Motor Co., Aston Rd., Birmingham. [3799

REX de Luxe 4h.p. C.B. Combination, late 1913, 2 speeds, handle start, watertight Bosch, Binks, stored during war, mileage under 8,000, practically new tyres, accessories, excellent order throughout; £85; seen after 3 Saturday, or 11-1 Sunday.—65, Hamilton Rd., Ellis Hill (Met.), N.W.10. [6830

Rover.

ROVER 1920 3½h.p., all-chain, perfect; £140.—Copner, Dragon House, Petersfield. [6636

1920 Rover 3½h.p., 3-speed, all chain, unused; £117 10.—Dunn, 326, Euston Rd., London. [6841

3½h.p. T.T. Rover, Philipson, fully equipped, fast, perfect condition; £48.—82, Church Rd., Mitcham. [5952

ROVER 3½h.p., 3-speed, clutch model, perfect condition; £60, or nearest.—S. Payne, 2, Southwest Rd., Ironstone. [6356

ROVER 1919 T.T., perfect machine, all accessories; 80 gns.—Hutchings, 112, Wanstead Park Av., Wor Park. [5922

BRAND New Rover Combination, 3½h.p., 3-speed, chains, belt drive; £165; for quick sale.—11, Allen Wolverhampton. [6156

1920 Rover 6h.p. Combination, 3-speed, screen, speedometer, lamps, horn, as new, a snip; £150.—Dunn, Euston Rd., London. [6840

3½h.p. Rover, splendid condition, Bosch mag., B. and B., drip feed, clutch; bargain, £25/10.—179, Ashfield Rd., Wandsworth. [6131

ROVER 3½h.p. Clutch Model, splendid condition, new back tyre, also new spare cover and inner tube; £70.—Hanks, Cirencester. [6202

ROVER Combination, 3½h.p., C.B., clutch, 3-speed Armstrong, lamps, screen, splendid condition; £130, Northfield Av., Ealing. [6676

1919 T.T. Rover, Philipson (h.b.), lamps, speedometer and full toolkit, excellent condition; £85. Brown, Hartford Rd., Huntingdon. [6722

3½h.p. Rover Coach Combination, 3-speed, clutch, lamps; trial; splendid condition; £70, bargain. Bruce Rd., Devon Rd., Bow, E.3. [6651

3½h.p. Rover, late 1914, 3-speed, hand clutch, horn, Tan-Sad, etc.; any trial; £50, or offer.—C. A. Bell, 45, Christchurch Rd., Doncaster. [6496

1914 Rover 3½h.p. Combination, 3-speed, clutch, K.S., speedometer, hood, screen, splendid condition and appearance, stored during war; £75.—157, Ashley Hill, S.W.2. [6129

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed and clutch and kick starter, and with smart coachbuilt sidecar; £180, or on easy payments 5% extra, one-third deposit, balance by 12 monthly instalments.—Woods, Ltd., 118, Brompton Rd., London. [6378

Royal Ruby.

1916 Royal Ruby 2-stroke, 2¾h.p., 2-speed, clutch, kick start, perfect condition; £37/10.—37, Regent St., Rugby. [X5549

1920 3h.p. Royal Ruby, spring frame; £85, with insurance.—Mosedale, 30, Canterbury Rd., Kilburn, N.W.6. [6542

1920 Royal Ruby, 3h.p., spring frame, fitted lamps and horn, new, unused, cost £125; accept £110.—Fairfield House, Sutton-on-Sea. [6730

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All thoroughly overhauled in our own workshops, stove enamelled, replated, tanks in makers' colours, new tyres, guaranteed mechanically sound.

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MOTOR CYCLES FOR SALE.

Royal Ruby.

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

1920 3h.p. Royal Ruby, spring frame, fully equipped, new 2 months ago, very little used, condition as new; £105.—Cole, 20, Granville St., Peterborough. [6308

ROYAL Ruby, 8h.p. J.A.P. engine, 3-speed, kick start, 1917 plating and enamelling as new, owner out of employment; 85 gns.—Can be seen 272, Green St., Forest Gate. [6140

ROYAL Ruby 8h.p., Sept., 1917, good condition, with new Gloria sidecar, hood, Cameo screen, speedometer, horn, mirror, lamps, etc.; best offer.—Tyrrell, Electricity Works, Staines. [5978

1920 8h.p. Royal Ruby Combination, lamps, Klaxon, Easting screen luggage grid, fast machine, in splendid condition; best offer.—Bromfield, 35, Keswick Rd., Putney. 'Phone: 1589. Seen any time. [5937

3h.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used, and condition as new; £110; may be obtained on deferred payment system.—Harrods, Ltd., 118, Brompton Rd., London. [6375

Rudge.

RUDGE Multi, as new; £58.—55, St. James's Rd., Bermondsey. [6831

RUDGE T.T. and I.O.M. Models ex-stock; £110; exchanges.—125, High St., Woolwich. [6094

1920 I.O.M. Rudge, as new; £100.—Dunn's, 326, Euston Rd., London. Museum 5391. [2981

£80.—1919 (Nov.) I.O.M. Rudge Multi, perfect condition, not done 1,500.—116, Albert Rd., Ilford. [6243

RUDGE I.O.M. Multi, delivery from stock; £110/5.—Clark, 7, Exhibition Rd., South Kensington, S.W.7. [5603

3½h.p. Rudge, complete with lamps, etc., now in daily use and good running order, tyres excellent.—Rodwell, Shipley. [6153

1920 Brand New Rudge Multi 3½h.p. T.T., I.O.M.; owner going abroad; £100.—Black Park, Whitchurch, Salop. [X5560

1920 Rudge Multi Combination, nearly new; £110. National Drug Stores, 13, Prince of Wales Rd., Kentish Town. [6837

1920 (July) Rudge Multi, I.O.M., fully equipped, perfect condition, small mileage; 90 gns.—Tucker and Co., Highbridge. [6447

1920 3½h.p. I.O.M. Rudge Multi, lamps, Klaxon, and knee-grips, low mileage; £95.—Massey, Auburn, Elton Parade, Darlington. [6134

1920 I.O.M. Rudge, new in stock, at list; £110/5; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [6762

RUDGE Multi 3½h.p., 1914, cane sidecar, good reliable machine, lamps, speedometer, etc.; £55.—54, St. Ann's Rd., Harrow. [6450

1914 5-6h.p. Rudge Multi, comfortable coachbuilt sidecar, perfect condition, complete, £65.—Clayton, 54, Birdhurst Rd., Croydon. [5005

BEST Offer Accepted for absolutely new 1920 3½h.p. T.T. Rudge, list price £110; seen in London.—Box 8,923, c/o *The Motor Cycle*. [6736

1919 (September) 3½h.p. Rudge Multi; I.O.M. model, mileage 2,500, lamps, spare tube, belt, and tools, speedometer; seen by appointment; £85.—Hughes, Loftus Hotel, Earl's Court. [6339

RUDGE 5-6h.p. Combination, slightly soiled, £150; Rudge 3½h.p. combination, slightly soiled, £125; Rudge 3½h.p. solo, slightly soiled, £100.—Marston, 31, Bridge St., Chester. [6629

1920 I.O.M. Rudge Multi, accessories, Tan Sad, done 300 miles, guaranteed; exchange countershaft combination, 3½-4½h.p.; sell £97; Derbys.—Box 8,891, c/o *The Motor Cycle*. [6093

1920 (March) Rudge Multi 5-6h.p. Combination, perfect condition, good spare tyre and belt, P. and M. head lamp (unused); £140; insurance transferred.—Farrow, St. James' Rd., Gravesend. [6493

RUDGE Multi Combination, late 1918, new-like condition, splendidly equipped; bargain for immediate clearance; 80 gns.; accept half down; closed Sundays.—Bunting's Motors, Wealdstone, Harrow. [6715

1920 Brand New I.O.M. Rudge 3½h.p., sloping tank, multi gear and free engine, £110/5; also second-hand Rudge, 1919 model, £85; another, single speed, 1914, £35.—Wauchope's, 9, Shoe Lane, London. [6872

1920 7-9h.p. Rudge Multwin, Rudge sidecar, original Olympia Show model, Lucas lamps, Easting, horn, speedometer, mirror, knee-grips, low mileage, new condition; 180 gns.—Crick, Holmwood House, Longfield, Kent. [6058

3½h.p. Rudge Multi, 1914, with 1919 Henderson A sidecar, 1,500 miles, one owner, re-enamelled 1920 colours by makers, rebushed throughout and new piston, Jan., 1920, semi-T.T. bars, thoroughly good order; £75.—Seen Rudge Garage, Oxford. [6808

MOTOR CYCLES FOR SALE.

Scott.

WAUCHOPE'S, 9, Shoe Lane, London.—New 1920 Scott, delivery from stock; £140. [6865

SCOTT, new 1920 model; delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0301

BRAND New Scott, just delivered; accept £122; must clear; unpacked.—Box 820, c/o *The Motor Cycle.* [X5484

SCOTT, good tyres, engine perfect, carefully used, fast; £50.—Whiting, St. Mark's Rd., Henley-on-Thames. [6281

SCOTT, 2-speed, free engine, Bosch; sacrifice, £28; seen week-end.—9, Tollington Place. (14 'bus, Plough.) [6822

1919 (Late) Scott Solo, excellent condition, lamps, horn; nearest £100; bargain.—Headlands, Leagrave, Luton. [3670

SCOTT Combination, free engine, 2 speeds, good running order, engine No. 2464; £60.—Hole, 129, Park Lane, Carshalton. [6590

3¾h.p. Scott, needs slight attention, 2-speed, free-engine, Binks; accept £38, for quick sale.—Box 8,917, c/o *The Motor Cycle.* [6318

SCOTT.—Immediate delivery 1920 3¾h.p., solo or combination; £140 and £185 respectively.—Parker's Bradshawgate, Bolton. [X5504

1920 Scott, brand new, electric lighting set, speedometer, etc.; £135, or near offer.—Sutton, 41, Warkworth Av., Whitley Bay. [X5447

1917 Scott Combination, perfect mechanical order, Klaxon, lamps, complete; must sell; £90, or offer.—32, Elm Bank Gardens, Barnes. [6399

1920 Scott, sporting Canoelet sidecar, in capital condition, discs, mileage roughly 1,300; price £155.—Parry, 10, Manchester Rd., Southport. [6201

1920 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £100.—Dallaway, Fruit Merchant, Smethwick. [0275

1920 Scott, sports model, T.T. bars, horn, tools, etc. condition nearly new, mileage about 700; £125.—D. Lavin, Old House, Sonning, Berks. [6270

SCOTT, Christmas (1919), mileage about 1,000, new Amac carburetter, also Binks, spare inner, insurance; £100.—Underwood, Kendal, Sevenoaks. [6505

SCOTT Combination, new, ridden 50 miles only, fitted with Tan-Sad, screen, electric lights (4 volts), luggage carrier, 12 months' insurance; accept £195; too fast for owner.—Birch, 38, Queen's Sq., Wolverhampton. [6155

SCOTT, 1916, 1920 improvements, just overhauled by makers, all accessories, electric lighting, (battery), small mileage, excellent condition, ready ride away; reason selling, taken delivery A.B.C.; £89.—Mentone, Hirst Grove, Walton-on-Thames. 'Phone: 205. [5966

SCOTT Specialist, E. W. Ball, 6, Wheeley's Rd., Edgbaston.—I have no Scott in stock—all my customers are riding and enjoying them—but I will take your order for the first delivery of the 1921 model after the Show, and give you prompt delivery with efficient service. [6800

Singer.

SINGER 4h.p. and sidecar, 1914 model, 2-speed, lamps, etc.; best offer.—Garage, Horsmonden. [6330

4h.p. Singer Motor Cycle, 3-speed Armstrong gear, just fitted with new piston, rings, cylinder, etc., in first-class mechanical condition, good tyres, new belt; £50.—Parkhouse, c/o Agra Eng. Co., Teignmouth. [6071

Star.

STAR-J.A.P. C.B. Combination, 3-speed, all accessories, excellent condition; bargain to quick buyer.—Aspin, 1, Thomas St., Mountain Ash. [6677

Sun.

SUN-VITESSE 1916 2¾h.p., 2-speed, splendid condition, lamps, spares; £40.—13, York Rd., West Hendon, N.W. [6478

Sunbeam

1920 Sunbeam 3½h.p., just delivered; 148 gns.—Evans, Garage, Newport, Salop. [5631

SUNBEAM 1920 3½h.p., first-class condition, lamps, horn, etc., little used; £140.—G. Hallam, Louth, Lincs. [6036

LATEST 3½h.p. Sunbeam, brand new, nearly new Sunbeam sidecar, fully equipped; £175.—Stainer's Dairy, Ryde. [6231

1920 3½h.p. All-Sunbeam Combination, Lucas, accessories, Easting, etc., small mileage; £180.—Stretton's, Worcester St., Gloucester. [X5237

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; £100.—C. Barton, Clapham, Yorks. [0246

1920 Sunbeam, 3½h.p., brand new; in stock at list, £165 8s. easy payments or exchange.—2, Nightingale Rd., Lower Clapton, N.E. [6763

1920 Sunbeam 3½h.p., only done 800 miles, exceptionally fine machine, special engine, £142, no offers.—"Percy Mount," Cadley, Preston. [6199

SUNBEAM 1920 3½h.p. Model, head and rear lamps, bulb horn, indistinguishable from new, £160.—Parker's, Bradshawgate, Bolton. [X5497

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Sunbeam.

1919 4h.p. Sunbeam and Henderson Sidecar, Easting wind screen, and accessories; what offers?—Rowles and Avery, Sandford-on-Thames. [6395

SUNBEAM, brand new 3½h.p., solo model, with Lucas lamps and horn; £170.—The Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9004

1918 8h.p. Sunbeam Combination, black and gold, hood, screen, all lamps, horn, legshields, perfect; £140.—Dunn's, 326, Euston Rd., London. Museum 5391. [2990

SUNBEAM Combination, 6h.p., Easting, accessories, recently thoroughly overhauled, splendid condition; first reasonable offer.—Springfield, Newcastle Emlyn, Wales. [6141

SUNBEAM Combination, 1918-19, 8h.p. J.A.P., just overhauled every part at cost of £20, luxurious outfit with all accessories; £195.—The Crest, Dornmans Park, Surrey. [4362

TWIN Sunbeam Combination, original tyres, spare wheel, Lucas lamps, etc.; £160, or near offer; exchange New Enfield.—E. W. Barber, Clayton West, Huddersfield. [6539

1919 Sunbeam Touring Model, little used, in perfect order, tyres, unpunctured, complete equipment tools, and spare valve.—Offers over £120 to Box 8,915 c/o *The Motor Cycle.* [6316

SUNBEAM, late 1916, 3½h.p., and B.S.A. sidecar, electric lighting, speedometer, screen, tools, care fully ridden; £150; appointment.—F. Veare, Havant Club, Havant, Hants. [5923

WAUCHOPE'S, 9, Shoe Lane, London.—1919 8h.p. Sunbeam combination, spare wheel, hood, screen lamps, speedometer, mirror, warning signal, tools, condition like new; 200 gns. [6855

1920 3½h.p. Sunbeam Combination, bought in Sept. mileage 150, fully insured, electric lamps, horn speedometer; cost £225, accept £210.—Apply, P. S. Brar, R.M.C., Camberley. [6885

NEW Sunbeam 3¾h.p. Sporting Model; £155/8; in stock, ready for road. Cambridge agents for Sunbeams.—Herbert Robinson, Ltd., Green St., Cambridge Tel.: 995. T.A.: Bicycles. [6320

1920 3½h.p. Sporting Sunbeam, Henderson feather weight sidecar, new June, lamps, knee grips leg shields, sidecar and solo sprockets, in good order £150.—19, Abbey Rd., Cambridge. [6660

1920 Sunbeam Combination, 3½h.p., complete with lighting set, horn, and all accessories, condition as new; £160; reason for selling, owner bought car.—Brotheridge, Colways, Ashelworth, Glos. [6300

SUNBEAM 1919, 3½h.p., canolet sidecar, K.S. electric lighting, hand clutch, perfect running order, accessories, bought higher power; £140, or nea offer.—Westley, 5, Chichester Terrace, Brighton. [6800

1919 (Sept.) 8h.p. Sunbeam Combination, spar wheel, hood, screen, Bowden extra air, Luca lamps, speedometer, spares, and accessories; best offe over £200.—Townend, Stationer, Horbury, Yorks. [6410

2¾h.p. Sunbeam, 1914, stored during war, 2-speed clutch, K.S., new P. and H. lamp set, tools, etc will do 50, seen London, will ride 50 miles; £80, offer; must be sold.—Box 8,920, c/o *The Motor Cycle.* [6720

JUNE, 1920, 8h.p. Sunbeam Combination, hood screen, Cowey trip speedometer, Lucas electric lighting, spare wheel, condition perfect; £260, nearest offer; bought car.—Box 8,913, c/o *The Motor Cycle.* [6310

SUNBEAM, Oct., 1919, 3½h.p., black and gold 1,000 miles, picked engine, Bosch mag., large Lucas lamps, Klaxon, beautiful condition; £120. Sunbeam, 46, Lyncroft Mansions, West Hampstead London. [6800

1914 Sunbeam, 3½h.p., and Royal Leicester sid car, very little used, excellent condition, speedometer, lamps, F.R.S. head, Dunlops, good spa tube and case; £100.—Randolph, 45, High S Wootton Bassett. [6400

1919 8h.p. Sunbeam Combination, speedometer wind screen, electric and acetylene lighting legshields, luggage carrier, horn, just overhauled makers, perfect condition; any trial; offers.—82, Del man Rd., Peckham. [6400

1919 8h.p. Sunbeam Combination, disc wheel nearly new Palmer tyres, mud shields, lar P. and H. lamps, 2 generators, Klaxon horn, perfe condition throughout; offers over £190.—H. J. Morte The Hall, Thorney, Peterborough. [6200

SUNBEAM.—We are Wolverhampton agents; spa parts in stock; repairs, overhauls, re-enamelli and plating under the supervision of Mr. T. C. de Hay (late Sunbeamland).—The Molineaux Garage C Ltd., Wolverhampton. Tel.: 1160. [3400

2¾h.p. Sunbeam, 1915, 2-speed, C. and K.S., chain, oil baths, lamps, Bosch mag., new S spray carburetter, T.T. bars, and extra heavy Dunlo just paid £20 for overhaul; accept £65 cash.—W. P Carlton House, Bridge St., Pershore, Worc. [6200

1916 3½h.p. Sunbeam, sporting model, black and g all chain, toottests, Pedley grips, tools, in perf running order and good condition, fast machine, £1 Cowey trip, 70/-; Cowey ordinary, 50/-; good sp Hutchinson, 40/-.—Minoprio, 28, Alexandra Dr Liverpool [6

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Sunbeam.

UNBEAM Combination, 1914, 3½h.p., black and gold, Gloria coachbuilt sidecar to match, leg elds, Easting wind screen, lamps, speedometer, horn, w tyres, spare tyre and tube, tools, everything aplete, first-class condition; any trial; £125.—rence, Wyndham House, Bridgend, Glam. [6262

920 (July) 3½h.p. Sunbeam, only few weeks on road, mileage guaranteed under 500, Binks buretter, machine absolutely new; cost £160/16, eipt shown, sacrifice £147; with new Lucas King the Road lamps, Lucas horn, knee grips, £152; to.—Elman, 8, Maple St., Hightown, Manchester. [6418

T.D.C.

E LUXE T.D.C., 2-stroke, seen and tried week-ends.—18, Mydale, Salop. [X5241

919 T.D.C. de Luxe 2¾h.p. 2-stroke, just overhauled by Sharps, motor engineers, Lea, Preston, re machine is on view; £34.—Enquiries, H. A. keth, Queen's College, Cambridge. [6040

Thor.

Lh.p. Thor, chain drive, with clutch, new Dunlop 2 heavy on rear, in good running order, complete basket sidecar; £25.—Bannisters, Engineers, Church Oxford [X5462

Torpedo

918 Torpedo, 2½h.p. free engine, good running order.—46, Capel Rd., Oxhey, Watford. [6073

ORPEDO 2-stroke, 2-speed countershaft, good tyres, perfect running order; £30.—87, Fulham Palace Hammersmith. [6557

ORPEDO-PRECISION 4¼h.p. Combination, splendid order; £45; would exchange push bicycle and .—Gruber, Brooklands Laundry, Weybridge. [6060

Triumph.

913 Triumph, clutch model, in good condition; £40.—Gifford, Overton, Hants. [6497

920 Model H Triumph, new, unused; £124/10.—Margrave, Mottram, Manchester. [X5464

IUMPH 4h.p., 3-speed countershaft, good condition; £70.—Perriam, Studio, Chard. [6195

IUMPH 4h.p. 1919 Combination, new, lighting set; £120.—321, Ivydale Rd., Nunhead. [6364

D. Triumph, countershaft, all black finish, lamps, etc.; £75.—Cross, Agent, Rotherham. [X5565

IUMPH, W.D.B., renovated model, guaranteed by makers, splendid value, in stock; £105.—Below.

20 Triumph Combination in Stock, latest Gloria sidecar; £182/10.—Below.

21 Triumph, Model SD, all-chain drive, in stock; £140. We are Triumph specialists, and give special service.—Rhosha Motor Garage Co., Bar-Bank Mews, Romford. [6820

20 Triumph, Model H, 3-speed, unregistered; offers.—Stranks, 21, Dudley St., Leighton Buzzard. [X5231

20 Baby Triumph, accessories, complete; £78; mileage 150.—Eduey, Denmead, Cosham, Hants. [6285

UMPH 1920 4h.p., countershaft model, Type H., in thorough order.—Johnson Bros., Bourne, Lincs. [6138

UMPH, countershaft S.A., 3 speeds, clutch, kick start; £72.—Hole, 129, Park Lane, Carshalton. [6588

20 Triumph, Gloria, new, used few times, fully equipped; 142 gns.—365, King St., Hammersmith. [6462

UMPH 1916 C.B. Combination, 3-speed C.S., perfect; £72.—10, Baronsmead Rd., Barnes. [6647

8 Triumph, 4h.p., C.S., perfect running order; £75.—Dunn's, 326, Euston Rd., London. Museum [2984

20 Countershaft Triumph, just delivered, unused; £12 under list.—30, Greenhill Rd., Harles. [6653

20 (Feb.) Triumph 4h.p., little used, insurance to Feb.; £100.—Bamber, Broxton Station, nr. Cl r. [5930

18 Triumph Combination, in fine condition, lamps, etc.; £93.—39, Penrhyn Rd., Kingston-on ames. [6503

20 Triumph, Model H, countershaft, new, immediate delivery; £127/10.—Clarke and Co., Louth. e: 64. [6420

UMPH 1911, F.E., speedometer, lamps, etc., good unning condition; £30.—21, Cornfield Rd., Reigat Surrey [5976

19 Triumph, splendid condition (no lamps or horn); first cheque £97.—Rev. Hughes, St. John's, Llandri Wells. [6206

UMPH 1914 3-speed Roadster, perfect condition; £48.—B.M.C., Ltd., 254, Archway Rd., N.6. Hol ey 1210. [6273

20 Triumph, in good condition, new tyre, belt, Mabon clutch; £30.—Moffatt, 406, Garratt S.W.18. [6514

19 T.T. Triumph, condition as new, £15 worth of accessories; £90.—P. Wheatley, 34, St. Barnabas Rd Cambridge. [6214

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TRIUMPH, 1919, 3-speed countershaft, excellent condition, accessories; £80.—Carfax Motors Ltd., Cobham, Surrey. [6445

TRIUMPHS.—Delivery from stock of 4h.p. combination and Junior 2-stroke.—Pearsons', 52, Elm Grove, Southsea. [6257

TRIUMPH, 1913, with sidecar, Mabon gear, lamp, horn, good condition; any trial; £55.—23, Bickersteth Rd., Tooting. [6024

TRIUMPH 3½h.p., single speed, good running order; bring cash and ride away; £22.—Hole, 129, Park Lane, Carshalton. [6589

TRIUMPH Combination, 1917, countershaft, Gloria sidecar, lamps, fine condition; £78, or solo.—97, Angell Rd., Brixton. [6828

TRIUMPH 3½h.p., clutch model, dropped frame, renovated, sound condition, accessories; £30.—81, South St., Greenwich. [6566

4h.p. Triumph, lamps, speedometer, believed 1914, beautiful condition; 38 gns., or offer.—64, Church St., Edgware Rd., W.1. [6824

£28.—1911 Triumph, free engine, splendid condition, good tyres and belt; sacrifice.—257, Cavendish Rd., Balham, S.W.12. [6517

RENOVATED Triumph Combination, Whitley sidecar, all accessories, Cowey horn.—Leach and Co., Borough Rd., Darwen. [X5482

1918 Countershaft Triumph Combination, handsome outfit, unscratched; accept £110.—72, Longridge Rd., Earls Court. [6387

IMMEDIATE Delivery from Stock of any model by the Triumph specialists, The Premier Motor Co., Aston Rd., Birmingham. [5592

TRIUMPH Combination, new 1919, luxurious sidecar, fully equipped, excellent order; £110.—Kelham, Nassington, Peterborough. [6197

DAN GUY, Weymouth.—Sole agent for Triumph motor cycles; model H, £127/10; Baby 2-stroke, £75; delivery from stock. [5962

TRIUMPH, late model, equipped, plating and stoving as new, thoroughly overhauled; 80 gns.—89 Approach Rd., Water Lane, Brixton. [6786

1920 Triumph, all chain drive, fitted luxurious bulbous sidecar to match; £175; easy payments or exchanges.—Below.

1920 Triumph, all chain drive, new; in stock at list, £140; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [6764

TRIUMPH 4h.p., countershaft, smart condition, good tyres and belt, in perfect running order; £78.—261, Mitcham Lane, Streatham. [6724

TRIUMPH 1920 4h.p. Model with Triumph sidecar, horn, Watford speedometer, as new; £180.—Parker's, Bradshawgate, Bolton. [X5498

BABY Triumph, 1919, just overhauled, Miller lighting set, all accessories, guaranteed perfect; £55.—Harvey, Ebley, Stroud, Glos. [5972

4h.p. Countershaft Triumph, equal to new, only done 500 miles, F.R.S. lighting set; cash, £105.—69, Broadway, Frome, Somerset. [6267

1920 Triumph 4h.p., T.T. (decompressor), perfect order, very little used; £85, or offers.—Pepper, 47, Abington St., Northampton [X5236

TRIUMPH Countershaft Combination, 1919, lamps, horn, tools, bulbous back sidecar; £110.—60, Wallingford Av., N. Kensington. [6530

TRIUMPH 3½h.p., 3 speeds, clutch, new tyres throughout, belt, climb anything; £65.—Vick, Springfield, Rodborough, Stroud. [6605

4h.p. 1914 Triumph Combination, 3 speeds and lamps, engine good; £70, or cycle alone, £58.—B. H. Freeman, Union St., Winchester. [5938

1920 Triumph-Millford Combination, good condition, electric light, spares, etc.; trial; £120, offers.—Venables, Highgrove St., Reading. [6712

FOR Sale, Triumph 4h.p., 1919, 3-speed countershaft, with horn, speedometer, and watch; £100.—Liddiard, Downing St., Cambridge. [6019

TRIUMPH 1918 4h.p., 3-speed countershaft, accessories and spares, good condition; £80.—Apply, Warde Bros.' Garage, Ashtead, Surrey. [6146

TRIUMPH 3½h.p., clutch model, P. and H. lamps, usual tools; bargain, trial, £39/10.—Adelaide Garage, Adelaide Rd., Shepherd's Bush, W. [5926

TRIUMPH, 1916, just renovated by makers, faultless condition throughout; £105, or near.—H. W. Greenwood, Garage, Pangbourne, Berks. [5924

TRIUMPH 3½h.p., speed gear, free engine, complete with lamps and horn, condition perfect; £50.—78, Church St., Camberwell Green, S.E. [6428

TRIUMPH 1914 Coach Combination, tyres, belt, as new, accessories; any trial; bargain, £60.—17, Little Ealing Lane, South Ealing, W.5. [6266

1920 T.T. Triumph, brand new condition, mileage 800, fully equipped; bargain, £92.—31, Claremont Rd., Alexandra Park, Manchester. [X5543

MOTOR CYCLES FOR SALE.

Triumph.

3½h.p. Triumph, clutch model, Bosch, Dunlops, lamps, horn, tools, complete, perfect order: £39.—Mooney, 202, Market St., Crewe. [6404

1920 Triumph, 4h.p., C.S., new, and Sunbeam unused sidecar, fully equipped; £150.—Dunn's, 236, Euston Rd., London. Museum 5391. [2977

TRIUMPH Combination, 1919, speedometer, horn, Tan-Sad, tools, 3 lamps, few spares; £112, close offer.—10, Mitcham Rd., Seven Kings, Ilford. [6352

£135.—Brand new countershaft Triumph, Gloria pattern sidecar, ridden 200 miles; must sell immediately.—37, Arlington Rd., Surbiton. [6520

TRIUMPH 1914 4h.p. Model with Gloria coachbuilt sidecar, 3-speed gear, fully equipped, perfect condition; £90.—Parker's, Bradshawgate, Leeds. [X5497

1920 4h.p. Triumph, uncrated; list price; orders now being booked for 1921 models.—Whitby and Son, Triumph agents, 7, The Vale, Acton, W.3. [6480

JUNIOR Triumph, 1919, 2-speed, 2-stroke, countershaft, very little used, and scarcely soiled; £70; view evenings.—Hart, 153, Upland Rd., East Dulwich. [5950

1916 Baby Triumph, T.T. bars, straight exhaust, lamps, horn, very little used, first-class condition; £50, quick sale.—Jubilee Works, George St., Croydon. [6057

1920 Triumph, 4h.p., countershaft, Model H, T.T. bars, Lucas lamps and horn, speedometer, small mileage; £112, no offers.—Clarke, 15, South St., Louth. [6731

65 GNS.—Countershaft Triumph, accessories, splendid condition everywhere, or with cash for powerful combination.—670, High Rd., Tottenham, N.17. [6662

TRIUMPH, new 4h.p. model, £127/10; Triumph, new 1921 4h.p. Model, all-chain drive, £140; Triumph W.D. B models, £105.—Marston, 31, Bridge St., Chester. [6623

1920 4h.p. Triumph, Gloria sidecar, Cowey speedometer, wind screen, horn, lamps, low mileage, condition as new; £160.—Eric Porter, 25, Market St., Tredegar. [X5539

TRIUMPH 1919 4h.p., 3 speeds, clutch, countershaft, K.S., enamel, plating as new, overhauled, accessories; £79.—34, St. Clement's Mansions, Lillie Rd., Fulham, S.W.6. [6365

TRIUMPH Combination, 1914, 3-speed, fully equipped, excellent condition, stored during war; £90.—Stevens, 22, Huntingdon Buildings, Bethnal Green Rd., London. [6578

TRIUMPH, 1920, 3-speed countershaft, perfect, P. and H. lamps, Cowey horn, Watford speedometer, all tools, Tan-Sad; great bargain, £115.—23, Manchester Rd., Burnley. [X5544

TRIUMPH Junior, special finish, enamel and plating as new, horn, spare belt, tools, just decarbonised, condition as new, mileage about 500; £73.—D. Lavin, Old House, Sonning, Berks. [6269

1920 T.T. Triumph 4h.p., Model D, good as new, 120 miles to gallon, very fast; any offers, must sell.—'Phone: Chiswick 1232.—Edsell, 5, Queen Anne's Grove, Bedford Park. [6476

SPORTING Junior Triumph, nearly new, Lucas lamps, Klaxon, bulb horn, knee grips, T.T. bars, spare belt, tools, etc.; £65, or near offer.—B. C. Denney, Rodendale, Windsor. [6641

1913 Triumph, 3-speed, lamp, Klaxon, tools, footboards, splendid condition, little eused during war; £55, or near offer; by appointment.—Theobald, 35, Cartwright Gardens, W.C. [6208

1918 Triumph and No. 1 Mohtgomery, complete with lamps, Klaxon, speedometer, hood, screen (Triplex), tools, and many spares; price £150.—White, 39, Wilton Grove, Wimbledon. [6601

TRIUMPH, 1914, new engine, new gears, all other parts perfect; £48, for quick sale.—Powell, 1, Linslade Villas, Dorset Rd., Eltham, S.E.9; can be seen by appointment after 6. [6738

TRIUMPH, C.S. 3-speed, etc., lamps, horn, aluminium discs, in lovely condition, guaranteed perfect, ready to ride away; £80.—Norchi, 59, South Island Place, Brixton, S.W. [6821

4h.p. Triumph Solo, reconstructed by makers and just out of their hands, new tyres, the whole as new, £110; combination, £125.—Tel.: 6626 Museum. A.S.C., 60, Mortimer St., W.1. [6709

1916 W.D. Triumph C.S. Combination, Mills-Fulford sidecar, new last July, fitted hood, fully equipped; owner going abroad. £85.—Apply, Winterbotham, Admiralty, Avenue Elmers, Surbiton. [6291

TRIUMPH 3½h.p., 1914, Philipson, special compression machine, Lucas accessories, tip-top condition, and fast, £68.—Wyllie, Jesrol, Victor Rd., Narrow Rd., Willesden, N.W.10. [6050

3½h.p. Triumph Combination, C.B., very good running order, 2-speed gears, lamps, accessories; £57, nearest; exchange ten solo, cash adjustment. 22, South Audley Mews, Bond St., W. [6565

1920 2-stroke Baby Triumph, complete with all spares and accessories, new Dunlop tyres and belt, mileage about 300, carefully run in, better than new; what offers?—Apply, Brown, Ashford, Ludlow. [6295

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1920	**A.B.C.,** with Swan sporting S'car	£160 0
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1920	**B.S.A.** 6 h.p. Combination	£198 0
1920	**ENFIELD** Com., 8h.p., Magdyno	£200 0
1920	**ENFIELD** lightweight	£73 10
1920	**INDIAN,** Scout model	£140 0
1920	**NORTON,** 3½ h.p., direct drive.	£98 0
1920	**TRIUMPH,** 4 h.p., direct drive.	£165 0
1920	**TRIUMPH,** Model H	£127 10
1920	**TRIUMPH,** 4 h.p., chain drive.	£140 0
1920	**ZENITH,** 4-5h.p., sports model.	£123 0
1920	**ZENITH,** 6 h.p., sports model.	£139 0
1920	**ZENITH,** 8 h.p., sports model.	£139 0
1920	**VELOCETTE** lightweight	£75 0

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Triumph.

GREAT Bargain.—Countershaft Triumph combination, engine No. 45541, lamps, mechanical horn, wind screen, bulbous back sidecar, royal blue, ride away, £75.—374, Grove Green Rd., Leytonstone. [67

1920 4h.p. Triumph, Swan best sidecar, Lucas lamps, Cowey speedometer and horn, enamel and plating as new, guaranteed sound and perfect; cost £190, lowest £150.—West, Popeswood, Binfield, Berks. [40

FOR Sale, 1917 Triumph, countershaft, and 19 sporting Canoelet sidecar, fast outfit; willing to separate; must sell; best offer over £90.—30, Grange Crescent, Garden Village, Pengam, near Cardiff. [61

TRIUMPH, Model H. £127/10, S.D. £140, £105, L.W. £75; combination, Model £182/10, S.D. £195; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London W.1. [03

AUGUST 1920 Triumph Countershaft Combination mileage 500, most luxurious outfit, equipped gardess, 3 best Lucas lamp sets, Lucas horn, aluminium discs, Cameo screen, spares; £150, lowest 60, Wallingford Av., N. Kensington. [65

TRIUMPH 4h.p. W.D. Model, thoroughly overhauled and equal to new, all lamps, horn, etc specially recommended, £100; another 1919 combination, excellent order, all accessories, £115 Maudes', 100, Gt. Portland St., W.1. [67

1919 Triumph, Henderson sidecar, hand clutch, speed countershaft, fully equipped, lamps, etc condition as new; any trial; engine No. 59511; price £110 nett, or exchange 1920 Douglas combination Marsden, British Camp Hotel, Malvern. [X65

1919 Triumph Combination, engine No. 60379, wheels, Binks, wind screen, speedometer, P generator, lamps, horn, knee-grips, spares, new tyre and belt, insured, excellent condition; letters only £115.—Adams, Broomhurst, Fleet, Hants. [6

TRIUMPH 3½h.p., clutch, Colbro variable gear, belt, pannier bags, rings, bushes, etc., T.T. good lamps, tools complete, good tyres; any trial; examination invited; £50, or exchange good Douglas after 7 p.m.—113, Gleneagle Rd., Streatham. [5

TRIUMPH 3½h.p. 3-speed Combination, perfect order, any trial, Henderson Model A type coach sidecar, Dunlops nearly new, lamps, horn, spares, £ or exchange with Calcott, see column; any type Morgan.—Harveston, University Club, Birmingham. [6

TRIUMPHS.—4h.p. 1918 3-speed countershaft, Bosch mag., complete with all accessories, £85; 1916 countershaft, no accessories, £70; both in excellent order; new bulbous backed sidecars to fit same £21.—Owen, 59, Scholefield Rd., Upper Holloway. [X5

TRIUMPH Countershaft Combination, guaranteed perfect, fitted with special mahogany sidecar lamps, speedometer, etc., any trial given with three on any hill, must sell; genuine bargain, £110.—Richardson, 2, Kelton Villas, Hawks Rd., Kingston-Thames. [6

1920 Triumph Combination, special Montgomery sidecar, perfectly equipped with Lucas lamps side and rear lamps, Lucas horn, Klaxon, Watts trip speedometer, luggae grid, complete set tools, spares, guaranteed as new, unpunctured; £165.—Alpha Rd., Cambridge. [6

1920 4h.p 3-speed Countershaft Triumph and pedo Sidecar, disc wheels, T.T. bars, lamps horn, tols, unpunctured tyres, very little used; offers over £150; will sell separately.—Apply, Angelos, Eton College, Windsor. Bicycle on view Rowton Castle, Shrewsbury. [6

1918 Triumph Combination, 4h.p. model, 51 recently overhauled, Binks, electric speedometer, Dunlops, Rennoc 1920 canoe side quickly detachable, wind screen, whole splendid dition, tools, spares; £120.—72, Broomwood Wandsworth Common, S.W.11.

NEW Triumph 1920 4h.p. Countershaft M £127/10; 4h.p. Triumph, Type W.D.B., 4h.p. Triumph, chain drive, £140; 4h.p. fixed Triumph, sporting, £105; all models in stock. bridge agents for Triumphs.—Herbert Robinson, Green St., Cambridge. Tel.: 995. T.A.: Bicycles.

1919 Triumph, delivered 1920, 4h.p. coach combination, latest gear change, plating enamelling unscratched, with lighting set, screen, and accessories complete; price £130, or offer; any trial; splendid opportunity for a lot.—Collyer, 80, St. Albans Rd., Watford, Herts

TRIUMPH 1920 Model in Stock, £127/10; Triumph renovated models, £105; makers' price; also Triumph lightweight, £75, and Triumph 8 sidecar, £55; deferred terms and exchanges sired.—Lamb's, 50, High Rd., Wood Green, 151, St., Walthamstow, and 387, Euston Rd., London, N

1920 Triumph-Gloria Combination, engine 66758, full complement of lamps, tools, and Easting screen, in absolutely reliable and condition; will drive any reasonable distance to chaser upon receipt of cash, or can be seen and this week-end; £140.— Keen, Broad St., Leom

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TRIUMPH Coachbuilt Combination, 3 speeds and clutch, Best lamp set, Brooks saddle, spring wheel decar, 2 pannion bags with tools, lamp, pump, etc., verything in excellent order, take three anywhere, sured fire, theft, third party, and pillion riding, any ial or mechanical inspection; 68 gns.—33, Jubilee d., Doncaster. [6720

NEW Models in Stock for immediate delivery; Type D Triumph 3½h.p., single-geared, £105; Type H, speed, £127/10; Type H combination, £182/10; ype SD combination, £195; Type LW, 2¼h.p. lightweight, £75; free delivery; free tuition; all Triumph are parts in stock.—The Premier Motor Co., Aston d., Birmingham. [6595

VAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 1920 4h.p. Triumph, delivery from stock, 27/10 solo; can be fitted with Gloria or any other ike of sidecar immediately from stock; also new 1920 .p. Triumph combination, all-chain drive, £195; and p. W.D. renovated Triumph and sidecar, renovated 20 by Triumph Cycle Co., £120. [6860

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CYRIL WILLIAMS, for early delivery of Velocette —Chapel Ash Depot, Wolverhampton. [2265

HORSMAN can do Velocettes from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0328

VELOCETTE.—Immediate delivery 1920 2¼h.p., 2 speeds; £75.—Parker's, Bradshawgate, Bolton. [X5499

VELOCETTE, 1920, latest D2 model, new July, perfect condition, new appearance; £65.—Cooke, Shill Terrace, Cheltenham. [6674

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VERUS 2½h.p., 2-stroke, 2-speed, free engine, kick start, 100 m.p.g., excellent condition; £60.—shier, Burrowbridge, Bridgwater. [6425

VERUS 1920 2¼h.p., 2-speed, kick start, as new, lamps, horn, excellent condition, trial, reason ng no time ride; £85, no offers.—G. Cargill, Holls Heath, Kirdford, Sussex. [6287

Vindec.

VINDEC, 2¼h.p., 2-speed, original tyres and belt like new, enamel and plating perfect, lamps horn; accept £49 for quick sale.—257, Cavendish Balham, S.W.12. [6518

Wilkin.

WILKIN.—Immediate delivery 1920 3½h.p., Blackburne engine, 3 speeds, kick start, hand-controlled h. all-black finish; 132/7.—Parker's, Bradshawgate, on. [X5506

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h.p. Wolf-Jap, countershaft 2-speed and clutch, fully equipped, splendid condition; £45.—131, tilla Rd., Tooting. [6358

WOLF-BLACKBURNE, Wolf-Villiers, and Wolf-Jap 1920 models in stock.—Tel.: 6626 Museum. A.S.C., Mortimer St., W.1. [6708

WOLF 2¼h.p. Lightweight, Albion 2-speed countershaft, aluminium footboards, good tyres, splendid condition, grand climber; photo; bargain, £30, sale.—20, Frankfort St., Birmingham. [6408

Wooler.

h.p. 1920 Wooler, 6 speeds, McNab's record breaker; £85.—Wauchope's, 9, Shoe Lane, London. [6880

WOOLER, 1920, lamps, Cowey horn, quantity of spares, small mileage; bargain, £85.—Coles and ey, Chepstow. 'Phone: 48. [0313

1920 Wooler 2¾h.p., variable gear, all lamps, etc., in splendid order; £80; exchanges or easy pays.—2, Nightingale Rd., Lower Clapton, N.E. [6771

Yale.

h.p. Yale Combination, twin-cylinder, sidecar repainted, with hood; price £85.—Frank Burten Ltd., Bell St., Reigate. 'Phone: 226. [3750

Zenith.

Zenith, countershaft model; £55.—Wauchope's, 9, Shoe Lane, London. [6875

h.—Zenith 1916 5-6h.p., smart, fast and sound.—32, Felstead Rd., Wanstead. [6004

Sporting Zenith, 1920, never ridden; £118.—Currie, University College, Oxford. [6023

N GUY, Weymouth.—Sole agent for Zenith motor cycles; early delivery 1921 models. [5965

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ZENITHS.—In stock, 8h.p., clutch, kick starter; £162.—Noyce, Northgate, Gt. Yarmouth. [6181

ZENITH, new 1921 sports model, twin, immediate delivery; £123.—Marston, 31, Bridge St., Chester. [6624

ZENITH 8h.p., T.T., clutch, recently fitted new pistons, etc., all accessories; £70.—Akam, Harris St., Bradford. [6012

1920 8h.p. Countershaft Zenith Combination, electric light; best offer accepted.—17, Garden Av., Mitcham, S.W. [X5044

1919 (Late) 6h.p. Zenith Clutch Combination, complete accessories, insured; £140.—15a, Elsham Rd., Kensington. [5949

8h.p. Zenith Combination, 1914, good order, new tyres, belt, and lamp; £70, or best offer.—Smith, Bletchington, Oxford. [6124

1919 8h.p. Zenith, countershaft model, spare belt, lamps, horn; £125, or near offer.—Pim, Corpus Christi College, Cambridge. [6533

45 GNS.—Zenith-Gradua 4h.p., 1915, new tyres, lamps, Klaxon, tools, fast, perfect.—24, South St., Newport, Isle of Wight. [6263

1920 Zenith 6h.p. Sports, slightly used for demonstration, as new; 127 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [6699

ZENITH 1920 8h.p., clutch, Swan sporting sidecar, all accessories, only 1,400; £198, offers.—14, Queen's Rd., Hoylake, Cheshire. [6242

ZENITH 8h.p. Sporting Model in stock; £139.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0319

1919 (June) Zenith 5-6h.p. Countershaft Combination, Canoelet Minor sidecar, mileage under 1,500, just overhauled by makers; offers.—Nelson, Barnsdale, Burneside, Kendal. [6192

ZENITH Combination, 3½h.p. Gradua, perfect running order, beautifully sprung cane sidecar; engineer owner; £50, sacrifice.—42, Glenthorn Rd., Jesmond, Newcastle-on-Tyne. [6406

ZENITH 1920 6h.p. Sporting Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee-grips, Ace disc wheels, luggage grid, as new; £170.—Parker's, Bradshawgate, Bolton. [X5496

1920 8h.p. Zenith Combination, countershaft model, complete with all accessories, including screen, luggage grid, etc., and perfect in every respect; £185.—Rogers, 113, Bishop's Mansions, Fulham, S.W.6. [6494

F.O.C.!! have a 1919 6h.p. Zenith, T.T. bars, accessories, grand condition; cheap.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [6237

BRAND New 1920 8h.p. Zenith Combination, complete with lamps, speedometer, horn, insurance policy; cost £220; for immediate cash £195, as owner ordered abroad.—J. Beer, 36, Queen's Gardens, Lancaster Gate, London, W. [2024

1920 Zenith, sports model, 8h.p., fitted Flying Middleton sidecar all lamps, horn, tools, etc; only 3 months old; as new; £127/10; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [6765

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments; one-fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [6379

ZENITH-GRADUA 4-5h.p. Twin, countershaft clutch, K.S., smart coachbuilt sidecar, Easting wind screen, luggage and petrol can carriers, 3 lamps, 2 generators, perfect appearance and condition, many spares; what offers—B.V., 38, Cowley Rd., Oxford. [6244

1920 (August) 8h.p. Sporting Zenith, Swan combination, fully equipped with best of everything, tyres unpunctured, plating and enamel indistinguishable from new, fully insured, mileage 1,400; £180.—17, Dover Terrace, Sandycombe Rd., Richmond, Surrey. [6246

ZENITH-GRADUA 6h.p., twin clutch model, recently thoroughly overhauled and modernised by the makers, with 1920 Montgomery coachbuilt sidecar, all tyres as new, every accessory, perfect condition throughout; £95.—H. Mercer, Ltd., Albion House, 59, New Oxford St., W.C.1. Tel.: Museum 3707. [6348

ZENITH Combination, late 1915, 5-6h.p., clutch, kick start, new tyres and tubes, perfect condition, privately owned, comfortable coachbuilt sidecar, Easting wind screen, handle-bar clock, 2 acetylene lamps, mechanical horn, spare band, week-end trunk.—Apply, E. G. H. North, Farnborough School, Hants. [6799

1920 Zenith, 8h.p., clutch and countershaft model, with coachbuilt sidecar, all accessories, including P. and H. lamp set, mechanical horn, and Easting wind screen, tyres 650×65 all round as new, the whole machine in practically new condition; owner bought car; accept £160 for quick sale.—Dr. Orr, Brand Lane, Ludlow. [5694

£135.—1916 Zenith 6h.p. and brand new Swan sports sidecar, completely equipped with all lamps, horn, etc., just been thoroughly overhauled, and in splendid condition throughout; may be purchased by paying one-third down, balance in 12 monthly instalments.—Allen-Bennett Motor Co., 9, 10, and 11, Royal Parade, London Rd., West Croydon. [6302

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1920 8h.p. Zenith Combination, countershaft model, best grey Canoelet sidecar, with hood, screen, and side curtains, best Lucas lamp sets, Cowey speedometer, Lucas horn, watch, and Tan-Sad pillion seat, guaranteed perfect and as new, low mileage; £200; no offers entertained. — 365, Green St., Upton Park. 'Phone: East Ham 303. [6398

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CALTHORPE 2-stroke, 2-speed, as new, mileage 1,000, lamps; £45.—Smith, 229, Maryvale Rd., Bournville. [X5067

MURIEL HIND'S 6h.p. Rex, open frame, for sale; exchange Scott or lady's Douglas.—Lord, Wall Hill Hall, Corley, Coventry. [X5488

DOUGLAS Lady's, 2-speed, footboards, lamps; £29/10.—5, Eglon Mews, Berkley Rd., Primrose Hill (near Chalk Farm Tube). [6567

DOUGLAS Lady's 2½h.p., clutch, kick start, 2-speed, good condition; appointment; £45.—Ingleside, Meeting House Lane, Berkswell. [X5529

1918 New Imperial Lady's, 2½h.p. J.A.P. engine, clutch, 2-speed, K.S., in good running order; price £70.—R. Wilmer, Southery, Norfolk. [6508

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3½h.p. Triumph Engine, B.S.A. frame, 2-speed gear box, F.E., 1914 Bosch, new B. and B., new Clincher tyre, tube and belt, £30; underslung side car to suit, £5; room wanted. Apply, 68, South St., Bridport, Dorset. [6650

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RICHARDSON Light Car, 7-9h.p. Rudge combin tion, Triumphs, 5-6h.p. James, all new; immedia delivery.—Ewens, Garage, King's Lynn. [59

BOOTH'S Motories, Halifax.—1914 Enfield combin tion, £89/15; 1916 3½h.p. Brough, opposed cyl 3-speed countershaft, and sporting sidecar, £81/10.

BOOTH'S Motories, Halifax.—1919 P. and M., wit new sidecar, £110/10; 7-9h.p. Indian, with to pedo sidecar, £60/10.

BOOTH'S Motories, Halifax.—Six 1915 Douglase £49/10; two 1918 4h.p. Douglases, £85/10.

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BOOTH'S Motories, Halifax.—3½h.p. N.S.U., ma Grado gear, £15/15; 3½h.p. Ariel, £25/10.

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S.E. Clapham (Motors), Greenwich, offer bargains all departments to make room for 1921 model offers and exchanges entertained.—27, Stockwell S Greenwich, S.E.10, or 'phone Greenwich 751. [68

SPECIAL Offer of 500 second-hand Indian, Harle and Henderson solo mounts, full range of models from 1915-1920, all are fully equipped and first-class order, guaranteed in perfect condition. O prices show a saving of 40% to you. Write for f particulars and lists to Gotham Sporting Goods Co., Warren St., New York City, U.S.A. [60

F.O.C.H., the Car and Motor Bike People.—Call a see us. New and second-hand motor cycles, co binations, and light cars always on view; prices to s everybody. We will buy your old mount or allow a go price for it in part exchange. Agents for Coulson Matchless, Harley-Davidson, Rudge, A.J.S., B.S.A., N Imperials, Allon, Bat, Omega, Sun, O.K., Coven Eagle, Wolf, and the famous G.N., Little Midla Horstmann, and Deemster cars. All new cars and mo cycles at makers' list price.—5, Heath St., Hampste (near Hampstead Tube Station). 'Phone: Hampste 3752. Hours 9-7, including Saturdays. [17

MOTOR SCOOTERS.

SCOOTER, Mobile Pup, with seat; £40.—Evans, G age, Newport, Salop. [56

EGERTONS, Northgate, Ipswich, can deliver fr stock A.B.C. Skootamotas and Mobile Pups. [55

MOTOR Scooter, 1¼h.p., 3-speed, neat appearan £30, or offers.—158, Halifax Rd., Todmorden [61

A.B.C Scootamota, nearly new, electric light, t beautifully; what offers?—Box 8,888, c/o *Motor Cycle*. [60

AUTOPED Scooter, electric lighting, shop-soil £37.—Motorcycle Marts, Ltd., Fair Row, H St., Chatham. [61

A.B.C. Skootamota; immediate delivery can be giv Covers, tubes, spares stocked.—Howes and Sc Ltd., Chapel Field, Norwich. [8

1920 A.B.C. Skootamota, brand new, new type, black finish, in stock at list; exchanges or c payments.—2, Nightingale Rd., Lower Clapton, N.

AUTOPED, the original Auto-scooter, 1½h.p. 4-str engine, with clutch, dynamo lighting, horn, to etc., new; £32.—P. J. Evans, 83-91, John Bright Birmingham [0

1920 Mobile Pup Scooter, electric lighting, slightly slop-soiled; first cheque £30 secu R. Bamber and Co., Ltd., 33, Liverpool Rd., R dale, Southport. [6

KINGSBURY Scooter, absolutely as new, not d 200 miles, guaranteed perfect; owner must real first cheque £28 secures, cost over £50.—Marble Motor Exchange, 135, Edgware Rd., W.2. [6

HOODS, WIND SCREENS, ETC.

CAMBER.—Hoods, 55/-; wind screens, 27/6.—Bri and Hayles, 78, Church St., Camberwell, Lon [6

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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What is a Lightweight?

THE line of demarcation between the lightweight and the heavier types of motor cycles has always been a matter of opinion. Hitherto, engine size has been the deciding point, and generally about 350 c.c. capacity has been regarded as the limit of the lightweight.

Although engine capacity has some bearing upon type, it cannot be said to be an essential factor, as a machine weighing 190 lb. may have an engine of 1,000 c.c., while the engine of another weighing 300 lb. may be only 350 c.c.; yet, according to past and present ideas of lightweights, the heavier machine would be a lightweight and the lighter one would not.

Just as weight should be the deciding factor with a light car, so should it be with the light motor cycle, and as, next year, taxation will automatically divide motor cycles into two classes, the line made by the Government, at the suggestion of our governing bodies, should be used to determine the limits of a lightweight.

If this ruling for taxation be accepted by the trade and riders as showing the line of demarcation, then only those machines which weigh under 200 lb. should be termed lightweights, irrespective of their engine capacity.

At the present time there is no authentic list of weights in existence, as our efforts to obtain correct figures have been confined to those machines we have weighed ourselves. Hitherto makers have quoted only approximate weights, but the new taxation should induce catalogue compilers to be accurate on this point, as, in cases where a machine is on the border line, it will make a difference of thirty shillings in taxation.

We urge all makers to quote in their lists the exact weights of their machines. Catalogues are being prepared at the present time, and we would suggest that it would give would-be purchasers confidence in the figures given if an actual weighbridge ticket were reproduced.

Police Permits for Exports?

UPON transport in its various forms depends the welfare of the nation, and the question of its cost has a great influence upon the cost of living. One would think, therefore, that the Ministry of Transport would be too occupied at the present time to be concerned in matters which seem to be designed for no other purpose than to hamper industry.

We refer to certain proposals which we understand are being considered by the Ministry, one of which, if carried into effect, must have a retarding influence upon the Overseas trade of the motor industry. True, it is only a rumour—but rumours of which we take notice may be accepted as being more than idle gossip. The suggestion, we understand, is that the Ministry of Transport proposes to seek compulsory powers to ensure that police permits be obtained before any motor vehicle is shipped abroad.

This new form of red tape is intended to be added to the mass of formalities which are a source of discouragement to manufacturers who endeavour to improve our foreign exchange by developing trade abroad. It is well known that for years *The Motor Cycle* has continuously used its influence to foster overseas trade, and we are in a position to state that in many quarters export trade is not considered worth the trouble entailed in getting the goods out of the country. The necessity for permits is bound further to restrict business with Overseas markets, and on this score alone the proposal should be dropped.

The idea of imposing a restriction of this character is to prevent traffic in stolen machines—truly an extraordinary remedy for a doubtful disease—and would be a measure stigmatising every exporter as a wrongdoer upon whom a check should be kept. It is not in keeping with the traditions of a country where everyone is deemed innocent until proved guilty. We hope to hear no more of this absurd barrier to the success of British trade Overseas.

An Index to the advertisements in this issue will be found on the page facing the back cover.

Trials for Man or Machine?

OUR article of October 21st under the above heading put the case extraordinarily well. (N.B.—*I* didn't write it.) Veterans will remember that pushbicycle competitions went through three stages.

Stage 1.—Competitions tested the bicycles, advertised the makers, and provided sport for riders.

Stage 2.—Competitions advertised the makers and provided sport for the riders.

Stage 3.—Competitions provided sport for the riders.

I have long ceased to take a cycling journal, but I imagine that stage 3 still persists, and that the North Road C.C. and other clubs still organise competitions, in which only a very small and very enthusiastic minority of push-cyclists are seriously interested. Ultimately motor cycle trials will reach the same phase. At present we are still in stage 1. I agree with the writer of our article that the A.C.U. Six Days exist to inform the general public about the capacity of current machines; and I see no reason why the one-day trials should not be encouraged to provide all possible sport for us maniacs who support them. It is sad to think that a day must come when the man who tries to win medals on a motor cycle will be regarded with the same genial contempt by the general public as the people who lie awake at nights scheming how to put an extra mm. on to the bore of a prize leek.

Route-marking in Trials.

I AM sure that on consideration, the Rev. J. M. Philpott will agree that yellow ochre ought only to be used for route-marking in conjunction with arrows. I have ridden through several trials this year in which road-staining was the sole directive at many points. It is well enough on a lonesome Scottish moor, where there is no traffic about, but is altogether too distracting when there is a lot of traffic, or pedestrians about. But if you are entering the main street of a busy townlet by a narrow lane, and leaving the street on the other side by another narrow lane within a few yards, especially when the lanes are massed like the spokes round a hub, you cannot afford to glue your eyes on a graceful blue or yellow stripe on the cobbles. Some riders, no doubt, are blessed with a natural squint. Personally, on these occasions I value an obtrusive little placard; and, as other correspondents point out, it is the easiest job in the world to devise a placard which is not at the mercy of small boys. Placards used discreetly in conjunction with road-staining provide an ideal system. Is this correspondent so innocent as never to have noticed that certain trials organisers have a penchant for placing their arrows when they cannot easily be seen? In the 1919 Arbuthno Trophy (which was a non-stop), many arrows wer ingeniously posted so that the riders ran special risk of overshooting them and missing a turn.

A Low Saddle.

NOT infrequently a tall rider finds it difficult t wangle quite the ideal riding position. He can not get far enough back on the frame, becaus the average saddle has a bridge piece at the back which fouls the carrier tie-bars or even the rear guard For such cases I can recommend the B220 Brook saddle, which has no rear bridge piece. There ma be others, but up to date it is quite the lowest saddl I have struck.

The Magdyno.

DOUBTING Thomases, who wonder whether Magdyno will serve them as faithfully as ou untidy but loyal friend acetylene, should pluc up heart of grace. This system of electrical lightin has now been adopted on a cheap but sound make c car, to wit, the 1920 Morris-Cowley. More than tha the Morris-Cowley has been selected by the She interests for the transport of their battalion of travelle —if you see a Morris-Cowley painted Post Office re you behold a Shell testimonial to the reliability of th Magdyno. This augurs well for the future of electr lighting on motor bicycles. I am having one fitted t a baby two-stroke for winter pottering.

Road Signals and Motor Cyclists.

I HAVE not forgotten the newspaper boys who use to dodge their 2 h.p. Minervas through Londo traffic in all weathers with a hundredweight parc of the *Star* on their backs. But the ordinary rider less agile, and I should say the most obvious poi about compulsory road signals is that when the roa are greasy not one rider out of every two dare take hand off his bar to signal. This difficulty does n apply in all localities, for some roads are never real slippery, and it is true that when London wood pavi is greasy, the duffer type of solo rider makes a poi of staying indoors. But nevertheless there are tho sands of riders who often find themselves in the sad under conditions where they would rather risk a pros cution than steer one-handed, even for half a secon I ride generally in all weathers, but I am not asham to confess that there are certain traffic centres a certain corners where I need both hands if the surfa is greasy. Let Sir Eric Geddes do a month on a hea twin solo this winter before he enforces these sign on us. Why, there are times when I wait a mile or to inject a pump of oil because I dare not let go.

Gaiters Justified.

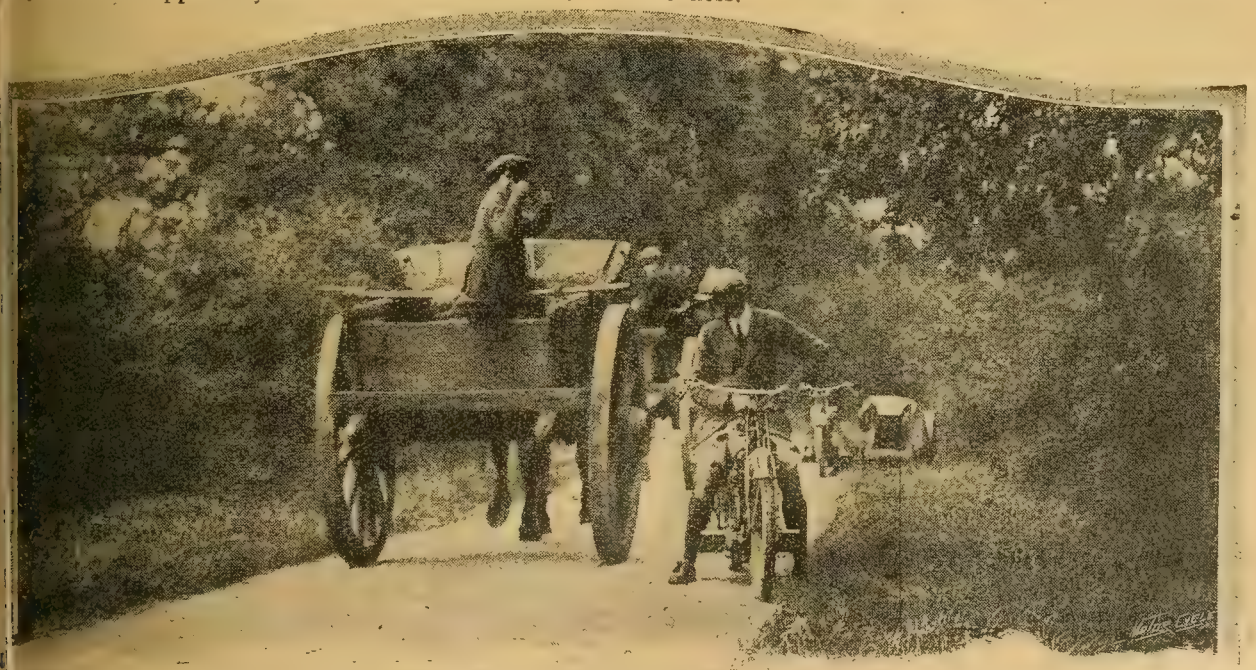
DINING out the other night, I experienced sensations analogous to those of speed wobble when I found myself placed next a gaitered prelate by a tactless hostess. I say tactless, because motor cyclists are fundamentally godless, since our hobby turns us all into pessimistic materialists, whereas a bishop is—or should be—an optimistic spiritualist. Anyhow, whilst I desperately rummaged my memory for fragments of the thirty-nine articles, the jovial bishop opened the ball by remarking that he rode a Baby Triumph. This put me at my ease, and when he mentioned that his diocese was in Central Africa, I foresaw copy, and began to neglect my soup. The next bombshell was that he infinitely preferred a push-cycle. This was simply shocking! I reversed our respective *rôles*, and called up all my reinforcements with the intention of making a convert. Let me confess at once that I failed.

A Novel Market.

THE right reverend gentleman explained that he had bought a Baby Triumph because he often tackled 300-mile jaunts through bad lion country, and that a lightweight was essential, as a river ford often ended in a vertical bank twenty feet high, up which one might have to hew steps. On the other hand, the best machine had its drawbacks, for there were no garages or hotels in the bush. One has to carry weapons, tent, fuel, oil, and food, as well as the special episcopal impedimenta (he did not specify what these were, but unless the Ingoldsby Legends are out of date, let us put it at bell, book, and candle). A sidecar or cycle car was impossible, owing to the narrowness of the track. He had tried trading on native carriers to establish dumps at native huts and villages, but this system was not satisfactory, as the native huts are infected with "tick fever," which is apparently first cousin to trench fever, and quite incurable. So this peculiar branch of the Overseas market demands a bantamweight machine, capable of transporting, say, a couple of cwt. of luggage, and absolutely proof against serious breakdowns. I was unable to recommend an ideal mount for such conditions, and I did not blame his lordship in reserving his Baby Triumph for use on the one good road in his outlandish diocese. My natural shyness prevented me from suggesting that he was sure to win a gold medal if he entered in the Six Days.

Drying Up.

I PUBLISH the following experience without prejudice, as nothing in my own Odyssey forms a parallel to it. A Midland doctor, who is something of a motor cycling "knut" to all appearances, tells me that he has two sparking plugs which I know to be first-rate—in fact, I often use sister plugs on any engine which is apt to dry up. He finds that if he hill-climbs at maximum speed on an A.B.C. or a Scott, the machines will do about three ascents of his pet test hill in great form; *e.g.*, at 60 m.p.h. more or less. If he continues to make fast ascents the engine "dries up" and stops. I cannot make head or tail of this. My own experience with "drying up" is that a very brief stop puts things right, and I have never owned a mount which could do three fast climbs in succession, and would then dry up on a fourth, after the long cool implied in a descent of the hill. If the version of the facts is correct, I should say that the sparking plugs are only the secondary cause. The primary cause must surely be metallic distortion in the engines of an unusually slow and progressive character. I should judge that in the case of the A.B.C. the piston rings are probably on the tight side, and that the drying up would disappear with wear; and that in the case of the Scott the walls of the cylinder may possibly vary a trifle in thickness.



"Thumbs up." Although only the joke of a youngster with a sense of humour, the action could be taken as symbolic of the motor cycle movement. In spite of the turmoil through which industry is now passing, it is at heart sound, and things are in reality "All right."

DAY TRIPS and WEEK ENDS

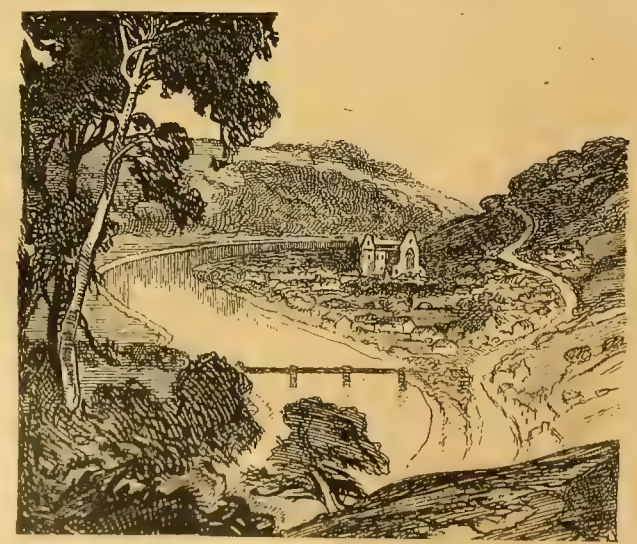
by C.G. HARPER

CHEPSTOW TO ROSS, HEREFORD, AND ABERGAVENNY.

THIS is a route of magnificent scenery and roads chiefly of great excellence: a wonderful combination greatly to be desired and not often experienced. Chepstow stands beside the river Wye, where it broadens out, presently to meet the Severn. Here is the lowest bridge over the Wye, and from the other side of it (not on our route to Monmouth, but worth crossing for the view) is the best idea of Chepstow's situation to be obtained. There you see that Chepstow, before ever it became a market town, was a place of great military importance. Cresting the limestone cliffs rising from the river runs the long length of the ruined castle whose last fight was in 1648. By a picturesque stroke of poetic justice, the regicide, Henry Marten, was at the Restoration imprisoned in one of the ruined towers, and there he died in 1680. But we need not pity him, for that "imprisonment" was an easy one, and he visited and dined out with the Welsh squires at neighbouring Piercefield pretty much as he pleased. His epitaph, of his own composing, may be read in the grim Norman church of Chepstow. It is worth reading; the beginning of it is after this manner:

"Here or elsewhere, all's one to you, to me,
Earth, air, or water gripes my ghostless dust;
No one knows how soon to be by fire set free.
Reader, if you an oft-tryed rule will trust,
You'll gladly do and suffer what you must."

Chepstow Castle, a stronghold of olden days.



Tintern Abbey is one of the most beautiful and familiar sights of the Wye Valley.

Describing the Valle of the Wye and Son of its Beauty Spo

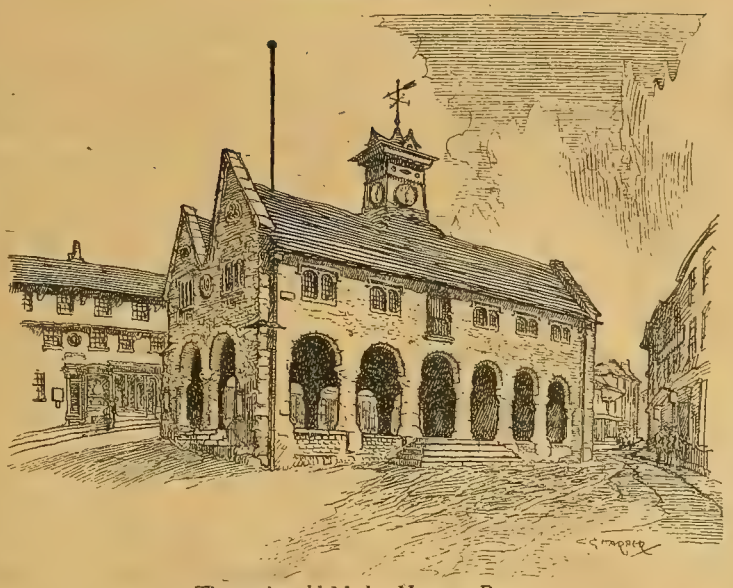
We leave a commonpla road behind at St. Arvan in two miles, and en upon a delightful thr miles to Tintern, with t Wye looping upon its below, on the right, a the wooded hills and cli of the Wyndcliff on t left. The Wye so co pletely doubles upon own course that it fon almost an island. It is t peninsula of Llancau with a ruined chapel on The grey ruins of Tinte Abbey presently sho ghostlike, among the app orchards beneath the roa Descending into the villag past the "Beaufort Arms the west front immediate faces the street. Tinte was a monastery of the white monks, the Cistercian who settled here in 1131. This religious house w founded by Walter de Clare, who thus sought, li many of the pious founders of that age, to compou for his deeds of violence. Rebuilt in 1260, the rui stand as an example of th purest phase of Ear English. There was nev any tower. Merely roofles the Abbey is not a ru in the complete sense, a could be restored, if suc a doing were thinkabl Some twenty years ago was purchased by th Government from the Duk of Beaufort, and is in th keeping of the Woods an Forests Department. It well seen from the wate side, but best from the hil sides above Little Tintern whence you look down upo the river, the valley, an the road, and can take i the whole situation.

Under Barbador Hil but along an easy road, w proceed by Llandoge

Trips and Week Ends.—

sing the Wye at
g s w e i r railway
ion and level cross-
and thence reach
mouth through
brook, crossing the
again into the
. Distance, thus
sixteen and a half
s.

Monmouth stands
re Wye and Mon-
meet. Agincourt
ire is the centre
he town. It is
ed in honour of
ry V., who was
victor in that
e, and was born
Monmouth; and
s, according to
llen, in Shake-
e's play, was a
hman. How that can be, seeing that Monmouth
counted an English county, does not appear. A
unpleasing statue of Harry of Monmouth stands
niche in front of the equally ugly Shire Hall;
down below is the statue of C. S. Rolls, motor
nd aviation pioneer, killed in an exhibition flight
ournemouth, July 12th, 1910. He is shown in
et of examining a model aeroplane. The most
sting relics of old-time Monmouth are the scanty
ns of that castle in which Henry V. was born,
riel window called "Geoffrey of Monmouth's"
the church, and the ancient defensible gateway
s the bridge spanning the Monnow at the southern
of the town.



The quaint old Market House at Ross.

The Man of Ross.

eping to the right at the
of the roads past the
, we come in one mile
ixton village, whose
church stands in an
y beautiful situation be-
the Wye. Thence
h Whitchurch to Good-
where we take the left-
fork. Note near the
ss Keys" Inn a curious
ng with three wings,
the "Tripod House."
s the vicarage built in
by the Rev. Thomas
grandfather of Dean
and was intended by
as symbolical of the
y. Goodrich Castle
away beside the Wye
right-hand road.
aching Pencraig, the
ed sandstone towers of
would appear to be
r castle stand beside
d; but they form only
trance to Goodrich

A picturesque spot near Abergavenny on the Monmouth road.

Court, and were built by Sir Samuel Meyrick, a famous antiquary in his day, a hundred years ago.

In a further three miles we cross the ancient bridge at Wilton, with its pillar sun dial, and come uphill into Ross, famous for John Kyrle, the bachelor benefactor of this, his adopted town, born 1637, died 1724. The house he lived in faces the quaint old Market House. He looked from his windows upon the Market House day by day, and, being an ardent Royalist, he caused to be carved on those old walls a curious device yet to be seen there, formed by the letters "F" and "C" impaling a heart, and signifying "Faithful to Charles in Heart." Such were the simple conceits of bygone ages. The many things that John Kyrle, the "Man of Ross," did for Ross cannot be detailed here. He caused the lofty church spire to be rebuilt; and, being a lover of trees, he planted, among others, the churchyard avenue of elms. It was, therefore, with something like superstitious awe that the people of Ross, a good many years ago, when one of the elms he had planted was cut down, saw two elm-suckers springing up in the church through the floor of his pew. And there they are, to this day.

The Fair City of Hereford

The way to Hereford is unmistakable. At three and a half miles out, keeping to the left at the fork, and thence through the hamlet of Old Gore, it becomes very hilly. Passing Fownhope, the road touches the Wye, and comes to Mordiford, where, turning left, we cross the river and come into the fair city of Hereford on the level.

Hereford is a cheerful and bustling city, very busy in the agricultural way, especially in cattle, and very much more modern in general than would be expected. But the cathedral, in its quiet Close, sounds a vastly different note. A small but beautiful and stately cathedral, of a red sandstone, with architecture ranging from grim and heavy Norman to the last phase of Gothic.

Day Trips and Week Ends.—

The most curious thing in it is a map of the world, made in 1314: a fearful and wonderful, if at the same time, an extraordinarily incomplete world. Hereford, be it said, is one of those trebly-blest cities that have no tramways.

It is from across the Wye that, looking back, we get the best view of Hereford. Here we turn south, and at the fork roads in half a mile bear right, for the twenty-three miles to Abergavenny—a very pleasant road, past Tram Inn railway station, St. Devereux, Wormbridge, and Kenderchurch. The tourist who cares to turn threequarters of a mile left at St. Devereux will be repaid by a sight of Kilpeck Church, one of the smallest, and one of the most perfectly beautiful of late Norman churches, in this country. Beyond Kenderchurch we enter at Pontrilas the valleys of the Dore and Monnow. Thence by Pandy, where the road grows hilly, to Llanvihangel Crucorney. The park here is notable for its fine avenue of Scotch firs, the noblest in the county. Finally, past Mardy, comes Abergavenny, busy and prosperous, with its battered old Priory Church and collection of much mutilated effigies, suffering from the surgical operations and amputations inflicted in the past by fanatics or by the merely mischievous. And that is what the power and state of the ancient Lords Marchers, th fierce de Braoses and others, have come to: an arra of broken-nosed, and some armless and legless effigies

Abergavenny sits on the hillside above the meetin of the rivers Usk and Gavenny, in a pleasing lan commanded by that great hill, or mountain, the Sugar loaf, nearly four miles distant, but looking nearer from its abrupt outline. It rises to 1,954 feet.

The remaining seventeen miles into Monmouth ar part of the great main road from Gloucester to Milfor Haven. It is an easy road, beginning along the valle of the Usk, passing Penpergwm and Rhyd-y-Grave Here, at the fork roads, keep to the left, avoiding th right-hand turn for Usk. Soon we come to Ragla Village, with the massive and stately ruins of the castl on the left: that fortress residence of the old Marqu of Worcester, who, at the age of eighty-four, defende it in the interests of the Royalists in the long sieg of 1646, and finally surrendered only to starvatio marching out with all the honours of war, as so gallan a gentleman should. Through Mitchell Troy villag and then past the park of Troy House, until recen years a seat of the Duke of Beaufort, we short come into Monmouth across the ancient Monno Bridge, and under the archway of its defensible gat

The distance covered on this route is 81½ miles.

PETROL LEVEL.

Methods of effecting an Essential Carburetter Adjustment.

WHEN making experimental adjustments to cars or motor cycles, it is always advisable to be able to return at once and with certainty to the original state of things in case the alteration made turns out to be a disadvantage rather than an improvement. This applies with especial force to the setting of the petrol level in the float chamber of a carburetter. The advice usually given is to move the collar up or down the needle as required by means of a vice and a hammer. This is all very well in some cases, and it is not difficult to tap the needle farther through the collar when the petrol level is to be lowered by holding the needle loosely in the vice with the collar resting on top or at the side of the jaws and tapping the reverse end gently with a small hammer. The collar is generally a driving fit, in which case no difficulty is likely to be experienced, but sometimes it is sweated on, and then heat must be applied. It is not so easy to move the collar in the other direction because the point of the needle cannot be tapped without risk of damage. The procedure will then be to hold the needle tightly in the vice and slip over its point a piece of tube which is loose on the needle but will engage the shoulder of the collar, and tap this with the hammer. In the event of a suitable piece of tube not being available (a very likely contingency), an adjustable spanner can be made to take its place. These operations are shown in the accompanying sketches. When the collar is shifted on the need it is not easy to return it exactly to its original po tion if the alteration proves to be the reverse of ben ficial—moreover, some carburetter needles have, i stead of a movable collar, a small slot into which t clip can spring. Therefore it is better, at any ra until the experiments have proved their success, to alter the level by means of washers—a light washer below the clip will lower the level and a heavy one above the clip will raise it. As some floats have a very small margin of buoyancy, the washer washers, used below the clip, must be very light or th will not have the desired effect. A cork washer will satisfactory where petrol only is used, but this wo be destroyed by benzole and become crumbly. small aluminium washer will serve the purpose adm ably, and is easily made from sheet aluminium if a is available, but this is not always the case. T small brass eyelets used in boots and shoes, and obta able at a few pence per dozen from a shoemaker cobbler, will prove very suitable. The wide e should be placed on the float, and the narrow e which can easily be cut with a pair of scissors if it too high, against the clip, or, in a top feed carburett against the collar.

AURIGA.

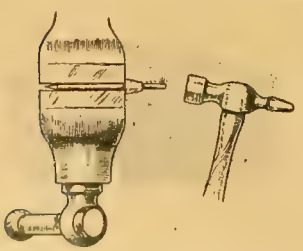


Fig. 1.—Moving the collar of a carburetter needle away from the point. The needle is held loosely in the vice.

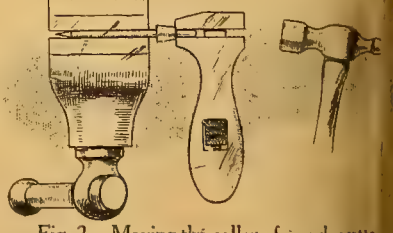


Fig. 2.—Moving the collar of a carburette needle towards the point. In this case th vice grips the needle tightly and the spanne is free to slide.

Testing a Chassis-less Sidecar.

The Advantages of Non-rigid Structures as applied to the Sidecar Strikingly Demonstrated

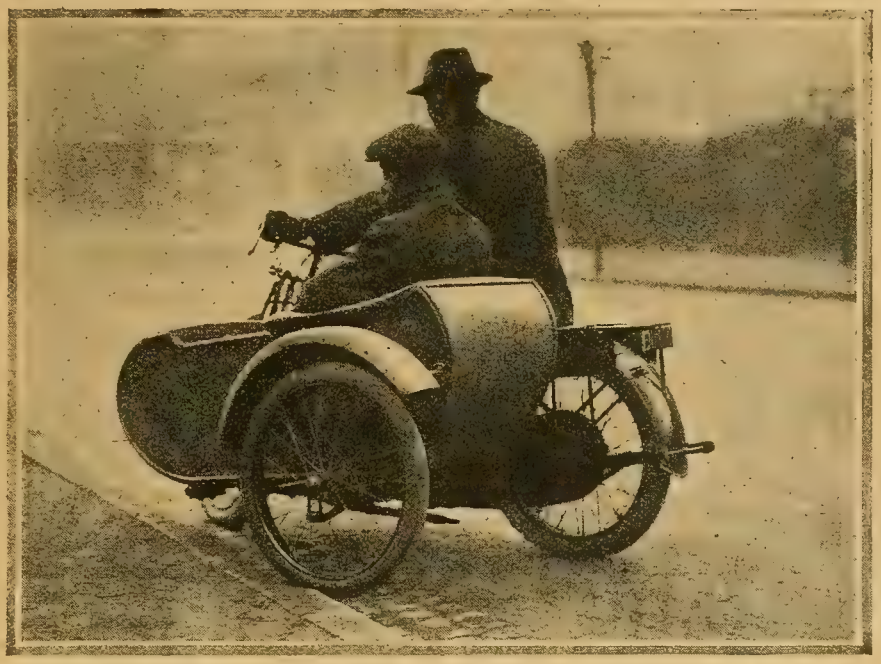
A NEW sidecar, to be known as the Millford-Rock, manufactured by Messrs. Mills-Fulford, Ltd., of oney Stanton Road, Coventry, is to be own at Olympia, and it is one well rthy of inspection.

The design has already been described our pages (issue of August 5th, 1920). may be recalled that it is of Aus- lian origin, and no doubt its production some reflex of the road conditions in t country. As far as Great Britain concerned, it will be associated with old-established name of Millford, and ore deciding upon its adoption as a ndard 1921 model the makers have put hrough some most searching tests.

Charging Kerbstones.

t a later date we shall describe the hod of construction, but the model we ected and tested was not exactly as final product will be issued, for eral of the experimental fittings were d-made. The sidecar is unique in t it has no chassis, but consists simply double cranked axle, flexibly attached the chain stays of the cycle at one and carrying the wheel at the other. lerneath the body are bearings in ch the axle swings, and an adjustable ng transferring the load on to the iked arms of the axle. The bottom the body, of course, is specially gthened, and is held at the front telescopic spring connection, while a lar arrangement connects the axle to seat lug of the machine, thus keeping latter vertical.

he whole structure is quite flexible, no matter how the wheel strikes acles, the sidecar body floats on, or less undisturbed; it is quite ible to swerve into the kerb of the path with the side wheel at 15 or 18 m.p.h., and only cause the slightest shock to the sidecar passenger. Over a deeply pot-holed road merely the minimum of vibration is felt—not nearly so much as that experienced in a large and well-sprung car when passing over a similar place. Steering is also improved, especially as regards left-hand turns, which may be made without the least fear of the sidecar lifting. None of the connections being rigid, the severe side thrusts and jolts to which the motor cycle frame is usually subjected are almost entirely damped out.



Trying to break the new Millford-Rock sidecar. Attached to a 6 h.p. A.J.S., this chassis-less spring sidecar has been taken at high speeds over all the worst roads in the Midlands; charging into kerbstones without warning is its daily gruelling, but although the passenger may be startled, he scarcely feels the bump!

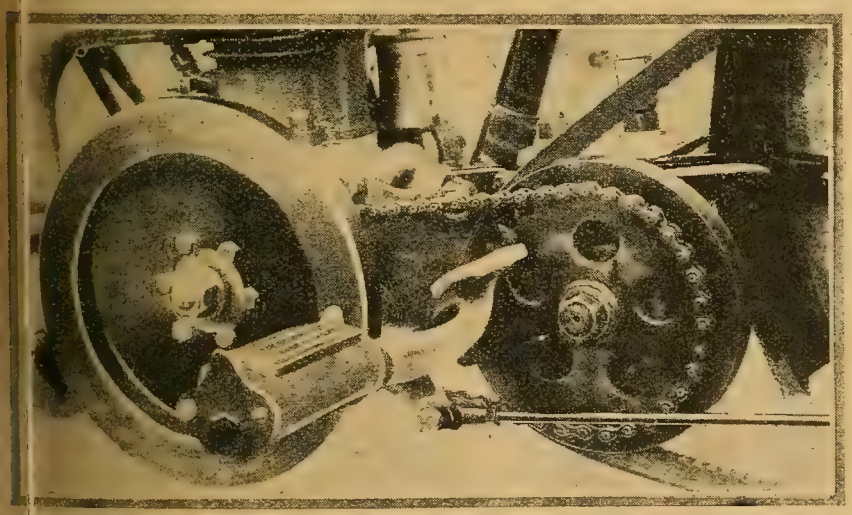
Fitting a Countershaft Gear.

Gear Boxes for Well-known Single-geared Lightweight.

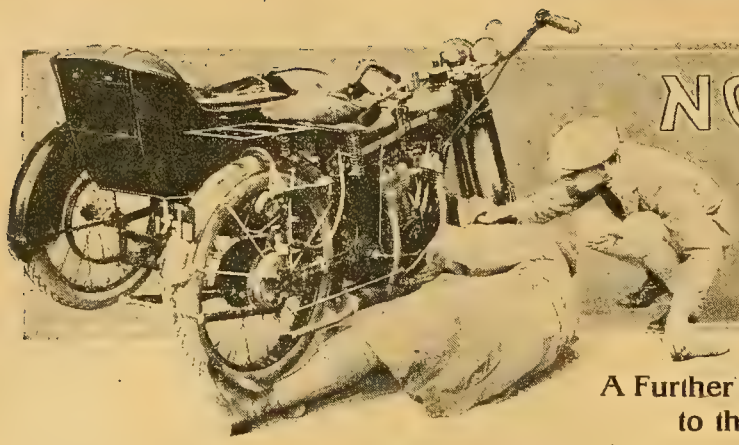
MOST people who own single speed motor cycles desire sooner or later to convert them so as to take a gear box. The 1920 O.K. Junior motor cycles have all been made with single speeds, and owing to the construction of the bottom bracket it has been rather difficult to have a countershaft gear box fitted.

The Albion Engineering Co., Ltd., Tower Works, Upper Highgate Street, Birmingham, by a slight alteration of their gear box, and by making a special set of holding-on bridges, are now able to get over this difficulty, and fit the simple two-speed and the clutch and kick-starter gear boxes without alterations to the frame.

If the engine fitted is the Union or Mark II. Villiers the flywheel must be sent to the Albion Engineering Co. to be bored out, and have a special adapter made for the sprocket, but for the Mark III. or Mark IV. Villiers engines sprocket adapters can be supplied.



An Albion two-speed gear fitted to an O.K. Junior. Any model of this single-geared mount may now be so converted.

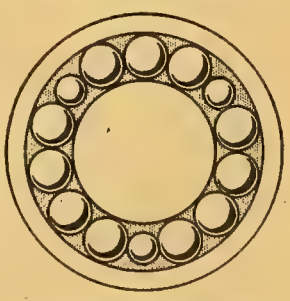


NOTES FOR THE NOVICE VII

A Further Series of Hints, with Special Reference to the Adjustment of Cycle Bearings.

(*Continued from page* 434.)

AS motor cycles were evolved from pedal cycles by the addition of engines, etc., it is not surprising to find that they bristle with cycle parts. Some motor cycles seem, indeed, to have been evolved rather than designed, and this, no doubt, accounts for the great popularity of the diamond frame (so-called), which has made good, and proved its suitability for cycles, where the propelling power is provided by the rider, but cannot be considered ideal in all points when the propulsion is provided by an engine. Some points of similarity between the pedal cycle and the motor cycle have disappeared, or are in process of disappearing—for example, the change-speed gears in the rear hub, brakes on the wheel rims, and small, unpadded saddles. This is all to the general good, and there are other features which might well follow their example. The design and method of adjustment of the steering head cannot be considered ideal. Thrust bearings are usually employed, and these are not suitable for the more severe strains which would be better resisted by journal bearings. What is wanted is the combination of thrust and journal bearings found in the corresponding parts of a car, or, failing this, the cup and cone adjustable bearings found in cycle wheels would be an improvement, as these are capable of resisting both transverse and longitudinal strains.



Occasional small balls, which do no harm, but help to keep the other balls in their places.

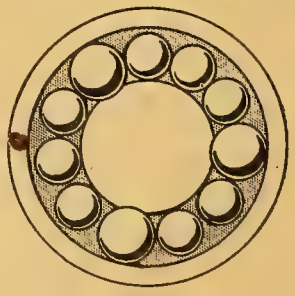
The Advantages of Correct Adjustment.

In the days of the cycle boom cyclists took a great pride in their machines, and spent much time in keeping their bearings clean, and in correct adjustment, for carelessness in these matters meant that the rider had to work harder when propelling his machine along the road, and found a difficulty in keeping up with his companions. Correct adjustment has the further great advantage that it improves the wearing qualities of the parts, and the rider will have no need to complain to the maker that the machine has failed to give the length of service which might have been expected.

The average motor cyclist, too, takes a considerable amount of trouble in looking after his machine, but he is often apt to forget that the whole cycle needs attention, and to confine his efforts to his engine and to playing about with his carburetter—a fascinating pursuit, it is true, but not all that requires doing. The wheel bearings should be carefully adjusted so that the side shake is *just* removed, and the wheels left perfectly free on their bearings. The final test for freedom should be made after the lock nuts have been tightened up, for sometimes screwing these up has the effect of tightening the bearings more than is intended.

Replacing Balls.

If, by any chance, it becomes necessary to replace any of the balls in a bearing it is essential that they shall be of identical size with the old ones, otherwise they will not do their proper share in carrying the weight. In the event of being unable to obtain balls of the correct size, one or two balls smaller than the fellows will function satisfactorily, especially if the small balls are placed at intervals; but occasional large balls are very harmful, and should on no account be used, as they may give way themselves under the extra load they have to sustain, or damage the cups and cones. It is generally the last-named that suffer first, and correct adjustment becomes a length impossible.



Occasional large balls, whose presence is very deleterious, and which will soon ruin a bearing.

Locknuts.

Many motor cycles are provided with locknuts for the bearings inside the forks instead of relying upon the nuts which hold the wheel in place to do a double duty as on pedal cycles. This is fairly common on rear wheels (but sometimes also applied to the front), and is good in itself because it enables a wheel to be removed for tyre changing purposes without interfering with the adjustment of the bearings; and also because it provides an interval between the fork and the bearing which gives the mud which runs down the fork better opportunity of dropping off before it can reach

otes for the Novice.—

ie bearing—in my opinion a very important point, nd one which more makers would do well to con-der, especially on their front wheels.

Head Adjustment.

There is, of course, far less movement in the bear-gs of the head, which oscillates slowly or remains actically stationary while the wheels are revolving pidly, than in the other bearings, but it is just as portant to keep these bearings properly adjusted. ther a loose or a tight head has a very bad ect upon the steering.

It is fairly common practice to drive the magneto a chain, although a gear drive is generally recom-nded by the magneto makers. Unless this chain very carefully adjusted it will, on the one hand, im-se undue strains upon the bearings of the armature being too tight, or, on the other, become loose ough to hit against its cover and cause a most oying rattle. The difficulty is often increased by the use of sprockets having a small number of teeth. The chains employed generally are half-inch pitch, and I should be inclined to advise the use of a chain of shorter pitch, as this innovation would admit of sprockets having a greater number of teeth without any increase in the overall diameter, resulting in a smoother running chain. Another reason why the correct adjustment of the magneto chain is so important lies in the fact that a slack chain causes the magneto timing to be somewhat retarded, although the ignition lever may be in the position of full advance. This is liable to cause the engine to overheat, and, in general, to have an adverse effect upon the running.

J.H.W.

Previous articles in this series include:
CARBURETTERS—Parts I., II., and III., Aug. 5th, 12th and 19th respectively; and VARIABLE GEARS—Part I. Sept. 23rd, Part II. Oct. 7th, and Part III. Oct. 14th.

BRAKES AND SKIDDING.

An Account of Experiments with Models which seem to Favour the Front Wheel Brake.

THE front brake of a motor cycle is usually regarded as an unnecessary encumbrance, fitted only to comply with the law. Even the careful r rarely thinks of using his front brake, and rds it only as an emergency fitting.

he neglect of the front brake is due possibly in a e measure to the idea that its use is liable to e skidding. It is true that on a push bicycle the len locking of the front wheel down a steep hill is able to project the rider over the handle-bars, but following considerations will show that a front el brake properly used is far preferable to one he rear wheel.

s far back as 1904 the effect of brakes on the on of a car was discussed by the eminent tist, Sir George Darwin, at a meeting of the British ciation in Cambridge. Without going into his ematical treatment of the problem, it is well while repeating the experiments he performed, h show in a most striking fashion the effects of ying the brakes to a car.

e apparatus required is of the simplest character, the experiments can be performed in a few ents by anyone. All that is required is a small n wheels—such as the truck of a toy train—and ping board down which the car can travel.

xperiments duplicating Road Conditions.

the experiments performed by Sir George Darwin brake" was applied by locking one pair of the ls before letting the car slide down the board. st, the rear wheels were fixed and the car allowed de. One would expect the car to take a straight down the slope, the locked wheels acting as a behind. Actually what invariably happens is the car turns completely round, and finishes its ey with the locked wheels in front. If the model s started with the front wheels "locked," it s a perfectly straight descent.

these experiments the car was started with the s on. By a slight modification, the conditions can be made more nearly to approach to those on the road. A short piece of thread is fixed at one end to one of the axles, and at the other to the body of the car. As the car rolls down the slope, all four wheels revolve, and the thread is rolled round the axle until it is taut. In this way the brake is applied suddenly to one pair of wheels, and the result can be studied.

An Anti-skidding Rule.

If the front wheels are braked, the car suddenly slows up and finishes in a straight course without skidding. If the rear wheels are suddenly locked, the car skids. If the board is sufficiently wide, the model will swerve to one side, turn completely round, and finish its course with locked front wheels.

From these experiments it would seem that the proper course is to apply brakes to the front wheels.

Other considerations, however, affect the design of motor vehicles. It requires more complex mechanism to transmit the power from a lever to the front wheels, although this was done on some of the early tricars; for example, the Humber of about 1906 had compensated band brakes working on the front wheels. Again, most riders naturally prefer to operate a brake with the foot rather than by hand; and in the case of a motor cycle it is much simpler to connect the foot lever to a rear brake than to one on the front wheel.

Closely allied to the action of brakes is the effect of the application of the driving force to a wheel.

It is well known that on greasy roads or wet tramlines any sudden torque on the back wheel of a motor cycle may have disastrous effects.

The cause is the same, viz., an effort to rotate the wheel at a speed different from its natural rolling speed on the road; it is immaterial whether it be faster or slower. Hence the rule in bad weather should be to avoid rapid acceleration and deceleration.

J. T. DUFTON, M.A.Cantab.

A31

Road Tests of New Models

Some Road Impressions of the Dunelt 500 c.c. Two-stroke as a Sidecar Machine.

WHEN long before last Olympia, we first inspected the drawings and experimental engines of the Dunelt big single two-stroke, we felt that, with perseverance and careful study on the part of its designers, it would eventually materialise as a serious sidecar proposition.

It was exhibited at the last Show, and created a great deal of attention as a passenger machine at a popular price. The exhibit served merely to test the potential demand for such a machine, and no orders were accepted, as the makers had still certain difficulties to overcome, and to make arrangements for production.

In the meantime, encouraged by the interest manifested in its design, the experiments were continued, and two machines were entered in the A.C.U. Six Days Trial. One of these was fitted with a sidecar, and was in the hands of a driver who had never before competed in a trial.

A Wonderful Performance Recalled.

We confess that when we saw the machines at Darlington, on the eve of the start, and learned that the sidecar outfit had only a 12 to 1 ratio for its lowest gear, we thought its chances of securing a "gold" were small. It was the first time a two-stroke had taken a sidecar through a Six Days Trial—and the most difficult Six Days to boot—yet both machines secured the much prized gold medals.

This trial proved that a 500 c.c. air-cooled two-stroke was a practical proposition as a sidecar machine, and was at least the equal of a 4 h.p. of the four-stroke type. In fact, it is worthy of note that 4 h.p. four-stroke sidecar machines were originally entered, but were withdrawn when the severity of the route became known.

At Olympia this month, the Dunelt will again be exhibited, but this time as a commercial proposition.

Recently, we were afforded an opportunity of trying the sidecar outfit on the road. The machine itself being one of the Six Days mounts, with many thousands of miles to it credit. The Sturmey Archer gear box was still in the position adopted hurriedly for the big trial, that is above the bracket designed for a different type of gear box which was fitted to the machine at the last Show. In the production model the more conventional position below the bracket has been decided upon.

It may be remembered that the Dunelt differs from the orthodox three-port type of engine in one important respect. It has a stepped cylinder and piston which increases the displacement in the crank case. This provides better scavening and, in consequence, less tendency to four-stroke at low speeds and under light loads. The "two diameter" piston also has the advantage of being cooled on both sides of its wall by the entrance of the cool gases. Whether or no this is one of the reasons why the engine runs so cool the fact remains that it will apparently run indefinitely without overheating, and without giving trouble through distortion.

This is certainly an important point gained, as although the Dunelt is not the first big single air cooled two-stroke, it is the first to be placed on the market in this country, after it has been proved equal to all the tasks expected from a machine of its size.

The Effect of Appearance.

One's first impression of the Dunelt from an appearance viewpoint is the apparently enormous size of the cylinder. This is due to the double diameter piston referred to above. Then its inclined position in the frame, and the angle of the intermediate frame tube give the machine the appearance of being somewhat high at the front.

These latter points, however, are only first impressions created because the machine departs from conventional outlines. It is not, however, so heterodox as to create unfavourable comment. It is merely different, and therefore attracts the eye.

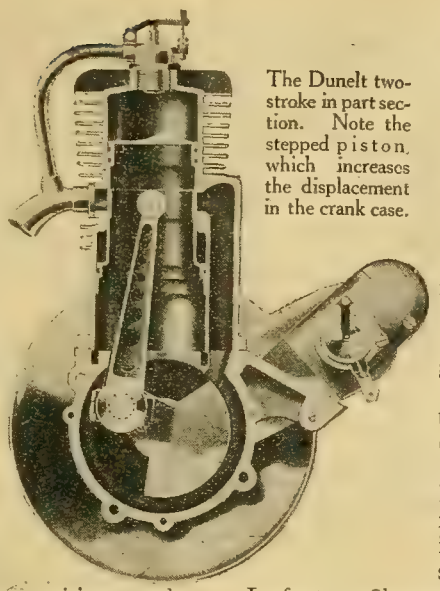
Once in the saddle, any suggestion of unconventionality disappears, and one gets an impression similar to that obtained on a big twin or 4 h.p. single with

Road Tests of New Models.—

large tanks. One has no doubt that the Dunelt is a fully-fledged sidecar machine, and when the engine is started there is little of that uncertainty of impulses usually present with a two-stroke. The machine we tried certainly four-stroked a little, but scarcely any more than some flat twins have eight-stroked; in fact, when running idly, the occasionally four-stroking reminds one of a twin of which one cylinder is occasionally cutting out.

Once under load, however, all four-stroking ceased, and, with the even torque of a flat twin—without a flat twin's mechanical sounds—the machine gets away smoothly and without any "fuss." A strange carburetter, with lever opening in the reverse direction from the one we had just left, a totally different riding position, and different location of the brakes were all points which were against favourable impressions at once, but in a hundred yards we were quite at home on the machine.

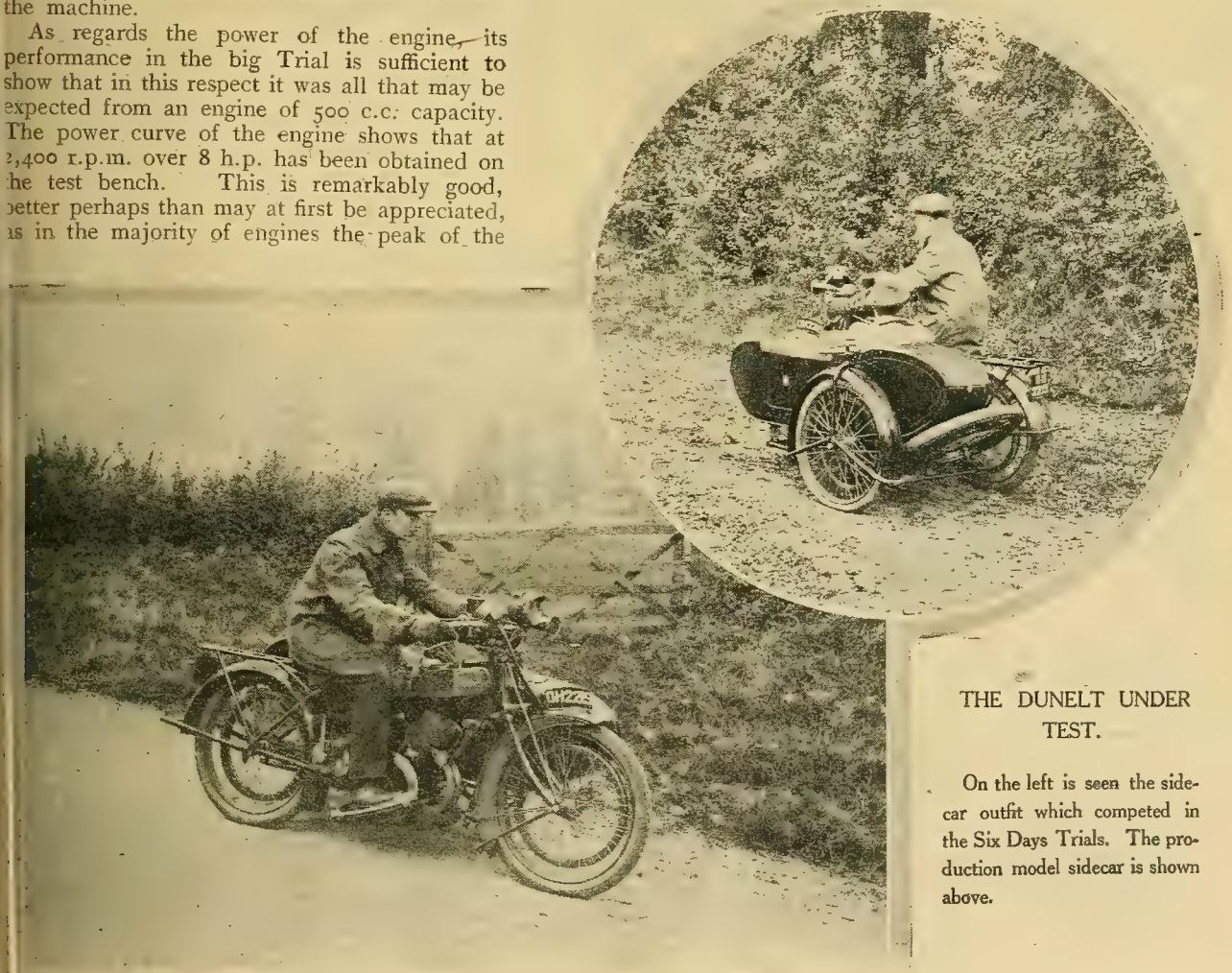
As regards the power of the engine, its performance in the big Trial is sufficient to show that in this respect it was all that may be expected from an engine of 500 c.c. capacity. The power curve of the engine shows that at 2,400 r.p.m. over 8 h.p. has been obtained on the test bench. This is remarkably good, better perhaps than may at first be appreciated, as in the majority of engines the peak of the curve is reached at higher speeds—speeds which are seldom used in a motor cycle. For a motor cycle, at all events, an engine which will give good power at the lower speeds is better than another which may develop a greater power at much higher speeds.



The Dunelt two-stroke in part section. Note the stepped piston, which increases the displacement in the crank case.

The Dunelt engine develops 5 h.p. at 1,400 r.p.m. and 6 h.p. at 1,600 r.p.m., and as these are the powers and speeds used under normal conditions, such results should be regarded as very satisfactory.

Incidentally, the average 1,000 c.c. twin at about 2,700 r.p.m. generally develops about 13 h.p. So far as retaining its power is concerned, we have seen many engines tested, and must say that the Dunelt maintained its maximum in a manner quite as satisfactory as four-stroke engines. In fact, we have been surprised at the length of time this big two-stroke has run all out under the adverse conditions existing in a shop. Probably it is owing



THE DUNELT UNDER TEST.

On the left is seen the sidecar outfit which competed in the Six Days Trials. The production model sidecar is shown above.

Road Tests of New Models.—

to the satisfactory reading at the lower end of the curve that the makers favour comparatively high gear ratios, and in riding the machine we have the impression that the top gear was a little too high for sidecar work, notwithstanding that a very satisfactory speed was obtained on the level. This, however, was only an impression, since we had just dismounted from an 8 h.p. twin, and were on a strange machine.

Probably other riders have noticed that, having become accustomed to one machine, it requires some time to be able fairly to judge the speed, power, and tune of a strange mount. Especially is this the case when one leaves a four-stroke and tries a two-stroke.

A Comparative Test.

After having again taken over our own machine, we accompanied the Dunelt exponent, Capt. Dudley Barton, who rode the solo machine in the Six Days, and who now took the Dunelt with empty sidecar, when the big two-stroke proved to be superior to the twin, which had twice the capacity.

As a solo machine, too, the Dunelt should be satisfactory; but in making it a dual purpose mount the designers appear to have considered that the larger number will be used with a sidecar. It has quick detachable wheels, interchangeable all round, including the sidecar, and we understand it will be marketed with a spare wheel, so it will be seen that it is as a sidecar outfit that the greatest demand is expected.

Smoothness and Economy.

The engine is particularly smooth in its running, for which its large outside flywheel is partly responsible, while as for flexibility, exhaust noise, and petrol consumption it compares favourably with a four-stroke of its power. With an automatic carburetter 60 m.p.g. is being obtained with sidecar and passenger, but the makers hope to improve upon this in the production model, which we hope to test more fully at a later date.

In the meantime we are very favourably impressed by the general performance of the machine, and congratulate Messrs. Dunford and Elliot upon the successful issue of their long series of experiments.

The Real Lightweight.

Will the 70 lb. Motor Cycle Materialise Next Year?

THE idea of a 70 lb. lightweight on true motor cycle lines, as distinct from the miniature developed from the scooter, is an attractive one to a large number of potential riders who require a runabout machine. Many who are in the market for such machines have stated their requirements to be a small motor cycle at the price even below that of a scooter, and opinion has been almost unanimous that it cannot be produced.

At the present time the 1¾ h.p. J.E.S. is the nearest approach to the type of machine we have in mind, but instead of being a development of the motorised bicycle, the new type will be a redesigned proposition entirely on motor cycle lines.

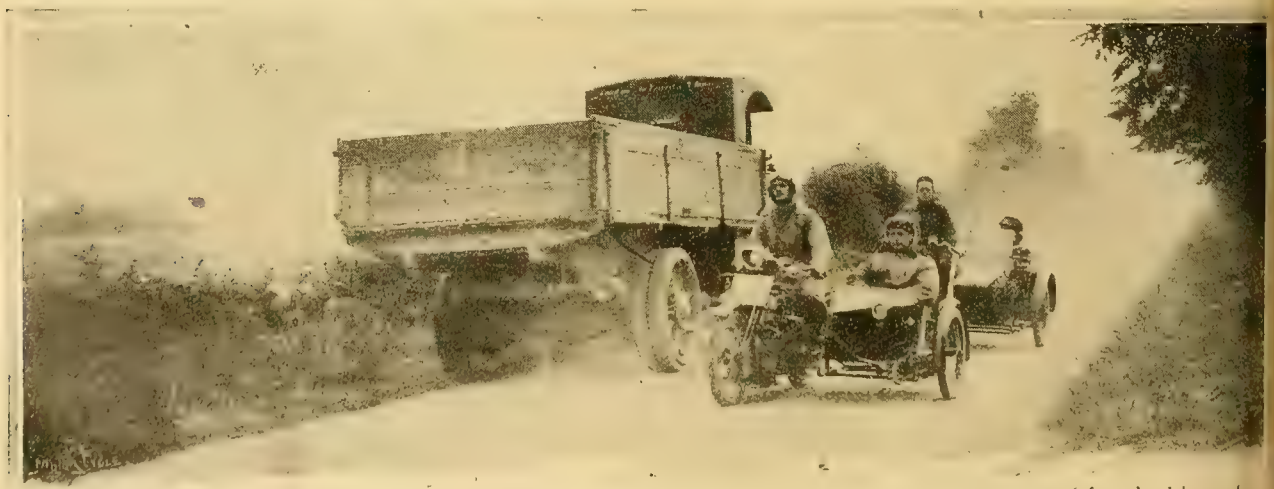
After a week-end on one of the Simplex motor attachments fitted to an ordinary pedal cycle, it occurred to the writer that, since the pedalling gear is only used for starting, it seemed quite possible that by dropping the frame to permit the rider to paddle off, the pedalling gear need not be fitted. Once started, this train of thought quickly outlined a miniature motor cycle built mainly of reinforced cycle parts, having simple spring forks and a tank in the conventional position. Had time permitted such a machine would have been built.

The power required would be about 1½ h.p., say from 150 to 175 c.c. capacity, and preferably should be of the two-stroke type and have a two-speed gear.

True, it would be an "absurd toy" to the man who uses a fully-equipped big single for runabout work, but there are thousands who require a motor cycle only to run from home to office or to the golf links, and a machine as outlined would fill the bill, giving pedal cycle service without the exertion.

Next year we may see such machines.

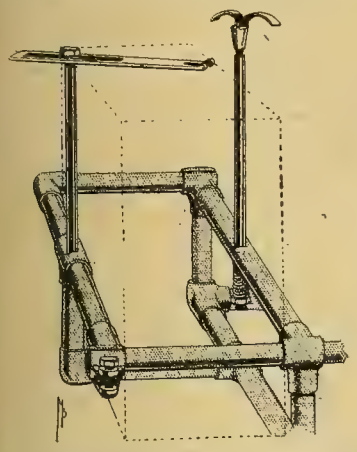
VEDETTE.



Here is a proof that all lorry drivers are not the inconsiderate individuals some people would make out. As a matter of fact, the drivers of these leviathans usually give way to passing vehicles with more grace than many car drivers we have met on the road.

DUNHILL'S SIDECARS.

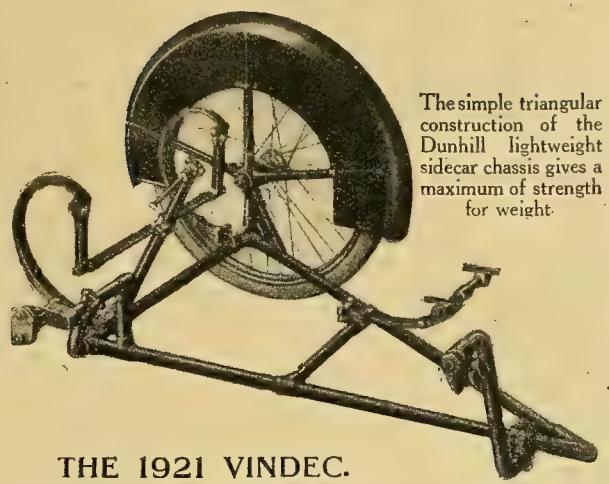
FEW firms have studied the sidecar question more intelligently than Messrs. Dunhills, Ltd., 359-361, Euston Road, London, N.W.1, and their proudest boast is that they have never had one of their sidecar chassis break. The essentials of their design are simplicity and strength. The lightweight chassis, one of the simplest forms of sidecar frame, has proved to be eminently satisfactory.



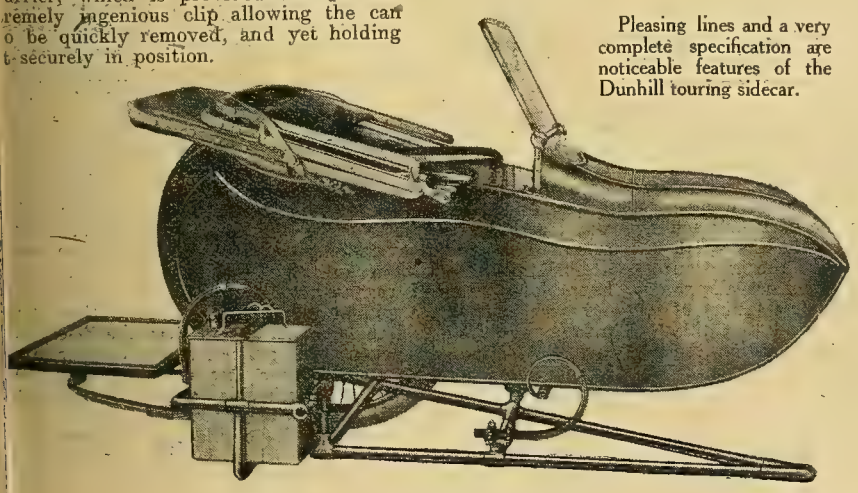
A sturdy petrol tin carrier is an integral part of the heavyweight Dunhill sidecar chassis. The fastening is quick-acting and secure.

As may be seen from the illustration, it is constructed on triangular lines which is, admittedly, the only theoretically correct method of taking stresses. Thus this chassis should give a maximum of strength for weight; and, although primarily intended for a light sporting body, comfortable springing has by no means been neglected.

The heavier touring model, suitable for attachment to powerful twin-cylinder machines, remains very much the same in design as the 1920 pattern, but it has been improved by the addition of a well-sprung luggage grid mounted on quarter-elliptic springs. The platform is 20×15in. Incorporated with the chassis, and forming an integral part of it, is a special spare petrol tin carrier, which is provided with an extremely ingenious clip allowing the can to be quickly removed, and yet holding it securely in position.



The simple triangular construction of the Dunhill lightweight sidecar chassis gives a maximum of strength for weight.



Pleasing lines and a very complete specification are noticeable features of the Dunhill touring sidecar.

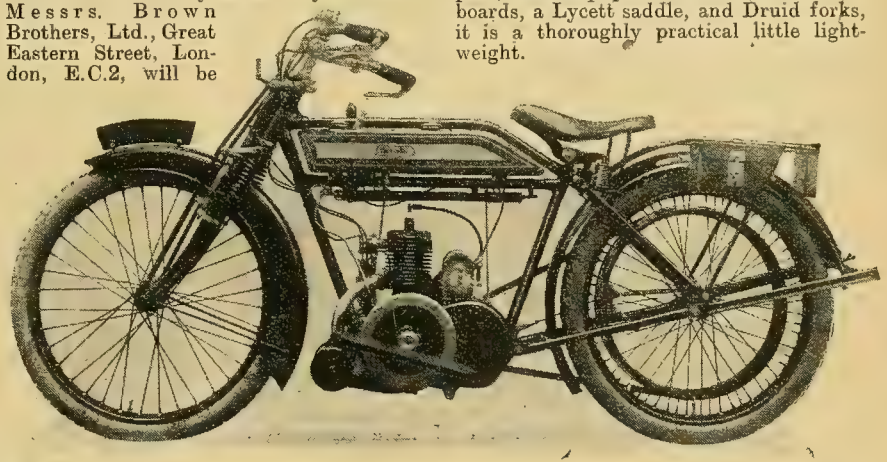
THE 1921 VINDEC.

THE 2½ h.p. two-stroke Vindec is a distinctly attractive little mount, and is the only motor bicycle which Messrs. Brown Brothers, Ltd., Great Eastern Street, London, E.C.2, will be exhibiting this year at the Olympia Show. The power unit is a two-stroke engine specially designed for this machine, and has a bore and stroke of 64×70 mm. (226 c.c.).

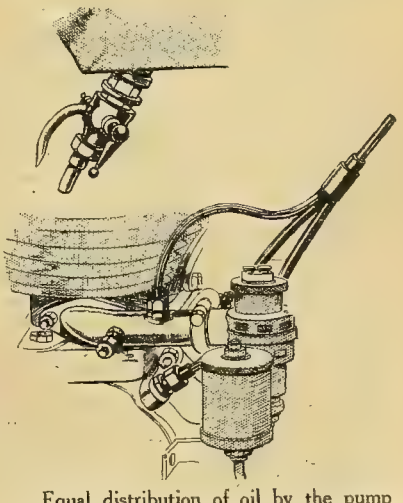
The lubrication is by hand pump, but the oil is equally distributed to the engine, passing simultaneously to three pipes, two of which lead to each main bearing, while the centre one leads to the induction pipe. The oil pipe is also provided with a three-way cock, so that it is easy to fill an oil-can from the main supply.

One of the best features of the machine is the neat method employed in shielding the gear box, magneto chain, and countershaft chain.

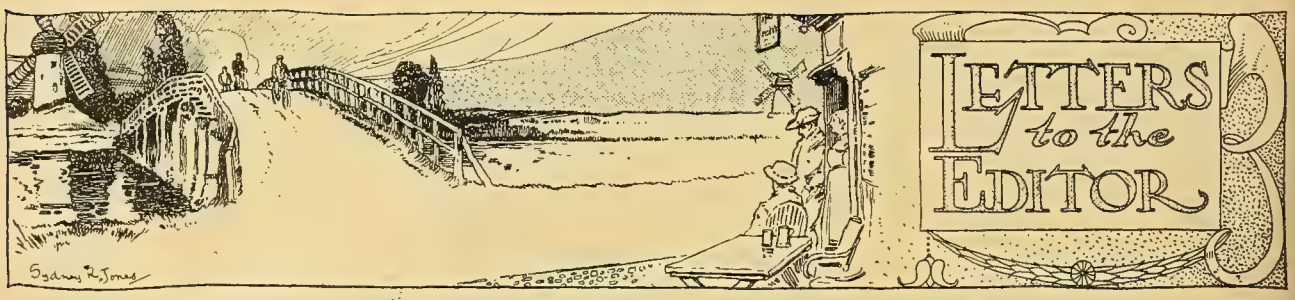
The machine is finished all black except the handle-bars, while 2¼in. tyres form part of the equipment. Fitted with footboards, a Lycett saddle, and Druid forks, it is a thoroughly practical little lightweight.



Messrs. Brown Bros. have given careful thought to the problems of lightweight design in their 2½ h.p. Vindec. The clean lines of the power unit and the detail finish are very commendable.



Equal distribution of oil by the pump system is the aim of the three oil leads in the lubrication of the Vindec. (Inset) The drain pipe at the main oil tap.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

SPARKING PLUG LONGEVITY.

Sir,—One hears of many cases of faulty sparking plugs. I have the original Bosch plug in my 1913 Triumph, which has run 27,000 miles. The plug never requires attention, and never soots up. What is the matter with the modern plug?

GEO. GRIBBON.

REGISTRATION.

Sir,—I was very interested in a recent article on the registration of motor cycles, and perhaps it would be of interest to many to know how a certain county council treated my application for transfer of numbers.

On May 7th this year I bought an outfit second-hand, and a few days later wrote to the aforementioned county council asking that the numbers might be transferred, enclosing the usual fee. Nearly three months afterwards I was informed that this had been carried out! During that time I had covered something like 2,000 miles, and apparently had every chance of being summoned for riding an unregistered machine. The question arises, on whom would the blame have rested—the county council or the rider of the machine?

Birmingham. 5-6 JAMES.

ELECTRIC LIGHTING.

Sir,—I have read with interest the recent discussions on accumulators for electric lighting, and notice that a great many correspondents have been "let down" through short circuits due to paste falling from the plates.

It may be interesting to those readers who have had trouble to know that I have used a Fuller block accumulator for five years, using it daily all the year round, and riding on country roads of various conditions. I have never been let down by this accumulator; bulbs go occasionally, but I carry spares.

I carry no gas outfit as a stand-by, my lamps are all designed for electric light, and I find the system more reliable than any acetylene lamp. I carry the accumulator under the seat in the sidecar in a wooden box, painted inside with anti-sulphuric paint. MALCOLM J. ROUND.

SPARKING PLUGS AND LIGHTWEIGHTS.

Sir,—We have read with the greatest interest the contribution by "Ixion" in *The Motor Cycle* for October 21st, and we are particularly interested in his remarks about two-strokes, in view of the fact that we have lately been carrying out experiments with this type of machine, and we hope that the following remarks may be of some assistance to your readers.

It appears to us that a great deal of four-stroking at low and high speeds can be cured by the use of a suitable plug. This, of course, does not apply to engines which have inherent faults in design. Using a plug with a stout body electrode, we find that there appears to be a good chance of strings of carbon forming between the points, thus rendering the path between them of comparatively low resistance. This robs the spark of its correct amount of capacity component and the ignition becomes inefficient. In some cases this is sufficient actually to cause short circuiting of the points and a complete failing of ignition. Using a plug with wire points, we find that this trouble is overcome; but, unfortunately, pre-ignition is often caused by the point becoming incandescent and not cooling sufficiently before the next compression stroke. We have also noticed that, with certain types of plugs, after running for some considerable time without showing any obvious signs of misfire or pre-ignition the engine becomes what one might term woolly, and loses its liveliness. In view of these results, we have gone further into this matter, and have great hopes of being able to supply two-stroke users with a plug which overcomes all these failures in the near future, as, so far, the tests have proved eminently satisfactory. At the same time, we think that this plug will also overcome the trouble "Ixion" complains of when riding new machines.

The trouble previously has been that a plug which will stand in excessive heat is not usually also suitable for excess of oil. "Ixion" will no doubt have noticed, especially amongst car users on Brooklands track, that if the racing cycle or motor is driven home, it is usual to change the plugs for a different type, owing to the fact that the plugs that were in use on the track will not stand the cool and oily running conditions of the engine on its way home at touring speed.

We may say that we have no intention of putting this plug on the market until it has been thoroughly proved by practical running experience on the road and on the track that these little troubles have been overcome.

APOLLO PLUG MANUFACTURING CO., LTD.,
COLIN H. GARDNER,
Graduate I.E.E., Technical Representative.

MEN OR MACHINES.

Sir,—"Interested" makes a good point when he claims that the post-war machines are not up to pre-war standard—hence the screams from certain manufacturers before they were much hurt, but I do not think that he has got to the root of the trouble. The only thing of value, proved by the mass of gold medals awarded, was the quite manifest fact that these frightful places can all be climbed with ease by a decent lightweight.

The first thirty-one names in the report comprise all the entrants of and under 2¾ h.p. These include two experimental machines which were not up to the job, leaving twenty-nine, fourteen of which secured gold medals. Therefore I say that the men, who did all the squealing, were below pre-war quality, and not their machines.

In 1913 the Harrogate Club held an invitation club competition round the Cleveland Hills. If I remember rightly, Ilkley, Crossgates (Leeds), Bradford, and Newcastle, sent teams, none of whom were paid to ride that rough round.

Nevertheless (or, perhaps because of it), there were no complaints, and more than two-thirds of these ignorant amateurs, of whom I had the honour to be one, took Rosedale Bank without any footing.

Unclimbable, forsooth!

Leeds. RUFF RHODES.

A MYSTERIOUS ACCIDENT.

Sir,—Mr. F. A. Boyce's letter under the above heading, is identical with an experience of my own. I do not pretend to explain it, but the facts are these:

Last June, I had been a short journey (thirteen miles each way), and left my home town to go to a village four miles away. I remember everything quite distinctly, for one and a half miles, and then no more until nearly twenty-four hours later, when I regained consciousness.

I was carrying a pillion passenger, who says that, for over a mile I seemed to have no control over the machine, and that, although spoken to, I did not answer, apparently having lost consciousness. After a few wobbles, came the accident. I simply hit the roadside and the machine turned turtle. To this day I remember nothing of the accident itself: in fact, I must have ridden over one and a half miles, quite unconscious. I had not ridden thirty miles that day, was quite sober, and in ordinary health. I

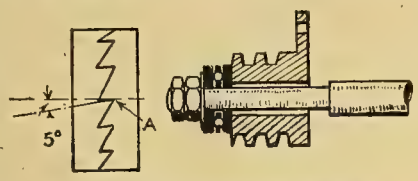
have since found out that my heart has very slight valvular trouble, and the doctor attributes the accident to this reason, though I have done hundreds of miles both previously, and since, with no trace of the same.

Buxton. MYSTIFIED.

[This correspondence must now close.—ED.]

A READER'S ALTERATIONS.

Sir,—Perhaps you will find the following alteration in the kick-start and clutch of my 1919 4 h.p. Douglas to be of some value to your readers who are riding similar machines.



Alterations to a Douglas clutch and kick-starter referred to by Mr. W. A. Peel.

In the first place, take the kick-starter. I found that when I used the foot lever the sliding part of the clutch slipped out, owing to the square face of the teeth wearing at the point A, and tending to make the square face such that would help it to slip out, so I undercut all the teeth in a universal cutter grinder, as per sketch, and I find this has overcome the trouble.

My next alteration took place on the clutch drawbolt. The cone that screws on to the drawbolt crumpled up, and the corresponding race on the drawnut also broke, so I annealed the drawnut, and reduced it in length on ⅛in., after which I put in a thrust washer bought from the stock of Messrs. Hoffmann. You will see by the sketch the change that has been made and how I used the existing nuts to secure the thrust washer. This, I find, has worked admirably on my machine. WILLIAM A. PEEL.

THE UMBRELLA COAT.

Sir,—Your correspondents might find something to suit them if they would write to the Hurricane Smock Company, "The Albany," Liverpool. Their smock has a head opening with expanding gusset, and the neck can be made to measurement. The material *is* waterproof, even under pressure, it is light and doesn't crack, and can be had in seven shades as well as black. They also make a fingerless glove with wind guard (of same material) which goes well over a woollen glove, the palm covered with paramatta.

Usual disclaimer. HADSUM.

Horsham.

Sir,—In reply to your correspondent, Capt. F. A. Summers, who enquires as to the survival of the "umbrella coat," I would say that I purchased one from Messrs. Dunhills, Ltd., of 2, Conduit Street, London, W., in 1903, and have it still. It is made of a stout khaki-coloured waterproof material, and has proved to be most reliable, especially so during the early days of motor driving, before the glass windscreen was in use. Some years ago I had the indiarubber yoke—through which one had to force one's head—removed and an ordinary buttoned opening and turned-down collar made. This year I have had it converted into a long motor cycling jacket by the addition of pockets and belt, and the whole garment opened up down the front and made to button up. I use it in conjunction with Brooks patent spring leggings, and find the combination most effective against rain.

M. S. RIACH (Colonel).

Sir,—With reference to the "umbrella coat" mentioned in your issue for October 21st, may I, as an old D.R., enquire whether the W.D. type of poncho coat as issued to the Signals D.R.'s in France is now purchaseable?

This type, originally made, I believe, for the War Department by Anderson, Anderson and Anderson, and later by many contract firms, gained the praise of all connected with "the road." It was of mackintosh with a heavy cloth lining and one inside pocket, wrist straps and wind cuffs, mackintosh belt, and brass buckle and eyelets. It slipped over the head (the only objection, when it was still wet) and had a good collar.

In the summer time they were inevitably warm, and most of the boys slit them down the front; but this made them useless for riding in rain.

These overalls were splendidly made (with trouser overalls to match, though these would be rather heavy for ordinary civilian riding), and runs of sixty and seventy miles at least daily in a week of heavy rain were made without wet penetrating.

I have wondered if any firm stocks any W.D. surplus, or makes a civilian copy, as they are rarely seen except when worn by ex-D.R.'s who smiled at "clothing indents," and counted overalls as "souvenirs" for post-war riding.

H. F. BIRT.

A MODERN JUGGERNAUT.

Sir,—While I agree with "Twenty Years on the Road" that it is up to the motor cyclist to be on the alert when turning from one road to another, I venture to suggest that the driver of a fire-engine, though he go all out on the straight, might also feel an obligation to slow down when he knows he is approaching dangerous cross roads.

In conclusion, I think "Twenty Years" will agree with me that heavy vehicles, however rapidly they be allowed to travel, and however urgent their need, should decrease their speed at dangerous cross roads. DOUGLAS.

Coventry.

BEATING THE PUNCTURE FIEND.

Sir,—When are we going to see the last of the pneumatic tyre? Why should we put up with trouble which would be ridiculous on anything but a motor vehicle? Having culminated seven years of incessant tyre trouble with a *grand finale* consisting of four bursts and three punctures in thirty miles, and forty miles on the rims, I have sworn never again to ride a machine shod with pneumatics.

The resigned stoicism with which we accept the pneumatic tyre as inevitable is amazing. Endless attempts to improve already perfect engines, carburetters, and plugs are welcomed as the work of genius, but he who suggests abolishing the air-bound wheel is regarded with pitying contempt.

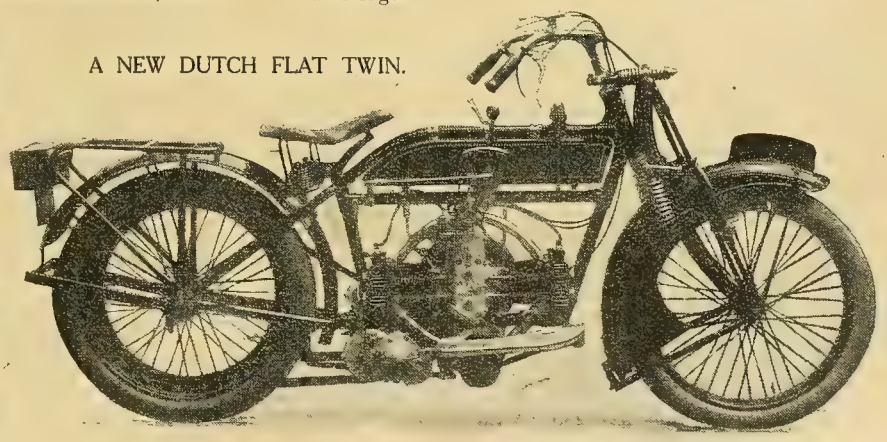
It is time we realised that the tyres are the only things on modern machines that really need radical reform. One can rely upon everything else—even upon belts and chains, if one keeps an eye upon them—but no one can foresee and prevent tyre trouble, even if he carry two spare wheels. (Imagine a locomotive engine or horse and trap carrying spare wheels! Ye gods!)

The Rapson and puncture-proofed tyres I deplore, as they will delay the inevitable ultimate demise of the pneumatic.

I shall build my 1921 machine myself. It will have an 8 h.p. J.A.P. engine, Binks carburetter, Philipson pulley, frame doubly sprung fore and aft, and Nap or Rubberine-filled tyres. And when I pass people repairing tyres I shall smile the superior smile of one who has put away childish things! NEVER AGAIN.

Cambridge.

A NEW DUTCH FLAT TWIN.



The 1921 Eysink, manufactured throughout at Amersfoort, Holland, and having a three-speed gear and cylinders of 68 × 70 mm.

THE WEARING QUALITIES OF THE 3½ H.P. SIDECAR MACHINE.

Sir,—I must protest against "Eldon's" letter of the 14th October, in which he says that it is heart-breaking to see a 3½ h.p. machine hauling a sidecar. My machine, a Russian Government model 3½ h.p. Sunbeam, with coach-built sidecar, has just completed 16,000 miles, without a single replacement being necessary.

The machine, in June of this year, carried two passengers weighing eleven stone each, and 70 lb. of luggage from Buxton to Inverness and back, going *via* Stirling and Oban, and back by Grantown-on-Spey and Braemar. All hills were negotiated easily excepting the hill at Tomintoul, where one passenger had to dismount. J. B. GREAVES.

CHAINS.

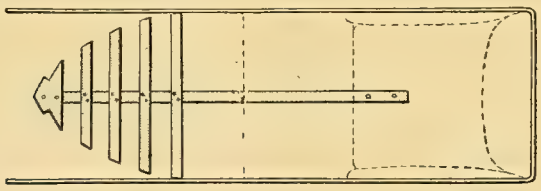
Sir,—For the benefit of "Simplicitas" and others, I should like to give my experience of naked driving chains. My machine is a 6 h.p. Royal Enfield, and the driving chain was removed at 9,500 miles—not because it had broken, but because, in my opinion, it had "had sufficient." It was a Renold, and the stretch was approximately ½in. in ninety-six links (5ft.). The fifteen-tooth driving sprocket was changed at 8,000 miles. The enclosed chains have been adjusted twice, at 5,000 miles and at 9,500 miles, and are in excellent condition at 11,000 miles.

If "Simplicitas" *boils* his chains in tallow and blacklead, he is seeking trouble. Tallow *boils* at about 660° F., but *melts* at about 90° F. The tempering temperature of the steel for chains is in the neighbourhood of 300° F., so that if the chain has been boiled he has lost the temper and exposed the chain to excessive wear where it could have been avoided. If he uses the tallow mixture and melts it, and puts the warm chain into the mixture, there is nothing to be said. HOILEY.

Manchester.

MAKING A SIDECAR.

Sir,—On page 440 of a recent issue of your "canny" journal there is a description of the making of a sidecar. In 1915 I made a body of similar outline, but I venture to think that my method was simpler than that shown. I will not take much of your valuable space by giving a lengthy description: it will suffice if I give what I consider the most valuable tip



The letter of "Top Heavy" gives a very useful tip for easily bending the sides of a home-made sidecar body. The sketch shows a jig for ensuring a symmetrical construction.

that an amateur attempting to build a sidecar without a coachbuilder's tools and jigs could have.

If the aspirant will steam his three-ply over the "set pot," or copper, that is found in washhouses, and, when thoroughly steamed, put the wood between the rollers of the mangle, he will find, by pressing downward while someone turns the mangle handle, that the wood can be bent to comply with the exact shape required without the use of jigs. Moreover, the grain of the wood will be kept in place, as it has a tendency to rise in places. Of course, the sooner after "mangling" to shape it is beaded to place the better.

If you have space enough, I might venture to suggest that the two side pieces of ½in. canary pine, bent to shape in the manner described for the three-ply, will do away with all frame work except the seat and floor. Of course a nose piece will be required, cut with grooves to receive the sides of the canary wood and the top and bottom three-ply pieces of the toe. The back (with or without a locker) may be bent in the manner described. This method may make a heavier construction than that depicted in the article.

One other item of interest is a moulding for edges. That is made from cane, half or quarter moon in shape, and bends in any required direction with ease. TOP HEAVY.

Newcastle-on-Tyne.

AN IMPORTANT POINT IN HAND SIGNALLING.

Sir,—I have a little grouse to make on the subject of hand signalling. There seems to be a prevalent idea that, having given a signal, one is thereby entitled to pull across the road without looking.

The signalling idea is for the prevention of accidents, and does not give the right of the road. It certainly should not take the place of ordinary precautions. The habit referred to above is particularly noticeable with cyclists, though it is by no means confined to them.

Suppose a car to be overtaking a cyclist. Cyclist puts out his hand, and turns down road on the right. Result, the car has to pull up to avoid running the cyclist down. Now the car, proceeding along the main road, has obviously the "right of the road," and the cyclist should let him pass before turning.

I think the fact that straight road traffic has a prior right should be placed prominently before the public. A vehicle turning *into* a side road should use equal precautions to one emerging from it, signalling notwithstanding.

Before the hand signalling fetish came into existence the situation seldom arose, because the cyclist *looked* and saw he had not time to get across in front of the car. In my opinion, hand signalling is likely to become a danger rather than a safety unless this practice is put a stop to. In a street full of traffic, where everyone is travelling at more or less the same speed, it is, of course, a somewhat different matter; but in quiet streets, the fact of putting out a hand is not sufficient to warrant a swing across the road without a preliminary glance behind.

I consider that every car, at any rate every closed or hooded car, should carry a mirror. A cyclist or motor cyclist can and should look round. BY 6617.

London, S.E.25.

SUMMARY OF CORRESPONDENCE.

The aluminium number plates made by Messrs. Martin Bros., 90, Brunswick Street, Hackney Road, E.2, are highly praised by Mr. W. A. Fell Smith, Kensington Park Gardens, W.11.

"Eldon's" opinion, in our issue of the 14th inst., that it is heartbreaking to see a 3½ h.p. machine hauling a sidecar, has attracted a shoal of admirers and satisfied users of light sidecar outfits to the defence of their choice. For instance, "M.T.," writing from Land's End, reports 27,000 miles in twenty months on a 3½ h.p. Sunbeam outfit, which was second-hand when it came into his possession twelve months ago.

The A.C.U. "get-you-home" scheme has also proved its worth in three instances notified to us by members recently.

This week various readers express satisfaction with the products or business methods and service of the following firms: Messrs. J. A. Prestwich and Co., Bayliss, Thomas, and Co., Dunlop Rubber Co., Bradbury and Co., Cowey Engineering Co., Scott Motor Cycle Co., A. J. Stevens, Phelon and Moore, and the Electric Ignition Co.

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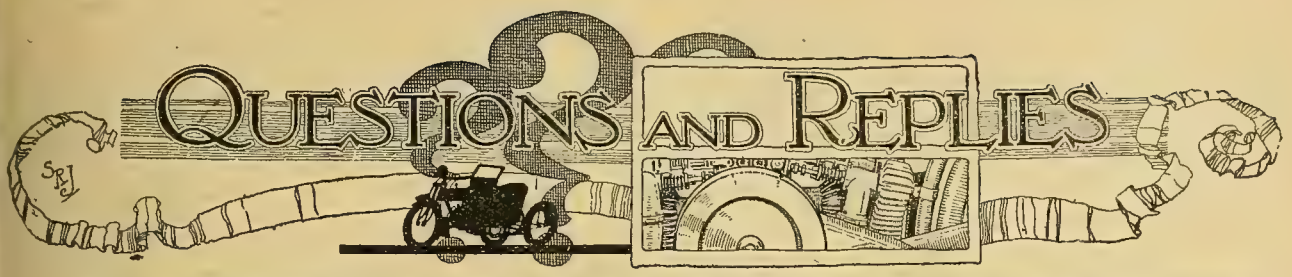


A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Hot Crank Case.

Since taking down my 2½ h.p. J.A.P. I have been troubled with the crank case getting very hot during a run. I have changed first one ring and then the pair (and the cylinder does not seem to be scored), but still it continues, and gets so hot that the hand cannot be kept on it. Could you please advise me?—A.F.R.T.

The cause of the crank case getting hot may be due solely to conduction from the cylinder. If the engine is running well, there is no cause for you to worry.

Coasting on the Exhaust Valve Lifter.

I have lately purchased a 2¾ h.p. Douglas, and have been told never to let the machine run downhill with the exhaust lifted or I shall cause untold trouble. Can you please inform me what this trouble would be, or what damage this running would do to the engine?—H.E.G.

There is no particular harm in running down hill with the exhaust valve lifter raised, but there is a slight tendency to draw the oil past the piston rings, and on to the plugs if running down hill for any great distance with the engine shut off in this manner.

Fierce Clutch.

My machine is a 1916 Sunbeam and sidecar, and I have had the clutch down for cleaning purposes. All the plates (seventeen) were replaced dry, and in exactly the same positions. I now find that the engine propels the machine along, in all gears, when the clutch is "out." The nut holding the spring has been brought back by degrees, until there is only about half a nut holding, and the necessary adjustment done to the push rod, but this appears to have no effect. The plates themselves are, in my opinion, in good condition, and I must confess that I am entirely at a loss to know what to do next.—J.T.

The mistake you have made is in reassembling the clutch plates without oil. The metal-to-metal clutch of the Sunbeam machine requires a certain amount of lubrication with thin oil, and it is quite likely that in using the clutch dry you have seized the plates, and you may have the difficulty in dismantling them again. When reassembling, lubricate with thin castle oil.

Accumulator Charging.

Will you please tell me: (1.) If a dynamo constructed with permanent magnet and tri-polar armature will be suitable for charging accumulators (4 volt., 40 amp. hr.)? (2.) Dimensions, gauge, and quantity of wire, and any other information you can give?—W.E.C.

(1.) If the armature is suitably wound, it will be satisfactory for charging accumulators. (2.) We cannot give you the figures you require, as everything depends upon the strength of the permanent magnet and the speed at which the armature is driven. The finest wire to take, 4 amps., would be 16 or 18 gauge, as much of this as possible should be wound on to the armature, and the driving speed adjusted to give the required voltage.

IMPORTANT DATES.

Nov. 4th-13th—
International Automobile Exhibition, Olympia and White City

Nov. 29th-Dec. 4th—
Olympia Motor Cycle Show.

Dec 26th-27th—
M.C.C. London-Exeter Run.

Jan. 28th to Feb. 5th, 1921—
Scottish Motor Exhibition, Kelvin Hall, Glasgow.

Carburetter Flooding.

I have an Amac carburetter fitted to my 6 h.p. Clyno outfit, and it is flooding rather badly. There is a split pin fitted loosely to the spindle in the float chamber just above the float with about a quarter of an inch play up and down. Please say where this pin should be fixed, and what its weight should be? If a split pin is not used in this type, will you kindly inform me what is? The petrol float is quite airtight. How can I grind in the spindle at the base to ensure an accurate fit?—W.H.C.

The split pin on the float chamber needle of the Amac carburetter is located by means of a press collar, which is a tight fit on the needle itself. There should not be more than $\frac{1}{16}$in. up and down play between the needle and the float. The weight of the split pin is immaterial. For grinding in the float chamber needle valve, ordinary emery grinding paste is too coarse. Use paste metal polish. But it is preferable to fit an entirely new needle.

The Roads Over Dartmoor.

(1.) Is it safe to take my 4 h.p. Triumph sidecar outfit over Dartmoor, Exeter, to Two Bridges, where the road mounts to 1,500ft., and the gradients in the "Contour Road Book," 1904 edition, are stated to be "nearly all dangerous"? (2.) Are such roads too unfair on tyres, and likely to cause bursts? (3.) What is the following a sign of in the Sturmey-Archer hub gear? It seems to me when the top-speed is put in from bottom gear, then middle gear, that it sometimes, by the quick sound of the revolutions, with no increase in pace, goes back apparently to low gear. —M.

(1 and 2.) The roads in question are perfectly straightforward, but you must bear in mind that the "Contour Road Book" is written for pedal cyclists, and motor cyclists who use it must therefore make due allowance for the opinions of the writer. (3.) This trouble seems to be due to clutch slip.

Ignition Trouble.

About a fortnight ago the rear cylinder of my 1914 Douglas refused to work, which trouble I think I have traced to the firing. I reversed the plugs and find that either plug works all right on the front cylinder. I then tried new high-tension wire on the rear cylinder with no result. I again took off the connection, and tried the bare wire in the holes where the brush works and the rear cylinder fired immediately. I then put the wire on the plug, and held a loose wire to the magneto and the other end in the hole where the brush spring goes in; that worked all right. I then changed the brushes from back to front, and connected up again, and found the front worked all right, but the rear refused to act. Either plug when on the rear cylinder would give a fairly good spark out of the cylinder, but would not fire inside unless I held the bare wire on to the magneto. Would it be possible for the connection to short on to the body of the magneto?—S.W.

From your description of the trouble we imagine that the carbon brush holder is defective, and would advise you to replace it with a new one. Also make quite sure that the carbon brush itself is of sufficient length and works freely in its sleeve. When adjusting the magneto note that the contact breaker points separate equally for each cylinder.

Timing an Auto-wheel.

(1.) Please tell me how to time a Wall auto-wheel with automatic inlet valve? (2.) Does the screw of a U.H. magneto go through the magneto and touch the armature shaft? (3.) Where can I get a book upon magnetos to tell me all about them, both the overhauling and the working of them?—E.A.

(1.) You ignore the inlet valve and time the exhaust as follows: Set the exhaust valve to close just after the completion of the exhaust stroke. (2.) We presume you mean the screw holding on the contact breaker? This screws directly into the armature shaft. (3.) Practically all the information you require is given in "Motor Cycles and how to Manage Them."

Paraffin.

I should be pleased if you would answer the following: (1.) Would any mixture of petrol and paraffin be suitable for running a motor cycle? (2.) If suitable, what proportion is recommended? (3.) Would this mixture harm the carburetter in any way? (My carburetter is a Schleber automatic with cork float.) (4.) The advantage of this mixture would be its cheapnesss. What are its disadvantages?—G.E.C.

(1.) A motor cycle engine may be run quite satisfactorily on a mixture of petrol and paraffin; indeed, it may be run on paraffin alone, if first warmed up on petrol or benzole. (2.) At normal temperatures a mixture of equal parts of petrol and paraffin would give fairly good results, and it should be possible to start it without first priming the engine with pure petrol. (3.) The mixture would not do any damage to the engine or carburetter. (4.) The disadvantages would be the difficult starting, harsh running, and tendency to knock badly on hills.

Gudgeon Pin Working Loose.

Lately I was out for a run with an empty sidecar when I heard a terrible crack in the engine after accelerating for a stiff hill. When I dismantled the engine I found the cylinder head broken, also the piston broken in hundreds of pieces. I had plenty of oil in the crank case. My idea is that the timing had slipped, and retarded itself a long way. What is your opinion, please? Also (1.) What is the correct timing for 3½ h.p. Premier (three-speed, Armstrong gear as far as I know, a 1914 model)? (2.) What is the small pipe for that is fitted into the cylinder wall and empties itself into the exhaust box? (3.) Can a two-speed gear box be fitted to the frame of a 1914 Premier machine, and which is the best kind to get?—J.W.N.

In all probability the breakage of the cylinder and piston was due to the gudgeon pin locking screws (or pins) falling out and being jammed between the piston and the top of the crank case. Time the valves so that the exhaust closes when the piston has reached the top dead centre and the inlet is just commencing to open at the same point. (1.) The ignition should be timed so that the contact breaker points just separate when the piston is on top dead centre of the compression stroke, with the magneto control two-thirds retarded. (2.) The Premier engine is fitted with an auxiliary exhaust valve, which comes into action automatically when the piston approaches the bottom of its stroke. (3.) We do not know of any two-speed gear box which could be fitted to your machine.

EXPERIENCES WANTED.

"W.W.K." (Nottingham).—1920 Velocette; economy and reliability.

"8 J.A.P." (Woodford Green).—Any type of valve stem air leak preventers on V twin; their advantage as regards elimination of air leaks, reduction of noise, ease of starting, and flexibility; disadvantages, if any.

"C.E.V." (Liverpool).—5 h.p. Zenith (1920 model); consumption, reliability, and capacity for light sidecar work.

RECOMMENDED ROUTES.

TOOTING TO WARMINSTER.—A.D.M.

Kingston-on-Thames, Staines, Bagshot, Hartley Row, Hook, Basingstoke, Whitchurch, Andover, Amesbury, Warminster.

HEREFORD TO SUNDERLAND.—J.E.P.

Hereford, Worcester, Upton Snodsbury, Wixford, Stratford-on-Avon, Warwick, Coventry, Stoke, Wolvey, Narborough, Leicester, Newark, Tuxford, E. Retford, Bawtry, Doncaster, Ferrybridge, Aberford, Wetherby, Boroughbridge, Leeming Bar, Catterick Bridge, Scotch Corner, Baston, Darlington, Aycliffe, Durham, Sunderland.

SPEEDOMETER READING AT NIGHT.

A Wooler refinement: The speed indicator is fixed to the front forks, where it is illuminated from the vent holes of the head lamp

SPARKLETS

Leaves Levis.

G. Kuhn, the Levis exponent, has joined the Verus staff.

No Matchless Cycle Car.

Messrs. H. Collier and Sons, the makers of the Matchless motor cycle, advise us that there will *not* be a Matchless cycle car next year.

Lightweights Popular.

Over 3,000 New Hudson lightweights were sold during the present year, which shows the popularity of the low and light machine. The New Hudson has 24in. wheels.

British Magnetos Still Ahead.

Despite the fact that the rules of the recent Air Ministry competitions for aeroplanes and seaplanes permitted foreign magnetos to be used, the machines which carried off the eight awards were all equipped with British ignition apparatus.

A Sociable Sidecar.

The three-wheeler which was mentioned as the Austin in our issue of the 14th inst. is to be known as the A.S.C. (an abbreviation for the Austin Sociable Combination). At the last Southend speed trials this machine secured several firsts averaging 37 m.p.h. from a standing start.

An Infringement.

It has been found that the Contour sidecar shield, recently described in our pages, is an infringement of Messrs. Easting's well-known shield. We understand, however, that the matter has been amicably settled between the parties concerned.

A Practical Staff.

The proprietors and staff of Messrs. Ballard's Motors, of 92, Gloucester Road, South Kensington, are practical riders to a man, as is shown by a list of their successes which has been forwarded to us. These include many wins and gold medals both at Brooklands and in reliability trials.

Going to Australia.

The well-known Midland motor cyclist C. R. Little, who drove one of the A.J.S. 5,000 miles benzole test machines, shortly leaving for Sydney, where he intends to commence a motor cycle sales and repair depot. His object is to specialise on British machines and accessories, believing that the overseas market is favourable if suitably worked.

"Credit to whom . . ."

The sidecar referred to in our description of the road test of the 8 h.p. Zenith, on page 435 in the issue of October 14th, was described as a Mulford. This is quite correct so far as the chassis is concerned, but Messrs. Vivian Hardie and Lane, Ltd., 24, Woodstock Street, London, W.1, are responsible for the body, which is manufactured by them specially for Zenith Motors, Ltd.

York and District M.C.

This club held its prize distribution at the Davy Hall, York, on Wednesday evening, October 27th. Dinner was served at 7, after which, at 8.15, the prizes were presented by the Lord Mayor (Alderman E. Walker), one of the vice-presidents.

Fylde M.C.

The results of the reliability trial of the Fylde Motor Club over a course of seventy-nine miles are now available. They are as under :

SOLO CLASS.—1, M. Parkinson (3¾ Scott); 2, J. Ramsden (4 Harley-Davidson); 3, J. F. Moss (3½ Rudge).

SIDECAR CLASS.—1, W. Lyons (7-9 Harley-Davidson); 2, H. Penswick (6 A.J.S.); 3, F. Taylor (8 Sunbeam).

N.M.C.F.U. (Barrow and District).

A very interesting reliability trial took place on October 24th as a final event for 1920. The course was 138 miles—Barrow to Appleby and Penrith, then up Kirkstone Pass back to Barrow. The final results were as follows : 1, W Ashley (3¾ Scott); 2, E. C. Peacock (3½ N.U.T.); 3, H. Jackson (7-9 Indian sc.); 4, W. J. MacKenzie (5-6 Rover).

Sheffield and Hallamshire M.C.C.

The Sheffield and Hallamshire M.C.C. held a stiff competition on Saturday, October 23rd; but, in consequence of many competitors taking a wrong turn, the trial will be run again on November 4th. The course was the stiffest experienced of all the competitions this year. It was only fifty miles, but of the gruelling type.

On the following day fifteen keen members were taken over a very stiff course, and up a second Park Rash, through many watersplashes, and finishing up with Pinsley Bar.

Bedford and District M.C.

The trial for the Lindley Shield, Thurburn Cup, and Berrie Cup was run off most successfully on Thursday, October 21st. The winning team, who gain the Lindley Shield, were : G. W. Johnson (8 Zenith sc.), G. H. Hartop (7-9 Harley-Davidson sc.), and T. French (2½ Sparkbrook).

The Thurburn and Berrie Cups go to B. B. Bates (8 Enfield sc.) and M. G. Horne (3½ Triumph-Jap) respectively, while the following gain bronze medals : H. Ormerod (8-10 Henderson), J. Simpson (2½ Hobart), J. C. Shevin (3½ Sunbeam), A. B. Morris (2½ Clyno), H. H. Berrie (2½ Revere-Villiers), G. Bryant (2¼ New Hudson), E. A. Bristowe (7-9 Indian sc.), W. H. Holland (6 A.J.S. sc.), A. F. Lindley (8 Rex-Blackburne), and H. Green (4 Triumph sc.).

Week-end Club Events.

NOV. 6.—WOOLWICH, PLUMSTEAD, AND DISTRICT M.C. OPEN MATCHLESS CUP TRIAL.
Nov. 6.—Warrington M.C.C. Speed Trials.
Nov. 7.—Leeds and District M.C. One Day Trial.

Westmorland M.C.C.

The committee of this club announces that the annual dinner and prize distribution will be held at the County Hotel, Kendal, on November 18th, at 7 p.m. Tickets, 7s. 6d. each, may be had from the following : W. D. Stewart, Beechwood Cottage, Kendal; R. Harrison, Queen's Place, Kendal; R. P. Montgomery, Bank Top, Kendal; L. W. Somervell, Brantfield, Kendal; J. W. Nelson, Kentrigg, Kendal; or W. Westwood, 9, Gillingate, Kendal. An early application should be made, as no tickets will be issued after November 11th.

The Motor Cycling Club.

The following is the programme of the chief events to be organised by the Motor Cycling Club during the next twelve months :

1920-1921.

December 27th-28th.—The London-Exeter Run.
March 26th (Easter).—The Jarrott Cup Run.
May 13th (Whitsun).—The London-Edinburgh Run.
June 25th.—Inter-club Team Trial for *The Motor Cycle* Challenge Cup.
October 24th.—One-day Sporting Trial for Motor Cycles.
December 26th.—Winter Run.

Lancaster, Morecambe, and District M.C.C.

A reliability trial for club members took place on October 24th. A start was made at 10.31 in beautiful weather, and although the course was severe, all competitors finished. In the solo classes G. H. Ducksbury (3½ Norton), R. F. Mansergh (3½ N.U.T.), C. R. Wolfendale (6 Zenith), and W. G. Hardman (3¾ Scott), tied for first place with 100 marks (none lost). However, the secret check report made Ducksbury the winner, with Hardman second. Other results are :

SIDECAR CLASS.—1, C. E. Barrow (6 A.J.S.), 100 marks; 2, E. McCormack (6 A.J.S.), 92.

TEAM PRIZE.—R. F. Mansergh (3½ N.U.T.), C. R. Wolfendale (6 Zenith), and R. L. Ducksbury (8 Clyno sc.), 286 marks.

MERITORIOUS PRIZE for Best All-round Performance.—W. Atkinson (1914 3½ B.S.A. sc.).

BRONZE MEDALS.—J. Count (3¾ Scott), 87 marks; R. Foxcroft (3 A.B.C.), 88; W. Powell (2¾ Douglas), 90; J. Whalley (3 A.B.C.), 90; A. Bell (4 Indian), 90.

A smoking concert will be held at the County Hotel, Lancaster, on November 10th, at 7 p.m., and the club run to London starts on November 28th.

Warrington M.C.

Closed speed trials will be held on a private road, kindly lent by Mr. G. T. Sproston, at Catten Hall, Kingsley, on Saturday, November 6th. In addition to awards for the various capacity classes, there will be special prizes for fastest time by various individual makes of machine.

Cape Peninsula M.C.C.

A 200 miles road race, on October 4th, from Killarney (ex Potsdam) to Saldanha Bay and back, resulted in a success for a British machine in the solo class, while the sidecar award went to an American outfit. The results were as follows :

SOLO CLASS.—1, J. Walker (Douglas); 2, J. W. du Toil (Indian Scout); 3, Percy Flook (Douglas).

SIDECARS.—1, P. Lawrence (Indian sc.); 2, P. E. Loubser (Harley-Davidson sc.).

Dewsbury and District M.C.C.

The club held a fifty miles reliability run on October 23rd on a route from Dewsbury to Huddersfield, Holmfirth, Dunford Bridge, Woodhead Inn, Holmfirth, and Dewsbury. There were open and secret checks, and observed hills. The results were as follows : 1, A. S. Day Trophy, H. Gutteridge (8 New Imperial sc.) lost 9½ marks out of 200; 2, A. S. Day special prize, S. M. Haigh (3½ Ariel sc.) lost 10 marks; 3, club special prize, J. B. Ellis (8 Morgan) lost 10¼ marks.

Stockport M.C.

Ninety-five entries were secured for the speed trials which were held on October 23rd. Some good sport was witnessed over a flying half-mile, with the following results :

CLASS 1 (250 c.c.).—1 (club silver medal), O. E. Carter (2¼ Levis); 2 (W. Vine's prize), G. Hallam (2½ Dreadnought); 3, H. Shelton (2½ Wilkin).

CLASS 2 (350 c.c.).—1 (club gold medal and K. B. Nixon's prize), G. Cowley, sen. (2¾ A.J.S.); 2, S. Crabtree (2¾ A.J.S.); 3, S. Eastwood (2¾ Royal Ruby); 4 (T. Davies's prize), H. Clayton (2¾ Marloe).

CLASS 3 (500 c.c.).—1 (club gold medal), G. Cowley, jun. (3½ Norton); 2 (club silver medal), T. Simister (3½ Norton); 3, E. S. Abram (3 A.B.C.).

CLASS 4 (750 c.c.).—1 (club gold medal), G. Cowley, jun. (3½ Norton); 2 (club silver medal), T. Simister (3½ Norton); 3 (club bronze medal), E. S. Abram (3 A.B.C.).

CLASS 5 (Unlimited).—1 (club gold medal and gold medal for fastest time of day), H. Reed (8 Dot); 2 (club silver medal), E. Bottomley (7-9 Harley-Davidson); 3 (club bronze medal), F. Boulton (7-9 Indian).

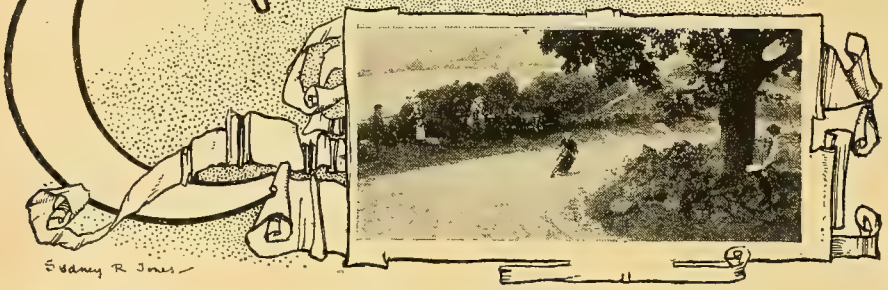
CLASS 6 (350 c.c., Sidecar).—1 (club silver medal), S. A. Crabtree (2¾ A.J.S. sc.).

CLASS 7 (600 c.c., Sidecar).—1 (club silver medal), G. Cowley, jun. (3½ Norton sc.); 2, O. Carter (3½ O.C.-J.A.P. sc.); 3, T. Simister (3½ Norton sc.).

CLASS 8 (1,000 c.c., Passenger).—1 (club gold medal), G. Cowley, jun. (3½ Norton sc.); 2, E. Bottomley (7-9 Harley-Davidson sc.); 3, T. Simister (3½ Norton sc.).

CLASS 9 (Unlimited, Passenger).—1 (club gold medal), G. Cowley, jun. (3½ Norton sc.); 2, H. Reed (8 Dot sc.); 3 (George Cowley's prize), E. Bottomley (7-9 Harley-Davidson sc.).

CURRENT CHAT



Special Features

DAY TRIPS AND WEEK ENDS.
TWO STROKE SIDECAR PERFORMANCES.
SPRINGING OF MOTOR CYCLES.

Times to Light Lamps

Nov.	4th	...	4.57	p.m.
,,	6th	...	4.54	,,
,,	8th	...	4.51	,,
,,	10th	...	4.48	,,

Next Year's Cars.

To-morrow's issue of *The Autocar* will contain a forecast and guide to the Car Shows at Olympia and White City.

Two-stroke Sidecars.

The single-cylinder two-stroke as a sidecar machine is coming to the fore. In this issue we place on record an A.C.U. observed demonstration of the 3 h.p. Ivy sidecar outfit in the Old Wyche, and also some impressions of the interesting Dunelt on the road.

1921 Harley-Davidsons.

The success of the Harley-Davidson in its present form has resulted in the manufacturers not making any startling alterations for 1921.

Among the new detail improvements incorporated are new dust protectors to the front and rear hubs, valances to the front mudguards, slightly wider tanks, giving a capacity of about three gallons, an inspection hole in the chain case through which the condition of the chain may be verified, and heavier spokes in the rear wheels. In fact, the only conspicuous means of telling a 1921 from a 1920 model is the presence of the valances to the front guards.

Second-hand Prices.

There were some very low priced machines on offer in our classified advertisement columns last week: but not many. This accounts for the wide gap between the highest and lowest figures in the following list; and close examination of the actual pages will show that the *average* fall in values is still remarkably light.

A.B.C., 3 h.p., 1920	£110–£150
A.J.S., 6 h.p., sidecar, 1920	£175–£250
B.S.A., 4½ h.p., sidecar, 1920	£130–£175
Clyno, 5-6 h.p., sidecar, 1916-17	£65–£130
Douglas, 2¾ h.p., 1916	£45–£68
Douglas, 4 h.p., sidecar, 1920	£110–£160
Enfield, 8 h.p., sidecar, 1920	£150–£177
Harley-Davidson, 7-9 h.p., sidecar, 1920	£175–£210
Indian, 7-9 h.p., sidecar, 1920	£165–£210
Matchless, 8 h.p., Model H., sidecar, 1920	£160–£230
Norton, 4 h.p., sidecar, 1920	£125–£145
P. & M., 3½ h.p., sidecar, 1919-20	£95–£135
Rudge-Multi, 3½ h.p., 1920	£80–£100
Scott, 3½ h.p., 1920	£100–£125
Sunbeam, 3½ h.p., 1920	£140–£160
Triumph, 4 h.p., W.D., 1916-18	£75–£100
Triumph, 4 h.p., sidecar, 1920	£140–£180
Zenith, 8 h.p., sidecar, 1920	£128–£198

Over-development.

Apropos our par. last week on the light car owner who bemoaned the over-development of his machine, the following extract from *Motoring in South Africa* shows that over there some people have the same feeling with regard to the sidecar. " . . . the makers of modern sidecar outfits would seem to be appealing to the small minority of motorists who have a pocket deep enough to pay for the last luxurious detail in motor cycling. There is a splendid opportunity for . . . . a plain serviceable outfit of six to eight horse-power to incorporate three speeds and kick-starter . . . . shorn of all frills in the way of electrical details, spring frames, spare wheels, etc. . . ." This is worth attention by makers who have Colonial aspirations and also, perhaps, by those who have not.

THE MOTOR CYCLE

Special Show Numbers

1920

November 18th—
LIGHTWEIGHT NUMBER.

November 25th—
SHOW FORECAST.

December 2nd—
SHOW REPORT.

December 9th—
PASSENGER NUMBER.

165.6 m.p.g. with a 2¾ Douglas.

We have before us the official report of the A.C.U. test of a Degory No-jet carburetter on a 1919 W.D. 2¾ h.p. Douglas. The report states that the petrol tank was emptied and refilled with six pints of No. 1 Shell petrol. The carburetter was fitted with choke tube No. 12. A non-stop was made from Hounslow to Reading and back at an average speed of 23.49 m.p.h. The petrol consumed for the 58½ miles was at the rate of 165.6 m.p.g. The weather was fine and windless, and the road surface was in fair condition.

A second test on Brooklands with the same carburetter and choke tube showed that the machine was capable of a speed of 48.65 m.p.h.

Passenger Machines.

An interesting three-wheeler will be the sole passenger machine to be marketed next year by a well-known motor cycle firm.

The Brussels Show.

Brussels is to have a motor show on December 10th to 19th, when several motor cycles will be exhibited, including the Douglas.

Miniatures at Olympia.

Among the additional "entrants" for the Olympia Show are the makers of the Unibus, Whippet Scooter, Abbottsford three-wheeler, and The Kenilworth.

A Sign of the Times.

Several very interesting new models will shortly be described in *The Motor Cycle*—and very few are of the 1,000 c.c. variety. Medium-powered outfits will be in greater favour than ever next year.

Sidecar Taxicabs.

Police authorities are beginning to realise the possibilities of the motor cycle taxicab, and licences are now being granted in various districts. Before very long it is anticipated that quite a number of garage proprietors and motor agents will take up the sidecar taxicab, as, owing to its economy, and comparatively high earning capacity, it must prove a profitable venture. A well-known Nottingham firm of motor cycle manufacturers are specialising in this class of "commercial" sidecar, and will have an exhibit at Olympia, as will at least one other firm, who are designing a special machine for this service.

Racing in Orange Free State.

The sixty-four mile motor cycle race for the Continental trophy, under the auspices of the Orange Free State Automobile Club, was run in September.

The following were the competitors and their handicaps: C. R. Fyffe (two-stroke Clyno), 30m. start; C. G. Robinson (B.S.A.), 14m. 38s.; H. Traubman (B.S.A.), 14m. 38s.; J. L. Kruger (T.T. Triumph), 8m. 42s.; E. L. Mayhew (Indian Scout), 8m. 42s.; G. F. Joubert (Harley-Davidson), 30s.; R. J. Blackburn (Harley-Davidson), scr.; and D. Weber (Indian), scr.

In spite of the fact of having to change a tube, C. R. Fyffe (Clyno) completed the first lap in 61m. 57⅘s. He retired at the control owing to tyre trouble. C. G. Robinson (B.S.A.) carried off the trophy, doing the course in 1h. 23m. 50⅘s. H. Traubman (B.S.A.) secured second place in 1h. 34m. 34⅕s. J. L. Kruger (Triumph) suffered tyre trouble in both laps, but got home third, riding nearly half the last lap on a flat tyre.

Another A.C.U. Centre.

Efforts are being made by the Ilkley M.C. and L.C.C. to form an A.C.U. centre in Yorkshire.

Lightweights.

Trials for lightweights are now being organised overseas, and the reliability of British miniatures is showing up to advantage.

Yellow Wheels.

Yellow wheels are becoming quite the vogue in American motor cycles, and there is something in their favour. Yellow does not show up the dirt so much as black.

A Royal Motor Cyclist.

The late King Alexander of Greece was an active supporter of many forms of sport, and was particularly interested in motoring; motor cycles as well as cars claimed his attention, and for some time he used a B.S.A. machine.

A Miniature Runabout.

A well-known Midland firm is very seriously considering the addition of an ultra-light flat-twin two-stroke runabout to its range of productions. This vehicle is expected to turn the scales at less than the average 3½ h.p. sidecar outfit. Although up to now the heavy mortality of such designs in their teething stages is not encouraging, there is no doubt that an unlimited potential market awaits a really sound effort on these lines.

Export Credit Scheme.

The Federation of British Industries are suggesting to the President of the Board of Trade that the Treasury should provide for advances to approved firms of 100%, and not 80% as hitherto. The fundamental principle of the Treasury advancing 80% (for a period up to three years) of the cost price of goods to be supplied leaves 20% to be advanced by bankers of the manufacturing firm wishing to export. The Federation of British Industries consider that bankers are reluctant to advance this 20%.

1921 Automobile Design.

In *The Autocar* of October 30th the trend of automobile design in 1921 is shown graphically. Notwithstanding the evident influence of aero design on modern motor car engines, side-by-side valves remain standard practice on 75% of all the cars on the market. In gear boxes, another matter of interest to the motor cyclist, the battle between the three and the four-speed types does not appear to be decided yet, *The Autocar* statistics showing an almost dead heat in popularity. Clutches, too, show an amazing reluctance to settle down in the groove of one accepted design. The single-plate type (not yet prominent in the motor cycle field) tops the list by a short head from leather cone, multi-plate, and fabric cone. In fact, the automobile exhibits fewer signs of getting down to a basic common construction than does its humbler brother the motor cycle. Incidentally, this number of *The Autocar* contains a valuable load of information for those interested in the development of the motor car, and no doubt it will be retained by most of its readers as a means of reference.

As Usual.

New models for Olympia are rarely ready before the week preceding it. Despite the slackening off of work in the factories this year, makers seem in no better position than hitherto.

Pillion Riding.

Carriers are gradually being dropped by makers of American motor cycles. This, we understood, is due to the popularity of pillion seats with footrests, which are fitted by the owner who "scraps" the standard carrier.

A Weird Three-wheeler.

A strange looking three-wheeler has been evolved by F. C. Blake, of Kew Gardens. It has the single wheel at the front, and has the engine in front of the wheel; in fact, this part of the vehicle looks like the back part of a motor cycle. It is fitted with a 3 h.p. Dalm engine.

An Anniversary.

To-morrow's issue of *The Autocar* marks the completion of its twenty-five years' unbroken run as the leading journal devoted to the automobile. The largest, most successful, and having the largest circulation of the world's car journals, it is the parent of *The Motor Cycle*, which was born in 1903. Surely the offspring has a right to wish its progenitor many happy returns of the day—even in journalism? We do so with every sincerity, knowing how the example set by the parent journal has assisted to make *The Motor Cycle* what it is to-day.

Taxi-sidecars.

Bradford is the latest town to have sidecar taxis.

New Hudson Three-wheeler.

The latest entrant to the runabout field is New Hudson Ltd., who will exhibit their new model at Olympia.

A New Motor Attachment.

Economic Motors, Ltd., of Eynsford, Kent, are producing an auxiliary motor for pedal cycles. The engine is of 154 c.c. capacity.

Long Trip for Light Outfit.

On Tuesday, R. G. Mundy was booked to start from Holborn Viaduct at two o'clock, under A.C.U. observation, on a non-engine-stop run to Edinburgh, his machine being a 2¾ h.p. Coulson B and sidecar.

The Line of Demarcation.

Next year the 200 lb. limit for motor cycles to be taxed 30s. should automatically decide which machines are lightweights and which are not.

Brooklands in 1921.

In addition to the five large motor car races to be held at Brooklands during 1921, the following motor cycle fixtures, which are organised by the B.M.C.R.C., have also been arranged: Saturdays, April 16th, May 21st, and July 2nd; Wednesday, July 27th, Saturdays, August 27th, September 17th, and October 8th.

Open motor cycle meetings will be held on Saturdays, May 7th and August 6th.

One of the steepest grades (1 in 2⅞ maximum) in England. It is the "old" road to the Wyche cutting at Malvern, and the machine making the ascent is the 3 h.p. Ivy sidecar, which completed fifteen non-stop climbs under A.C.U. observation last Thursday.

IN SEARCH OF THE IDEAL DESIGN.

Extracts from a Paper and Discussion on the Springing of Motor Cycles, read before the Institution of Automobile Engineers.

IT is not generally known that during the war a great deal of experimentation took place in France in an endeavour to find a spring frame suitable for the conditions then prevailing.

On Thursday of last week, before members of the Institution of Automobile Engineers, at Birmingham, Sir Henry Fowler, K.B.E., presiding, Mr. G. H. Savage delivered a paper on the springing of motor cycles, which was based upon the author's experience in France while he was with the Mechanical Transport. This experience was unique, as it was the first time that the springing of motor cycles had been tested on a large scale.

The author endeavoured to show that spring frames were not only an advantage, but a necessity, and went into details showing the parts which suffer most in a rigid frame machine. These included head ball races, front forks, rims and spokes, wheel spindles, mudguards, carriers, carrier tool bags, lamps.

"An early test machine that came out from England," the author proceeded, "was a Douglas 2¾ h.p. rear spring model. It was fitted with two cantilever springs, one on each side of the rear wheel. The forward ends of the springs rested on a bracket about 8in. along the middle rail, the centre of the springs being hinged by the seat-pillar lug, and the rear ends shackled on to a stay that went over the wheel. The next experimental Douglas machines that came out were two 3½ h.p. machines, one fitted with rear springing; the machines came down to the Third Heavy Repair Shop from up the line, where they had evidently had hard work. Helical springs were fitted. The machine was good and very comfortable to ride, but the springs were too stiff to be responsive to the light shocks.

Various Practical Tests.

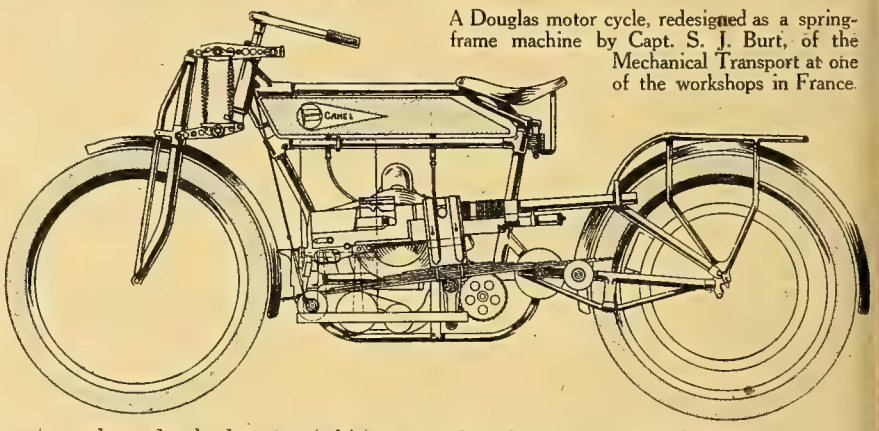
"Another spring frame machine to come out for test was the Royal Ruby. This machine had had some fairly severe work to do, but again it was impossible to say what mileage it had done. The only criticism was that the wheels were out of track a little. The springing was very comfortable, and the machine very much less tiring to ride than one with a solid frame.

"Of the machines built in France, the first was a Douglas 2¾ h.p. rear spring frame model designed by Capt. Francis and built at the 3rd Heavy Repair Shop. It had two leaf springs, one on each side of the rear wheel, level with the middle rail, the forward ends resting on a bracket bolted to the rail. The deflection from the normal, as far as the author can remember, was 3in. to 4in., and it was a very comfortable machine.

"Another design, which was got out by the author, was the fitting of rear springing to a standard Triumph machine. There was nothing particularly original about the design. The carrier and rear mudguard were unsprung.

"Another spring frame machine made in France was one designed by Capt. S. J. Burt of the 61 Aux. P. Coy., and some exceptional results were obtained with it. The machine was a standard Douglas 2¾ h.p., but different front fork springing was fitted, which gave much greater movement, and on the rear two cantilever leaf springs were fitted, one on each side of the wheel, also with a large range of movement.

"The relation of sprung to unsprung weight is an important point. Taking the instance of an unsprung car, its inertia would tend to keep it moving in a straight line, but if it meets an obstacle, the car must move out of this straight line, and this imposes a great strain on the tyres; if the car is sprung, however, only the inertia of the unsprung parts, axle and wheels, etc. (which are much lighter), has to be overcome, and the consequent stress is proportionately lower. On all vehicles that is the same.



A Douglas motor cycle, redesigned as a spring-frame machine by Capt. S. J. Burt, of the Mechanical Transport at one of the workshops in France.

The Effect of Wheel base.

"The makers of the Beardmore Precision inform the author that they have experimented with larger deflections than they at present allow on their standard spring frame machine, and have rejected them. They found that the movements were too great in their opinion for the short wheelbase of a motor cycle, and that the periods were too slow and the springs heavy. On their standard machines they allow a maximum movement of about 1½in. for the front wheel and 2in. for the back wheel, and this, in their experience, gives full relief from all road shocks.

"The Royal Ruby Cycle Co. say that their maximum allowable movements are about 3in. on front and rear wheels.

"The author has been informed by the makers of the Beardmore Precision that in their experience the steering is hardly affected by the large movements. This agrees with his own experiences on the 3rd Heavy Repair Shop spring frame Triumph machine already mentioned.

"With even the 2½in. to 3in. and 3½in. to 4½in. movement from the normal, there is no doubt in the author's opinion that a non-progressive action spring cannot be got to include the range of light and heavy shocks. The possible solutions of this difficulty are, first, a non-progressive action spring with a buffer; this, however, is not good, as it means that the heaviest shock is taken finally on the frame. The second is a laminated spring with supplementary springs, and this is a practicable solution. Care must be taken when designing the above to see that the supplementary springs are called upon to take direct thrust only.

"The third is springing with helical springs, where, as the main spring is compressed, other springs come into action; this is already used, but not with such large movements as are suggested here; the system has advantages but also many disadvantages. A helical spring in which the free height is approximately 3in. over the solid height, would require for the average weight machine to be about 12in. in length. This would have to be enclosed or to have a centre guide to prevent its buckling, and it would be somewhat difficult to fit in on the machine. On a design of this sort, with several long springs working in combination, care would have to be taken to see that the springs did not foul each other.

"With extension springs it would be difficult to work in a combination type, and the only suggestion is to change the action from the non-progressive type to a resultant action in which the load was no longer directly proportional to the deflection. This could be done without much difficulty by altering the leverage of the spring on the links as it was extended, or by increasing the rate at which it was extended for a given movement of the wheel. Experience has shown that in parallel wound extension springs, the safe value of the stress per square inch is only about two-thirds of that for compression springs of similar dimensions.

Volute Springs.

"A last alternative is the volute or conical spring, which can be made to practically any rate of progression, and it would seem to be worth while experimenting with this type. In one type of front fork, conical springs acting in compression are already fitted, but they are short and are only very slightly taper. A conical spring is not satisfactory when used in extension, as sufficient load to fully stress the smaller or stiffer coils cannot be applied without distorting the larger coils.

In Search of the Ideal Design.—

"It would be as well to compare the different designs of front forks, of which there seem to be three distinct types. The most usual is the parallel link motion type, where the links connect from the top of the front forks to the head of the frame, then the type as on the Triumph and the Beardmore Precision, where the front fork is hinged at the crown, and lastly, the design which seems to be popular on American machines, and which is also embodied in the Phelon and Moore front forks, where the connecting link comes straight off the wheel spindle.

"Rear springing on a motor cycle is a comparatively new feature, and it would be as well to regard it separately. The considerations in the design seem to be accessibility for viewing, repair and lubricating, and efficiency, cleanliness of design and cheapness; it would in fact be a compromise as usual. The maximum allowable movement from the normal should, the author thinks, be from 3½ to 4½in."

Mr. H. D. Teage *(The Motor Cycle)* was called upon to open the discussion, and mentioned that he had had excellent results from the 3½ h.p. spring frame Douglas mentioned by the author. Speaking as one who frequently followed trials over bad surfaces, he welcomed any improvement to motor cycle springing.

Saddle v. Frame Springing.

Mr. J. E. Greenwood followed, and pointed out that much experimental work was in progress. He spoke highly of the new Brooks leaf spring saddle, and stated that for passenger outfits he favoured a device of this description in conjunction with large tyres and a spring sidecar wheel in preference to a spring frame.

Maj. R. Vernon C. Brook pointed out that there were considerable difficulties to be overcome in design. He strongly recommended the use of steel head lugs, and also the use of a springing system which was adjustable to the weight of the rider.

Capt. Burt gave an interesting description of a 2¾ h.p. Douglas, for which he had designed a special springing system for war purposes. This machine performed some wonderful feats, and, amongst others, when loaded with a Hotchkiss gun and 360 rounds of ammunition, successfully negotiated a large diameter telegraph pole laid across its track, a petrol can, and a deep shell hole. The design of the machine can be followed from the appended drawing.

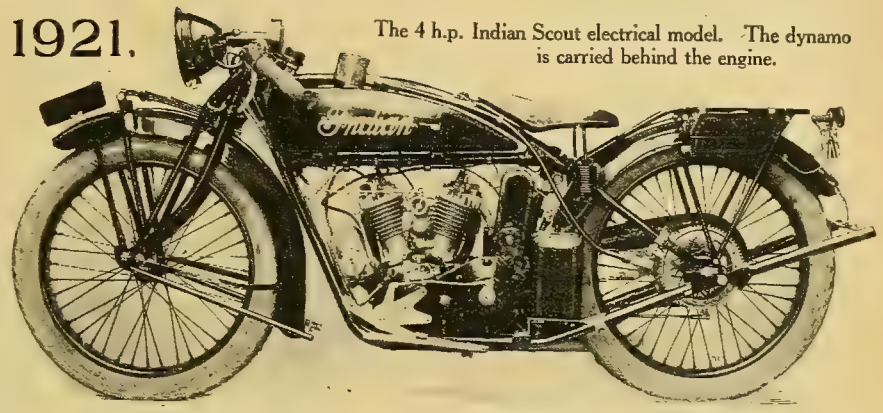
The discussion was then thrown open, and interesting points were raised by Messrs. Morgan, Pearsall, Higham, Chalmers, Holroyd, and Richardson.

Owing to the late hour, the discussion had to be curtailed, and the author was unable to reply. His reply will therefore be submitted in writing.

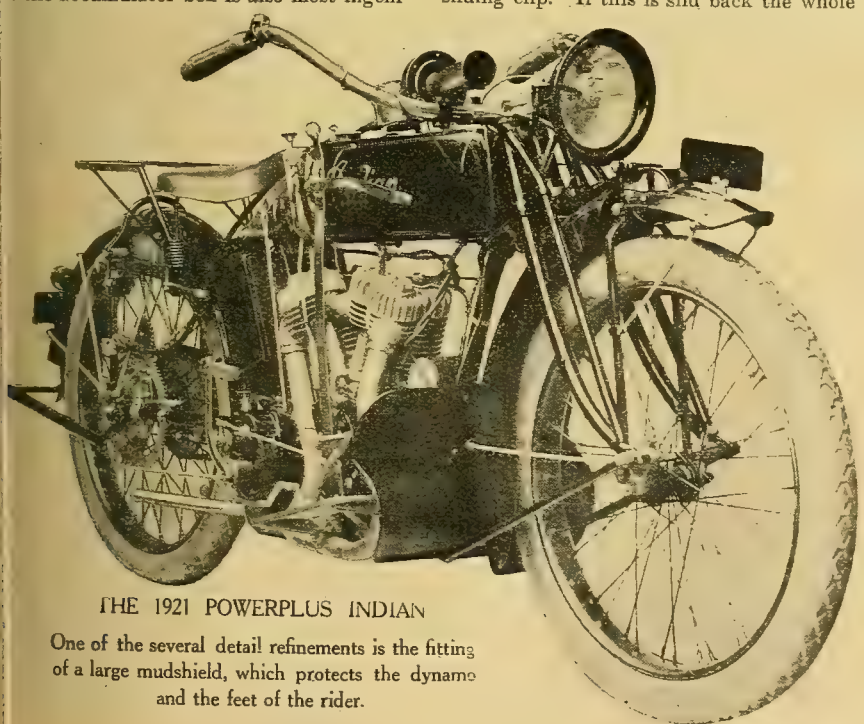
INDIANS FOR 1921.

Detail Alterations only, but very Complete Specifications for Both Models.

THE 4 h.p. Indian Scout has not undergone any revolutionary alterations for 1921, but the extremely practical way in which the Splitdorf dynamo is fitted and driven is well worthy of remark. The power from the engine is conveyed to the countershaft through gear wheels, which are entirely enclosed and running in oil. Forming part of this transmission are two additional wheels, also enclosed, and meshing with the larger wheel of the main transmission. On the shaft of the uppermost of these small gear wheels is fitted a pulley which drives the dynamo by means of a spring belt running in a neatly designed case. The fastening of the accumulator box is also most ingenious. A bracket similar in shape to a lamp bracket is clipped to the saddle tube, while on the near side chain stay is a sliding clip. If this is slid back the whole accumulator box may be quickly taken from the machine. The toolbox fitted is of metal, and is provided with a lock, while the 26in. × 3in. Goodyear tyres give the machine a substantial appearance.



The 4 h.p. Indian Scout electrical model. The dynamo is carried behind the engine.



THE 1921 POWERPLUS INDIAN

One of the several detail refinements is the fitting of a large mudshield, which protects the dynamo and the feet of the rider.

An Efficient Mudshield.

Like the Scout, the popular Powerplus model has not undergone many alterations for 1921. Formerly, wooden knobs were fitted to the change-speed and hand-controlled clutch, but these have been supplanted by aluminium knobs cast on to the levers, and there is now no possibility of their working loose. A noteworthy feature of this model is the large guard fitted to protect the dynamo from mud, the dynamo being driven by a spring belt off the engine-shaft. Naturally, the excellent spring frame and forks, which have been so successful for several seasons, are retained.

In the case of both models, the electrical equipment is somewhat similar, comprising head and tail lamps and an ammeter on the top tube. The Powerplus model is fitted with 28in. × 3in. tyres, and is, of course, ideal for sidecar work.

On our visit to the Indian depot we saw an interesting racing Indian which has just arrived from the United States for H. Le Vack, who will shortly go for some records with it. Apparently, the power unit is a standard Powerplus engine, but the frame is a special one with a large capacity tank, and many other interesting features.

The Possibilities of the Lightweight Sidecar Outfit.

Fifteen Non-stop Ascents of the Old Wyche by a 3 h.p. Ivy Two-stroke with Sidecar and Passenger.

WHEN shall we reach the limit of the small two-stroke machine is a question which well may be asked. Only a few weeks ago it seemed that a remarkable performance had been achieved when a 348 c.c. air-cooled two-stroke made twenty-five consecutive non-stop ascents of the Old Wyche at Malvern, but now we have to report a similar feat by the same machine, this time burdened with a sidecar and passenger.

Again, P. Newman was the demonstrator, and his 3 h.p. Ivy machine was equipped with a light Canoelet sidecar. A Sturmey three-speed gear box and all-chain transmission were used.

The test, which was carried out under A.C.U. observation, was timed for the forenoon of Thursday last, but the actual start was delayed until 12.37 owing to the dense mist which hung upon the hills.

With the regularity of a train, the little machine hummed round circuit after circuit, the engine apparently having ample power in hand.

Testing to the Limit.

After twelve ascents had been made, it was generally decided that no useful purpose would be served by carrying on, as the engine showed no signs of flagging, and apparently could have continued to run all day, so at the end of the fifteenth circuit, which was completed at 2.6 p.m., the driver was persuaded to stop with his engine still running, and an additional passenger was then taken upon the carrier.

Thus loaded, the machine made another, unfaltering ascent, and was again stopped and a heavier pillion passenger substituted. This time the engine emitted a loud knock as it breasted the 1 in 2⅞ portion of the hill, although it climbed well and came over the top without assistance.

The two final ascents (with three up), of course, were in the nature of an impromptu test, and were attempted merely to see what actually was the limit of the machine's powers; they showed that the outfit should answer every requirement of that large class which confines itself to main road touring.

The first fifteen ascents, however, which were officially observed, constitute a wonderful demonstration of the possibilities of the 3 h.p. Ivy as a light passenger machine, in which form it will be marketed during the year 1921.

In every way the engine was similar to the standard production which will be placed on the market after the Show. A two-lever Amac carburetter, Lodge plug, and E.I.C. magneto were fitted, while Shell spirit and Vacuum oil were used.

Half-way up the Old Wyche at Malvern; the gradient commences to stiffen at this point, and culminates in a short stretch of 1 in 2⅞. P. Newman made fifteen non-stop ascents on his 3 h.p. Ivy two-stroke with sidecar and passenger

"OPEN," "CLUB," AND "JOINT" COMPETITIONS.

IN the following letter to *The Motor Cycle*, the Secretary of the Auto Cycle Union draws attention to a point of interest to every club secretary:

"Sir,—Quite a number of complaints have been received during the past competition season by the Auto Cycle Union, not only that competitions which should be purely club events have been advertised as 'open,' but also from riders who, for various reasons, have been dissatisfied with the rulings of the judges when they have taken part in such events.

"Generally it is impossible to warn an hon. secretary in time to prevent his club infringing the open competition rules of the Auto Cycle Union, as in such cases it is usually through either the press, or a report from a dissatisfied competitor, that the Union obtains its information.

"I would hasten to say, however, that, in the opinion of my committee, such infringements are nearly always inadvertent, and arise through a lack of knowledge of the policy of the Union.

"The important thing seems to be that club committees, and motor cyclists in general, should realise the spirit of the competition rules, which have been framed in their own interests and in the interests of the sport as a whole.

"A club is at perfect liberty to promote any club competition for its members as it thinks fit; it can, moreover, if affiliated, combine with as many as four other affiliated clubs to run a joint *closed* competition. If a local centre of the Union has been formed in any district, then any number of clubs in that centre can combine for the purposes of a centre competition. If, however, any outsider or member of an unaffiliated club take part in any such competition, it ceases to be a closed competition and becomes an unauthorised 'open' one, and both promoters and participants render themselves liable to penalties. The reason for this is, of course, that the Union has no control over 'outsiders,' and, if they were guilty of any unsportsmanlike behaviour it could not penalise them.

"Recognising this, motor cyclists have formed a Union, one of the duties of which is, just as in other sports, to keep the sport clean. To carry out this duty means framing and enforcing certain regulations, which can only be effective if loyally observed by the great majority.

"T. W. LOUGHBOROUGH,
"Secretary Auto Cycle Union."

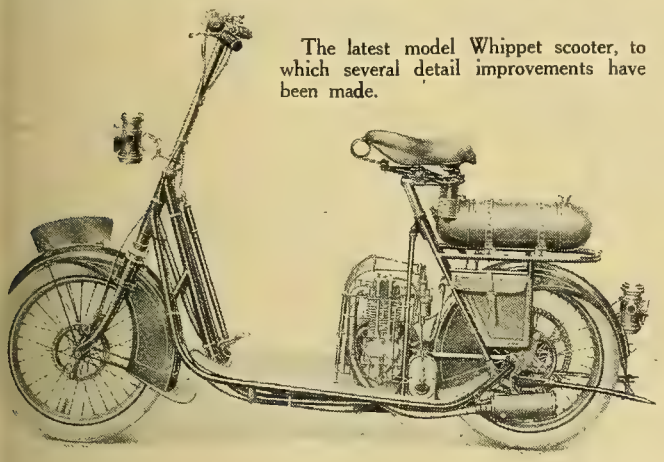
Whippet Scooter Modifications.

Detail Alterations only to a Remarkably Efficient 150 c.c. Overhead Valve Four-stroke.

CONSIDERABLE detail improvement has been incorporated in the latest model Whippet scooter, the novel design of which, it will be remembered, attracted much interest at the Motor Cycle Show last year.

The aluminium cylinder with detachable head and steel liner, the possibilities of which were, at first, criticised, have been retained. The aluminium piston, however, will be substituted at a later date, by a cast iron one. The existing piston has proved quite satisfactory in the hands of those who understand engines, but despite 7/1,000th of an inch clearance, bad handling and the lack of care exercised by the average purchaser have resulted in a few cases of seized engines.

In place of the decompressor originally fitted, a small cam, engaging beneath the exhaust rocker arm, provides a simple exhaust valve lifting mechanism.



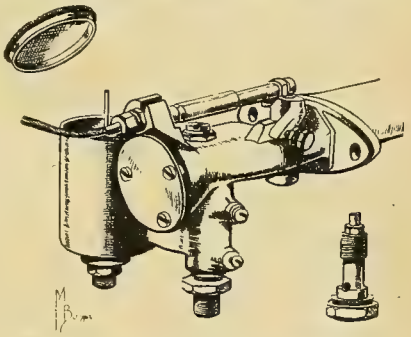
The latest model Whippet scooter, to which several detail improvements have been made.

A French Carburetter.

A new carburetter, the Vici, a French design, is now fitted, and is, the makers state, well suited for small engines of this type. As may be seen from the illustration, it is of the horizontal pattern, and is provided with a neat throttle adjustment. The main jet disposed beneath the mixing chamber is adjacent to the float chamber.

A small pilot jet, located between the main jet and the float chamber, is screwed in the top of the casting, and is fed from the channel between the float chamber and the main jet.

The air intake is protected by a circular plate held away from the casting by three distance pieces, through which the retaining pieces are placed. The two screws located in the jet chamber are merely to facilitate manufacture. The lower one, however, may be used for clearing the passage from the float chamber to the base of the main jet.



The Vici carburetter fitted to the Whippet scooter. Inset shows the main jet.

On our visit to the factory at Twickenham, we noticed a special model scooter used by the designer, Mr. Hayward, for experimental purposes, and during our brief run on this machine we were surprised at the power that was developed by so small an engine (150 c.c.)

The makers are Messrs. W. G. C. Hayward and Co., Ltd., Beaufort Works, Cambridge Park, Twickenham, Middlesex.

Through the Yorkshire Dales.

An Interesting Trial for Amateur Douglas Riders.

A NOVEL feature of the trial held on October 14th, and organised by Capt. Ellison Hawks, of the Douglas Depot, Harrogate, was that it was open only to amateur riders of Douglas motor cycles. The start was from Harrogate.

The first of the twenty-five competitors was timed away at 10.31. The route was by way of Ripley and Ripon to Masham, where was placed the first check. Then *via* Leyburn and Richmond to Darlington, where the machines were parked in the Market Square.

Failures on Clay Bank.

After the morning's easy task and an excellent lunch, the riders were in very good spirits, but the more knowing ones were not very optimistic in regard to the afternoon's programme, as they knew that the most strenuous part of the trial had yet to come. From Stokesley the route lay to Broughton, after which the first observed hill, Clay Bank, was encountered. The gradient of this hill is 1 in 8, increasing at the summit to 1 in 3.9, but the surface is excellent, with the exception of four "steps," which necessitate good driving and plenty of power to pick up after passing them. Most of the riders found it too much for their machines, however, which appeared generally to be overgeared. The best ascent was made by Richardson on a 2¾ machine, while Wildgoose made a fast climb on a 4 h.p. solo mount. Noble (aged fifteen), the youngest rider in the trial, made an excellent ascent, and nearly got up, but failed on the last rise, within a few yards of the top of the hill. Very good climbs were made by Sanderson (on a 4 h.p. sidecar outfit) and Walker.

The riders now wound their way between the hills and through Bilsdale, one of Yorkshire's most beautiful dales, passing through Chop Gate to Newgate Foot Hill, the second observed hill, where some exceptionally good ascents were made. The only failure on this hill was Addyman (1910 2¾ fixed gear). Illingworth made a very fast climb, as did Bever. Sanderson's sidecar put up a very good performance. White (4 h.p. sidecar outfit) broke his belt, but on restarting made a good climb. Clean ascents were made also by Hartley, Shanks, and H. J. Bankes, all on 2¾ h.p. machines.

The riders then continued past Rievaulx Abbey, and encountered Scawton Bank, the surface of which was in a very wet and greasy condition. Indeed, it was so bad that only two riders made clean ascents. These were White (4 h.p. sidecar) and Wildgoose (4 h.p. solo). Sanderson broke his belt near the top of the hill, and, in the opinion of the observers, would otherwise have made a clean ascent. The remainder of the riders again appeared overgeared. Leaving Scawton Bank and on to Hambleton the road was very bad in sections, owing to there having been a considerable amount of "logging." It was almost impossible to average 20 m.p.h. on this section until Sutton Bank was reached. Descending this hill most of the riders made up time along the dry level road to Thirsk, but the time lost by the majority of riders on Scawton Bank, and in the Hambleton section, showed itself at the Thirsk check.

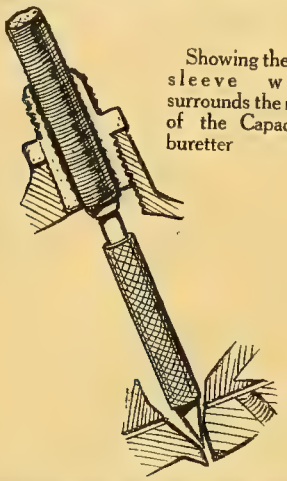
Many lose Time.

From Thirsk to Boroughbridge and Knaresborough the roads were excellent, and, had not the trial been run on the sectional basis, which proved so successful in this year's Scottish Six Days Trial, there is no doubt that most of the riders who were late at Thirsk would have made up their lost time by the time they reached the Knaresborough check.

The route covered approximately 125 miles, and, considering that this was their first experience of competition riding for practically all the entrants, the fact that nineteen out of twenty-five checked in at Harrogate must be regarded as very satisfactory.

A CAPAC IMPROVEMENT.

THE latest innovation on the Capac carburetter is a very simple but none the less effective one. It may be remembered that the Capac carburetter is provided with an adjustable needle controlling the jet opening. The improvement consists of a fine gauze sleeve surrounding the needle. The gauze becoming impregnated with petrol greatly facilitates the atomisation of the fuel, as the volatile portions thereof leave the gauze in the form of a mist, and not in globular form. There is less tendency



Showing the gauze sleeve which surrounds the needle of the Capac carburetter

to condensation in the induction pipe, consequently improved economy, acceleration and starting are the result.

It is also pointed out that with this device in use the engine will give its full power long before it is properly warmed up. The G vaporiser, as it is called, is said to improve acceleration particularly on such engines as V twins, where the induction pulsation is unequal.

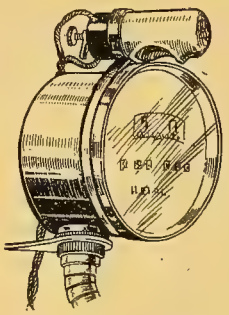
To fit the gauze is a very simple matter. The main jet needle unit must be removed completely by unscrewing the lower hexagon nut. If this is done, the jet setting will not be altered. When the gauze is slipped over, the unit can be replaced. Care must be taken to see that the gauze rests on the bottom portion of the well. When once the gauze has been fitted, it is usually advantageous to reduce the main jet needle opening slightly by screwing in the needle one-twentieth of a turn, and in most cases it is possible to reduce the by-pass opening by screwing in the by-pass screw.

The vaporiser is obtainable from the Capac Continental Co., Ltd., 2, Woodstock Street, London, W.1.

A cycle car at an acute angle. The G.N. shown here would be starved of petrol in this position with an ordinary carburetter fitted, but with a Capac using the G vaporiser perfect firing was obtained.

THE H.A.H. SPEEDOMETER LAMP.

AN exceedingly useful novelty has lately been brought out by Messrs. A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, East Croydon, Surrey. It consists of a speedometer lamp mounted on a spring clip to fit round the dial of the speedometer. The bulb may be had in any colour, but the sample submitted to us was blue. Now a blue light will not dazzle the rider, and yet will give sufficient illumination to read the figures on the speedometer dial. The idea is a particularly happy one. It is probably culled from the Navy, where blue lights are used on the bridge when the ship is darkened, as this particular colour can only be seen at a short distance.



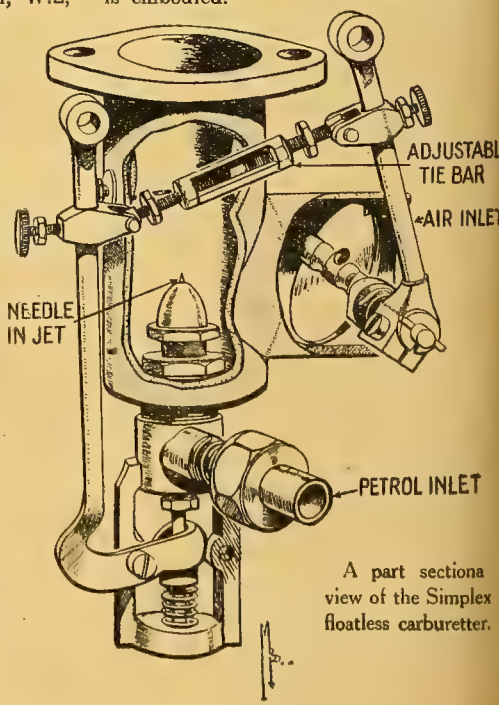
The H.A.H. speedometer lamp.

THE SIMPLEX FLOATLESS CARBURETTER.

THE new motor cycle carburetter which has been placed on the market by the Simplex Carburetter Co., 36a, Queen's Road, Bayswater, London, W.2, marks a somewhat startling innovation in motor cycle carburetion for the reason that no float chamber is fitted. Also there is no throttle, since the speed of the machine is controlled by raising or lowering a tapered needle running through the jet orifice, working in conjunction with a butterfly in the air inlet. Through the agency of an ingenious tie bar (by means of which the ratios between the two levers operating the jet needle and the air control are kept constant) the correct proportions of petrol and air may be obtained, while further adjustment can be effected by sliding two clamps, to which the tie-bar is attached. These adjustments naturally control the degree of, and time of, opening the butterfly in relation to the amount of petrol passing through the jet.

Above the jet is a choke tube. It will be noticed that petrol, instead of passing through a float chamber, is led directly to the base of the jet. When once the carburetter has been correctly set, and it is so set that the amount of air admitted for starting is very small, it is entirely automatic, and the opening of the air inlet is proportionate to the amount of petrol passing through the jet orifice.

We have not yet been able to test the carburetter on a motor cycle. We understand, however, that it gives great economy and a high degree of efficiency, while the slow running is entirely satisfactory.



A part sectional view of the Simplex floatless carburetter.

SIDECAR STEPS.

THE necessity or otherwise for a sidecar step is a matter for passengers to decide, but it is probably true that, if asked, the large majority would be in favour of such fitments. Those ladies who have been used to a footboard or step and return to a sidecar which is not so equipped almost invariably mention the inconvenience caused by its absence.

It is a little point, but one which should receive consideration on the part of sidecar manufacturers. In the meantime, Mr. H. F. Harrison, of 13, Styvechale Avenue, Coventry, has introduced a cast aluminium step which can be fitted conveniently to most chassis, and which may be purchased for 17s. 6d. At a slight extra charge a small electric lamp is embodied.

The Harrison sidecar step, which has split lugs for clipping on to the chassis. In one model a lamp is embodied in the lower half of the front lug.

Cycle Cars at the Car Show.

Thirteen Vehicles which may prove of Interest to Motor Cyclists.

SINCE the R.A.C. and A.C.U. decided that all four-wheeled motor vehicles are cars, the Motor Cycle Show at Olympia (November 29th to December 4th) will not include any examples of this interesting type of runabout, which is usually the motor cyclist's stepping-stone to larger cars.

At the Car Shows, commencing to-morrow (Friday) at Olympia and the White City, there will be many small four-wheelers. For the benefit of our readers who intend visiting either or both exhibitions, we append a list of the vehicles which may be regarded as being in the "cycle car" class, or of such a character as to embody certain features more or less common to motor cycle practice.

At Olympia.

BLERIOT WHIPPET. STAND 37.

As most readers are aware, this is an attractive little vehicle engined with a Blackburne 8 h.p. power unit, and has an ingenious system of variable gearing by means of a belt and expanding pulleys. The weight unladen is under 6 cwt.; the 1921 model has a hand lever starter operated from the driver's seat.

GRAHAME-WHITE. STAND 25.

A small cycle car fitted with a Coventry Victor air-cooled flat twin engine, and having friction transmission. A smaller model has all-chain transmission and a 350 c.c. Precision two-stroke power unit.

ROVER. STAND 57.

One of the most successful air-cooled vehicles of the year. It has a flat twin engine of 1,000 c.c., and three-speed and reverse gear box built integral, shaft transmission, and detachable disc wheels.

At the White City.

A.V. STAND 410.

Two types of this capable little cycle car will be exhibited, *i.e.*, single and two-seaters. In both cases the engines are J.A.P. twins, and a two-speed epicyclic gear is embodied.

CARDEN. STAND 476.

As the lowest-priced four-wheeler at present on the market, this cycle car is bound to create a great deal of interest. Its price is £100, the same as many lightweight motor cycles. A two-cylinder two-stroke engine is the power unit, and is integral with the gear box, which drives directly to the axle upon which the combined unit is carried.

CROUCH. STAND 439.

A twin-cylinder water-cooled engine and final chain drive are the main features of the Crouch, which has for many years proved a sturdy little vehicle at a popular price.

G.N. STAND 425.

Our readers require no introduction to this well-known cycle car. A 90° air-cooled twin engine and shaft-cum-chain transmission form part of its specification.

KINGSBURY JUNIOR. STAND 429.

A light car with a flat twin water-cooled engine and conventional shaft transmission, this vehicle is of interest to motor cyclists on account of its very moderate price.

L.M. STAND 332.

One of the earliest small four-wheelers, having a V twin water-cooled engine and chain transmission.

MAJOR. STAND 434.

The winner of the Grand Prix and fitted with a two-stroke engine having two cylinders and a common combustion head. Friction discs and final chain form its transmission system.

RICHARDSON. STAND 408.

Another friction-driven cycle car, of which a large number have been sold this year. It is fitted with a Jap or Precision air-cooled engine at option.

UNIT. STAND 333.

A newcomer with flat twin engine at the rear of the seats and final chain drive. Adjustable hammock seats are a feature.

TAMPLIN. STAND 433.

A cycle car well known to motor cyclists. It has an 8 h.p. Jap engine, Sturmey-Archer gear, and final belt drive.

Double Tickets.

The following charges for admission to the Show include free transportation between the two buildings:

Saturdays. November 6th and 13th, 2s. 6d. Second half of ticket may be used on the same day or the following Saturday.

Thursday, November 11th, 10s. Second half of ticket may be used on the same day or any other day.

Other days, 5s. Second half of ticket may be used on the same day or any other day but Thursday.

The Wood Lane entrance of the White City will be used.

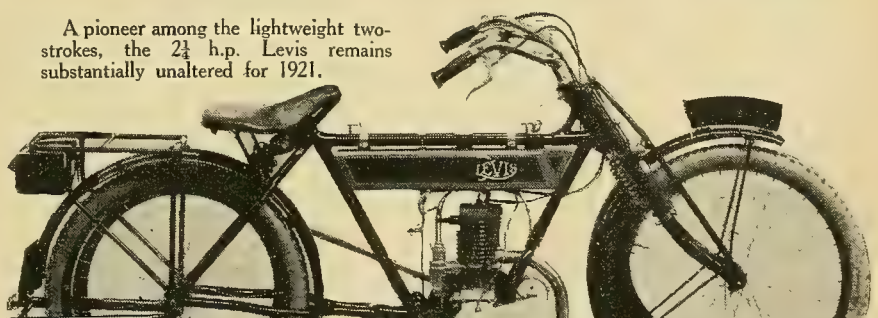
A comprehensive forecast and guide will be published in to-morrow's issue of *The Autocar*, which should be read by all intending visitors.

A Three-speed 2½ h.p. T.T. Levis.

A Road Edition of the I. O. M. Machine to be marketed in Addition to Three 2¼ h.p. Models.

HITHERTO the Levis has appealed mainly to the novice and the weaker sex; and, although an extraordinarily capable little machine, its 211 c.c. engine and single gear do not make up the specification of a "road-eater's" mount. But the 2½ h.p. model (67×70 mm. bore and stroke = 247 c.c.), which, amongst other things, gained *The Motor Cycle* Cup in this year's T.T., is a different proposition; and all who love the light, fast, go-anywhere type will welcome the news that for 1921 Messrs. Butterfields, Ltd., of Stechford, Birmingham, are marketing what is practically a replica of R. O. Clark's Isle of Man model.

Ultimately the T.T. Levis will have a three-speed gear box and clutch (of Levis manufacture and design), and it is hoped to show one so fitted at Olympia. At present, however, the gear is in an experimental stage, and, although the same type of box, minus clutch, emerged with honours from the 250 miles gruelling in the Isle of Man, we were told that it will not be adopted as standard until it passes exhaustive road tests. Chain and belt transmission is used, and the drive



A pioneer among the lightweight two-strokes, the 2¼ h.p. Levis remains substantially unaltered for 1921.

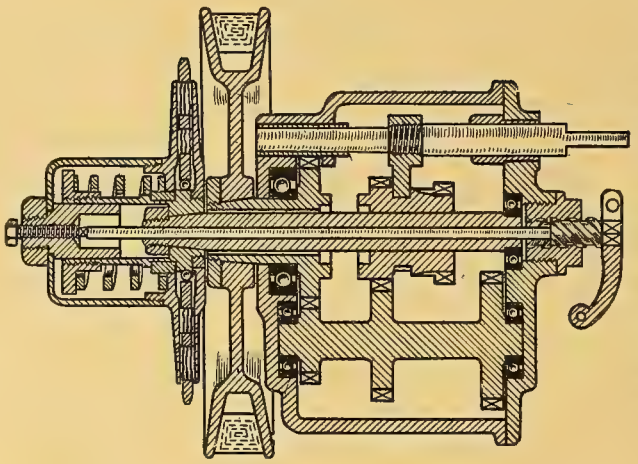
is direct on top, while first and second speeds are obtained by sliding pinions on a square mainshaft. The design and internal workmanship appear to be exemplary, while the weight, including a handle-bar-operated cork inset clutch, is but 9 lb. 2 oz. The provisional prices are £68 single geared, and £83 with three-speed gear box and clutch.

Touring, sports, and ladies' models of the 2¼ h.p. machine will be marketed next year. The former two differ only in detail, *i.e.*, handle-bars and gearing; while an exceptionally low frame allows

A Three-speed T.T. Levis for 1921.—an admirable adaptation for feminine use by simply adding a belt guard. The price of the 211 c.c. machine remains at £60; and the specification now includes an E.I.C. magneto, and a B. and B., Senspray, or special two-stroke Amac carburetter.

More than interesting evidence that the standard Levis, as supplied to the public, is a genuine lightweight, is forthcoming in the fact that, when the railways refused to carry machines that were over 112 lb. by passenger train, Messrs. Butterfields continually despatched their products so, and only rarely found it necessary to send on the tool-kit under separate cover.

Although the larger T.T. Levis is indisputably capable of pulling a sidecar, the makers do not recommend this, and refuse to spoil a real solo machine by adding weight.



The addition of a cork inset clutch makes the new Levis three-speed gear box ideal for road work on a light machine. Of course, wider ratios are used than those which were employed on the gears fitted to the T.T. machines in the Isle of Man. The weight complete, with all the operating mechanism, is under 10 lb.

CLUB NEWS. (Continued from page 531.)

Keighley M.C.

The results, on handicap, of the speed trial held on October 24th, are as follows: 1, R. Holmes (5-6 Ariel sc.); 2, A. Thornton (2¾ Douglas); 3, N. Ryecroft (2¾ O.K. Junior).

Leeds and District M.C.

Some fast times were made at the speed trials on October 31st, as the following results show: 1st (Owen Brooks Cup and gold medal), R. A. Bonner (8 Jap), 67.1 m.p.h.; 2, R. J. Brown (7-9 Indian), 66.6 m.p.h.; 3, L. A. Chappell (4 Triumph), 63.4 m.p.h.

Surbiton and District M.C.C.

In the trial for the Ballard Cup last Saturday only fifteen competitors out of an entry of sixty made non-stop runs. V. Ollson (7-9 Indian) wins the Ballard cup: while the other awards are as follows:

ZENITH GOLD MEDAL.—C. Cressthwaite (5-6 James sc.).

ZENITH SILVER MEDAL.—W. B. Reeves (8 Zenith sc.).

HASLAM PRIZE for Machines under 350 c.c.—R. B. Clark (2¾ Coulson B).

BRONZE MEDALS.—W. J. Kelly (8 Zenith) and R. A. Green (4 Triumph).

G. Offord (8 G.N.) was the only driver of light car to make a non-stop run.

Mansfield and District M.C. and L.C.C.

Clipston Drive was in magnificent condition for the speed trials of this club on Saturday, and everything went off without a hitch. Fastest time of the day was made by E. Chandler, on his locally built 7-9 D.M.C. The complete results are as follows:

CLASS 1 (275 c.c.).—1, gold medal, A. Hemstock (2½ Villiers), 37½s.; 2, silver medals, E. Shaw (2½ Villiers), 42⅗s., and S. Marshall (2½ Triumph), 43⅕s.

CLASS 2 (375 c.c.).—1, gold medal, J. R. Taft (2¾ Douglas), 35s.; 2, silver medal, W. Speed (2¾ Douglas), 35⅕s.; 3, silver meda), H. Hayes (2¾ Douglas), 38⅘s.

CLASS 3 (500 c.c.).—1, gold medal, S. Laurence (3½ Norton), 27⅗s.; 2, silver medal, K. S. Topping (3½ Norton), 28s.; 3, silver medal, J. E. Amery (3 A.B.C.), 29s.

CLASS 4 (750 c.c.).—1, gold medal, S. Laurence (3½ Norton), 27½s.; 2, silver medal, G. Mills (5 o.h.v. Jap), 28s.; 3, silver medal, K. S. Topping (3½ Norton), 28s.

CLASS 5 (Unlimited, solo).—1, gold medal, E. Chandler (7-9 D.M.C.), 26½s.; 2, silver medal, G. Mills (5 Jap), 27s.; 3, silver medal, S. Laurence (3½ Norton), 27⅞s.

CLASS 6 (Unlimited sidecar).—1, gold medal, S. Laurence (3½ Norton sc.), 29⅘s.; 2, silver medal, K. S. Topping (3½ Norton), 32⅘s.

Bradford M.C. and L.C.C.

A well attended meeting of the above club took place on Thursday night, October 28th, at the club headquarters, when twenty-nine new members were elected, making the club now over 300 strong.

The annual dinner was definitely arranged to take place on December 19th, and a one day trial was arranged for December 12th. Mr. Frank Spencer kindly offered a trophy to be won outright.

After the meeting Mr. R. W. Stanfield, of the Scott staff, gave a most excellent and instructive lecture on magnetos and dynamos.

Stalybridge and District M.C.

A strong head wind prevented exceptionally fast times at the hill-climb on Saturday. The event was well attended; and the provisional results are as follows:

CLASS 1 (350 c.c., so.o).—J. Hamer (2¾ Allon), 1m. 40½s.; G. H. Shaw (2¾ Douglas), 2m. 7s.

CLASS 2 (500 c.c., solo).—H. Smethurst (3½ Norton), 1m. 6⅘s.; H. Mills (3½ Bradbury), 1m. 10s.; T. Moorhouse (3½ Triumph), 1m. 18⅘s.

CLASS 3 (750 c.c., solo).—H. Smethurst (3½ Norton), 1m. 5s.; A. Margrave (4 Triumph), 1m. 8s.; W. Hoyle and E. V. Lees (4 Triumph), 1m. 16s., tied.

CLASS 4 (Unlimited c.c., solo).—E. Bottomley (7-9 Harley), 56½; H. Smethurst (3½ Norton) and A. Margrave (4 Triumph), 1m. 5s., tied.

CLASS 5 (Sidecars, 750 c.c.).—O. E. Carter (3½ O.C.-J.A.P.sc.), 1m. 20s.; H. Smethurst (3½ Norton, sc.), 1m. 27s.; R. R. Allison (4 Douglas) and H. Mills (4 Norton, sc.), 1m. 57s., tied.

CLASS 6 (Sidecars, unlimited c.c.).—E. Bottomley (7-9 Harley sc.), 1m. 9s.; O. E. Carter (3½ O.C.-J.A.P. sc.), 1m. 20s.; H. Smethurst (3½ Norton, s c.), 1m. 27s.

FASTEST TIME OF DAY.—E. Bottomley (7-9 Harley), 56½s.

FASTEST TWO-STROKE.—J. W. Hamer (2¾ Allon), 1m. 40½s.

Newcastle and District M.C.

Over 150 members and friends of Newcastle and District M.C. attended the annual dinner at the County Hotel, Newcastle, on 27th October, and spent an enjoyable evening. Mr. Fred Keir, the club's chairman, read letters of apology from the Lord Mayor-elect, Councillor T. W. Rowe, and from Mr. Q. A. Nicol, O.B.E., the organising secretary of the N.E.A.A. He was supported by Sir Arthur Sutherland, Councillor James Cooper (the oldest member), Messrs. Lindon Travers, Robson Crozier, five successful Six Days Trial members, and one T.T. member.

Sir Arthur Sutherland was flanked by an imposing array of prizes, the club's awards being worth over £130, in addition to numerous valuable trophies from the trade and private members.

In offering the toast of "Our Guests," the Chairman recalled the fact that the club had the mournful satisfaction of providing, in the person of Mr. Jacob Garson, late of Northumberland Hussars, the first despatch rider to fall in the great war. They still kept his memory green.

Three Shires Centre A.C.U.

The first board meeting of the above centre was held at the Plough Hotel, Cheltenham, on October 21st, delegates from the following clubs being present: Cheltenham, Stroud, Stourbridge, Hereford, Malvern, and Worcester Motor Cycle Clubs. It was agreed it was not possible to define the area, as self-determination on the part of any clubs should rule as to which centre the clubs should join. The above clubs having shown their intention to join the centre were, of course, accepted without opposition. It was suggested that the centre should be renamed, and after various suggestions it was decided to call it "The Western Centre." The meeting then proceeded to the election of officers, the undermentioned being appointed: Chairman, Mr. Hathaway (A.C.U. Consul), Cheltenham; vice-chairman, Mr. Williams, Cheltenham; vice-chairman, Mr. Barnes, Stourbridge; secretary, Mr. Howell, Worcester; treasurer, Mr. Featherstone, Cheltenham; delegate to A.C.U. Committee, Mr. Goddard, Stroud; trials secretary, Mr. Newman, Worcester; record secretary, Mr. Paynter, Cheltenham; publicity secretary, Mr. MacVitie, Worcester.

It was hoped that the Dutch Trials would be held in this district, and a discussion took place as to entertaining our Dutch friends in this country. It was decided that this matter should be again brought up at the next meeting to be held at Worcester on November 25th.

It was decided to hold an inaugural club team trial, starting at a point near Stroud, on November 6th, for which a handsome challenge trophy should be awarded, the trials secretary to organise the trial.

Here are definite proofs

of the supremacy of the 2¼ h.p. Royal Enfield Two-stroke Lightweight Motor Cycle. The specification of this popular lightweight is unique in its completeness and the performances set forth below are indicative of its outstanding superiority

A.C.U. Six Days Trials, 1920.

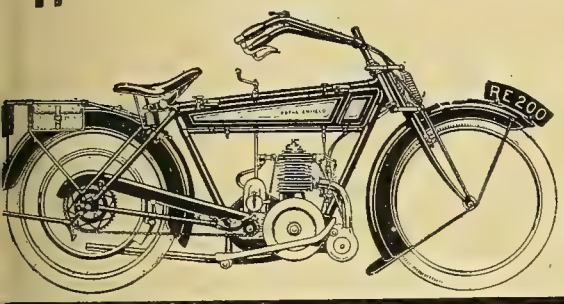
One machine entered—gained **GOLD MEDAL.**

Worcester M.C.C. Hill Climb, October.

One machine entered—gained **FIVE FIRSTS.**

Rand M.C.C. Open Lightweight Trial.

100 Miles typical colonial roads Won by only ROYAL ENFIELD entered. **FIRST.**



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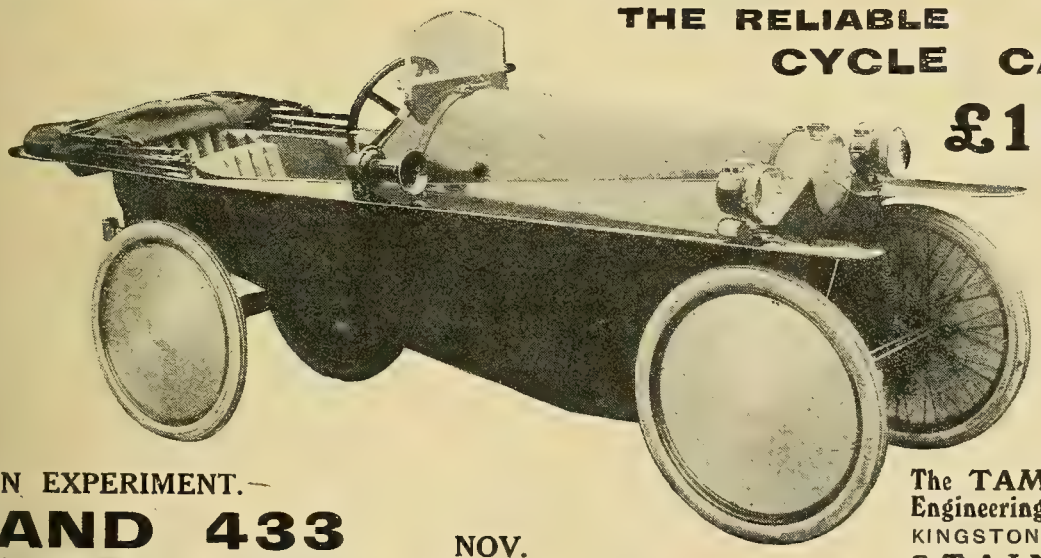
TAMPLIN

THE RELIABLE CYCLE CAR

£165



NOT AN EXPERIMENT.—

STAND 433 WHITE CITY

NOV. 5th to 13th.

The TAMPLIN Engineering Works,
KINGSTON ROAD,
STAINES.
'Phone 139, Staines.

VERUS

In STOURBRIDGE HILL CLIMB

B. Kershaw on 2¼ h.p. single speed VERUS won 1st Prize in Class A.

In WEST MIDLAND OPEN TRIAL

B. Kershaw and W. Swiffen won Two Gold Medals.

In M. & A.C.U. OPEN RELIABILITY TRIAL

B. Kershaw and J. W. Wills won Two Silver Medals.

ALFRED WISEMAN, LTD., Glover Street, BIRMINGHAM

"Ixion" knows how to keep dry!

"Finally I bought a first-grade suit of grey Oilskins made by Barbours "of South Shields, and found I could ride my 200 miles of a trial, "stand in a steady downpour through two hill-climbs per diem, sit on wet "grass banks when my legs wearied, and get into the hotel at night bone-"dry; moreover, if the oilies were hung up overnight in a wall-less "stable for the draughts to play around them, they were invariably bone "dry long before the first competitor got away next morning."

"Ixion," in his Occasional Comments—"The Motor Cycle."

Money back in full if they go sticky, leak, or fail on any point.

Beacon Oilskins

NEVER GO STICKY OR LEAK.

The Beacon Motor Cycling Suit will keep you as dry as it does "Ixion," and will enable you to drive all day against wind-driven Rain and Sleet without letting you get wet or chilled.

Black double lightweight Jacket with windcuffs, double fronts, and two roomy pockets, **30/-** Semi-buttoned Legging Overalls, **17/6**

SUIT COMPLETE (post free) **47/6**

In Bronze Grey—Jackets, **35/-**, Semi-buttoned Legging Overalls, **20/-**. Suit complete, post free, **55/-**; with Seated Trouser Overalls in place of leggings, **60/-** and **68/6** the suit respectively.

Prices given are for Jacket length 33". For 36" & 39" length please add 2/6 and 5/- per jacket respectively. Overalls: prices are for 28" to 33" inside leg, and for Seated Trouser Overalls up to 40" waist.

Postage Free U.K.; extra abroad. Allow also extra time for special Seasoning of Overseas Orders.

To order, kindly state colour needed, give jacket length, chest and inside leg measures, and enclose remittance.

ILLUSTRATED LIST POST FREE

Send a postcard to-day for this Booklet of "Weather Comfort."

J. BARBOUR & SONS, Ltd., 26, Beacon Buildings, South Shields, England. (1)

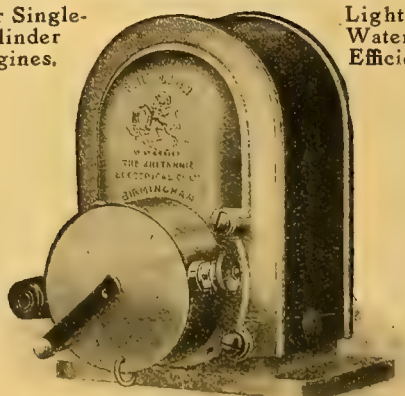
A wonderfully efficient magneto, the

LION

Has given complete satisfaction to all customers for 5 years.

For Single-Cylinder Engines.

Light Waterproof Efficient.



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The BRITANNIC ELECTRICAL CO., LTD., Warstock Nr. BIRMINGHAM.

C22

CYCLE & MOTOR CYCLE SHOW

OLYMPIA NOV. 29th to DEC. 4th

STAND 72

Don't fail to visit our Stand at the Exhibition—
STAND 72.

The famous Blackburne — the most successful Motor Cycle in this year's trials and races— will be the talk of the Show.

The best is cheapest in the long run. When you choose your 1921 Motor Cycle, buy the best— the Blackburne—or insist on your machine being fitted wiih a

Blackburne ENGINE.

Burney & Blackburne, Limited, 38, Conduit Street, London, W.1.
Telephone: Mayfair 637.

Made in four sizes—3in., 4in., 6in. and 9in. Remember that every genuine "King Dick" Spanner bearing mark shown is guaranteed for ever

Obtainable of all good dealers.

Abingdon Works, Ltd., Tyseley. Birmingham.
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Proof!

The following letter bears out our statement that the "King Dick" Spanner will adjust a watch or a motor car.

India August 14th, 1920

"Having occasion to use a very ancient watch which had not been wound for six or seven years, I was baulked by having no watch key. However, recalling your advertisement, I tried winding and setting the watch with my 'Baby King Dick.'

I was not only completely successful, but have not bothered to buy a watch key, and now use the spanner to wind my watch every day, and this in spite of the fact that I have frequently grossly maltreated this excellent little spanner by using it on quite large nuts on my motor cycle.

(Signed) J.C., Captain I.A.

YOU CAN'T BEAT
JULIAN'S
FOR VALUE FOR MONEY

1920 3½ h.p. Sports NORTON, 3-speed, and racing Canoelet sidecar. Winner of many gold medals in hill-climbs Splendid condition.
138 Gns.

1920 ARIEL, 3½ h.p., 3-speed combination, demonstrator, as new in every respect. Cost £157 10s.
Only 130 Gns.

1920 A.B.C., winner of several gold medals in hill-climbs, beautiful machine and real snip.
115 Gns.

1920 Big Four NORTON and Canoelet racing sidecar, Mabon gear, specially constructed for hill-climbing. As new in every respect.
127 Gns.

1920 ZENITH, 6 h.p. Sports, used slightly for demonstration. As new.
118 Gns.

1920 NORTON, 3½ T.T., only run 250 miles, won several medals. As new.
85 Gns.

Write for List of Machines actually in stock.

'Phone: 1024. **H. JULIAN, 84, Broad St., READING.**

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SATISFACTION.

"Hoskison" and "Satisfaction" are Inseparable

If you would like to know more about "Hoskison" Motor Cycles—the reason for the unvarying SATISFACTION that they give on the road—**have a chat with your Dealer, OR, BETTER STILL, COME AND SEE US ON** → **STAND No. 51, OLYMPIA**

Walthamstow, 20-10-20

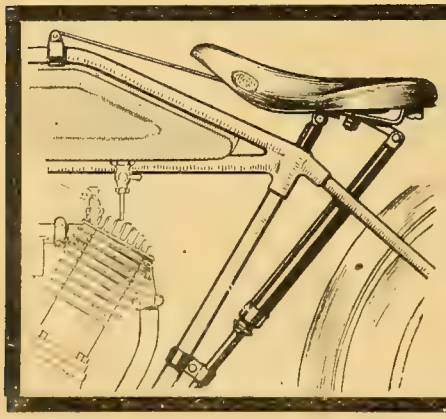
Dear Sirs,

Having used the 2¾ h.p. machine you supplied me with last July, all through the summer, I wish to let you know that I am thoroughly satisfied with it. I have done quite a lot of riding, and have had no trouble whatsoever; in short, it comes up to all my expectations of what a really good machine should be.

Your dealings with me have, from the first, been most prompt and businesslike

Yours faithfully,
E.C.

Messrs. The Hoskison Motors, Ltd.



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THE PATENT L.M.C. SUSPENSION

This saddle suspension (Patent No. 150158) has now been fully proved to be by far the most efficient device of its kind yet invented. It gives perfect insulation rom the worst shocks, and renders a rigid-framed machine virtually equal to a spring-framed one. It is now being marketed separately for fitting to other machines than the L.M.C., at a (provisional) price of £6 6 0, and can be fitted to practically any machine which has a top tube over the tank.

The Lloyd Motor Engineering Co., Ltd., 132, Monument Road, BIRMINGHAM.
London Showrooms:
144, Great Portland Street, W.1.

The L.M.C. suspension will be on view at the forthcoming Motor Cycle Show at OLYMPIA (STAND 70).

MOTOR CYCLES FOR SALE.

Blackburne.

1920 Blackburne, 4h.p., 3-speed, all-chain, as new, mileage negligible; £118.—Dunn's, 326, Euston d., London. Museum 5391. [2979

1920 4h.p. Blackburne, 3-speed, all-chain, as new, mileage 400, fully equipped, engine No. 931; .22.—Mitchell, Whitefield, South Petherton, Somerset. [6969

[h.p. Blackburne, June, 1920, S.A. 3-speed, Binks carburetter, F.R.S. lamps, leg shields, Klaxon, insurance, mirror, new condition; £120, or near offer.—uxley, Friary Brewery, Guildford. [7132

BLACKBURNE 8h.p. Combination, Blackburne sidecar, spare wheel, electrically equipped, 3 mps, 2 horns, Triplex screen, perfect, mileage about 000; £205.—Horse and Groom, Guildford. [7390

BLACKBURNE 4h.p. Combination, V.H.L. sidecar, spring chassis wheel, a beautiful machine, brand w; £175.—Vivian Hardie and Lane, Ltd., 24, Woodck St. (off Oxford St.), Bond St., London, W.1 hone: Mayfair 6559. [0320

Bradbury

1920 Bradbury 4¼h.p., 3-speed, all-chain, with Henderson sidecar, perfect, unscratched; £130.—9, igh St., Biddulph. (D) [7012

BRADBURY, 4h.p. and 6h.p. models, prompt delivery.—Agents, Bright and Hayles, 78, Church ., Camberwell, London. [7783

BRADBURY 6h.p. Twin, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; w is the time to buy.—Mebes, 154-156, Gt. Portland , W.1 'Phone: 3426 Mayfair. [7179

Brough.

BARGAIN.—Brough 3½h.p., 3 speeds, new tyres, must sell; £26.—89, East Hill, Wandsworth. [7440

1920 Brough Combination, 5-6h.p., Sturmey-Archer, special Brough sidecar, Cowey horn, as new; best er over £160.—Walker, 16, Freer St., Walsall, Stafford re. [X5990

BROUGH Combination, 1916, 3½h.p. flat twin, Sturmey-Archer countershaft 3 speeds, fitted with cas lamps, etc., in very good order; £85.—Apply, 40, rtford Place, Coventry. [X5973

BROUGH Combination, 1920, 5h.p., S.A. 3-speed K.S., complete with all lamps (head Lucas) edometer, sidecar fitted with coverall apron, practically ; £150.—22, Rodney St., Liverpool. [7081

BRAND New Latest Type G Brough, 5-6h.p., 3-speed; semi-T.T. bars, footrests, £140; also one h footboards and standard handle-bars, fitted with ntgomery sidecar, £165; immediate delivery.—The mier Motor Co., Aston Rd., Birmingham. [7151

Brown.

4h.p. Brown, twin, Bosch, requires attention; no reasonable offer refused.—Bendle, Tyncha, Risca. [X5892

B.S.A.

B.S.A., all models now in stock: delivered anywhere.—Below.

B.S.A. Specialists.—Replacements by return.—County Cycle and Motor Co., Broad St., Birmingham [4177

B.S.A. Model K in stock, with Canoelet sidecar.—Pickering, Shrewsbury. [6688

1919 B.S.A., 4¼h.p., solo, mileage 1,000 miles; cheap for cash.—Coates, North St., Dunmow. [7034

1920 B.S.A. All-chain Combination, fully equipped as new; £130.—Dunn, 326, Euston Rd., London [6844

1921 6-7h.p. B.S.A., in stock; £150; cash or extended payments.—114, Brixton Hill, S.W. [7576

B.S.A., 1920, 3-speed, 4¼h.p., like new £100 bicycle.—Parker, Billingborough, Lincolnshire. [7000

B.S.A. new Magdyno Combination, list price.—Clark, 7, Exhibition Rd. 'Phone: Kensington [7561

B.S.A. Model K, 1919, with Millford sidecar, perfect condition; £110.—Coles and Shirley, Chepstow one: 48. [0297

B.S.A. 4¼h.p. Combination, new tyres, spare belt, etc.; owner going abroad; £110.—Freeland, Wellside, C ton-on-Sea. [7229

1919 B.S.A. 4¼h.p. all-chain Combination, lamps, horn, tools, etc.; £105.—Dunn, 326, Euston R. London. [7702

1916 B.S.A. Combination, Easting screen, fully equipped; bargain, £85.—Frenzel, 1, New Gar- d St., Stafford. [7473

B.S.A. Model H Combination, immediate delivery makers' price; £152.—Coles and Shirley, Chep 'Phone: 48. [0296

1920 B.S.A. Combination, as new, lamps, horn; £120.—Allworthy, Blundell Stores, Blundell St., Cdonian Rd., N. [7772

B.S.A. Combination, like new, all accessories, and sidecar, quite new; £105.—Grimes, 18, Bruton P , Berkeley Sq., W.1. [7722

GODFREY'S

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An attractive stock of

New Models

can always be seen at Godfrey's

This week we can offer:

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A few slightly shop-soiled machines at greatly reduced prices.

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Sidecars which can be supplied separately include :—

MILLFORD SKIFF
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Write for Full Lists.

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B.S.A.

1919 Countershaft B.S.A., thoroughly overhauled, perfect condition, any trial; price £75.—Hall's Garage, Ltd., Stevenage. [7620

1919 B.S.A. Combination; all-chain drive, hand and foot clutch, lamps, horn, perfect condition; 90 gns.—Holtby, High St., Bridlington. [7075

1920 B.S.A. Combination, chain drive, brand new but slightly shop-soiled; £134.—Edwards, 50, Harrington Rd., South Kensington. [7621

B.S.A. 1920 4¼h.p. Combination, dynamo lighting, all-chain drive, guaranteed as new; £175.—Maudes', 100, Gt. Portland St., W.1. [7657

1920 B.S.A., all-chain, and Swan de luxe sidecar, new month ago, makers' guarantee insurance; £146.—Lacey, Little Weighton, Hull. [7396

B.S.A. 1914 C.B. Combination, fitted 1918 Triumph engine, all-chain, 2-speed, clutch, K.S., drip feed, perfect; £68.—85, Suffolk St., Poplar, E.14. [7465

1920 B.S.A. 4¼h.p. Combination, complete with lamps, speedometer, etc., guaranteed perfect; any trial; as new; £130.—Haisboro, Baker St., Weybridge. [7243

B.S.A. Combinations, actually in stock for immediate delivery; price and catalogue on application.—District agents, The Walsall Garage, Walsall. Tel.: 444. [8999

B.S.A.—Immediate delivery of models H. and K., solo or combination; £107 and £110 respectively.—Distributing agents, Campion Depot, London Rd., Derby. [4122

B.S.A. 1919 Combination, 4¼h.p., clutch, K.S., Millfor sidecar, excellent condition; nearest £90; by appointment.—Fischer, 11, Zenobia Mansions, Queens Club Gardens, W.14. [6979

BARGAIN.—1919 B.S.A. Model K. and Canoelet sporting sidecar, Lucas lamps, Lucas horn, Watford, Klaxon, watch; any trial; £105, offers.—Selby, 26, Rosslyn Rd., Barking, E. [7262

1915 B.S.A. Combination, 4¼h.p., engine just rebushed, new back tyre, numerous spares, tool kit and lamps, engine No. 11391/15; £100.—Hargreaves, 33, Salisbury Rd., Bexley, Kent. [6896

F.O.C.H. for 1921 B.S.A.'s; very early deliveries; book your order now.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7146

B.S.A., Model K. £107, H. £110, D. £90, A. £150; combination, Model K. £149, H. £152, A. £198; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London, W.1. [0330

1920 (May) B.S.A. Combination, 4¼h.p., all-chain drive, 3-speed, small mileage, perfect condition; £125; also latest model 6-7h.p. combination; £190, or best offer.—Bompas, Exchange, Palmers Green, N.13. [7514

1914 4h.p. B.S.A. Combination, clutch model, B.S.A. throughout, tyres heavy, as new, new belt with lighting set, horn; £17/10; overhauled, guaranteed sound; 48 gns.—T. Hayes, 2, Chapel St., King's Lynn. [7549

B.S.A. Combination, 1915, 3-speed, 4¼h.p., all chain, 3 lamps, speedometer, Canoelet C.B. sidecar, Orto 3-fold screen, stored 2½ years during war, replated and enamelled; £90, or close offer.—L., 16, Rayleigh Rd., Wimbledon. [7586

B.S.A., 1916, model H, overhauled by makers April, 1920, F.R.S. electric lamp, spare valve, chains, with family sidecar, tandem seated (adult and child), new 1919, wind screen; £95, or near offer.—Mayne, 57, Harlech Rd., Southgate, N.14. [6902

B.S.A. Combination, 4¼h.p., 3-speed, clutch, kick-starter, just completely overhauled and enamelled at cost of £25, new tyres, new all-metal sidecar body, any trial; this machine is like new and is a bargain; £95, or near offer.—Curtis, 82, Mill Hill Rd., Acton, W.3. [7259

B.S.A. 1915, laid up during war, new cylinder June, 1919, with Millford (family) sidecar, countershaft, chain-cum-belt, 3-speed, kick starter, Lucas horn, Stewart speedometer, reflex mirror, 3 new electric lamps, 2 accumulators, spare (new) belt, all tools and sundries; £110, or near offer.—Rev. Olivier, Rectory, Letchworth (34 miles London), or by appointment, Mason's Garage, Commerce Av. [6667

Calthorpe.

1920 Calthorpe-Jap, demonstration machine, absolutely equal to new; 63 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7751

CALTHORPE-J.A.P., 1916, 2¾h.p., Enfield 2-speed, clutch, just overhauled, re-enamelled and plated; £45.—R. Ta Varty, Thundersley, Essex. [7644

CALTHORPE 1919 2¾h.p. J.A.P., 4-stroke, 2-speed clutch, as new, all on; offers.—Express Works, 2, Broadway, Friern Barnet Rd., N.11. [7283

CALTHORPE-J.A.P., 2¾h.p., 2-speed (1916), all on, completely overhauled, new piston and bearings; £50, or near offer.—Major Green, Christ's Hospital, Horsham. [7254

1919 2¾h.p. Calthorpe-Jap, Enfield 2-speed gear, lamps, horn,; price £55 net.—Langfords, 37, Broadway, Cricklewood, London, N.W.2. 'Phone: Hampstead 8616. [7592

MOTOR CYCLES FOR SALE.

Calthorpe

CALTHORPE Motor Cycles, wholesale and retail agents for the county of Devon, all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE-PRECISION 4¼h.p. Combination, variable pulley, kick starter, folding chassis; no garage wanted; in good condition; £75.—Fronde, 55, Montpelier Rd., Peckham, S.E.15. [7363

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7180

CALTHORPE Motor Cycles.—2¾h.p. J.A.P. model, £78/5; two-stroke model, £75; both fitted with Enfield 2-speed gear; delivery from stock.—P. J. Evans, 83-91, John Bright St., Birmingham. [0174

CALTHORPE-J.A.P., 1920, Enfield 2-speed, brand new, but slightly shop-soiled, usual price £74/11, must be cleared under cost; a bargain, £64; first cash secures.—Wilkins, Simpson, opposite Olympia, London. [7020

1917 Calthorpe-Jap, 2¾h.p., 2-speed, clutch, just overhauled and repainted, complete with P. and H. large lamp set, horn, etc., a fast and economical mount; Huddersfield district; offers.—Box 8,578, c/o *The Motor Cycle.* [4169

Campion.

CAMPION 1917 2¾h.p. 2-stroke, B. and B., Thomson-Bennett, new Magnum tyres, tubes, belt, excellent condition, willing any trial; seen evenings after 5, or week-ends; £40, or nearest.—Dunn, Proffitts Cottages, Tadworth, Surrey. [7112

Cedos.

1920 Cedos, shop-soiled; 58 gns., wonderful bargain.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7749

CEDOS, 1920, 2½h.p., complete with all lamps, tools, etc., in splendid condition; £50.—22, Rodney St., Liverpool. [7083

Chater-Lea.

CHATER-LEA 8h.p. Combination, all-chain, 3-speed Mabon car clutch, Bosch mag., cane sidecar, Jones speedometer, car tyres fitted, electric light, kick starter, ready to romp with 2 anywhere, trial any time; £130 lowest.—Box 9,052, c/o *The Motor Cycle.* [7261

1920 8h.p. June Chater-Lea No. 7 Combination, 750 miles, spring saddle pillar, luxurious coach-built model sidecar, bulbous back, wind screen, lamps, guaranteed faultless, indistinguishable from new; £200.—S. A. Dent, Ivy House, Stoke Gifford, Nr. Bristol, Gloucester. [7417

Chater-Lea-Peugeot.

CHATER-PEUGEOT 7-9h.p., 3-speeds and clutch, chain and belt drive, lately overhauled and fitted new coachbuilt sidecar, enamelled and upholstered Indian red, smart appearance, take three anywhere; sacrifice £85; lightweight part exchange entertained.—Harris, 70, Park Place, Clapham. [7554

Cleveland.

CLEVELAND 2-stroke, 3h.p., 1920, condition perfect, shop-soiled.—Write Box 9,054, c/o *The Motor Cycle.* [7257

CLEVELAND 3h.p., shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7181

WRITE for Catalogue of the 3h.p. Cleveland, with kick starter, clutch, and 2-speed gear; price £85.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0279

Clyno.

1921 Clyno Model, just delivered; £250.—Turpin's, 22-29, Preston Rd., Brighton. [0204

CLYNO Lightweights and Combinations.—Write Rothwell and Milbourne, Cowleigh Garage, Malvern. [1795

DAN GUY, Weymouth.—Sole district agent for Clyno motor cycles; new 8h.p. combination, £250; 2-strokes, £75. [5960

1917 Clyno Combination, lamps, horn, in good condition; a bargain, £85.—33, Hackford Rd., Brixton, S.W. [7760

CLYNO 6h.p., 2 speeds, K.S., or with new 1920 Grindlay sidecar, hood, and wind screen; £130.—Penlee, Liverpool Rd., Irlam. [X5989

STANDARD 1921 Clyno Model Combination, delivery from stock; £250.—Maudes' Motor Mart, 100, Paris St., Exeter. [7164

CLYNO Combination, 5-6h.p., spare wheel, lamps, etc., good as new; what offers?—Owner, 122, Gloucester Rd., Walthamstow. [7297

CLYNO Lightweight, perfect order and appearance, £45; also brand new Smith's speedometer, £4.—Spencer, Botolphs Corner, Sevenoaks. [7522

CLYNO Lightweight, 1920 (Aug.), all accessories, insurance, mileage under 400, perfect condition; owner purchasing higher power; £70.—Douglas, West Byfleet. [7209

CLYNO Combination, 3 speeds, kick start, new tyres, lamps, tools, in splendid running order; any trial; £90, or near.—Bowser, 1a, Blacker Rd. Birkby, Huddersfield. [7378

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173, Gt. Portland Street.

Telephone—Mayfair 879

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4 h.p. **DOUGLAS** Combination	£170 0
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2¾ h.p. **DOUGLAS**, without clutch	£100 0
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Other New Machines in Stock.

2¾ h.p. **NEW IMPERIAL**, 2-speed	£80 17
2¾ h.p. **NEW IMPERIAL**, with clutch and kick-starter	£83 5
8 h.p. **NEW IMPERIAL** 3-speed Combination	£186 18
3½ h.p. **LEA-FRANCIS**, 2-speed, M.A.G. engine	£130 0
DIAMOND, 2-stroke, single-gear	£56 10
4½ h.p. **B.S.A.**, 3-speed, all-chain, and Sidecar	£152 0
3½ h.p. **RUDGE-MULTI**, Isle of Man model	£110 5
8 h.p. **ZENITH**, sports model	£139 0
5-6 h.p. **JAMES** Combination	£190 0
8 h.p. **MATCHLESS** Combination	£205 0
8 h.p. **MATCHLESS** Combination, dynamo lighting	£230 0
1920 **A.J.S.** Combination	£210 0
1920 2-stroke **TRIUMPH**	£75 0
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1915 2¾ h.p. 2-speed **DOUGLAS**	£60
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1915 2¾ h.p. 2-speed **DOUGLAS**	£55
1916 4 h.p. **TRIUMPH** and accessories	£95
1915 4 h.p. **TRIUMPH** and accessories	£90
1920 2-stroke 2-speed **JAMES** and accessories	£72
1920 4 h.p. **DOUGLAS** Combination and accessories	£162
1915 4 h.p. **TRIUMPH** and Sidecar	£110
1915 4 h.p. **DOUGLAS** and Sidecar	£90
1920 8 h.p. dynamo **MATCHLESS** Combination, all accessories, as new	£210
1920 8 h.p. sports **ZENITH** and Henderson Sidecar, all accessories	£135
1920 8 h.p. **NEW IMPERIAL** and Gloria Sidecar	£140
1914 **A.B.C.**, 4-speed, and Sidecar, and accessories	£110

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CANOELET, for Harley-Davidson	£40 0
CANOELET, for New Imperial	£39 5
CANOELET MINOR, for lightweight	£18 18
B.S.A.	£42 0
MILLS-FULFORD Skiff	£27 15 6

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MOTOR CYCLES FOR SALE.

Clyno.

1921 Clyno Model de Luxe, just delivered, u scratched; list price; insurance given fre owner having car.—Roberts, opposite 4 Camp, Kinm Park, Denbighshire. [743

1918 Clyno 6h.p., Easting, spare wheel, lamp horn, many spares, tyres almost new, a com plete outfit in perfect order for £117/10.—Dunn, 32 Euston Rd., London. [770

CLYNO.—We are sole Wolverhampton agents; wri us for delivery dates, repairs, overhauls, r enamelling, and plating.—The Molineux Garage C Ltd., Wolverhampton. Tel.: 1160. [34

1920 Clyno 2-stroke, 2-speed, clutch, mileage und 500 by mileometer; reason for selling, own too short to straddle; £65, or offers.—At St. Pancr Garage, Judd St., Euston Rd., N.W. [59

CLYNO 2½h.p., 2-speed, hand clutch, complet F.R.S. big head lamp, rear lamp, Clayrite hor handle-bar muffs, rubber grips, etc., 10 months ol like new; £60; cost £83.—36, Windsor Rd., Ipswic [73

CLYNO 8h.p. 1921 Combination.—Batchelor a Co., East Surrey agents, have a new 8h.p. co bination; demonstration runs given; orders booked very early delivery.—Batchelor's, Clarence St., Kingsto on Thames. Phone: 1809. [28

CLYNO Lightweights, 1920, 2¼h.p., 2-speed, £7 or fully equipped with head lamp and generat tail lamp and tubing, horn, L.C.C. registration, petr and oil, £79/15.—Coppen, Allan and Co., 89, Gt. Po land St., London, W.1. 'Phone: Mayfair 5399. [02

1921 Clyno Combination, used for a few miles on complete with Lucas accessories; this magnifice combination is being offered at £60 under cost, as owr is buying car; will accept £215 for outfit.—Seen a tried at Elce and Co., 15-16, Bishopsgate Av., Camom St., E.U.3. 'Phone: Avenue 5548. [00

CLYNO 5-6h.p., late W.D. models, 3-speed, kick-sta re-enamelled, replated, and overhauled, new c buretters and mags., rebuilt as new, practically u used; few available from £75; combinations wi Clyno sidecar, repainted and retrimmed, £110.—Hea 117, Loughborough Park, Brixton. 'Phone: Brixt 2888. [48

5-6h.p. 1916-17 Clyno Motor Cycles, less mag., a carburetter; £40 each. These want renovat and overhauling. These are worth £130 when finish The engines and gear boxes are quite sound. 1916 3-speed K.S. Clynos, W.D. models, reconditioned; £ each. Please see advertisement under "Mis laneous" for Clyno spares.—Please call or write J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [7

Connaught.

1920 2-speed Connaught, not run 200 miles; £80; for quick sale, £70.—Box 9,009, c/o *Motor Cycle.* [6

CONNAUGHT Single-speed, 1920 model, practic as new, list price, £67; offers above £58/1 Box 9,010, c/o *The Motor Cycle.* [6

CONNAUGHT Motor Cycles.—2¼h.p. 2-speed mo £70; single speed, £62; immediate delivery.— J. Evans, 83-91, John Bright St., Birmingham. [0

Coulson.

COULSON 2¾h.p., 2-speed, clutch; £98; new Clark, 7, Exhibition Rd. 'Phone: Kensing 4096. [7

COULSON-BLACKBURNE, 2¾h.p., 2-speed, sp frame, perfect; bargain, £70.—22, Powney Maidenhead. [7

1920 Coulson B, 2¾h.p., done under 1,000 m full particulars; £80.—Wm. Moffit, 105, chester Rd., Burnley. [6

COULSON B.—All models in stock; sole agents Wiltshire.—Wessex Motors, Ltd., incorporated H. P. Moore and Sons, Salisbury. 'Phone: 72. [

COULSON-B, 4h.p. and 2¾h.p. models, shop-so at greatly reduced prices; now is the time to —Mebes, 154-156, Gt. Portland St., W.1. 'Phone: Mayfair. [

NEW Coulson B, 2¾h.p., £99/15; fitted with 2-s gear, spring frame, Blackburne engine; 2¾ model, with clutch and kick starter, £110/5; with 3-speed, clutch, and kick starter, etc., 118 if fitted with smart boat-shaped sidecar, pa royal blue, £162/10, or on deferred payments 4½ only one-fifth deposit, balance by 12 monthly i ments.—Harrods, Ltd., 118, Brompton Rd., Lond [

Coventry Eagle.

COVENTRY Eagle 1920 2¾h.p., as new, tools; invited.—Box 9,053, c/o *The Motor Cycle.* [

Diamond.

CYRIL WILLIAMS, for early delivery of all Diamonds.—Chapel Ash, Wolverhampton

DIAMOND 2¾h.p., 2-stroke, new, slightly s £56.—Clark, 7, Exhibition Rd. 'Phone: Ken ton 4096. [

Dot.

SPORTING Dot Combination 1916, overhead v Jardine gear, accessories; best offer over 163, Moorside Rd., Flixton.

MOTOR CYCLES FOR SALE.

Enfield.

FIELD Combination, 6h.p., purchased June, 1920, lamps, Easting, speedometer, Klaxon, mileage practically new; 140 gns.—19, Buckley Rd., lesbury. [7496

20 Enfield Combination, Magdyno, new, unregistered; first reasonable offer, or exchange A.J.S., hless, Clyno; cash either way.—25, Davisville Rd., nerd's Bush. [7546

20 Enfield Combination, 8h.p., brand new, in stock at list, £177; also 2-stroke, £73/10; nges or easy payments.—2, Nightingale Rd., Lower on, London, N.E. [7666

FIELD.—Delivery from stock. Lightweight, 70 gns.; 6h.p. combination, £175, with Lucas Mag- £200.—P. J. Evans, Birmingham agent, 83-91, Bright St., Birmingham. [0300

FIELD 1920 2-stroke, new, but slightly soiled, usual price £73/10; to be cleared at £65, rgain; this offer cannot be repeated.—Wilkins, son, opposite Olympia, London. [7021

17 Royal Enfield 8h.p. Combination, Binks, Tan-Sad, speedometer, screen, acetylene lamps, 80 tyres, all accessories, spares; £150; seen any -C.B., 30, Westborne St., Sloane Sq., S.W.1. [7382

, 1915 Enfield, 2-speed, lamps, horn, etc., new chain and clutch ring, T.T. bars, spare touring excellent condition; £55.—Doran, Engineer's Office, t Dock Extension (South), North Woolwich. [7131

20 (July) Enfield 8h.p. Combination, Lucas Magdyno lighting set and horn, mileage under condition perfect; £180, no offers; owner just elivery of car.—Jones, 27, High St., Banbury. 72. [7606

FIELD, latest 6h.p. and 8h.p. models in stock, £175, £177, and £200, also lightweight, £73/10; ed payments and exchanges if desired.—Lamb's, High St., Walthamstow, 387, Euston Rd., N.W.1. ligh Rd., Wood Green, N.22. [7174

FIELD 3h.p., 1915, stored 2 years, 2-speed, T.T. bars, new cylinders, pistons, and chains, Binks, mag., lamps, horn, many spares, mechanically t and in excellent order throughout; £58 lowest. y, 36, Talbot Rd., Bournemouth. [7431

E 1919 8h.p. Enfield Combination, Lucas lamps nd horn, speedometer, Tan Sad, mudshield, screen, luggage carrier, 700×80 tyres, spare tools, and spares, splendid condition, used week- nly; £158.—M. 181 Upper Richmond Rd., Put- [7773

Excelsior

—3½h.p. Excelsior, Dixie, B.B., fast machine. suit beginner.—R. Gallop, Higham, Kent. [6963

A British Excelsiors, all models; delivery from stock in most cases, or special orders in a few list prices only.—Gray and Raynes, 8, Low Rd., Doncaster. [2783

0 8h.p. British Excelsior de Luxe Combination, detachable wheels, spare, dynamo lighting, wind , full equipment, as new; £205.—5, Alstone Rd., a Chapel, Stockport. [7375

AND New 8h.p. British Excelsior and Cancelet bulbous back sidecar; list price £195, carriage accept T.T. Norton and cash, or what offers of ge with cash.—Gray and Raynes, British Excel- gents, 8, Low Rd., Balby, Doncaster. [7240

P.N.

2½h.p., Bosch, B. and B., new belt; £21, offer; de away.—92, Arthur Rd., Brixton, S.W.9. [7370

-p. P.N. being dismantled, parts for sale.—Howard, 5, Upper Grotto Rd., Twickenham, Middlesex. [7203

4 cyl. 5h.p., Bosch, new Dunlop tyres, good unning order; £35.—Butler, 3, Richardson St., e. [6955

1920 7h.p. Combination, 4-cyl., hood, screen, and lamps, guaranteed as new; £170.—Maudes' Gt. Portland St., W.1. 7658

W 1920 F.N. 2½h.p. 4-stroke Lightweight, 2-peed, kick starter, clutch, shaft drive, as listed 9/5; slightly shop soiled; reduced to £75; free cy to any address.—The Premier Motor Co., Rd., Birmingham. [7152

Francis-Barnett.

0 Francis-Barnett, not ridden 500 miles, magnificent condition; 70 gns., very great bargain.— t, 84, Broad St., Reading. 'Phone: 1024. [7750

ANCIS-BARNETT 2¾h.p., as makers' specifications, shop-soiled; at greatly reduced price; now time to buy.—Mebes, 154-156, Gt. Portland St., 'Phone: 3426 Mayfair. [7183

W Francis Barnett 2¾h.p., J.A.P., 2-speed clutch nd kick starter, in stock at manufacturers' list £88 19; deferred payments 4% extra; only one- deposit, balance by twelve monthly instalments rods, Ltd., 118, Brompton Rd., London. [7318

Harley-Davidson.

RLEY Combination, 1919, mag. model, like new; 3135.—8, Percival St., E.C. [7584

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Harley-Davidson.

HARLEY-DAVIDSON Combination, 1916, all on; £98.—15, Mervan Rd., Brixton Church. [7117

HARLEY-DAVIDSON, all models from stock.—Pickering, Mardol, Shrewsbury. [6689

HARLEY-DAVIDSON 1918 Cancelet, nice order; £100.—54, Caval Rd., Mortlake. [X5898a

HARLEY-DAVIDSONS. I have at present a fine assortment in stock; all fully guaranteed.—Ross, 86, High Rd., Lee. [3849

HARLEY Sports, new, slightly soiled, lamps, speedometer, horn; £145.—Clark, 7, Exhibition Rd. 'Phone: Kensington 4096. [7566

HARLEY-DAVIDSON, 7h.p. twin, brand new, for immediate delivery.—Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9005

HARLEY-DAVIDSON 1920 4h.p. Model with Swan sporting sidecar, electric lighting, indistinguishable from new; £190.—Parker's, Bradshawgate, Bolton. [X5949

HARLEY-DAVIDSON 1919 7-9h.p. Combination, head, rear, and sidecar lamps, indistinguishable from new; £190.—Parker's, Bradshawgate, Bolton. [X5950

HARLEY-DAVIDSON Combination, electric lighting, disc wheels, seen any time; £150.—Brooks, 48, St. Barnabas St., Pimlico Rd., S.W.1. 668 Vic. [7766

HARLEY 4h.p. Flat Twin, splendid condition, mileage 1,600, bought new late June; £140 net.—Morgan, Marsham St., Westminster. 'Phone: 5151 Victoria. [7484

HARLEY-DAVIDSON 1918 7-9h.p., recently overhauled, in perfect running order, nearly new C.B sidecar, D.A. lighting; £130.—Clarke, 93, Dorset Rd., Bexhill-on-Sea. [7048

HARLEY-DAVIDSON 7-9h.p., late 1915, engine just thoroughly overhauled, roomy 2-seater sidecar, wind screen, etc.; £140.—H., 37, Heatherley St., Clapton, E.5. [7705

HARLEY-DAVIDSON, late model, electric, fitted with 2-seater sidecar, fully equipped, speedometer, etc., condition as new; £145.—Cliffe, 22, Princess Rd., Finsbury Park. [7709

HARLEY-DAVIDSON, 1919, new Millford de luxe sidecar, lamps, horn, Bosch mag., guaranteed genuine; £125.—Broomfield, Baker, Whitehouse Rd., Croydon. 'Phone: 660. [7708

HARLEY-DAVIDSON 7-9h.p. Combination. Millford, purchased short tour, mileage 1,700, perfect condition, owner going abroad; what offers?—Box 9,003, c/o *The Motor Cycle*. [6971

HARLEY-DAVIDSON 1920 Flat Twin, nearly new, with brand new Cancelet sidecar; owner going abroad; £185, offer; must sell.—Ruffell, Mount Pleasant Rd., Tunbridge Wells, Kent. [6924

1920 Harley-Davidson 7-9h.p., electric model, just overhauled, complete, including sidecar, disc wheels; £210, or near offer for quick sale; can be inspected any time.—Box 840, c/o *The Motor Cycle*. [X5935

HARLEY-DAVIDSON 7-9h.p., model F, and sidecar, £205; flat twin, £140; model F, 7-9h.p. solo, £180; all 1920 models and guaranteed sound; any sent on approval, carriage paid.—Macrae, 37, Cockburn St., Edinburgh. [6912

HARLEY-DAVIDSON 1919 November Show Model Combination, done 3,000 miles, electric lighting, and complete with all accessories, condition like new; £175.—Elce and Co., 15-16, Bishopsgate Av., Cannonie St., E.C.2. 'Phone: Av. 5548. [0067

1918 7-9h.p. Harley-Davidson Combination, exceptionally good condition, guaranteed perfect throughout, complete with apron, lamps, horn, tools; price £145 net.—Langfords, 37, Broadway, Cricklewood. London, N.W.2. 'Phone: Hampstead 8616. [7589

HARLEY-DAVIDSON 1918-1919 7-9h.p., ex W.D. stock, thoroughly overhauled, complete with lamp, generator, and horn, £130; fitted with new 1920 Montgomery sidecar, guaranteed by us, £168; deferred payments, no extra.—Maudes', 100, Gt. Portland St., W.1. [7659

HARLEY-DAVIDSON 7-9h.p. Combination, 3 speeds, K engine, enamel and plating absolutely perfect, lamps, horn, large sidecar, front and top sheet aluminium, repainted, varnished, and upholstered, tyres perfect; any trial, Thursday morning if possible; 105 gns.—88, Brook Green, Hammersmith. [7245

Hazlewood

1920 Hazlewood 6h.p. J.A.P., Combination, 3-speed, etc., unused; £165.—Dunn, 326, Euston Rd., London. [6842

HAZLEWOOD Brand New 5-6h.p. Combination, offered £180, very slightly soiled, guaranteed new.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [6176

NEW 5-6h.p. Hazlewood Combination, 3-speed clutch and kick starter, a thoroughly reliable outfit; Harrods have a large number of these in stock for sale at £186 each, or on deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7316

MOTOR CYCLES FOR SALE.

Henderson

10h.p. Henderson, 1920 model, fitted with Swan sidecar, electric dynamo lighting, disc wheels, very fast, sporty looking; £215.—Wauchope's, 9, Shoe Lane, London. [7796

HENDERSON 10h.p., 4-cyl., 1915-16, beautiful condition, well equipped; £120; cash or half down; exchange.—Bunting's Motors, Wealdstone, Harrow. Closed Sundays. [7777

1920 Henderson Model Z2, 10h.p., 3-speed, electric lighting equipment, Cancelet MM4 bulbous back sidecar, used for demonstration runs only, condition as new; £225.—The Premier Motor Co., Aston Rd., Birmingham. [7159

NEW 1921 Henderson Models just arrived, now on view: Model KR, 12h.p., 4-cyl., 3-speed, 3½in. tyres, finished deep blue, £210; Millford new model bulbous back sidecar to match, £44; the 4-cyl. which leaves the others years behind. Buy the aristocrat of motor cycles from the Premier Motor Co., Aston Rd., Birmingham. [7153

Hobart.

1920 Hobart 2¾h.p., single speed, new June; wanted, £55.—B. Harrison, Kegworth, Derby. [7008

NEW 2¼h.p. Hobart Lightweight 2-speed models in stock at manufacturers' list price, £75; 4¾ extra for deferred payments; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7319

Hoskison.

1920 Hoskison, 2¾h.p. Union, 2-speed, clutch, K.S., lamps; £65; exchanges.—118, Lambert St., Hull. [7472

Humber

HUMBER 3½h.p., free engine, clutch, £24; combination, £32.—3, Higham St., Walthamstow. [7251

1919 (December), 3½h.p. Flat Twin Humber, mileage 2,000, unscratched, as new; offers.—James, Brind, Howden, Yorkshire. (D) [6981

1920 3½h.p. Humber, solo or combination, twin engine, 3-speed; list price.—Lanchester Engineering Co., 82-83, Victoria Rd., Surbiton. [5999

£26.—3½h.p. Humber combination, 2 speeds, free engine, Roc gear, good condition, good tyres; trial; bargain.—5, Market Place, Northfields, Ealing. [6939

£18.—3½ Humber, Bosch, handle-start, F.E. chain drive, footboards, early pattern, high frame, mileage under 200; gift.—Ramsden, Parnaby Terrace, Hunslet, Leeds. [6988

HUMBER 1914 4h.p. Combination, coach sidecar, 3-speed, clutch, kick-start, lamps, horn, etc.; £55; in good order, exchanges.—Hill, 3, Bedford Rd., West Ealing. [7734

Indian

5-6h.p. Indian and sidecar, 1916, good condition; £105. —Edmunds, Buckingham. [6909

3-SPEED Indian, 1915, 5-6h.p., T.T., fast; any trial; £50.—89, East Hill, Wandsworth. [7442

INDIAN 1920 Combination, dynamo, as new; £130. —Hayes Motors, Malvern Rd., Thornton Heath. [7430

INDIAN 7-9h.p., re-enamelled and overhauled, mechanically sound; £95. Maudes', 100, Gt. Portland St., W.1. [7662

5-6h.p. Red Indian, 1916, complete, perfect, insured; £90.—Cecil Parry, The Laurels, Abbey Rd., Grimsby. [6997

INDIAN 1914 7-9h.p. and sidecar, recently repainted and overhauled; £68, no offers.—Wilkinson, 41, Essendine Rd., London, W.9. [7014

7-9h.p. Indian Combination, perfect condition, all accessories, speedometer, wind screen, etc.; £95.—62b, Highgate Rd., Kentish Town. [7528

1915 7-9h.p. Road Racer Indian, speedometer, Cox Atmos, lamps, horn, many spares, very fast; £65. —Hare, Caius College, Cambridge. [7517

POWERPLUS Indian, luxurious combination, Easting, speedometer, Lucas head lamp; gift, first 99 gns. —Manager, Old Waverley Hotel, Southport. [7336

7-9h.p. Indian, late 1918, discs, T.T. bars, horn, speedometer, very sporting and fast; owner just bought car; £100.—Holder, St. Paul's Sq., Carlisle. [7054

1916 7-9h.p. Indian Combination, sporting coachbuilt sidecar, excellent condition; £100; sacrifice.—P. Wheatley, 34, St. Barnabas Rd., Cambridge. [7503

INDIAN.—Stock delivery of new and second-hand combinations. Write for list of bargains.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [6178

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43 GNS. Indian 5-6h.p. for sale, free engine and clutch, in perfect running order, tyres good; seen and tried any time.—Ellwood, 42, King St., Thetford. [7067

1920 Indian Scout, electric lighting, Cowey, rear wheel, Bonniksen, fast, low mileage, as new; £155; Manchester district. Box 9,030, c/o *The Motor Cycle*. [7087

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NEW IMPERIAL-J.A.P., countershaft, 2-spe 2¾h.p., smart, excellent condition throughou accessories; 33 gns.—Fersfield, Westbury Rd., N Malden, Surrey. [73

1920 2¾h.p. New Imperial, K.S., and clutch, mi age 300; cost with accessories £100 in Jun accept £70, or nearest offer.—Apply, P. S. Br R.M.C. Camberley. [74

NEW IMPERIAL, 2¾h.p. J.A.P., 2 speeds, as make specifications, shop-soiled; at greatly reduced pri now is the time to buy.—Mebes, 154-156, Gt. Portla St., W.1. 'Phone: 3426 Mayfair. [71

1916 New Imperial-Jap, 2¾hp., unused till 19 new Lucas lamps, new oversize belt and h tyre, in excellent running order; £39.—Apply W Kennels, Pangbourne. Tel.: 14. [69

NEW IMPERIAL 1919 8h.p. Model, 3 speeds, k start, hand-controlled clutch, fitted with Sunbe sidecar, Easting wind screen, fully equipped; £150 Parker's, Bradshawgate, Bolton. [X5

1920 New Imperial 6h.p. Combination, latest mod just arrived, at list, £186/18; also 2¾h.p. speeder, £80/17; exchanges or easy payments.— Nightingale Rd., Lower Clapton, London, N.E. [7

NEW IMPERIAL-J.A.P.—Immediate delivery fr stock of this popular 2¾h.p. machine, 2-sp model, £80/17; with clutch and kick starter, £89/ P. J. Evans, 83-91, John Bright St., Birmingham [0

NEW IMPERIAL, 1917, 2¾h.p. J.A.P., 2-sp motor cycle, recently overhauled by makers, nickelled throughout, tyres ptrfect, various new pa seen at North Finchley; £50.—Box 8,986, c/o *Motor Cycle*. [6

NEW IMPERIAL, 1914, 2¼h.p. J.A.P., 2-sp practically new engine, new carburetter, la saddle, tank, and frame re-enamelled, accessories; £3 16, Westover Rd., Wandsworth Common, Lond S.W.18. [7

NEW IMPERIAL.—Immediate delivery from st of a 2¾h.p. 2-speed J.A.P. machine, price gns, or with clutch 85 gns.; 8h.p. combination, gns., or can be supplied on deferred payment terms an extra charge of 4% only.—William Whiteley, L Queen's Rd., W.2. [6

New Scale.

3½h.p. New Scale, the solo and sidecar mach £90, delivery from stock.—Agents, Gray Raynes, 8, Low Rd., Dalby, Doncaster. [2

Norton.

1920 T.T. Norton; list £98.—Dunn, 326, Eu Rd., N.W.1. Museum 5391. [5

NORTON.—North Yorkshire agents: R. H. L. Pe ing and Co., 239, Linthorpe Rd., Middlesbro [3

1920 Big Four Norton, unscratched, small mile £130. Lincolnshire.—Box 9,080, c/o *The Mo Cycle*. [7

NORTON, immediate delivery new 1920 3½h.p. Model, 3 speeds and clutch.—Parker's, Bradsh gate, Bolton. [X5

NORTON 1915 3½h.p., fast, perfect condition; between 9-5.—'Phone Museum 2142, or app Wallingford Av., W.10. [7

NORTON 1916 3½h.p., 3-speed, lamps, speedom horn, first-class condition; £80.—Maudes', Gt. Portland St., W.1. [

NORTON Big 4 Combination for sale, splendid c tion; can be seen any time.—Richardson, Cramond Av., Welling, Kent. [

1920 Big Four Norton Combination, under 1 many accessories; open expert examinat Newington, Edenbridge, Kent. [

NORTON 1920 Big Four Model, Sandun sid Cameo wind screen, fully equipped; £ Parker's, Bradshawgate, Bolton. [X

DAN GUY, Weymouth.—Sole agent for Norton cycles; 3½h.p. sports, all-chain, £132, from early delivery Big 4 combination.

1920 Norton 3½h.p., T.T., only run 250 won several medals, as new; 85 gns.— 84, Broad St., Reading. 'Phone: 1024.

3½h.p. Norton, 3-speed, K.S., clutch, sporting car, plenty of leg room, perfect condition: —McEnew, 48, Abbey Rd., Cambridge.

NORTON, single-geared, T.T. machine, new mileage 50, fast; reasonable offer wante Sundays.—Gooding, 23, Calbourne Rd., Balham.

MOTOR CYCLES FOR SALE.

Norton.

1920 Big 4 Norton and Sidecar, Mabon gear, specially constructed for hill-climbing, as new in every respect; 120 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7746

1920 3½h.p. Sports Norton, 3-speed, and racing Canoelet sidecar, winner of many gold medals in hill-climbs, splendid condition; 132 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7743

NORTONS.—Try Horsman for immediate deliveries. Present stock includes new T.T. belt drives, B.R.S. models, Big 4, and all model sidecars; second-hand Big 4 and sidecars. Write or wire.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [6173

N.S.U.

N.S.U 6h.p. Combination, just overhauled, new 2-speed gear; any trial; what offers?—45, Bridge Rd., Battersea. [7053

4h.p. N.S.U., Bosch, Burman gear box, 2 speeds, K.S., hand clutch, coachbuilt sidecar, underslung chassis, 2 new Dunlops, new lamps, insured to March next, spare belt and chain, all in good mechanical condition; £85. or near offer.—Rowley, Orsett, Essex. [7286

N.U.T.

N.U.T.—In stock 3½h.p. sporting model, Magdyno lighting; £165.—Noyce, Northgate, Gt. Yarmouth [6182

N.U.T. Twin, Magdyno lighting, delivery from stock; £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [7161

N.U.T. 3½h.p. Twin, Lucas mag.-dynamo, shop-soiled, at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7187

N.U.T., overhead valve J.A.P., detachable cylinder heads, fully equipped, excellent condition; £45. 1, Albert Cottages, Marlborough Rd., Old Kent Rd., S.E.1. [7412

NV SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [9062

N.U.T.—Delivery from stock of these models, equipped with magdyno lighting, price £165; sole wholesale and retail agents for Staffordshire, the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [9002

O.K.

EARLY New 1920 2-speed O.K., faultless, throughout, 2 lamps, 2 generators; £50; approval, cost).—Sutton Valence, Unthank Rd., Norwich. [7530

RAND New O.K. Junior, 2½h.p. Villiers engine, 2-speed, accept £55; also O.K. Union, single-speed, ; in stock.—Birch's Garage, Wolverhampton. [6154

Omega.

½h.p. Omega-Jap, the sporting single; immediate deliveries.—Norwich Motor Co., Ltd., Norwich. [2787

MEGA 2¾h.p., 2-stroke, fine condition, good tyres; £40, or nearest offer.—19, Culworth St., St. John's od, N.W.8. [7274

MEGA-J.A.P.'s, 2¾h.p., 2-speed, the best and smartest lightweight; from stock, list price. gents, Gray and Raynes, 8, Low Rd., Balby, caster. [2784

P. and M.

and M., 1917, and sidecar.—Apply, Russell, Short Rd., Stratford, London, E.15. [X5894

and M. (1920, July), particulars, photograph, ill-health.—Finchett, Glenthorne, Oswestry. [7347

and M. Combination, C.B., good condition; £55. 4, Sunnyside Terrace, Colindale, Hendon. [7393

20 P. and M., new 7 days ago; £108.—Edwards, 50, Harrington Rd., South Kensington. [7623

and M. Combination, R.F.A. model, good condition; £65.—38, Payne St., Deptford, S.E.18. [7481

and M., 1920 model, delivery from stock; £115. —Maudes' Motor Mart, 100, Paris St., Exeter. [7162

and M., Millford coachbuilt sidecar, perfect order, smart; £70.—41, Ashford Rd., Crickle- l. [7406

18 P. and M., new, lamps, etc.; £70; or exchange C.S. Triumph or Douglas.—Harvey, Churchfields, hunt, Herts. [7483

and M. 1918 3½h.p., 2-speed, lamps, new Dunlops, Tan-Sad, in perfect running order; £62/10.—36, y Rd., Barnes. [7066

14 Show Model P. and M., speedometer, mechanical horn, footboards, tools; £55; privately owned.— r Cycle Mart, Chatham. [7003

and M. Combination, 1918, Millford 4-point side-car, nearly new, lamps, all spares; after 7 o'clock; s.—22, Gateley Rd., Stockwell, Brixton, S.W.9. [6349

and M. Combination, Dunhill sidecar and storm apron, lamps, etc., fully equipped; £100, great in.—Mebes, 154-156, Gt. Portland St., W.1. ne: 3426 Mayfair. [7188

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P. and M.

PHELON-MOORE Combination, R.A.F., Millford sidecar, smart, complete, excellent condition, insurance, fully equipped, Lucas accessories; £80.—Reeves Lavender Rd., Wallington, Surrey. [7129

1919 3½h.p. P. and M. Combination, guaranteed perfect throughout, not W.D., fully equipped; price £98 net.—Langfords, 37, Broadway, Cricklewood, London, N.W.2. 'Phone: Hampstead 8616. [7590

1918 P. and M. 3½h.p. Combination, appearance as new, complete with lamps, tools, horn, spare tubes, and other accessories, in perfect order; £105, or nearest offer.—W. S. Bird and Sons, 13, Henrietta Park, Bath. [6309

6h.p. Twin P. and M. Combination, in excellent order throughout, latest pre-war design, and probably 1921 post-war sensation; £75; exchange considered.—Lambert, 343a, Finchley Rd., Hampstead (behind Langfiers Studios). [7720

P. and M. W.D. 3½h.p. Model, overhauled and guaranteed by us, £78; others not overhauled but in running order, £68; complete with Mills-Fulford sidecar, £100 and £110; deferred payments, no extra.—Maudes', 100, Gt. Portland St., W.1. [7660

P. and M. Motor Cycle, R.A.F. model reconditioned and guaranteed by the makers, all necessary new parts having been built into these machines to make them perfect and practically as good as new; price £90, or can be supplied on deferred payment terms if desired for an extra charge of 4% only.—William Whiteley, Queens Rd., W.2. [6946

PHELON and Moore, Ltd., have several R.A.F. models for immediate delivery, reconditioned and guaranteed by them. Prospective motor cyclists should not hesitate to procure one of these machines now, whilst prices are low; £90 solo, or £120 combination.—Fullest particulars on application, or one can be inspected at London Showrooms, 4, Berners St., Oxford St. (opposite Bourne and Hollingsworth), W.1. [0314

Phanomen.

PHANOMEN 3h.p., ride away, good appearance; £18. —15, Rectory Rd., Grays. [6911

Precision.

PRECISION 3½h.p., Burbury C.B. sidecar, Bosch, B. and B., speedometer, lamps, watch, mirror, pillion seat, wind screen, spare, 2 outtr covers, 2 inner tubes, guaranteed perfect; £80; owner buying car.—Webley, Jeweller, Bromsgrove. [6936

Premier.

PREMIER 3½h.p., 3-speed, Bosch, Dunlop tyres; seen S.W.; £33.—Box 9,060, c/o *The Motor Cycle*. [7313

3½h.p. Premier Combination, 2-speed, kick start, just overhauled, comfortable, reliable; £50.—25, Hamlet Rd, Crystal Palace. [7114

Quadrant.

QUADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the only moderate-priced outfit left.—Victor Horsman Ltd., 7, Mount Pleasant, Liverpool. [0277

NEW 4½h.p. Quadrant Combination, to makers' specification, at list price, including carriage from works, £147/7/3, or on deferred payments 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [7323

QUADRANT 1920 4½h.p. Combination, shop-soiled, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7189

CLIFFORD WILSON Company, Quadrant sole agents and distributers for South-eastern Counties. Trade enquiries invited. All models from stock. Large selection of second-hand combinations. — 70 Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4734

4½h.p. Quadrant, 1920 (Olympia model), de luxe sidecar, tools, spares, lamps, horn, Triplex wind screen, hood, apron, luggage carrier, insurance, mileage only 1,000, all as new, no punctures or breakdown; any examination; trial run after 5 p.m., or appointment; reliable bargain; complete, £150, or offers.—Hellier, 57, Victoria Rd., Aberavon, Port Talbot. [6929

Radco.

RADCO 2-stroke, 140 m.p.g., excellent condition; £30 lowest.—35, Freegrove Rd., Holloway, N.7. [7448

RADCO, 2-stroke, good order, ride away; £35; seen after 6.30 p.m.—Kember, Gravelye, New England Rd., Hayward's Heath. [6891

RADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt., Portland St., W.1. 'Phone: 3426 Mayfair. [7190

Reading-Standard.

READING Standard, late 1920 model, solo, complete with dynamo lighting and horn, all tools, repair outfit 80 m.p.h., speedometer, mileage negligible; £130, or offer.—Ransom, The Cottage, Shortlands, Kent [7508

MOTOR CYCLES FOR SALE.

Rex.

REX 3½h.p., drop frame, spring forks, Mabon clutch; bargain, £28.—Ashby, 18, Hertford Place, Coventry. [7276

REX 5h.p. Twin, new Simms, B. and B. and belt, good running order; also sidecar chassis; £23.—Willans, Barwick-in-Elmet, nr. Leeds. [6952

1913 6-8h.p. Rex, 2 speeds, free, lamps, horn, spares; exchange for 4-cyl. F.N., genie and clutch; sell nearest £50.—Makinson, 10, Kemball St., Ipswich. [7052

Romper.

ROMPER 1920, 2¾h.p. Union engine, 2-speed countershaft, excellent condition; £70, no offers.—Sheppard, 108, The Crescent, Slough, Bucks. [7095

Rover.

1919 3½h.p. Rover Combination, lamps, hood, screen; £142.—64, Rochdale Rd., Plumstead. [7518

BRAND New Rover Combination, 3½h.p., 3-speed, chains, belt drive; £165; for quick sale.—11, Allen Rd., Wolverhampton. [6156

ROVER, 1914, 3½h.p. Bosch, 3-speed, clutch, lamps, horn, tools, Dunlop and spare; £60, or nearest.—Cook, Leith Fort, Leith. [7495

1920 Rover 6h.p. Combination, 3-speed, screen, speedometer, lamps, horn, as new, a snip; £150.—Dunn, 326, Euston Rd., London. [6840

ROVER 3½h.p., 3-speed countershaft, new April, 1920, lamps, Cowey horn, spares, T.T. bars; £128.—A. S. Ridlington, Cowbit Rd., Spalding. [6984

LATE 1914 T.T. Rover (H.C.), Philipson, discs, fully equipped, fast, and sporty, perfect condition; £60. Sweeney, 39, Chapel Park, Addlestone, Surrey. [7350

1920 Rover 5-6h.p. Combination, Watsonian sidecar, not done 200 miles, uncrated, lamps, horn; genine bargain, £185.—Knight, High St., Reigate. [7032

1914 4h.p., Sturmey-Archer 3-speed, clutch, Rover combination, Montgomery as new, waterproof, Bosch, B. and B., recently overhauled, tyres heavy Dunlops, splendid condition, guaranteed; £58.—Mason, Ivy House, Thomas St., Kings Lynn. [7548

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart coachbuilt sidecar; £180, or on easy payments 5% extra, one quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [7324

ROVER 3½h.p., countershaft model, also T.T. model, Phillipson pulley, as makers' specifications, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7191

ROVER 5-6h.p. Combination (March, 1920), 3-speed, all-chain drives, condition as new, speedometer, P. and H. lamps, Tan-Sad, Cameo wind screen, heavy Dunlops, complete kit of tools, insurance; £200, or best offer.—E. Rodman, Canal St. Mills, Stockport. (D) [6956

5-6h.p. New Rover, new August, 1920, Lucas acetylene lamps, Lucas horn, Bonniksen speedometer, spare tube, sidecar and solo sprockets, done approximately 1,700 miles, trial given, engine just decarbonised and examined by Rover Co., is in excellent condition; £145.—Apply during business hours to Gerald White, Earlsdon, Coventry. [6932

1920 3¼h.p. Rover, 3-speed countershaft, clutch, and kick-starter, absolutely tip-top condition, enamel unscratched, engine perfect, having been carefully run in, fitted with latest Binks carburetter, is one of the fastest singles on the road, and is a magnificent hill-climber, fully equipped with head and tail lamps, 2 generators, Klaxon horn, speedometer, knee-grips, and spares, mileage 2,000; bargain, £130; can be seen by appointment.—E. W. Larby, 14, Whitworth Rd., South Norwood, S.E.25. [7138

Royal Ruby.

ROYAL RUBY 1917 2¾h.p., 2-stroke, 2-speed; must sell; £32/10.—104, Mortlake Rd., Richmond. [7544

ROYAL RUBY, 2¾h.p. Villiers, 1915, good condition, new tyres, belt; £25.—Westfield, Holt, Norfolk. [7334

8h.p. Royal Ruby Combination, December, 1919, very fast, condition guaranteed, all accessories; £150, offer.—Rigby, Rowan Av., Sale, Manchester. [7007

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

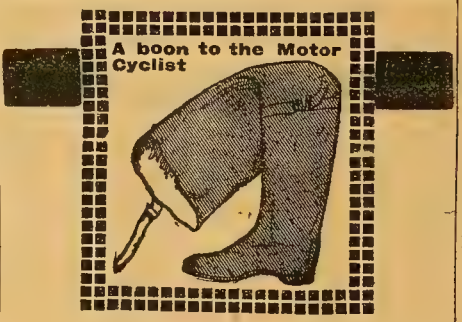
3h.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used, and condition as new; £110; may be obtained on Harrods deferred payment system.—Harrods, Ltd., 118, Brompton Rd., London. [7321

Rudge.

RUDGE I.O.M., 1919 Nov., horn, knee-grips; £90.—20, Portugal Place, Cambridge. [7210

1920 I.O.M. Rudge, as new; £100.—Dunn's, 326, Euston Rd., London. Museum 5391. [2981

RUDGE T.T. and I.O.M. Models ex-stock; £110; exchanges.—125, High St., Woolwich. [6094



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RUDGE I.O.M. Multi, new, slightly soiled; £100.—Clark, 7, Exhibition Rd. 'Phone: Kensington 4096. [7569

RUDGE Multi, 3½h.p. T.T., with pedal starter, June, 1920, hardly used; £95.—Hill, Netherlee, Helensburgh, Scotland. [6966

1920 I.O.M. Rudge, new, in stock at list; £110/5; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, London, N.E. [7669

1920 3½h.p. I.O.M. T.T. Rudge Special Racing Model, small mileage, appearance as new; £85.—Avery, The Laurels, Littlemore, Oxford. [7123

1920 Rudge Multi, 3½h.p. T.T., insured, 800 miles, lamps, horn, speedometer, belt case, perfect; £100.—Eames, Rothamsted Cottage, Harpenden. [6949

1920 Brand New Unregistered I.O.M. Rudge; sacrifice, or exchange with cash, combination, or G.P. Morgan.—Life, 23a, Scarisbrick Av., Southport. [7337

3½h.p. Rudge Multi, 1914, enamelled 1920 colours, unscratched, new belt, etc., perfect order, complete, any trial; £65, or near.—Batchellor, Horley. [7477

1920 3½h.p. I.O.M. Rudge, Cowey trip speedometer, Lucas lamps and horn, perfect condition, low mileage; £105.—Fairhaven, Wavertree Rd., South Woodford. [6915

1919 Late Rudge Multi 3½h.p., lamps, horn, knee grips, tools, in excellent condition, very fast and reliable; £80, or offers.—Hackleton, Priory Rd., Warwick. [7474

3½h.p. T.T. Rudge Multi (Sept., 1920), complete with Lucas lamps, Klaxon, full tool kit, and spares, ridden about 200 miles, exceptionally fast; 100 gns.—Ace's Garage, Tenby. [6926

1920 Late I.O.M. T.T. Rudge Multi, P. and H. lighting set, Lucas horn, knee grips, all tools, perfect condition; best over £90.—Madgwick, Biltmore, Hindhead, Surrey. [7416

RUDGE Multwin, 7-9h.p., September, 1920, Lucas horn, P. and H. lamps, £135; also Patey 2-seater sidecar, £35; both nearly new.—Paris, c/o Barrett, 8, Whitevale St., Dennistoun, Glasgow. [6967

RUDGE 5-6h.p. Combination, new November, 1919, lamps, horn, speedometer, S.C. apron, mat, luggage grid, £5 new spares, insured £160, under 3,000 mileage; bargain, 130 gns.—141, Morton Rd., Wimbledon. [7411

1919 3½h.p. Rudge Multi, touring model, had very little use, very fast, and guaranteed perfect throughout; price £80 net.—Langfords, 37, Broadway, Cricklewood, London, N.W.2. 'Phone: Hampstead 8616. [7591

3½h.p. Rudge Multi (believed 1917), semi-T.T. bars, lamps, etc., foot oiler, tyres new, splendid condition throughout, genuine; first cash £57/10 secures; seen Napier Garage, Forest New Rd., South Woodford.—Mercer, 64, Calverley Rd., Tunbridge Wells. [7107

Scott.

BRAND New T.T. Scott; £10 under list price.—Brown, Butcher, Moorthorpe. [6985

1920 Scott Combination, as new; £135, or exchange.—3, Green Terrace, Rosebery Av., E.C. [7506

SCOTT, new 1920 model; delivery from stock.—Gibb, Worcester Parade, Gloucester. 'Phone: 852. [0301

1919 (late Scott 3¾h.p., as new, solo, £100, or with sidecar £120, or offer.—Dunn, 326, Euston Rd., London. [7704

SCOTT Combination, 1920, unused; sacrifice at £190, or near offer.—Grimes, 18, Bruton Place, New Bond St., W.1. [7723

1917 Scott Combination, perfect mechanical order, Klaxon, lamps, complete; must sell; £90, or offer.—32, Elm Bank Gardens, Barnes. [6389

1920 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £100.—Dallaway, Fruit Merchant, Smethwick. [0276

1920 Scott, sports model, T.T. bars, horn, tools, etc. condition nearly new, mileage about 700; £125.—D. Lavin, Old House, Sonning, Berks. [6270

SCOTT Combination, 1916-17, just overhauled, repainted, reupholstered, new mag., 3 lamps, horn, spare cover, tube, accessories; any trial; £85.—Write 5, Chiswick Lane, W.4. [7064

SCOTT 3½h.p., new 1914, laid up during war, electric lights, just been overhauled at cost of £26, new tyres, Binks, horn, etc., splendid order; £47.—Box 9,064, c/o *The Motor Cycle*. [7672

SCOTT Combination, late 1919, 2-speed, kick start, electric lighting set, Klaxon horn, speedometer, original tyres, equal new; £140, or offers.—Atkinson, Glashouses, Pateley Bridge. [X5933

SCOTT Combination, new, ridden 50 miles only, fitted with Tan-Sad, screen, electric lights (4 volts), luggage carrier, 12 months' insurance; accept £195, too fast for owner.—Birch, 38, Queen's Sq., Wolverhampton. [6158

1920 Scott, fitted with special engine, 3in. Palmer cord tyres, latest Amac carburetter and oiling, ridden in Paris to Nice, not used since, in new condition; bargain, £100.—Russell King, 76, King St., Southport. [7378

MOTOR CYCLES FOR SALE.

Scott.

SEPTEMBER 1919 Scott Combination, splendid condition, small mileage, electric light, disc wheels, horn, wind screen, and wings, spare tube, present cost £200; accept £150; seen appointment.—59, Palace Rd., Streatham Hill, S.W.2. [7764

SCOTT 1920 Combination, with Easting wind screen, in perfect running order, with acetylene lamps, Klaxon and bulb horns, Smith's speedometer, spare bains and cover, owner going in for car; £160, or nearest offer.—H. E. Dennis, The Crescent, Spalding. [7630

SNIP, £42/10; taken for debt, so must be cleared. —3½h.p. twin w.c. Scott, Binks 3-jet, Best and Lloyd drip feed, almost new tyres and chains, semi-T.T. bars, nothing dnd, and nothing wrong with the price either; any trial, or on approval anywhere.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town, off Camden Rd. See Zenith, Sunbeam, and Miscellaneous. [7721

Singer.

SINGER Combination. 2-speed, countershaft, kick start, 4½h.p.; 78 gns.; exchange lightweight, cash adjustment.—57, Kenbury St., Camberwell, London. [7536

Sparkbrook.

APPROVAL, new unridden 2-speed Sparkbrook, cost £76; accept 60 gns., or exchange with cash recent higher power.—Laver, 199, Unthank, Norwich. [7529

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 426 Mayfair. [7195

Sun.

£30.—1915-16 Sun-Villiers, 2-speeds, lamps, Klaxon, perfect condition; bargain.—89, East Hill, Wandsworth. [7439

1919 2¾h.p. Sun-Villiers 2-speed Countershaft, recently overhauled, with lamp set, smart appearance, machine as new, perfect, take two anywhere; 45.—Walden, Barber, 1, Wisbech Rd., Kings Lynn. [7550

Sunbeam.

1920 3½h.p. New Sunbeam Combination; must sell; £189.—King, Normande, Morley Rd., Boscombe. [7615

SUNBEAM 1920 3½h.p. Model, head and rear lamps, bulb horn, indistinguishable from new, £160.—Parker's, Bradshawgate, Bolton. [X5952

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; £100.—C. Barton, Clapham, Yorks. [0246

SUNBEAM Combination, 8h.p., 1919, lamp, horn, spare wheel, and cover, luxurious outfit; £200.—Greaves, Thornhill House, Wakefield. [7339

SUNBEAM Combination, 1920, brand new, for sale, less 10/- off list price.—Norman, Whitehouse, 203, Ation St., Cheslyn Hay, Staffordshire. [X6006

SUNBEAM Combination, 3½h.p., 1915, excellent condition, Easting screen, electric and acetylene lamps, new spare tyre; £125.—35, Ship St., Brighton. [7068

1920 Sunbeam 3½h.p., brand new, in stock at list; £155/8; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, London, N.E. [7670

SATE 3½h.p. Sunbeam, 3 speeds, etc., oil bath, black and gold, Dunlops, lamps, accessories new condition throughout; £90.—63, Solon Rd., Brixton. [7455

SUNBEAM, brand new 3½h.p., solo model, with Lucas lamps and horn; £170.—The Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9004

SUNBEAM 3½h.p., with or without sidecar, immediate delivery at works; easy payment if necessary.—Bunting, Motor Exchange, Wealdstone, Harrow. [7779

1918 8h.p. Sunbeam Combination, black and gold, hood, screen, all lamps, horn, legshields, perfect; £10.—Dunn's, 326, Euston Rd., London. Museum 91. [2990

SUNBEAM 1919 3½h.p., T.T. bars, lamps, mechanical horn, tools, in excellent running order; owner going country; £120, or near offer.—Carroll, 10, Campden Rd., Hanwell, W. [7369

1919 (late) 3½h.p. Sunbeam and Sunbeam sidecar, new appearance, done small mileage, 3 lamps, Lucas horn, leg shields; any trial; £155.—Mason, 4, Hanley Rd., Wigan. [7226

TAUCHOPE'S, 9, Shoe Lane, London.—1919 8h.p. Sunbeam combination, spare wheel, hood, screen, lamps, speedometer, mirror, warning signal, tools, condition like new; 200 gns. [7797

SUNBEAM 1918 3½h.p. Combination, mileage under 6,000, splendid condition, electric lighting, speedometer, clock, mirror, spares; £140.—Critchel, Shadown Av., Tarring, Worthing. [7385

SUNBEAM (1916) 3½h.p. Combination, little used, excellent condition, Easting screen, Lucas lamps, horn, 4 good tyres, tools, valve, etc.; £150.—Browne, Haycroft, Roundhill Rd., Leicestor. [7099

1920 Sunbeam Combination, 3½h.p., complete with lighting set, horn, and all accessories, condition new; £160; reason for selling, owner bought car.—Etheridge, Colways, Ashelworth, Glos. [6307

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NEW Sunbeam, 3½h.p., sporting model; £155/8; in stock; ready for road.—Cambridge Agents for Sunbeams Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [7686

1920 3½h.p. Sunbeam Sporting, electric lighting, knee grips, spare tube, all tools, little mileage, £140; also Cantelet Minor sidecar, if required, practically new, £12 extra.—Hampton, The Elms, Tettenhall, Wolverhampton. [7712

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. O. de la Hay (late Sunbeamland).—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

FOR Sale, Sunbeam 8h.p. and Grindley de luxe sidecar, mileage 1,500, spare tyre, tube, all accessories, lamps, etc., and numerous spares, Easting wind screen; £215; indistinguishable from new. — Southworth, Smithy Lane, Holmeswood, near Ormskirk, Lancs. [6927

1919 3½h.p. Sporting Sunbeam, winner of hill-climb, fitted with footrests, knee grips, horn, and nickelled copper exhaust pipe; spares include lamps, footboards, standard silencer and pipes, gear box sprocket, valves, and piston rings, condition excellent and exceptionally fast; seen any time, and trial by appointment; £130.—Solomon, St. Ann's Rd., Faversham, Kent. [7106

2¾h.p. Sunbeam, 2-speed C. and K., perfect mechanical condition, original enamel fairly good, tyres, chains, and gear cases excellent, guaranteed 130 m.p.g. without further tuning, a better, economical, or more reliable machine cannot be obtained; £65; exchanges considered.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town, off Camden Rd. (See Zenith, Miscellaneous, and Scott.) [7719

T.D.C.

1920 2¾h.p. T.D.C., 2-speed, lamps, horn, little used; bargain, £52/10.—E. Horn, Long Buckby, Rugby. [7239

Triumph.

1920 Triumph, Gloria sidecar, unpacked.—231, Wigan Rd., Atherton. [6900

TRIUMPH Countershaft Model, as new; £95.—8, Percival St., E.C. [7585

1912 3½h.p. Triumph; £34; single speed, lamps.—6, Queen's Rd., Peckham. [7364

4h.p. Countershaft Triumph, all black, complete; £75. Cross, Agent, Rotherham. [X6009

BRAND New Triumph 3-speed Motor Cycle; list price. —Batten Bros., Collompton. [7096

RED Triumph, 3½h.p. T.T., 1913, powerful; any trial; £55.—Hilton, Moorside, Droyesden. [7100

1919 Triumph and Gloria, perfect, all accessories; £109.—Dunn, 326, Euston Rd., London. [7700

TRIUMPH 1914 4h.p., 3-speed, lamps, horn, tools, etc.; £52.—61, Gosset St., Bethnal Green, E.2. [7091

ALL-CHAIN Drive Triumph in Stock, £140; Millford sidecard to suit, £31/10.—Cross, Agent, Rotherham. [X6008

BABY Triumph, 1919, in excellent order; £57/10.—Owen, 59, Scholefield Rd., Upper Holloway. [X5986

1918 Triumph, 4h.p., C.S., perfect running order; £75.—Dunn's, 326, Euston Rd., London. Museum 5391. [2984

1920 Countershaft Triumph, electric light, Klaxon, practically new; 100 gns.—37, Arlington Rd., Surbiton. [7511

TRIUMPH 3½h.p., tree engine, splendid condition, fast; bargain, £45.—Charlish, Mouldsham St., Chelmsford. [6905

1912 3½h.p. Triumph, Grado gear, lamps, horn, tyres, tubes good, ride away; £35.—Eason, Burnham, Bucks. [7175

1920 Triumph, chain drive, not done 30 miles; £128.—Edwards, 50, Harrington Rd., South Kensington. [7622

1920 Triumph, all-chain drive model, Mills-Fulford sidecar, brand new; £165.—24, Junction Rd., Highgate, N.19. [7305

1919 Triumph, with Empire sidecar, good condition; £115.—Wynn, Cherry Tree, Bromswell, Woodbridge, Suffolk. [7609

1919 T.T. Triumph, condition as new, £15 worth of accessories; £90.—P. Wheatley, 34, St., Barnabas Rd., Cambridge. [7504

1919 Countershaft Triumph, in new condition, mileage under 2,000, engine 61124; £95.—Orchard, 112, High St., Aylesbury. [7172

1915 Triumph-Philipson, nice order, £55; also sidecar coachbuilt, as new, £18.—308, Upper Richmond Rd., S.W.14. [X5898

1920 Baby Triumph, quite new, only ridden from agents; accept £68.—Sharp, Manor House, Moreton-in-Marsh. [7558

1918 Countershaft Triumph Combination, handsome outfit, unscratched; accept £110.—72, Longridge Rd., Earl's Court. [7488

MOTOR CYCLES FOR SALE.

Triumph.

1920 4h.p. Triumph Combination, new, including lamps and horn; £182/10.—Mason, 39, Midland Rd., Wellingborough. [7094

LOOK!—Countershaft Triumph, £70; Douglas, 4h.p., £65; Douglas, 2¾h.p., £48.—13, Pindock Mews, Warwick Av., W.9. [7485

DAN GUY, Weymouth.—Sole agent for Triumph motor cycles; model H, £127/10; Baby 2-stroke, £75; delivery from stock. [5962

TRIUMPH 3½h.p., really good running order; £35; cash; bargain to clear.—Bunting's Motors, Wealdstone. Closed Sundays. [7778

TRIUMPH 4h.p., W.D. model, 1919 combination, excellent order, all accessories; £115.—Maudes', 100, Gt. Portland St., W.1. [7661

1919 Countershaft Triumph, splendid condition, lamp, horn, and spare parts; £85.—230, Branstone Rd., Burton-on-Trent. [7491

1918 Triumph, perfect order, complete with tools, lamps, spare tube, etc.; what offers —Capt. Bruce, Colliston Castle, Arbroath. [6913

3½h.p. Triumph, excellent condition, only wants trying; 50 gns. secures.—B. Prince, Badger's Mount, Shoreham, Sevenoaks. [7769

1912-13 3½h.p. Clutch Model Triumph, Bosch, lamps, horn, perfect condition.—Lymes, 45, Burlington Rd., New Malden, Surrey. [7353

1916 4h.p. Countershaft Triumph Combination, condition excellent, all on; £90; Harlesden district. —Box 9,033, c/o *The Motor Cycle*. [7090

LATE Countershaft Triumph, just overhauled, plating and enamelling as new; must be sold; 65 gns.—21, Norfolk Rd., Littlehampton. [7389

TRIUMPH, 1918, S.A. countershaft, clutch, K.S., very fast, all on; £85, or near.—Express Works, 2, Broadway, Friern Barnet Rd., N.11. [7280

TRIUMPH 4h.p. Combination, late 1919, electric lighting, fully equipped, perfect condition; £125.—72, Gloucester Rd., S.W.7. Tel.: Western 4086. [7148

1914 Triumph 4h.p., 3-speed, coachbuilt sidecar, lamps, horn, tools, just thoroughly overhauled, perfect condition; £85.—22, Muswell Hill, N.10. [7029

TRIUMPH 4h.p. Countershaft C.B. Combination, 3 lamps, horn, and spares; £110; perfect order and condition.—26, Gunnersbury Lane, Acton. [7386

TRIUMPH 4h.p. 1914 Combination, 3-speed, clutch, Klaxon, P.R.S., Dunlops, Scott sidecar; £70, or near offer.—Herbert, Surrey St., Littlehampton. [6908

1918 Triumph, 1920 sidecar, insurance, speedometer, lamps, horn, full spares, new tyres, perfect; £115.—94, Bath Rd., Kettering, Northants. [7403

TRIUMPH 1914 4h.p., 3-speed, special cane sidecar, Klaxon, lamps, etc., running order; £80, or offer (not Sunday).—35, St. Albans Rd., Seven Kings, Ilford. [7352

1920 T.T. Triumph, perfect, low mileage, fully equipped, unused Lucas set; £90.—Bentley, 95, The Grove, Stratford, E.15. 'Phone: Stratford 801. [7108

1918 Countershaft Triumph, new, minus engine, gear box, and back wheel; first money order nearest £25 secures.—32, Cholmeley Rd., Reading. [7707

1913 Triumph, clutch, engine and tyres excellent condition; £30; seen by appointment Wellington College Station.—Write Norris, Glenlyon, Radlett, Herts. [7230

TRIUMPH, C.S., 3-speed, etc., lamps, horn, re-enamelled and plated, as new, in lovely condition throughout; £75.—33, Hackford Rd., Brixton, S.W. [7759

TRIUMPH, late 1918, 4h.p., 3-speed countershaft, overhauled, re-enamelled and plated, lamps, horn; any trial; £80.—Redvers House, Whitehal Rd., Grays. [7016

1916 Baby Triumph, T.T. bars, straight exhaust, lamps, horn, very little used, first-class condition; £50, quick sale.—Jubilee Works, George St., Croydon. [6324

TRIUMPH 4h.p., 1918, and new 1920 sidecar, new hood, screen, lamp set, Cowey horn, engine in perfect condition; £140.—Greenfield, 16, Temperley Rd., Balham. [7267

1920 Triumph, all-chain drive, latest model, just in; list price £140, or if fitted with luxurious coach sidecar to match £170; exchanges or easy payments.

1919 Triumph, countershaft, not W.D., in magnificent order; £105, or if fitted with new coach sidecar £125; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, London, N.E. [7671

TRIUMPH 4h.p., 3-speed clutch, coachbuilt sidecar, wind screen, new Binks carburetter, full accessories; seen evenings or week-end; £70.—108, Park Av., Mitcham. [7042

3½h.p. Triumph motor cycle, Bosch mag., Hutchinson 26×2¼ tyres, splendid order, guaranteed powerful hill puller; £17.—45, Charles St., Exmouth St., Stepney. [75

1913 Triumph, clutch, overhauled and enamelled, 1920 front forks, wheel and mudguard, new tyres, perfect; 45 gns.—Webber, 68, Durants Rd., Ponders End, Middlesex. [7232

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Triumph.

1919 Triumph Combination, with new Whitley sidecar, electric lamps, horn, Easting wind screen, spares, etc.; seen in Coventry; £150.—Box 839, c/o *The Motor Cycle*. [X5977

1920 Triumph, May, mileage 700, Lucas horn, lamps, Tan Sad, knee grips, all accessories, unscratched, in perfect condition; 100 gns.—Picking, 32, Lincoln's Inn Fields, W.C.2. [7452

TRIUMPH Junior, special finish, enamel and plating as new, horn, spare belt, tools, just decarbonised, condition as new, mileage about 500; £73.—D. Lavin, Old House, Sonning, Berks. [6259

1919 Triumph Combination, 4h.p., complete with lamps, tools, etc., like new, splendid condition; inspection by appointment.—Measures, Redcliffe, Ryecroft Rd., Streatham Common. [7398

TRIUMPH 1920 4h.p. Model with Triumph Sidecar, Lucas head, rear, and sidecar lamps, horn, Cowey speedometer, hood cover and wind screen, as new; £180. —Parker's, Bradshawgate, Bolton. [X5948

TRIUMPH, 3½h.p., 1912, clutch model, just been overhauled, new back tyre, all black, in good running order, with tools, lamps, Klaxon; £40.—Slater, 8, Graemesdyke Av., Mortlake. [7510

TRIUMPH 1914 4h.p. C.B. Combination, splendid condition, 3-speed, clutch, hood, screen, speedometer, lamps, spares, horn, etc.; £90, or lightweight part.—Ormesher 5, Wellfield Rd., Stockport. [7046

4h.p. 1914 Triumph, with coachbuilt sidecar, Sturmey-Archer 3-speed gear, Bosch, lamps, horn, speedometer, recently completely overhauled by makers; £90.—Wood, 330, Balham High Rd., S.W.17. [7482

TRIUMPH, T.T., 1920, in beautiful condition, Cowey speedometer, Cowey and Lucas horns, lamps, etc., new tyres, carefully ridden by ex-D.R.; first £85 secures.—Mark Goulden, 14, Sutton St., Hull. [7002

TRIUMPH 1918 4h.p. Countershaft, lamp, Klaxon, tools, 2 spare heavy outer covers, C.S., chain, and 2 valves complete, all new, also many other spares; £75.—12, Ranelagh Av., Hurlingham, S.W. [7296

1920 Triumph Combination, Swan sidecar, Cowey speedometer and horn, Lucas lamps, Tan-Sad and luggage grid, enamel and plating perfect, guaranteed sound throughout; £145.—West, Popeswood, Binfield. [7607

TRIUMPH, Model H. £127/10, S.D. £140, D £105, L.W. £75; combination, Model H £182/10, S.D. £195; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London W.1. [0328

1920 4h.p. 3-speed Triumph-Gloria Combination Lucas electric lighting equipment, Bonniksen speedometer, appearance and mechanical condition as new; £160.—The Premier Motor Co., Aston Rd., Birmingham. [7160

TRIUMPH Motor Cycles.—Immediate delivery from stock of a Model H, £127/10, and Gloria sidecar for same if desired, £55; or can be supplied on deferred payment terms.—William Whiteley, Ltd., Queens Rd., W.2. [694

1917 4h.p. Triumph, countershaft, 3 speeds, clutch, kick start, light Henderson sidecar, lamps, horn, tools, just been overhauled; price £95 net.—Langford, 37, Broadway, Cricklewood, London, N.W.2. 'Phone: Hampstead 8616. [759

TRIUMPH, 1920, 4h.p. Type H Model, with Gloria sidecar, Triumph, legshields, Easting wind screen, Lucas horn, head, rear and sidecar lamps, all accessories, as new; £160, or near offer.—2, Bozward St., St. John's, Worcester. [760

TRIUMPH 1919 3-speed Countershaft, kick start, King Road lamp, only been 700 miles, absolutely as brand new, only ridden by owner; £95, no offers.—Chinner, 54, Dumont Rd., Kersley Rd., Church St., Stoke Newington, London. [755

TRIUMPH 1914 4h.p. C.B. Combination, Gloria chassis, new bulbous back body, 3-speed, clutch, Bosch, lamps, mechanical horn, etc., large luggage carrier; ride away; bargain, 65 gns.; appointment.—2, Leadale Rd., Stamford Hill, N.16. [76

LATE 1920 Triumph, Type H., incorporated lug fitted with 1921 spring fork, 1921 engine, sho absorber, Lucas head and tail lamps, horn, Cowey spe ometer, leg shields, spare valve, etc., as new; £12 seen in Coventry.—Box 838, c/o *The Motor Cycle*. [59

NEW Triumph 1920 4h.p. Countershaft Mod £127/10; 4h.p. Triumph, Type W.D.B., £10 4h.p. Triumph, all chain drive, £140; 4h.p. Triumph fixed engine, sporting, £105; all models in stock Cambridge Agents for Triumphs, Herbert Robins Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycl [76

NEW Triumph Solo Machines in stock for immedi delivery: Type D., 4h.p., single geared, £10 Type H., 4h.p., 3-speed, £127/10; Type S.D., ch drive, £140; Type L.W., 2¾h.p. lightweight, £75; f delivery, free tuition; all Triumph spare parts in sto —The Premier Motor Co., Aston Rd., Birmingham. [71

SPECIAL 3½h.p. Triumph Motor Cycle, frame w sloping top tube and large saddle tank, fo operated oiling system from separate oil tank, new speed gear and clutch, all lamps, and Cancelet Mi coach sidecar, long exhaust pipe and silencer; price £ or near offer.—63, South End, Croydon. 'Phone: 24 [70

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Triumph.

1920 4h.p. Triumph Motor Cycle and Gloria sidecar, complete with all accessories, including large acetylene lighting set, Cowey trip speedometer, Klaxon horn, Easting wind screen, Tan-Sad pillion seat with straps, Binks carburetter, spare cover, tube, driving chain, tax, insurance, condition perfect, owner buying car; £182.—Box 9,073, c/o *The Motor Cycle*. [7632

NEW Triumph Sidecar Combinations in stock for immediate delivery: Type H., 4h.p., 3-speed, with special Canoelet sporting sidecar, £155; Type H., 4h.p., 3-speed, with bulbous back Millford sidecar, £160; Type H. combination, spring wheel Gloria sidecar, £182/10; Type S.D., chain drive, with spring wheel Gloria sidecar, £195. Write for full list.—The Premier Motor Co., Aston Rd., Birmingham. [7157

1919 Renovated 4h.p. Triumph, in perfect condition mechanically and otherwise, largest size Miller head lamp, Watford trip speedometer, large bulb horn, latest pattern Tan-Sad, rear light with separate generator, aluminium disc wheels, knee grips, owner going abroad at end of month; £115, cost £125 one month ago; genuine bargain; write appointment.—Brandon, Denver, Finchley Rd., Golders Green, London, N.W.4 [6970

Tyler.

TYLER 2¾h.p., Albion 2-speed, perfect condition; worth £60; offers wanted; must sell.—The Poplars, Bredhurst, Chatham. [7405

Velocette.

MYRIL WILLIAMS, for early delivery of Velocette —Chapel Ash Depot, Wolverhampton. [2265

MORSMAN can do Velocettes from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0328

FOR Sale, 1916 Velocette, just overhauled, perfect condition, ideal lady's machine.—4, Cliff Terrace, Kendal. [7036

VELOCETTE 2-stroke, nearly new tyres and belt, engine just overhauled, lamp set, etc.; nearest £35.—Box 9,051, c/o *The Motor Cycle*. [7254

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O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

NEW 1921 Model D2 Velocettes, all-chain drive, now in stock for immediate delivery; £75, carriage paid any address.—The Premier Motor Co., Aston Rd., Birmingham. [7155

VELOCETTE, the lightweight with a big heart, in stock for immediate delivery, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W1. 'Phone: 3426 Mayfair. [7196

Verus

VERUS-BLACKBURNE, all models, delivery from stock.—Maudes' Motor Mart, 100, Paris St., Exeter. [7163

1920 Verus Blackburne, 4h.p., never ridden; cost £126, accept £106.—6, Worple Av., Wimbledon, S.W.19. [6893

VERUS, 1920, 2¾h.p. Blackburne, hand clutch, K.S. 2-speed, owner going abroad; offers.—Newnham, 3, Hammersmith Rd., W.6. [7715

VERUS 2¼h.p., 2-stroke, 2-speed, free engine, kick start, 100 m.p.g., excellent condition; £60.—Cashier, Burrowbridge, Bridgwater. [6425

Wilkin.

WILKIN B4, 1920, semi-T.T. bars, highly finished, a machine of proved reliability; price (shopsoiled), £110.—22, Rodney St., Liverpool. [7078

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone 3426 Mayfair.

Williamson.

WILLIAMSON 8-10h.p., 1916 model, stored 2 years, absolutely as new, complete with luxurious sidecar, lamps, speedometer, Klaxon, etc.; £140; guaranteed.—Apply, Jennings, Mendip Lodge, Farncombe, Godalming. [7507

1916 3-speed Williamson Combination, fitted with kick-starter (which works), coachbuilt sidecar with signed luggage grid, large acetylene lamps and generator; this machine is privately owned and in first-class condition; £85 secures.—Mr. T. H. Hudson, Automobile Engineer, 38, Cranbourn St., W.C.2. Tel.: Gerrard 08. [7135

Wolf.

3½ h.p. Wolf, T.D.C. engine, running order, new Dunlops; £35.—56, Bridge End, Warwick. [X5957

1920 Wolf-Jap, 2-speed, brand new, never been ridden; list price, £76, will take £67.—R. Backhouse, Black Lion Hotel, Bridlington. [7073

WOLF-J.A.P., a particularly fine 1919 4-stroke machine, in perfect mechanical condition, clutch and kick starter; will consider offer over £50.—Bamford (see under Consulting Engineers). [7782

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SCOTT	3¾	2-stroke, 2-speed; and Henderson Sidecar	£160 0 0
CALTHORPE	2½	2-stroke, 2-speed; cost £74 19s.	£65 0 0
CALTHORPE	2½	2-stroke, 2-speed; cost £67	£59 10 0
ROYAL RUBY	3	spring frame, 2-speed, clutch, and kick-starter; cost £120..	£89 10 0
SIDECAR		Watsonian Monarch; cost £31 3s. 9d.	£27 10 0

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A.J.S.	6	standard Combination	£210 0 0
TRIUMPH	4	Combination, Model H	£182 10 0
TRIUMPH	4	Combination, chain drive	£195 0 0
HARLEY-DAVIDSON	7-9	and Sidecar, acetylene equipment	£234 12 6
ROYAL ENFIELD	8	standard Combination	£177 10 0
S.S.A.	4	Combination, chain drive	£152 10 0
ZENITH	8	and Sidecar, Model H	£136 4 0
S.S.A.	7	twin, Sidecar extra	£150 0 0
LEA-FRANCIS	3½	twin (standard)	£130 0 0
EXCELSIOR	6	Sidecar extra, if required	£154 0 0
BLACKBURNE	4	Burman 3-speed gear	£138 10 0
G.N.	10	2-seater Light Car, dynamo	£275 12 6

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Blackburne 2¾ h.p. engine, 2-speed, clutch and K.S.

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WOLF 1920 2¾h.p., 2-stroke, 2-speed, clutch, and kick start, Dunlop tyres, Brampton forks, P. and H. head lamp, rear lamp, mechanical horn; bargain, £60; will exchange with cash for higher power with or without sidecar.—R. D. Varty, Thundersley, Essex. [7645

Wooler.

2¾h.p. 1920 Wooler, 6 speeds, McNab's record breaker; £85.—Wauchope's, 9, Shoe Lane, London. [7794

WHAT Offers for new Wooler twin lightweight, just delivered, cost £103?—Maranatha, York Rd., S.E.27. [7728

WOOLER, 1920, lamps, Cowey horn, quantity of spares, small mileage; bargain, £85.—Coles and Shirley, Chepstow. 'Phone: 48. [0313

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7192

1920 Wooler, T.T. model, flat twin, variable gear, as new, all lamps, horn, etc.; £80; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, London, N.E. [7673

WOOLERS.—Longman Bros, Bond St., Ealing, and Uxbridge Rd., Acton, 'phone: Ealing 689, special agents; we have several second-hand machines for disposal, used only for competition work, guaranteed as new; £70 to £75 each. [7742

Zenith.

1920 5h.p. Zenith, countershaft; £97/10.—Wauchope's, 9, Shoe Lane, London. [7793

DAN GUY, Weymouth.—Sole agent for Zenith motor cycles; early delivery 1921 models. [5965

ZENITHS.—In stock, 8h.p., clutch, kick starter; £162.—Noyce, Northgate, Gt. Yarmouth. [6181

1920 Zenith 8h.p. Sporting Model, disc wheels; cheap for cash; going abroad.—Coates, North St., Dunmow. [7033

1920 Zenith 4-5h.p. Sports, fitted cut-out, shop-soiled only, snip; £110.—Dunn, 326, Euston Rd., London. [7703

1914 8h.p. Zenith-Gradua, clutch, not used much, and in new condition; £55.—Englemere, Laleham, Staines. [7556

1920 Zenith 6h.p. Sports, slightly used for demonstration, as new; 110 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7747

ZENITH-GRADUA 6h.p., large coach sidecar, engine overhauled, year not known, stored 5 years; £88, or nearest.—Snell, Grittleton, Chippenham. [6961

ZENITH, 1920, special 3½h.p., twin racing model, nearly new; £135.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5543. [0065

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7193

1920 8h.p. Zenith, countershaft model, Swan sporting sidecar, lamps, speedometer, only done 200 miles; cost £235; accept £180.—24, Junction Rd., Highgate. [7305

ZENITH 8h.p. Sporting Model in stock; £139.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0319

1919 (December) Model E, 6h.p. Zenith, Canoelet sporting sidecar, beautifully equipped, condition as new; £145.—Particulars from Renesby, Bramber Rd., North Finchley. [7227

ZENITH 1920 6h.p. Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee-grips, Ace disc wheels, and luggage grid, equal to new; £170.—Parker's, Bradshawgate, Bolton. [X5947

1917 8h.p. Countershaft Zenith, sporting sidecar, electric and acetylene lamps, speedometer, horn, spare sprocket, valve, chain; £125. Wanted, Scott, A.B.C.—Brown, New Inn, Silverton. [7525

6h.p. Zenith Combination, C.B. sidecar, K.S., clutch, lamps, horn, tools, etc., ready to ride away; any trial; £85; can be seen any time.—The Weston Transport Co., 24, Bartison St., Bedford. [X5896

F.O.C.H. for 1921 Zeniths; very early deliveries; book your order now.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7145

F.O.C.H. have a 1919 6h.p. Zenith, T.T. bars, accessories, grand condition; cheap.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [7141

1920 Zenith 8h.p. Sports Model, only 3 months old, fitted with Flying Middleton sidecar, all lamps, horn, etc.; £127/10; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, London, N.E. [7672

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments; one-fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [7325

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Zenith.

ZENITH 8h.p. Combination, May, 1920, coachbuilt M. and D. sidecar, Tan-Sad pillion seat, lamps, horn, speedometer, and mirror, owner-driven 3 months, a magnificent outfit; £200; seen at North Finchley.—Box 8,985, c/o *The Motor Cycle.* [6940

BARGAIN.—Zenith 6h.p., countershaft, 1915½, low mileage; fine condition, plating, enamel first-class, enclosed chain, Cox Bonniksen Low generator, spares, tyres very good; best offer over £60; only reason, going abroad.—Capes, 96, Lennard Rd., Penge, S.E.20. [7367

ZENITH 8h.p. T.T. Racer, December, 1919, new Hutchinson light car tyres, aluminium discs, long polished brass exhaust pipe, Cowey horn and speedometer, 2 generators, one of the smartest sport models on the road; owner taking delivery of car; price £135, or exchange 4h.p. Indian sports model and equivalent.—Apply, Castle, 14, Milton Rd., Cambridge. [7013

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1920 (June) 8h.p. Zenith Sporting Model, Swan sporting sidecar, 650×65 Dunlop extra heavy tyres (unpunctured), Lucas horn (black), Cowey speedometer (black), F.R.S. big head, tail, and sidecar lamps (black), combination in magnificent condition, not a scratch, mileage 400, every refinement possible, inspection invited; any reasonable offer accepted; seen by appointment only.—Woodbridge, 26, Grosvenor Court, Acton Hill. [763

Miscellaneous.

BOOTH'S Motories, Halifax.—1914 Enfield combination, £89/15; 1916 3½h.p. Brough, opposed cyls., 3-speed countershaft, and sporting sidecar, £81/10.

BOOTH'S Motories, Halifax.—1919 P. and M., with new sidecar, £110/10; 7-9h.p. Indian, with torpedo sidecar, £60/10.

BOOTH'S Motories, Halifax.—Six 1915 Douglases, £49/10; two 1918 4h.p. Douglases, £85/10.

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MOTOR Bicycle, 2¾h.p., Amac, etc.; £13/15.—Madison, Littleover, Derby. [X5923

MINERVA-DAVIDSON, 3½h.p., £17/10; 3½h.p Singer, N.S.U., £22.—29, Selkirk Rd., Tooting. [7278

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INDIAN 1915 Combination, £75; 4h.p. Abingdon £28; 3½h.p. Brown, £23; 5-6h.p. Rex, £18.—S.M.C., 77, Acre Lane, S.W.2. [7628

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QUICK Sale.—Sporty wicker sidecar, splendid condition, suit 2¾ or 3½h.p., all fittings; £7/10.—Penlington, Malpas, Cheshire. [6995

NEARLY New Coachbuilt Sidecar, bulbous back, underslung, spring cushion, 28in. wheel; £23.—Winkworth, Church St., Staines. [7497

MONTGOMERY Sidecar, Easting, new tyre, perfect condition, suit Triumph; £18.—Express Works, 2, Broadway, Friern Barnet Rd., N.11. [7281

SIDECARS.—Swan and Millford sidecars in stock to suit all makes of machines.—Halifax Motor Exchange, 25, Horton St., Halifax. [7215

MR. DAVIDSON, riding Harley-Davidson and Flying Middleton sidecar, won 1,000 c.c. championship and broke 5 and 10 miles world's records Oct. 9th.

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MILLFORD Sidecar Chassis, off spring frame Red Indian; £9/17/6; too cheap for approval.—Edwardes, 277, Camberwell Rd., S.E. [7693

INDIAN 2-seater Sidecar, hood and screen, brand new, cost £55; accept £35.—Barker's Motors, 194, Balham High Rd. 'Phone: Latchmere 4441. [4959

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COMFY Coachbuilt Sidecar, nearly new, recently cost over £20, sell £15; also light wicker sidecar, £3.—Watt, Monkham's Farm, Woodford, Essex. 7225

MONTGOMERY Sidecars for Triumph, B.S.A., Blackburne, Indian, Harleys, etc.—Bastone's, 228, Pentonville Rd, King's Cross, London, N.1. [4865

HENDERSON Sidecars.—All models instock. Elite, £45; Model B1, £31; featherweight, £23.—P. J. Evans, 5, Thornfield Rd., Shepherd's Bush, W. [0176

MILLFORD.—All models in stock. Model de Luxe, £40/14; Corvette, £31/10; Skiff, £27/15/6.—P. J. Evans, 83-91, John Bright St., Birmingham. [0177

SWAN Sporting Sidecar, new Sept., 1920, Sunbeam colours and fittings, tyre rotten; £25, or near offer.—12, Alumhurst Rd., Westbourne, Bournemouth. [7480

MILLFORD Heavyweight Chassis, right-hand drive, suit Harleys, Indian, etc., easily converted; £2/10.—H.B. Motors, 209, Belsize Rd., Kilburn, N.W. [7597

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FOR a really good sidecar, moderately priced, ask for particulars of our Model 19a, topping value; also sidecar bodies, best value in the trade.—Melville Cars (Halifax), Ltd., Clarence Works, Halifax. [0218

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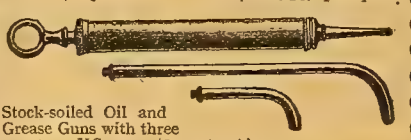

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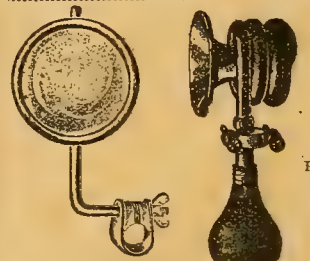

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2-SEATER, twin-cyl., must be sold; photo; highest offer or exchanges accepted.—16, St. Mary Abbott's Terrace, Kensington, London. [777

A.V. Bicar, 1920, 2-seater, fitted with hood and screen, 8h.p. J.A.P. 2-speed gear; price (shop soiled), £200.—22, Rodney St., Liverpool. [708

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6-8h.p. Cycle Car, 2-cyl. 2-stroke, 2-speed, racing 2-seater body, not quite completed, electric lamps, new tyres; £70.—Ashville, Honor Oak, S.E.23. [730

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1914 Morgan, fully equipped, appearance as new, perfect condition; nearest £155; motor cycle part considered.—Allston, Bergholt, High St., Harpenden, Herts. [725

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NEW G.N., just delivered; sell £242, or accept part payment late solo, combination, or Morgan or latest "Encyclopædia Britannica."—69, Church Rd. Hendon, N.W.4. [692

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MORGAN 1920 New Grand Prix Model, special finish, for immediate delivery at list price.—Ellis and Co., 15-16, Bishopsgate Av., Camomile St., E.C. 'Phone: Avenue 5548. [00

GIBBONS Mark III. Cycle Car, reduced to £11 delivery within one month; trials any time by appointment. Agents required.—Gibbons and Moo Chadwell Heath, Essex. [48

MONOCAR. 1920 model, specially built 7-9h.p. J.A.P. engine, seats 2, electric lighting, perfect, privat owner, ordered abroad; £250, or near.—72, Gloucest Rd., S.W.7. Tel.: Western 4086. [71

NEW G.N. Cycle Car, 10h.p., dynamo lighting syste etc., and to makers' specification; £275; may obtained on Harrods deferred payment system, 4% ext —Harrods, Ltd., 118, Brompton Rd., London. [73

1920 (July) Bleriot-Whippet 2-seater, electric lig ing, 5 detachable wheels, luggage carrier, tools, accessories, insurance policy; £195, immedi sale; owner going abroad.—Trevena, Old Colwyn. [69

MORGAN.—We are sole Wolverhampton agents; allotment for this season is already booked, send us your old machine for repairs, overhauls, repainting.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [34

1919 A.V. Monocar, extremely smart and in splendid condition throughout, disc wheels, dec wings, running boards, hood, screen, electric light; t gain, £135.—Hardwick, 43a, Little Cadogan Pl Sloane St., S.W.1. [7

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EW Bleriot Whippet 8h.p. Cycle Car, 2-seater, with latest handle starter, hood and screen, detachable e wheels, standard equipment; £250, or on easy pay- nts 4% extra, only one-fifth deposit, balance by 12 nthly instalments.—Harrods, Ltd., 118, Brompton , London. [7328

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'IFT 2-seater, fine order and appearance, as new; sell £170, or exchange powerful combination.— ig, Drumore, Campbeltown. [X5897

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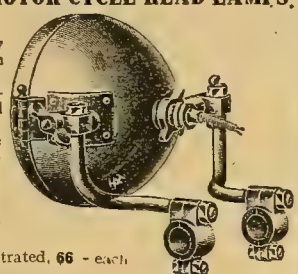

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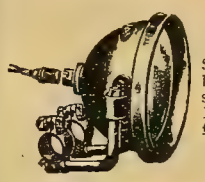

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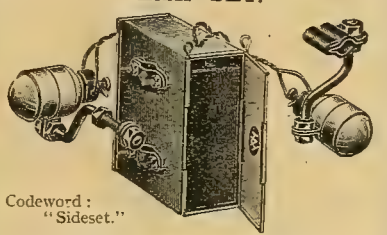

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MOTOR Cycles.—1920 Wooler flat twin countershaft lightweight, list price £103, shop-soiled only, £80; 4h.p. 1918¾ Douglas coachbuilt combination, 3-speed, kick starter, clutch, £85; 6h.p. 1914 A.J.S. coachbuilt combination, 3-speed countershaft, kick starter, hood, screen, £115; and an absolutely posh 1918 Harley-Davidson super-sporting combination, dynamo lighting, low Zeppelin-shaped coachbuilt sidecar, it, £175.—Cox (below).

SYSTEMATIC Reduction Scheme pays you and satisfies me. (It may be an expensive way of obtaining money, but, anyway, it's better than not getting it at all.) 10-12h.p. Darracq 2-seater, originally £95, mag., live axle, runs splendidly, £40; 6h.p. De Dion parcels van, mag., £55; 18h.p. Dennis van, worm drive, Zenith, Bosch, smart, fine lot, reduced from £135, gift, £85; landaulet body, cord, £85; 15h.p. Bayard roomy van, Zenith, fine lot, reduced from £165, clear £95; 20-25h.p. Iris chassis, Zenith, gate, live axle, fine lot, £135; 12h.p. Sizaire-Naudin sporting 2-seater, discs, fast, smart, £135; 20h.p. Leon Bollee chassis, live axle, enclosed valves, £150; 14h.p. Wolseley 4-5-seater, live axle, gate, Zenith, £165; 8-10h.p. Crescent streamline 2-seater, Blumfield V twin water-cooled engine, 3-speed, smart, £165; 30h.p. worm drive landaulet, cantilever springs, luxurious body, 4-speed, gate, Zenith, absurd bargain now, £185; 8-10h.p. Warne light car, steamline 2-seater, dynamo lighting, discs, live axle, gate, £185; smart little 8-10h.p. 1913 Globe coupe light car, Claudel, gate, £195; 12-16h.p. 4-cyl. Decauville super sporting 4-seater, low, absolutely streamline, bulbous back torpedo, bargain, £195; 30h.p. worm drive landaulet, cantilever springs, luxurious body, 4-speed gate, Zenith, absurd bargain now, £195; Unic 15-cwt. van, sump lubrication, monobloc, detachables, originally £350, now £225; 1920 Bleriot Whippet cycle car, 8-10h.p., detachable wheels, £235; 16h.p. Bell landaulet, enclosed valves, gate, sump, £235; exceptionally nice camouflaged Ford 4-seater, C.A.V. dynamo lighting, pointed bull-nosed brass radiator, detachable rims, oversize tyres, saxe blue, extras alone cost £100, bargain, £245. —Cox (below).

SYSTEMATIC Reduction Scheme. Almost produces bargains by mass production: Sporting Delage streamline 2-seater, bulbous back, dynamo lighting, 10h.p. monobloc, fast, £245; G.W.K., detachable wheels, £250; particularly smart 12-14h.p. Unic torpedo 5-seater, monobloc, sump, £275; 18h.p. 6-cyl. streamline torpedo, £285; smart 15.9h.p. 1912 Darracq, sleeve valve, roomy torpedo, worm drive, 4-speed gate, Zenith, £385 originally, £285; nice 11h.p. 1915 Lagonda light car coupe, 2-seater, bull-nosed radiator, detachable wheels, streamline, £295; 1-ton 1916 Clydesdale lorry, £295; 12-15h.p. Opel landaulet, monobloc, gate, cord, Zenith, £295; 10h.p. 1920 H.F.G. 3-seater, dickey, opposed twin, C.A.V. dynamo, detachable wheels, starter, £325; 15-20h.p. Chevrolet 3-seater, English coachwork dickey, dynamo, starter, smart, £335; 15.9h.p. Knight-Daimler 4-seater, worm drive, detachable wheels, smart, bargain, £350; 12-15h.p. Crossley 3-seater, dickey, monobloc, enclosed valves, detachable wheels, £350; smart 12-15h.p. 1913¾ Sizaire-Naudin streamline 5-seater, monobloc, detachable wheels, £365; 15.9h.p. Arrol-Johnston 3-seater, dickey, enclosed valves, detachable wheels, smart, £365; particularly posh 11.9h.p. 1913¾ Humber streamline 4-seater, enclosed valves, detachable wheels, £375; 12-15h.p. 1913 valveless Darracq streamline torpedo, detachable wheels, 4-speed, smart, £385; exceptionally smart 1915 Bedford-Buick 3-seater, 15-18 h.p., double dickey, English coachwork, C.A.V. dynamo lighting, Zenith, gate, detachables, £385; 9.5h.p. 1915 Standard light car, C.A.V. dynamo lighting, £385; particularly posh 12-18h.p. Benz streamline torpedo, enclosed valves, 4-speed, £385; smart 15.9h.p. Gregoire 2-seater, C.A.V. dynamo, enclosed valves, detachable wheels, £395.—Cox (below).

SYSTEMATIC Reduction Scheme also applies to all other cars in stock, but cars over £385 not advertised here. Full list in "The Autocar" and "The Motor," including cars up to four figures, some of the finest super-autos obtainable anywhere, also light and heavy commercials, 1-5-ton lorries, 3 chars-a-bancs, and all types. 60 cars actually in stock. Full printed list free on application. Send P.C. right away, immediately, forthwith, at once, straightaway, now.—Cox (below).

DOUGLAS S. COX, the absolutely straight motor man, 6, Lansdowne Hill, West Norwood, S.E., has all he above and many others actually in stock and on view. Please call, hours 9-6, Saturdays 5; no business Sundays. Established 1902. [7726

PAXTON Car Depot, 228, Gipsy Rd., West Norwood, have absolute bargains: 12h.p. Motobloc 2-seater, £50; 16h.p. Bell light delivery van, £125; 25-cwt. Unic van, solids behind, £250; 12-15h.p. Opel landaulet, £285; 12-14h.p. Crossley 2-seater, dickey, detachable wire wheels, bargain, £350; 1915 Overland streamline 4-seater, self-starter, dynamo lighting, £365; others. Call.—Paxton. [6798

COMMERCIAL VEHICLES.

U.S.A. 3½-ton Lorry, 4-speed and reverse, new body, W.D. type, good order; bargain, £160.—3, Higham St., Walthamstow. [7248

£100 down and 12 monthly payments of £25 secures magnificent 3-ton lorry. — Details, Palmer's Garage, Tooting. [6755

£85 down and 12 monthly payments of £15 secures splendid 1-ton truck, twin solids, will carry 30-cwt. —Details, Palmer's Garage, Tooting. [6751

ENGINES.

SCOTT, No. 2810, with magneto (Bosch); £22.—Parkes, Staplehall, Northfield, Birmingham. [X6001

TRIUMPH Engine, 1914-13, as new, complete less magneto; offers.—47, Millbrook Rd., Brixton, S.W. [7437

8h.p. Single, beautifully cowled, also 2-speed gear, suitable for cycle car; offers.—28, Binfield Rd., Clapham. [7043

A FEW 8h.p. J.A.P. Engines, air cooled, brand new, at wholesale prices.—Apply, Box 9,008, c/o *The Motor Cycle*. [6975

BRAND New 8h.p. Water-cooled J.A.P. V Twin Engine; £50, or nearest.—Edwards, 28, Raleigh Rd., Coventry. [X5975

M.A.G., brand new, 10h.p., water-cooled, 45° twin, £42 each; air-cooled, £34.—Maudes', 100, Gt. Portland St., W.1. [7664

2½h.p. Gas Engine, vertical type, £10; also lathe, 2½ 6in. centre, 6ft. bed, all-chain wheel, 2 chuck, £55; bargain.—3, Higham St., Walthamstow. [7252

SALE, Levis engine, 2¼h.p., complete with exhaust pipe, silencer, flywheel, etc., less belt pulley, been run on test; only £6/10.—13, Oxford St., Rugby. [X5992

ENGINE Sets, comprising air-cooled cylinder with valves, aluminium piston and connecting rod complete; £2 each.—Northern Engineers Supply Co., John St., Sheffield. [4098

ARDEN 2¾h.p. 2-stroke Engine, C.A.V. mag., Amac carburetter, silencer, exhaust pipes, new, except test run, guaranteed perfect; deposit system; £18.—Barnard, Greens Lane, St. George's, Norwich. [7509

350 C.C. Flat Twin Engine, complete with carburetter, magneto, and spares, unused, brand new, perfect, as fitted to latest 1920 Zenith machines; £30.—Simpson, 8, Chatsworth Gardens, Acton Hill, W.3. [7354

HEPPELTHWAITE'S.—New 3h.p. 2-strokes, £7/15 (nearly sold out); also 3½h.p. Antoine, m.o.v., lovely condition, £5/5; and 3h.p. Hobart, £3/15; others arriving daily. 'Phone: 1958 Brixton.—19, Wilcox Rd., South Lambeth, London. [7425

8-10h.p. J.A.P. Air-cooled Engines, suitable for cycle car, fitted with Bosch magneto, Amac carburetter, silencer, and exhaust pipes, fitted with fan, also cam to take starting handle, new and faultless; £50.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X4520

PRE-WAR Stock, Fafnir Twin Engines.—Cycle car 8h.p. W.C., clutch, Bosch mag., £60; 8h.p. air-cooled, clutch, no mag., £50; 5-6h.p. air-cooled motor cycle engine, £30; ditto with Bosch and 2-speed gear, £55; 4h.p. single, £20; 1½h.p. W.C. stationary or boat set, £55.—Harris, 51, Upton Lane, Forest Gate, London, E.7. [5942

TWIN Pugh, 5-6h.p., in excellent condition, with h.b.c. B. and B., Mabon clutch, magneto bracket, induction and exhaust pipes, £9; 5-6h.p. twin, m.o., 2-stroke Aerothrust, with carburettel, flywheel, pulley, bracket, coil, and propeller, ideal engine for cycle car, run 4 hours only; cost £28 pre-war; £15 for quick sale.—Olivos Motors, 120, Bollobridge Rd., Acton, W.3. [7357

DOUGLAS Lighting Sets; 8-10h.p. water-cooled Douglas engine with dynamo, price £50 each, engine only £30; only five of these left; 4-cyl. Standard 10h.p. engines, as used for lighting sets, £20 each (only three left); 2¾h.p. Douglas lighting set, £25 (only one left); 4-cyl. Standard lighting set, complete with switchboard, £75; 4h.p. Douglas engine, 1918, £20; 5-6h.p. Clyno engines, less magneto and carburetter, £15 each (1917); 8h.p. J.A.P. engine, 1918, £20, less magneto and carburetter; 2¾h.p. Douglas engine, 1915, £12.—Please call or write, J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [7641

MAKE Your Own 2-stroke Lightweight.—We are now able to recommence delivery of our sets of castings and parts for 2-stroke engines, suitable for scooters, cycle attachments, or lightweight motor cycles. Parts comprise castings in first-class quality cast iron, phosphor bronze, and aluminium, steel for shafts, all necessary nuts, bolts, and studs, together with set of blue print giving all required dimensions. All these parts may be machined on small centre lathe, and are guaranteed to build up into a powerful and up-to-date engine bore and stroke 2⅛×2⅛, h.p. 2¼. We guarantee all material, and will replace free of charge any faulty castings, etc.; price 55/- net (on rails Manchester), cash with order; prompt delivery.—Trafford Engineering Supplies, Hadley Place, Weaste Rd., Salford. [0182

IGNITION APPLIANCES.

BOSCH, single, anti, D2R, perfect; £4.—Cardwell, 88, Rusthick Common, Brighouse. [6982

NEW C.A.V. Magneto, for 2¾h.p. Douglas; £5/18, near offer.—Dowell, Byfleet, Surrey. [7126

F.R.S.

A NEW Generator —with all the irritating faults eliminated!

Yes—there *have* been faults—we admit OURS—but we have profited by EXPERIENCE, and THIS Generator embodies improvements which make it absolutely foolproof.

It gives a uniform supply of gas, ensuring a clear, steady light—and will generate sufficient gas for Head, Tail, and Sidecar Lamps.

Ask your agent to show you one. All the Headlight sets now being sent out have this **new generator.**

F.R.S. LAMPS

"Beam Works," Pershore St., BIRMINGHAM.

30/- each.

F.R.S. LAMPS.

IGNITION APPLIANCES.

WEST London Magneto Co. for repairs to all ty of magnetos.

WEST London Magneto Co. guarantee all repa for 12 months.

WEST London Magneto Co. can supply that m neto you require, either new or second-hand

WEST London Magneto Co. despatch magnetos a for repair same day where possible.

WEST London Magneto Co. can convert the ro tion or degrees of your magneto.

WEST London Magneto Co., 164, Shepherd's Bu Rd., London, W.6, 2 minutes Hammersm Station. [49

RELIANCE Magneto Repairing Co., specialists magneto repairs.—Below.

WE Guarantee to return your magneto within days, and, if necessary, 24 hours.—Below.

ALL Work carried out under estimate, and guar teed 12 months. Armature winding a speciality Below.

NEW and Second-hand Magnetos at right prices; magnetos taken in part payment.—Below.

SPARES in Stock for following: Bosch, C.A. E.I.C., U.H., Eisemann, Splitdorf, Dixie, and known makes.—Below.

U.H. Magnetos.—We specialise in the repair of th and can guarantee a sound and reliable Spare parts from stock.—Below.

WE Work for, and are recommended by, some the largest firms in the country, and can su every want.—Below.

WE Can now supply from stock Fellows British m lightweight magnetos. The smallest, chea and most efficient magneto made. Suitable for all gines up to 4h.p. These are fully guaranteed, and willingly send on approval against cash. Special te to the trade.—Below.

RELIANCE Magneto Repairing Co., 11, Great Su St., Goswell Rd., London, E.C.1. T.A.: Remo Smith, London. [1

NEW Motor Cycle Dynamo, with set of accu lators and 3 lamps; £8, a snip.

THREE Douglas Magnetos, need overhauling; £4 lot.

TWO 55° Waterproof Magnetos, need overhauling the two.—Piddoux, Dudley, Fairfield Rd., Park, S.E.12. [

MAGNETO, U.H., clockwise, 50°, perfect; £4; 56, Sutton St., Aston, Birmingham. [X

FORD Magneto Sets, complete issue, £10; su £3/10.—Ashton, Thornhill Edge, Dewsbury. [

MAGNETO Sets for Fords, complete outfit; approval.—Ashton, Thornhill Edge, Dewsbu

NEW Magnetos, best British makes; exch quoted.—Collier's Motories, Horton St., Ha

TWIN-CYL. Cycle Magneto, Bosch; price £8; did condition.—J. Davison, Four Riggs, Darli

1920 Runbaken Lightweight Magneto, single, 4-stroke, as new; £4, nearest.—Smith, A Wells.

BRAND New C.A.V. Magneto, suit 2¾h.p. Do £5/10, genuine.—Winkworth, Reverside Staines.

BOSCH ZA2 Magnetos, anti clockwise, suit a twins, special price; £6.—Maudes', 100, Gt. land St., W.1.

TWO Magnetos, M-L, 60°, one anti and one clo brand new; £9 each.—63, South End, C 'Phone: 2431.

THOMSON-BENNETT Single Magneto, twins, £6/10; approval, deposit.—Ashton, ton Edge, Dewsbury.

CONTACT Breakers, brand new, 20-, ap Bosch 6-cyl. magneto, unused, £7.—Hayes Malvern Rd., Thornton Heath.

TWO SPARK Magnetos, Thomson-Bennett, cl suitable for firing Levis or other flat twin 2 with simultaneous firing; £9/2 each, carriage Butterfields, Stechford, Birmingham.

BOULTON'S New Single-cyl. Models are t value on the market. Write for particulars. shop-soiled to clear at £4.15.—Makers, Boulto netos, Ltd., Old Hall St., Wolverhampton.

JEBRON, registered 291,298, greatly supe platinium, unequalled for blades, screws, et misfiring, 7/- each rivet; Jebron screws, fi magnetos, 15/6 pair; old screws, Jebronised, 7

JEBRON Contacts, used by Messrs. Collie Colver, Martin, making world's records- 38, Herbert Rd., Woolwich, London, S.E.18.

ACCUMULATORS.—New C.A.V., 4 volt hours, metal case with strap, 14/6, carrie approval against remittance. Trade supplied.— 100, Gt. Portland St., London; and Paris St.,

MAGNETO Repairs. — Send your mag Palmer's Garage, Tooting. Reply paid tion telegraphed on receipt. Quick, efficien guaranteed in from 2 to 6 days; usually w hours.—Palmer's Garage, Tooting.

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Sound Progress.

THE outstanding difference between the Car Shows of 1919 and 1920 lies in the fact that there is less evidence of experimental designs. A similar state of affairs is likely to be revealed at the Motor Cycle Show which opens at Olympia on the 29th. At both car and motor cycle shows last year there were many exhibits which the makers had hurriedly put through the first stages without that testing for roadworthiness or efficiency so essential for a vehicle to be a commercial success. Further, in many cases no arrangements had been made for production, the combined result being that these machines did not appear on the market.

The present Automobile Show includes many of these cars, with the great difference that they have passed all tests and have been produced with the proper jigs and tools instead of in an experimental department.

Sound progress embodying much that was learned during the war is revealed to all who understand mechanics, and the British automobile industry can again be regarded as leading the nations on points of refinement, quality of workmanship, and design. It is the greatest motor show that has ever been held, and the interest displayed by the public is such that it leads one to expect a prosperous period in 1921.

At the Motor Cycle Show also we shall see more restraint than last year, when new machines were exploited before they were ready for production. Whatever progress is revealed will be real and based on more than theory.

From our knowledge of conditions prevailing at the present time, we may say that those who expect any revolution in design, or even many drastic alterations, will be disappointed. Last year's lesson has been thoroughly digested by those manufacturers who have entirely new models. Many of these have passed through the experimental stage, and few, if any, machines will be exhibited which their makers are not in a position to deliver. There will also be less of that pre-war policy of changing merely for changing sake, which is all to the good. Improvements will be embodied in almost every machine which is staged, but they will be chiefly details which have been thoroughly tested before their inclusion in production models. The time has gone when motor cyclists were content to prove the merit or demerit of an untested design.

A Taxation Query.

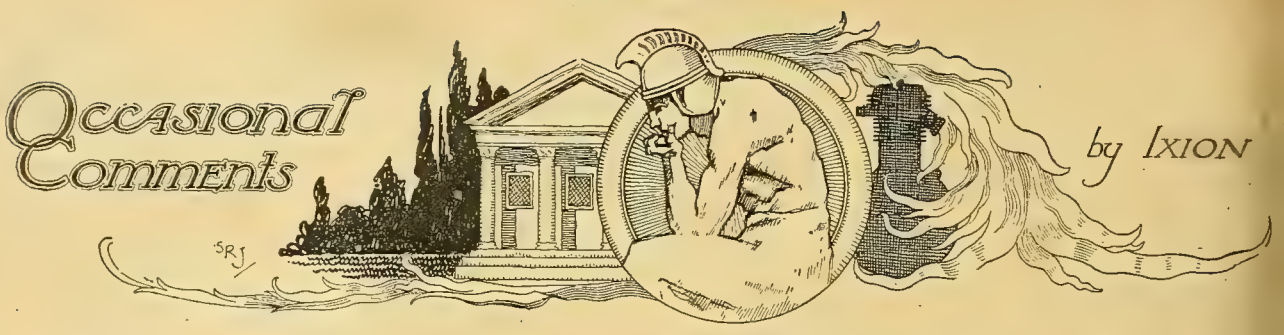
FROM January 1st, 1921, the authorities will require to know the weight of a motor cycle before accepting the annual tax. If one claims that a machine is over 200 lb. in weight, and therefore subject to a £3 or a £4 tax, the statement is not likely to be doubted; but in those cases where a machine weighs under 200 lb. one is contrained to ask what arrangements are being made to ascertain the correctness of the figures.

There are obviously many convenient ways in which this may be done, but whatever the authorities decide, the same rule should apply all over the country. Yet we hear of local authorities discussing the matter with a manufacturer and formulating plans for that locality.

Only about six weeks remain before the new taxation comes into force, and so far no official announcement has been made as to weighing machines. Are the authorities collecting weight figures from the manufacturers? We think not, but if they are, this would cover only new machines of standard patterns. What of the thousands of machines now on the road? Are their owners expected to have them weighed at the local weighbridge? If so, who will see that half the machine has not been removed for the purpose of reducing weight? Does the taxable weight include accessories, and, if so, what is an accessory?

These are some of the questions we are being asked daily by owners of lightweights. It is time the Treasury Department made known its requirements.

An Index to the advertisements in this issue will be found on the page facing the back cover.



A Corollary.

ANY correspondent who puts in a long life record claim for a naked chain ought to specify the make of the chain and the shock absorber employed. Tell it not in Gath, but not so very long ago I smashed three rollers on a newish *enclosed* chain. It wasn't a very good chain, and as for the shock absorber—. . . . ! Chains vary in quality almost as much as belts used to do; one of my colleagues on *The Autocar* has a silent chain on his 'bus; it is partially enclosed, well lubricated, and takes a light load—but it doesn't last him a season, nor yet half a season. Similarly, some shock absorbers make the chain feel as if it were being tickled with a feather, whilst others make it dream of being entangled in the propellers of the s.s. *Imperator*. These factors explain many divergences.

Naked Chains.

"SIMPLICITAS," and those who think with him, will ultimately compel me to buy a microscope, a micrometer, and a Röntgen ray set. Various kind friends are always telling me that if only I would boil my chains in tallow, I should get just as many miles from them naked as enclosed. It may be true. The last time I boiled my chains in tallow, our invaluable cook gave notice, and my wife talked of a divorce. Not only had I innocently commandeered the best aluminium saucepan, waked the baby with my oaths, made a nauseous smell which hung round for weeks, and spilt boiling fat everywhere I shouldn't, but also burnt my fingers most—[Clergy of all denominations read the *M.C.*—ED.] So nowadays I merely soak naked chains in engine oil. It may be that boiled tallow seals the chain bearings against the ingress of abrasive dirt; but soaking them in oil seems to have a capillary effect on grit, and positively drags the abrasive into the bushes. Will not Messrs. Renold or Coventry Chain intervene? They have doubtless tested chains to destruction under a variety of conditions, and know the facts. I remain sceptical about the tallow boiling business, but for obvious reasons am unable to conduct further experiments. Oil-soaking is *na poo*. So—pending expert advice—I am all for enclosed chains at present.

First Cost and Upkeep.

NOW that the Ford car and numerous cycle cars are obtainable at a first cost which does not exceed the figures asked for sundry motor cycle combinations *de luxe*, the wealthier members of our fraternity will have to clear their minds about the contrasts in upkeep. It is true that if you have £250 or thereabouts to spend, you may choose between a 20 h.p. four-seated car and a sidecar outfit. You may buy which you please. It does not follow that you can afford to maintain either of them. I have known quite shrewd motor cyclists overlook the fact that a four-wheeler has four wheels, each of which costs nearly £10 to tyre for, say, 4,000 miles. One audacious fool of my acquaintance, who subsists on a weekly wage of none too princely a character, has recently bought a left-hand steering Ford on the ground that it was better value than a Harley sidecar at £225. So it was. But he cannot afford *(a)* to retyre it; *(b)* to pay the £22 10s. tax with which it may be debited on January 1st, 1921; and finally *(c)* he cannot even afford to sell it at the present time, since he dare not face a loss on the price he paid.

To name another aspect, so long as petrol remains at well over 3s. per gallon, the contrast between the fuel consumption of a bicycle and a car is colossal. The other day I got in ten cans, and expected them to last me for quite a bit, since my usual mount approach 100 m.p.g. A pal brought down a 30 m.p.g. car for August week, and he used up my store in less than seven days. In this case the contrast was 600 miles compared with 2,000. His holiday cost him about £6 for petrol, whereas if he had taken it on a big sidecar outfit he would have spent no more than £3 in fuel at the outside. Other costs are roughly in proportion.

Concentric Wiring for Electric Lamps.

IT would be interesting to hear electrical experts on the subject of the best wiring for motor cycle lighting outfits. Some firms use wiring which might be described as "concentric," *i.e.*, the current travels out from the battery to the lamps along the core of the cable, and returns along a tubular lead encircling the core and insulated therefrom. It is obvious that this type of cable hardly permits of roadside repair, and that nothing short of a most extensive "service" system would enable us to get replacements anywhere and everywhere. No matter how sturdy cables may be, some of their runs on a motor cycle are remarkably vulnerable to accidental damage—burning, abrasion, pulls, and so forth. I have been hung up once or twice this year with internal shorts in this type of cabling, which present very awkward problems by the roadside on a dark night; whatever "service" system may be elaborated, the obtaining of spares is rather a gamble as yet. No doubt there are excellent reasons for the policy, but some of us would like the matter ventilated before next winter comes round. A single-pole wiring system with earth return might be more liable to serious shorts, but at least is easier to "fettle up." Or again, do not two parallel wires inside a casing lend themselves to repair better than the "concentric" type?

Haggard Faces.

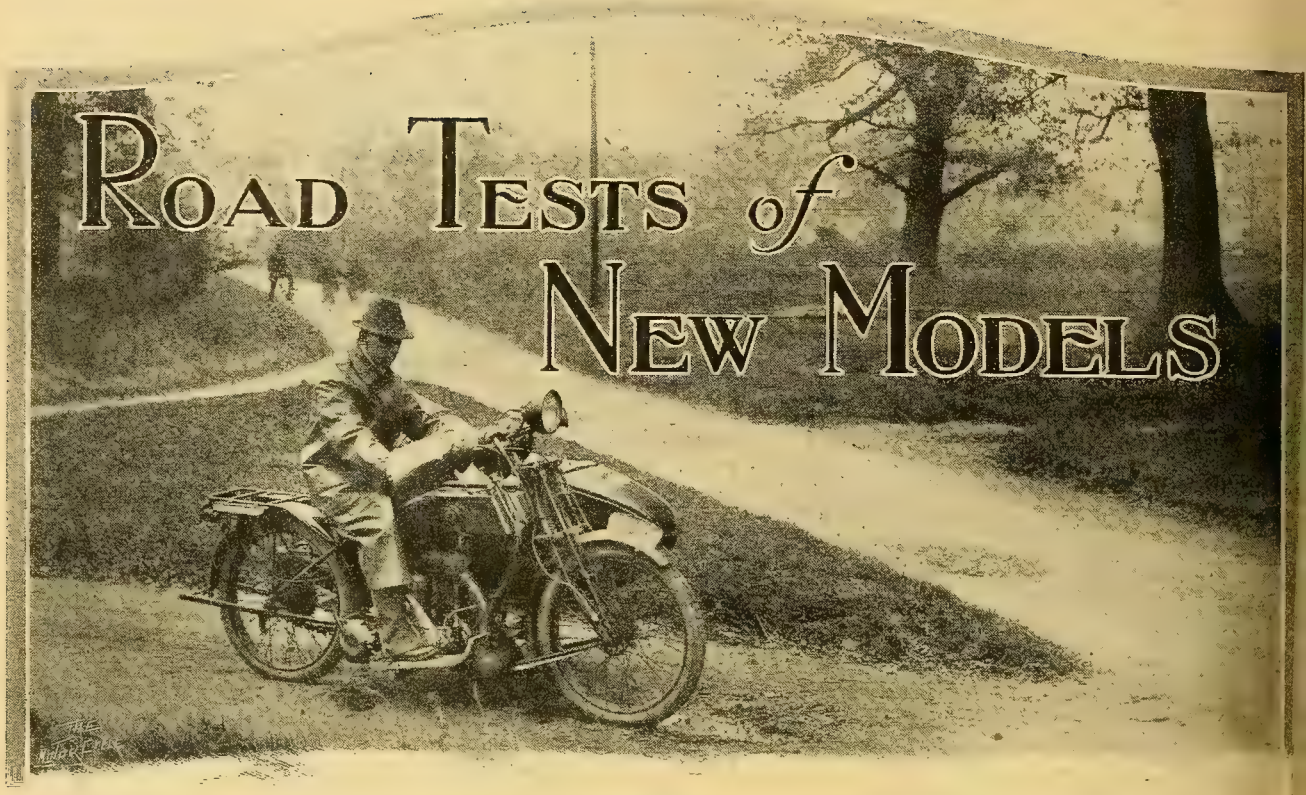
OUR roads are not quite so bad as some scribes imply, but although long stretches are excellent, occasional patches are really too frightful or words. In fact, isolated bits are almost intolerble, even when one's anatomy is insulated by 3in. ires and a spring frame. During a recent run I equently dismounted in sheer despair, and I caught ith sympathy the expression of mute agony which ie atrocious surface had imprinted on the faces not nly of motor cyclists, but also of the crews of quite g cars. One or two men who were bestriding rigid-amed solo 'buses or "combinations" with empty side-rs dismounted and confessed that the gilt was off e gingerbread. I interviewed more than one road rveyor, and all of them had a threefold lament—thorities hard pressed for funds, labour disinclined produce output, and fast, heavyweight traffic knock-g a road to pieces as fast as it was restored to order. ney admitted that they would never again be able to t topsides with their job until a revolution in road nstruction was joined to unlimited financial re-arces. From our point of view I implored them ver to confront us with *long* stretches of continu-sly bad road. We can just stomach a mile of awful t-holes or ripples at a time, if a succeeding stretch two or three miles lets the vibration evaporate out our jawbones; but fifteen successive miles of rotten ng, such as I struck in one seemingly endless patch t week, is enough to make the keenest motorist take ballooning for a change. In the meantime, the elopment of the lightweight is getting held up, so as long-distance, cross-country riders are concerned. are making up our minds to tolerate dead weight so long as we can have walloping big tyres, plus a fully sprung frame. I met one innocent who was near completing a 300 mile trip over a route which includes an unusual percentage of bad patches. His mount was a particularly dithery featherweight, and his language resembled a two-stroke exhaust in which the proportions of the petroil have been accidentally reversed. As I had been trying various pressures in my 3in. tyres, the state of the road can be better imagined than described. Luckily it recovered ten miles further on.

Umbrella Coats.

DUNHILLS inform me that for some years past it has been impossible to obtain the moulded rubber necks essential for "umbrella" coats, and that the short life of these garments always militated against the sales. They consider that their poncho neck coat is an efficient substitute, especially as most customers expect a mackintosh coat to last four or five years. In this connection perhaps somebody will tell us if there is such a thing as a waterproof coat which doesn't want dry cleaning at short intervals. I have several which are structurally and atmospherically perfect, but after about three months' wear they all contract a general grubbiness which is most repulsive. I am not alluding to the stains of lubricating oil or rubber solution with which most motor cyclists sooner or later disfigure their attire, but to a uniform deposit of grey smuttiness. The average waterproof seems to have a most magnetic effort on any circumambient dirt; and dry-cleaning has become very expensive; moreover, some dry-cleaners remove the proofing along with the dirt.

EXPLORING OLD-WORLD VILLAGES WITH AN A.J.S.

These quaint old cottages, among many which still survive in Warwickshire, are in Stoneleigh village, one of the prettiest little hamlets in the county.



THE 1921 ARIEL "BIG SINGLE" SIDECAR OUTFIT.

ONE may say that there are two distinct types of sidecar outfits. One is the lighter machine with sidecar *attached* which gives the impression that the motor cycle is pulling the sidecar, and the other the larger type which seems to move along as one complete vehicle.

The new big single Ariel is in the latter class—a machine in which no attempt has been made to make it serve a dual purpose.

Designed from the first to the last detail as a sidecar machine, it is larger, heavier, and stronger than the usual double-purpose mount. Its tank has a capacity for 2½ gallons of petrol. The wheels are 28 × 3in., and the forks are wider than those on the majority of big sidecar machines. We will, however, deal with these details at a later date, when we are able to describe the machine as it will be marketed next year. Our present purpose is to give our experience of the machine on the road.

A Sturdy Outfit.

Our first impression was one which inspired the first paragraph, for immediately one bestrides the machine one feels that "heftyness" which characterises American big twins and some of the larger British machines. This first impression leads one to expect more than a 580 c.c. single can give, and from force of habit, when getting under way, the gear lever is snicked over into second and top within a few yards after the manner adopted with the largest machine.

The willing engine, protesting against such ill-treatment, gives a gentle reminder that it is only a single and not a 1,000 c.c. twin, and one remembers the to give it time to pick up before changing up.

A single-cylinder sidecarist would not notice this, and the big twin rider soon schools himself not to be led astray by the size and comfort of the machine.

On this latter point we may say that the comfor obtained by the large wheels, the splendid sprin forks, and the Ariel saddle suspension is such tha is rarely experienced, except on a spring fram machine. The steering, too, is perfect, it bein possible to take the hands off the handle-bar withou the wheel setting up that uncomfortable wobble s pronounced with lighter sidecar machines.

The Price of Comfort.

As regards its general performance, one may com pare it with a well-tuned 3½ h.p. machine fitted wit a sporting sidecar, the extra power developed b the engine over the smaller type apparently being use to propel its extra weight, and the full touring sidecar which, as a rule, is only a practicable proposition on big twin. Thus we may say that the new Ariel is a ful sized outfit with a single-cylinder engine, and has a the "liveliness" of the Ariel 3½ with a sportin sidecar plus the comforts of the big twin.

The engine has mechanical lubrication, and th machine we tested had a Magdyno fitted, which optional equipment for 1921.

ad Tests.—

The sidecar was ell loaded, and ne of our longest ns was in the rk over strange ads, when optical lusions as to adients usually ll for a great deal gear changing th a single-inder outfit. The headlight ve a powerful m, and, on the el, day-time eeds could be de, but there are es when climbing ill—say, up short p rises to the w of a bridge—n the projected ht points sky-rds, and it is ossible to see ch way the road ntinues. This ns a finger con-ntly on the ttle lever, eyes rt, and an gination distort-possibilities. It e hardest con-n under which an overloaded "single" can be d, but we found no undue necessity to use the lever, and, therefore, there is no impression that engine is overloaded.

e also took the machine up Beacon Hill—a test frequently in Midland competitions. With a nger in the sidecar the greater part of the hill negotiated in "second," and such was the reserve wer that it was possible to pick one's way rather the more usual method with a single-cylinder ar on such hills when the throttle is opened wide confidence placed in a kindly providence that will be no necessity to close it.

spite the all-chain transmission, the drive is ularly sweet, except at the lowest speeds in top ge. The engine is very flexible, and the

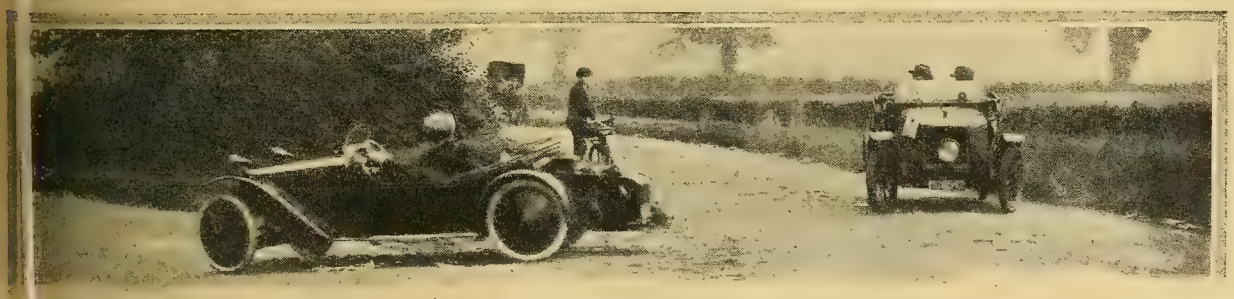
THE 4½ H.P. ARIEL ON THE ROAD.

With a camera and sidecar among the falling leaves. Equipped with handle-bar muffs and adequate clothing, there are worse ways of spending a late autumn afternoon than on a good machine.

semi-automatic carburetter reduces the control to that of a single lever. The machine was handed to us equipped with a pair of large handle-bar muffs, which to anyone strange to a machine are somewhat disconcerting, since all levers are out of sight, but at no time was it necessary to find the magneto lever to retard it, and only on the steepest of the top gear hills was the air lever drawn back a little.

As is the case with the well-known Ariel "3½," the new engine is fitted with a decompressor for easy starting, no exhaust lifter being fitted. The lever controlling the decompressor is now placed in a forward position near the clutch pedal, and immediately below it is a small lever regulating the flow of the mechanical lubricator. We found that a stranger, in "feeling" for the clutch pedal in the dark, may inadvertently move either or both of these levers, and, if the decompressor is put into action, there will be a falling off of power, quite mysterious until the truth is realised.

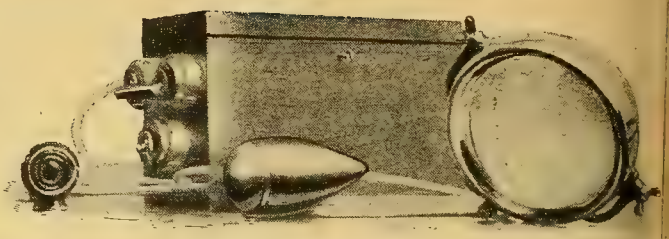
On the road the machine, although not exceptionally fast—by which we mean speeds over 40 m.p.h.—proved capable of maintaining similar averages to those secured with larger engines. This means that it can work up to its maximum and maintain it for miles on end, and any owner will find that it is a sidecar outfit with which he need not hesitate to take anywhere without choosing the easiest route. Thus the new Ariel gives most of the advantages of the big twin with the comparative simplicity of the single.



his issue are described the four-wheeled cycle cars at Olympia and the White City which are of interest to motor cyclists. Here are two of them on the road—the little A.V. Bicar and the Crouch.

Accumulator Lighting for Sidecars.

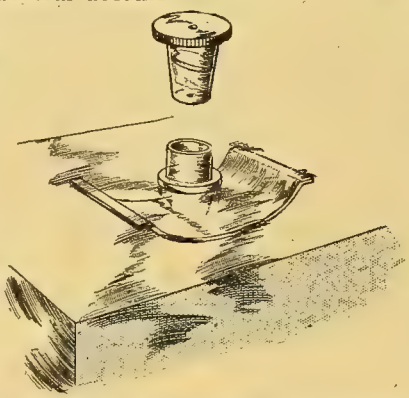
Directions for the Amateur as to the Best Method of installing a Lighting Set.



The accumulator lighting set complete.

MANY motor cyclists declare emphatically that they would never fit an accumulator lighting set, on the score that the cells require too much expert attention, and that the acid is too "messy." Yet the attention required by a cell is practically negligible if it is given at the right time, and the trouble due to the acid can be guarded against quite easily if, in the first case, one buys cells with properly fitted splashguards and vent plugs, and if the box carrying the cells is so secured that it cannot be overturned.

The writer has designed and fitted several accumulator lighting sets, which have given satisfaction in every way, and the last two sets fitted are the outcome of much thought on the subject. Attention has been paid to details, and it is hoped that these notes, based on experience, may not only help, but encourage, others to carry out little schemes to make night riding a pleasure.



Type of splashguard and vent plug found to be effective against splashing of acid from cells.

In general, a good head light is essential to night riding, and for this reason an eight-volt set is preferable to a four-volt set. As the side and tail lights need not be so powerful, four-volt bulbs are quite sufficient. The outfit was based on these lines. It will be seen from the diagrams that the four-volt side and tail lamps are not in series. The disadvantages of having these lights in series are that it is not always possible to get the bulbs in pairs, as is necessary for this system, and that in the case of the breakdown of one of the four-volt cells, all lamps can be run in parallel of the other cell.

Choosing the Batteries.

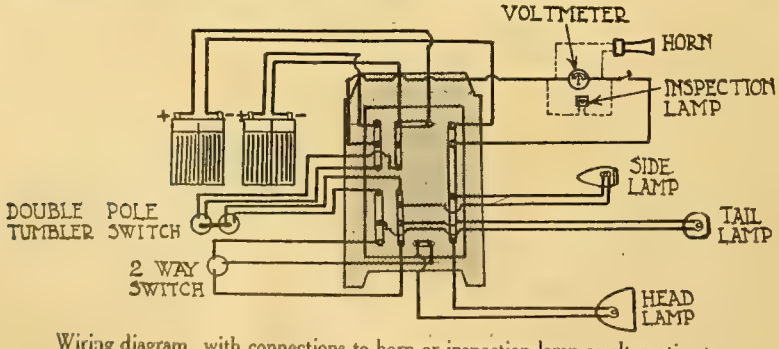
Care was taken in the choice of the writer's equipment, which included two four-volt 40 amp.-hour accumulators. A strong celluloid case is as essential as sturdy, well-formed plates, and the perforated insulation between the plates was examined by holding up the cell to a strong light. This method of inspection shows up any flakes that may have fallen and caused an internal short-circuit. Great attention should be paid to the splash-preventing device fitted and to the vent plugs. The writer favours the device illustrated, which have been found very suitable indeed. Specially fitted "non-spillable" types of cell were found no more efficient than ordinary cells fitted with these features, and a "non-spillable" ce must be very carefully selected, as a careless designer is prone to seal the exit for acid so well that the ga evolved during the charging process so effectively trapped that it eventu ally finds a way out—through hitherto sound joint!

The cells should be filled wit acid, given their first charge, di charged, and again re-charge exactly in accordance with th maker's instructions found on the sid of the case.

The Accumulator Box.

All joints of the accumulator b should be dovetailed, carefully fitte glued, and screwed with brass screw A small flush lock should be a final additio The cells chosen in this case were 4in. wi by 4¼in. long, and 7in. high to the top of t terminal screws. The front, back, sides, to and ends, were made of ½in. material, whilst th bottom was so shaped to keep the top of the ca properly level, as in most sidecars the floor slopes fro the nose to the front edge of the seat. This slo should be measured and allowed for on the width f the box. The cells should be a good fit on thr lengths, which run with the length of the bo but should be rather an easier fit on their width, p manent partitions were of ⅜in. teak, al were shaped to fit the box. These we also slotted at the top to take the ca from the cells to the junction board; t metallic armouring, of course, being tak off the cable from those portions com inside the box.

The fixed partition nearest to the junctio board takes two cables, one over the oth The junction board was also of ½ teak, and slid easily into the grooves in t box. To add a touch of smartness a 5 × 3½in. piece of ⅛in. thick black fi was obtained to go under the .250 × .018 bright annealed copper busbars.



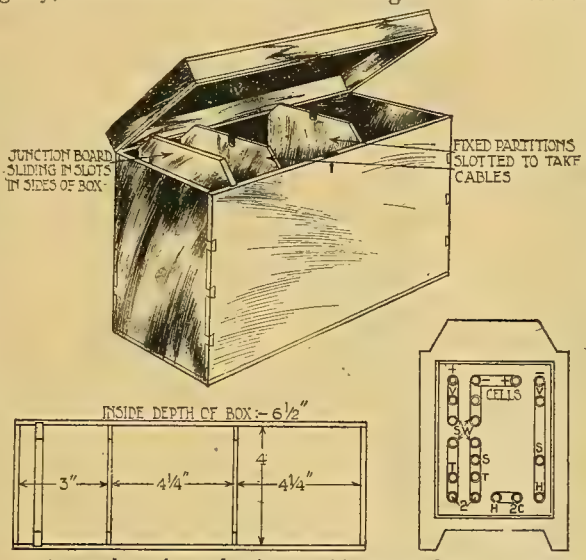
Wiring diagram, with connections to horn or inspection lamp as alternative to voltmeter.

Accumulator Lighting for Sidecars.—

In measuring up the copper strip (eighteen inches is all that will be required), care was taken to ensure that the terminals were equally spaced, and exactly opposite to each other. The ends of the strip were cut to the radius of the bottom diameter of the terminals, and holes drilled in the strip to receive the terminals, of the same diameter as the top of the wood screw on the terminals. The holes were then marked with letters shown in the diagram, to facilitate the wiring.

The switches required are: a five-amp. double-pole tumbler-switch, and a five-amp. single-pole two-way switch. Each switch was fitted on a ⅛in. rubber disc, cut to the same size as the switch-base, and cut out to take the leads. In fitting the double-pole tumbler switch, the switch was put into the "on" position before screwing up tightly, as these switches have sometimes proved refractory if fitted on in the "off" position. The double-pole switch is placed so that when the switch bar is down the switches are off, so that the bar must be lifted to switch current on.

Perhaps this is the moment to explain the use of the two-way switch. When riding in well-lit town streets, or when leaving the machine standing outside a house whilst paying a visit, the powerful head light is not necessary, and by switching over this two-way switch a four-volt e.m.f. is put on to the eight-volt filament, and this produces a light quite sufficient for the purpose. This, of course, is a great current saver, besides being useful for another purpose, viz., should the eight-volt bulb break, a spare four-volt bulb can be put in, and the four-volt side of the switch used, thus providing a satisfactory stand-by.



Accumulator box, showing partitions and slots for cables. On the right is shown the junction board. The concentric circles represent terminals. The letters are stamped where possible on the copper strip.

Minor Accessories.

The three terminals marked "V" were primarily intended for use with either a four-volt or an eight-volt inspection lamp, which has a turn switch incorporated in the lamp. This is not run off the main lighting switches for obvious reasons. However, as some of the present-day head lamps allow of the bulb and bulb-holder being extracted and used as an inspection lamp, these terminals may be used for a flush-type voltmeter let into the lid of the box, in series with a midget "press" switch. The voltmeter should be checked for accuracy, the point 7.2 volts (*i.e.*, 1.8 × 4) being specially marked as the lowest discharge point of the battery of cells. As another alternative, these terminals may be used for connecting up an electric horn, an accessory which will provide a method of using the cells during the summer months.

The box was fastened down to the floor of the sidecar by two bolts with round heads. These heads were countersunk into the bottom of the box, and the accumulators each rested on two pieces of ⅛in. thick rubber sheet. About 4ft. of 1in. wide white cotton tape was made into a ring, and this ring was lowered into the cell compartment, leaving a loop overhanging on each side of the box, and the cell put into place. The cell can now be readily lifted out for re-charging, without pulling at the terminals. A tape ring was made for each cell. This is the reason, of course, for allowing a little space at the sides of the cell compartments.

The Wiring System.

Either brass or aluminium armoured cable can be obtained, and one of the conductors is usually bound with red cotton. This is useful in wiring up from the cells to the junction-board, as it saves "tapping through." The accumulator ends should have slotted lugs soldered on for good clean contacts, and for quick attachment or detachment. The leads from the double-pole switch can be the ordinary silk, or glazed, cotton-covered, twin flexible wires. For the two-way switch, similar material can be used, but, in addition, a piece of the single wire may be stripped, leaving only the rubber, then the pair unstranded and restranded, adding the plain rubber-covered wire, and serving the ends up with white cotton. The plain rubber-covered wire is a very well marked common wire for the two-way switch. All wires terminating at the junction board should have soldered ends, which should not be bared beyond ¼in.—just enough, in fact, to pass well under the terminal screws. The ends of the insulation should be bound with white cotton, as well as all take-offs of the single wires from the cable, and all ends of armouring. The cotton serving should then be lightly smeared with seccotine. One should be careful to allow no armoured wire to go into the junction box.

The cable is best fastened to the frame members by means of the soft aluminium clips sold for the purpose. Allow in length of cable for the turning of the handle-bars, and for the springing of the sidecar body, and see that it will not interfere with the taking off of any nuts on the frame or chassis and their connections.

The lamps required will be: one 12 c.p. eight-volt for the head light; one four-volt (candle-power as required) for the sidecar; and one four-volt 2 c.p. for the tail lamp—all with the same size of bayonet sockets, of course.

A neat diagram should be made on thin card, and finished in drawing ink, showing all wiring. This can be fastened to the inside of the box lid with drawing pins.

F. WOODFIELD.

AN EASILY FITTED SPRING SEAT-PILLAR.

IN view of the state of the roads at present, it is not surprising that auxiliary springing is very much to the fore, and an efficient spring seat-pillar readily adaptable to existing machines and varying weights is sure to satisfy a growing demand.

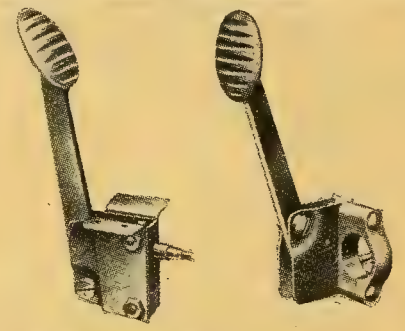
The Mabon Motor Works, of Woodside Gardens, Bruce Grove, Tottenham, are therefore producing a fitment which will make its appeal on the lines indicated.

A seat-pillar such as the Mabon, here fitted to a Triumph machine, does much to insulate the rider from the shocks of the all too numerous pot-holed roads of to-day

The photograph makes the action quite clear, and, having recently tested one, we find that it is just as efficient in action as it is strong and well finished in appearance. In fact, so excellent is the suspension afforded on the most atrocious surfaces that we were apt to forget that the machine was not similarly insulated. In conjunction with the T.T. bars of the solo machine on which we tested the pillar, it made the riding position somewhat awkward, being necessarily some 4in. higher than standard. This, however, should not be a serious fault if touring bars were used, or on a machine to which a sidecar is attached.

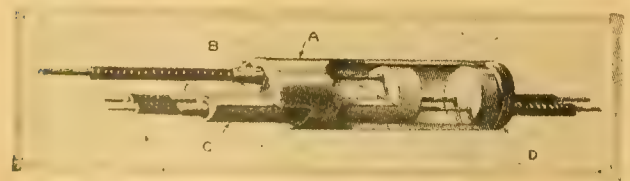
BOWDEN NOVELTIES FOR 1921.

ONE of the chief novelties to be exhibited by Messrs. Bowden Wire, Ltd., Victoria Road, Willesden Junction, London, N.W.10, is an ingenious form of belt rim brake which may be fitted to either the front or back wheel of a motor bicycle. Naturally, if the brake is to be fitted to the front wheel or to a chain-driven mount, a dummy belt rim must be provided. The brake has an absolutely parallel motion, and is provided with two strong take-off springs. The clips, by means of which it is attached either to the fork member or the chain stay, are capable of being adjusted so as to suit themselves to the curve of either. Two screws are also provided for the lateral adjustment of the brake shoe. This brake, we are informed, has excellent stopping powers without actually locking the wheel.



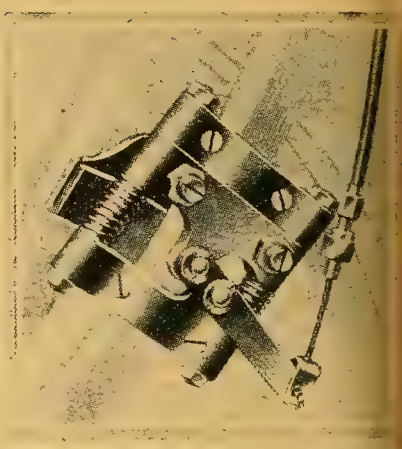
Two patterns of brake pedals for attachment to foot-boards or frame tube.

Quite a novelty for the coming season is the Bowden Master control, which may be used in two ways on a motor cycle. One method of using it is by fitting a small trigger-like lever to the handle-bar and connecting to the moving portion of the device, through which the two wires pass leading from the throttle and air levers on the handle-bars to the throttle and air slides on the carburetter. The small lever on the handle-bar can then be used as an accelerator, and, if it is operated, it will open the throttle fully on it being given quite a small amount of movement without altering the relationship between the throttle and air levers in their original setting. The second method in which the device may be used is in connection with the clutch control, and by its means it is quite simple to arrange for the clutch to be actuated either by hand or by foot.



The Bowden master control. (A) Outer casing. (B) Wire to accelerator lever. (C) Moving plunger to which B is attached, and through which the wire to levers and throttle and air sleeves pass

Two improvements have been carried out in the design of brake and clutch pedals; one of these, working in a quadrant which limits its range of action, is provided with a toggle which gives a straight pull on the wir thus considerably adding to its life. Th other pedal is light and simple in desig It may be supplied either with round cli or oval clips, or can be made easily attac able to the under part of the footboard



The new Bowden brake for front or rear wheels.

A WEATHERPROOFING IDEA FROM ABROAD.

THE Henderson, by reason of its lar four-cylinder engine, is already pr bably the nearest approach to t much-discussed, if rather mythical, tw wheeled car. However, Mr. V. Ingve son, of Helsingborg, Sweden, has go further to making the statement a fac

The photographs show a combined wi and mudshield which he has designed f his mount, and which appears to gi ample protection from the elements. T upper, or "dash," part of the shie

A Swedish reader's device for weatherproofing his Henderson.

may be raised or lowered, while the fo part forms a roomy compartment storing spares or supplies. Mr. Ingv son states that the cooling is more e cient than before, as the wings on bo sides of the front wheel direct the a forcibly against the cylinders. Th machine can be upset without the scr touching the ground at any point.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

TRUE TO HIS FIRST LOVE.

Sir,—I have taken over a new 8 h.p. Rover light car and parted with my old 1913 P. and M., but I find I cannot give up *The Motor Cycle*. My respects to "Ixion," be he myth or flesh. H.G.S.
Carlisle.

UNDER DIFFICULTIES.

Sir,—I find every issue full of good things and thoroughly interesting—in fact, to enjoy motor cycling in the poorest spot on earth (the Persian Gulf) with *no* roads and *no* motor cycle, buy *The Motor Cycle*. C. H. ST. JOHN.
Jask, Persian Gulf.

BENZOLE-PARAFFIN RESULTS.

Sir,—I have noticed of late riders obtaining fairly good results with a mixture of petrol and paraffin. I wonder if my rider can beat my results. The machine, a 1920 Triumph, using a mixture of 50% benzole and 50% paraffin, regularly does 95 m.p.g. and 50 m.p.h. These figures are not approximations but actual results. DC1654.
Bromley.

THE UMBRELLA COAT.

Sir,—Referring to Capt. Summer's letter *re* "Umbrella" coat, I believe he would find the "Poncho" coat, manufactured by Messrs. J. Barbour and Sons, South Shields, to his requirements.

This oilskin coat is about 150in. round the skirt, has no buttons or openings—the coat being slipped over the head and fitted with stormproof gusset at neck. Prices, I believe, range from 32s. 6d. to 40s.

In conclusion I would add that I have no connection whatever with the firm mentioned, except that of a very satisfied user of their garments. ROBERT G. E. KNOX.

TWINS MAGNETO.

Sir,—Having taken much interest in this discussion it may be of some interest to readers of your paper to know that it is a recognised fact to the testers of a well-known make of two-stroke stationary engine (up to 8 b.h.p.) that these engines will run on light load for an indefinite period after about two minutes start from cold, with the high-tension wire removed from the plug.

It is necessary that the load remain constant, then each explosion has equal force; the combustion in the cylinder is more complete before the next charge of gas enters.

Owing to the mixture being weak this allows the piston to pass top dead centre before the force of the explosion is felt. Furthermore, these engines run on paraffin.
RIPPLER BROS.

MISFIRING ON TWO-STROKES.

Sir,—As a student of the two-stroke principle may I be allowed to give a few hints to users, and especially in regard to "Ixion's" recent summary of "Weaknesses."

(1) Most two-strokes misfire at low engine speeds. The cause of this is that the suction is then greater, more petrol is taken, and therefore the mixture is too rich and is almost non-explosive until further weakened by air, when the motor fires strokes. I suggest a remedy later on.

(2) Most two-strokes misfire at high engine speeds under light load (*e.g.*, downhill). I am glad "Ixion" says "downhill" because that is where the four-stroking generally occurs. The cause of this is just the opposite to the low speed one. The suction is low, but there is more of it.

The remedy I find for both the above troubles is the fitting of an extra air ($\frac{3}{16}$) hole on the inlet, and if this is opened at slow speed, and also at high speed downhill, the engine will continue to two-stroke.

Another point that makes for four-stroking is the excess of oil. In the petroil system never more than half a pint to a gallon of petrol should be used, and where an oiling system is part of the outfit great care must be taken against too much oil being given. A little extra is required on ascending hills, but very little extra. With the petroil system the oiling is practically automatic, inasmuch as the oil keeps equal to the speed. JULY.
London, E.C.1.

SIGNPOSTING IN TOWNS.

Sir,—I should like to point out the need for more efficient signposting in the majority of large provincial towns. I have undertaken several long journeys during his season, and on each occasion before starting have thoroughly plotted out my route. Invariably, I have found that, so long as I was on country roads and passing through small towns, the signposts gave all the information I required, but immediately I reached towns of any size, signposts were conspicuous by their absence, and it has always been necessary to stop two or three times in each town to enquire my way. A few examples of towns in which I have experienced great difficulty are Leicester, Northampton, and Winchester. If this matter was taken up by the motoring associations and by the various town councils a great improvement, to the benefit of motorists and the public, could be made at an almost negligible expense.

Every motorist knows that in passing through traffic it is necessary for him to concentrate his mind on the control of his machine and observation of the movements of other vehicles, whereas, if he has to look out for possible signposts at the same time (which generally are in the centre of the town at the most congested point of traffic, and are usually unreadable from the saddle, he can very easily be involved in an accident. CYRIL C. TWISS.

EVERY-DAY RIDERS' WANTS.

Sir,—As a reader of your valuable paper for two years, may I give my opinion of motor cycles in general.

I am a motor cyclist, but not an engineer, and so speak from the average cyclist's point of view.

Present-day motor cycles have too small tanks; freak gears; under-sized wheels and tyres; bad appearance, although American machines are more compact; spring forks, which quickly develop sideplay and rattle; useless front brakes (an extra back brake is much preferable); poor controls often fitted as if an after-thought; and inadequate mudguard and fork clearance (with danger of torn covers).

I consider that engines are very good; but I prefer plain bushes to ball bearings on account of the ease with which they may be replaced.

The service of spares is disgusting. In Glasgow, recently, I was quite unable to obtain a spare valve for a well-known machine. No dealer should be an agent unless he carries a reasonable stock of spares. I pity the Colonials.

In conclusion, my idea of the perfect specification is: American frame, tank, wheels, and control; J.A.P. engine; Sunbeam gear box (final drive on right side more accessible with sidecar); M-L magneto; and no spring frame.

I suggest this motto to manufacturers, "Look after the motor cyclist, and the bank balance will look after itself."
FED UP AND DISGUSTED.

SALVAGING OIL.

Sir,—At the risk of "teaching one's grandmother," I would like to pass on a tip for economising in oil. When a tin is apparently drained, there exists quite a lot on the sides. This slowly descends again to the bottom, but, on attempting to pour it out, it again spreads over the interior of the tin, and none comes out. The tip in question is to let it collect on the bottom by warming the tin by the fire. Then punch a hole through the bottom corner. It is amazing how much comes out, which otherwise would be thrown away. I recently found a dozen so-called "empties" in a friend's garage, and by means of this dodge I salvaged for him quite a nice addition to his tank. I may add that when a tin contains only a couple of inches or so I always empty it by this method; there is less waste, and the process is quicker. ECONOMY.

Northampton.

A GOOD SAMARITAN.

Sir,—May I through the medium of your paper, express the gratitude of my brother and myself towards an unknown motor cyclist, who rendered us most valuable aid whilst on a journey to Cornwall.

We were held up on a very desolate part of Dartmoor, with the magneto broken adrift, and unless help were forthcoming it looked like a night on the moor.

The good Samaritan in question, after having left us, called at several places through which he passed, until he was able to send back from Princetown a car and mechanic, who repaired the damages sufficiently to enable us to reach a garage at Yelverton.

Not only this, but in the kindness of his heart placed in the car two bottles of liquid refreshment to keep our spirits up. Could a sportsman do more?

I would like to take this opportunity of placing on record our appreciation of his help and courtesy, and, not knowing his name, hope that this letter will reach his eye. C.C.

Bromley, Kent.

A LONG TOUR.

Sir,—I took delivery of a new 3½ h.p. Sunbeam in June this year, and about three weeks later started my holiday in Scotland. Beginning at Bristol I made Chester the first day; Windermere was my second stop, about ten miles from which I changed gear for the first time. After that my route was Ullswater (including a visit to Kirkstone Pass, which was accomplished in pouring rain), Penrith, Carlisle, Gretna, Dumfries, Ayr, Glasgow, Oban, Fort William, Fort Augustus, Inverness, Nairn, Elgin, Aberdeen, and Edinburgh, through Yorkshire, and on to London, back to Bristol *via* Dorset and Somerset, a distance of something like 2,500-3,000 miles. About 1,000 were over Scottish roads, which I will not describe, as anyone who has been there will not care to be reminded of them.

The only place the toolbags were opened was near Ballachulish, where I had a puncture, otherwise the machine was not touched, and it is just as well it did not require adjustment, as I am an absolute novice, and have only been riding a year or so. SUNBEAM.

Bristol.

TORQUE AND COMFORT.

Sir,—It would be interesting, to say the least of it, to know how your correspondent, Mr. A. Newsham, has succeeded in overcoming the difficulties attendant on a double-acting internal combustion engine.

If his engine is on the four-cycle principle, doubtless all engineers will want to know how he has increased his cylinder cooling by 100% on existing practice, also how he has designed a heat and flame-proof stuffing-box and packing for his piston rod, and where he houses and how he drives his four valves per cylinder, and places his two sparking plugs.

If his engine is a two-cycle one, he has presumably dispensed with the four valves, and fitted a separate compressing plant.

As an engineer myself, I should like to know what superiority he claims for either of the foregoing over the existing twin-cylinder single-acting two-stroke, *e.g.*, the Scott, and, if any, how it is that our Diesel and semi-Diesel engine manufacturers have not been able to produce a satisfactory engine of this kind? J.S.P.

London, W.C.1.

STAMPED STEEL FRAMES

Sir,—Regarding "J.A.'s" article on suggested pressed or drop-forged motor cycle frames.

In the first place, it is not clear whether he proposes to use pressed steel (sheet metal) or stamped or drop-forged metal.

He writes of pressed steel, but illustrates a structure that could not possibly be produced from sheet metal by pressing. It is unnecessary to point out where the suggested "design" is bad, and, from the point of view of "economy in manufacture," it is even worse, when the size of the steel sheet required is considered, and the amount of waste involved.

Pressed sheet metal can be used to very great advantage on frames of the Unibus type, but on those of orthodox design it is another matter.

Tubular frames can and should be welded instead of brazed, and, considering the complex stresses to which motor cycle frames are subjected, it is doubtful if the tubular construction can be beaten as long as the present general type is maintained. C. C. HANCOCK.

SPEED AND LIGHTING OF TRAMWAY CARS.

Sir,—Is it within reason for us to expect a prosecution by the police against the L.C.C. tramways, for contravention of the lighting regulations?

To quote an instance of contravention: some weeks since, whilst proceeding along South Side, Clapham Common, I noticed all tramway cars proceeding towards London were travelling minus warning lamps—presumably through some mechanical defect.

Under similar circumstances, we all know that any case brought against a motorist would be settled only by the payment of a big fine, and, possibly, an endorsement of the motorist's driving licence.

I should also like to draw attention to the non-enforcement of the speed limit with reference to tramway cars.

To quote an instance of this. On one occasion whilst driving along the Victoria Embankment, a tramway car was proceeding in the same direction. For some distance on a clear road, my speedometer, which I have every reason to believe accurate, was showing *30 m.p.h.*, and the tramway car was *dead level* with me. Whilst not of necessity constituting a dangerous speed for a motor cycle driven near the centre of a broad road, surely 30 m.p.h. constitutes a dangerous speed for so unwieldy a vehicle as the tramway car driven close into the pavement—and incapable of any method of avoiding any absent-minded pedestrian who steps from the pavement into the road.

I should suggest that the advocates of an extension of the tramway service should be compelled to drive a solo motor cycle across London daily, in all weathers.

Victoria Street, S.W.1. C.F.M.

Geoffrey Hill, a Northern competition rider, sends the above photograph with the laconic message, "Nearly 'pegged out' to-day on this Pass. A monk of St. Bernard found me, and I am staying at the monastery shown." Hill has been travelling through Holland, Belgium, France, and Switzerland, and was 8,000ft. up on one of the passes with his Scott when the rarefied air affected the running of his machine.

PETROL CONSUMPTION TESTS!

Sir,—I am encouraged by your correspondents who all get over two hundred miles to the gallon to do two things: First, to ask them why they always specify one single occasion on which they do this, as if the matter were a feat of endurance, only to be undertaken with due preparation; and, secondly, to give my own experiences:

Normal mileage when touring.—90 m.p.g.

When I left the drain cock on.—4 m.p.g. (before I found this out.)

Driving in Essex (fifty-six right-angle bends in flat country in ten miles).—Oh! say about fifteen to the gallon and a new clutch lining.

Proceeding (by train) to Birmingham.—Consumption, *nil.*

My best show was when I boarded the Isle of Wight ferry with *no* petrol in my tank (I had to satisfy the authorities I had none before I could board the lugger). Then, when I disembarked at the other side, I drove fifteen miles with three lunch stops without refilling.

As this may be a record, perhaps I had better say I used a 1902 Minerva, flat tyres, round belt, tube ignition made by my plumber (Mr. Roarer, a very estimable man), American petrol, American oil, and American hot air inlet heater. Usual disclaimer, intensified as regards last three items.

. . . . . .

A friend has just called to say that while employed as Deputy Acting Inspector of False Teeth in the Great War, he drove his machine at a cost of nothing at all for a distance of some 10,000 miles. *And* got the O.B.E., so there now.

Gidea Park. HK 601.

CHAIN DRIVE ON SPRING FRAME MACHINE.

Sir,—I shall be glad if you will allow me space in which o reply to your correspondent, "C.E.P.," as he has referred o my letter relating to the above matter.

If "C.E.P." again turns to my letter he will see that I tated that two other points, in addition to the fulcrum of he rear spring being coincident with the centre of transission (C.S.), were necessary to maintain the transmission ension constant during wheel movement.

One of these two points is radial motion from a common entre of the rear wheel, and this is one of the principal eatures of my design.

Whilst naturally agreeing that all radii of a circle being qual there can be no variation of the chain or belt tension, can be seen, in most rear spring designs of to-day, that ain or belt tension does vary, during wheel movement. he reason is obvious. In practice, the centres of the spring ulcrum, countershaft spindle, and arc of wheel spindle movement are not common. In my design all these three movements are struck from one common centre, *i.e.*, the countershaft sprocket spindle.

I have now disclosed one of the two points mentioned in y letter, the other I do not yet wish to disclose.

Referring to "C.E.P.'s" design, one would not imagine at the use of a jockey sprocket was an improvement on esent design, nor to my mind is it necessary, for in my stem it is possible to move both gear box and rear wheel r chain adjustment, and yet retain the common centre for movement.

Furthermore, the use of a rear frame which is pivoted at e C.S. spindle centre does not constitute an improvement, whilst pivoted at the correct position, it should not be cessary to use any hinge or pivot to obtain radial motion wheel movement.

May I ask where the springs in "C.E.P.'s" design are uated?

G. HAROLD DURSTON.

ECTRIC LIGHTING.

Sir,—*Apropos* the question of lighting, which most motor clists discuss at this season of the year, I have had box made to fit the bulbous back of the sidecar ich takes two 4 volt 40 ampère accumulators, thus, wiring off the two extremes, I get an 8 volt head ht of either 16 c.p., or half watt (32 c.p.), whichr I care to use. For the side and tail, I wire off h accumulator separately, using 4 volt 2 ampère screw bs, giving quite sufficient light for the purpose. The umulators cost 21s. 9d. each, my side and tail lamps T.W.R. aluminium, and the head lamp an F.R.S. 50s. pacity of accumulators (20 hours light) is quite enough the average rider for one month. I have the accumulators charged once monthly at a cost of 8d. I have bought *two* sets of accumulators, and can have one set kept fully charged all the time at the shop ready for use. What trouble is it simply to motor up to the shop, slip your wires off, put the new accumulators in, slip the wires on again, pass *8d.* across the counter, and slip home again? I don't think carbide can compare with this in price, cleanliness, or speed. Bear in mind that the accumulators must be charged once a month, whether in use or not; but what of it! Think of the pleasure of watching the man who passed you at about 50 m.p.h. (when you thought you were going fast yourself), tinkering about with his lamps at dusk, looking for water, and blowing through rubber tubes, just for the sake of doing about thirty minutes ride home after lighting up time, and having to use enough carbide to last for two hours (*that* is one of the great drawbacks to carbide, in my opinion). While all I have to do is to unlock the bulbous back, switch on the three lights, and I am at home by the time he gets going. It is in these short rides that electric light scores for speed, and in the long ones for reliability.

In respect to solo riding with accumulators, I say nothing. In fact, I don't think I would risk it, for I maintain that the accumulators *must* be sprung.

ONE WHO IS *NOT* GOING BACK TO ACETYLENE.

Derby.

COURTESY ON THE ROAD.

Sir,—I should like to draw your attention to two cases of courtesy on the road.

Some weeks ago a motor cyclist pushed his motor cycle, a two-stroke two-speed (Union engine), into the yard of a motor cab company at Brixton, and, scenting trouble, I offered my help.

He did not know what was the matter, but, by the process of elimination, I found there was insufficient petrol in the tank. He asked if anyone could give him some to carry him back to Westminster. I offered to get him some. I had to go to the office and get a ticket for one gallon, which I paid for, and when I told him he said he had no money with the exception of a few coppers, and the machine was not his: he had borrowed it from a friend in the office. I offered to trust him, but I have not heard of him since.

The other case is a different picture.

My son was returning from a holiday in North Wales, and when nearing Oxford he had the misfortune to break the fork springs of his two-stroke. A rider of an Indian and sidecar containing a lady stopped and offered to tow him into Oxford, but this would have been dangerous, as the steering was affected, so he offered to wait in Oxford while the machine was put on rail and my son could ride on the carrier to London. He then rode on. A little distance further on my son came up with them again, helping someone else. He then suggested binding the forks up solid, which they did, and so made the machine rideable.

If this should meet the eye of both riders, I should like to thank the one, and hope that the other will never be in want of a drop of petrol again.

S. CLARK.

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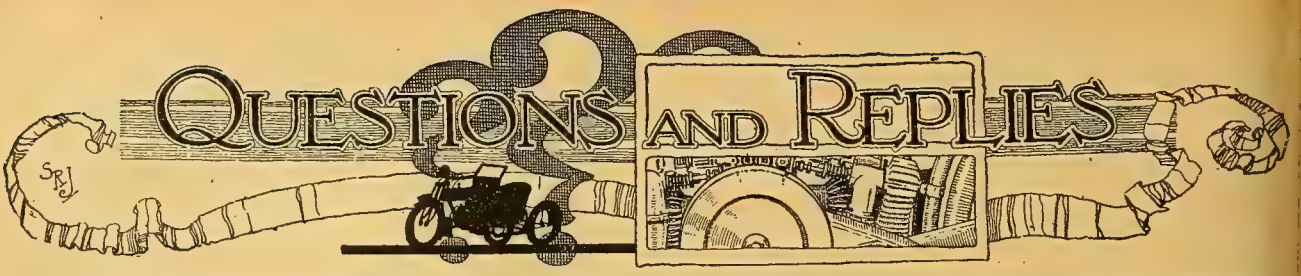


A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Flickering Electric Lights.

I use accumulator lighting for my outfit, and I have two batteries, which I use alternately. One is now newly charged by an electrical firm, but from both I get a flickering light, even when the machine is standing. The light fluctuates all the time, and varies from a flicker to a 50% reduction. I bought the second battery because I thought my old one must be defective to cause this variation in power of light, but the very first time I used the new one it was the same. I thought it was not fully charged, so had it on charge until overcharged at low charging rate, but it still flickers.—D.W.G.

The flickering of your electric light must be caused mechanically, and the trouble can no doubt be traced either to a defective lamp-holder or to a fault in the wiring. You should overhaul the system carefully, and replace with new wires if necessary.

Twin Two-stroke Adjustment.

I should be much obliged to you for the following particulars *re* a Scott motor cycle that I bought and have never yet had running. (1.) Does the deflector part of the piston come to the inlet ports? (2.) Is the magneto timing correct, $\frac{3}{32}$in. from top dead centre, with magneto lever fully retarded? (3.) Should a B. and B. carburetter with a variable jet suit the engine? I have just fitted this. (4.) What size hole should be in the nipple that screws into the crank case for lubrication, as one side of the crank case seems to get too much oil?—A.V.C.

(1.) The deflector on the piston head should be at the back nearest the transfer port. (2.) Your magneto timing is too much retarded. Connect the magneto when the fibre heel of the contact-breaker rocker arm is on the centre of the cam segments when the piston is on top dead centre; the control being fully retarded. (3.) You do not state which type of variable jet B. and B. carburetter you have fitted; if it is the one with the variable jet automatically controlled by a needle on the throttle, it can be tuned satisfactorily for your engine. A one lever automatic carburetter would be better, however. (4.) If the crank case on one side receives too much oil, gradually close up the nipple in the oil pipe union until the supply is equalised. It would be better, however, to bring the lubrication system up to date by fitting one of the latest oil pumps with double sight feed.

Overheating.

Could you, in any way, advise me how to stop the overheating which takes place in the cylinder of my 1914 4¼ h.p. outfit? From eight to ten miles are sufficient on either gear to cause such heat that I lose compression and often stop suddenly, as though the engine had seized, but it will start away again with one or two kicks of the starter after I have flooded the carburetter. The cylinder rings and valves are all in good order, and timing seems all right. I have a 36 jet in the carburetter.—J.W.

The overheating of which you complain is no doubt caused by some defect which you will have to trace before it can be cured. In all probability under lubrication is the chief cause, but other troubles having a similar effect are a weak mixture, or ignition too much retarded. Try also the effect of cleaning the carburetter (especially the jet), and also raise the level very slightly.

IMPORTANT DATES.

Nov. 4th-13th—
International Automobile Exhibition, Olympia and White City

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Dec. 10th-19th—
Brussels Show.

Dec. 27th-28th—
M.C.C. London-Exeter Run.

Jan. 28th to Feb. 5th, 1921—
Scottish Motor Exhibition, Kelvin Hall Glasgow.

Trapping, Warning, and Obstruction.

I should like to know if it is an offence to inform anyone that there is a police "control" in the vicinity, and if it is deemed an offence, could the following arguments be used successfully as a defence? That it is not an offence to advise anyone not to commit an infringement of the laws of the country, but a commendable action? Again if one stopped motorists in the centre of a control and asked them the time, or some other similar question, could one be charged under the Motor Car Act, or any other Act?—H.A.B.

The sole point is, as to whether what is being done is with a view to helping the police or thwarting them. It has been decided that where cars are warned of a police trap and are at that time being driven at an illegal speed the person may be convicted of obstruction, but simply to give drivers of motor cars notice of a police trap was held not to be obstructing the constables in the course of their duty. You will therefore see that you must not warn people who are committing an offence at the time. With regard to the latter part of your letter we should imagine that no offence could be committed if a car is stopped for the purpose stated, but the sole point is as to what is the object of such action.

Effect of Plug Position.

I own a 3½ h.p. o.h.v. N.S.U., and the plug is placed in a recess between the heads of the inlet and exhaust valves, so that the points are in a pocket §in. deep. (1.) Would this make starting difficult? (2.) Would the petrol consumption be lower if the plug were placed in the head of the cylinder, which I had thought of doing by building it up sufficiently to bore and screw? (3.) Is this advisable? (4.) Would it make the machine faster?—C.B.

(1.) It is quite likely that difficult starting may be due in part to the pocketing of the sparking plug. (2.) It is doubtful whether the petrol consumption would be appreciably decreased merely by an alteration in the position of the plug. (3.) An easier solution of the difficulty would be the fitting of a special long reach plug. (These can be obtained from most of the leading plug manufacturers.) (4.) The machine would no doubt be a little faster.

Police Retention of a Machine.

About two months ago I lent my motor cycle to a friend for the day, and as a result of a serious accident was involved in an Assize case. The police inspector took charge of my motor cycle immediately after the accident, and refused to permit me to remove it until the case is finally dealt with, saying it must be produced before the court. Can I take action (1) to compel him to let me have the machine or (2) claim compensation for the loss of the machine?—J.H.

The police are entitled to use their own discretion as to whether they return any property found on a prisoner back to him, or to such other person as he shall direct, or as may be the owner, or they may detain such property if, in their opinion, it will be of any use in the case. Under these circumstances you will have to wait till after the trial, nor can you claim compensation.

A Slipping Clutch.

I have a 1913 3½ h.p. B.S.A. with a free engine clutch, and I should be glad if you would answer the following: When I push the clutch pedal down to free the engine in traffic and come to a standstill, the clutch always slips back and the machine jumps forward. What is the cause?—E.W.J.

The clutch would no doubt remain in the neutral position if you increased the friction on the bearing of the operating pedal; you could do this by fitting a spring washer behind the nut which secures it on its spindle, so that the pedal itself works stiffly.

Two-stroke v. Flat Twin.

(1.) In what respect does a 2¾ h.p. flat twin compare with a 2¾ h.p. two-stroke as regards balance, freedom from vibration, power and liability to carbonisation? (2.) Why does a single require more frequent decarbonising than a flat twin? (3.) Are the valves in a flat twin subjected to the same amount of work and heat as a single? Also is there any valve made of unbreakable steel? (4.) Has a flat twin more power on hills than a single, and is it as reliable?—B.S.

(1.) The horizontal twin engines are most perfectly balanced, and are particularly free from vibration. Single cylinder two-strokes, on the other hand, owing to the rather heavy piston, are somewhat difficult to balance properly, and the vibration is more noticeable than in other types. Probably the latter machine is a little more powerful for its size, but it certainly may need more frequent decarbonisation. (2.) This is chiefly due to over lubrication. (3.) This question cannot be answered without full details of the designs which are being compared. Valves made of stainless steel are practically unbreakable, but these are very difficult to obtain. (4.) The two types are about equally reliable, although the single may be slightly more powerful.

A Damaged Hub Gear.

My machine is a 6 h.p. Roc (about 1911). The gears jumped occasionally, so I dismantled the hub from the back forks, but during the process three small balls fell out. On putting the gear together I could find no place for them, as the three ball races were all right. I packed the gear up without them and all went well for about two miles, when I stopped for petrol. On starting up again all was well in free, but when I tried to engage the low gear, there was a grinding crash, and the belt broke. I took off the gear again and found most of the teeth broken off the three small pinions. I have had three others made and would be thankful for your advice before I try to put the gear together again, as I'm afraid the same thing may happen again.—T.F.

We are not at all clear as to the advice which you require, and from the details you give we are unable to tell you definitely what caused the trouble. Provided the three new pinions are correctly made, and that the rest of the gear is properly assembled, you should not have any further trouble with it, although it would be as well to examine all parts which are likely to come loose. Presumably, the damage was done by some stray part getting amongst the gear-wheels. It is quite likely, of course, that some of the ball bearings from the hub got amongst the gears, and a broken ball race might allow this to happen.

THE MOTOR CYCLE
Special Show Numbers
1920
November 18th—
LIGHTWEIGHT NUMBER.
November 25th—
SHOW FORECAST.
December 2nd—
SHOW REPORT.
December 9th—
PASSENGER NUMBER.

READERS' REPLIES.

A Starting Difficulty.

Regarding "E.N.E.'s" query of the 28th ult., I have had the same experience with my 3½ h.p. P. and M. (R.A.F. model). I have been able to overcome this difficulty, however, in the following manner: After priming the engine, and bringing the decompressor into action, advance the ignition, and then place the hand tightly over the wire gauze air inlet of the carburetter—mine is a B. and B.—while depressing the kick-starter. Even this method requires some "knack," but I find it impossible to use the kick-starter without doing this.—F. Hugh Worters.

Contact Breaker Troubles.

Re W.P.'s trouble with U.H. magneto points in your issue of October 28th. It may be of use to him to know that in this type of magneto as the central hexagon headed bolt of the contact breaker is the means of adjusting the points it is never really tightened up. A small locking spring is therefore fitted over the bolt head, which, if not in position or missing, would allow the bolt to move and so cause the trouble.—J. Coleman.

EXPERIENCES WANTED.

A.J.C.F. (Littlehampton).—6 h.p. twin B.S.A. outfit; consumption, ease of starting, springing of sidecar and front wheel, reliability, speed on hills.

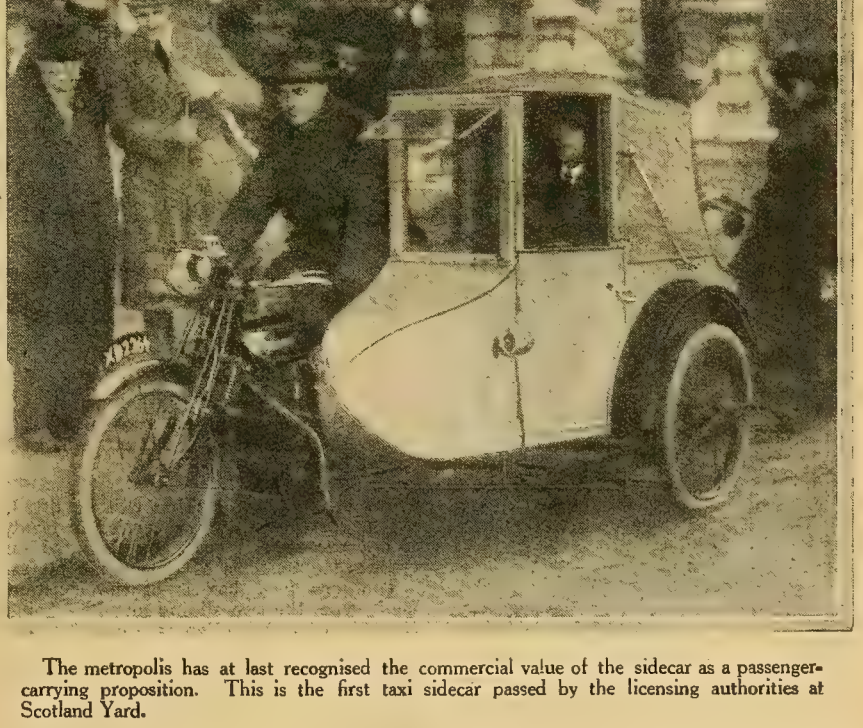
RECOMMENDED ROUTES.

Newport to Hastingleigh.—R.E.

Newport, Chepstow, Gloucester, Cirencester, Faringdon, Wantage, Didcot, Reading, Wokingham, Bracknell, Staines, Kingston, Sutton, Croydon, Westerham, Sevenoaks, Maidstone, Ashford, Hastingleigh.

Birmingham to Borth.—E.J.T.

Erdington, Chester Road for New Oscott, Brownhills, Bridgetown, Four Crosses, Gailey, Ivetsey Bank, Weston, St. Georges, Weklington, Norton, Atcham, Shrewsbury, Bicton Heath, Cardeston, Middletown, Buttington, Welshpool, Garthmyl, Newtown, Llandinam, Llanidloes, Dyffryn, Castell Inn, Pont-erwd, Aberystwyth, Borth.



The metropolis has at last recognised the commercial value of the sidecar as a passenger-carrying proposition. This is the first taxi sidecar passed by the licensing authorities at Scotland Yard.

BG

NEW MODELS.

A Lea-Francis Sidecar Outfit.

Two Three-speed Machines to be shown at Olympia. New Model has 5 h.p. M.A.G. Engine and New Type Gear Box.

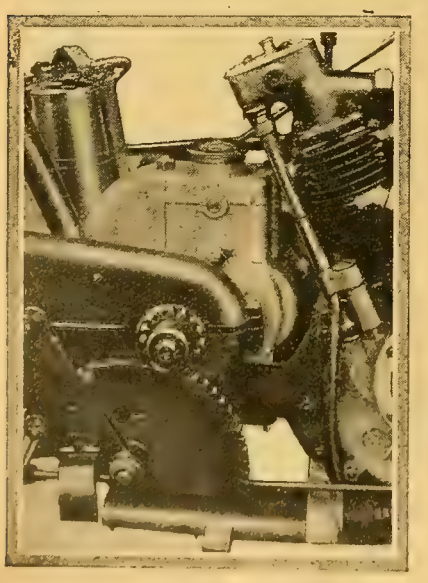
LEA-FRANCIS motor cycles for some time past have been fitted with the 3½ h.p. M.A.G. engine and two-speed countershaft gears. This type has become so well-known and justly popular that it is hardly necessary to give a detailed description.

For 1921 only one outstanding feature has been changed, this alteration being the provision of an additional gear ratio. The new three-speed gear remains housed in the large circular bottom bracket, as was the case with the two-speed—in fact, externally it resembles an earlier type of three-speed box fitted to a few Lea-Francis machines. The details have, however, been redesigned and stiffened up, and the box has successfully withstood long distance road tests.

Smooth Gear Change.

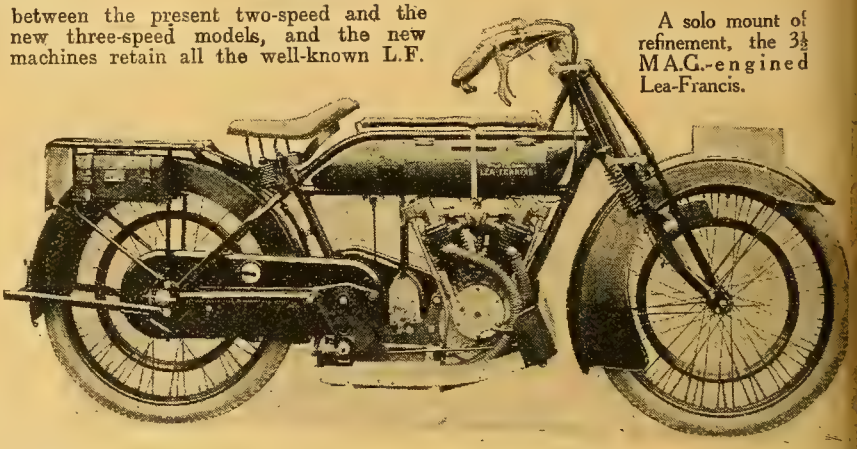
One sliding member only is used, top and bottom ratios being engaged by dogs, while the middle gear wheels are made with heavier pitch teeth, so as to withstand the meshing of the wheels. An excellent feature of the gear is the easy "change," and on an experimental machine without the final "gate" we found that one could slip from top to bottom and bottom to top without noise or jar as the middle gear was passed.

A new carrier and the change-speed gate are the only visible signs of difference between the present two-speed and the new three-speed models, and the new machines retain all the well-known L.F. features, including, of course, a superb finish.



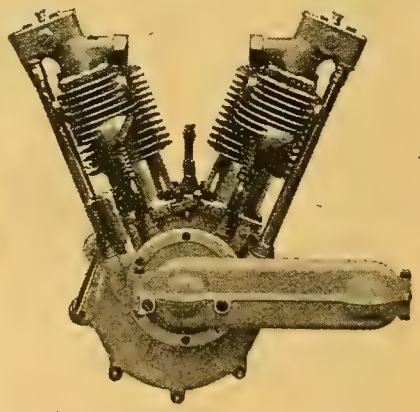
The new three-speed gear box fitted to the 5 h.p. model.

A solo mount of refinement, the 3½ M.A.G.-engined Lea-Francis.



An Enlarged Edition.

Quite a departure has been made by the Lea-Francis Co. in producing a sidecar machine. Although the general features follow the lines of existing L.-F. models,



On the 1921 Lea-Francis 5 h.p. machines this M.A.G. engine of 592 c.c. will be used.

the 5 h.p. M.A.G. engine will be fitted, the magneto or Magdyno carried in front, and a three-speed gear box mounted on rearward extensions of the engine plates.

The new gear box is of the constant mesh type, the two sliding members being controlled by the action of a cam through the medium of two striking forks. All the selecting mechanism is mounted above the box, and the whole is surmounted by a large and accessible oil filler.

A positive adjustment for the chai tension is provided, and as the kick-starte is mounted on the clamping bracket an movement of the gear box leaves the star ing quadrant in correct adjustment.

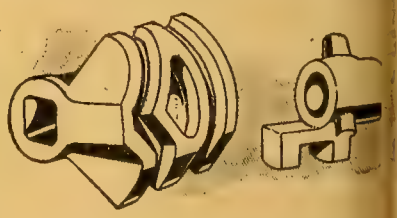
most unusual and desirable feature is th fact that the multiplate clutch is mounte on the engine-shaft, in which position it possible to use either lighter plates o a lighter spring.

Aluminium Chain Cases.

Both the front and rear chain cases ar of cast aluminium and particularly easy t dismount. The rear chain is, of cours brought over to the side remote from th sidecar, and by the use of a speci cranked lug in the rear end of the chai stay, a sound chain case, split horizontall is rendered easy.

It is probable that 26in. × 3in. tyres wi be fitted, and the machine should pro to be admirably adapted to sidecar work

It is yet too early to give details the new Lea Francis sidecar, though w understand that it is to be in keeping wi the motor cycle, and will be attached, course, to lugs incorporated in the fram of the machine.

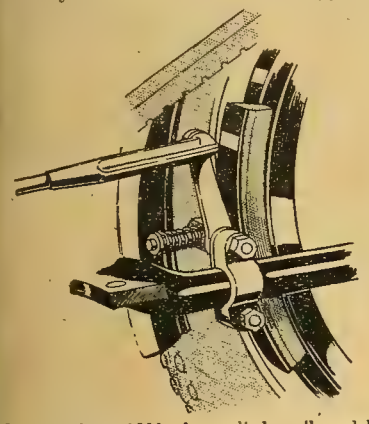


The cam and one of the striking forks of the new Lea-Francis gear box.

A 5-6 h.p. Coventry Eagle for 1921.

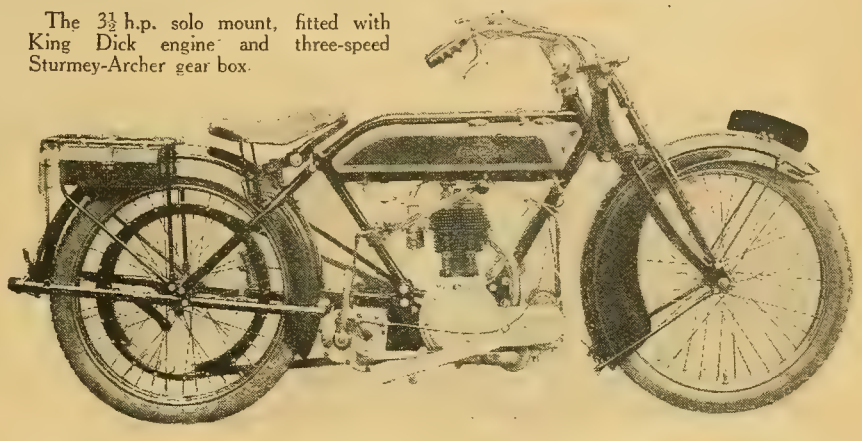
Mediumweight Twin for Solo or Sidecar use. Rigid or Spring Frame at Option.

A REPUTATION for sound work and pleasing appearance has been built up by both the 3½ h.p. and lightweight models of the Coventry Eagle motor cycles. For 1921 a new type has been added to the existing range, and this appears likely to sustain the reputation of this Coventry firm. Fitted with a



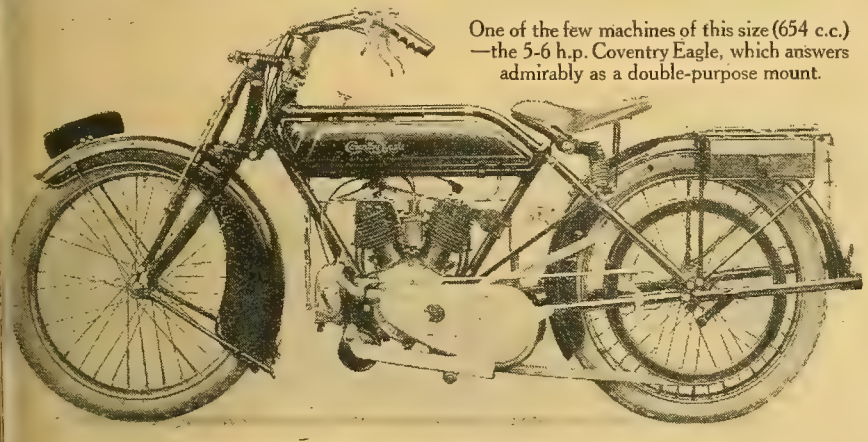
The new internal V brake applied to all models.

The 3½ h.p. solo mount, fitted with King Dick engine and three-speed Sturmey-Archer gear box.



In addition to this, the usual Coventry Eagle belt rim brake has been replaced by a new type acting on the inside of the V, so as not to interfere with the detachability of the wheel. This brake is progressive in action, the lower part of the shoe being arranged to come into engagement with the rim before the remainder of the braking surface which is delayed by the action of a light spring.

Brampton Biflex forks, excellent mudguards, and sensible footboards are included in the specification, and the general appearance is extremely pleasing.

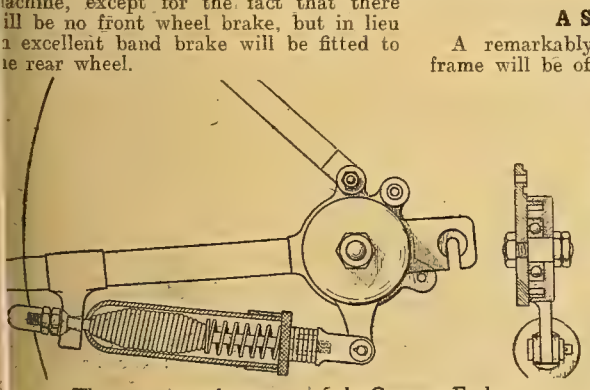


One of the few machines of this size (654 c.c.) —the 5-6 h.p. Coventry Eagle, which answers admirably as a double-purpose mount.

win-cylinder 5-6 h.p. J.A.P. engine of) mm. and 85 mm. bore and stroke reectively, the transmission is by chain nd belt through a three-speed Sturmeyrcher countershaft gear. There are no ery startling innovations on the standard achine, except for the fact that there ill be no front wheel brake, but in lieu a excellent band brake will be fitted to ie rear wheel.

A Spring Frame.

A remarkably simple form of spring frame will be offered as an alternative to the rigid frame on all the larger Coventry Eagle models. Carried on the rear portion of the frame is a pair of substantial bell cranks mounted on ball bearings. The levers carrying the rear wheel normally form extensions to the chain stays, while the remaining levers of the cranks hang downwards in an approximately vertical position.

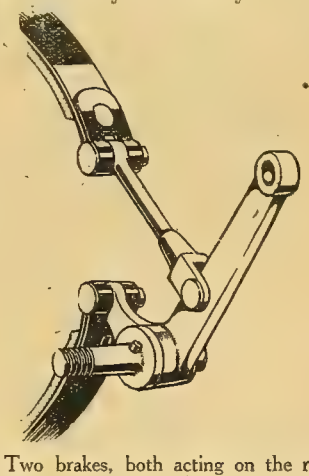


The rear suspension system of the Coventry Eagle.

These vertical levers are attached to an enclosed tension spring anchored at the front to the foremost part of the chain stays, and two "buffer" springs are interposed—one inside the spring case and one outside. One or other of these buffers is always in compression, and, consequently, helps to damp any violent shocks.

Enclosed Pivot Bearings.

It should be pointed out that the ball bearings on which the bell cranks pivot are entirely enclosed and packed with grease to prevent the ingress of water or dust. This spring frame has already undergone extensive road tests, and has proved eminently satisfactory. We are informed that the alteration of belt tension due to the action of the wheel has no appreciable effect either on belt slip or wear, and we are looking forward to a road test at an early opportunity.

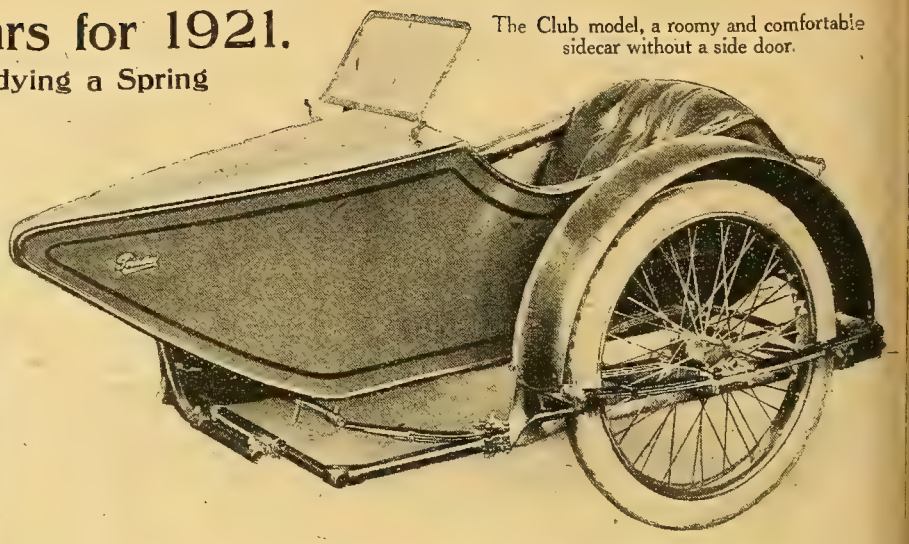


Two brakes, both acting on the rear wheel, are a feature of the new design. The sketch shows the toggle mechanism of the new band brake.

In addition to the 5-6 h.p. model, the manufactures will retain the 3½ h.p. King Dick, 2¾ h.p. J.A.P., and 2½ h.p. Villiers-engined models, which will be fitted with brakes as described above. With these exceptions, only detail alterations have taken place, as existing types have proved so satisfactory.

Grindlay Sidecars for 1921.

Several New Models Embodying a Spring Wheel Chassis.



The Club model, a roomy and comfortable sidecar without a side door.

AMONG the outstanding propositions introduced since the revival of the motor cycle industry at the conclusion of the war, the Grindlay double-sprung sidecar has certainly proved to be one of the most successful. Its spring wheel chassis and cantilever body suspension are now well known among motor cyclists, and it is only necessary to remind our readers that the wheel is carried between two semi-elliptic springs supported at each end on arms extending from the side of the side member of the chassis, the rear ends being shackled. The frame itself is rectangular, and supports, in slides, the rear ends of the cantilever springs upon which the body is carried. These springs are pivoted on the body at their centre, and at the fore end move in slides fixed to the body.

Touring and Sporting Models.

In addition to a model similar to that known this year as the *De Luxe*, the double-sprung chassis is being embodied in two new models. The first of these is a full tourist type with bulbous back containing a large locker. At the fore end upswept quarter-elliptic springs are fitted, which complete a springing equipment suitable for the most exacting of passengers.

The body is roomy, well made and finished, and has a glove locker in the dash. As an extra, a folding child's dickey seat will be fitted in the rear locker.

Another new model embodying the double-sprung chassis has a doorless body on sporting lines, but having a larger amount of room than is usual with this type of attachment. The dash is brought well back, and has a neat adjustable windscreen, which enhances its appearance, and provides extra comfort for the passenger.

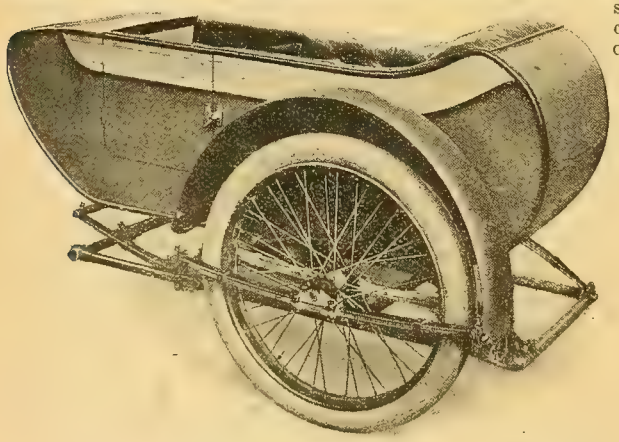
At the rear of the body there is a large locker, upon the lid of which is secured a light grid to carry a spare petrol can.

The third new model is of the pure sporting type—small, light, low, and fitted with a leather hammock seat behind the back rest of which there is a locker of useful capacity. This model has been designed for the larger type of lightweights and the spring frame A.B.C.

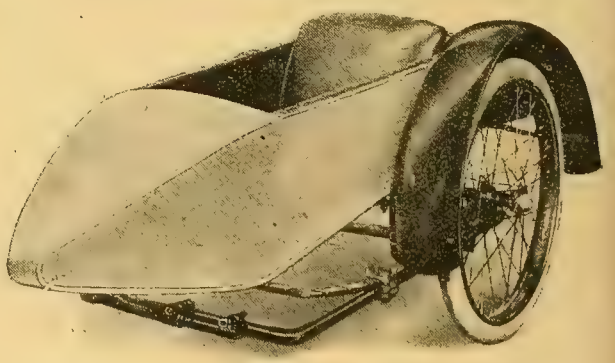
Mudguard Springing with the Body.

In all cases the mudguards are of round section and secured to the body. A full tandem sidecar is also under consideration, and may be completed in time for the firm's exhibit at Olympia.

The makers are Messrs. Grindlay, Ltd., Melbourne Works, Spon End, Coventry.



A new tourist body on the Grindlay spring wheel chassis. The bulbous back can be used as a spacious locker or a child's dickey seat.



A light sporting model fitted with a leather hammock seat. Quarter-elliptic springing fore and aft is adopted on this lightweight chassis.

THE TRIUMPH PROGRAMME FOR 1921.

All Chain and Chain-cum-belt 4 h.p. Models for Solo, Sidecar, and Sidecarrier work.

FOR next year the Triumph Cycle Co., Ltd., will offer seven models of solo and sidecar machines. Only detail alterations have been made; but the frame has been materially strengthened to withstand the additional strain thrown upon it when used with a sidecar. Permanent lugs for the sidecar fittings are incorporated in the frame. A new front guard will be fitted which provides greatly improved protection as compared with the 1920 pattern. The following are the models which will be offered to the public during the year 1921:

MODEL H.—4 h.p., chain-cum-belt transmission, Sturmey-Archer gear, new type front mudguard. Price, £127 10s.

MODEL H.C.—The same machine with Gloria spring wheel sidecar. Price, £182 10s.

MODEL S.D.—4 h.p., all chain transmission, Triumph three-speed gear box, multi-plate clutch running in oil, improved spring forks. Price, £140.

MODEL S.D.C.—The same machine with Gloria spring wheel sidecar. Price, £195.

MODEL H.C. COMMERCIAL.—The chain-cum-belt machine fitted with a box sidecarrier. Price, £173 10s.

MODEL S.D. COMMERCIAL.—The all-chain drive model fitted with a box sidecarrier. Price, £185.

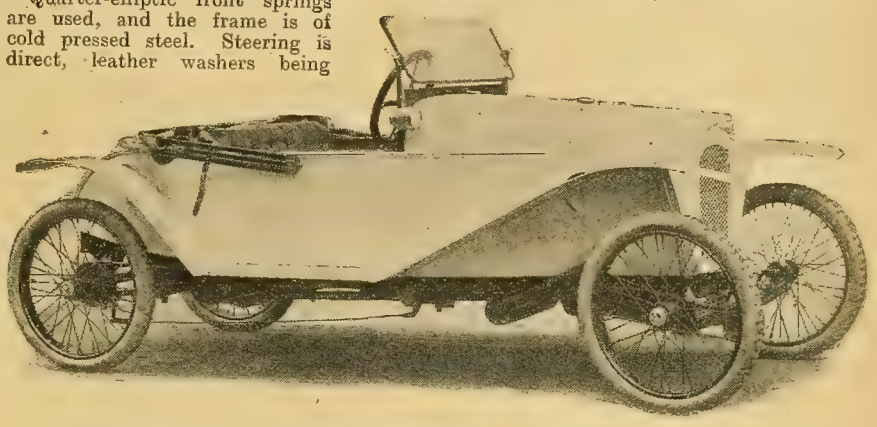
MODEL L.W.—The well-known two-stroke lightweight with all controls, including gear change on the handle-bar. Price, £75.

A Low-priced French Cycle Car.

The Two-cylinder, Anzani-engined, Air-cooled de Marcay; a Light and Simple Four-wheeler.

A FRENCH cycle car of pleasing design, the de Marcay, recently imported into England, should prove of interest to motor cyclists. This little car is propelled by a two-cylinder air-cooled Anzani engine, the bore and stroke of which are 85 mm. and 87 mm. respectively, the capacity being 998 c.c.

The cylinders are of the L head type, the valves being so arranged that the inlet port is directly in line with the centre of the cylinder head, the exhaust port being somewhat offset. The engine is lubricated by drip feed, a practical feature in connection with which is the special two-way oil cock, situated on the dashboard. This enables the oil to be delivered to the working parts, even if the glass case of the visible drip feed is smashed. The engine is arranged across the frame, cooling being assisted by a small four-blade fan mounted on ball bearings in front of each cylinder and driven from the mainshaft by a leather belt.



The de Marcay cycle car—a French production, to be marketed in this country. It has an Anzani air-cooled engine and shaft-drive, and its price will be similar to that of a de luxe sidecar outfit.

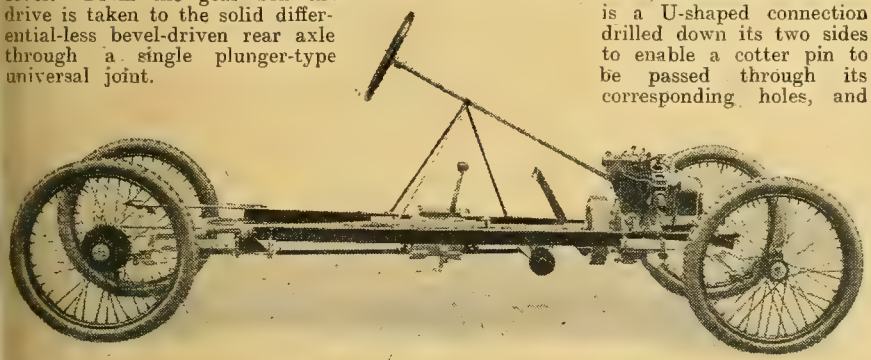
Two Speeds and Shaft Drive.

A Zenith carburetter is used, and for the ignition a high-tension magneto. The drive is taken from the engine through a cone clutch with a self-contained thrust device to a two-speed and reverse gear box, a noticeable feature here being the lid, on the near side of which are notches for the various positions of the gear lever, and on the right those for the brake lever. From the gear box the drive is taken to the solid differential-less bevel-driven rear axle through a single plunger-type universal joint.

Quarter-elliptic front springs are used, and the frame is of cold pressed steel. Steering is direct, leather washers being fitted to the connections to prevent rattling.

Another good feature on the car is the simple braking system and the ease with which it is adjusted. The foot-operated brake acts directly upon the near side wheel, and the hand-operated brake upon the off-side wheel. The connection between the lever and the expanding member, in both cases, is a substantial steel cable, attached to which is a U-shaped connection drilled down its two sides to enable a cotter pin to be passed through its corresponding holes, and through the hole on the lever attached to the expanding shoe, thus enabling an adjustment to be made when wear takes place.

During a short run through the more crowded streets of London we found that the little vehicle was extremely quiet, controllable, and quite comfortable, the leg room provided being more than sufficient.



The chassis of the air-cooled de Marcay cycle car is of particularly clean design and light construction.

Sold with Complete Equipment.

One minor point of criticism which might be levelled at the car is the mudguarding, which does not seem to be quite adequate at the rear, as the tops of the back wheels are only just covered, while the guards themselves appear to be insufficiently supported at the front.

The equipment includes five detachable wire wheels, acetylene side lamps, hood, screen, and a complete set of tools which, by the way, are attached to the back of the seats. It is hoped that the price of the car on the English market will be £260 complete.

The car is handled by the well-known ex-racing motor cyclist, Mr. C. C. Pullin, under the name of de Marcay Cars, England, with premises at 26, Long Acre, London, W.C.1.

UNCONTROLLED AIR INLETS.

IT is a high principle that the rider should have full control over all air inlets, and should rigidly exclude the uninvited guest. It means care, and perhaps trouble; possibly preliminary expense. But it results in a longer life for the wearing parts, economy in fuel and power, and, above all, a truly docile engine at all speeds.

There are only two serious causes of uneven firing. One is uneven sparking, and we are here presuming it non-existent. The other is this *bête-noire* of the conscientious, which is nothing more or less than "atmospheric interference." And, like other forms of interference, it thoroughly annoys the average man.

First, it is due to leaks at the induction pipe or carburetter joints. Easily cured by a spanner, or, if that fails, some packing or a length of homely insulating tape. But far more often the cause is worn inlet valve stems and guides.

Righting a Designer's Omissions.

To begin with, the manufacturer (*i.e.*, his designer) should provide a means of lubricating the valve stems. Incidentally, the present Precision big twin is fitted with simple sleeve-like cups, packed with oil-soaked material, and held in position by the valve springs. Most engines, however, do not have such provision for lubrication at this important point.

A new engine should be fitted immediately on receipt with one or other of the several excellent valve stem lubricating sleeves now on the market, requiring subsequently a drop of thin oil whenever the owner is going round his machine on the weekly overhaul with spanner and oilcan.

What of the second-hand machine with valves already far gone in the guides? If it can be afforded, new valve guides (if not valve gear complete) should be fitted, and the above-mentioned valve stem lubricators added to the inlet guides before taking the road again.

Current Chat

Times to Light Lamps.

Nov.	11th ...	... 4.46	p.m.
,,	13th ...	... 4.43	,,
,,	15th ...	... 4.40	,,
,,	17th ...	... 4.38	,,

Lightweights.

Next week. The Lightweight Number of *The Motor Cycle*.

Prince Loses his Motor Cycle.

The stealing of motor bicycles is not confined to this country only. The other day H.R.H. Prince Olaf left his machine outside the Theatre Restaurant, Christiania, when it was promptly stolen. It bore the registration mark A.45.

Golf Ball v. Motor Cycle.

The other day we heard of a golf "pro." who was anxious to match a driven ball against a well-known Wolverhampton racing man over a 250 yards course, the latter to take a flying start and the former to strike as the machine was level with the tee. Would the golf ball or the motor-cyclist win?

Reference Issues.

To-morrow's issue of *The Autocar* includes a full illustrated report of the motor car exhibits at Olympia and the White City, to which over forty pages were devoted in last week's issue. The Show issues of *The Autocar*, like those of *The Motor Cycle*, are retained as reference books, and in use throughout the year by all interested in the respective branches of the automobile industry.

The A.C.U. in New South Wales.

An agreement has been completed between the Auto-Cycle Union and the Motor Cycle Club, of New South Wales, by which the latter institution is recognised as the governing body of motor cycling in the State named. The agreement provides for the mutual assurance of many benefits advantageous to motor cycling interests in this country and in New South Wales. The New South Wales Club will have the right to announce its affiliation to the A.C.U., and the English governing body will accord the Overseas Club advice and assistance in the promotion and carrying out of competitions. Members of the New South Wales M.C.C. may display the A.C.U. badge. The bodies will mutually recognise the registration, suspension, and disqualification of licensed competition riders, and the benefits of membership of each body will be mutually enjoyed by members temporarily resident in each other's country.

A Year's Progress in Automobile Design.

In addition to the usual features and a most complete stand-to-stand report of the car exhibits at Olympia and the White City, to-morrow's issue of *The Autocar* contains a comprehensive review of the year's progress in automobile design. Everyone interested in mechanics, whether he be car owner, motor cyclist, or designer of either types of vehicle, will find this survey of the trend of design of great value. The Show Number of *The Autocar* is a really remarkable issue, not only in size but in the quality of its contents.

Petrol Consumption.

Are four-cylinder engines more efficient than those on motor cycles? In a recent fuel consumption test in France, under official observation, a 50×85 mm. four-cylinder Peugeot covered ninety-nine miles on 1.1 gal. of benzole, equalling 90 m.p.g. The little car weighed 1,201 lb., and was equipped with a Zenith carburetter. A two-cylinder car of 1,206 lb. weight, using the same carburetter, only covered forty-six miles to the gallon of petrol, while the two-stroke Major, weighing 1,368 lb., gave 58.1 m.p.g. on petrol, a better performance than many four-stroke cars of approximately the same weight. Our special Continental correspondent reports that elaborate precautions were made against fraud, and that the course was at Le Mans, consisting of a 10½ miles circuit.

Special Features.

ACCUMULATOR LIGHTING FOR SIDECARS.
NEW MODELS.
CYCLE CARS AT THE CAR SHOW.

Where the Miniature Machines are.

It has occasionally been asked where the scooters are, since so few are seen on the road, but during a few days in the environs of Manchester we saw quite a number (of the seat type) evidently being used in the daily business trips of their owners. A traveller was also noticed with a workmanlike equipment of sample cases arranged upon a J.E.S. lightweight. This form of motorised bicycle looked eminently serviceable, and well worthy of greater development.

Preparing for the start of the French fuel consumption test. In the foreground is the two-stroke Major cycle car. On the left is the little Peugeot, the consumption of which worked out at 90 m.p.g. over a distance of ninety-nine miles.

3½ h.p. Lightweight.

Light solo 3½ h.p. machines are now being considered by several manufacturers. Weight reduction has always been urged by *The Motor Cycle*.

Preventing a Misapprehension.

There seems to be a misapprehension regarding the Sopwith firm, which is in voluntary liquidation. We are informed that the liquidators are still supplying A.B.C. motor cycles—now fitted with a kick starter. The repairs department is also in a position to deal with repairs and the supply of spare parts.

A Main Road Trial.

Following upon our recent article on "Trials for Man or Machine?" it is interesting to know that the Sutton Coldfield and N. Birmingham A.C. are organising a closed trial on November 20th to demonstrate how machines have improved since 1912. The course is to be over main roads, and will include Sunrising (not to be confounded with Gamble's Lane, known as Rising Sun, near Cheltenham). Apparently the trial will be on similar lines to Colmore Cup event of 1912, and the organisers appear to be out to show how many machines can succeed in obtaining awards instead of endeavouring to eliminate the majority by the introduction of tests which have little, if any, bearing upon the question of reliability.

Smart Capture.

On Monday morning, October 25th, a representative of Messrs. Cashmore Brothers delivered a 3½ h.p. two-stroke Decto motor bicycle to a customer in East Molesey. This customer complained that the timing was incorrect, and after had been remedied, before settling up for the machine, he asked leave to try . He then disappeared round the nearest corner and was seen no more. After waiting a quarter of an hour Messrs. Cashmore's representative communicated with the police, who acted so quickly that the same evening the prospective purchaser and a companion were caught at Undle, a small village near Northampton, by the village constable. Considering that the police had no indication of the route by which the thief had left town, it speaks well for the wonderful organisation of the force. This exceedingly smart capture should have beneficial effects upon those who think that stealing a motor bicycle is an easy matter.

FIRST WESTERN (A.C.U.) TRIAL.

F. A. Simpson (4 Douglas) who put up the best mileage of the second team (Bristol M.C.C.). He is shown ascending the worst portion of Quarhouse Lane. Note the cross gulley.

Test of Puncture-proofed Tubes.

The R.A.C. recently made a test of inner tubes made by Puncture-proofed Tubes, Ltd. Fitted to a heavy car, which was first required to cover 41.13 miles at 42.5 m.p.h., the tubes were each punctured in from six to eleven places, and the car then covered a similar distance, at the conclusion of which the pressures proved to have lost from 1 lb to 2 lb. per square inch only.

No Reduction of Prices in Sight.

We learn from a reliable source that motor cycle manufacturers trading in this country, both British and American, have been closely considering the general trade outlook, especially as to the possibility of a general reduction in retail prices. The industry is still suffering from the effects of under-production, at a time when the demand was so great. This under-production was accompanied by an increase in direct expenditure on wages and material, and was mainly responsible for an abnormal advance in the ratio of overhead and establishment expenses to output. Under these circumstances it is impossible to foresee any reduction in prices until conditions favour increased and cheaper production, and is accompanied by a fall in price of component parts and raw materials.

News from Advertisements.

£50 reward is being offered by the owner of an A.J.S. sidecar (engine No. 12545, registered DK 2536), which was stolen from outside his residence, "The Gables," Constable Road, Ipswich.

Competitions in Japan.

At the moment of going to press we hear that a British machine—a Triumph—has won the championship of Japan.

The A.C.U. at Olympia.

As in previous years, the Auto Cycle Union has reserved the exclusive use of the Prince's Rooms at Olympia for its members attending the Motor Cycle Show to be held from November 29th to December 4th. In these commodious apartments A.C.U. members may enjoy the advantages of a lounge, facilities for correspondence, a special refreshment service, and reserved cloakrooms. A.C.U. members desiring to use the Prince's Rooms are required to take their membership cards to the Show as a means to admittance.

To Assist Visitors from Overseas.

The services of the British Cycle and Motor Cycle Manufacturers and Traders Union, Ltd., are placed at the disposal of foreign buyers visiting this country. From the 25th November to 7th December enquiries should be made at the offices of the Exhibition Manager, Olympia, and at other times to the offices of the Union, "The Towers," Warwick Road, Coventry. Arrangements are in progress for an "interpreter" service during the show.

The London-Exeter Run.

The Motor Cycling Club has decided to include Peak Hill, Sidmouth, in this year's London-Exeter run. The outward route will be left at Honiton. It is a somewhat stiff hill which will have to be taken in the dark, but it will not be officially observed.

LIGHTWEIGHTS FOR ALL—First Show Number of THE MOTOR CYCLE

Next week's issue of "The Motor Cycle," dated November 18th, will be devoted to Lightweights.

Of great interest to all motor cyclists, and to solo riders particularly, next week's enlarged issue—the first of the four Olympia Show Numbers—will contain much informative matter relating to the lighter types of motor cycles.

Many special articles are in course of preparation including :

LIGHTWEIGHTS AT OLYMPIA. LIGHTWEIGHTS FOR ALL. THE DEVELOPMENT OF THE LIGHTWEIGHT. ROAD TESTS OF NEW MODELS. LIGHTWEIGHTS IN 1920 COMPETITIONS. WHICH TYPE OF MINIATURE—MOTOR CYCLE OR SCOOTER?

An Amazing Trial Result.

Five Teams of Four Riders Fail to Produce a Single Non-stop Performance in the First Western Centre A.C.U. Event.

The first Western Centre A.C.U. Team Trial brought many spectators to the observed hills; the illustration shows C. H. Dickins, (3½ h.p. Dene), of the Cheltenham M.C.C., climbing Quarhouse Lane, near Stroud.

THE Western Centre of the A.C.U. was inaugurated on October 1st, and with praiseworthy promptitude held its first inter-club competition on Saturday last (November 6th).

A short course of 15.8 miles was selected by officials of the Stroud M.C.C., and it included the three hills known as Quarhouse Lane, Bussage, and The Knapp, which were first made known to trials riders in the Redditch open event of 1919 These three hills are very steep, and two of them are crossed by difficult projecting gulleys, but they are eminently fair. Four machines constituted a team, made up of one passenger and three solo mounts.

A Choice of Average Speed.

Three circuits of the course had to be covered, and in view of its difficult nature the competitors were given a choice of speed from 15 to 20 m.p.h.

As events proved, not a single sidecar machine survived the first circuit, while the only soloists who entered the second circuit were four in number, and of these only two carried on to the third circuit, where both met their Waterloo early, one skidding and the other running out of petrol.

Just over a mile from the start (at Stroud) was Quarhouse Lane, the first hill, which accounted for no failures, with the one exception of T. Bailey (3½ Sunbeam), who wobbled and charged the bank. The local riders made excellent performances, their knowledge of the place serving them in good stead; this is specially so of D. Goddard and L. Ratcliffe (4 Triumphs), who undoubtedly put up the finest show of the day

The fun commenced at Bussage, about three miles from the start. Approached by a somewhat loose and muddy lane, the hill ascends steeply and straight for some distance, after which comes a slightly easier stretch, in turn giving place to a few hundred yards of gradient, culminating in a section of quite 1 in 4.

The whole surface of the hill is of a hard, stony nature, and, as it had been covered during the morning with hoar frost, the growing power of the sun converted this into a thin coating of moisture which became a film of slime.

Much of the difficulty of the hill can be appreciated when it is mentioned that riders such as E. Williams (on his o.h.v. 2¾ h.p. A.J.S.) and E. Kickham (on the new chain drive 3½ h.p. Douglas) both came to a standstill on the first circuit with their rear wheels spinning hopelessly. In all, this hill accounted for the entire Stourbridge team, three of the Worcester, two each of the Bristol and Cheltenham, and one of the Stroud team.

Results (maximum team mileage possible, 189.6):

1. STROUD M.C.C.

	Mileage.
L. Blick (7-9 Harley sc.)	2.9
D. Goddard (4 Triumph)	34.5
G. Jellyman (4¼ Juno)	18.7
L Ratcliffe (4 Triumph)	34.4
	90.5

2. BRISTOL M.C.C.

A. King-Smith (7-9 Harley sc.) ...	15.8
P. Grout (4 Douglas)	2.9
E. Kickham (3½ Douglas)	2.9
F. A. Simpson (4 Douglas)	18.7
	40.3

3. WORCESTER M.C.C.

B. Bladder (8 New Imperial sc.) ...	2.9
F. Drew (3½ N.U.T.)	2.9
B. Kershaw (2¾ Verus)	18.7
E. Williams (2¾ A.J.S.)	2.9
	27.4

4. CHELTENHAM M.C.C.

N. Hathaway (8 Sunbeam sc.)	2.9
T. Bailey (3½ Sunbeam)	1.2
C. H. Dickins (3½ Dene)	12.2
L. Painter (3½ Norton)	2.9
	19.2

5. STOURBRIDGE M.C.C.

Reserve rider (8 Enfield sc.)	2.9
F. Barnes (2¾ Marloe)	2.9
R. Fellows (4 Triumph)	2.9
F. Jew (4 Norton)	2.9
	11.6

At the foot of Bussage Hill. L. Ratcliffe (4 h.p. Triumph), who made a fine performance until he ran out of petrol at this point on the last circuit; he was in the winning team. (Stroud M.C.C.)

A Stiff Open Trial in Kent and Surrey.

The Matchless Cup falls to a consistent Single-Cylinder Solo Performance.

A DENSE yellow fog greeted the thirty-six riders who competed in the late autumn trial, organised by the Woolwich, Plumstead and District Motor Club, on Saturday last. The first competitor was scheduled to start at 9 a.m., from the Rose and Crown, Green Street Green, Orpington, and this hour necessitated an early start from London; the dense fog prevailing was the cause of a few late starters.

The competitors had not only to surmount the many difficulties provided by well-known competition hills, but were subjected to a restarting and an acceleration test en route. The latter was carried out at the start, an excellent scheme, as it ensured a good get away. A slight misunderstanding, however, accounted for a few poor results.

W. Brandish (4½ h.p. Humber) made the best performance, and covered the measured distance in 4⅘s., whilst F. G. Edmond (4 h.p. Triumph) took but ⅕s. longer.

Other competitors whose deft handling of the clutch and throttle levers, brought them within the 6s. limit were:

Minnie Grenfell (10 Reading-Standard)	5⅘s.
R. B. Whiffen (8 Blackburne sc.) ..	5⅘s.
A. H. Ilsley (6 Matchless sc.)	5⅘s.
H. O. Hayes (3½ Sunbeam)	5⅘s.
J. T. Bashall (6 Martinsyde sc.).. ..	5⅘s.
H. Green (4 Triumph)	5⅕s.
A. F. Selby (3½ Sunbeam)..	5⅕s.
S. L. Greening (3½ Sunbeam)	5⅘s.

Crossing the Westerham main road, the route lay past Titsey Church, a well-known spot, representative of the beautiful country which abounds on this area, to Tatsfield Green and Polesteeple. This latter provided much excitement, was termed the Colonial section, and proved to be a slippery grass track.

On Whitecross Hill. C. Crosthwaite (James sc) negotiating the steep portion of the hill.

A sharp turn left and the grass path narrowed into a stony track which led up to the famous Crown Ash (Salt Box) hill.

A rough stony surface characterised this ascent, and covered with sodden copper-coloured leaves, which gave no indication of the state of the road beneath, it proved too great an obstacle for many riders. The sidecars were, of course, the victims of wheel spin, whilst the solo enthusiasts found difficulty in negotiating the loose boulders.

A sharp turn to the right at the summit led to Cudham Church and thence to Brasted Hill, on the steepest part of which the restarting test was imposed.

The best time figure was recorded against A. F. Selby (3½ Sunbeam), whilst Minnie Grenfell (10 Reading-Standard) also displayed clever clutch handling. This heavy solo mount was, however, too much for her, and she, with it, crashed to the ground. H. F. Edwards (3½ B.S.A.), who had ridden consistently and well throughout the trial, also made a creditable performance.

The route thence included a stiff ascent, Whitecross Hill, to the slimy surface of which more riders succumbed. Then came a cross route to the lunch stop at Knockholt.

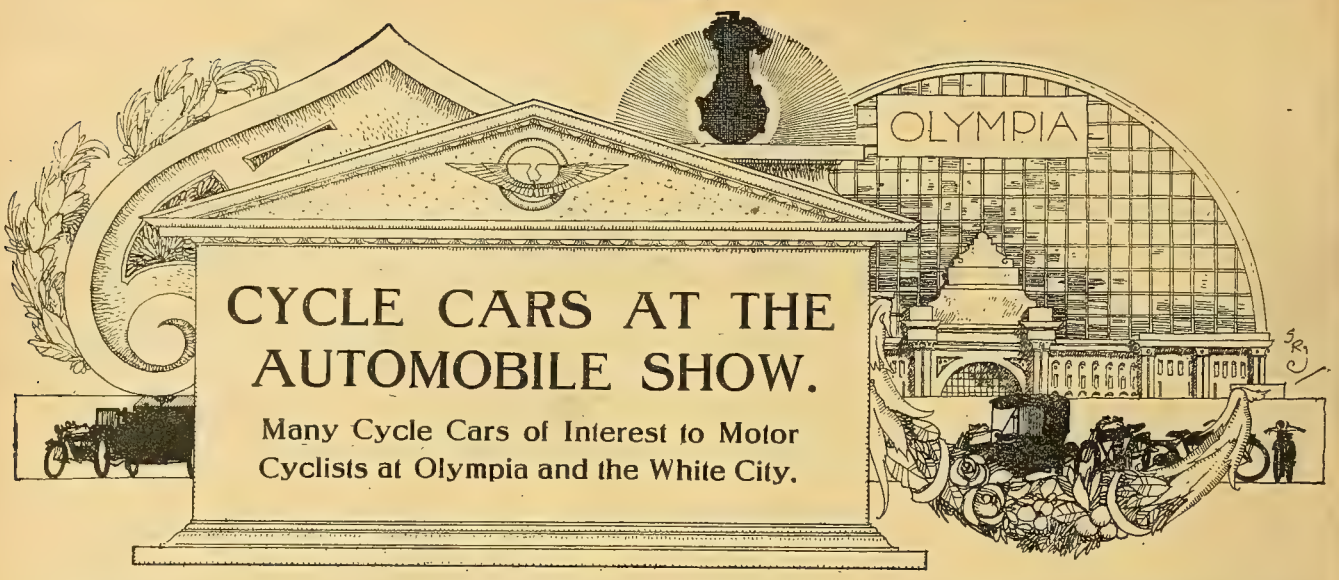
Since ten riders had retired, twenty-six machines only faced the starter at 2.30. Returning to Crown Ash (Salt Box) hill, a good climb was again made by H. F. Edwards (B.S.A.), whilst Baxter, riding his little Radco (the low gear of which, when the throttle was fully open, propelled the machine so slowly that balancing was difficult), also climbed well. Many more stops during the afternoon reduced the eligible riders to a very small number, and at the finish, there was one rider only, H. F. Edwards (B.S.A.), who retained sufficient marks to enable the officiating secretary, Mr. F. J. Ellis, to announce the winner of the premier award. The results are as follows:

MATCHLESS CUP AND GOLD MEDAL.—H. F. Edwards (3½ B.S.A.).

GOLD MEDALS.—Mrs. Hardee (8 Matchless sc.); R. H. Baxter (2½ Radco); B. Walker (3½ Rover); A. F. Selby (3½ Sunbeam); C. Greening (3½ Sunbeam).

SILVER MEDALS.—C. Bourlet (3½ Ariel sc.); H. Bashall (6 Martinsyde); A. H. Ilsley (8 Matchless sc.); W. C. Hemy (6 A.J.S.); J. Wainwright (6 Matchless).

Midst the falling leaves. A few spectators watched the competitors on Yorks Hill. Here is shown J. Wainwright (Matchless sc.) on this typical Kentish byway.



CYCLE CARS AT THE AUTOMOBILE SHOW.

Many Cycle Cars of Interest to Motor Cyclists at Olympia and the White City.

AMONGST a maze of large and expensive automobiles, there are staged at Olympia and the White City several small machines which are of interest to motor cyclists. They are sold, in some cases, at prices lower than many sidecar outfits, and include features which have been developed from successful motor cycle practice.

Unfortunately, these little machines are not all staged in one building, and the prospective purchaser must search Olympia and two halls of the White City before making a considered decision, and even then he will have missed the Carden, the lowest priced, and one of the most interesting exhibits, which is in a third hall of the White City amongst the coachbuilders' exhibits. Accessories also are divided between the two buildings, though tyres are grouped in one hall, and are the first things to be seen on entering the White City.

There is, undoubtedly, a serious effort being made to cope with the demand for a four-wheeled vehicle, which lies in the intermediate stage between the motor cycle and the light car proper, and it is particularly interesting to see how various manufacturers have tackled the problems attaching to such a production. These methods range from simple and ingenious units attached to a combined frame and body to pressed steel frames, water-cooled engines, three-speed and reverse gear boxes, and complete shaft drives with differential back axle. Indeed, it is a difficult matter to decide where the cycle car ends and the light car proper begins, such excellent little machines as the Douglas and Kingsbury being on the dividing line. Mention must be made of the two-cylinder two-stroke Major, a French production having an engine of about 750 c.c. Friction drive is used; but though the machine forms the nucleus of a promising cycle car, the price is necessarily raised by import duties, etc., to a rather high level. Coachbuilders, as a rule, have not specialised in bodies for the lighter types, but visitors to the Show should not miss the exhibits of Messrs. Grose, Ltd., of Northampton, who are showing, in the Annexe of Olympia, very attractive bodies on G.N. and Rover chassis.

A detailed review of these interesting exhibits follows:

A.V. *Stand 410, Wh. City.*

Designed originally as a monocar, the A.V. has now a larger brother, known as the A.V. Bicar. This machine is propelled by an 8 h.p. J.A.P. engine placed at the extreme rear of the body, and drives the solid rear axle through an epicyclic two-speed gear and chain. The rear axle is held in radius rods, which are attached to quarter-elliptic springs. As the engine is somewhat shielded from draught, a blower, driven from the timing side of the engine, is arranged to force air past the cylinders. This short description is sufficient to convey the salient features of one of the simplest forms of drive which has yet been produced. The two-seated body, with staggered seats, forms the frame, and the front axle is centrally pivoted and suspended on a combination of coil and quarter-elliptic springs. Naturally the monocar has not been dropped, but the description of the bicar stands in this case, except for the seating arrangements and the fact that either the 5, 6, or 8 h.p. J.A.P. engines may be fitted. Prices: Monocar, 5 h.p. £171, 6 h.p. £179; 8 h.p. £185; Bicar, £235.

BLERIOT WHIPPET.

Stand 37, Olympia.

But few alterations have taken place in this simple chassis since it was last described in these pages. An 8 h.p. air-cooled Blackburne engine provides the power unit, and incorporated in the flywheel is a single plate clutch. The friction surfaces of this clutch are composed of a series of circular Ferodo inserts, which take the place of the more usual cork inserts. One of the advantages of this plan is that even an amateur is capable of replacing the inserts in the case of wear. We are told, moreover, that a very smooth but efficient drive is afforded. Transmission is by chain to an expanding pulley mounted on a countershaft, the whole countershaft swinging to maintain belt tension as the pulley expands. A jockey sprocket is used to take up chain slack.

In the latest models Hoffmann ball thrust races are fitted to the pulley gear, and the countershaft is splined instead of keyed. The chassis is of wood, and quarter-elliptic springs are fitted front and back. An interesting hand starter is used, and the engine can be rotated from the driver's seat by means of a long lever, carried outside the body, and connected to a toothed quadrant meshing with a pinion on the crankshaft. The ground clearance has been somewhat increased in the latest type. Fitted with hood, screen, and a body of comfortable width, the Bleriot Whippet sells at £250.

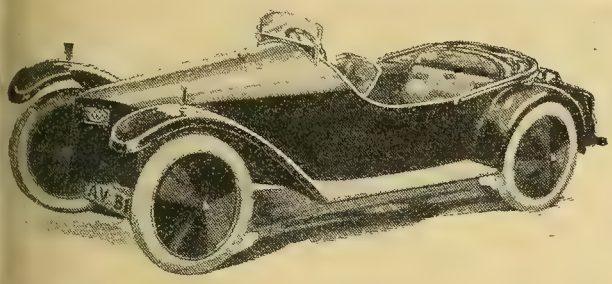
CARDEN. *Stand 476, Wh. City.*

Undoubtedly one of the centres of attraction is the new Carden. For years the £100 car has been an object which manufacturers have striven to attain, and yet this desirable object has been achieved in 1920 in spite of the high prices now ruling.

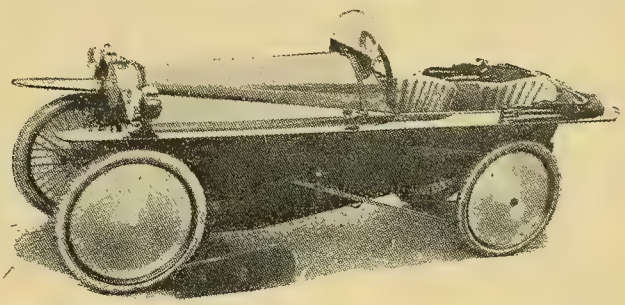
How is it done? By clever design and the elimination of the unnecessary! The whole power unit, both engine, gears and mechanical lubrication are combined with the rear axle, and this unit can be en-

EXAMPLES OF FOUR-WHEELED CYCLE CARS OF INTEREST TO MOTOR CYCLISTS.

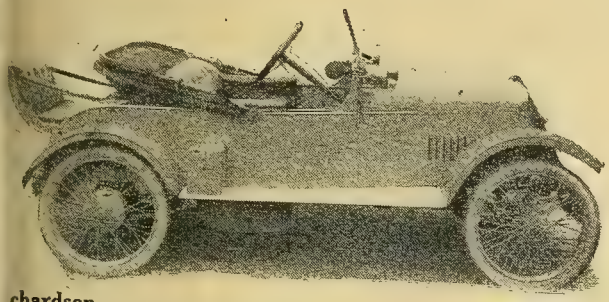
Air-cooled V and Flat Twin Engines Predominant in 1921 Cycle Car Design.



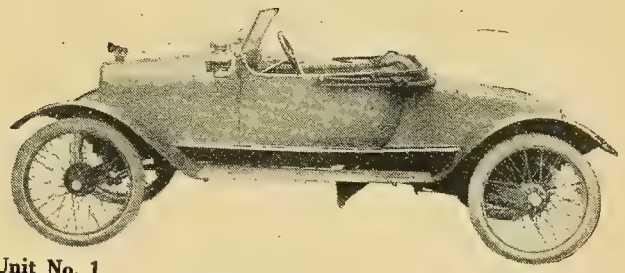
A.V. Bicar. **£235 0 0**
8 h.p. air-cooled twin J.A.P. engine, epicyclic two-speed gear, chain transmission.



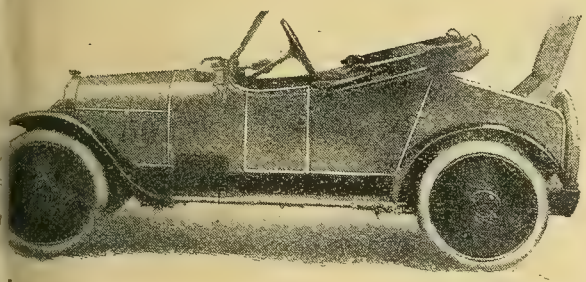
Tamplin. **£165 0 0**
8 h.p. air-cooled J.A.P. engine, Sturmey-Archer three-speed gear, chain-cum-belt transmission.



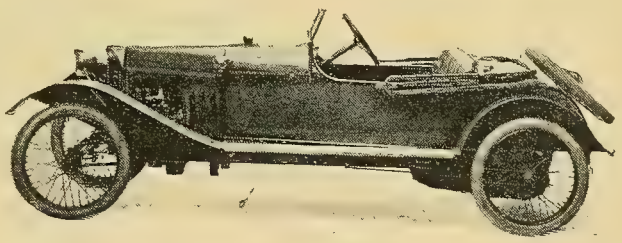
chardson. **£262 10 0**
8 h.p. J.A.P. or 10 h.p. Precision air-cooled engines, friction and chain transmission.



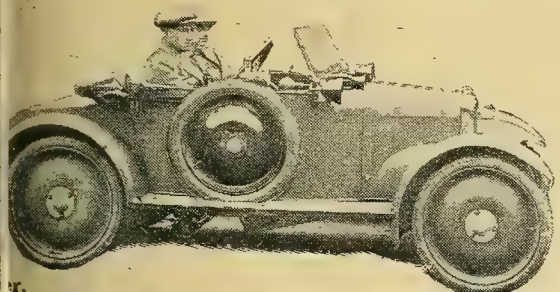
Unit No. 1. **£275 0 0**
8 h.p. air-cooled flat-twin engine, friction and chain transmission.



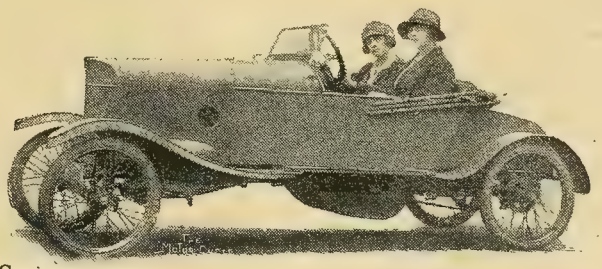
l. **£285 0 0**
8 h.p. water-cooled J.A.P. engine, three speeds and reverse, chain transmission.



G.N. **£241 17 6**
10 h.p. air-cooled twin engine, shaft-cum-chain transmission, three-speeds and reverse.



er. **£300 0 0**
h.p. air-cooled flat-twin engine, shaft transmission, worm drive rear axle.



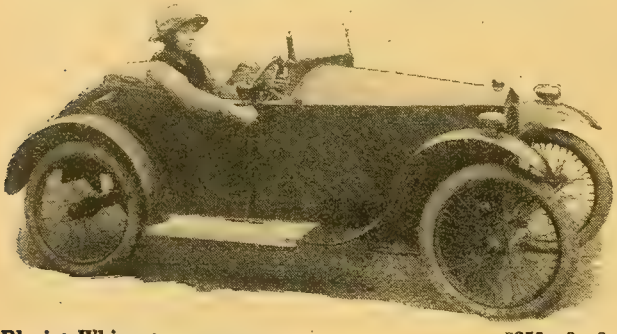
Grahame White. **£245 0 0**
5-6 h.p. wa[illegible]-cooled flat twin Coventry-Victor engine, friction and chain transmission.

tirely removed in a very short space of time.

One cannot expect luxuries at the price, and yet all that is possible has been done in this direction. A two-cylinder air-cooled two-stroke engine of 75×80 mm. bore and stroke drives a two-speed gear through a large gear wheel meshing with a small pinion on the crankshaft, the driven shaft forming part of the rear axle. A five-plate clutch is interposed, and, in spite of the low price, a two-cylinder combined plunger and oscillating oil pump running at 1-256th engine speed forces fresh oil to the pistons. Roller big ends are employed, and the whole unit is insulated from the body by coil springs.

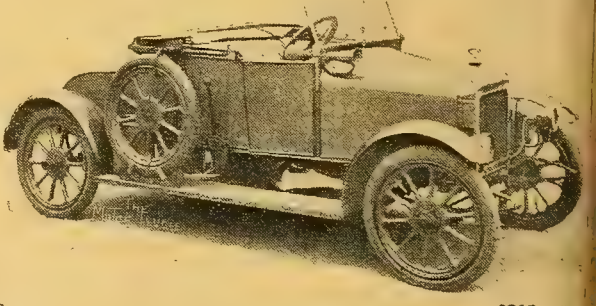
Since the unit is combined with the rear axle, no frame is required, and the body serves a double purpose. The front axle, also, is suspended on coil springs, and the machine has a very presentable appearance. 26×2¼ tyres are fitted, and hood and screen are listed as extras. It should be added that a simple kick-starter, operated from the driver's seat, is included in the specification. We hope later to deal more fully with this interesting design, which permits a practicable two-seater being produced at a price which is little in excess of that of a lightweight motor cycle.

Incidentally, we noticed that the Carden exhibited was fully equipped with very smart accessories supplied by Messrs. Gratze.



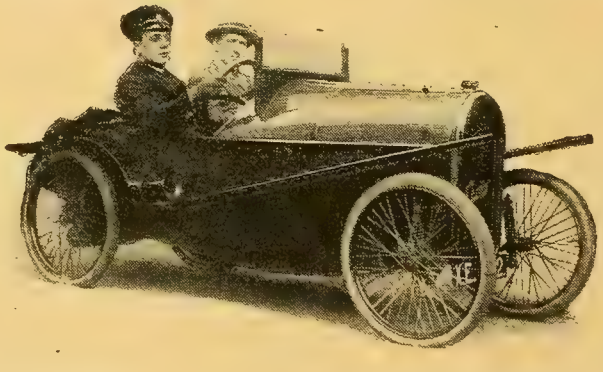
Bleriot-Whippet. **£250 0 0**

8 h.p. air-cooled twin Blackburne engine, variable gear, by expanding pulleys, chain and belt transmission.



Crouch. **£315 0**

8 h.p. water-cooled twin engine, epicyclic three-speed and reverse gear, chain transmission.



Carden. **£100**

8 h.p. air-cooled two-cylinder two-stroke engine. gear drive to live back axle.

CROUCH. *Stand 439, Wh. City.*

Engined with a water-cooled 60° V twin, the Crouch combines a unit engine and gear box set across the frame, with a final chain drive—a combination which, though unusual, has proved eminently satisfactory on road and track. In the latter connection, it will be remembered that this little car recently averaged 62 m.p.h. for three hours on Brooklands, and lapped at 68 m.p.h. for some time. A three-speed and reverse gear is provided, and the unit is slung from a channel steel frame.

Suspension differs from the usual cycle car practice, in that full elliptic springs are used in front. Rack and pinion steering is employed, and the starting handle is geared up. Since the engine lies behind the seats and the radiator is in front of the car in a normal position, a simple gear type water pump is used to ensure adequate water circulation. The wheels are detachable and interchangeable, and are of the artillery type, while a fifth wheel is included in the specification. 650×65 mm. tyres are fitted. Price, 300 guineas.

G.N. *Stand 425, Wh. City.*

One of the earliest true cycle cars which has survived the test of time, and has increased considerably in popularity, is the G.N. Peculiar interest attaches to this make since Capt. Nash set up the wonderful speed record of 87.5 m.p.h. on his racing machine Kim II. This machine, with its inclined overhead valves and single-seated racing body, forms a centre of attraction on the G.N. stand.

Several types are shown, but, as they differ only in detail, the standard touring machine will serve as a model. An 8 h.p. 90° V twin engine serves as a power plant, and in itself contains many interesting features. The inlet valves are placed directly over the exhaust, the rocker gear being enclosed. An overhung crank with long plain bearings is employed, and a single-plate clutch is combined with the large outside flywheel. Thence power is transmitted by shaft to a bevel-driven countershaft, and, finally, three speeds and reverse are provided by means of four chains and a pair of gear wheels.

The final transmission is protected by an ample shield, and the whole is carried in a simple frame which is constructed of channel steel.

Quarter-elliptic springs are used at the front and rear, and a parallel motion for the axles is ensured by a simple system of tie-rods. Steering is by bevel gear, and internal expanding brakes are used. Price £241 17s. 6d. complete, but £33 15s. extra for dynamo lighting.

GRAHAME-WHITE. *Stand 25, Olympia.*

Two types of runabouts are staged on this stand. The smaller is propelled by a 350 c.c. Precision two-stroke engine, and is the acme of simplicity. A long chain conveys the power to a sprocket gripped to the countershaft by a co insert clutch. Two gear ratios are o tained by the use of chains to the re axle, the front sprockets being locked the countershaft, as desired, by means dog clutches.

Suspension is by quarter-elliptic sprin attached to an ash frame, and, since t rear axle is solid, a contracting bra band is fitted to each rear wheel, c operated by foot and the other by ha The price is £160, or with hood, scre and accumulator lighting, £174.

The larger model is engined with a 5-6 h.p. Coventry Victor flat twin, wh propels the machine by means of sha friction gear, and a short chain to solid axle.

Springing and brake gear are similar design to those on the lighter machi but the frame is constructed of tape pressings arranged with the ribs of channel pointing outwards.

In future models all wheels will detachable and interchangeable. price is £245, or with hood, screen, accumulator lightin, £265.

L.M. *Stand 332, Wh. C*

The L.M. is no newcomer to the c car ranks, and, in essentials, the la type resembles its forerunners. An 8 water-cooled J.A.P. engine with extra l flywheels, is placed in the front of frame, and each cylinder is cooled se ately on the thermo-syphon princip

A chain drives the main shaft solidly constructed three-speed and verse gear box situated amidships, a further chain conveys the power to rear axle. It is very noticeable that

cellent arrangements have been made for the adjustment of these chains, a positive sliding motion being provided for the gear box by a conveniently placed adjusting screw, while the rear axle may be moved bodily in slotted radius rods.

Both internal expanding and external contracting brakes are fitted to each rear wheel, and quarter-elliptic springing is employed throughout, the front springs being assisted by coils between the axle and the frame members. Steering is direct. The price, complete with hood, screen, and accumulator lighting, is £285.

NORTH STAR AND EDMOND. *Stand 471, Wh. City.*

A machine is shown having a 4 h.p. Blackburne engine, chain drive to a countershaft, and final belt drive through a special Grado gear. The frame is of the buckboard type, but quarter-elliptic springs are added.

RICHARDSON. *Stand 408, Wh. City.*

Amongst the cycle cars which have been in evidence in many competitions during the year is the 8 h.p. Richardson. The layout is particularly simple, and, briefly, it may be described as having an 8 h.p. J.A.P. or 10 h.p. Precision engine, driving through shaft, friction gear, and chain to a solid rear axle. The engine and transmission are mounted in a combined wood and steel frame, and the buckboard type, but quarter-elliptic springs.

Since the rear axle is solid, the brakes—one on each wheel—are operated one by hand and the other by foot; each is of the internally expanding type. The starting handle is geared up so that the engine may be "swung." The driven gear is of compressed cork. The standard equipment includes 650×65 mm. Dunlop tyres, hood, screen, and accumulator lighting. In addition to this a dickey seat is part and parcel of the neat bodywork. Price, complete, £262 10s.

ROVER. *Stand 57, Olympia.*

One of the most popular light machines on the road is the 8 h.p. Rover, which has already done much to allay the public prejudice against air-cooling, since the silence and reliability of its 85×88 mm. flat twin engine have been proved.

There is nothing startling in the design, which is a sensible straightforward proposition throughout. Cast iron cylinders with detachable heads and side-by-side valves, mechanical oil pump feeding into the base of one cylinder through a sight feed, and roller bearing big ends are the main features of the engine.

Transmission, which is purely on car lines, is through a three-speed and reverse gear box and propeller-shaft to a worm-driven rear axle. Quarter-elliptic springs are bolted to the channel steel frame, and Sankey steel wheels are used as standard.

Another 2in. of leg room has been provided in the body, and the spare wheel has been brought round to the side of the body, so as to leave more room for spares and luggage in the boot. Electric lighting is a standard fitting, and the complete car sells at £300.

TAMPLIN. *Stand 433, Wh. City.*

Amongst the lower priced two-seaters the Tamplin holds a high position. Its transmission follows motor cycle lines, closer perhaps than that of any other cycle car. An 8 h.p. J.A.P. engine drives a Sturmey-Archer gear box by means of a primary chain, and thence a long belt running over large pulleys is used to drive the solid rear axles. The actual drive is outside the body in an accessible position, but the engine, gear box, and kick-starter are inside and well protected from the elements.

Properly speaking, there is no chassis, since the body, suitably stiffened, forms the frame. Coil springs in front and quarter-elliptics at the back provide adequate suspension, and all springs are adjustable for the weight carried. By climbing the worst of the Midlands' and Southern Counties' hills, the Tamplin has proved its capabilities, and with its deeply staggered seats it has a sporting, though unusual appearance. Price £165.

UNIT NO. 1. *Stand 333, Wh. City.*

One of the most interesting exhibits in the Show is the Unit No. 1, which may be said to consist of two parts, (1) a front axle, ash and flitch plate frame, and an ingenious cable rack steering gear easily and instantly adjustable, and (2) a rear axle, friction gear, and engine unit carried on a steel frame, attached to No. 1 by quarter-elliptic springs, and a flexible connection placed amidships. The engine is an air-cooled Bovier flat twin of 85×88 mm. bore and stroke respectively, having steel cylinders, cast iron detachable heads, with side-by-side valves and an ingenious system of forced lubrication, by which oil is fed to a well above the tappets and distributed to the cylinders by the tappets themselves.

Behind the engine lies a simple friction gear, consisting of a driving disc fitted with four blades on its outer periphery, and a driven disc behind a large cork disc held between two plates. This cork is easily and quickly replaced in case of need.

The driving disc may be moved by a quick thread screw in order to provide a clutch, and an extra tension device is supplied for emergencies.

The countershaft is provided with a gear reduction to avoid the necessity of large sprockets, and a short chain is used for the final drive. Both brakes are carried on the axleshaft, and it should be mentioned that the weight is taken by extension of the sub-frame so that the axle transmits power only. This unit lies, of course, behind the occupants of the car. The seats are of the hammock type, carefully padded, and a large locker is placed behind the dummy radiator. The price complete is £275, and a water-cooled model can be supplied at £297.

RECORDS AT BROOKLANDS.

ON Thursday, the 4th inst., several new records were created at Brooklands by H. Le Vack on an Indian, and also by Capt. M. C. Breese on a Coulson B.

Le Vack's times in the Class E records were as follows:

miles	39m. 33s.	...	75.85 m.p.h.
miles	1h. 23m. 8⅘s.	...	72.17 m.p.h.
miles	2h. 2m. 28⅘s.	...	73.48 m.p.h.
miles	2h. 45m. 5⅕s.	...	72.69 m.p.h.
hour	73 ml. 1,229 yd.	...	73.69 m.p.h.
hours	146 ml. 1,514 yd.	...	73.47 m.p.h.
hours	218 ml. 697 yd.	...	72.79 m.p.h.

Between the 50 and 100 miles, Le Vack had a broken chain, which accounts for the slower speed accomplished in the 100 miles. After riding for three hours, he had to stop on account of the fog.

The machine used for these records was a standard Indian Powerplus model, 1,100 mm. (997 c.c.). The equipment of the machine consisted of Dunlop tyres, Lucas magneto, Renolds chain, Wakefield's Castrol, and K.L.G. plugs.

On the same day, Capt. Maurice Breese gained seven Class F records, his times and speeds being as follows:

50 miles	1h. 13m. 14⅘s.	...	40.95 m.p.h.
150 miles	3h. 51m. 18⅘s.	...	38.89 m.p.h.
200 miles	5h. 11m. 31⅘s.	...	38.52 m.p.h.
2 hours	79 ml. 441 yd.	...	39.62 m.p.h.
4 hours	154 ml. 1,596 yd.	...	38.72 m.p.h.
5 hours	192 ml. 549 yd.	...	38.45 m.p.h.
6 hours	230 ml. 245 yd.	...	38.35 m.p.h.

The equipment of the machine consisted of Flexi carburetter, E.I.C. magneto, Wood-Milne tyres, John Bull belt, Wakefield's oil, and Shell Aviation spirit.

The previous best performances were Class E: 50 miles, A. J. Moorhouse (Indian), 40m. 59.2s. (73.11 m.p.h.); 100 miles, J. L. Emerson (A.B.C.), 1h. 26m. 13.6s. (69.58 m.p.h.); 150 miles, A. J. Moorhouse (Indian), 2h. 16m. 18s. (66.03 m.p.h.); 200 miles, A. J. Moorhouse (Indian), 3h. 1m. 54.4s. (65.96 m.p.h.); 1 hour, V. E. Horsman (Norton), 71 ml. 1,173 yd. (71.84 m.p.h.); 2 hours, V. E. Horsman (Norton), 138 ml. 1,258 yd. (69.36 m.p.h.); 3 hours, A. J. Moorhouse (Indian), 197 ml. 1,271 yd. (65.90 m.p.h.)

The previous best figures in Class F were as follows 50 miles, Capt. M. C. Breese (Coulson-B.), 1h. 14m. 30s. (40.26 m.p.h.); 2 hours, Capt. M. C. Breese (Coulson-B.), 79 ml. 122 yd. (39.53 m.p.h.)

FUEL AND TAXES.

EVIDENCE of the unpopularity of the new taxes which come into force on January 1st is contained in copies of the correspondence between one of our readers and Sir Henry P. Maybury, K.C.M.G., C.B., Ministry of Transport. The motor cyclist in question, Mr. H. V. P. Smith, of Wood Green, N., in letters dated from April until October, has well presented the case of the average motor cyclist in making a plea for a tax on fuel, but his efforts have brought no better results than those of our motoring organisations, ourselves, and the Motor Legislation Committee. On this point the Government has been adamant all along, and the new taxes were based on recommendations considered as the best alternative to a fuel tax.

EX-D.R. REUNION.

DURING Show week ex-despatch riders of the Third Army Headquarters Signal Company, R.E., are holding their second annual dinner at the Florence Restaurant, Rupert Street, W. December 3rd has been fixed as the date, and any D.R. who was at any time attached to the Third Army in France, and has not received an invitation, is invited to communicate with Cyril F. Earl, 3, Kildowan Road, Goodmayes, Essex.

CLUB NEWS.

Doncaster and District M.C.

The Motor Cycle Motor Cup has been won this season by Mr. F. Leach.

Ilkeston and District M.C.C.

The closing run was held on October 31st. About seventy-five members met at headquarters at ten o'clock and journeyed to Sheffield, where an excellent dinner was provided. The members returned by Worksop and Mansfield to Chesterfield for tea, arriving back at headquarters about 7.15 p.m.

Market Harborough and District M.C.C.

The first competitive event organised by the Market Harborough and District Motor Cycle Club took place on October 31st, when a timed club hill-climb was held on Slawston Hill, near Harborough. A good entry was received, and the first and second prizes were won (on formula) by J. Addison (6 James) and R. Corbett (3½ Sunbeam). The club has already held several social runs, and now numbers nearly fifty members.

Wimbledon M.C.C.

A cordial invitation is extended to motor cyclists and light car owners residing in Wimbledon and district to become members of the above club, which has been in existence over eight years. The Committee are arranging an attractive programme for 1921, and they would be pleased to receive applications from intending members as early as possible, so that preliminary arrangements can be decided upon. Further particulars can be obtained from the hon. sec., 48, Princes Road, Wimbledon, S.W.19.

North London M.C.C.

In accordance with club rules, the officers for the past season resigned *en bloc* at the recent annual dinner at the Holborn Restaurant. The executive for the ensuing season is as follows: President, Mr. Kennedy Jones, M.P.; vice-presidents, Messrs. G. Goffrie Higgs and J. F. Hull; chairman, Mr. G. W. Townsend; captain, Mr. R. W. Greaves; treasurer, Mr. B. Staley; hon. secretary, Lt. Alan W. Day, Lynton, Park Crescent, Finchley, N.3, who will be pleased to welcome new members.

North Wales M.C.C

Although only recently formed, this club is already affiliated to the A.C.U., and has a very strong membership, thanks being due to the energetic president. On October 28th and 30th there was a very successful entry for the petrol consumption test, which was to be won on formula. At the start a pint of petrol was measured out to each competitor and each machine and rider weighed.

The club gold, silver, and bronze medals are awarded the first, second, and third best performances: 1, W. Edwards (2¾ New Imperial); 2, R. M. Johns (2¾ New Imperial); 3, E. Hughes (4 Triumph); 4, Glynne Jones (3½ Lea-Francis).

The last official event of the season is being held on Thursday, November 18th, when a half-day reliability trial will be run. A start will be made from the garage, Denbigh, at 3 p.m., the course being about forty-five miles in length, and will not include any freak hills.

Bradford M.C. and L.C.C.

On Thursday, November 25th, the above club has arranged a very interesting evening. A series of lantern slides will be shown, together with a private view of the Scott Trial films for both 1919 and 1920 (kindly lent by the Scott Co.). The following items in the programme of this live club are a one day trial, Dec. 12th, and the annual dinner, Dec. 17th.

Week-end Club Events.

Nov. 14.—Leicester and District M.C.C. Winter Reliability Trial.
Nov. 14.—Sheffield and Hallamshire M.C.C. Club Trophy Trial.

Leicester and District M.C.C.

The annual winter reliability trial for the Paskell Cup will be held on November 14th. It is a closed event, but would-be entrants who are not members may enter for the trial on payment of 10s. 6d., and they will be made honorary members for one day. The other entry fee for club members is 5s. 6d., and for teams, whether composed of club members or not, one guinea.

The trial will also include an acceleration test on *The Motor Cycle* formula $\frac{C \times T^2}{W}$. The rider who comes out with the best figure of merit in this test will be awarded the Lunt Cup.

Entries close on Thursday, November 11th. Full particulars can be obtained from the hon. sec., Mr. R. A. Spittall, 30, Princess Road, Leicester.

A Yorkshire Centre A.C.U.

The development of motor cycling in Yorkshire has led to the formation of a Yorkshire centre of the A.C.U., subject, of course, to the sanction of the Union being obtained. This means that the Yorkshire Centre will be carved out of the area which has hitherto been covered by the East Midlands Centre. The idea of forming a Yorkshire centre was discussed in an informal way at York last May, but it came up in the form of a definite scheme at a meeting of Yorkshire motor cyclists arranged by the Ilkley Motor Cycle and Light Car Club at Leeds on Saturday, October 30th.

Twelve different Yorkshire clubs were represented. Of these, Ilkley, Keighley, Dewsbury, Bradford, York, Wombwell, Leeds, and Doncaster signified their willingness to join the new centre. The representatives of Harrogate, Scarborough, and Hull Clubs said they had not come with power to join the centre, but would need to report to their respective committees before they could finally commit their clubs. The Sheffield and Hallamshire Club representatives explained that their club was in a somewhat peculiar position. They were on the borderline between the East Midlands Centre and the proposed new centre, and a considerable proportion of their membership was drawn from Derbyshire. In consequence it had been decided to call a special meeting of the members of the club and submit the decision to their vote as soon as possible.

Mr. J. N. Longfield, the president of the Ilkley Club, and an A.C.U. consul, has been temporarily elected president of the new centre, with Mr. F. A. Scriver (Bradford) and Mr. A. Walton (Leeds) vice-presidents, and Mr. F. Dovener as hon. secretary.

Mr. Longfield pointed out that the great advantage of forming such a centre would be that all the clubs in the district would be working together. If the could get such a centre formed many of the grievances which the clubs had against the A.C.U.—and there were always grievances against a ruling body—could be pressed much more effectively.

Scene at the start of the N.M.C.F.U. (Portsmouth Branch) Petrol Consumption Trial. Portsdown Hill was the venue.

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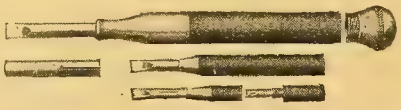

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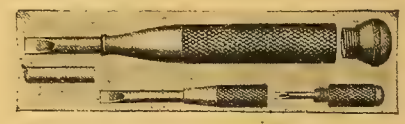

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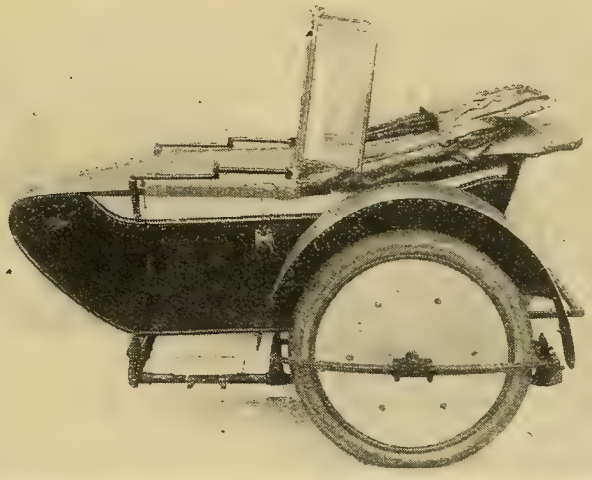

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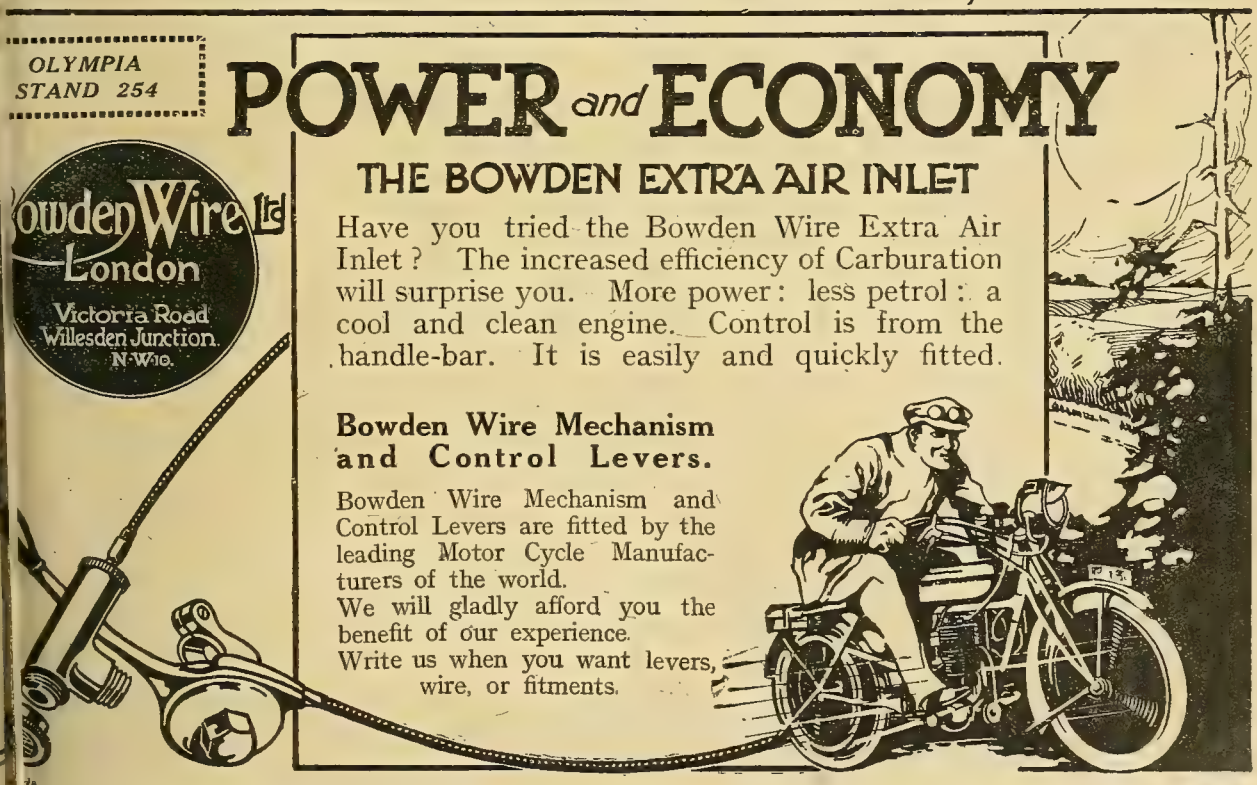

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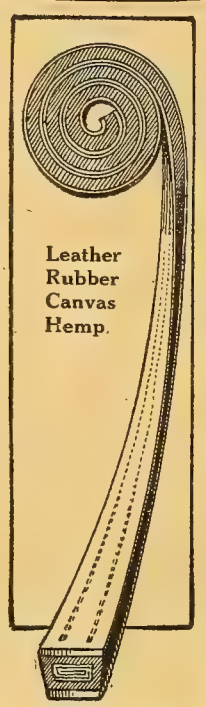

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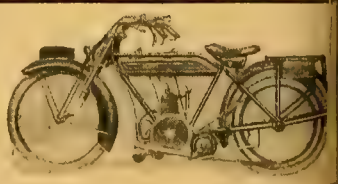

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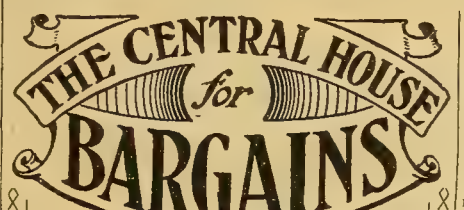

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1920 3½ h.p. **LEA-FRANCIS**, J.A.P. engine, immediate delivery ..... **List price**

1920 8 h.p. **ZENITH**, countershaft, kick-starter model, immediate delivery, **Makers' list price**

1920 **A.B.C.**, 4 speeds, brand new, immediate delivery ..... **List price**

1918 7-9 h.p. **HARLEY**, just been overhauled and re-enamelled at Harley-Davidson's, special bargain. Only wants seeing **£110**

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Immediate delivery, **Henderson Elite Sidecars**, suitable for Harleys, Hendersons, etc.; also famous **Dinky Sidecars**, all models in Stock.

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WANTED.—**First-class Combinations.**

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(Bottom end of Tottenham Court Rd.)
'Phone: Museum 5938.

MOTOR CYCLES FOR SALE.

A.B.C.

1920 A.B.C., perfect condition, Lucas lamp, horn, insured, spares, mileage 1,000; £140; seen Monday to Friday.—Colson, South Weylands Farm, Esher. [8054

1920 A.B.C., winner of several gold medals in hill-climbs, beautiful machine, and real snip; 112 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7745

1920 A.B.C., dynamo lighting, speedometer, etc., condition as ned, any trial; a bargain, £150, or nearest offer.—W. Rollason, Ivydene, 231, Swan Lane, Coventry. [X6392

1920 A.B.C., 3h.p., 4 speeds, kick-starter, latest model, guaranteed not been 150 miles, good as brand new; £120.—Walbro Motor Cycle Works, Saffron Walden, Essex. 'Phone: 45. [X6404

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only run about 300 miles, condition as new; cash £150 (list price £173/10); may be obtained on deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [8562

A.B.C., 1920, Cowey horn, Lucas rear lamp, generator, new rear tyre, just overhauled, result 60 m.p.h. spares, valve springs, rockers, push rods, cylinder head washers, and tappet adjusters, mileage 3,500, owner buying combination; price £120.—Muntz, 47, Jesus Lane, Cambridge. [8227

1920 A.B.C., kick-starter, Lucas dynamo set, Apollo electric horn, Nightingale whistle, Watford speedometer, aluminium number-plates, mileage 1,600, just retuned by makers, condition excellent, seen London, list £185; accept best offer over £140; essentially de luxe model.—Box 9,186, c/o *The Motor Cycle*. [7995

Abingdon.

1920 Abingdon 6-7h.p. Twin Combination, Sturmey-Archer 3-speed countershaft gear, lamps, horn, speedometer, Palmer cords, latest type coachbuilt sidecar, hood, screen, any trial, perfection; £150.—Lucas, 390, High Rd., Chiswick. [8102

ABINGDON-IVY 5-6h.p. Combination, S.A. countershaft, electric lighting, Bosch mag., new Senspray, discs, very sporty, good condition; must sell; late 1914; £60, or nearest.—Fardell, Gill St., Limehouse, E.14. 'Phone East 126. [7841

ABINGDON King Dick 5-6h.p. 1919 Model Combination, fully equipped, hood, screen, low mileage; price £125, or £43/15 cash and 6 monthly payments of £14/11/8.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [7976

Acme.

ACME-J.A.P. New 8h.p. Combination; £213/15; liberal exchanges.—Motories, 25, Horton St., Halifax. [8063

A.J.S.

DAN GUY, Weymouth.—5-6h.p. A.J.S. combination in stock; £210. [5958

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

2¾h.p. A.J.S., T.T., 2-speed, h.b.c., K.S., beautiful machine.—25, Water St., Blackburn. [X6452

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

NEW 1920 A.J.S. 6h.p. Solo, fully equipped; sacrifice £150.—100, Dudley Rd., Wolverhampton. [7917

DAN GUY, Weymouth.—Sole district agent of A.J.S. motor cycles; trade supplied early delivery 1921 models. [5957

A.J.S. Combination, late 1919, electric lighting and horn, excellent condition; £175; Oxford—Box 9,131, c/o *The Motor Cycle* [7849

1920 A.J.S. Combination (June), Lucas lamps and horn, spare wheel, screen, hood; £190.—Laughton, 15, Southern Rd., Bournemouth. [7865

1920 A.J.S. Combination, Lucas dynamo, hood, cover, all accessories; cost £255, Sept.; accept £230.—59, High St., South Norwood. [8341

1920 A.J.S. 6h.p. Combination, complete with accumulator electric lighting, small mileage, perfect condition; £225.—7, Milton Av., East Ham, E. [8265

T.T. 2¾h.p. A.J.S., 1915, kick start, h.b.c., etc., fully equipped and in perfect condition; £60, lowest.—Mills, 74, Market St., Chorley, Lancs. [8123

BRAND New 6h.p. A.J.S. Combination, as received from makers, delivered too late, must sell; cash, £195.—S. Platt's Cement Works, Saffron Walden, Essex. [X6409

A.J.S. 2¾h.p., 2-speed, excellent condition, new cylinder, piston, and rings, etc., Lucas lamp and horn; £65.—Gibson, Minskip House, Linthorpe, Middlesbrough. [8353

A.J.S. 6h.p. and sidecar, 1915, re-stove enamelled and overhauled, in good condition, with spares and Tan-Sad; £110.—Douglas, R.A.S.C. Mess, Bulford. [8007

MOTOR CYCLES FOR SALE.

A.J.S.

2¾h.p. A.J.S., 1916, 2-speed, kick starter, hand clutch, all accessories, excellent condition; 68 gns.—South View, Cambridge Rd., Farnborough, Hants. [8373

£198.—1920 A.J.S. 6h.p. combination, spare wheel, screen, brand new. — Clifford Wilson Co., 70, Royal Hospital Rd., Sloane Sq., S.W. Tel.: Kens. 7113 [7651

1920 A.J.S. 6h.p. Combination, 10 weeks old, lovely turnout, speedometer, lamps, horn, and spare wheel; £190.—Shaw, 2a, Hr. Market St., Farnworth, near Bolton. [7915

A.J.S. 1920 Combination, just received from works, £210; extended terms 4% extra.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

F.O.C.H. have a new A.J.S. Combination, 1920.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8038

A.J.S. Combination, Oct., 1919, unpunctured, spare wheel unused, lamps, Lucas horn, screen, spare valve, etc.; £180, or near offer.—Arthur, Marchamley, Hawkstone, Shrewsbury. [8093

A.J.S. 1920 6h.p. Combination, dynamo lighting, speedometer, hood, screen, hood cover, side curtains, Klaxon horn, Tan-Sad pillion seat, mechanically perfect, as new; £250.—Parker's, Bradshawgate, Bolton. [X6398

F.O.C.H. have an A.J.S. combination, detachable wheels, spare, lamps, horn, grid, screen; £115.—5, Heath St., Hampstead (near Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8034

A.J.S.—Immediate delivery of this high-grade 6h.p. combination from stock. Standard model, with detachable wheels and spare, £210; Lucas dynamo lighting set, £28 extra; local trade supplied.—P. J. Evans, sole Birmingham agent, 83-91, John Bright St., Birmingham. [0299

A.J.S. Specialists: Walsall Garage, Wolverhampton St., Walsall, Tel. 444, can give delivery from stock of these world-famous outfits; price £210; write for catalogue. [8998

Alldays

ALLDAYS Allon 2¾h.p., 2-speed, hand clutch, lamps, horn, just overhauled, first-class condition; £50.—42, Markhouse Rd., Walthamstow. [8336

ALLDAYS-ALLON, 2-speed, clutch, kick-starter, shop-soiled; at greatly reduced price.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7176

ALLDAYS Allon (1918), 2¾h.p., 2-speed, hand clutch, all on, including Tan-Sad, excellent condition; £55.—Webb, 36, Nimrod Rd., Streatham Park, S.W.16. [8239

American X

7-9h.p. American X. Combination, hood, screen, 2-speed, chains, tyres good, electric lamps, splendid running order; £75.—Withers, 4, College Rd., Cheshunt. [8229

1920 7-9h.p. American X and Swan sporting sidecar, electrically equipped, condition perfect, not run 1,000 miles; no reasonable offer refused.—Scowcroft, Moorfield, Bolton. [7815

Ariel.

WAUCHOPE'S, 9, Shoe Lane, London.—3½h.p. 1916 Ariel and sidecar; £95. [8579

1920 Ariel, fast, lamps, etc.; £105; ride 50 miles.—Seymour Hotel, Gloucester. [8117

ARIEL 3½h.p., variable gear, good condition; £40.—Box 9,182, c/o *The Motor Cycle*. [7970

CYRIL WILLIAMS, for early delivery of Ariels.—Chapel Ash Depot, Wolverhampton. [2267

DAN GUY, Weymouth.—Sole agent for Ariel motor cycles; early delivery given of all-chain 1921 model. [5959

LATE 1920 6-7h.p. Ariel Combination, equipped, perfect, cost £195; sell £130.—52, Pear Tree Rd., Derby. [8330

£160.—1920 Ariel 6h.p. combination, new.—Clifford Wilson, Co., 70, Royal Hospital Rd., Sloane Sq., S.W. Tel.: Kens. 7113. [7652

ARIEL 3½h.p. for sale, engine, tyres, and belt in good condition: £35.—L. Treen, 8, Lewis Torr, Pennydarren, Merthyr, S. Wales. [7906

ARIELS, order now for 1921 all-chain and chain-cum-belt models; spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

1920 Ariel 3½h.p. 3-speed Combination, demonstration model, as new in every respect; cost £157/10, only 125 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7744

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Spenkman, Ariel Expert, 7 Rochdale Rd., Harpurhey, Manchester. [8231

ARIEL 6-7h.p. Twin, hand, foot clutch, horn, lamps, Millford Corvette 4-point sidecar, patent grid, coverall, blue, white lines, smart reliable turnout, new two months ago, little used, any trial; £160.—Pratt, Tailor, Huntingdon. [7985

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4 h.p.	**INDIAN** Scout	£140	0
6 h.p.	**ZENITH,** sporting	£139	0
8 h.p.	**NEW IMPERIAL** Combination	£187	0
2¾ h.p.	**NEW IMPERIAL,** 2-speed	£80	17
4 h.p.	**TRIUMPH** Combination (new chain-drive model	£195	0
4 h.p.	**TRIUMPH,** 3-speed	£127	10
2½ h.p.	**TRIUMPH,** light-weight	£75	0
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3½ h.p.	**ROVER** Combination	£180	0
3½ h.p.	**ROVER,** T.T.	£114	11
3½ h.p.	**NORTON,** T.T. model	£98	0
3½ h.p.	**RUDGE-MULTI**	£110	5
8 h.p.	**BLACKBURNE,** 3-speed	£130	0
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ARIEL, 1920, brand new 6-7h.p. twin combination, at special clearance price: £150; a bargain which cannot be repeated; maker's full guarantee; first cheque secures.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0065

Auto-Wheels.

WALL Auto-wheel, in good order, powerful; £9/10.—Page, Franklin House, Southwell, Notts. [8318

AUTO-WHEEL, gent's cycle, sidecar, perfect condition; £26; would separate; trial run.—Dawson, 18, Clareville St., Gloucester Rd., S.W.7. [8375

AUTO-WHEEL, 1920, Model VI., as new; £17/10.—Lamb's, 50, High Rd., Wood Green, 151 High St., Walthamstow, and 387, Euston Rd., London, N.W.1. [8111

Bat.

BAT, new solo 6h.p., slightly soiled; £140.—Clark, 7, Exhibition Rd. 'Phone: Kensington 4096. [8497

BAT-J.A.P., 8h.p., T.T. machine, fixed gear, Bosch mag., B. and B. carburetter, completely overhauled, very fast; £85.—Barton, Clapham, Yorks. [0323

1920 (July) 6h.p. Bat, Dunhill sidecar, fully equipped, mileage 1,500, would separate; £165; cost £220.—3, Hermit Place, Belsize Rd., Kilburn. 'Phone: Hampstead 8153. [8339

BAT, 6h.p., fully equipped as makers' specifications, shop-soiled; at greatly reduced price; also second-hand combination, same make.—Mebes, 154-156, Gt. Portland St. W.1. 'Phone: 3426 Mayfair. [7177

BAT 1920 6h.p. Twin, brand new, 3-speed, spring frame, special bargain; price for immediate sale £135.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0066

NEW 1920 Bat Combinations, fitted with the 6h.p. J.A.P. engine, 3 speeds, all-chain drive, clutch and kick starter, £175; shiping order cancelled, usual price £204.—Wauchope's, 9, Shoe Lane, London. 'Phone: Holborn 5777. Cash or easy terms. [8586

BAT-J.A.P. 6-8h.p., late 1915 model, twin combination, coachbuilt sidecar, Armstrong hub gears, 3 speeds, recently overhauled by makers, perfect running order; price £80, includes lamps, spares, and all accessories; any trial.—L. G. Wood, Westcott, near Dorking. [8047

115 GNS.—Where will you find a 6h.p. twin, and 1920, in any condition, let alone a 6h.p. Bat Jap, 3-speed, spring frame, in perfect condition, for that price (list £160) compare; this is value, it's only because owner must sell; willingly seen and tried by appointment; no dud.—12, Woodfield Rd., Ealing. [8361

Beardmore

BEARDMORE, 1920, latest pattern slightly shop soiled only, cost £96; for £79/15.—138, Gray's Inn Rd., London. [8366

BEARDMORE-PRECISION, 1920, 3½h.p., 2-speed, had very little use, complete with lamps and horn, £75.—22, Rodney St., Liverpool. [7082

BEARDMORE, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St. W.1. 'Phone: 3426 Mayfair. [7178

Blackburne.

BLACKBURNE 4h.p. and 8h.p. Models in stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [6178

BLACKBURNE, latest 1920 3½h.p. model, new but shop-soiled; makers' price £135; reduced to £120.—Maudes', 100, Gt. Portland St., W.1. [8366

1920 4h.p. Blackburne Combination, Rennoc sidecar, mileage 2,000, Sturmey gears, lamps, horn, spare, splendid condition; £145, or near offer.—Thomson, Fortis Green, N.2. [8077

BLACKBURNE 4h.p. Combination, V.H.L. sidecar, spring chassis wheel, a beautiful machine, brand new; £175.—Vivian Hardie and Lane, Ltd., 24, Wood stock St. (off Oxford St.), Bond St., London, W. 'Phone: Mayfair 6559. [0366

1920 4h.p. Blackburne Combination, Millford sidecar with screen and luggage grid, complete equipped with lamps, horns, speedometer, spares, extras, in perfect condition throughout, expert examination; £150; London.—Box 9,219, c/o *The Motor Cycle*. [8

BLACKBURNE 1920 4h.p., with Montgomery No. sidecar, tyres 28×3, S.A. 3-speed countersh h.b. clutch, K.S., Triplex wind screen, luggage g perol carrier, panniers, Cowey trip speedometer, elec lamps, tools, spares, ready for tour; expert examinat invited; £155.—Layton, 115, Elthorne Park Rd., Bi well, W. [8

BLACKBURNE 1913 3½h.p., single gear, belt, st during war (advertised original partner, mak firm), Kempshall tyres as new, enamel, plate excel condition, spare tube and new belt, pump; delivery road from Lee-on-Solent to London district, or sim distance; £50, or best offer in one week.—Wing-C mander, Blackburn, R.A.F. Headquarters, Lee-on-Sol [7

Bradbury

WAUCHOPE'S, 9, Shoe Lane, London.—1920 4 2-speed Bradbury; £75. [8

MOTOR CYCLES FOR SALE.

Douglas.

9 17-18 4h.p. Douglases, recondition; £60 to clear; only 3 left.—J. J. Dooley, 33, Killyon Rd., Clapm, S.W.8. [7890

9 16 Douglas 2¾h.p., makers' colours, splendid condition, lamps, horn, complete; £50.—130, Euston l., N.W.1. [8281

DOUGLAS New 1921 Solo and Combination in stock; exchanges wanted.—Motories, 25, Horton , Halifax. [8064

9 15 Douglas 2¾h.p., perfect condition, tyres like new; £42/10.—Dunn, 326, Euston Rd., London. iseum 5391. [8536

9 20 Douglas Combination, Easting screen, large P. and H. set, spares, whole as new; £160.—Noon. dgershall, Wilts. [8088

DOUGLAS 2¾h.p., 2 speeds, lamps, horn, footboards, long exhaust, fast, ride away; £50.—43, Ashcombe , Wimbledon, S.W.19. [8419

9 20 2¾h.p. Douglas, with clutch, lamps, horn, knee grips; £98, or near offer.—Jones, Bratch, Womrne, Wolverhampton. [8446

9 21 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Doug- Agent, Yeovil. Tel.: 50. [5043

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9 19 4h.p. Douglas, with 1920 sidecar, wind screen, lamps, 3-speed, clutch, kick starter.—Brook- s, Mansfield Rd., Reading. [8515

9 20 Douglas 2¾h.p., clutch and kick starter, brand new; list price, £105.—104a, Finchley Rd., . 'Phone: Hampstead 7822. [8181

8.—1919 Douglas 4h.p. C.B. combination, plating and enamel like new.—Dental Parlours, 769, Rom- Rd., Manor Park, London, E. [6957

L Douglas Motor Cycle Models, also light car, in stock ready to drive away.—Gibb, Douglas Ex- Gloucester. 'Phone: 852. [6340

16 Douglas 2¾h.p., makers' colours, tyres as new, all accessories, guaranteed; £50; after 5.—Jones, Beechcroft Rd., Upper Tooting. [8369

UGLAS, 1915, perfect condition, lamps, horn, spares, footboards, long exhaust; seen and tried ime; £54 cash.—Elsden, Sutton, Ely. [8411

3B has several 1920 Douglases, shop-soiled, for disposal at great reductions to clear.—Gibb, las Depot, Gloucester. 'Phone: 852. [6340

UGLAS 2¾h.p., 3-speed, new, £105; 1915, 2- speed, new lamp, speedometer, £50.—Clark, 7, ition Rd. 'Phone: Kensington 4096. [8500

UGLAS 1915 2¾h.p., 2 speeds, aluminium disc wheels, footboards, lamps, toolbags, Pedley grips. r; £48.—G., 63, Solon Rd., Brixton, S.W.2. [8509

9 Douglas 4h.p. Combination, 3-speed, hand clutch, kick start, 3 lamps, wind screen, little used; for sale £95.—34, Manchester Rd., Swindon. [8399

6 2¾h.p. Douglas, makers' colours, buffers, good tyres, splendid condition throughout, lamps, horn, etc.; 65 gns.—Cribb, Shenley, Herts. [7822

JGLAS 2¾h.p., 1916, enamel, plating new, fully quipped, not W.D., £45; also 1919 Enfield 2- —18, Marlborough Rd., Old Kent Rd., S.E.1. [8236

9 Luxurious 4h.p. Douglas Combination, mileage 1,000, outfit brand new condition, equipped re- s; £120.—60, Wallingford Av., N. Kensington. [8404

BINATION, 1919 Douglas, not W.D., complete, ccessories, etc.; any trial; £105 cash; exchange power solo.—288, Plumstead Common, S.E.18. [8053

JGLAS 2¾h.p., T.T., 1914, not W.D., all spares nd accessories, absolutely perfect throughout; any iven; £50.—D., 53, Chetwynd Rd., Tufnell Park. [8547

9 Douglas 4h.p. Combination, new condition, lamps, horn, grips, 2 new heavy Dunlops; any £150.—38, Clarendon Rd., Fulwood, Sheffield. [8554

9 2¾h.p. Douglas, unscratched, complete, many extras; £86, for immediate sale; owner leaving .—Littlewood, 6, Milton Rd., Woolston, South- t. [8032

9. Douglas, 1914, good order, lamps, horn, Brooks saddle, spare belts, chains, etc.; £45, or offer; approval, deposit.—Box 9,226, c/o *The Cycle.* [8443

Douglas Combination, 1919, tyres good, condi- on excellent, lamps, speedometer, and mirror, ded week ago; offers wanted.—Malden, Woodston, rough. [7851

JGLAS 4h.p., perfect condition, Miller front nd rear lamps, very fast, ride away; £85; Saturday afternoon.—1, Winslade Rd., Brixton ondon. [7844

JGLAS 1919 4h.p. and Swan sidecar, 3-speed atch, kick start, Klaxon, tools, spares include nd belt; £95.—Stannah, Ranworth, Charlwood orley. [7801

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Douglas.

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DOUGLAS 1916 2¾h.p., thoroughly overhauled, re-enamelled, plated, makers' colours, 1920 C.A.V., splendid condition; £57/10.—30, Crystal Palace Park Rd., Sydenham. [8224

£65, bargain.—2¾h.p. Douglas, done 2,000, special forks, large footboards, electric lighting, mechanical horn, Stewart speedometer.—De Bruyne, Whitehall, Coram St., W.C.1. [7966

DOUGLAS Combination, 1918, P. and H. lamps, horn, Easting wind screen, excellent condition throughout; £115, or exchange 2¾h.p.—Brockman, Sturry, Canterbury. [8270

ELI CLARK can give you good service both in new machines and spares; try me, I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

HERE'S a Snip; Douglas, 1916, 2-speed, brand new engine, new C.A.V., new gear box, new frame, new Clincher, must realise; 49 gns.; ride away.—365, King St., Hammersmith. [8327

1920 Douglas Combination, complete, lamps, head, side, and tail generators, Cowey horn, Tan-Sad, special carrier, only run 300 miles, like new; £150.—130, Euston Rd., N.W.1. [8277

1920 Douglas 2¾h.p., 3-speed, kick starter, clutch, complete electric lighting, aluminium discs, perfect running order; £100.—Apply, A. W. Fawcett, Dore Moor House, near Sheffield. [8044

DOUGLAS 1920 4h.p. Combination, brand new, slightly shop-soiled; special price to clear, £145.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0289

DOUGLAS 2¾h.p. W.D. Model, new (not renovated) last May mileage 1,000, only two punctures, Stewart horn, mudshield, spares, practically new; £74.—Martin, 60, Well St., Buckingham. [7927

1920 2¾h.p. Douglas, 3-speed, clutch, knee grips, aluminium shields, lamps, horn, spare belt, etc.; Wednesdays and Saturdays only; £105.—Cox, Santa Crey, Manor Park Rd., Sutton, Surrey. [8072

DOUGLAS 4h.p. 1920 Combination, exceptionally good engine, Binks carburetter, excellent covers, speedometer, insured; owner going abroad; £160, near offer.—Box 9,194, c/o *The Motor Cycle.* [7956

1917 Douglas Combination, 20 gn. dynamo lighting set, electric horn, everything in good order, new tyre just fitted to rear wheel, any trial; £80, for quick sale.—Wadlow, Orpington, Kent. [8344

3½h.p. 1914 Douglas and coachbuilt sidecar, lamps, etc., privately owned, just overhauled throughout (£15), splendid mechanical condition and appearance; £80.—B.V., 38, Cowley Rd., Oxford. [8408

NEW Douglas 1921 2¾h.p., 3-speed gear; £100; latest improved frame, forks, tank, and Renolds ⅝×¼ chain; in stock; delivery passenger any part of country.—Herbert Robinson, Ltd. (below).

NEW Douglas 1921 2¾h.p., 3-speed gear, hand-controlled clutch and kick starter; £105; latest improved frame, forks, tank, and Renolds ⅝×¼ chain: in stock, delivered passenger any part of the country.—Herbert Robinson, Ltd. (below).

NEW Douglas 1921 4h.p., 3-speed; £130, with improved frame, clutch and kick starter, forks, etc. (solo); or with fine finish coachbuilt Douglas sidecar, including wind screen, painted saxe blue; £174; in stock; delivered passenger any part of the country.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8126

1916 Douglas 4h.p., 3-speed, semi-T.T., many new parts, lamps and horn, toolbag on tank; first M.O. £65 secures; exchange 2-speed lightweight and cash to value.—Parker, Barnwell Lane, Cromford, Matlock. [8269

DOUGLAS 4h.p., 1919, fitted specially constructed cream and black sidecar, lamps, horn, aluminium disc wheels, Easting wind screen, condition as new; £135.—Dentist, 216, Portobello Rd., North Kensington. [7799

1920 4h.p. Solo Douglas with semi-T.T. handle-bars, perfect mechanical condition, used for demonstration purposes only; £110.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8129

1915 2¾h.p. 2-speed Douglas, engine and gear box thoroughly overhauled, good appearance and perfect runing order; £52/10.—Herbert Robinson, Ltd., Green St., Cambridge. T.A.: Bicycles. Tel.: 995. [8131

F.O.C.H. have a late 1919 Douglas combination, many accessories, as new; cheap.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8033

DOUGLAS 4h.p. Combination, unridden, makers' guarantee; price £170, or £59/10 cash and 6 monthly payments of £19/16/8.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [7983

1919 4h.p. Douglas Combination, guaranteed, fully equipped with lamps, horn, and speedometer, Binks carburetter; £115. See displayed advert.—Ratcliffe Bros., 200, Gt. Portland St., W.1. 'Phone: Mayfair 5042. [8532

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 1914 2¾h.p., 2-speed, T.T. bars, lamps, tools, new Amac, single, footboards, long exhaust, covers as new, very powerful, splendid condition; £60; seen by appointment.—Hawkes, 1, Leadale Rd., Clapton Common, N.16. [7861

4h.p. Douglas Combination, 1919, Binks, 80 m.p.g., D.A., all tyres new, spares include chain and belt, exceptional condition, insurance; £125; tried by appointment.—Oliver, 27, Percy Rd., Whitley Bay, Northumberland. [8283

DOUGLAS 2¾h.p., 2-speed, W.D. model, uncrated Aug., 1919, makers' colours, lamps, speedometer, Binks carburetter, Klaxon, footboards, spare belt, chain, valves, etc., condition perfect; £65.—5, Hempstead Rd., Walthamstow, E.17. [7828

1921 2¾h.p. Douglas, 3-speed, clutch, kick starter, electric lighting, speedometer, watch, mirror, Cowey horn, fully insured; cost £131 last month; mileage 331; bargain, £110; pay half carriage.—86, Church Rd., Upper Norwood, S.E.19. [8149

1920 Douglas 4h.p., solo, new, slightly shop-soiled, £120: 1920 4h.p. combination, lamps, Cowey horn, speedometer, Easting, mirror, absolutely perfect, 15 gns.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [8521

WAUCHOPE'S, 9, Shoe Lane, London.—2¾h.p. 1920 Douglas, 3-speed models, new, £100; 2¾h.p., 3 speed, clutch, and kick start models, £105; combinations, 4h.p., £170; trade supplied.—'Phone: Holborn 5777. Easy terms or exchange. [8583

2¾h.p. Douglas, 1915, 2-speed, engine No. 22191, footboards, touring handle-bars, horn, mirror, electric lighting set, long exhaust, perfect running order; £60; no offers, no dealers; can be seen by appointment only.—25, Santos Rd., Wandsworth, London, S.W.18. [8187

1916 Model 2¾h.p. Douglas, taken from crate as brand new, 1919 W.D. Model, all accessories, Klaxon horn, Lucas King of Road head lamp, aluminium disc wheels, toolbag, etc., bike just been overhauled, everything in splendid condition; £85.—Burt, 56, Carlton House, Regent St., London. [7880

DOUGLAS Motor Cycles, on easy terms of payment, 4h.p. combination, £170; 2-speed, solo model, £100; 3-speed, clutch, and kick starter model, £105; plus a small charge for delivery from works to London. The above are makers' list prices; for easy payments 4% extra is charged, only one fifth deposit, balance payable by 12 monthly instalments; write for latest lists of other machnies in stock, etc.—Harrods, Ltd., 118, Brompton Rd., London. [8570

Edmund.

1920 Edmund, spring frame, 2¾h.p., speedometer, horn, kick starter, sidecar chassis and carrying box, only run 130 miles; £85, without chassis £80.—Rev. Davenport, Lechlade. [6045

EDMUND 2¾h.p., laminated spring frame, in perfect condition, new tyres; £65, or nearest offer; can be seen and tried at Dover.—'Phone Shepherdswell 10, or write Box 9,221, c/o *The Motor Cycle*. [8438

EDMUND.—The lightweight with the laminated spring frame 2¾h.p. Jap model, £92/8; 2-stroke model, £86/10; both fitted with Enfield 2-speed gear.—P. J. Evans, 83-91, John Bright St., Birmingham. [0251

Enfield.

1918 Enfield Combination, like new, Colonial model; £117.—Ross, 86, High Rd., Lee. [8018

1920 Magdyno Enfield Combination, as new; solo part exchange.—H. Rock, Cradley, Staffs. [X6446

ROYAL ENFIELD Lightweight; bargain, £48; ride away; spares, lamps.—62, Wydehurst Rd., Croydon. [7831

1917 3h.p. Enfield, a really good machine; any trial; £68.—30, Harold Rd., Upper Norwood, S.E. [8397

3h.p. T.T. Enfield, 1915, heavy Dunlops, Bosch, Lucas accessories, Tan-Sad, spares; £55.—60, Bassett Rd., W.10. [7802

ENFIELD Combination, 6h.p.; exceptional offer at £97; any trial.—63, Walm Lane, Cricklewood, N.W.2. [X6437

ENFIELD 1916; £140; lamps, hood, screen; seen any time.—Stanley Villa, Stonard Rd., Palmer's Green. [7820

ENFIELD, 2-stroke, 2-speed, 1917, perfect condition, lamps, horn; £55.—C.S., 8, Walpole Crescent, Teddington. [8220

ENFIELD Combination, handsomely equipped, scarcely used, unscratched; £150.—10, Clonmel Rd., Teddington. [8604

ENFIELD Combination, late model, perfect order, Easting; £120.—Clark, 7, Exhibition Rd. 'Phone: Kensington 4096. [7565

ARRIVED for immediate delivery, 8h.p. Royal Enfield combination, magnificent machine; list price.—Howley, Devizes. [8461

1917-18 8h.p. Enfield Combination, engine 61314, looks and is like new; £130.—30, Crystal Palace Park Rd., Sydenham. [8223

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Brand new GENUINE Triumph ex Government Stores, complete with spring collar and cotter,

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MOTOR CYCLES FOR SALE.

Enfield.

1920 Enfield 2¼h.p., 2 speeds, P. and H. electri lamps, horn; £60.—Apply after Thursday, Wood 10, New St., Covent Garden, W.C.2. [816

£42.—1918 Enfield 2¼h.p., 2-speed, 2-stroke, chai drive, equipped, also 1919 ditto, new.—18, Mar borough Rd., Old Kent Rd., S.E.1. [823

1920 Enfield Combination, 8h.p., new, very slightl shop-soiled; 169.—Edwards, 50, Harrington Rd. South Kensington. 'Phone: Kensington 3709. [851

1920 8h.p. Enfield Combination, just delivered; cheap owner must sell; what offers? No reasonab offer refused.—Box 9,234, c/o *The Motor Cycle*. [857

ROYAL ENFIELD 8h.p. 1918 Combination, engin enamel, plating, accessories all as good as new bargain, £125.—W., 38, Thrale Rd., Streatham. [846

ENFIELD Combination, 1916, dynamo lighting, I and S. speedometer, many spares, good condition £125, or offer.—6, Berkeley Mews, Portman Sq., W. [859

ENFIELD 1920 8h.p., Magdyno, brand new, £20 Enfield 1919 8h.p., Lucas dynamo, guarantee good condition, £175.—Eveson, Wollescote, Stourbridg [84

ENFIELD Combination, 1916, two years unridde excellent condition, Orto wind screen, hood, speed meter, new tyres; £125.—Wilkie, 15, Agate Rd., Ha mersmith. [83

1920 Enfield 8h.p. and sidecar, only used demonstration run, absolutely new in eve respect; 145 gns.—Julian, 84, Broad St., Readin Phone: 1024. [77

ENFIELD Combination, 6h.p., thoroughly overhaule re-enamelled, mechanically perfect; exchange ent tained for first-class solo machine.—Binns, Arcadi Pavilion, Bradford. [80

2¾h.p. Royal Enfield Twin, 2-speed, recently thorough overhauled, rebushed, new gear chains, comple lamps, etc., excellent condition; £48.—Post Offi Sawston, Cambridge. [83

1920 Enfield, just delivered, complete, never ridd reason for disposal, owner purchased more power machine prior to delivery of same; price £70.—Box 8 c/o *The Motor Cycle*. [X63

ENFIELD Combination, 8h.p., dynamo model, i mediate delivery; catalogue price; deferred p ments; closed Sundays.—Bunting's Motor Exchan Wealdstone, Harrow. [84

1920 Enfield Combination, 8h.p., brand new, stock at list, £177; also 2-stroke, £73/1 exchanges or easy payments.—2, Nightingale Rd., Lov Clapton, London, N.E. [76

ENFIELD.—Delivery from stock. Lightweight, gns.; 6h.p. combination, £175, with Lucas M dyno, £200.—P. J. Evans, Birmingham agent, 83- John Bright St., Birmingham. [03

ENFIELD 2¾h.p. 2-speed Twin, specially impro kick starter, gear ratio, weather-proofing, silencer, exceptional condition, same owner since (1913).—Inchavore, Doncaster. (D) [80

ROYAL ENFIELD 1917 3h.p. Twin, 2 speeds, k start, rebushed throughout, new chains, sprock etc., all accessories, new tyres, perfect; bargain. £6 1, Althorpe St., Leamington Spa. [X64

LATEST Enfield Combination, 6h.p., mileage 7 practically new, lamps, Easting, Klaxon, spe ometer, Tan-Sad; 140 gns., if purchased before Sund any trial.—19, Streatley Rd., Willesden Lane, N.W. [8

1920 Enfield 6h.p. Combination, lamps ho speedometer, mirror, tools, extra tool b scuttle dash with locker, screen, luggage grid, ex lent condition; £170, or near offer.—27, Cranbo Rd., Barking. [8

ROYAL ENFIELD Combination (late 1916), 6h 2-seater G.K. sidecar, with over-all hood screen, accumulator lighting, horn, speedometer, spares, perfect condition, recently overhauled.—140 grave Rd., Wanstead. [8

ENFIELD Latest 6h.p. and 8h.p. Models in St £175, £177, and £200; also lightweight, £73/ deferred payments and exchanges if desired.—Lam 50, High Rd., Wood Green, 151, High St., Walth stow, and 387, Euston Rd., London, N.W.1. [8

1916 Royal Enfield 6-8h.p., new latest model side fully equipped with new lamps, horn, speedom wind screen and cover, first-class condition, rece thoroughly overhauled; trial by appointment; £160 near offer; no dealers.—Apply, Manager, Gas W New Barnet, Herts. [7

ENFIELD 1920 Lightweight, brand new, slig shop-soiled, an exceptional bargain at £65 make room for fresh stock; first cheque secures; be sent by passenger train to any part; makers' g antee.—Elce and Co., 15-16, Bishopsgate Av., C mile St., E.C.3. 'Phone: Avenue 5548. [C

6h.p. Royal Enfield Combination, late 1918 model, excellent condition, just completely hauled and engine rebushed, Klaxon horn, D.A. s lene outfit, electric side and tail lamps, speedom Triplex wind screen, hood and loose covers to side £125.—Apply, Kneebone, 172, Evering Rd., U Clapton, E.5., after 5.30 p.m. or any time by ap ment. [1

MOTOR CYCLES FOR SALE.

Excelsior.

EXCELSIOR 2½h.p., 2-speed, new; £65.—Gibbs, Oundle [X6466

EXCELSIOR 2½h.p., 2-speed, clutch, kick starter, as new; offers.—Eades, Birdwell, Barnsley. [7938

20 Excelsior, less unit, £25; Burma gear box, K.S., £12.—Smith, 229, Maryvale Rd., Bournville. [X6449

21 British Excelsiors, all models; delivery from stock in most cases, or special orders in a few; list prices only.—Gray and Raynes, 8, Low Rd., Doncaster. [2783

EXCELSIOR Combination, 8h.p., dynamo lighting, de luxe sidecar, Palmer tyres, many spares, includ-some tyres; £135.—Apply, A. C. Tyler, c/o Axis rs, Ltd., 20, Queensberry Mews West m. South ington Station [8231

Francis-Barnett.

ANCIS-BARNETT, 2¾h.p. J.A.P., Sturmey 2-speed and clutch.—Williams, Motor Engineer, r. [8466

20 Francis-Barnett, not ridden 500 miles, magnificent condition; 70 gns., very great bargain.—n. 84, Broad St., Reading 'Phone: 1024. [7750

ANCIS-BARNETT 2¾h.p., as makers' specifications, shop-soiled; at greatly reduced price; now time to buy.—Mebes, 154-156, Gt. Portland St., 'Phone: 3426 Mayfair. [7183

21 Francis-Barnett, 2¾h.p., 2-speed, kick start and clutch; 84 gns., actually in stock; one of the beautifully finished lightweights on the market—llan, 84, Broad St., Reading 'Phone: 1024. [7869

W Francis Barnett 2¾h.p., J.A.P., 2-speed clutch and kick starter, in stock at manufacturers' list £88/19/; deferred payments 4% extra; only one-deposit, balance by twelve monthly instalments rods Ltd., 118, Brompton Rd., London [8558

F.N.

1920 7h.p. Combination, 4-cyl., hood, screen, and lamps, guaranteed as new; £170.—Maudes', Gt. Portland St., W.1. [8303

5h.p., 2-speed, new tyres, tube, Binks carburetter, excellent condition; bargain, £30.—Schussr, Hotel, Russell Sq., London. [8409

Lightweight, spring forks, Bosch, Amac, cylinder ground, new rings, good tyres and tubes, every-n first-class condition; first cash £25.—126, Alles-Rd., Lancaster. [8357

Harley-Davidson.

Harley 7-9h.p. Combination; £140.—29, St. Leonard's St., Bromley-by-Bow. [8202

LEY-DAVIDSON 7-9h.p. Combination, condition nd appearance as new.—C., 33, Chesson Rd., W. gton. [8167

LEY-DAVIDSONS.—I have at present a fine sortment in stock; all fully guaranteed.—Ross, gh Rd., Lee [3849

LEY-DAVIDSON 1919 Combination, Easting ind screen, mag. model; £130, or near offer.—Harrow 233. [8323

, 1920, 7-9h.p. Harley Combination, Easting screen, speedometer, splendid outfit; £160.—37, on Rd., Surbiton. [8468

LEY-DAVIDSON, 1918, with new £40 sidecar, lendid order; sacrifice at £110.—322, White-td., Croydon 'Phone: 660. [8101

LEY-DAVIDSON, 7-9h.p. twin, brand new, for mmediate delivery.—Walsall Garage, Wolver-St., Walsall Tel.: 444 [9005

1920 Harley-Davidson, sports model, lamps, nerator, Klaxon, speedometer, condition as new; B.V., 38, Cowley Rd., Oxford. [8407

LEY-DAVIDSON 1920 7-9h.p. Combination, nd, rear, and sidecar lamps, horn, indistinguish-m new; £190.—Parker's, Bradshawgate, Bolton. [X6397

Sale, Harley-Davidson, 1920, 4h.p., new August, ly equipped, just been overhauled, seen S. £135.—Box 9,212, c/o *The Motor Cycle*. [8141

LEY-DAVIDSON 1919 Combination, 7-9h.p., sting screen, pillion seats, lamps, in perfect der; any trial; £150; must sell.—Armstrong, 42, St., Carlisle [7898

LEY Combination, electric, 1920, only ridden vice, price £225, or £78/15 cash and 6 payments of £26/5.—Coppen, Allan and Co., Portland St., London, W.1. 'Phone: Mayfair [7980

LEY-DAVIDSON, 1921, 7-9h.p., as new, only 0 miles, electric model, with mudshields, watch, nd all tools; this machine is as new, in per-ition; best offers; cost £204; must sell.—Took, St., Dover. [8371

LEY-DAVIDSON, 1916 model, 7-9h.p., coach-lt sidecar, wind screen, lamps, etc.; above is lid condition, had very little use, tyres as new; 15.—Seen 8, Petersham Mews, Queen's Gate W.7. 'Phone: Kens 4382. [7816

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The above machines are finished in makers' 1920 colours.

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1020 Model H **MATCHLESS,** Lucas accessories, hood and screen, speedometer	£190	0
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1920 **ZENITH,** 5 h.p., sports model, completely equipped, as new	£120	0
1920 **RUDGE,** I.O.M., 3½ h.p., all lamps, run under 50 miles	£100	0
1920 **RUDGE,** I.O.M., 3½ h.p., all lamps, run under 500 miles	£95	0
1920 **ROVER,** 3½ h.p., Philipson pulley, as new, run under 500 miles	£90	0
1020 **HARLEY-DAVIDSON,** 5 h.p., sports model, and Swan sports Sidecar, all lamps, horn, and speedometer, as new in every respect; cost £205; snip.	£170	0
1920 **DOUGLAS** 4 h.p. Combination, as new in every respect	£145	0
1920 **JAMES,** 3½ h.p. twin, all lamps, horn, etc., long exhaust, semi-T.T. bars	£120	0
1020 **ZENITH,** 8 h.p., countershaft model, and Swan sports Sidecar, all lamps, speedometer	£180	0
1919 **MATCHLESS,** 8 h.p., Victory model, spare wheel, Lucas lamps	£150	0
1919 **INDIAN** 7-9 h.p. Combination, electrically equipped	£150	0
1919 **INDIAN,** 7-9 h.p., and Brand New Sidecar	£145	0
1919 **JAMES,** 5-6 h.p. twin, and Sidecar	£130	0
1919 **DOUGLAS,** 2¾ h.p., 2-sp., splendid condition	£72	10
1919 **ROVER** 3½ h.p. Combination, lamps horn, speedometer	£130	0
1919 **INDIAN,** 7-9 h.p., solo, 3-sp. clutch and kick starter, new condition	£110	0
1918 **ENFIELD** 8 h.p. Combination, new Sidecar body	£140	0
1918 **TRIUMPH,** 4 h.p., and Swan sports Sidecar, lamps, horn, speedometer	£130	0
1918 **TRIUMPH,** 4 h.p., and Henderson Bi Sidecar	£125	0
1918 **TRIUMPH,** 4 h.p., 3-speed clutch and kick starter, all lamps, and horn	£92	10
1918 **HARLEY-DAVIDSON,** 7-9 h.p., 3-sp. clutch and kick starter	£110	0
1918 **DOUGLAS** 4 h.p. Combination, new Sidecar body	£120	0
1918 **DOUGLAS,** 4 h.p., solo, 3-sp. clutch and kick starter	£80	0
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1014 **ROYAL RUBY,** actual I.O.M. model, special wide tank, 3½ h.p. J.A.P. o.h.v. engine, 2-speed clutch, 65 m.p.h. guaranteed	£75	0

EXTENDED PAYMENT TERMS, one-third down and balance in 12 monthly instalments respectively.

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HARLEY-DAVIDSON, 1920, brand new, 4h.p., sports model, complete with speedometer, mechanical horn, and gas lighting set; £140 cash; special reduced price.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

HARLEY-DAVIDSONS, 1919 and 1918, £90 and £85, enamel good and in running order; also countershaft Triumphs from £70, and 2¾h.p. Douglases from £40; any of the above sent on approval if carriage paid both ways—Owen, 59, Schofield Rd., Upper Holloway. [X6435

T.T. Harley, 1916, special engine, does 60 with two up, throttles down to 5 m.p.h., complete with discs, long exhaust, lamps, 1920 stove enamelling, magnificent machine, well cared for, ridden by expert; bargain, £85; owner compelled to sell, going abroad.—Bushey View, Hampton Wick. [8240

HARLEY-DAVIDSON, 1918-1919, 7-9h.p., ex-W.D. stock, thoroughly overhauled, complete with lamp, generator and horn, £130; fitted with new 1920 Montgomery sidecar, guaranteed by us, £168; 2 similar combinations, slightly used since overhaul but guaranteed, £115; deferred payments, no extra.—Maudes', 100 Gt Portland St., W.1 [8304

Hazlewood

1920 Hazlewood 6h.p. J.A.P., Commutation, 3-speed, etc., unused; £165.—Dunn, 326, Euston Rd., London. [6842

NEW 5-6h.p. Hazlewood Combination, 3-speed clutch and kick starter, a thoroughly reliable outfit; Harrods have a large stock of these for sale at £186 each, or on deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [8556

Henderson

1920 Henderson, electric model, mileage 250.—50, Huntspill St., Tooting, S.W. [8008

1920 Henderson with Swan Sidecar, in perfect condition; price £200.—Capt. T. Q. Studd, Royal Air Force Worthy Down, nr. Winchester. [8125

1920 Henderson and double seated sidecar, hardly soiled, screen, discs, lamps, Klaxon, spares, mileage 900; £215.—E. Dunstan, Cleave Kingsand, Plymouth. [8414

HENDERSON 1921 12-14h.p., latest model electric, reverse gear, lively machine, nearest £230 secures, owner buying car; also 1920 10h.p., £180.—26, George St., Hove. [8372

10h.p. Henderson, 1920 model, fitted with Swan sidecar, electric dynamo lighting, disc wheels, very fast, sports looking; £215.—Wauchope's, 9, Shoe Lane, London. [8584

OVERSIZE 12h.p. Henderson Solo, handle start, etc., discs, absolutely brand new appearance and condition, 70 m.p.g. and m.p.h.; £99; exchange lower power.—Seward, Red Hill, Bassett, Southampton. [8538

HENDERSON 1919 4-cyl. Solo, equipped; price £160, or £56 cash and 6 monthly payments of £18/13/4. Sidecar, sporting or coachbuilt, in stock.—Coppen, Allan and Co., 89, Gt Portland St., London, W.1 'Phone: Mayfair 5399 [7977

Hobart

1916 2¾h.p. Hobart-Villiers 2-stroke, 2-speed; best offer over £38.—153 Manor Rd., West Ham, E 15. [7910

NEW 2½h.p. Hobart Lightweight 2-speed models in stock at manufacturers' list price, £75; 4% extra for deferred payments; only one-fifth deposit, balance by twelve monthly instalments.—Harrods Ltd., 118, Brompton Rd., London. [8559

Humber

1919 (May) 3½h.p. Twin Humber, sound condition and appearance; £90.—Corfu, Bray's Lane, Coventry. [X6391

2¾h.p. Humber, trembler ignition, good running order; bargain, £8; tyres fine condition.—30, Mitford Rd., Holloway, N. [8028

HUMBER 6h.p. W.C. Combination, Millford, 3-speed, clutch, electric lighting set, powerful, excellent condition; £135, offer; any day.—Keynes, Kingston St. Michael, Chippenham. [8204

HUMBER 3½h.p. Solo, unused; price £115, or £40/5 cash and 6 monthly payments of £13/8/4.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1 'Phone: Mayfair 5399. [7984

Imperi.

3½h.p. Imperi, sidecar, Chater-Lea, Druids; trial; £17, offers; separate.—23, Globe, Romford. [8552

Indian

1920 Indian Scout, 4h.p., semi-T.T. bars, absolutely as new; £130.—Chattan House, Harrogate. [8457

INDIAN Combination, 7-9h.p., very smart, 2-speed, clutch, discs; £140.—Write Askew, 35, Brigadier Hill, Enfield. [X6363

INDIAN 7-9h.p., re-enamelled and overhauled, mechanically sound; £95.—Maudes' 100, Gt. Portland St., W.1. [8307

MOTOR CYCLES FOR SALE.

Indian.

INDIAN 1919 Combination, 7-9h.p., dynamo lighting, done under 2,000 miles; £160.—Box 9,185, c/o *The Motor Cycle.* [7973

N.E. 20 very latest 1920 Indian Combination, luxuriously equipped; £220, or near offer.—2, Carmalt Gardens, Putney. [8108

INDIAN Combination, 1917, 7-9h.p., all accessories, perfect condition throughout; £120.—Broundells, Faversham. 'Phone: 155. [7941

INDIAN 1915 Combination, electric light, 2-speed, hand and foot clutch, K.S., overhauled and mechanically perfect; price £95.—Below.

BLUE Indian, 1915, 7-9h.p., newly coach painted, newly plated, new tyres and tubes, 2-speed, K.S., overhauled and mechanically perfect, equal to new; price £80.—American Automotive Sales Co., 112, West Parade, Hull. [8431

RED Indian 7-9h.p. Combination, 1919, dynamo lighting, guaranteed perfect order; £150, for quick sale.—Box 9,184, c/o *The Motor Cycle.* [7972

1920 Powerplus Indian Combination, dynamo lighting, speedometer, horn, tools, etc., Millford sidecar; £145.—Victoria Garage, Surbiton. [8260

INDIAN.—Stock delivery of new and second-hand combinations. Write for list of bargains.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [6178

7-9h.p. Indian Combination, late 1917 Swan sidecar, discs, electrically equipped, new condition, not W.D.; £110; exchange.—1, Grosvenor Rd., Rugby. [X6442

INDIAN 5-6h.p., 1916, 3 speeds, kick start, in splendid condition, complete with lamps, etc.; trial; 70 gns., or near offer.—17a, Seely Rd., Tooting Junction, S.W. [8463

1919 Powerplus Indian Combination, electric lights, speedometer, tools, spares, mileage 5,000, condition perfect; £165.—Bristow, 4, Dalmeny Rd., Carshalton-on-Hill. [7821

1920 Indian Combination, dynamo lighting, speedometer, etc., tyres unpunctured, mileage 1,800, as new; very cheap.—Greenfield House, Whieldon Rd., Fenton, Staffs. [7905

7-9h.p. Indian Combination, late 1915, electric light, 3 speeds, Klaxon, just overhauled, owner will ride 30 miles from Hitchin for any trial; £95.—Finch, Holwell, Hitchin. 8333

INDIAN 7-9h.p., 1915, spring frame, 2 speeds, K.S., clutch, lamps, Klaxon, new Dunlop and chain, guaranteed perfect throughout, will ride 50 mile; £68.—5, South St., Bridport, Dorset. [7968

NEW 7-9h.p. Indian Motor Cycle (ex-American Army stock), £90; also 7-9h.p. second-hand Indian, thoroughly overhauled, reconstructed and re-enamelled, etc.; £80.—22, Rodney St., Liverpool. [7085

1920 7.9h.p. Powerplus Indian, ridden 2,000 miles only, perfect condition throughout, electric lighting, horn, speedometer; £155.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8130

1915 Indian, 2-speed, clutch, sidecar, coachbuilt, electric throughout, spares, all nuts, chain, new inner tube, tyre, bulbs, good condition, private owner; £90.—See Arboretum Garage, Waverley St., Nottingham. [8104

SPECIAL Rigid-frame Racing Model Powerplus 1919 (Nov.) Indian, dynamo lighting, speedometer, hand clutch, T.T. bars, etc., perfect condition, exceptionally fast; £140; seen after 6 p.m.—51, Canadian Av., Catford, S.E. [8067

1920 Solo Powerplus Indian, 3 months old, disc wheels, mudshields, 3in. bore long exhaust with cut-out, dynamo lighting and horn, speedometer, in absolutely perfect condition and tune; £175.—Bellew, Christchurch, Oxford. [7911

1920 Indian Combination, dynamo lighting, delivered about July, done 2,800 miles, practically unscratched, perfect running order; £155, or exchange light car and cash.—104a, Finchley Rd., N.W. 'Phone: Hampstead 7822. [8179

INDIAN 1916 5-6h.p., mechanical condition as new, new extra heavy Dunlop, 3-speed, clutch and K.S., guaranteed perfect, complete with knee grips, Stewart horn, lamps, and some spares; £85, or nearest.—35, South Rd., Smethwick, Birmingham. [8507

1910 Indian Combination, Powerplus, 3-speed, hand and foot clutch spring frame, practically unused and new condition throughout, very fast and flexible, specially tuned; sacrifice for £125.—Cahoon, Grenville House, Brunswick Square, W.C. [7753

INDIAN.—Immediate delivery from stock, 7-9h.p. Powerplus model, with dynamo lighting, electric horn, and speedometer, £181/14; combination, £223/14; also 4h.p Scout model, 3-speed, £140; local trade supplied.—Sole Birmingham agent, P. J. Evans, 83-91, John Bright St., Birmingham [0173

INDIAN 7-9h.p., overhead valves, 1917, Millford de Luxe covered-in sidecar, new engine bearings, cylinders, and pistons, not yet run in, transmission also as new, 2 head lights, tail light, and horn electric, speedometer, and discs, reliable, fast, luxurious; any trial from Stowmarket; £130, or offer.—Hawker, New Rolls, Waughley, Suffolk. [8525

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Fork Link		1	6
Engine Sprockets ..		4	0
Pulleys		8	0
Chains		9	0
Front Brakes	1	2	6
Fork Springs		2	6
$2\frac{3}{4}$ Frames	5	0	0
4 h.p. Frames ..	5	0	0

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Indian.

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting; bargains.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8038

Invicta

NEW Invicta, J.A.P. 2¾h.p., 2-speed clutch and kick starter, a thoroughly well built and reliable machine, £89/5; also 3½h.p. (Abingdon King Dick engine), 3-speed clutch and kick starter, fitted with smart low-built sidecar, £143; deferred payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [8566

Ivy.

IVY Cycles.—Write, Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

IVY, the aristocrat of its type, delivery of all models from stock; prices and catalogues post free.—District Agents, Walsall Garage, Walsall. Tel.: 444. [900

IVY-J.A.P. 5h.p. Coachbuilt Combination, 1915 Sturmey countershaft 3-speed, three electric lamps, wind screen accessories; £120.—Write 41, Gertrude Rd., Nottingham. [X641

IMMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt. Portland St., W.1. Mayfair 4084. [002

IVY, late 1919 2¾h.p., 2-speed, T.T. bars, disc wheels, original tyres, Amac carburetter, in exceptional condition, practically as new, complete with large lamp sets, horn, insured for £70; accept £58 for quick sale.—R. D. Varty, Thundersley, Essex. [764

James.

1920 4¼h.p. James Combination de Luxe, perfect condition, small mileage, lamps, horn, tool, mirror; £140.—Robson, Harting. [815

JAMES Brand New Combinations, for immediate delivery from stock.—Sole district agents, T. Walsall Garage, Walsall. Tel.: 444. [900

JAMES 4¼h.p. Combination, 1917, Lucas lamps, etc., accessories, excellent condition, small mileage, £110.—Woodville, Addlestone, Surrey. [80

1918 James Combination, 4¼h.p., excellent condition, engine just overhauled; sacrifice, £90.—Roberts, opposite 4 Camp Kinmel Park, Denbighshire. [74

JAMES 4¼h.p., 3-speed gear box, kick starter, enclosed chain drive, coachbuilt combination lamps and horn, etc.; accept £75 cash.—Allen, 1 Freshford St., Earlsfield, S.W.18. [84

F.O.C.H. have a 1919 4¼h.p. James combination, new condition, large electric set; cheap.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [80

1916 4¼h.p. James Combination, overhauled and enamelled, bulbous back sidecar, new in September, wind screen, all lamps and horn; sell £105, or exchange lightweight and cash.—P. Woodman, Victoria St., Burnham-on-Sea, Som. [80

J.E.S.

J.E.S. Lightweight, 1920, low mileage, as new, lamps and all accessories; £37.—Alfred Crane, 21, St. John's Rd., Caversham, Reading. [79

Kerry.

£27.—2¾h.p. Kerry, just overhauled, C.A.V. mag., in good running order.—327, Hereford Rd., Wortham Cross. [76

Lea-Francis

LEA-FRANCIS, new 1920, slightly soiled; £12[illegible] Clark, 7, Exhibition Rd. 'Phone: Kensington 4096. [8

LEA-FRANCIS, M.A.G. engine, immediate delivery £130.—Maudes' Motor Mart, 100, Paris, Exeter. [8

LEA-FRANCIS, 1920.—Place your name on waiting list for delivery of these aristocrat mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0

LEA-FRANCIS, M.A.G., as makers' specification shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W. 'Phone: 3426 Mayfair. [7

LEA-FRANCIS, 1920, brand new 3½h.p. twin, M.A. engine, delivery from stock; £130; extended terms 4% extra.—Elce and Co., 15-16, Bishopsgate Av., Cornmile St., E.C.3. 'Phone: Avenue 5548. [0

1920 Lea-Francis, M.A.G. engine, twin-cyl., 2 speed, electric lighting, leg shields, all accessories, done 100 miles, absolutely as new, unscratched; £ offer.—Dr. Graham-Hodgson, Chislehurst. Tel.: Bromley. [8

NEW Lea-Francis, 2-speed, clutch and kick start, M.A.G. engine, at list price, £130; or on deferred payments 4% extra; only one-fifth deposit, balance by twelve monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [1

MOTOR CYCLES FOR SALE.

Levis.

16 Levis Popular, lamps; £36.—1, East View, Colham Rd., Yiewsley, Middlesex. [7840

EVIS 2¼h.p., 1917, little used, new Palmer cords; £45, lowest.—138, Highlever Rd., W. [7937

16 2¼h.p. Levis, popular model, disc wheels, large head lamp; £42.—Ross, 86, High Rd., Lee. [8017

AN GUY, Weymouth.—Sole agent for Levis machines; price £60; delivery from stock. [5961

h.p. Levis, excellent order throughout, all accessories, 1915; £35.—R. J. Poate, Midhurst, Sussex. [7827

EVIS, 1916, Brampton forks, good machine, ride away; £33.—670, High Rd., Tottenham, N.17. ne: 1889. [8170

EVIS 2¼h.p., 2 speeds, etc., in splendid condition; accept £40 cash.—Allen, 10, Freshford St., Earls-, S.W.18. [8479

VIS, the finest 2-stroke in the world, delivery from stock; £60.—District agents, The Walsall Garage, all. Tel.: 444. [9001

TE 1920 Levis, 100 miles, all accessories, 6 months' insurance; £58; after 6 p.m.—Evans, 20, Radford Hither Green, S.E. [7922

VIS 1919 2¼h.p., in exceptional condition; clearance price; exceptional bargain, £40.—R. D. y, Thundersley, Essex. [7647

VIS, 1919 (Oct.), beautiful condition, carefully ridden, enamel plating excellent, lamps, Klaxon; —276, Iffley Rd., Oxford. [7839

h.p. Levis, 2-speed, new bearings throughout, re-enamelled, Lucas lighting, tools, 3 belts; 50 gns., earest offer.—Heal, Williton, Somerset. [7934

20 Levis Popular, the super 2-stroke, in stock at list; £60; easy payments or exchanges.—ightingale Rd., Lower Clapton, London, N.E. [7667

VIS Popular, latest model, in stock; £60. Vivian Hardie and Lane, Ltd., 24, Woodstock off Oxford St.), Bond St., London W.1. 'Phone: air 6559. [0318

Lincoln-Elk.

CCOLN-ELK, single, Bosch, just been overhauled; £25.—Woodlands, Bridge Rd., Grays, Essex. [8068

L.M.C.

.C. 1920 6h.p., special rear springing, most comfortable to ride, exceedingly flexible; send your e, don't miss this opportunity; price (shop-soiled), —22, Rodney St., Liverpool. [7077

.C. 1920 6h.p., S.A. 3-speed and K.S., a machine to take a sidecar anywhere; we can supply you n sidecar suitable and save you money; price of ne (shop-soiled), £110.—22, Rodney St., Liverpool. [7076

.C. suspension and ordinary models, shop-soiled, s makers' specifications, at greatly reduced prices; h.p. and 4½h.p. combinations, second-hand; at n prices.—Mebes, 154-156, Gt. Portland St., W.1. e: 3426 Mayfair. [7185

Martin.

RTIN-J.A.P., track, o.h.v., 3½h.p., Bosch, B.B.; £45, or offer; exchange slower machine; P. and referred; owner given up flying.—Worsell, St. , Sevenoaks, Kent. [7863

Martinsyde.

Martinsyde, the super combination; immediate deliveries, Norfolk agents.—Norwich Motor Co., Norwich. [2786

RTINSYDE-NEWMAN Combination, delivery rom stock; £170.—Maudes' Motor Mart, 100, St., Exeter. [8078

ND New 6h.p. Martinsyde, overhead valves, etc., 40 magnificent sidecar, £12 worth extras, only from makers; great bargain; best value and in every way; £150, cost £196.—190, Divinity xford. [8055

RTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford, rnwall and Devonshire, for Martinsyde-Newman ation; £170; delivery ex stock; trade supplied; ges and deferred payments.—Maudes', 100, Gt. d St., W.1., and Paris St., Exeter. [5777

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Models now ready; all the latest improvementes You can have one now, or book delivery for any date. Every combination personally tested by tchless specialist. Spares of all dates in stock. ssell, 1a, Bloomfield Rd., Plumstead. [6881

ND New Matchless, M.A.G. engine, Lucas lamps, mplete; £215.—Cross, Agent, Rotherham. [X6456

CHLESS 1920 7h.p., Magdyno, ridden 150 miles, aranteed as new; £220.—Eveson, Willescote, idge. [8417

CHLESS 1921 Models, immediate delivery; 205.—Clark, 7, Exhibition Rd. 'Phone: Ken-4096 [8502

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MOTOR CYCLES FOR SALE.

Matchless

MATCHLESS Combination, 1920, all accessories; £150, no offers.—Write Cox, 14, Earl's Court Gardens, S.W.5. [7265

1921 Matchless Combinations, Magdyno; delivery from stock.—Agents, Hewitt Bros., 94, Western Rd., Hove, Sussex. [0334

1920 Matchless Combination, Magdyno, hood, leg shields, wind screen, spare wheel perfect; £200. 40, Eglington Rd., Plumstead. [7384

1921 Matchless standard and Magdyno models in stock, list price; £205 and £230.—Edwards, 50, Harrington Rd., South Kensington. [8522

£195, bargain.—1920 Matchless, magdyno lighting, hood, screen, speedometer, leg shields,—as new, M.A.G. engine.—29, St. Leonard's St., Bromley-by-Bow. [8200

£185.—1920 Matchless 8h.p. Model H combination, brand new. — Clifford Wilson, Co., 70, Royal Hospital Rd., Sloane Sq., S.W. Tel.: Kens. 7113. [7653

MATCHLESS, just delivered, H Model, mag.-dynamo; list price, or nearest; or exchange lightweight with cash.—Nash, 365, King St., Hammersmith, W. [8

8h.p. Matchless-Jap Combination, screen, all-chain, speedometer, V.M. seat behind, Lucas lighting, fine condition, take 4 anywhere; £135.—Sainty, Welton, Lincoln. [7804

1915 Matchless, 8h.p. J.A.P., Cancelet sidecar, new Amac and spares, 60-70 m.p.g.; any trial in Cumberland; £125.—Medlock House, Oxford St., Workington. (D) [7817

6h.p. Matchless Cancelet Combination, horn, mirror, luggage grid, wind screen, etc.; £75, or offer; trial by appointment.—Creed, Osborne House, North Malvern. [8051

MATCHLESS 1915 8B Combination, electric lamps, 2 horns, Cowey speedometer, very fine condition throughout; £125.—Mylam and Co., 197, London Rd., Croydon 'Phone: 2379. [8386

MATCHLESS Combination, 1921 model dynamo, in stock.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.) Bond St., London, W.1. 'Phone: Mayfair 6559. [0317

MATCHLESS 6h.p. J.A.P. Combination, new large Rennoc screen, mechanically perfect, Bosch, tyres, belt, recently new, lamp, tool, spares; offer.—Appointment, 35, Tudor Rd., Kingston Hill. [7878

1920 (June) Matchless Magdyno Combination, J.A.P., spare wheel, tyres unpunctured, aluminium discs, speedometer, Cowey horn, A1 condition; £200, cost over £240.—3, College St., Leicester. [8345

1919 Victory Model Matchless, spare wheel, speedometer, lamps throughout all in good condition; £140; would consider all-chain lightweight part exchange.—Hare, 13, Loates Lane, Watford. [8215

1920 Matchless Combination, D.A. lighting set, hood, screen, spare wheel, speedometer, tools, and mascot, perfect condition, any trial; £185, or near offer.—Write Maurice Harris, 2, Fitzjohn's Av., London, N.W.3. [8178

1920 Matchless Combination, M.A.G. engine, dynamo, hood, screen, rear-driven speedometer, horn, etc., as new; £215; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, London, N.E. [7668

MATCHLESS Combinations.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [3850

1920 Matchless, Magdyno, slightly shop-soiled, £199; 1920 standard model, done 500, electric lighting, rear drive speedometer, legshields, perfect condition; 150 gns.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [8518

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—Matchless combination, dynamo lighting model, also standard model, new, immediate delivery from stock, £230 and £205 respectively; also a second-hand 1920 model J.A.P. engine, offers. [8586

MATCHLESS (new 1914), the exceptional 8h.p. overhead valve engine, 6-speed, streamline exhausts, Binks economical carburetter, sporting sidecar, complete sets discs, 1921 tax only £3; accept 76 gns.—Cotton, Belleorchard, Ledbury. [8577

MATCHLESS Combination, special speed model, 90×77½ J.A.P., overhead valved twin, coachbuilt torpedo siedcar, excellent condition; £90, or lower power solo part exchange.—Davis, 30, Beaconsfield Rd., South Tottenham, N.15. [8332

1914 Matchless 7-9h.p., 2-speed, clutch, K.S., Milford sidecar, electric lighting, horn, Easting wind screen, new chains, and tyres oversize 700×80, recently overhauled and fitted with new connection rods, rings and bushes; accept £90.—104a, Finchley Rd., Rd., N.W. 'Phone: Hampstead 7822. [8182

MATCHLESS (Colliers) Motor Cycle Combination, fully equipped with spare wheel and tyre, wind screen, dynamo lighting set, horn, luggage carrier; £231/7/6; immediate delivery from stock, or can be supplied on deferred payment terms if desired for an extra charge of 4% only.—William, Whiteley, Ltd., Queens Rd. W.2. [6944

MOTOR CYCLES FOR SALE.

Metro.

METRO-TYLER, 1920, latest S type, 2-speed 2-stroke, delievry from stock; £80; extended terms 4¾ extra.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0070

METRO-TYLER, type S, latest model, brand new 2¾h.p., 2-speed, with enclosed mag. and gear box; £80; delivery from stock. Local trade supplied.—Sole Birmingham agent, F. J. Evans, 83-91, John Bright St., Birmingham. [0260

Minerva.

MINERVA Combination, running order; £27/10.—Saxton, 6, Devonshire St., Islington. [8183

3½h.p. Minerva Combination; £12, or near offer; any evening after 6.—134, Climentina Rd., Leyton. [8031

MINERVA 2¾h.p., mag., B. and B., new covers, good appearance; 18 gns., or near offer.—Prout, Canon St., Taunton. [7962

MINERVA 3½h.p. Motor Cycle for Sale, equal to new, thoroughly overhauled, enamelled, and plated, new B. and B. fitted, new handle, Best new saddle, new wheels, plated rims, new Dunlops front and rear, and new tubes new aluminium footboards, new mudguards, new back carrier, tank lined Triumph colours, 2-speed countershaft gear, new Renolds chain, new chain wheel, 2 new valves in engine, and recently registered; a bargain, £47.—Cooksey, Feltham Rd., Ashford, Middlesex. [7884

Moto-Reve.

MOTO-REVE 2¼h.p. Twin, mag., B.B., Druids, requires minor adjustments, new Dunlop belt, tyres practically new; £28.—Huggins, Hartland, N. Devon. [7810

MOTO-REVE Twin, smart, all on, bargain, £15; dismantling 5-6h.p. Rex, a.o.i.v., state wants; wanted, late 6h.p. Enfield oddments.—Cooke, 213, Worple Rd., Wimbledon. [8292

Motosacoche.

3½h.p. Motosacoche, 1914, twin M.A.G. engine, De Lissa valves, Bosch, Amac, slightly incomplete, owner novice; sacrifice, £24.—70, Nansen Rd., Sparkhill, Birmingham. [X6441

New Hudson

GIVEN Away.—New Hudson 3½h.p., 3-speed, clutch, lamps; £30.—20, Treen Av., Hoggers Corner, Barnes, S.W. [7947

1915 New Hudson Combination, 3-speed, K.S., good condition; £65; buying higher power.—22, Kathleen Rd., S.W.11. [X6443

NEW HUDSON 2-stroke, 1916, excellent condition, with new Lucas lamp and horn; £38.—145, Clarence Rd., S.W.19. [7800

1920 New Hudson 2-stroke, new, slightly shop-soiled; £68.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [8520

NEW HUDSON Lightweights, 2¼h.p., 2-speed, latest models in stock, immediate delivery; £75; terms arranged.—New Hudson Cycle Depot, 45, Gray's Inn Rd., London, W.C.2. [8162

NEW HUDSON 2¼h.p. Sports Model, mileage 50; price £63, or £22/1 cash and 6 monthly payments of £7/7.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [7981

NEW HUDSON Touring Model, equipped, unused; price £70, or £24/10 cash and 6 monthly payments of £8/3/4.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [7982

NEW HUDSON Lightweights, 1920, 2¼h.p., 2 speed £75, or fully equipped with head lamp and generator, tail lamp, and tubing, horn, L.C.C. registration petrol, and oil, £79/15.—Coppen, Allan and Co., 89 Gt. Portland St., London, W.1 'Phone: Mayfair 5399 [0280

New Imperial.

1915 2¾h.p. 2-speed Imperial; £42.—Ross, 86, High Rd., Lee. [8016

NEW New Imperial 2¾h.p., 2-speed, lamps, tools; £75.—Moss, Wheelwright, Wigan. [8380

NEW IMPERIAL, believed 1916, good condition; £43.—Sharpe, 325, Essex Rd., Islington. [8153

NEW IMPERIAL 1919 8h.p. Combination, lamps, horn, etc.; £128.—R. D. Varty, Thundersley, Essex. [7649

1921 New Imperial-Jap, 2¾h.p., 2-speed, actually in stock.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7868

NEW Imperial-Jap 2½h.p., 2 speeds, 1914, as new, ride away; £45, or near offer.—202, Trinity Rd., S.W.17. [8082

NEW IMPERIAL, 1919, 2¾h.p. J.A.P., 2-speed, guaranteed as new; £60.—Maudes', 100, Gt. Portland St., W.1. [8300

£110.—Unused W.D. New Imperial combination.—Clifford Wilson Company, 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4735

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, complete outfit, good order; view and ride away by appointment; £47, or nearest.—167, Church St., N.16. [8196

WAUCHOPE'S, 9, Shoe Lane, London.—2½h.p. 1920 New Imperial-Japs, 2-speed clutch, and kick start models; £89/5; with 2-speed, only £80/17. [8585

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Mileage under 1000. As new in every respect:

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Big, and canoelet racing sidecar, Mabon variable gear, discs, etc. Complete:

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Popular Model. In stock:

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2¾ h.p., 2-speed, clutch, and kick start. Mileage 500. Only

69 Gns.

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42 Gns.

Matchless 1921

Combination Mag.-Dyno:

£230

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84, Broad St.,

READING.

'Phone: 1024.

MOTOR CYCLES FOR SALE.

New Imperial.

NEW IMPERIAL, 1916, 2¾h.p. J.A.P., 2-spee semi-T.T. bars, lamps, mechanical horn, sou throughout; bargain, £40.—R. D. Varty, Thundersle Essex. [76

2¾h.p. New Imperial, overhauled, replated, and enamelled, new tyres, Dunlop and Avon Su stone, large horn, guaranteed; £35.—21, Norfolk, R Littlehampton. [84

1919 New Imperial-Jap 2¾h.p., 2 speeds, clutch, ki starter, all accessories, spares, perfect order; £6 stamp, further particulars.—Pickett, Jun., 8, Court R Tunbridge Wells [79

1919 (Sept.) Imperial-Jap Lightweight, 2-speed, ser T.T. model, lamps, etc., carefully used and gu anteed: the bargain of the issue, £56.—Astley, 17, Gow St., Wolverhampton. [78

NEW IMPERIAL 1919 8h.p. Model, 3 speeds ki start and hand controlled clutch, with Sunbe sidecar, Easting wind screen, fully equipped; £150 Parker's Bradshawgate, Bolton. [X64

NEW IMPERIAL, 2¾h.p. J.A.P., 2 speeds, as make specifications, shop-soiled; at greatly reduced pri now is the time to buy.—Mebes, 154-156, Gt. Portla St., W.1. 'Phone: 3426 Mayfair. [71

NEW IMPERIAL-J.A.P. Coachbuilt Combinati 8h.p., 3-speed gear box, kick starter, all acc sories, almost new; accept £120 cash.—Allen, Freshford St., Earlsfield, S.W.18. [84

NEW IMPERIAL, 1918, 2¾h.p. J.A.P., 2-spe clutch, kick starter, lamps, horn, pump, to Palmer cord tyres; bargain, £65.—Turner, Westbou House, Twickenham. 'Phone: 217. [8

1920 New Imperial 6h.p. Combination, latest mod just arrived, at list, £186/18; also 2¾h.p. speeder, £80/17; exchanges or easy payments.- Nightingale Rd., Lower Clapton, London, N.E. [7

NEW IMPERIAL-J.A.P.—Immediate delivery fr stock of this popular 2¾h.p. machine, 2-sp model, £80/17; with clutch and kick starter, £89/ P. J. Evans, 83-91, John Bright St., Birmingham [0

NEW IMPERIAL Combination, 8h.p., fast, per order, 1918 or 1919, W.D., completely renove Jan., 1920, 1,600 miles, complete with 3 electric lig Klaxon, all tools, spares, 2 chains, 2 inner tubes, unused tyre; any trial; £150.—6, Hillside, Hindhe [8

NEW IMPERIAL.—Immediate delivery from st of a 2¾h.p. 2-speed J.A.P. machine, price gns, or with clutch 85 gns.; 8h.p. combination gns., or can be supplied on deferred payment terms an extra charge of 4% only.—William Whiteley, L Queen's Rd., W.2. [6

NEW IMPERIAL, 1920, brand new lightweight, h.p., 2-speed, slightly shop-soiled, at the spe reduced price of £68, list price £80/17; can be passenger train any part of England.—City Agents, and Co., 15-16, Bishopsgate Av., Camomile St., E. 'Phone: Avenue 5548. [0

New Scale.

3½h.p. New Scale, the solo and sidecar machi £90, delivery from stock.—Agents, Gray Raynes, 8, Low Rd., Balby, Doncaster. [2

Norton.

1920 T.T. Norton; list £98.—Dunn, 326, Eus Rd., N.W.1. Museum 5391. [5

ISLE of Man Norton, 1921, fully equipped, 3-sp new; £148.—Box 9,225, c/o *The Motor Cycle*. [8

NORTON.—North Yorkshire agents: R. H. L. Pic ing and Co., 239, Linthorpe Rd., Middlesbro [2

NORTON Motor Cycles.—Place that order with early delivery dates.—Cook's Garage, Shif Salop. [8

1920 Norton Big Four, unscratched; £130, with cessories £135.—Gonerby House, Scotter, G borough. [8

NORTON 1916 3½h.p., 3-speed, lamps, speedom first-class condition; £80.—Maudes', 100, Portland St., W.1. [8

NORTON Motor Cycles, sole district agents for D all models in stock; enquiries invited.—H. Ltd., Bourne St., Derby. [8

JUNE, 1920.—3½h.p. Sports Norton, 3-speed, la horn, tools, splendid condition; £130.— Ockendon, Romford, Essex. [8

DAN GUY, Weymouth.—Sole agent for Norton cycles; 3½h.p. sports, all-chain, £132, from st early delivery Big 4 combination. [8

1920 Norton 3½h.p., T.T., only run 250 won several medals, as new; 80 gns.—Ju 84, Broad St., Reading. 'Phone: 1024. [7

1920 T.T. Norton, all-chain drive, 3-speed, B fully equipped, very fast; £110; any tri Nunneley, St. Mark's Av., Harrogate. [8

NORTON 1920 Big Four Model, complete with dum sidecar, Cameo wind screen, fully equi as new; £150.—Parker's, Bradshawgate, Bolton. [X

1920 Big 4 Norton and Sidecar, Mabon specially constructed for hill-climbing, as in every respect; 120 gns.—Julian, 84, Broad Reading. 'Phone: 1024. [8

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

Norton.

1920 3½h.p. Sports Norton, 3-speed, and racing Canoelet sidecar, winner of many gold medals n' hill-climb, splendid condition; 125 gns.—Julian, 4, Broad St., Reading. 'Phone: 1024. [7743

EXCEPTIONALLY Good 1920 Big Four Norton with de luxe sidecar, oversize tyres, Binks carburetter; price £170; only used few times, practically s delivered.—Calvert, 490, Chatsworth Rd., Chesterfield. [8122

NORTONS.—Try Horsman for immediate deliveries. Present stock includes new T.T. belt drives, B.R.S. models, Big 4, and all model sidecars; second-hand Big and sidecars. Write or wire.—Victor Horsman, Ltd., Mount Pleasant, Liverpool. [6173

BARGAIN.—3½h.p. B.R.S. Norton, 1919, engine No. 19772, lamps, horn, original tyres and belt, ivalid owner, driven 1,500 miles only, excellent condiion throughout, usual Norton reliability and pace; £85 r the best offer will be accepted.—Keen, Broad St., eominster. [8392

N.U.T.

N.U.T., 1920 (Aug.), 3½h.p., Magdyno, electric horn, as new; £150.—39, Wilfred St., Derby. [8376

N.U.T. Twin, Magdyno lighting, delivery from stock; £165.—Maudes' Motor Mart, 100, Paris St., Exeter. [8073

N.U.T. Motor Cycle, brand new, never been on the road, Magdyno lighting set; £145.—Apply, Box 175, c/o *The Motor Cycle*. [7932

N.U.T. 3½h.p. Twin, Lucas mag.-dynamo, shop-soiled, at greatly reduced price; now is the time to buy.—ebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 ayfair. [7187

W. SPARROW, Ltd., Osborne Garage, Yeovil. official N.U.T. agents, now booking orders for ly delivery; write or 'phone for particulars.—Tel.: eovil 114. [6025

N.U.T.—Delivery from stock of these models, equipped with magdyno lighting, price £165; sole wholeand retail agents for Staffordshire, the trade supied.—The Walsall Garage, Walsall. Tel.: 444. [9002

O.K.

O.K.-UNION, new, complete with lamps and horn, and registration; £50.—Gibbs, Oundle. [X6465

1920 O.K., demonstration machine, very slightly soiled; 40 gns.—Julian, 84, Broad St., Reading. hone: 1024. [7992

1915 O.K., 2½h.p., o.h.v., 2-speed, disc wheels, dynamo, acetylene lighting, mechanical horn, rfect; £42.—49, Medway Rd., Bow. [8169

BRAND New 2½h.p. O.K. Junior, latest Villiers engine, C.A.V. mag., shop-soiled only; £43.—Walbro otor Cycle Works, Saffron Walden, Essex. 'Phone: [X6407

O.K. Villiers, 2¾h.p., 2-stroke, 2-speed, new July, 1920, perfect condition, splendid climber, must ; £48, offer.—Bryant, 51, Stanhope St., Euston Rd., W.1. [8185

Omega.

¾h.p. Omega-Jap, the sporting single; immediate deliveries.—Norwich Motor Co., Ltd., Norwich. [2787

MEGA-J.A.P.'s, 2¾h.p., 2-speed, the best and smartest lightweight; from stock, list price. gents, Gray and Raynes, 8, Low Rd., Balby, ncaster. [2784

P. and M.

. and M.—3½h.p., 2-speed, engine perfect; £35.—22, St. John's Rd., Putney Hill. [7818

45.—P. and M., just overhauled, sound condition.— Martin, Jeweller, High St., Deal. [8105

1920 P. and M., run 600 miles, perfect; £105.— Clegg, 1, Broad St., Teddington. [8221

1919 P. and M., lamps, tools, good condition; £85, or nearest.—101, Clifton Rd., Rugby. [X6364

. and M., 1920 model, delivery from stock; £115. —Maudes' Motor Mart, 100, Paris St., Exeter. [8074

1915 P. and M. Combination, electric lights, £5 worth of spares; £60.—55, St. James's Rd., mondsey. [8211

1920 P. and M., R.A.F. model, lamps, speedometer, horn, splendid running condition; £106.—39, Peter's Sq., Hammersmith. [8331

. and M., late model, splendid condition, lighting set, mechanical horn, tyres as new, full insurance, res; £78.—5, Albany Rd., Leyton. [8205

1919 P. and M., not W.D., receipt shown, in exceptional condition, complete with lamps, horn, and accessories.—Harrison, 48, Liverpool Rd., N. [7953

. and M., 1919, with sidecar, Easting wind screen, lamps, horn, privately owned; £100 for quick sale; l given.—Coney, Victoria Rd., Farnborough, Hants. [8099

and M., new from makers in March last; also sidecar, specially designed and built; the whole in ellent condition; £130.—Swoffer, 7, Charlmont Rd., ting. [8070

1919 P. and M. Combination, complete with 3 lamps, tools, horn, new tyres, spares, not W.D., will ride miles to meet purchaser; £110, or offer.—31, Tennyon St., Leicester. [X6434

JULIANS OF -READING-

1920 3½ h.p. Norton Sports

3-spd. and Canoelet Racing Sidecar. All lamps. Winner of several gold medals in hill-climbs. In splendid condition. Great bargain:

132 Gns.

1920 6 h.p. Sports Zenith

Demonstration model — unscratched — real snip:

110 Gns.

1920 Ariel

3½ h.p. Combination, shop-soiled only:

125 Gns.

1920 Enfield

8 h.p. Combination, only used few times for demonstration, great bargain:

£150

Triumph

Renovated by Triumph Co., in stock:

100 Gns.

H. JULIAN,
84, Broad St.,
READING.
'Phone: 1024.

MOTOR CYCLES FOR SALE.

P. and M.

P. and M. Combination, Dunhill sidecar and storm apron, lamps, etc., fully equipped; £100, great bargain.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7188

P. and M. 3½h.p. Solo, new condition, ready to ride away; price £98, or £34/6 cash and 6 monthly payments of £11/8/8.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [7974

PHELON and Moore, Ltd.—R.A.F. models reconditioned and guaranteed; £90 solo, or £120 combination.—Fullest particulars on application, 4, Berners St., Oxford St. (opposite Bourne and Hollingsworth), W.1. [0314

1920 P. and M. R.A.F. Combination, not W.D., condition and tyres like new, all accessories, many spares, leg shields, luggage grid, driven solely by advertiser; £120, or exchange twin.—31, Lynton Rd., Acton, W.3. [8159

P. and M. Combination, 3½h.p., late 1919, fully equipped, nice condition; price £105, or £36/15 cash and 6 monthly payments of £12/5.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [7975

LATE 1918 P. and M., 1920 Henderson A sidecar, Easting, luggage grid, all tyres, tubes under 600, lamps, all accessories, condition and plating excellent, trial; £105, final; Bonniksen, new Sept.; £5.—30, Ferme Park Stroud Green. [8261

P. and M. W.D. 3½h.p. Model, overhauled and guaranteed by us, £78; other not overhauled but in running order, £68; complete with Mills-Fulford sidecar, £100 and £110; deferred payments, no extra.—Maudes', 100, Gt. Portland St., W.1. [8305

P. and M. Motor Cycle, R.A.F. model reconditioned and guaranteed by the makers, all necessary new parts having been built into these machines to make them perfect and practically as good as new; price £90, or can be supplied on deferred payment terms if desired for an extra charge of 4% only.—William Whiteley, Queens Rd., W.2. [6946

P. and S.

NEW 2¾h.p. P. and S., fitted with the Villiers 2-stroke engine, 2-speed; £73.—Wauchope's, 9, Shoe Lane, London. [8587

Peugeot

5-6h.p. Peugeot-Bat, spring frame, B.B., N.S.U. 2-speed, new tyres, tubes; accept £35, a bargain.—No. 1, Clifton Terrace, Liskeard, Cornwall. [7826

Precision.

1912 Precision Combination, wicker sidecar, 4¼h.p. single, 2-speed, running order; £39, or nearest offer.—Gibbs, Oundle. [X6464

Premier.

PREMIER 3½h.p., free engine hub, splendid condition throughout; £30.—40, Alexander Rd., Chatham, Kent. [7893

PREMIER 2¾h.p., 3-speed, Bosch mag., new tyres, excellent order; £40.—Courage, Wingfield Rd., Sherborne. [8493

4h.p. Premier, 3-speed, clutch, kick start, lamp, new tyre, belt; £40.—A.E.H., Constance Villa, Nurcery Rd., Sutton. [X6393

PREMIER 3½h.p., T.T., good condition, 50 m.p.h., 130 m.p.g.; bargain, £29/10.—S. A. Nicholls, Pangbourne, Berks. [X6431

3½h.p. Premier 1913 Combination, 3-speed, clutch, Bosch, B. and B., lamps, horn, tools, valves, etc.; £56.—47, Crabmill Lane, Coventry. [X6292

PREMIER 1914 3-speed Combination, just overhauled, perfect condition; £45.—20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [8135

PREMIER 3½h.p. Coach Combination, screen, 2 speeds, pedal start, 3 lamps, speedometer; £45; after 3 Saturday.—11, Kilmartin Av., Norbury, S.W.16. [8487

1916 3½h.p. Premier Combination, Rudge sidecar, 3-speed countershaft, clutch, and kick start, engine rebushed and gear box recently overhauled by makers, nearly new tyres, lamps; £100, or near offer; all enquiries answered.—T. Wilson, 5, Bankside, Dalton-in-Furness, Lancs. [8362

Quadrant

QUADRANT 4h.p. Clutch Model, new tyres; £30.—15, Elthorne Rd., Upper Holloway. [8451

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4½h.p. Quadrant Combination, latest 1920 model; £145. [8588

QUADRANT 1920 4½h.p. Combination, shop-soiled, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7189

QUADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the only moderate-priced outfit left.—Victor Horsman Ltd., 7, Mount Pleasant, Liverpool. [0277

NEW 4½h.p. Quadrant Combination to makers' specification at list price, including carriage from works; £145, or on deferred payments 4% extra. Harrods, Ltd., 118, Brompton Rd., London. [8563

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

MOTOR CYCLES FOR SALE.

Quadrant.

QUADRANT 1920 4½h.p. Combination, brand new, slightly shop-soiled; £125; an exceptional bargain; makers' full guarantee.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0072

CLIFFORD WILSON Company, Quadrant sole agents and distributers for South-eastern Counties. Trade enquiries invited. All models from stock. Large selection of second-hand combinations. — 70 Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [4734

Radco.

RADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt., Portland St., W.1. 'Phone: 3426 Mayfair. [7190

Reading-Standard.

1919 Reading-Standard Combination, fully equipped, any trial; £175.—Motor Cycle Marts, Ltd., Chatham. [7838

READING Standard, 10h.p., lamps, horn, Canoelet MM4 sidecar, new; what offers?—Williams, Motor Engineer, Exeter. [8465

1919-20 Reading-Standard Combination, lamps, horn, hood, screen, pillion, large Avon sidecar, perfect running order, original tyres; £120, or exchange lower powered machine and cash.—104a, Finchley Rd., N.W. 'Phone: Hampstead 7822. [8180

READING-STANDARD Combination, 1917, 10-12 h.p., hand and foot clutch, Bosch, new sidecar, Cameo screen, hood, nearly new machine, too fast for owner; £150.—Letters, Wilson, 32, Caddington Rd., Cricklewood. Can be seen Tiley, Singer, Dukes Mews, Duke St., Oxford St., W. [8551

1920-10h.p. Reading-Standard Combination, dynamo lighting, with special head lamp, electric and mechanical horns, Bonniksen trip speedometer, mirror, Orto triple sliding wind screen, luggage and petrol carrier, very fast and powerful, and in excellent condition; 200 gns.—Denton, Normanton, Yorkshire. [8286

Rex

3½h.p. Rex, fast and reliable; £20.—P. Chappell, Sketchley, Hinckley. [X6433

£12.—Rex 6h.p. twin, Bosch, druids, B. and B.; gift. Ball, 49, Riverside, Kingston-on-Thames. [X6332

REX 2¾h.p., Dixie, Senspray, just been overhauled; £20.—1, Winslade Rd., Brixton Hill, London. [7845

6h.p. Rex and Sidecar, perfect running order, lamps and accessories; £45.—41, New Rd., Shoreham-by-Sea. [8212

£20.—5h.p. twin Rex, 1909, special adjustable pulley, new Saxons, modern tank, wide T.T. bars, long exhausts, Bosch, B. and B., very fast, engine sound, clutch and brake need slight repair.—Brook, 12, Milton Rd., West Hartlepool. [7988

Rex-Jap.

6-8h.p. Rex-Jap 2-speed Combination (no body), cantilever saddle, waterproof Bosch, accessories complete, perfect condition; any trial; suit tradesman; £70, or exchange for 3½h.p. solo, good make, cash adjustment.—W. Gilbert, 2, Albert Buildings, Wellington St., Winson Green, Birmingham. [8553

Rover.

ROVER 1920 3½h.p., all-chain, perfect; £135.—Copner, Dragon House, Petersfield. [8249

ROVER 1920 Combination, 3½h.p., all accessories; bargain, £160.—Ivy Cottage, Nutfield Rd., Redhill. [7803

ROVER 1920 5h.p., Grindlay sidecar, brand new, £185, or solo £160.—Eveson, Wollescote, Stourbridge. [8418

ROVER Combination, 1915, 3-speed, clutch, lamps, horn, etc., in perfect running order; £100.—Arter, High St., Barley, Royston, Herts. [8052

5-6h.p. Rover Combination, 3-speed gear, Dunlops, all as new; bargain, £125, no offers.—Beecher, 472, Archway Rd., Highgate, London, N. [8172

ROVER 1920 3½h.p. Combination, new but shop-soiled; makers' price £203; reduced to £177.—Maudes', 100, Gt. Portland St., W.1. [8308

T.T. Rover, accessories, excellent condition, any examination; £84; exchange 1916 countershaft Norton.—64, Grosvenor Rd., Birkenhead. [8295

1920 Rover 3½h.p., 3-speed, clutch, kick starter, lamps and horn, new condition, very little used; nearest £115.—A. Smith, Stanton, Chippenham. [8085

ROVER, new, 5-6h.p., countershaft, £182; combination, £235; exchanges liberally considered.—Halifax Motor Exchange, Horton St., Halifax. [8065

1919 T.T. Rover, perfect condition throughout, fast and economical; £85, bargain; exchange lightweight and cash.—Cantrill, 172, Cross Rd., Coventry. [X6421

ROVER Combination, 5-6h.p., 1920, perfect condition, lamps, horn, speedometer, watch, etc.; £170, or near offer. Seen at Motor Works, Metropolitan Station, Ruislip. [8030

ROVER Combination, 1919, 3½h.p., 3-speed gear, speedometer, in first-class condition, practically new Dunlop extra heavy tyres; £125.—MacWalter, c/o Brico, Ltd., Ashtead, Surrey. [7866

Burlington
Motor Cycle Co. Ltd

NOT NECESSARILY CHEAPEST BUT UNDOUBTEDLY THE BEST.

The above exactly describes our Re-conditioned Machines. Every Machine is complete with tool bags, kit, pump, front brake, and carries OUR GUARANTEE.

TRIUMPHS AND DOUGLASES.

Stove enamelled and plated in makers' colours, engine and gear box thoroughly overhauled in our own workshops, and fitted with new tyres, belts, and chains. Appearance practically indistinguishable from new. All late Models and guaranteed mechanically perfect.

TRIUMPHS, Solo **£100**
Combination and brand new Burlington Sidecar **£125**

DOUGLASES, 2¾ h.p. **£85**
4 h.p. Combination with brand new Burlington No. 2 Model Sidecar, painted Douglas Blue **£110**

TRADE SUPPLIED.

Send for Bargain List of New or Nearly New Motor Cycles and Combinations.

We've got the machine to suit you.

BURLINGTON SIDECARS.

Harley Model, coachbuilt, bulbous back with locker, spring seat and back, upholstered in best Pegamoid, a sidecar de luxe, with extra strong chassis, specially constructed to withstand the strain imposed by this heavy machine, complete with tyre and tube **£35 10**

Burlington No. 2 Model, coachbuilt, underslung, bulbous back with locker, spring seat with back upholstered in best Pegamoid, strong and well-made chassis, complete with tyre **£28 10**

No. 1 Model, specification as above, but slightly cheaper make **£26 10**

Speedy Model (or Birdcatcher). The ideal Sidecar for sporty riders. They are just the things for Triumphs. Specification as above. Complete with tyre **£24 0**

Please note that our Sidecars are solidly constructed, and are not blown together.

Write, 'phone, or wire your requirements:

THE BURLINGTON MOTOR CYCLE CO., LIMITED,
7, SOUTH SIDE, CLAPHAM COMMON, S.W.4.

'Phone: Brixton 2417.
'Grams: "Burlington Motors, Clapham"
(50 yards from the Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Rover.

ROVER 1917 3½h.p., Philipson pulley, hand controlled, tyres in excellent condition, horn, head and tail lamps, guaranteed perfect condition.—D. Millen, Flat 1, 81, Great Titchfield St., W.1. [8445

5-6h.p. Rover, J.A.P. (late 1919), Rover coach sidecar, 3-speed, all-chain, 28×3 tyres, accessories, very good condition, carefully used; list price £235, accept £135; appointment.—89, Oak Lane (Tel. 2190), Bradford. [8244

ROVER 3½h.p., countershaft model, also T.T. model, Phillipson pulley, as makers' specifications, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7191

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart coachbuilt sidecar; £180, or on easy payments 5% extra, one quarter deposit, balance by 12 monthly instalments.—Harrods, 118, Brompton Rd., London. [8564

1919 5-6h.p. Rover Combination, done about 800 miles, all accessories, including lamps, mechanical horn, speedometer, and Cameo wind screen, the whole in new condition; £160, or will accept lower powered combination and cash adjustment.—Temeside Garage, Ludlow. [8449

ROVER, brand new, 5-6h.p. combination, latest type bulbous back sidecar, luggage carrier, list price £235. We will accept £205 for this splendid outfit; first cheque secures; will send passenger train, carriage paid, to any part of England.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0074

Royal Ruby.

1920 Brand New 3h.p. Spring Frame Royal Ruby, shop-soiled; £95.—130, Euston Rd., N.W.1. [8275

3h.p. (Sept., 1920) Royal Ruby, with lamps, horn, and accessories; cost £126, will sell £95, no offers.—Lesney Farm, Erith. [8195

8h.p. Royal Ruby Combination, December, 1919, very fast, condition guaranteed, all accessories; £150, offer.—Rigby, Rowan Av., Sale, Manchester. [7007

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

ROYAL RUBY 2½h.p., Villiers, good condition, unused P. and H. lamps and generator; £38, or exchange 3½h.p. or 4h.p. machine.—Sandys, 43, Corporation St., Stafford. [8406

3h.p. Royal Ruby, spring frame, 2-speed, clutch and kick starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used, and condition as new; £110; may be obtained on Harrods deferred payment system.—Harrods, Ltd., 118, Brompton Rd., London. [8561

Rudge.

1920 I.O.M. Rudge, as new; £100.—Dunn's, 326, Euston Rd., London. Museum 5391. [2981

RUDGE T.T. and I.O.M. Models ex-stock; £110; exchanges.—125, High St., Woolwich. [6094

1920 Brand New 3½h.p. Rudge Multi, T.T., shop-soiled; £95.—130, Euston Rd., N.W.1. [8274

RUDGE Multi 1920 3½h.p., latest T.T. model, as new; £100.—45, Gray's Inn Rd., London, W.C.2. [8163

3½h.p. Rudge Multi, 1920, as new, mileage 200, lamps, horn; £100.—79, High St., Egham. [7907

3½h.p. Rudge Multi and coachbuilt sidecar, in good condition; £75.—27, Sydney St., Northwich. [8456

1917 Rudge Multi, thoroughly overhauled; £55; must sell.—55, St. James's Rd., Bermondsey. [8210

3½h.p. Rudge Multi, 1913, good condition, lamps, horn, generator; £42.—B., 69, Bath Rd., Reading. [7897

RUDGE I.O.M. Multi, new, slightly soiled; £100.—Clark, 7, Exhibition Rd. 'Phone: Kensington 4096. [8503

3½h.p. Rudge, hand clutch, tyres as new, perfect running order; £40.—19, Arthur St., New Oxford St., London. [8191

RUDGE Multi, 5-6h.p., C.B. sidecar, must sell; no reasonable offer refused.—Shirwin, Leeds Rd., Ilkley, Yorkshire. [7860

RUDGE Multi, 3½h.p. T.T., with pedal starter, June, 1920, hardly used; £95.—Hill, Netherlea, Helensburgh, Scotland. [6966

£42, or offer.—Rudge Multi, believed 1914, Eisemann, Senspray; bargain; Saturday afternoon, Sunday.—9, Tollington Place, N.4. [8400

1917 3½h.p. Rudge Multi and Sidecar (1920), fine condition, Dunlop heavy tyres; £75.—Harris, 68, Holloway Rd., N.7. [7993

1920 I.O.M. Rudge, new, in stock at list; £110/5 exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, London, N.E. [7665

1920 Rudge (July), done 1,400, well kept (insured), horn, lamps, spare tube, belt; £95, or instalments.—Hodge, Balliol, Oxford. [8390

MOTOR CYCLES FOR SALE.

Rudge.

UDGE Clutch Model, 3½h.p., pedal start, 1913 machine, excellent going order; £35, or near r.—202, Trinity Rd., S.W.17. [8084

UDGE 3½h.p., 1919, C.B. sidecar, wind screen, 3 lamps, very good condition; trial by appointment; O.—Barbé, 13, Wyndham Rd., West Ealing. [8164

h.p. Rudge Multi, clutch, pedal start, good running order, new Dunlops, lamps, horn, complete tools, e belt, etc.; £55.—Gardiner, Tockwith, York. [8090

19 Rudge Multi 1920 Millford Skiff sidecar, fitted up lamps, speedometer, hooter, only wants ag; £120, or near.—Hare, 13, Loates Lane, Watford. [8216

20 I.O.M. Rudge, Cowey trip speedometer, Lucas lamps and horn, perfect condition, small mileage; O.—Fairhaven, Wavertree Rd., South Woodford. [8234

h.p. Rudge, clutch model, in splendid order throughout; trial; ride away, or will put on rail; £31.—, Eleanor Cottage, Gold Hill, Chalfont St. Peters, ks. [8025

20 Brand New I.O.M. Rudge 3½h.p., sloping tank, multi gear and free engine, £110/5; another, le speed, 1914, £35.—Wauchope's, 9, Shoe Lane, lon. [8589

20 3½h.p. I.O.M. Rudge Multi, lamps, horn, knee-grips, spare valves and springs, etc., mileage 1,500, red for £125; £105, or offer.—Waitt, 81, Lichfield Stafford. [X6445

20 Rudge Multi 7-9h.p., price, solo, £100, or combination £120, complete with lamps, horn, dometer, mileage 960, perfect condition.—Apply, ier, 143, Bute St., Cardiff. [7882

JDGE Multwin, 7-9h.p., September, 1920, Lucas horn, P. and H. lamps, £135; also Patey 2-seater ar, £35; both nearly new.—Paris, c/o Barrett, 8, tevale St., Dennistoun, Glasgow. [6967

JDGE, I.O.M., 1920, splendid condition, carefully run in, T.T. and touring bars, special undershield, con, tools, very fast, flexible; £98 or near offer.—ick, 7, Ladbroke Sq., Notting Hill. [7955

JDGE Multi 3½h.p., new, shop-soiled; price £105, or £36/15 cash and 6 monthly payments of 5.—Coppen, Allan and Co., 89, Gt. Portland St., lon, W.1. 'Phone: Mayfair 5399. [7978

16 3½h.p. I.O.M. Rudge Multi, overlap long plated exhaust, new bearings, enamelled, acces-s, many spares, insurance, tyres almost new, very £80.—Shaw, 44, Bates St., Sheffield. [X6420

20 Rudge, I.O.M., unscratched, mileage negligible, fully equipped with lamps, horn, and speedometer; Also see displayed advert.—Ratcliffe Bros., 200, Portland St., W.1. 'Phone: Mayfair 5042. [8533

Scott.

AUCHOPE'S, 9, Shoe Lane, London.—New 192 Scott, delivery from stock; £140. [8590

).—Scott Coachbuilt Combination, 1914-1915, good condition.—Dentist, 496, Oxford St., W.1. [8361

(late Scott 3½h.p., as new, solo, £100, or with sidecar £120, or offer.—Dunn, 326, Euston Rd., on. [7704

20 Scott, delivered August, complete with lamps and horn; nearest £130.—A. Smith, Stanton, enham. [8086

20 Scott Combination, all lamps, as new, mileage 300; £150.—Dunn, 326, Euston Rd., London. um 5391. [85o

'TT Combination, sporty torpedo sidecar, Binks, Bosch, drip feed, good condition; £65.—Stevens, Junction, Somerset. [8091

'TT, 1920, Ace discs, electric light, Cowey horn, peedometer, run 1,000 miles; £130.—Blyth, 19, field Gardens, London. [8329

20 Scott Motor Cycle and sidecar, very small mileage, better than new; price £170.—Chatfield, 8a, Grosvenor Rd., London, S.W.1. [8155

20 T.T. Scott, complete with lamps, horn, tools, etc., only run few miles; best offer over £100 laway, Fruit Merchant, Smethwick. [0275

20 Scott (Sept.), done 170 miles, fully equipped, 3in. Palmers, insured £150; any trial; price —Nunneley, St. Mark's Av., Harrogate. [8113

20 Scott, sports model, T.T. bars, horn, tools, etc. condition nearly new, mileage about 700; —D. Lavin, Old House, Sonning, Berks. [6270

20 Scott Combination, acetylene lighting, cover to sidecar, only run three months; owner leaving nd; £135.—Rowe, Park View, Farnborough, Hants. [7806

TT, 1915 engine, other parts new, lamps, horn, Tan-Sad, 2-speed, kick start, in splendid con-; price £70.—Corderoy, 112, West Parade, Hull. [8432

NEY Wanted Quickly: Scott, Dec., 1914, semi-T.T., Bosch, £20 renovations, expert examination, offers; Surrey.—Box 9,215, c/o *The Motor Cycle*. [8146

20 Scott, Watsonian Monarch sidecar, accessories, splendid condition and appearance; any trial at Bros., Linden Rd., Leatherhead; £140.—Gr ory, arth, Leatherhead. [8049

Burlington
Motor Cycle Co. Ltd.

GENUINE DOUGLAS REPLACEMENTS.

Large quantities of 2¾ and 4 h.p. Spare Parts at miles below makers' price.

Connecting rods, complete with bolts and nuts, **22/6**; cylinders, front or rear, **39/6**; pistons, **12/-**; 2¾ h.p. frames, **£5**; 4 h.p. frames, minus back portion, **£5**; drip-feed glasses, **1/3**; pulleys, plated or black, **8/6**; 2¾ h.p. chains, **9/6**; fork spindles, long or short, **1/-**; chain wheels, **8/6**; piston rings, **1/6**; valve guides, **3/-**; 'Amac' carburetter controls, complete with Bowden cable, **12/6**; 2¾ h.p. crankshafts, **£25s.**; carburetter gauzes, **3d.**; carburetter gauze washers, **6d.**; magneto sprockets, **8/6**; etc., etc., etc. Carriage extra.

The above are only a few of the Spares we have in stock. We shall be pleased to quote you upon receipt of your enquiries.

TRIUMPH TANKS.

All late pattern, and in good order, but not enamelled **£1 15s**

Carriage and packing **3/-**.

TRIUMPH FRAMES.
DIAMOND PORTION.

ALL RE-ENAMELLED, **£4 0 0** EACH.

Carriage and packing **3/-**

AS NEW.

TRIUMPH VALVES.

Exhaust complete with Spring and Cotter. **8/-**. **Inlet**, complete with Spring and Cotter **4/-**.

(postage 9d.).

MILLER'S GENERATORS.

Ex W.D. Type IIIa.

Brand New, 15/- each.

List Price, 27/6. Postage 1/-.

Douglas Pattern Footboards

2¾ h.p., **12/6** per pair; 4 h.p., **15/-** per pair. These footboards are all rubber covered, with brass edgings.

To 4 h.p. Douglas Owners

Write for particulars of our Clutch Conversion Set.

No more broken drawbolts.

THE BURLINGTON Motor Cycle Company, Ltd.,

7, South Side, Clapham Common, S.W.4.

'Phone: Brixton 2417.

'Grams: "Burlington Motors, Clapham."

(50 yards from Clapham Common Underground Station.)

MOTOR CYCLES FOR SALE.

Scott.

1920 Scott Mauve Combination, Swan sporting sidecar, splendid condition, mileage about 1,000, owner now unable ride; Lucas lamps and horn, luggage grid, Cameo screen; bargain, £120.—248, Hither Green Lane, S.E.6. [8218

GENUINE Bargain; 1914 Scott coachbuilt combination, excellent mechanical condition and appearance, 3 lamps, horn, etc., including full insurance till Oct., 1921, and 5 full tins of petrol; price complete £80; trial willingly given.—Apply, Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. [0339

Singer.

SINGER 4½h.p. Combination, 2-speed, clutch, new coachbuilt body, fine condition throughout; 85 gns., or near offer.—Prout, Canon St., Taunton. [7961

Sparkbrook.

1919 Sparkbkrook 2½h.p. 2-stroke, excellent condition; £60, or nearest offer.—F. Barker, Grassington. [8284

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2½h.p. Sparkbrook, 1920, Villiers engine, 2-stroke, as new; £62/10. [8601

SPARKBROOK 2-stroke Lightweight Motor Cycle, delivered new July 6th, 1920; offers wanted; can show receipt.—Lloyd and Plastow, 52-54, Finsbury Rd., Wood Green. [7950

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7195

Sun.

1915 2¾h.p. Sun-Villiers, new tyres, powerful, perfect order; 33 gns.; photo.—181, Newton Rd., Burton-on-Trent. [8268

SUN-VILLIERS 2½h.p. 2-stroke, in perfect condition throughout; accept £25.—Allen, 10, Freshford St., Earlsfield, S.W.18. [8481

Sunbeam.

1916 3½h.p. Sunbeam, Cowey, tools, tyres good, perfect running order, fast; £98.—28, Alexander Drive, Liverpool. [7936

1920 New Sunbeam Combination, 3½h.p., done only few miles; £179, or best offer.—King, Normande, Morley Rd., Boscombe. [8477

SUNBEAM 3½h.p., 1919 (June), splendid condition, Lucas lamps and horn; £105.—Billbrough, The Gables, Knottingley, Yorks. [8403

SUNBEAM 1917 3½h.p., kick starter, 3-speed, h.b.c. clutch, lamp, horn, etc., excellent condition; £100.—C. Barton, Clapham, Yorks. [0246

SUNBEAM Combination, 1920, brand new, for sale, less 10% off list price.—Norman Whitehouse, 203, Station St., Cheslyn Hay, Staffordshire. [X6006

SUNBEAM 1920 3½h.p. Model complete with head and rear lamps, bulb horn, indistinguishable from new; £160.—Parker's, Bradshawgate, Bolton. [X6399

SUNBEAM 3½h.p., 1916, recently overhauled at works and fitted with 1920 cylinder and piston, all accessories; £95.—Evan' Garage, Newport, Salop. [8478

1920 Sunbeam 3½h.p., brand new, in stock at list; £155/8; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, London, N.E. [7670

SUNBEAM, brand new 3½h.p., solo model, with Lucas lamps and horn; £170.—The Walsall Garage, Wolverhampton St., Walsall. Tel.: 444. [9004

SUNBEAM 1920 3½h.p. Touring, Lucas accessories, only run 150 miles, £155; Sunbeam 1920 3½h.p. sporting model, brand new, £150.—Eveson, Wollescote, Stourbridge. [8415

1920 Sunbeam 8h.p. Combination, Lucas Magdyno, spare wheel, Easting, Tan-Sad, mileage 800, perfect; price £260; carriage paid.—Abbott, Invergowrie, Dundee. [7832

MOTOR Cycles for Sale, Sunbeam 3½h.p. combination complete; what offers? New model arrived; will sell either.—Nicholas, 145, Waterloo Rd., Wolverhampton. [7834

WAUCHOPE'S, 9, Shoe Lane, London.—1919 8h.p. Sunbeam combination, spare wheel, hood, screen lamps, speedometer, mirror, warning signal, tools, condition like new; 200 gns. [8592

NEW Sunbeam, 3½h.p., sporting model: £155/8; in stock; ready for road.—Cambridge Agents for Sunbeams: Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8127

SUNBEAM 8h.p. Combination, equipped, condition as new; price £210, or £73/10 cash and 6 monthly payments of £24/10.—Coppen, Allan and Co., 89, Gt. Portland St., London, W.1. 'Phone: Mayfair 5399. [7979

1920 3½h.p. Sunbeam Sporting, electric lighting, knee grips, spare tube, all tools, little mileage, £135; also Canoelet Minor sidecar, if required, practically new, £12 extra.—Hampton, The Elms, Tettenhall, Wolverhampton. [7712

MOTOR CYCLES FOR SALE.

Sunbeam

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. O. de la Hay (late Sunbeamland).—The Molineaux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

1921.—Competition rider's latest 1920 3½h.p. Sunbeam, with Sunbeam sidecar chassis, Dinky body 700×80 tyres, all wheel interchangeable, 3 Lucas lamps, 1921 valve covers, 1921 Cowey trip speedometer, Klaxon, aluminium number plates, knee-grips, X'Pall saddle, latest Bosch mag., magnificent condition throughout; £195, close offer.—St. Moritz, Wyche Rd., Malvern. [8528

T.D.C.

T.D.C. 2-stroke, accessories, good condition throughout; £33; after 3 Saturdays.—11, Kilmartin Av., Norbury, S.W.16. [8488

Torpedo.

LATE 1917 Torpedo 2¾h.p., 2-speed countershaft, power unit overhauled, new Verus crank, connecting rod and flywheel, reliable, powerful, low mileage, lamps, etc., 190 lbs. weight; £48.—Lane, 37, Windsor Rd., Evesham, Worcester. [8011

Triumph.

1920 Brand New Triumph Combination, 3-speed, kick; £160.—130, Euston Rd., N.W.1. [8279

1917 Countershaft Triumph, complete lamps, etc.; £75.—Cross, Agent, Rotherham. [X6457

1920 4h.p. Triumph, 3-speed, and kick, brand new; £127/10.—130, Euston Rd., N.W.1. [8280

£32.—Single-speed Triumph, complete with lamps, tools, etc.—Victoria Garage, Surbiton. [8258

TRIUMPH, 1920, Tourist Trophy racer, brand new for delivery from stock; £105.—Below.

TRIUMPH 1920 New 4h.p., Model H, £127/10; also lightweight model, £75; delivery from stock.—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

1919 Triumph and Gloria, perfect, all accessories; £109.—Dunn, 326, Euston Rd., London. [7700

BARGAIN.—Triumph, brand new, unregistered; first £117/10 cash accepted.—22, Praed St., Paddington. [7963

3½h.p. Triumph, perfect; £40; exchange lightweight.—Letters 28, Elphinstone Rd., Walthamstow. [8251

TRIUMPH, late 1914, smart coachbuitl sidecar, accessories; £72.—270, Croxted Rd., Herne Hill. [8350

£79.—3-speed Triumph and coachbuilt streamline sidecar, lamps and tools.—Victoria Garage, Surbiton. [8259

1918 Triumph, 4h.p., C.S., perfect running order; £75.—Dunn's, 326, Euston Rd., London. Museum 5391. [2984

TRIUMPH Motor Cycle, 3½h.p., splendid condition, ride away; £45.—25, Ringstead Rd., Catford, S.E.6. [7881

1914 4h.p. Triumph, in perfect running order; £60.—S. Redhead, Manor House, Wimblington, Cambs. [7857

3½h.p. Triumph Combination, 3-speed and clutch, good condition; £65.—Giles, West Wycombe, Bucks. [8368

1914 Triumph Combination, 3 speeds, clutch wind screen, tyres new, lamps; £85.—Rectory Grove, Clapham. [8226

1920 Triumph, Gloria, new, used few times, complete, must realise; £140.—365, King St., Hammersmith. [8326

1920 Triumph 4h.p., Millford combination, excellent condition, spares, trial; £125.—Box 9,167 c/o *The Motor Cycle*. [7875

1920 Baby Triumph, mileage 500, condition as new; 65 gns.—D. Harris, Hampstead, Binfield Heath, Henley-on-Thames. [7812

1920 Triumph 4h.p., not ridden 500 miles, perfect condition; £120.—Fred Ham, Upper Weald, Axbridge, Somerset. [8271

3½h.p. Triumph Motor Cycle, in good going order, complete with lamps, spare cover; £23/10.—27, Sidmouth St., Devizes. [8462

TRIUMPH 3½h.p., clutch model, repainted, overhauled, lamps, tools, horn; £45.—Pendlebury, Wolseley Rd., Rugeley. [X6428

TRIUMPH, S.A. hub gear, and Phœnix coach sidecar, sound running condition; £65 cash.—Witten, East St., Sittingbourne. [8199

DAN GUY, Weymouth.—Sole agent for Triumph motor cycles; model H, £127/10; Baby 2-stroke, £75; delivery from stock. [5962

1914 4h.p. T.T. Triumph, powerful, mechanically perfect, Philipson pulley; £55.—Seen, 29, Allsop St., Upper Baker St., N.W. [8395

TRIUMPH 4h.p., W.D. model, 1919 combination, excellent order, all accessories; £115.—Maudes', 100, Gt. Portland St., W.1. [8306

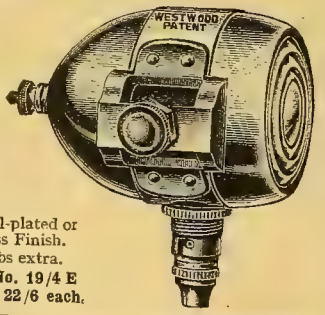
1918 Triumph, 4h.p., and Montgomery sidecar, F.R.S. lamps, mechanical horn and tools; £125, 30, Perran Rd., Tulse Hill. [8349

Patent "Torpedo" Electric Side Lamp

Type C.

List No. 19/4

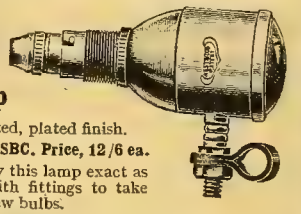
Right or Left Fitting.



Nickel-plated or Brass Finish. Bulbs extra.

List No. 19/4 E
Price, 22/6 each.

Motor Cycle Tail Lamp



As illustrated, plated finish.

List No. 19/1 SBC. Price, 12/6 ea.

We can supply this lamp exact as above, but with fittings to take miniature screw bulbs.

List No. 19/1E Price, 7/6 each.

S.B.C. Double Ended Lampholders.

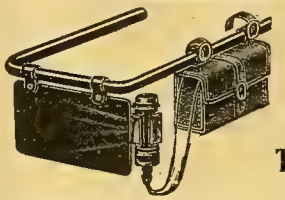
Complete with adaptors, suitable for Motor Lamps. Plated finish.

Price, 3/6 each.

Metal Auto. Bulbs.

2, 4, 6, 8, and 12 Volt. Double contact.

Price, 2/- each.



"Royal Ruby" Electric Tail Lamp.

A reliable, efficient electric rear lighting set. Lamp is fitted with Rear Red Lens and White Opal Side Lens. Outfit complete with Bulb, Battery, and Leather Case.

List No. 19/9 Price, 14/-

Lamp only	5/6
Lamp complete with 3-5 Volt Bulb and Cables	7/6
Battery Case	3/6
"Wesco" Battery	3/-

We can supply this lamp with double ended S.B.C. lampholders.

List No. 19/3E S.B.C. Price, 10/6

"Cyco" Bulbs.

These Bulbs are specially made for use with Cycles and Motor Cycles. Lowest current capacity. Longest life. Most powerful light.

List No. 11/3 3½ Volt .. 1/- each
„ 11/4 6 „ .. 1/6 „

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List of Special Lines Free on request from the Makers.

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RIM & PATENTS LTD
LAWDEN RD BORDESLEY BIRMINGHAM.

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1919 Countershaft Model, fitted with Sunbeam sidecar, all as new; bargain, £98.—Beecher, 472, Archway Rd., London, N. [8173

TRIUMPH Countershaft Combination, 1919, lamps, horn, tools, sidecar, bulbous back; £120.—Dentist, 216, Portobello Rd., N. Kensington. [7798

1920 Triumph Combination, undiscernible from new, Lucas lamps, horn, etc.; cost £168, sell £138, bargain.—66, London Rd., Coventry. [X6503

TRIUMPH-MILLFORD Combination, Nov., 1919, fast, excellent condition, lamps, Klaxon; £135.—36, Keesland St., Hillhead, Glasgow. [7859

1920 Junior Triumph, £75; W.D. renovated, £105; chain-driven model, £140; in stock, ready to-ride away.—Cross, Agent, Rotherham. [X6455

1920 Triumph Combination, Model H, Tan Sad, footboards, unpunctured, new Aug.; £155.—73, Woolton Rd., Garston, Liverpool. [8514

TRIUMPH Combination, 1920, as new, fully equipped, pillion seat, mileage 1,200, unpunctured; £150.—Hayes, 160, Birmingham Rd., Redditch. [8120

1920 Baby Triumph, new, ridden under 150 miles, £8 accessories, spares; accept £68.—2, The Chine, Grange Park, Winchmore Hill, London. [8245

1914 Triumph, 3-speed, lamps, horn, tools, Dunlops, nearly new, a sound, reliable machine; £50.—T. Farmer, Inglewood, St. James' Rd., Sutton. [8317

1920 Triumph Combination, as new, £60 sidecar, expensively equipped, cost nearly £200; no offers; 150 gns.—353, King St., Hammersmith. [8328

TRIUMPH (renovated by Triumphs), cost £145 June, new 1920 sidecar, fully equipped; £130, very near offer; Deal, Kent.—Box 9,223, c/o *The Motor Cycle*. [8440

1919 Triumph and Sidecar, Mills-Fulford, electric light, screen, tools, splendid condition; £105.—Dunn, 326, Euston Rd., London. Museum 5391. [8534

TRIUMPH, £55, or near offer, 1913 3½h.p., 3-speed, clutch, aluminium sidecar, basket seat, just overhauled.—Garaged at Ward Bros., Balham Hill, S.W. [8321

1919 Triumph, specially enamelled and extra plated parts, very smart, brand new, unscratched; £95.—769, Romford Rd., Manor Park, London, E. [8346

1920 Triumph Combination, Watsonian sidecar, Easting screen, electric lighting, complete set of spares; £140.—14, Shaftesbury Rd., Highgate, N.19. [8294

TRIUMPH, 1920, 4h.p. model, with Triumph sidecar, horn, and Watford speedometer, indistinguishable from new; £175.—Parker's, Bradshawgate, Bolton. [X6396

1920 Triumph, all-chain drive, latest model, just in; list price £140, or if fitted with luxurious coach sidecar to match £170; exchanges or easy payments.

1919 Triumph, countershaft, not W.D., in magnificent order; £105, or if fitted with new coach sidecar £125; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, London, N.E. [7671

1920 Triumph, recently delivered, unscratched condition, mileage under 200, College shields, aluminium footplates; £120.—Jones, 163, High St., Egham. [7954

TRIUMPH, clutch model, renovated, excellent condition, lamp, tools, and spares, 80 m.p.g., real good machine; nearest £40.—Seekings, 8, Ranowell Terrace, Kenilworth. [X6425

1920 Model H Triumph, 3 speeds, kick-starter, guaranteed not been 500 miles, equal new; £115.—Walbro Motor Cycle Works, Saffron Walden, Essex. 'Phone: 45. [X6408

TRIUMPH C.B. Combination, Canoelet sidecar, Triplex glass screen, new tyres, complete lamp set etc., very smart; £58.—769, Romford Rd., Manor Park, London, E. [8005

1920 Triumph Combination, in perfect condition, practically unscratched, lamps, horn, spares, low mileage; owner going abroad; £155, near offer.—Elsden, Sutton, Ely. [8412

1920 4h.p. 3-speed all-chain drive Triumph-Gloria Combination, bought Aug., not run 600 miles, owner got delivery car; £175.—Williams, 16, Bore St., Lichfield. [8107

1919 T.T. Triumph (Aug.), 4h.p., knee grips, horn, spare inner tube; offers; owner bought combination; seen by appointment.—Strudwick, Upper Grange, Stroud, Glos. [8347

1918 Triumph C.B. Combination, Dunlop tyres, Lucas lamps, pump, etc., in first-class order; any trial £108, or nearest offer.—Chesters, Orchard Garage, Bedford Park, Chiswick. [8457

TRIUMPH Gloria Combination, 1919 (late), as new, Easting, hood, all lamps, footboards, Tan-Sad, and horn, speedometer; £150, worth £200 easy.—106, Ranelagh Rd., Tottenham. [8047

TRIUMPH, 3-speed, and Canoelet sidecar, new tyres throughout, lamps, accessories and insurance guaranteed perfect; any trial; £75.—21, Tredegar Rd., Dartford Heath, Kent. [7855

(73) **All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.**

MOTOR CYCLES FOR SALE.

Triumph.

1h.p. Triumph Combination, Grado gear, Bosch mag., 2 trip speedometer, lamps, horn, new Dunlop heavy l tube on back, recently overhauled; £45.—75, Jasper ., Enfield Highway. [7829

ATE Triumph Countershaft Combination, sidecar ·. cost £38, equipped everything, equal new, trial urday, Sunday; £110, to save storage.—Marks, 121, ton Lane, Chiswick. [8490

RIUMPH Countershaft, mileage 2,500, reconstructed throughout by makers, perfect condition; expert mination; lamps, speedometer, discs; £80. offers.— , London Hospital, E.1. [8420

919 Triumph, new sidecar, screen lamps, speedo- meter, pillion seat, new tyres, excellent condi- and appearance, many spares; £125.—Jones, 78, ns Park Rd., Hackney. [7948

RIUMPH Junior, special finish, enamel and plating as new, horn, spare belt, tools, just decarbonised, dition as new, mileage about 500; £73.—D. Lavin, House, Sonning, Berks. [6269

RIUMPH Countershaft Combination, fitted with Montgomery sidecar, Lucas lighting, etc., guaran- l mechanically perfect; any trial; price £85.—2, Kel- Villas, Hawks Rd., Kingston-on-Thames. [8252

914-15 Clutch Model Triumph, Bosch mag., semi- T.T. bars, trip speedometer and lamps, all in good condition; £45, lowest; no offers.—J. Waters, a, Hendon Lane, Church End, Finchley. [8115

RIUMPH Baby 2-stroke, 1920, done 300 miles, com- plete with Lucas lamps, horn, new spare tube and accessories, fully insured, perfect in every detail; offer over £70.—Haddon, North St., York. [7964

920 Triumph Combination, Swan sidecar, Cowey speedometer and horn, Lucas lamps, Tan-Sad and age grid, enamel and plating perfect, guaranteed d throughout; £145.—West, Popeswood, Binfield. [7607

RIUMPH 3½h.p., old racer, new cylinder, connect- ing rod, ball bearings, aluminium footboards, ad- able B.B., Kempshall, Stonehenge, 6in. head lamp, fect tune; £30.—Morgan, Winston, Stowmarket. [8022

RIUMPH, Model H. £127/10, S.D. £140, D. £105, L.W. £75; combination, Model H. 2/10, S.D., £195; immediate delivery.—Vivian die and Lane, Ltd., 24, Woodstock St., London. [0329

p. Triumph Countershaft Combination, engine 48586, canolet sidecar, electric lights, hooter, and es, in good running order; £125, or nearest; seen ppointment.—Hartley, Thornton-in-Craven, Skipton, ks. [7999

920 4h.p. Triumph, Model H., and light sidecar, £30 worth spares and accessories, insurance, extra e tank, leg shields, exceptionally fine machine; er going abroad.—Spurway, 36, Park Hill Rd., upstead. [8004

RIUMPH 2-stroke, 2-speed countershaft, complete with lamps, tools, pump, etc., new tyre, machine tically as new throughout, good on hills; £50, bar- ; would exchange higher power.—F. Warren, Hin- Wilts. [8009

RIUMPH Motor Cycles.—Immediate delivery from stock of a Model H, £127/10, and Gloria side- for same if desired, £55; or can be supplied on rred payment terms.—William Whiteley, Ltd., ens Rd., W.2. [6943

RIUMPH 4h.p. Countershaft, 3-speed, F.E.W valve attachments, Tan-Sad with back and foot s, 1920 Henderson B1 sidecar, Cameo wind screen, lamps, horn, etc.; £120.—28, Lower Addiscombe East Croydon. [7846

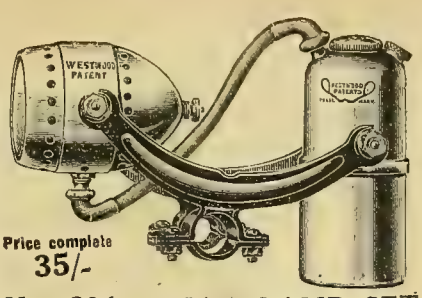
RIUMPH 1920 4h.p., Model H, and sidecar nearly new, complete with all accessories, speedometer, an exceptional bargain; any reasonable trial; 5.—Elce and Co., 15-16, Bishopsgate Av., Camo- St., E.C.3. 'Phone: Avenue 5548. [0073

RIUMPH 4h.p. Combination, almost new, perfect condition mechanically, enamel unscratched, tric and gas lighting, spare tubes, belt, pump, n, full set of tools, new Montgomery sidecar, any ; seen any time; nearest offer £112.—38, Penne- rne Rd., Peckham, S.E.15. [8489

EW Triumph 1920 4h.p. Countershaft Model, £127/10; 4½h.p. Triumph, Type W.D.B., £105; . Triumph, all chain drive, £140; 4h.p. Triumph, d engine, sporting, £105; all models in stock.— bridge Agents for Triumphs, Herbert Robinson, , Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [8128

AUCHOPE'S, 9, Shoe Lane, London, E.C.4.— New 1920 4h.p. Triumph, delivery from stock, 7/10 solo; can be fitted with Gloria or any other te of sidecar immediately from stock; also new 1920 . Triumph combination, all-chain drive, £195; and . W.D. renovated Triumph and sidecar, renovated 0 by Triumph Cycle Co., £120. [8591

RIUMPH Combination, late 1919, Parsons sidecar, had very little wear, enamel and plating perfect, tric lighting set, spare cover and tube, chain, and belt, valve and spring, bulbs, complete set of tools; large for owner; buying smaller machine; £150, ear offer; will ride 50 miles to purchaser.—J. Hodg- n, Florendine St., Amington, Tamworth. [X6429



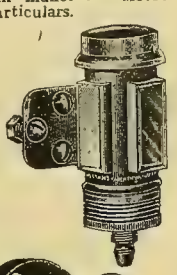
Price complete 35/-

No. 204. HEAD LAMP SET.

Absolutely reliable, suitable all makes of Motor Cycles. Write for particulars.

TAIL LAMP
List No. 19/1.
Price, 6/6 each.

ROYAL RUBY.
List No. 19/3.
Price 4/6 each.



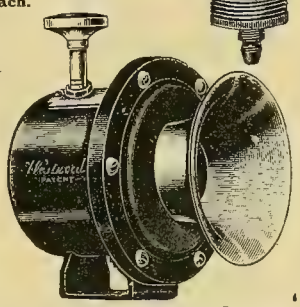
Mechanical Horns.

One year's Guarantee.

List No. 19/6A. **32/6** each.

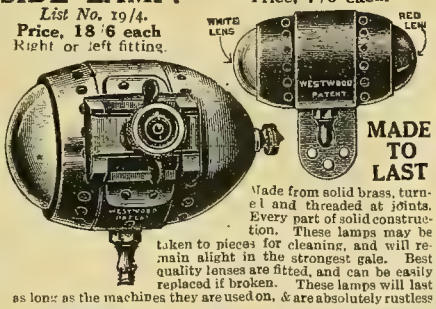
List No. 19/6B. **27/6** each.

Westwood Special Lines are stocked by all Reputable Agents.



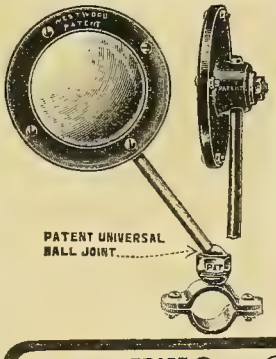
SIDE CAR LAMP.
List No. 19/2.
Price, 7/6 each.

SIDE LAMP.
List No. 19/4.
Price, 18/6 each
Right or left fitting.



MADE TO LAST

Made from solid brass, turned and threaded at joints. Every part of solid construction. These lamps may be taken to pieces for cleaning, and will remain alight in the strongest gale. Best quality lenses are fitted, and can be easily replaced if broken. These lamps will last as long as the machines they are used on, & are absolutely rustless



WESTWOOD MIRROR
For Motor Cycles.

This exceptionally strong and durable Mirror has two distinct patented advantages, and can be adjusted and locked firmly and rigidly in any desired position. Solder, rivets or loose wires have entirely been dispensed with in this design. This Mirror will stand real hard wear, and will always give efficient satisfaction. List No. 19/7

Price, 13/- each.

Finished in nickel plate and ebony black.

TRADE MARK
WESTWOOD
RIM AND PATENTS LTD
BORDESLEY BIRMINGHAM.

MOTOR CYCLES FOR SALE.

Velocette.

CYRIL WILLIAMS, for early delivery of Velocette —Chapel Ash Depot, Wolverhampton. [2261

HORSMAN can do Velocettes from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0328

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

VELOCETTE, the lightweight with a big heart, in stock for immediate delivery, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W1. 'Phone: 3426 Mayfair. [7196

Verus.

VERUS-BLACKBURNE, all models, delivery from stock. Mandes' Motor Mart, 100, Paris St., Exeter. [8075

VERUS-BLACKBURNE 2¾h.p., consistent medal winner open trials, frame blue, large saddle tank, 3 speeds, perfect tune and condition.—Wills, Overton, Flint. [X6427

Wilkin.

WILKIN B4, 1920, semi-T.T. bars, highly finished, a machine of proved reliability; price (shop-soiled), £110.—22, Rodney St., Liverpool. [7078

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone 3426 Mayfair. [7197

WILKIN-BLACKBURNE 4h.p. Combination, late 1920, all chain, 3-speed, Easting screen, luggage grid, insurance, fully equipped, only done 1,000, better than new: £150.—Newitt, 52, South St., Romford. [X6336

Williamson.

WILLIAMSON 8-10h.p., 2 speeds, free, clutch, handle-starter, lamps, horn, speedometer, with taxi sidecar hood, wind side screens; £140.—Bond, 193, Church St., Blackpool. [X6124

1914 8h.p. Williamson w.c. Combination, speedometer, mirror, screen, K.S., clutch, 3 lamps, car generator, lidded extra body for commercial use, first-class mechanical condition, smart; nearest £120.—99, Shaftesbury Rd., Hammersmith. [8338

Witall

WITALL, June, 1920, 2¾h.p. 2-stroke, 2 speeds, electric lighting, accessories, hardly used, cost £75; price £45.—G., 63, Solon Rd., Brixton, S.W.2.

Wolf.

1915 Wolf, T.D.C. 2¾h.p. 1920 engine, lamps, horn, etc., in perfect order; £29.—54, Marcellus Rd., Hornsey Rd., N.7. [8048

1916 Wolf, 3½h.p. Abingdon, coachbuilt sidecar, 3-speed countershaft, lamps, mileage 4,000; £80, or offer.—Wilkinson, Mulberry House, Great Eccleston, Garstaug. [8118

WOLF 1920 2¾h.p., 2-stroke, 2-speed, clutch, and kick start, Dunlop tyres, Brampton forks, P. and H. head lamp, rear lamp, mechanical horn; bargain, £60; will exchange with cash for higher power with or without sidecar.—R. D. Varty, Thundersley, Essex. [7645

Wooler.

1920 New Wooler Flat Twin, shop-soiled; £95.—130, Euston Rd., N.W.1. [8278

2¾h.p. 1920 Wooler, 6 speeds, McNab's record breaker; £85.—Wauchope's, 9, Shoe Lane, London. [8593

WHAT Offers for new Wooler twin lightweight, just delivered, cost £103?—Maranatha, York Rd., S.E.27. [7728

WOOLER, 1920, lamps, Cowey horn, quantity of spares, small mileage; bargain, £85.—Coles and Shirley, Chepstow. 'Phone: 48. [0313

1920 Wooler, mileage 395, Smith's trip speedometer, lamps, horn, spare belt, valves, etc.; £95, or best offer.—Windle, Manora, Hollington Park, St. Leonard's. [7908

1920 Wooller, footboards, Cowey horn, speedometer, lamps, 130 m.p.g.; cost £116; perfect, 600 miles; £90 for immediate sale.—159, Victoria Rd., Cambridge. [8272

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7197

1920 Wooler, T.T. model, flat twin, variable gear, as new, all lamps, horn, etc.; £80; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, London, N.E. [7673

Zenith.

5h.p. Zenith, countershaft model; £55.—Wauchope's, 9, Shoe Lane, London. [8594

DAN GUY, Weymouth.—Sole agent for Zenith motor cycles; early delivery 1921 models. [5965

1920 Zenith 4-5h.p. Sports, fitted cut-out, shop-soiled only, snip; £110.—Dunn, 326, Euston Rd., London. [7703

MOTOR CYCLES FOR SALE.

Zenith.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—4-5h.p. Zenith, 1920, countershaft, clutch and K.S.; £97/10. [8603

1920 Zenith 8h.p., C.S., kick start model, lamps, horn, knee-grips, new; £135.—Dunn, 326, Euston Rd., London. Museum 5391. [8535

1920 Zenith 6h.p. Sports, slightly used for demonstration, as new; 110 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [7747

1920 8h.p. Zenith and Henderson De Luxe Sidecar, very little used, fully equipped; £145.—Tuck, 154, Blackhorse Rd., Walthamstow, E.17. [8381

1919 6h.p. Zenith Clutch Combination, Sandum sidecar, kick starter, engine as new, smart turnout; £120; any trial.—Parrott, Oving, Bucks. [7944

ZENITH, 1920, 8h.p., countershaft, smart coachbuilt sidecar, all on, condition as new, very little used; £180.—Brown Bear Hotel, Richmond, Surrey. [7914

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7193

ZENITH 8h.p. Sporting Model in stock; £139.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0319

1920 Zenith 8h.p. Clutch Model, small mileage, complete, speedometer, electric light, spares, perfect; £130.—Victor, Fairmead, Woodside Av., N. Finchley. Tel.: Finchley 2364. [7823

ZENITH 1920 5-6h.p. Twin, sporting model, splendid condition, carefully used, nicely run in, all accessories; £135, no offers.—A.G.B., Amos barber, Ltd., Downham Market, Norfolk. (D) [8297

F.O.C.H. for 1921 Zeniths; very early deliveries; book your order now.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8039

1920 Zenith, 8h.p., clutch model, Zenith sidecar, Easting, accessories; also Thor 8h.p. combination, very fast; offers; owner going abroad.—Write Capt. Kemp-Small, 64, Paddington St., W.1. [7855

ZENITH 1920 6h.p. Combination, Lucas head, rear, and sidecar lamps, Cowey speedometer, knee-grips, Ace disc wheels, and luggage grid, indistinguishable from new; £170.—Parker's, Bradshawgate, Bolton. [X6395

F.O.C.H. have a 1919 6h.p. Zenith, T.T. bars, accessories, grand condition; cheap.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8035

1920 Zenith 8h.p. Sports Model, only 3 months old, fitted with Flying Middleton sidecar, all lamps, horn, etc.; £127/10; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, London, N.E. [7672

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments; one-fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [8565

SPECIAL Red Zenith 1917 8h.p., direct drive, 2¼ to 1 top, Cox-Atmos, every accessory, tune, condition perfect, over 75 m.p.g., starts instantly, smiles at 60, a trial will prove this, fascinating appearance, photograph; offers or exchange A.B.C.—Advertiser, c/o Mineards, 1, Royal Terrace, Northampton. [7896

Miscellaneous.

IF you want a good privately owned motor cycle or car, apply Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. [0138

BOOTH'S Motories, Halifax.—1914 Enfield combination, £89/15; 1916 3½h.p. Brough, opposed cyls., 3-speed countershaft, and sporting sidecar, £81/10.

BOOTH'S Motories, Halifax.—1919 P. and M., with new sidecar, £110/10; 7-9h.p. Indian, with torpedo sidecar, £60/10.

BOOTH'S Motories, Halifax.—Six 1915 Douglases, £49/10; two 1918 4h.p. Douglases, £85/10.

BOOTH'S Motories, Halifax.—1920 5-6h.p. Rudge Multi, with Rudge sidecar and accessories, cost £170; price £127/10.

BOOTH'S Motories, Halifax.—3½h.p. N.S.U., mag. Grade gear, £15/15; 3½h.p. Ariel, £25/10.

BOOTH'S Motories, Halifax.—1915 Harley-Davidson combination, £97/10; 1920 Harley-Davidson and sidecar, £199/10; 1920 O.K. lightweight, nearly new, £44/10; O.K. lightweight, 2-speed, £34/10; 1920 Omega, 2-speed, £71/10; new 1920 6h.p. Ariel combination; 4½h.p. Quadrant; 4h.p. Douglas with new sidecar, £105; exchanges entertained. — Booth's Motories, Portland Place, Halifax. [2909

1920 Enfield, 1920 Verus, 1918 (late) 4h.p. Douglas; best offers, private; must sell. Knock twice. 43, Uxbridge Rd., Shepherd's Bush, London. [7847

DOUGLAS S. COX, the A.S.M.M., West Norwood, has several real bargains in motor cycles and combinations in his long advertisement under Cars. [7727

MOTOR Cycles, good second-hand, £15, £20; magnetos, belts, tyres; best red rubber tubes, 5/9; spares, accessories.—Flanagan, 86, Copenhagen St., Islington, London. [8572

ALEXANDER'S

EDINBURGH AND GLASGOW, FOR Immediate Delivery.

ACE. (4 cylinder.)
ACME.
ARMIS.
BAT.
B.S.A.
BRADBURY.
CALTHORPE.
COULSON B.
CLEVELAND.
CLYNO.
COVENTRY EAGLE.
DIAMOND.
DOUGLAS.
EDMUND.
ENFIELD.
FRANCIS BARNETT.
INDIAN.
LEVIS.
MATCHLESS.
METRO-TYLER.
NEW IMPERIAL.
N.U.T.
OMEGA.
REX.
SPARKBROOK
VERUS.
VELOCETTE.
WILLIAMSON.

Early delivery Norton, P. & M., and Morgan. Immediate Delivery of the 10.5 H.P. Douglas Light Car, with self-starter, electric lighting, etc. The finest and most durable light car of its class.

TRADE SUPPLIED.

Scottish agents should now write us regarding 1921 agencies. We have still a few territories open for various makes of machines. Early application is advisable

ALEXANDER & Co.

113-115, Lothian Road, EDINBURGH, AND 272-274, Gt. Western Road, GLASGOW.

MOTOR CYCLES FOR SALE.

Miscellaneous.

S.E. Clapham (Motors), Greenwich, offer bargains in all departments to make room for 1921 models; offers and exchanges entertained.—27, Stockwell St., Greenwich, S.E.10, or 'phone Greenwich 751. [6818

BARGAINS.—Please peruse our advertisements in small columns. We are disposting of our large stock of shop-soiled models at greatly reduced prices. Do not wait. Come and buy at once. The offer may not occur again.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7194

SPECIAL Offer of 500 second-hand Indian, Harley, and Henderson solo mounts, full range of all models from 1915-1920, all are fully equipped and in first-class order, guaranteed in perfect condition. Our prices show a saving of 40% to you. Write for full particulars and lists to Gotham Sporting Goods Co., 57, Warren St., New York City, U.S.A. [6021

ONE 1920 Rudge 3½h.p., disc wheels, Isochronous speedometer, P. and H. large head light, Cowey horn, all tools complete, been very little used, price £105; another as above, without accessories, not done 200 miles, £95, perfect; new 3½h.p. Rudge and sidecar, without accessories, £125; 1920 Scott, Millers head light, Cowey speedometer, Stewart mechanical horn, in first-class condition, £110.—All the above can be seen at Aldred's Garage, Driffield. [8091

F.O.C.H., the Car and Motor Bicycle People.—Call and see us. New and second-hand motor cycles, combinations and light cars always on view; prices to suit everybody. We will buy your old mount or allow a good price for it in part exchange. All leading makes supplied for 1921, including Zenith, B.S.A., Matchless, Harley-Davidson, Rudge, Coulson, A.J.S., and the famous G.N. and Bleriot light cars.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8041

MOTOR TRICYCLES.

ARGSON Hand and Motor Propelled Tricycles for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendall's Mews, W.1. [7871

MOTOR SCOOTERS.

KENILWORTH Scooter, new; £35.—Drug Stores, 13, Prince of Wales Rd., Kentish Town. [7807

1920 Autoped, lamps, horn; owner gone abroad; £40.—Street, Merrylands Rd., Bookham, Surrey. [8267

EGERTONS, Northgate, Ipswich, can deliver from stock A.B.C. Skootamotas and Mobile Pups. [5897

A.B.C. Skootamota, new condition; £45, or nearest offer.—Alice Williams, Pendennis, Teignmouth, Devon. [7911

2½h.p. Autoglider, seat, horn; cost £58/10 July, 1920, scarcely used; offers.—Duerden, 91, Scotland Rd., Nelson. [8107

AUTO-WHEEL Scooter, condition as new, back wheel sprung; £27/10.—Hallett, Manor Farm, Allet, Longport. [7900

A.B.C. Skootamota; immediate delivery can be given. Covers, tubes, spares stocked.—Howes and Sons, Ltd., Chapel Field, Norwich. [8311

AUTOPED Scooter, electric lighting, perfect order and as new; £27/10, or close offer; cost 40 gns.; no use to owner.—J. M. Pollard, Wragby, Lincs. [X6127

AUTOGLIDER, Model D, mechanical horn, aluminium number-plates, fully insured, guaranteed mileage under 50; £50.—Macaskie, The Hythe, Staines. [X6127

AUTOPED, the original Auto-scooter, 1½h.p. 4-stroke engine, with clutch, dynamo lighting, horn, tools, etc., new; £32.—P. J. Evans, 83-91, John Bright St., Birmingham. [0177

HOODS, WIND SCREENS, ETC.

CAMBER Hoods, 55/-; wind screens, 27/6.—Brigg and Hayles, 78, Church St., Camberwell, London. [7711

MANUFACTURERS of Hoods and Aprons for all classes of sidecars.—134, Crystal Palace Rd., East Green. [8311

AUSTER Aero Triplex Aluminium Wind Screen, 12in., adjustable, fit sporty sidecar, 22/6 each, and other types.—McConnell and Bailey, 73, Gt. Portland St., W.1. [7011

BODIES.

THE Easy Spare Seat, a few shop-soiled; 25/6.—Wilm Lane, Cricklewood, N.W.2. [X6411

CAMBER Coach Bodies from £5 to £15.—Brigg and Hayles, 78, Church St., Camberwell, London. [7711

BODY off Harley, 1920 colour, new condition, very strong but ugly; 55/-; photo.—Ferrari, Nanni, Dolgelley. [7811

LATEST Bulbous Back Indian Sidecar Body, new; £10; also mudguard with valance; 25/-.—Lynwood Rd., Aintree. [8311

BASTONE'S Soiled Coachbuilt Bodies, to be cleared at low prices to make room for new models.—288, Pentonville Rd., King's Cross, London, N.1. [4911

THE Easy Seat Body, folding and detachable, a few shop-soiled, small 26/6, large 31/6; usual price 42/- and 50/-.—63, Wilm Lane, Cricklewood, N.W.2. [X5911

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

Advertising and Publishing Offices: 20, Tudor St., London, E.C.4. *Editorial Offices:* Hertford St., Coventry.
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Telegrams: "Iliffe, Manchester." *Telephone:* 8970 and 8971 City. *Telegrams:* "Autopress, Birmingham," *Telephone:* 2970 and 2971 Midland.
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AUSTRALIA—Gordon & Gotch, Ltd., Melbourne (Victoria), Sydney (N.S.W.), Brisbane (Queensland), Adelaide (S.A.), Perth (W.A.), and Launceston (Tasmania).
NEW ZEALAND—Gordon & Gotch, Ltd., Wellington, Auckland, Christchurch, and Dunedin. INDIA—A. H. Wheeler & Co., Bombay, Allahabad, and Calcutta.
SOUTH AFRICA—Central News Agency, Ltd. PARIS—Smith's English Library, 248 Rue Rivoli.

Lightweights and the Future.

OF all the many types of motor cycle at present in existence, the lightweight has perhaps the rosiest future. So far an element of sport has pervaded the atmosphere which surrounds the motor cycling fraternity, but, though it is neither desirable nor likely that this feeling should drop out, the time will come, and indeed is almost with us, when a far more commercial spirit will prevail. The motor cycle has already proved its reliability in daily use, and the need for a multitude of reliability trials to prove this no longer exists. The motor cycle, therefore, may soon become the standard means of locomotion for all who can afford the necessary outlay.

It behoves us to study the requirements of the public who will form the largest proportion of buyers in the near future. Of what is this public composed? Chiefly of city workers, who by choice or necessity live some distance from their work. Such people do not require fast heavy machines, nor do the majority need passenger accommodation. A light, reliable machine, capable of a maximum speed of 30 m.p.h., would satisfy their requirements, but, above all, it must be quiet, and must protect the rider from mud splashes and oil.

The future demand for the proper lightweight at a reasonable price is enormous. What is wanted is a machine that will convey the rider to and from business with the utmost reliability, and be ready for a trip to the golf course, or a spin in the country at week-ends; a machine that will not only replace the pedal cycle, but also give a larger radius of action without effort to the rider. Such will be the machine of the future, and its forerunners already exist and give considerable satisfaction in the present day.

Our readers are aware that *The Motor Cycle* has carefully fostered the development of the lightweight, and our offer of a trophy for a lightweight race in the Isle of Man provided an opportunity for machines of 250 c.c. and under to astonish the world with a wonderful display of reliability and speed.

In a few days many prospective purchasers will be wending their way to Olympia, in order to examine the progress made in that type of motor cycle which most interests them, and the many excellent lightweights displayed will come in for a large share of attention.

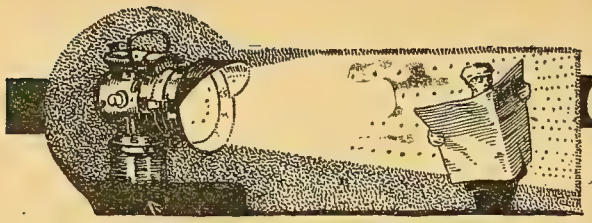
In the current issue will be found, in addition to our usual features, articles dealing with the lightweight movement from every point of view. These pages will form a most complete summary of the present position of the movement, and a perusal of the various articles and descriptions should do much to convince all that the present-day lightweight motor cycle is no longer in the experimental stage.

Lightweight Sidecars.

NEXT year there will be many lightweight sidecar outfits offered to the public, which will be engined with the same power plants as similar machines sold this year as solo mounts. We are constrained to remind our readers that a machine to be suitable for duty with a sidecar requires a strengthened frame, and that it does not follow because a 1920 model resembles its 1921 successor the same gauge of tubing has been used in its construction. Before fitting sidecars to existing light machines it will be advisable to ask the makers if the frame is suitable.

Since the gear ratio of a light sidecar machine is also a very important point, full satisfaction cannot reasonably be expected if ratios are used which have been adopted for a solo machine. This adds emphasis to the fact that adaptations may cause disappointment. We would urge manufacturers who contemplate marketing light machines for both purposes not to overburden the solo mount to make it suitable for two purposes. It will be unfortunate if there is a repetition of the earlier history of the sidecar machine.

An Index to the advertisements in this issue will be found on the page facing the back cover.



Occasional Comments

"By Ixion"

Lubrication Systems.

I SUPPOSE I feel the crudities of current motor cycle lubrication systems more keenly than most folk because journalists ride too many machines. The happy amateur who keeps his 'bus for two or three years, learns to understand it after the fashion of those mothers who can interpret every grimace and every inarticulate gurgle of their messy-faced offspring. But we poor dilettante testers are perpetually confronted with strange 'buses, and when we have at last learnt to oil them just so, they pass into other hands. Nevertheless, I am convinced there are many private owners who sigh for a motor cycle which only asks for a pint of oil to be put in its sump once a month, car fashion, and then lubricates itself unerringly and uncomplainingly for 500 miles or so. Will any genuinely automatic lubrication system grace any motor cycle at this year's Show?

3in. Tyres on Baby Two-stroke.

ANOTHER brain-wave from Dixieland. The Cleveland two-stroke is shod with—what tyres do you think?—26in. × 3in., gentlemen, no less! I am far from suggesting that the prices of all babies should be increased by fitting tyres which in extreme cases would stick £10 on to the catalogue figure. But there are enthusiasts who use the babies for long distance work, and 3in. tyres undoubtedly would go far to rule out the vibration which results from driving a little fellow too far and too fast. Will some reader who has comparative experience of the big-tyred Cleveland and small-tyred English lightweights let the Editor know how the innovation appeals to him? I am rather tickled with the notion of putting 3in. Palmer cords on a Douglas. These walloping tyres make such an addition to the comfort of a 500 c.c. 'bus that their effect on a lightweight should be quite interesting. But is it necessary to go quite so far? How do a pair of rather flabby 2½in. tyres feel on a baby two-stroke.

Kick-starting in Hobble Skirts!

I RECEIVE few plaints from our fair readers—possibly they know that I am old and plain, for the one Adonis on our staff reports a different experience. But I really had a letter from a lady rider the other day. She was denouncing kick-starters. At first I supposed that she was riding an open frame in a hobble skirt, but a timely postscript made it clear that she often rides in breeches, and that she owns a cycle car. Her statement, therefore, is that the male leg is a brutal and muscular instrument, developed by many generations of football, and the like, so that it is well able to start an engine. The feminine limb, if I understand her aright, is a more delicate and fragile creation, constructed for nothing more laborious than jazzing, and quite incapable of the dynamic output demanded by the starting of an average 500 c.c. engine; *a fortiori* it generally meets its Waterloo when confronted with an 8 h.p. twin and a kick-starter. Her dealer has solved the difficulty by substituting a long detachable hand crank for the original kick-starter. I think this protest is worth the notice of designers. Lady riders are increasing in numbers, and there is no doubt that the kick-starting of some 500 c.c. machines makes some men quite hot, damp, and blasphemous.

The Agent has to Live.

ONE reason why the £25 motor cycle and the £100 car still dally is that the agent has to live. Some stupid people imagine that the agent's commission is pretty easy fruit, but, after all, most of our readers would feel an agents' strike almost as much as a coal strike. Well, a certain syndicate is trying to put a very cheap 'bus on the market for 1921, and part of its costing scheme is that the agent shall get just 2½% commission on every 'bus he sells. In a few deals that 2½% would naturally be cheap money, for all the vendor might have to do would be to make out a receipt. But in another deal he has to teach the buyer to drive; put up with weeks of questions and nibbles; advise gratis after purchase on all sorts of matters; and, incidentally, pay his rent and rates, and sustain his hungry family. No other business is run on so narrow a profit margin, and it is obvious that the middleman is essential to our comfort and has his right to live. Therefore, something like a fiver on a cheap cycle and a tenner on a cheap cycle car must be earmarked for the local dealer, and the rock bottom prices of which some theorists prate are still impracticable.

One Day Trials.

I HAVE no sympathy with those critics who hold that the course of any one day trial can be too stiff, always provided that one man at least gets up each of the hills. These events have a complex function on our competition programme. Primarily they are intended to furnish a day's fun for sporting riders. Secondarily, they are utilised by the trade for purposes of local advertisement. They cut no ice with riders in other parts of England, who are well aware that a 150 mile non-stop does a machine little more credit one maiden over does a bowler. They were never meant to be a pothunter's Paradise, and the stiffer they can be made, the better the fun, provided a first-rate man on a first-rate machine has an outside chance of coming through with a clean sheet. They stand in an entirely different category from the big events of the season. These are keenly watched by a more ignorant section of the public, they should demonstrate what the machines can do, rather than what they cannot, and differentiate just enough to hall-mark the class of each mount. To my mind the Ilkley trial, the Scott trial, and the Welsh October trial were therefore very laudable competitions.

TAROUGA FEMININE GOGGLES

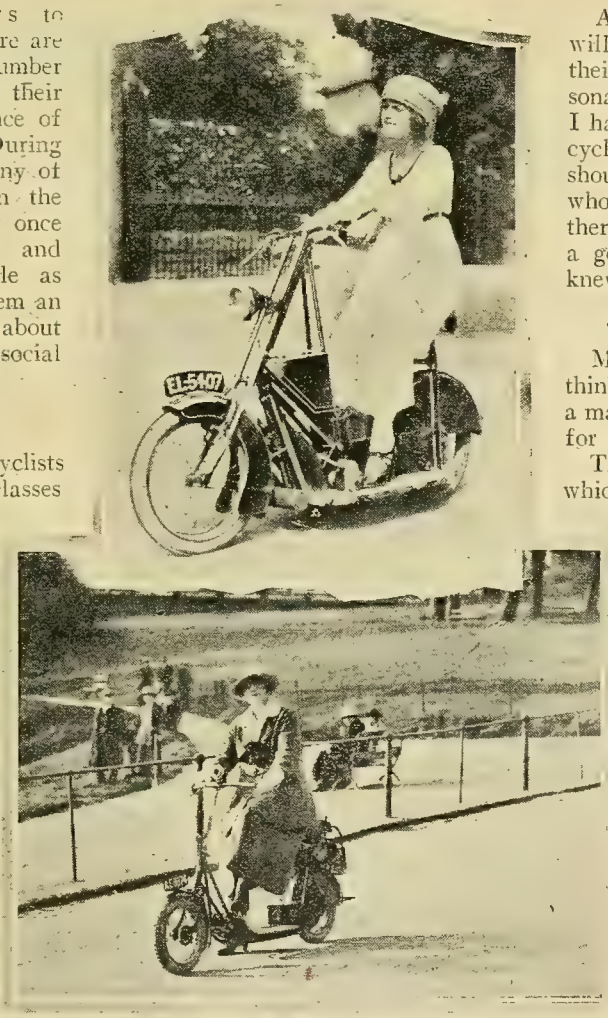
WHICH TYPE OF MINIATURE MOTOR CYCLE OR SCOOTER?

By Adele Barry

AMONG the visitors to Olympia this year there are bound to be a large number of ladies who have made up their minds to have the convenience of a motor-propelled bicycle. During the past year I have met many of my sex who have forgotten the prejudices against what they once considered a man's vehicle, and now regard the motor cycle as something which will give them an economical means of getting about for pleasure, business, and social work.

A Varied Appeal.

These prospective motor cyclists are representatives of many classes in the community. Some of them are young married ladies who require a machine upon which to do their shopping, because they live rather further out from the shopping centres than they need to do. Others are business girls who at present use trains and trams because the distance between home and office is a little too far for a pedal cycle. There is also a large number of motor cyclists' wives who wish to learn for themselves the joys of driving, since their husbands appear to have for hundreds of miles without complaining of the monotony of the journey.



Two types of open frame miniatures suitable for ladies. Top, a Kenilworth, which weighs but 70 lb. Below, a Skootamota.

As to which type of vehicle they will decide to buy depends upon their special requirements and personal taste; but from conversations I have had on the subject of motor cycling with others of my sex, I should estimate that for every lady who will buy a man's machine, there are a dozen who would buy a genuine lady's machine if they knew of its existence.

Special Models Wanted.

Manufacturers are inclined to think that because ladies can ride a man's mount, there is no demand for one built specially for them.

There is not a lady's machine which conforms to the ideal of the majority of the would-be buyers; but if it were made, probably it would be a compromise, embodying the best features of the few machines favoured by those who will not consider the "diamond" frame.

Personally, I am not so restricted, because I am quite content to ride a man's machine, and any of the many excellent lightweights which will be on show will meet my requirements. But despite the general opinion that a man's machine is all a lady requires, I maintain that I am an exception when the whole of the market for ladies' machines is considered.

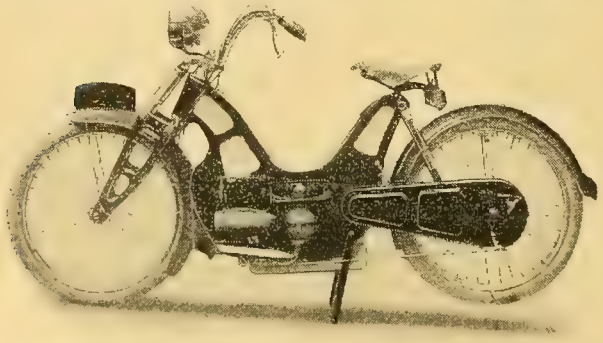
Through Feminine Goggles.—

I will give an example, typical perhaps of many to be found in different parts of the country. I belong to a tennis club, of which a large number of girls and married ladies are members. Altogether there are nine of us owning motor vehicles. Two have small cars, one has a sidecar outfit, two own Kenilworth Miniatures, one a Skootamota, another a Whippet, the eighth runs a Douglas lady's motor cycle, and I complete the motoring contingent with a Velocette. This is a fairly representative fleet of machines; and as fully a dozen ladies are considering buying machines for next year, it is interesting to sum up their opinions, always remembering that none of these ladies are yet motor cyclists. One only favours a man's machine. She is seventeen, an outdoor girl who prefers the more strenuous games of the opposite sex to those which our grandmothers would call "ladylike." Another wants the obvious power and speed of the Douglas in a machine as light as the Kenilworth scooter, and having a similar open frame. Four have decided to invest in miniatures, and their ultimate choice will rest between the Kenilworth, Skootamota, Whippet, and Autoglider; while another has tried a spring frame Macklum, and has voted in favour of its comfort rather than its speed, although—perhaps these future scooterists do not know it—all the miniatures mentioned — Kenilworth, Skootamota, Whippet, Autoglider, and Macklum—are capable of speeds good enough for all work excepting high averages on tour.

Making a Convert.

Others are in favour of the Ixion, Sun, and Cedos lady's models, and are also awaiting the introduction of the new Velocette lady's machine, which we understand is to make its *début* at Olympia.

I will give another example to show that, to initiate ladies into the joys of motor cycling, a small open frame is necessary. I have lived for years with an aunt who is now over fifty years of age. Since long



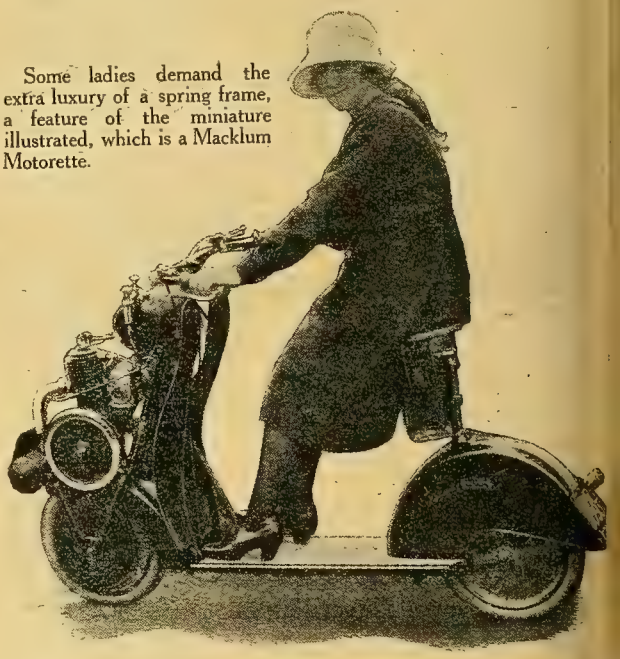
An open-frame lightweight, of which much is expected. The 2½ h.p. Pullin has a pressed steel frame, and is to be sold at a popular price.

before the war I have ridden men's motor cycles—the first one belonged originally to my brother, who gave it to me when he went aboard. During all this time my aunt has not taken any interest in my machines. A few weeks ago, however, a friend on a seatless scooter called for me, and my aunt *thought* it was just what she wanted.

"How do you like it?" I asked.

"Quite good, in its way," was the reply. "I have to get off to rest occasionally. If I go too far without dismounting, I fall on my knees when I do stop."

My aunt was very disappointed, but great was her excitement when, a few weeks later, she saw the same machine fitted with a seat. She now *knew* what she



Some ladies demand the extra luxury of a spring frame, a feature of the miniature illustrated, which is a Macklum Motorette.

wanted, and lost no time in investing £50 in this machine, incidentally, a Kenilworth, which, by the addition of a comfortable seat, was changed from a doubtful to a really practicable proposition.

For all Ages.

Now the number of ladies over fifty who will buy an ordinary motor cycle is not great, but, given a machine which it is possible to ride without special clothing, which is light, small, and easy to handle and there is a possible market almost as great as that promised by the lay press writers when they foolishly boomed the stand-up scooters.

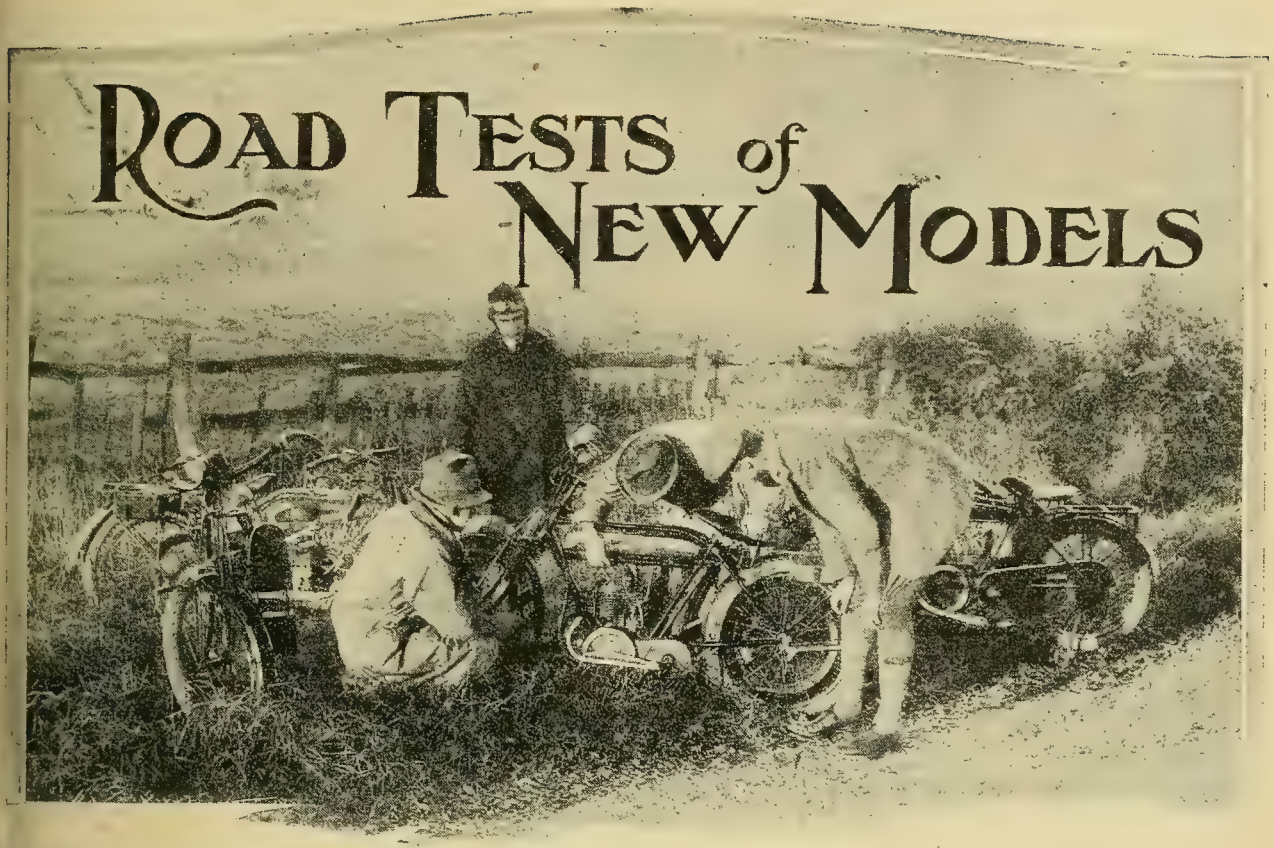
Once they have used miniature machines, a good proportion of these lady owners will buy larger machines. Only the other day I discovered my sporting aunt trying the riding and skirt position of my man's type Velocette.

The Open Frame.

As regards sidecar driving, I have found that some people still seem to think that ladies look ungainly when astride a man's sidecar outfit. For this reason perhaps, the Scott, with its open frame, always attracts the woman who is thinking of buying a passenger machine. Now, at the last minute, the Editor advises me that the makers of the Cedos machine are to have at Olympia a neat little sidecar outfit built specially for ladies. Although I have not been waiting for such a machine myself, there are probably dozens who have. It may, for instance, suit my aunt, besides a lot of other people.

BI.

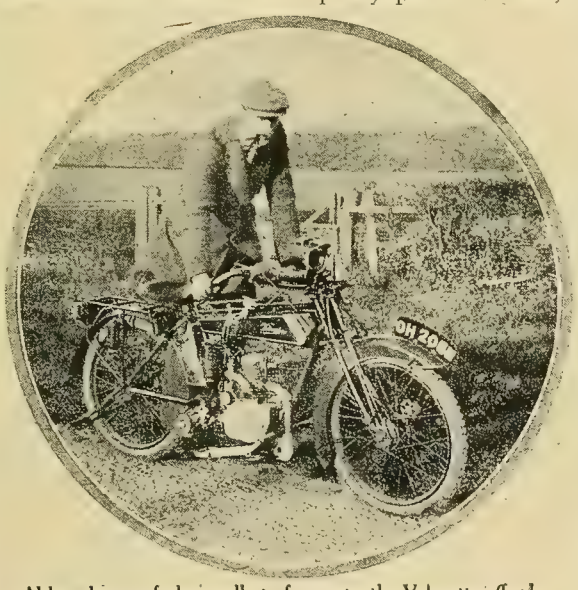
ROAD TESTS of NEW MODELS



THE THREE-SPEED VELOCETTE.

THAT a lightweight team should be one of the runners-up for the team prize in the A.C.U. Six Days Trials is an achievement that brings orward the possibilities of this type of machine. lessrs. Veloce, Ltd., are the manufacturers of the ttle machine which thus distinguished itself, and nerefore it was with considerable interest that we ook over one of the identical notor cycles which contriuted to this success. It was ot long before we realised nat as regards power the achine was fully capable f tackling any hill on which heel grip could be obtained, r quite severe gradients ould be ascended on the ighest of the three gear tios. Critics will at once nagine that the engine was nder-geared, but this conntion is at once refuted by ne speed attained under rdinary road conditions. It ill be remembered also that the conclusion of the trial ne of the team attained a eed of over 40 m.p.h. on rooklands. The Velocette one of the few machines hich gives the impression of being designed throughout with the idea of forming a uniform whole rather than a series of assembled units.

Having a cylinder of 62 mm. × 73 mm. (220 c.c.) of the normal three-port type, the engine is a self-contained unit, including a large oil sump and mechanical oil pump. This pump is an extremely pretty piece of work, having a combined rotary and reciprocating motion. The flow of oil is adjustable, and the pump may be relied upon to do its work with absolute regularity and thoroughness.



Although one of the smallest of mounts, the Velocette affords a comfortable riding position for the tallest of men.

This system is more cleanly than the "petroil" system, and is probably more effective, since the oil is definitely delivered to such parts as are most in need of lubrication.

Chain drive throughout is an uncommon feature on lightweights, nevertheless the Velocette is so equipped, and the chains are protected by an ample metal shield. Both two and three-speed models will be marketed for 1921, and the machines used in the Six Days Trials were fitted with the latter type.

Constant mesh gears, locked by a simple form of

Although only 220 c.c., the Velocette can maintain quite a high average road speed without unduly forcing the engine.

dog, are employed, and the changes are effected by a neat lever which is rotated by the right hand. The gears change easily, but the operating gear requires a little practice, probably because the motion is not one to which the average rider is accustomed. Both brakes are of the internal expanding type, and function smoothly and powerfully, and the mudguarding appeared very satisfactory, though owing to good weather conditions, this was not fully tested during our trial.

Up to a speed of 30 m.p.h. the engine runs smoothly and pulls magnificently, but if driven at much in excess of this speed a certain amount of vibration is noticeable in the handle-bars, which increases with the speed.

This is, perhaps, our only criticism of a machine which is replete with refinements, and it is not of any great importance, since it is seldom that the rider of a lightweight pushes his machine above this speed.

Throughout our trial, which extended over several days, the Velocette ran regularly and well, with the exception of a mysterious magneto trouble, which prevented a start on one morning, through the entire absence of current at the high-tension terminal. This trouble was overcome after a short period of drying.

Aluminium footboards and a large saddle help towards making the Velocette the serious touring proposition which it undoubtedly is, and in conclusion it may be stated that we know of no genuine lightweight which is more capable of undertaking hard work with fewer symptoms of drying up.

THE 2¼ h.p. NEW HUDSON.

THE average motor cyclist of experience who has always used a machine of 3½ h.p. or over, is rather apt to regard a 211 c.c. engine as something in the nature of a toy. The little New Hudson has such an engine, but it is far from being a toy. Probably, in a few years, no solo machine will be

The average solo motor cyclist requires a machine with which it is possible to place both feet flat upon the ground. Riders below the average height will find that the New Hudson provides an exceptionally low saddle position.

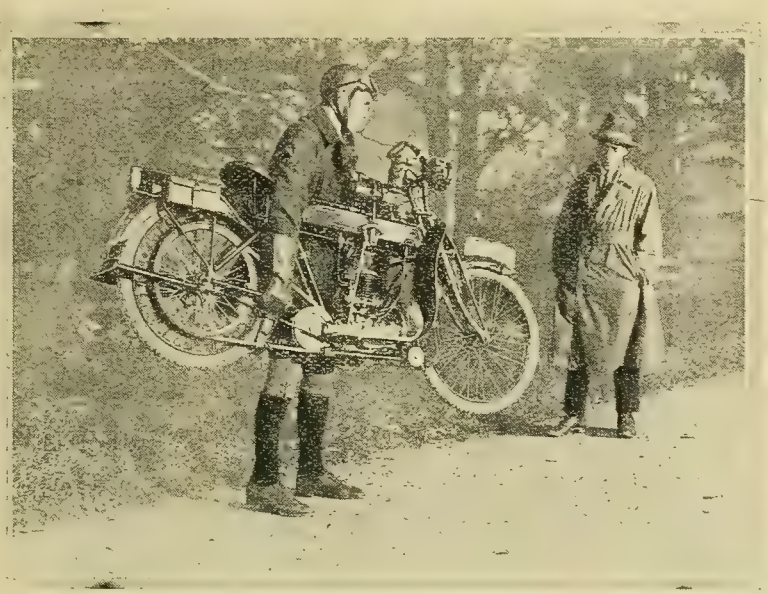
Road Tests of New Models.—

considered seriously unless it weighs less than 150 lb. To-day idealists maintain that it is absurd to use a machine weighing more than the usual load it is required to propel, and that a solo machine should not weigh more than 1 lb. for every lb. of the rider, and that the engine should have a capacity equalling 1 c.c. per lb. of the weight unladen.

In the hands of the average owner the difference between its speed and that of other machines of larger capacity is very little, for although there are many motor cycles capable of 50 m.p.h., very few are ever ridden even at 40 m.p.h., although the owner may think so. We may therefore consider 40 m.p.h. to be the maximum speed capabilities of the majority, and if a New Hudson rider set out in company with a friend on a larger machine, and a T.T. ride was not their intention, the latter rider would not get very far ahead of the lightweight.

In a true speed burst, of course, obviously, the little New Hudson would be left behind, but all riders are not "speed merchants," and nine out of ten riders of 2¾ h.p. and 3½ h.p. mounts would not have to regulate their usual pace to suit the other. By this we mean that the New Hudson is fast enough for the majority.

We recently tested one of the 1921 models, but prior to this a member of the staff had a pre-war New Hudson, with the same engine, which was used by his daughter, and we know that the lightweight always managed to keep a well-known sidecar outfit in sight, although the latter was in the hands of one who probably maintains higher averages than most of his colleagues. On one occasion, in the early morning, the sidecar and the New Hudson covered the distance between Taunton and Coventry, 140 miles, in 5½ hours, an average of about 26 m.p.h., which performance illustrates the point of speed capabilities mentioned above, for without incurring risks the sidecar could not have improved on this time had it been alone.



Although not so easy as it appears, in an emergency it is possible to lift the little New Hudson, which may give some idea of its weight.

We found the 1921 New Hudson quite fast enough for all but impromptu speed competitions with larger machines, but it more than held its own in "scraps" with others of its class. This was with a new engine, which should have been treated more kindly. On these occasions no inconvenience was experienced through engine vibration, usually a weakness with small single cylinder engines at speed.

Far more important, however, than the question of speed, was the light weight of the machine and its tractability. We found it much easier to move about than most of those miniatures known as scooters, while its low saddle position and the weight distribution gave a sense of security not found on all machines by any means. For its height and wheel diameter, the wheelbase is comparatively long which, in conjunction with the steering angles, makes for comfort—in fact, we found the machine gave none of those peculiar sensations usually attendant with 24in. wheels.

As the machine is quite easy to paddle off, a kick-starter and clutch are not fitted, and in a few yards the engine picks up its proper cycle of two-stroking, which is one of its most pleasing features.

Regarding its hill-climbing capacity, we found that it will negotiate most main road hills on "top"—in fact, the machine previously referred to had to climb Stoneleigh Hill, near Leamington (gradient 1 in 9), on top and without distress, or its fair owner considered it required attention. The gear change is easy, and in low gear the machine we tested appeared capable of any gradient likely to be met with by the majority of riders.

In addition to being a touring mount, the New Hudson with its 100 m.p.g. consumption, ample mudguarding, and extreme handiness, should be eminently suitable for the business man or woman who requires a general utility machine, while the parent who wishes to present his boy or girl with a motor cycle will find it all a lightweight should be, in regard to reliability and handiness.

THE 3 h.p. IVY TWO-STROKE.

AMONGST the machines which come our way for the purpose of a journalistic test, there are occasional specimens which immediately mark themselves as being rather out of the ordinary.

In taking a machine over with the acknowledgment that it is only to be used for a comparatively short period, one is apt to form an impression quite different from the feeling which would be aroused by a machine which was to be used continually under all kinds of conditions. After having ridden a machine during a prolonged period most owners begin to have some sort of affection for its qualities, but this state of mind seldom develops in the course of a brief mileage which may not at the most exceed 200 or 300 miles.

If any particular machine in such a short distance impresses itself upon the rider in this way, it may be assumed that it has some exceptionally good features,

Road Tests of Mew Models.—

and it may be said that during a fortnight's use of the 1921 model 3 h.p. Ivy two-stroke, impressions were formed which made us very regretful on the day when it had to be returned.

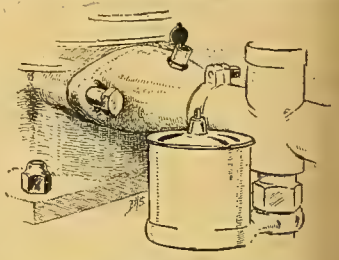
A "350 c.c." Two-stroke.

Primarily, the test of the Ivy was devoted more or less exclusively to the engine, as the frame and transmission were not quite the same as will be used on the standard production for 1921. The machine we used was a competition model which has been used through many of the trials of the present year, and it also was the same one which made twenty-five non-stop ascents of the Old Wyche, at Malvern, in August. The engine itself, however, was exactly the same as those which will be supplied to the public next year, and it has a bore and stroke of 75 × 79 mm., the capacity being 348 c.c. These dimensions, of course, are rather in excess of the usual run of air-cooled two-stroke power units, but, although difficulties have been experienced in the past due to overheating and plug troubles, when a capacity of 250 c.c. has been exceeded, none of these defects were experienced in the case of the Ivy.

Full Throttle Maintained Indefinitely.

Indeed, of the engine we may say that, providing the drip feed lubricator was set correctly, it could be driven "all out" for indefinite periods without showing any signs of overheating or drying up; hill-climbing also was exceptionally good, and, in general, the performance on top gear was much the same as the result which we used to obtain from the 500 c.c. single-cylinder four-stroke solo touring machines of 1912.

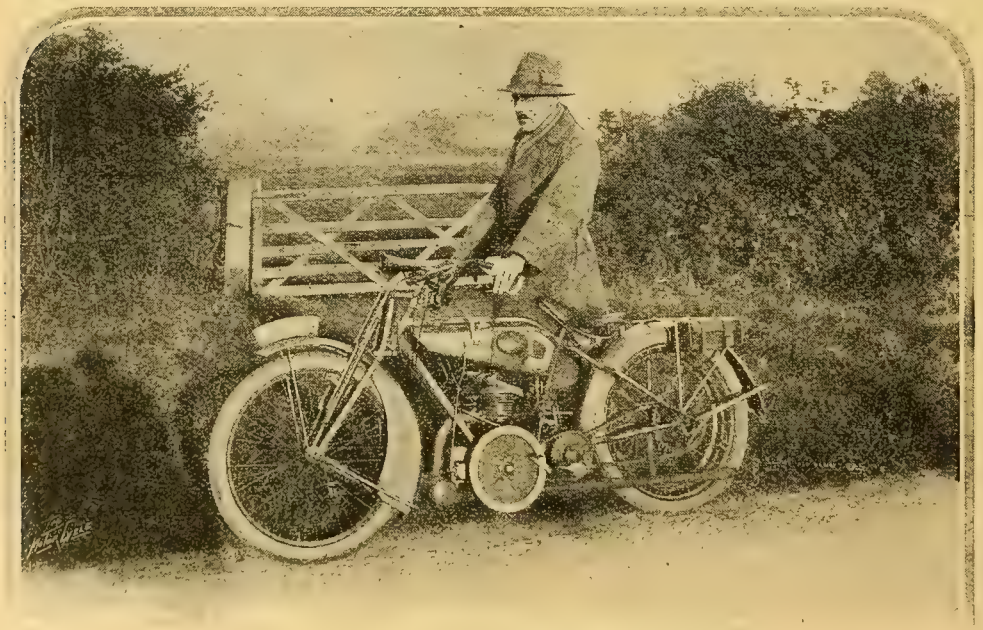
One very noticeable difference in connection with this particular engine, as compared with most two-strokes which we have ridden, is its remarkable range of responsiveness to the throttle. Indeed, the engine two-strokes perfectly from the lowest speeds upwards; for instance, when passing through a town, the throttle can be closed until the speed drops to almost a walking pace without any suspicion of that "hunting" or misfiring (four-stroking), which is so common a defect of the two-stroke engine as a class. At the same time the response to the throttle was instantaneous, and the acceleration so good, that in quite a short distance a speed round about 40 m.p.h. could be obtained on the level.



A spring-lid oiler on the induction pipe admits extra air or facilitates injection; the latter, however, was never necessary during our test

Essentially a Touring Engine.

It is doubtful whether a greater speed than 40 m.p.h. on the level could be reached with the gear ratios which were used; indeed, the engine has not been developed for abnormal speed so much as for tractability and smooth running under normal conditions. In short, it is intended to be suitable for the great majority of riders who prefer a machine which is smooth to drive and sweet running, rather than one which gives abnormal speeds at some sacrifice of controllability.



The transmission of this 3 h.p. Ivy model was specially arranged for freak competition riding, hence the three-speed gear. Standard models have two speeds, but the engines are identical.

No doubt the 3 h.p. Ivy engine owes much of its qualities to the very large flywheel which is fitted, and under ordinary circumstances on Midland roads it was never found necessary to use the low gear other than for traffic riding. As the machine we used had been tuned up for competition work, its petrol consumption was rather high, being in the neighbourhood of 65 m.p.g.; this could, no doubt, be improved by the fitting of a smaller jet, and also by making more use of the extra air inlet which is fitted to the induction pipe on the cylinder. This fitment for the most part we did not use (a culpable example of laziness in these days of high petrol prices!) One little point we may criticise is the lubrication system. This is quite satisfactory in use, but the engine appears to be somewhat sensitive to over-oiling, and if the drip feed valve is not shut off when the machine is left stationary, a considerable amount of oil drains through into the crank case, and in consequence tends to soot up the sparking plug when the engine is first started.

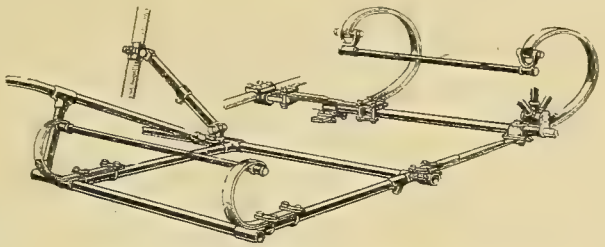
THE BEARDMORE-PRECISION TWO-STROKE SIDECAR OUTFIT.

NO doubt as a result of the expenses of living, which ever appear to be on the increase, motor cycle manufacturers are paying greater and greater attention to the development of light and low-powered sidecar outfits.

The general public, also, are watching these developments with more than ordinary interest, for the same reason.

Only a few years ago it seemed almost an absurdity to expect a small machine in the two-stroke lightweight class to perform any services more strenuous than that of carrying a solo rider over ordinary main roads, but improvements in two-stroke engine construction have of late been so rapid and the increase of efficiency so great that it is now possible to produce a machine with an engine not exceeding 350 c.c. which answers the requirements of most riders, even when used with a lightweight passenger attachment.

No one, of course, expects a small, low-powered machine to perform wonders in the way of freak hill-climbing, nor does any reasonable person desire all the luxuries and comforts of the expensive high-powered outfits on a machine of some $2\frac{3}{4}$ or 3 h.p. which is produced with an eye to low first cost and small running expenses.



The unique Beardmore-Precision chassis in which the axle tube is connected to the machine and the rest of the chassis by means of leaf springs.

Passenger Machines for the Multitude.

One of the earliest examples of the larger two-stroke lightweight (that is, exceeding 250 but not exceeding 350 c.c. capacity) is the spring frame Beardmore-Precision. This machine is well known as being equipped with an exceedingly original springing system, which is applied to both wheels, while the power unit is an air-cooled two-stroke engine of 350 c.c., possessing, amongst many other novel features, a very efficient mechanical lubrication system. Originally the machine was developed purely as a solo mount, but its power output has been so satisfactory that it was believed to be quite suitable for light passenger work, and if the model which we tested is to be taken as an example, the belief is perfectly justified.

A sidecar suitable for the Beardmore-Precision must necessarily be of special design in order to give satisfactory service in conjunction with the spring frame, and in consequence a design has been evolved in which the chassis is ingeniously sprung, the connections to the machine being more or less flexible.

The Sidecar Chassis Described.

The main or rigid portion of the chassis is attached at four points to the central portion of the motor

(Left) Trying to reconcile "summer time" with the hour indicated by Old Sol on the dials of Saintbury Cross in Gloucestershire. The Beardmore-Precision light sidecar outfit is an admirable little vehicle for week-end trips in search of beauty spots and antiquities.

(Right) On the road with a spring frame, spring chassis, 350 c.c. air-cooled two-stroke Beardmore-Precision passenger outfit.

Road Tests of New Models.—

cycle frame, and the axle which carries the sidecar wheel is connected to the chain stays of the machine and to the fixed portion of the chassis by means of flat leaf springs. In consequence, the sidecar, axle, and wheel are the only unsprung portions of the construction. The body of the sidecar is mounted on independent leaf springs, and is not connected in any way with the springing system of the chasssis. It was found that the sidecar gave quite a high degree of comfort as compared with many ultra-light attachments such as are normally fixed to machines of low power, but from the driving point of view the flexible nature of the sidecar axle attachment, acting in conjunction with the springing of the machine itself, made a certain amount of practice necessary before the steering became a matter of certainty, as at high speeds there was a tendency to sway.

On the road the Beardmore-Precision outfit proved itself to be a decidedly economical vehicle for two persons, since the petrol consumption was exactly 60 m.p.g., while the consumption of oil appeared to be almost negligible. Speed with sidecar and passenger was probably not greater than 28 to 30 m.p.h. as a maximum, but, under favourable conditions, all the ordinary main road hills of the Midlands were climbed with comparative ease, despite the fact that only two gears are used. The driving of the machine generally is very simple, since the gear control mechanism is mounted on the handle-bars, and the selective clutch arrangement enables one to change from high to low, or *vice versa*, without making use of the compression release.

The general finish of the machine is excellent, and wherever it stopped attention was almost invariably attracted by reason of its handsome all-black finish. The equipment, too, is excellent, and the tool box which replaces the carrier, being fitted with a compartment for the various tools and spares, is very convenient.

THE O.K. JUNIOR.

THAT "one man's meat may be another man's poison" is a well recognised saying, and one which applies to motor cycles perhaps more than anything else. Seldom is it found that one man's verdict that a machine is good is endorsed by the majority of his fellows, and especially is this so where lightweights are concerned.

In criticising a lightweight one rider may say it is too small, another that it is too large, or a third will condemn the riding position or the steering. So to find a compromise that invites no criticisms from a group of riders of both sexes and of various heights and tastes is no mean achievement. Messrs. Humphries and Dawes have done this in their popular-priced O.K. Junior, which we have had under test for some time.

Although the frame of the O.K. Junior is standard in design, the light weight and low riding position of the machine make it an admirable ladies' mount.

Owing to pressure of work on account of the near approach of the Show, long-distance runs have been curtailed, and our tests of the O.K. have been made under such conditions as a large number of lightweights are required to meet. That is, to be always ready for a short journey, and to do the trip quickly without any delays through having to open the toolbag. It has been everybody's hack—including that of a lady member of the staff, who is an enthusiast where two-stroke lightweights are concerned, and can give, from road experience, the woman's viewpoint of most machines.

In Many Hands.

Thus the O.K. Junior has received tests at the hands of many members of the staff, all of whom report favourable impressions of its all-round service as a machine suitable for the business man who has a great deal of traffic work to do, the hand-controlled clutch and low riding position rendering the machine easy to handle under all conditions.

So far as the lady is concerned—well, she intends to buy one, which fact conveys more than her eulogy anent its performance. Incidentally, this lady is a hard rider, and up to her trial of the O.K. had been wavering between another two-stroke and a $3\frac{1}{2}$ h.p. model.

Now the writer has always preferred a four-stroke engine for every purpose from scooter to car, but of late the excellent running of certain two-strokes has brought about the removal of what is now admitted to be a prejudice. The hundred miles test of the O.K. has clinched the argument in favour of the simpler machine, not so much on account of its speed and its steering qualities, but chiefly because it does not display those characteristics which set up the prejudice in the first place. It is perhaps only a point of fastidiousness, but until recently two-strokes have been likened unto a Chinese cracker of the most offensive kind, while at other times a "bee in a bottle" was regarded as a good simile. These opinions, after all, were perhaps more cynicism than criticism, and are now recognised as being unfair to the modern two-stroke in general and the O.K. Junior in particular.

It is fast enough for all but the speed merchant, who makes a fetish of speedometer readings, and regards American records of 100 m.p.h. and over as the ideal speed; it steers itself, and the springing of the forks is excellent. The Villiers flywheel magneto engine runs very sweetly, and two-strokes regularly at exceptionally low speeds.

Road Tests of New Models.—

What is just as important to a large number of buyers is the fact that a short rider will find that when off the saddle he may handle it without the unpleasant sensation that it is invested with a heavy-weighted demon who wishes to lie down.

This is a point which will be appreciated most by the motor cyclist who uses his machine every day, and who, in taking it from its stable, may have to wheel it backwards round such awkward objects as a rockery, a rain water butt, or a frail pergola. Incidentally, villa residents who are inconvenienced in this way will find it easier to "get out" if they sit astride their machines.

Altogether our impressions of the O.K. are that its comparatively low price is not due to lack of quality either in material or in workmanship, but rather to design and good manufacturing facilities. It is exceedingly well made and finished, and in every way comes up to our expectations when we first saw it "on paper" and inspected the works in which it was to be made.

Part of the road test of little O.K. was undertaken by a lady, who found it an easy machine to handle, and fast enough for all ordinary requirements.

A Lightweight Trial in the Transvaal.

Success of British Miniatures disposes of the Fallacy that only Big Machines are suitable for South Africa.

100-MILE endurance trial for lightweights was organised by the Rand M.C.C. at the end of September, owing to the very severe conditions, seven of the seventeen starters com- ed the course.

e event was a handicap, and resulted win for one of the smallest of the sh lightweights—a Royal Enfield— e a Clyno finished second, and an rican Cleveland third. Douglas lightts took fourth and fifth places with A.B.C. and an A.J.S. sixth and ith respectively.

cording to a South African correlent, it was astonishing how well the machines stood up to the road conas. Notwithstanding the remarkseverity of the conditions, the trial demonstrated to potential buyers e Rand that the modern lightweight sound piece of work—a go-anywhere ine, and not merely a town potterer. performance of B. Ressell on the Enfield was remarkable for the conсy of his lap times, given as follows: 36m.; second, 37½m.; third, 38½m. ding petrol replenishment); fourth, ; and fifth, 38m. This is real relia- especially as the machine required echanical attention throughout. The Clyno, like the Enfield, was the only one of its make entered, and ran a very good second on the handicap. F. Nissen, the rider, was delayed by sparking plug troubles only.

The winner of the Lightweight Race in South Africa on his two-stroke Enfield.

The fastest time was made by T. Nicholl on the A.B.C. He had to give the Enfield 1h. 15m. start—a little more than two laps out of five—and this, of course, proved an impossible task.

The engine limits allowed were rather over what is generally accepted as coming within the lightweight class. They admitted machines such as the A.B.C., of 398 c.c.; and the A.B.C. evidently frightened the handicapper!

The winning Enfield two-stroke was dismantled for examination. The engine (No. E4076) was reported as obviously a new one, and the bore was verified as agreeing with catalogue dimensions. These are 64 bore and 70 stroke (225 c.c. capacity).

The order of awards is as follow:

1. B. Ressell (Royal Enfield), 225 c.c.
2. F. Nissen (Clyno), 269 c.c.
3. C. Wolkswinkel (Cleveland), 225 c.c.
4. I. H. Scott (Douglas), 350 c.c.
5. C. Scott (Douglas), 344 c.c.
6. T. Nicholl (A.B.C.), 398 c.c.
7. A. Bosch (A.J.S.), 350 c.c.

A REVIEW OF 1921 LIGHTWEIGHTS WHICH WILL BE EXHIBITED AT THE MOTOR CYCLE SHOW.

The Motor Cycle Show at Olympia will be opened to the public on Monday, Nov. 29th, and will remain open until Saturday, Dec. 4th. On this and subsequent pages we give a resume of the lightweight exhibits which will interest a very large section of the community.

Alecto.

THE Alecto, which will go down to fame as the first two-stroke to break long-distance records at Brooklands, may be obtained either as a readily converted single geared machine, or with two speeds, clutch, and kick-starter. A magnalium piston and drilled connecting rod enhance the efficiency of the 76×76 mm. (345 c.c.) two-stroke engine, which now has an improved release valve and exhaust pipe fitting. For sidecar work, a specially strengthened frame, larger tank, and footboards are substituted, and a light but strong sidecar is supplied to suit.

Armis.

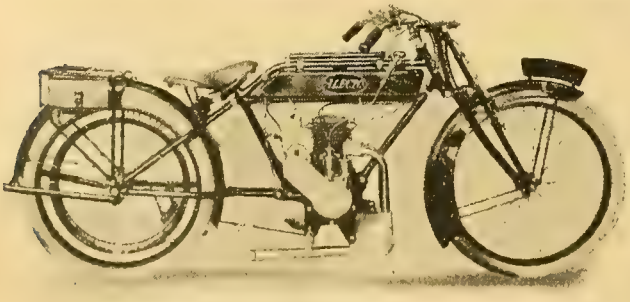
A 350 c.c. Precision two-stroke engine is fitted to this machine, making it larger than the usual run of two-stroke lightweights. Indeed, the makers rate their production at 3½ h.p. which figure, to our knowledge, is easily developed by this engine. A light sidecar is supplied to fit this model. An addition to the Armis range is a similar machine with a 2¾ h.p. four-stroke J.A.P. engine, which sells at the same price as the two-stroke.

Beardmore-Precision.

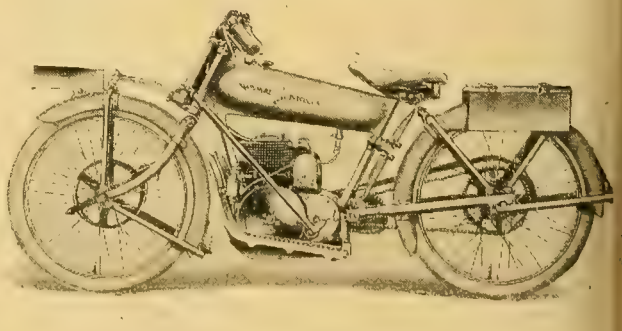
One of the sensations of Olympia last year was the Beardmore-Precision, embodying as it did so many novel features in an actual production model. A number of detail improvements have been made for 1921, including integral handle-bar control levers, a reduced gear ratio for the kick-starter, and a lighter rear stand. The design of the cylinder and piston have been modified so as to allow as far as possible of an easy flow for the exhaust gases. The automatic system of lubrication has been modified in one detail only. It is claimed that the net result of these alterations has been to add so much to the power of the machine as to allow prolonged light sidecar work.

Bradbury.

The old-established Oldham firm will continue to market their sturdy little 2¾ h.p. model for 1921. It will be remembered that this machine has a 74.5×80 mm. (349 c.c.) four-stroke engine, the crank case of which is of the well-known Bradbury principle, *i.e.*, a malleable iron casting forming part of the main frame. The frame itself is of duplex construction in front, and in addition has an auxiliary stay from the seat-pillar to the bottom bracket. A three-speed countershaft gear and cork insert clutch completes a very full specification.



Brooklands has proved the Alecto two-stroke and this T.T. model should be popular in 1921.



Outwardly the Beardmore-Precision is little altered; but new piston and cylinder design gives considerably increased efficiency.

British Excelsior.

Two types of engine, a 2⅜h.p. Blackburne or a 2½ h.p. Villiers, form the main distinction in the British Excelsior range of lightweight models. A two-speed gear clutch and kick-starter is standard on the former, while the Villiers engined machine may be single-geared, fitted with a plain two-speed box, or, as the 2¾ h.p. model, incorporating clutch and kick-starter. All these models have frames of well-proportioned design with sloping-top tube. Gracefully curved mud shields add to the appearance, instead of marring it as is more usual.

Clyno.

The Clyno lightweight has been so successful both in the competition world and in private ownership that it will remain constructionally unaltered for 1921. The integral gear box and 269 c.c. two-stroke engine are well-known features. A metal-to-metal plate clutch takes the drive by belt to the rear wheel, the front pulley being protected by a distinctive aluminium shield. Drip-feed lubrication to the transfer port combines the advantages of this and the "petroil" systems. Including the magneto pinion, only five gear wheels are used in the Clyno primary drive and gear box.

Coulson B.

A re-designed frame, giving a saddle position nearly six inches lower than previously, is the main improvement on the 1921 Coulson B. This big reduction in height is also helped by the new method of carrying the saddle, *i.e.*, by dispensing with the conventional seat-pillar and clipping the peak to a lug on the top tube and the coil springs to a special bracket. The tank, which, contrary to usual practice, is made throughout by the company, has been simplified and reinforced, and is now a very sound job. The 2¾ h.p. Blackburne engine and neat and efficient spring frame are, of course, retained.

Diamond.

An extended range of Diamond lightweights will be marketed for 1921—five models in all, fitted, variously, with Villiers and J.A.P. engines. The Sturmey-Archer two-speed gear box, clutch and kick-starter, and the equally well-known Enfield two-speed gear box, cater for varying tastes in the matter of gears. The framework is on the straight tube principle, and the result is enormously strong, and at the same time quite attractive.

Douglas.

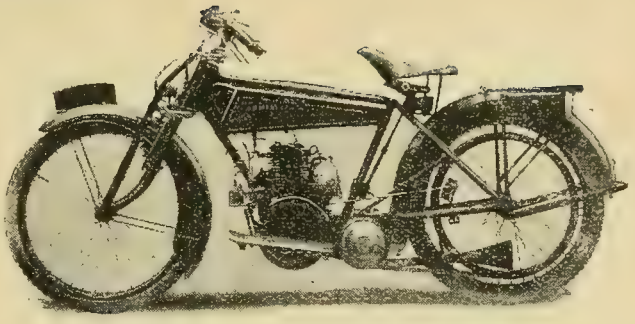
Although the Bristol firm is introducing a new 3½ h.p. sporting model, the 2¾ h.p. machine remains unaltered, and no summary of lightweight machines would be complete without some reference to this most popular and long-established design. Long before the term "flat twin" came into use, Douglas Motors, Ltd., were successfully exploiting this type, and last year saw considerable detail alterations, including a three-speed-geared model, bringing their range thoroughly up to date. A simpler, plain, two-speed gear model is retained in addition.

Kingsbury.

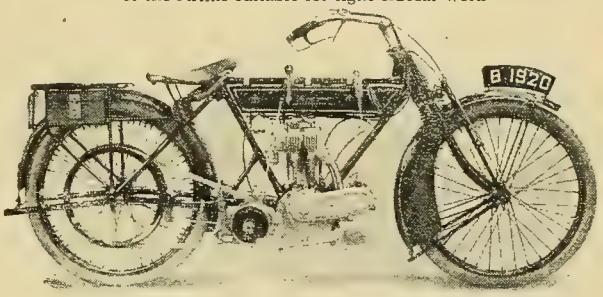
Reference to the new two-speed gear box and new spring forks fitted to this machine was made in the issue of *The Motor Cycle* of September 30th. The gear is of the double chain, cam-operated expanding clutch type, and provision for ready adjustment is neatly incorporated. Somewhat similar to a well-known pattern, the spring fork has a small coil spring located at the front of the main compression spring. A very large capacity silencer now reduces the exhaust noise of the efficient 2¾ h.p. two-stroke engine. The scooter hitherto manufactured by this firm has now been discontinued.

Levis.

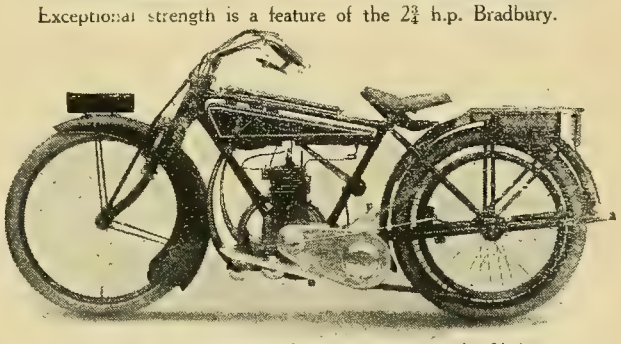
In addition to being one of the pioneers of the two-stroke lightweight movement, the Levis is one of the few makes which remains unencumbered with gears or clutch and similar weighty refinements. True, the new 2½ h.p. T.T model will have a three-speed gear box and clutch in its final state; but the popular 2¼ h.p. Levis remains a striking example of extreme simplicity. A touring, sports, and lady's model, differing in detail only, will be shown, all with the latter type engine, which retains the features which Messrs. Butterfields have found so successful in the past.



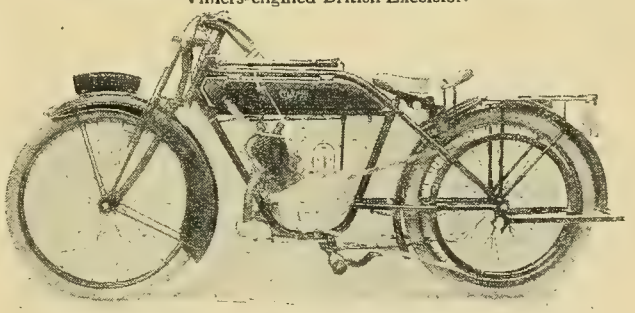
A 350 c.c. Precision two-stroke engine makes this model of the Armis suitable for light sidecar work



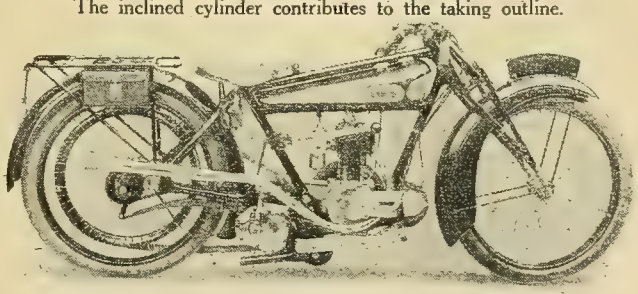
Exceptional strength is a feature of the 2¾ h.p. Bradbury.



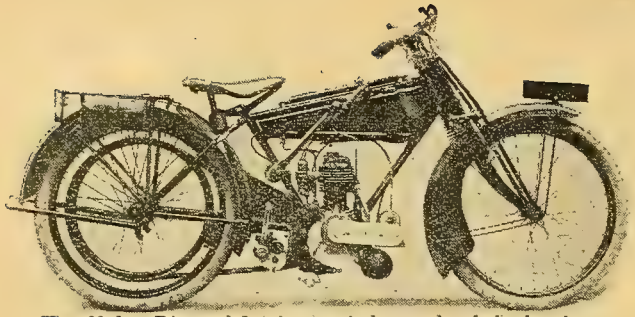
Curved leg-guards add to the appearance of the 2½ h.p. Villiers-engined British Excelsior.



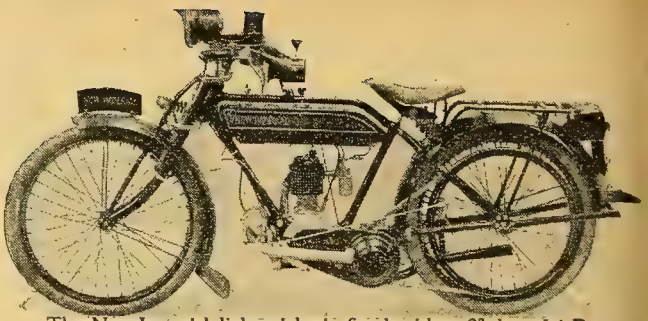
The 2½ Clyno is a noteworthy example of unit construction. The inclined cylinder contributes to the taking outline.



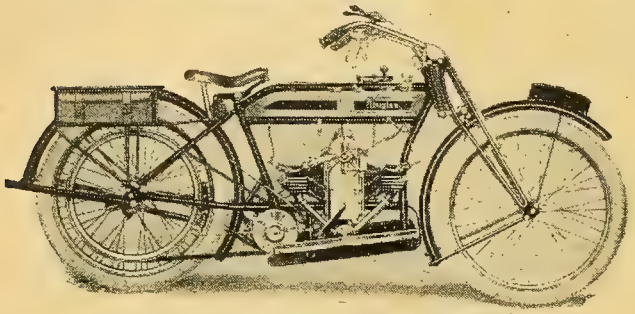
The Sporting Coulson-B has all the points that appeal to the fast long-distance solo man.



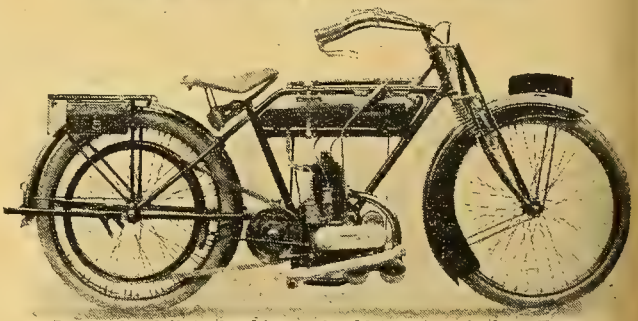
The 2¾ h.p Diamond-Jap is a typical example of the heavier go-anywhere lightweight.



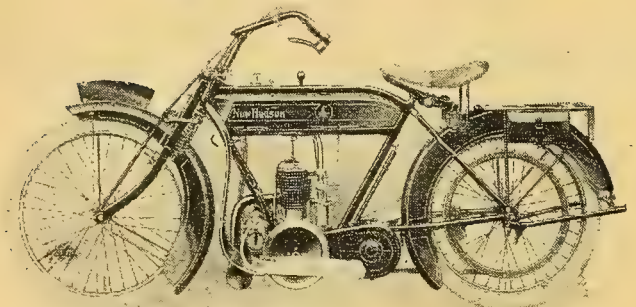
The New Imperial lightweight is fitted with a 2¾ h.p. J.A.P. engine and other equally well-known components



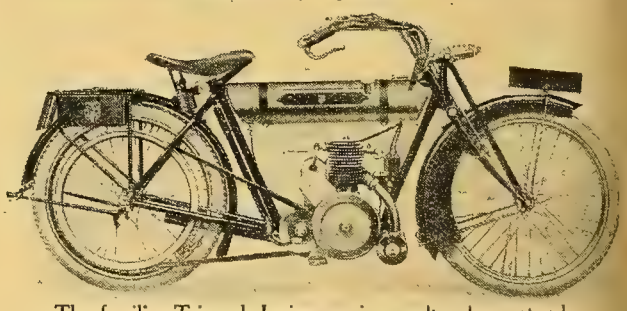
A three-speed model of the ever-popular Douglas Ample sized footboards are fitted



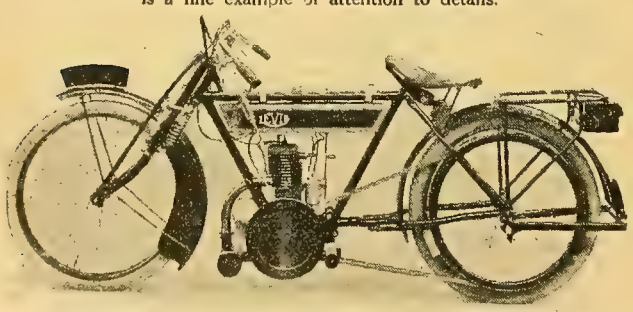
Conventional lines in this case make a very sound machine —the 2½ h.p. Sparkbrook.



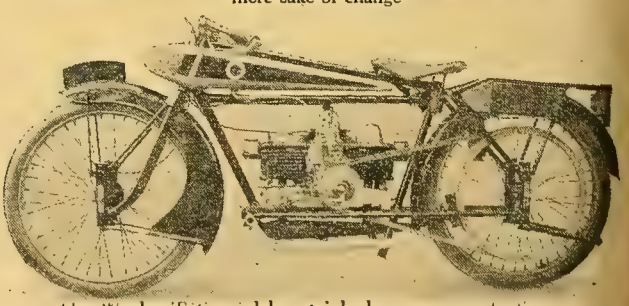
The product of specialisation, the 2¼ h.p. New Hudson is a fine example of attention to details.



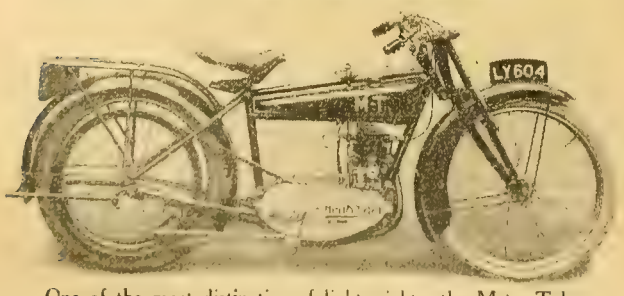
The familiar Triumph Junior remains unaltered—a natural sequence to the company's policy of never altering for the mere sake of change



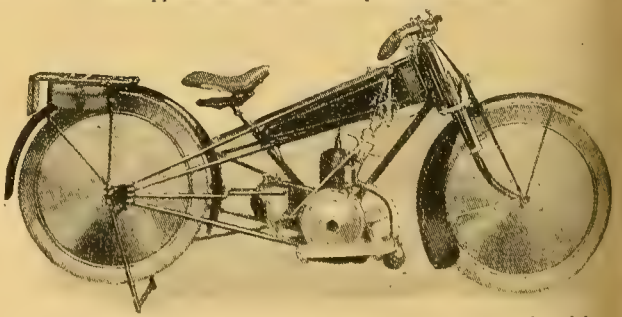
A pioneer amongst two-strokes—the 2¼ h.p. Levis; and probably the simplest machine of its type on the market.



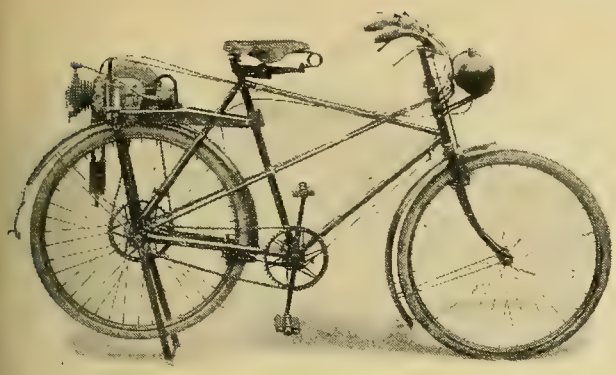
The Wooler T.T. model certainly has very speedy lines and appearances are not deceptive in this case.



One of the most distinctive of lightweights, the Metro-Tyler, is a decidedly taking little mount.



Triangulated frame construction is a feature of the Cotton lightweight



This specially adapted cycle with a Simplex attachment is sure to attract much attention on the Wolf stand.

Metro-Tyler.

Semi-unit construction of engine and gear box and specialisation to a degree help the Metro-Tyler to stand out amongst the *de luxe* types of lightweight. The very complete lubrication system uses in conjunction with crank case suction an Enots automatic feed, with a hand pump for emergency use. Roller and ball bearings are used throughout the two-stroke engine. Black enamel is the standard finish, but the more startling "all red" model is still obtainable. A three-speed gear box is supplied instead of the standard two-speed box at a small extra cost.

New Hudson.

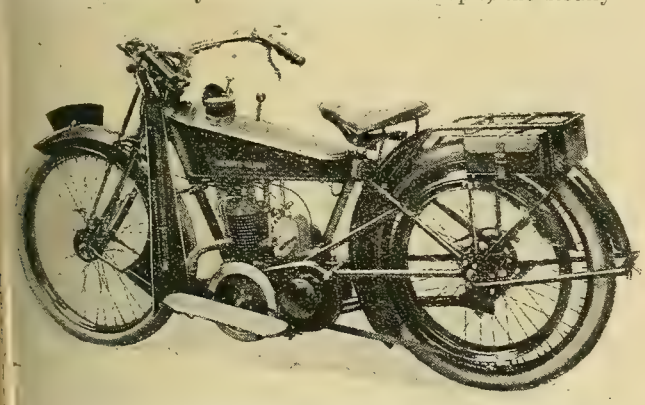
The New Hudson post-war policy of specialisation on their 2¼ h.p. two-stroke only has been amply justified by results. Both the two-speed gear box and the engine, a 62×70 mm. (211 c.c.) two-stroke, are designed and manufactured by New Hudson, Ltd., themselves, and the result is a very attractive and well-proportioned machine. Very noticeable are the extensive mudguards, neat chain cover, efficient and convenient rear brake, and fine finish generally of this popular solo mount. A sporting model, with T.T. bars and footrests in lieu of the standard footboards, differs only in detail.

New Imperial.

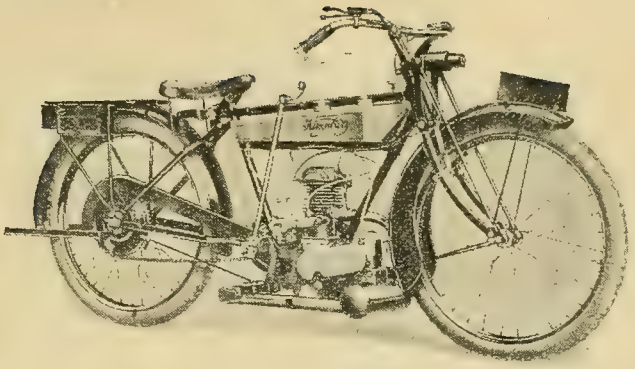
One of the most successful small four-stroke singles, the 1921 New Imperial-Jap, retains all the salient features which went to make its popularity in the past. A 70 × 76 mm. (292 c.c.) J.A.P. engine is now manufactured specially for this machine, but its lines are too well-known to need description. A two-speed gear box, with or without clutch and kick-starter, may be fitted. When without clutch, etc., the machine has semi-T.T. bars, but all models are equipped with large and strong footboards and an efficient mudguarding system.

Sparkbrook.

A Villiers two-stroke engine forms the power unit of all the Sparkbrook models, and some detail items of the machine are worthy of attention. For example, the stoutly



Two band brakes and the large filler cap give some indication of the care bestowed on Allon details.



A new spring fork and gear box are two Kingsbury improvements for 1921.

constructed heel brake operates a shoe *inside* the belt rim, thus facilitating wheel removal. A single large diameter bolt holds the Sparkbrook gear box or plain countershaft to a specially designed bracket. The choice of a Sturmey-Archer two-speed gear box, clutch, and kick-starter is also offered at option.

Triumph.

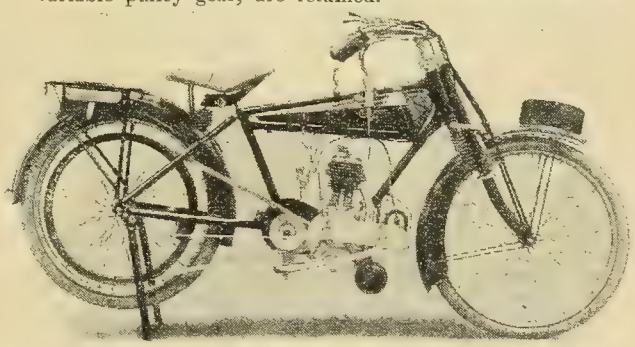
It may have been wondered why the Triumph Cycle Co. adopted the two-stroke principle for their lightweight when their 4 h.p. power unit has been so successful. The reason for this departure was that the two-stroke engine has fewer working parts, and it was possible to construct it more strongly on a small scale, thus outweighing any loss in efficiency; and the Baby Triumph amply justifies this contention. Next year's model is practically a replica of last year's, and it continues to uphold the company's reputation for extraordinarily good detail work. Perhaps the chief feature of the design is the handle-bar controlled gear change.

Wolf.

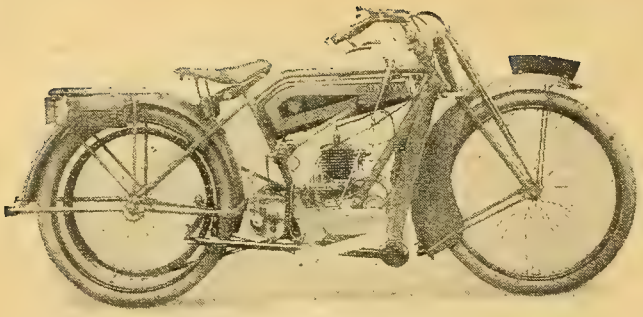
The lightweights proper of the Wolf range remain as in 1920. They consist of a 2¾ h.p. Blackburne engined model, with Sturmey two-speed gear and kick-starter; a 2½ h.p. Villiers two-stroke, with either plain gear box or clutch and kick-starter; and a 2¾ h.p. J.A.P., also with a choice of gear boxes. But great interest will undoubtedly centre around the duplex frame cycle with 1 h.p. Simplex power unit on a special rear carrier. A lady's machine of this type will also be on show, and should attract many newcomers of the fair sex to the pastime.

Wooler.

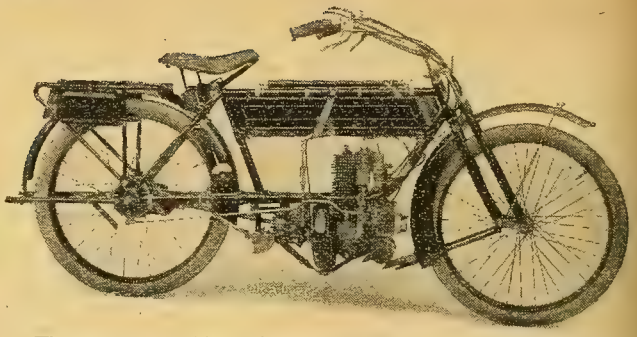
A flat twin that departs from the conventional in many respects, the 2¾ h.p. Wooler, has made quite a name for itself at Brooklands. 1921 improvements were fully dealt with in our issue of October 28th, but we may recall the salient features, which include a new inlet dome, an improved crank case release which traps all surplus oil for further use, and enlarged toolbags. The distinctive 60×60 mm. (345 c.c.) flat twin engine, front and rear springing, and variable pulley gear, are retained.



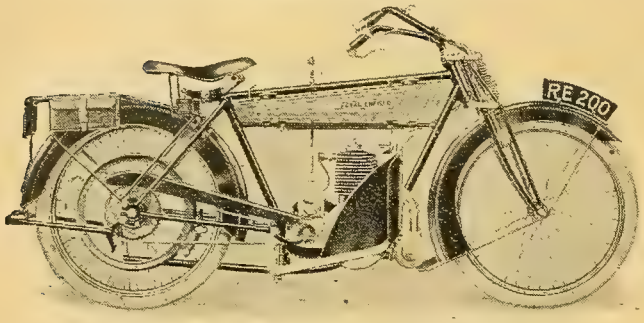
A combination of two well-known names, the Calthorpe-Jap lightweight.



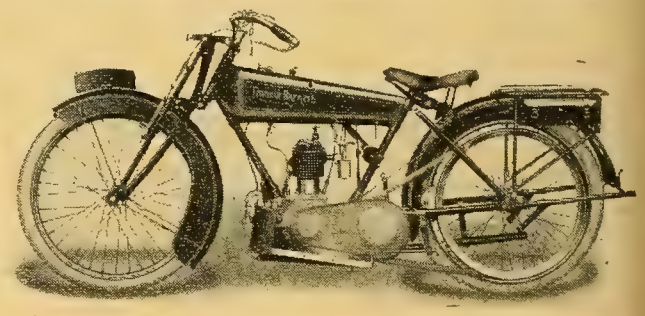
The 2½ h.p. Ivy, which has been retained in addition to the newer 3 h.p. model.



The unconventional but well tried features of the F.N. lightweight remain unaltered. A de luxe model, however, is now marketed.



The leg-guards on the Enfield two-stroke protect the rider both from the flywheel and from splashed-up mud.



A clean tank and partially concealed control wires add considerably to the appearance of the Francis-Barnett.

Allon.

There is one point on the Allon lightweight of which the makers may claim to be the pioneers: that is, the sloping top tube, which is now gradually becoming universal throughout the trade. The 292 c.c. two-stroke engine is in some respects unconventional; for instance, the cylinder and upper half of the crank case is a one-piece casting. Band brakes are fitted to both the front and the rear wheels, and a strong two-speed gear box, clutch, and kick starter are housed at the bottom bracket. A three-speed gear box of their own manufacture is provided on another model specially intended for light sidecar work.

Calthorpe.

Calthorpes for 1921 will be made with either two or four-stroke engines. Cycle and transmission details are very similar in both cases. An Enfield gear is also fitted to both models, the final drive being by belt. A 75×79 mm. (2¾ h.p.) two-stroke with a special direct drip feed lubrication or the well-known 2¾ h.p. J.A.P. four-stroke supply the power. A light two-stroke sidecar outfit differs only in the gear—a Sturmey-Archer two-speed box with clutch and kick-starter.

Cotton.

Frame construction on scientific lines is a special feature of the Cotton, and, of course, has been retained for next year. This triangulated construction, in addition to its inherent advantages, provides a very handsome appearance. A 2½ h.p. Villiers (flywheel magneto) engine now replaces the conventional two-stroke hitherto used, and an Xl'All pan saddle attends most efficiently to the comfort side of the specification. A plain two-speed gear box is standard, but a clutch and kick-starter may be fitted at a slight extra cost.

Enfield.

A kick-starter is now an optional fitment to the Enfield two-stroke, and large leg shields, acting both as a protection from mud and from the engine and flywheel, are attached to the footboards. Naturally the other features that helped to make this machine so successful in 1920 have been retained, including the Enfield gear and cush drive. Needless to say, the detail work and finish are of the usual high quality associated with the familiar slogan of "Made like a gun."

F.N.

Unconventional to a degree, yet the proved embodiment of many years' manufacturing experience, the 2½ h.p. F.N. has not undergone any drastic alteration since last show. A transversely set engine, two-speed gear, and final shaft drive are features, combined with exemplary workmanship, that have made the F.N. lightweight famous. However, an extra model will be shown at Olympia which has a dropped top tube and footboards. Detail improvements to the engine have moved the makers to increase their rating to 2¾ h.p.

Francis-Barnett.

De luxe detail work and finish distinguish the Francis-Barnett from many lightweights of similar specification. Very few modifications have been made for 1921: but, by concealing the control wires between the sides of the saddle tank, a much cleaner appearance generally is gained. A 70 × 76 mm. (292 c.c.) two-stroke engine supplies the power to a two-speed constant mesh gear box, which includes clutch and kick-starter, and thence to the rear wheel by belt. A J.A.P. engined machine with M-L lighting set will also be shown.

Hobart.

The Hobart Cycle Co., an old established Coventry cycle firm, offers a wide range of lightweights for 1921. A Villiers (flywheel magneto) engine is fitted to the standard single-geared machine, which model may also have a Chater-Lea two-speed gear box. The *De Luxe* model is a very fine little machine. Either a 2¾ h.p. J.A.P. or 2½ h.p. Villiers engine may be fitted at option; and particularly interesting points are the braking—improved rear and special dummy belt rim in front—ample mudguarding, belt guard and under-shield, and an extension to the exhaust pipe. The well-known and tried Hobart spring frame is optional with the latter two models.

James.

The James two-stroke engine is now 66 × 70 mm., giving a capacity of 239.5 c.c., as compared with 226 c.c. hitherto. And comfort as well as power has been increased by the provision of a specially adapted Lycett saddle, with a flexibly spring peak. The Brampton forks have also been modified, with a resultant improvement in steering. Indeed, the whole design has been "cleaned up" since Olympia, 1920, leaving the James quite in the front rank of its type.

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Thousands of men and women are spending delightful evenings at home this winter with the "Little Grey Books" issued by the Pelman Institute.

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The best test of any system of Mental Training is the personal one.

Many thousands of men and women have made this personal test of the Pelman System and have reported the result to the Institute.

Here are a few extracts from their letters, in which they report the results they have secured from the Pelman Course.

"I doubled the turnover of my department last year."—MANAGER.

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"I attribute my success mainly to the results derived from your excellent Course. MANAGING DIRECTOR.

"Secured a net increase of salary of 400%."—EX-CAPTAIN.

"More confidence, memory improved, greater interest in business."—SALESMAN.

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By means of this system you can quickly and permanently eliminate all such weaknesses as—

—Forgetfulness,	—Mind Wandering,
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—Timidity,	—Weakness of Will,
—Lack of System,	—Lack of Initiative,
—Indefiniteness,	—Mental Flurry,

and at the same time develop such valuable qualities as—

—Concentration,	**—Perception,**
—Observation,	**—Initiative,**
—Will-Power,	**—Decision,**
—Ideation,	**—Resourcefulness,**
—Organising Power,	**—Directive Ability,**
	—Forcefulness,
—Self-Confidence,	**—Driving Power,**
—Self-Control,	**—Tact,**
—Reliability,	**—Rightly Directed Energy,**
—Salesmanship,	**and a Reliable Memory,**

that are indispensable to every man or woman who wishes to "make good" in any sphere of life.

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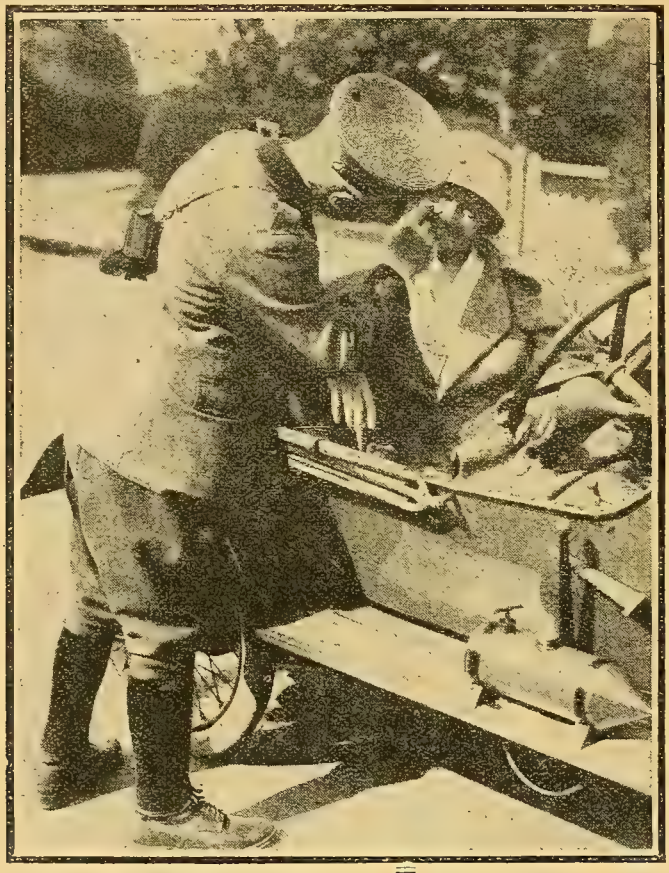
(3) A form entitling you to enrol for the full Course at a reduced fee.

Write for the above to-day to the Pelman Institute, 199, Pelman House, Bloomsbury Street, London, W.C.1 (or call at the Institute), and by return you will receive the latest information concerning the famous system which, doing so much for others, will do the same for you.



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In answering this advertisement it is desirable to mention "The Motor Cycle."

Review of 1921 Lightweights—

J.E.S.

One of the simplest machines at the Show, the J.E.S. is sure to attract much attention, both by this very simplicity and by the clever design displayed in its tiny power unit of 146 c.c. (1 h.p. nominally). A new and more conventional carburetter now displaces the old floatless type, but other details remain unaltered. Although the unit is designed to fit into an ordinary cycle frame, the makers prefer to sell it as a complete miniature, with spring forks, etc. A 2 h.p. model on the same lines will be another feature for the 1921 market.

Motorped.

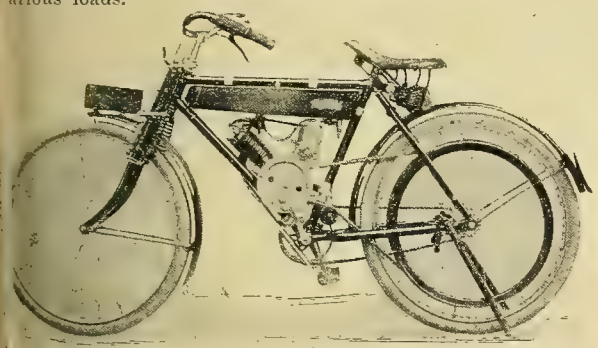
The makers of the Simplex cycle attachment are making a complete range of cycles so fitted, under the name of Motorped. The outfit may be obtained with or without a multi-plate clutch, and the cycles in all cases are simply strong ordinary pedal machines. A photograph of a lady's bicycle fitted with one of these engines is illustrated elsewhere.

O.K.

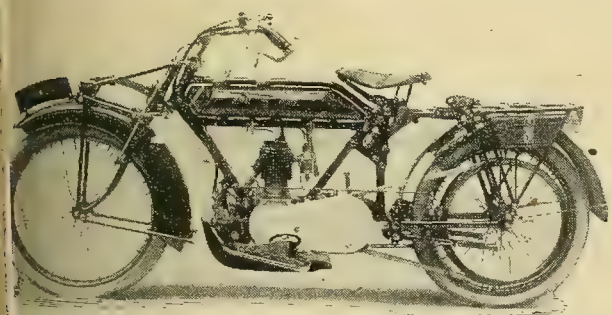
A change in the colour scheme—now a rich terra-cotta red—makes the 1921 O.K. strikingly attractive. This impression is furthered by a lower frame and more cleanly designed tank. The well-known 48 gns. O.K. is now offered with a choice of three engines: either a 2¼ h.p. O.K., a 2½ h.p. Villiers, or 2¾ h.p. O.K. Several detail improvements have been carried out, including a stronger carrier, an improved method of carrying the rear number-plate, and an extra spring to the front forks. An entirely new model has a 269 c.c. Villiers magneto-flywheel engine, footboards, and an Albion two-speed gear box, either with or without clutch, and kick-starter.

Royal Ruby.

Coming as it does under the 350 c.c. limit, the Royal Ruby must be regarded as a lightweight, although as a matter of fact it has been designed more as a comfortable go-anywhere solo mount. Transmission is by chain to a two-speed countershaft gear, with clutch and kick-starter, and thence by belt to the rear wheel. The front and rear springing is similar to the larger Ruby machine, and it is made throughout, including the engine, by the Ruby Cycle Co., Ltd. A feature of the springing system is that it is adjustable for various loads.



The smallest four-stroke, and probably the lightest machine at the Show—the J.E.S.



Comfort is a first consideration with the Royal Ruby. The springing system is of special design.

Velocette.

1919 and 1920 Six Days successes have proved that the Velocette is a dangerous competitor to machines three times its 220 c.c. capacity. A three-speed model, similar to those which constituted the A.C.U. team, will be marketed for 1921 in addition to the former two-speed type. This new model also embodies an internal expanding front brake, rather an advanced feature for a lightweight but none the less commendable. The offset cylinder, patent gear change, and other distinctive Velocette features have been retained. The lady's model is an exceptionally taking machine, having a very low open frame.

Victoria.

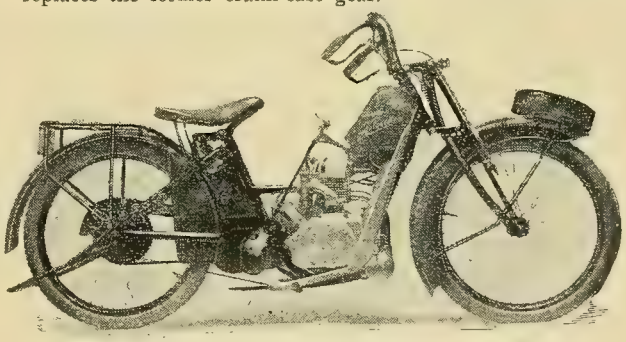
The only Scottish firm exhibiting at Olympia are the Victoria Motor and Cycle Co., of Glasgow, and the well-known components embodied in their lightweight should appeal to visitors from both sides of the Border. A 2½ h.p. Villiers (flywheel magneto) engine, Albion two-speed gear, and Brampton Biflex forks, are all too familiar to describe in detail. A soundly constructed little machine is the result.

Vindec.

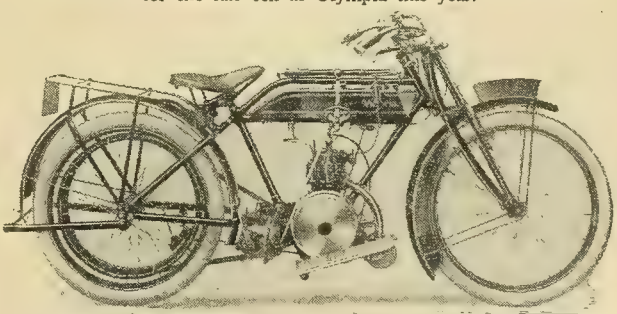
We described the 1921 Vindec in our issue of November 4th. To recapitulate, however, this product of the well-known accessory firm, Messrs. Brown Bros., has a specially designed 64×70 mm. (226 c.c.) two-stroke engine, the lubrication of which is carried out by hand pump. Distribution of the oil is effected by three pipes leading to the two main bearings and the induction pipe respectively. An all-black finish and a very neat primary and magneto chain cover are two serviceable items. The transmission of this machine is unusual in that two separate chains (high and low gears) drive the countershaft; final drive is by belt.

Paragon.

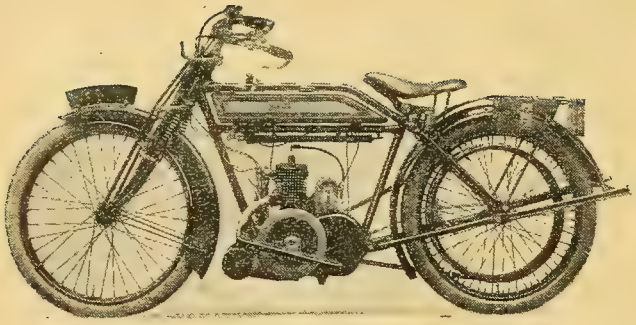
The Paragon is a good example of the moderately priced large capacity two-stroke, with the addition in this case of a simple spring frame. An improved system of lubrication has been introduced for 1921, but otherwise there is little alteration. The oil enters by suction at the foot of the cylinder, and is thence led direct to the crankshaft which is hollow, thus lubricating the big end internally. An Albion two-speed gear box, clutch, and kick-starter replaces the former crank-case gear.



This ladies' model Velocette should be a centre of attraction for the fair sex at Olympia this year.



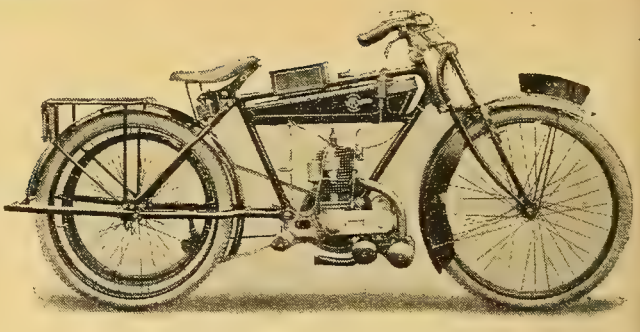
From across the Border, the Victoria has not been scamped by the use of inferior components.



A special system of lubrication is a novel point on the 1921 Vindec.

Ivy.

Including a lady's and a light sidecar machine, there are no fewer than two Ivy models for next year. However, these may be condensed to two distinct types, viz., a 2½ h.p. two-stroke and a 3 h.p. two-stroke, which has distinguished itself so much on the Old Wyche, Malvern. The lady's model is a 2½ hp. two-stroke, and the three other machines with this engine are the usual range of single-speed, two-speed, and two-speed clutch and kick-starter. The 3 h.p. machine may be obtained with and without a Sturmey two-speed gear box and clutch, and similarly equipped as an I.O.M. sporting model. A 3 h.p. machine with a special light sidecar completes the list. The latter outfit will be



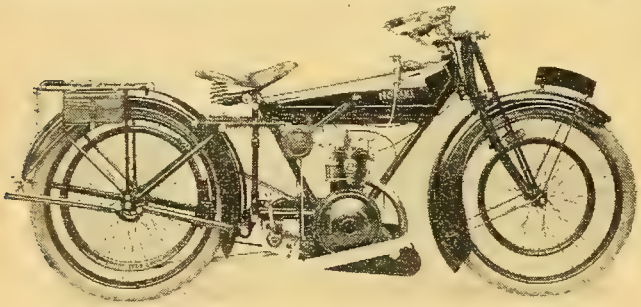
The Villiers-engined O.K. is an attractive mount, both in appearance and workmanship

Beaumont.

A two-stroke (2¾ h.p. Wall) and a four-stroke (2¾ h.p. Blackburne) engined machine will be shown by Beaumont Motors (Leeds), Ltd. The former has a Roc plain two-speed gear box, while the latter, which is more in the nature of a *de luxe* model, has a Sturmey-Archer countershaft box with clutch and kick-starter. Internal expanding and external contracting foot and hand brakes respectively are fitted.

Wilkin.

Already a really serious solo touring proposition, the 2¾ h.p. Wilkin, with Blackburne engine, is now offered as a "go-anywhere" sidecar machine. Totally enclosed chain drive

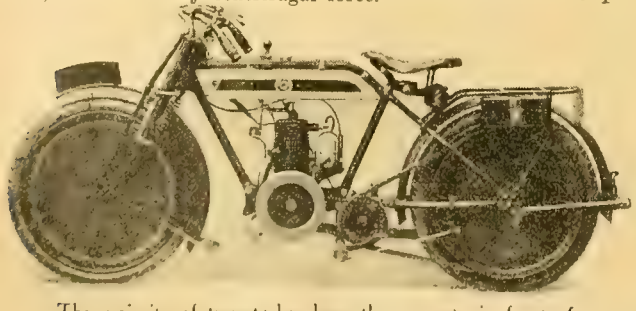


The very complete spring system of the Hobart lightweight gives it an attraction of its own.

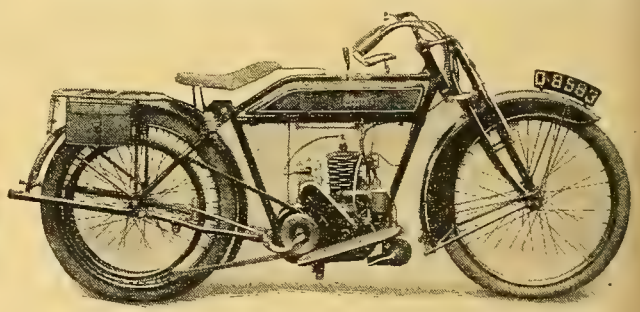
Verus.

geared six to one on top and eleven to one on bottom, and it is claimed that it would have to be an exceptionally severe hill that it would not be able to climb on low without shedding the passenger.

The Verus has continued its career of successes in some of the most arduous trials of 1920, a very commendable performance for a machine which has been only comparatively recently introduced to the public. The 2¼ h.p., 2½ h.p., and 2¾ h.p. models are retained, the latter having a Blackburne outside flywheel four-stroke engine. The lubrication on the two-stroke machine is very thorough, and is worthy of special attention. A Best and Lloyd drip feed controls the flow of oil first to the base of the cylinder, then dropping into a well at the top of it is led to the main bearings. The big end is lubricated by centrifugal force.



The majority of two-strokes have the magneto in front of the engine. However, on the Radco, this vital part is well protected.

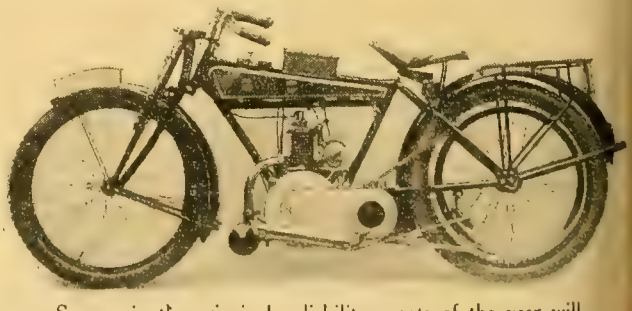


A larger engine, modified spring forks and an exceptionally comfortable saddle, are the James points for 1921.

from a three-speed Sturmey-Archer gear box, and sidecar lugs incorporated in the frame, are advanced lightweight features; but, as already indicated, the Wilkin has been built for efficiency and comfort, and not primarily light weight. A sports model is built on the same lines with the substitution of T.T. bars and chainguard for touring cars and chain cases.

Radco.

One of the early lightweights, the Radco, must undoubtedly derive benefit from the long experience of the makers with this type of machine exclusively. Only one engine is still the policy—commendable in many ways—of this company, but four distinct models will be marketed next year. The engine has been increased from 2¼ h.p. to 2½ h.p. Electric lighting sets are optional.



Success in the principal reliability events of the year will have the natural sequence of interest in the Verus machine The 2½ h.p. two-stroke model,

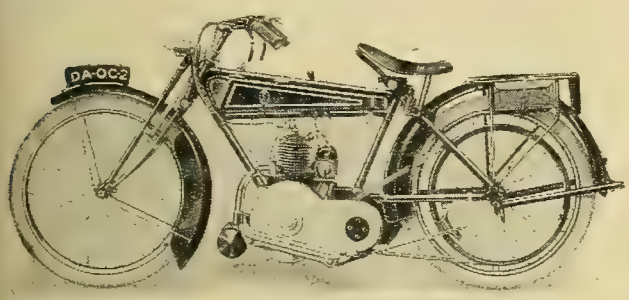
Review of 1921 Lightweights.—

Olympic.

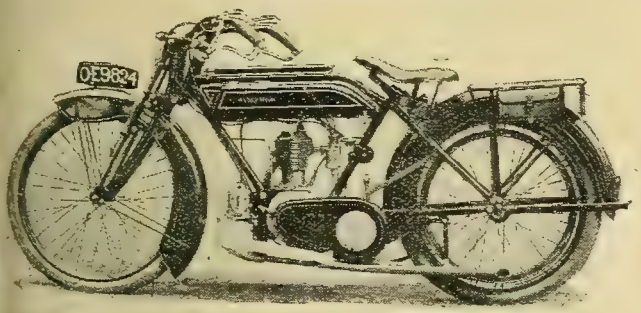
An Orbit three-port, two-stroke engine of 261.5 c.c. forms the power unit of the Olympic lightweight. The flywheel and primary chain are totally enclosed in a neat aluminium cover, and either a plain two-speed gear box or the same with clutch and kick-starter may be fitted at option. A very ingenious swinging bracket provides easy adjustment for the primary chain, quite one of the most useful detail improvements of the year. Gosport spring forks are fitted, pending the introduction of a new type of Olympic manufacture.

Connaught.

The most inexpensive of the several Connaught models for 1921 is a single gear machine with 24in. wheels. Like all Connaught machines, it will have a standard engine, which has the inlet port immediately underneath the exhaust. Other variations of this pattern are equipped with the Albion two-speed gear box or the Sturmey two-speed gear box and kick-starter, a handsome chain cover being fitted. The lightweight sidecar outfit, which gave such satisfactory results in our hands during the summer months, is fitted with a new type of body provided with a locker under the seat.



A new and very neat method of gear box adjustment will be found on the Olympic two-stroke.



The J.A.P. engined model of the Massey-Arran.

Cedos.

The Cedos 2¼ h.p. (211 c.c.) machine which caused so much favourable comment at the last Show is being retained. It will be recalled that this model simply bristled with simple but useful innovations, such as easily adjusted primary and magneto chains, an undershield integral with the frame and extending to the rear mudguard, and a very complete lubrication system. The two-stroke engine (which has roller main bearings) and the gear box are both of Cedos manufacture, as, in fact, is more of the machine than is at all usual. In addition a 247 c.c. model will be marketed next year; and a real novelty—a lady's sidecar outfit also with the larger engine, two-speed gear, clutch, and kick-starter.

Edmund.

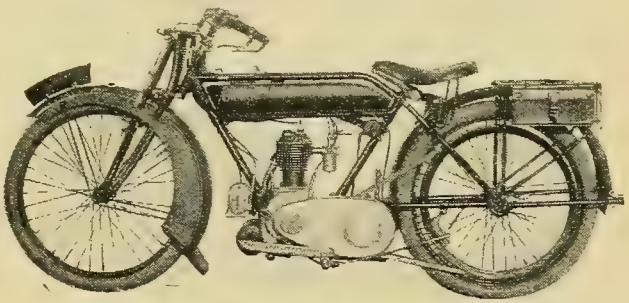
The Edmund adjustable spring frame has now been before the public for a considerable time, and has reached a stage where the makers do not find it necessary to modify their design yearly. Two J.A.P.-engined machines differ only in type of gear—an Enfield and a Burman two-speed respectively. All-chain drive is fitted in the former case. The heavier machine is fitted with a 2¾ h.p. Blackburne engine and Burman two-speed gear, clutch and kick-starter.

Hoskison.

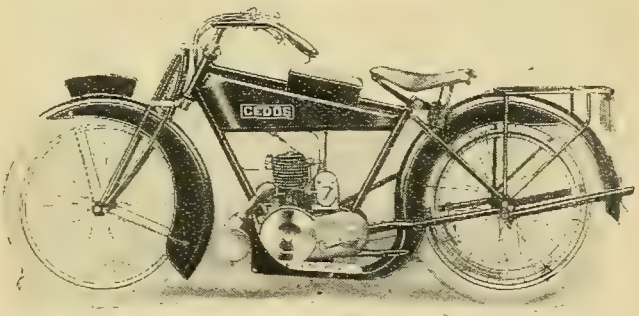
This make was one of the newcomers at the revival of the motor cycle industry at the beginning of 1919, and entered the field with a Union-engined two-stroke. Since then, however, the machine has been developed into a larger tourist type with a 2¾ h.p. Blackburne engine, and the models at Olympia will be of this type.

Omega.

A more extended range of models than hitherto will be offered by the makers of the Omega motor cycle. In addition to the well-known Omega-Jap which, during 1919 and 1920, became a very popular mount, a new two-stroke range will be offered both as a single-speed and gear box model. This will be fitted with the Villiers engine with flywheel magneto and Gosport spring forks, but otherwise following the lines of the J.A.P.-engined machine. Good machines at a popular price will be the keynote of the 1921 Omega policy. Several detail improvements have been made: the side valances of the front mudguards are now extended to the tip of the guard, and are carried to the outside of the fork members. Brampton forks will be standard on the J.A.P. model, which will be supplied with two-speed gear with or without clutch and kick-starter.



The 1921 Omega-Jap. A light weight marketed at a competitive price.



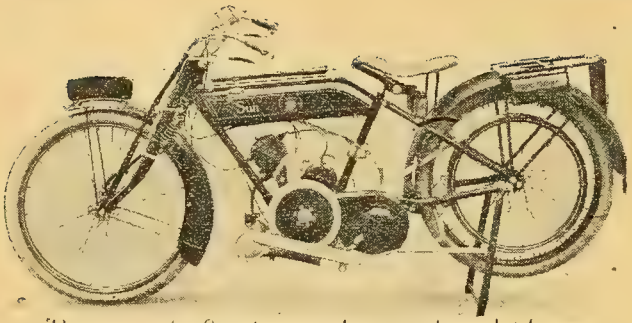
The Cedos possesses all the natural advantages of a machine made almost entirely under one roof.

New Scale.

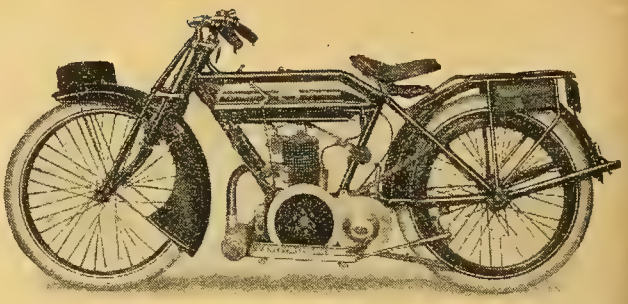
Primarily designed for solo work the New Scale is quite adequate for light sidecar work, the makers' rating of the engine being 3 h.p. The method of lubrication is interesting. From a sump in the engine the oil is fed in by the magneto chain. A very large and efficient silencer is fitted by the makers in place of the more usual types. Brampton Biflex forks coupled with a pan saddle, and heavy tyres, all tend to a maximum of comfort.

Dot.

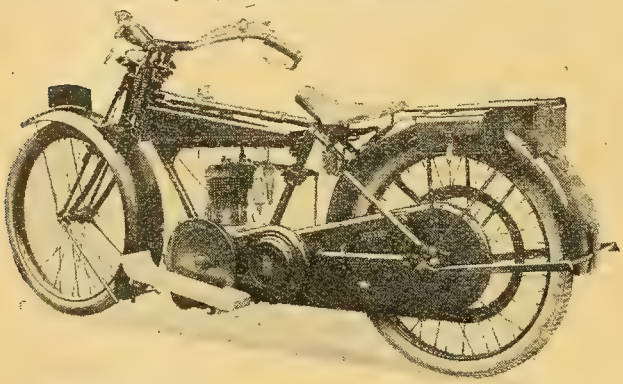
A neat and graceful layout, embodying standard components, has always been the speciality of Messrs. H. Reed and Co., of Ellesmere Road, Manchester, and this reputation is not neglected in the new models which will be seen at Olympia. One of these will specially appeal to the sporting clubman, since it is fitted with a 2¾ h.p. o.h.v. J.A.P. engine, from which power is transmitted by chain and belt through a two-speed and clutch gear box. No kick-starter is fitted, and the machine comes out at something less than 200 lb. weight. It is a most attractive little mount, being most comfortable in riding position and splendidly finished in the characteristic Dot red. The standard models of this make will also be shown.



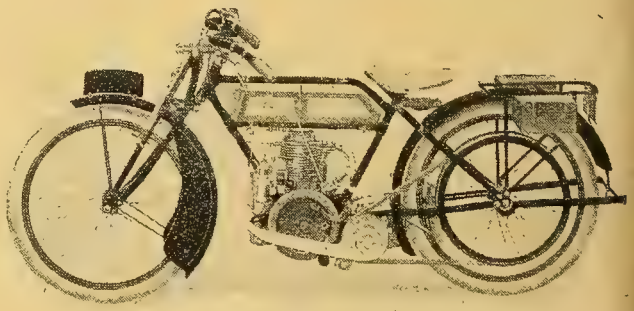
The two-stroke Sun has now been on the market for some years, with considerable success.



A machine which has made a name for itself in the lightweight world—the 2½ h.p. Connaught.



A very completely equipped lightweight—the 2¾ h.p. Wilkin, which has sidecar lugs incorporated with the frame.



A large vertical silencer is fitted to the New Scale lightweight.

Chater-Lea.

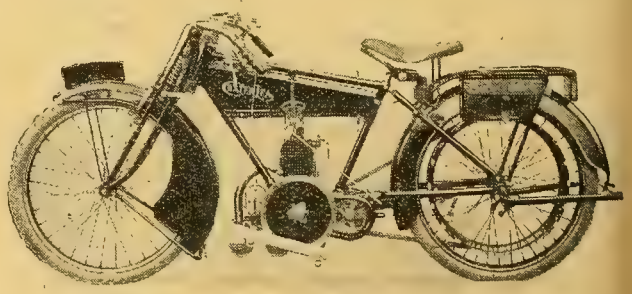
The practical little Chater-Lea lightweight will have platforms brazed on to the secondary frame member, which will carry the tank, thus considerably improving the general appearance. It will also be provided with a new two-speed gear box having an enclosed kick-starter mechanism. The engine is a 2½ h.p. Villiers, but the spring fork, like the gear box, is of Chater-Lea manufacture.

Massey-Arran.

A lightweight which first made its appearance last summer is the production of a new Birmingham firm, which is making highest quality and finish the keynote of its policy. Several models will be exhibited at Olympia, equipped with J.A.P. and Blackburne engines in which special attention has been paid to mudguarding and refinement in detail.

Sun-Vitesse.

The Sun is a neat two-stroke of distinctive design on account of its inclined cylinder. It is well made and finished, and offered in two types, *i.e.*, with a conventional frame and a Sturmey-Archer gear, having a clutch and kick-starter, and with a "cut away" frame for ladies. One of the features of the engine is that the crankcase is cast in one piece, and has a cover plate. Three machines of this make made a very creditable performance in the recent M.C. and A.C. Trial—the most severe one day trial of the year.



The Chater-Lea lightweight has a 2½ h.p. Villiers engine and a new two-speed gear box

MINIATURE MACHINES AT OLYMPIA.

Abbotsford.

"It stands by itself," is the slogan of the company who make this unique three-wheeled scooter, and it puts forward admirably the advantages of this type. Provision is made for a luggage carrier to take 1½ cwt., which allows of its use, either for light delivery purposes, or for domestic shopping. A clutch and hand-starter are fitted to the 2½ h.p. John four-stroke engine, the total weight is about 60 lb., and the price is £35. Laminated springs attend to the rear suspension

Whippet.

Scooters are necessarily unconventional machines, but the Whippet, with its aluminium cylinder and steel liner, carries the matter further. However, a successful year has not caused any drastic alterations, with the exception, perhaps, of the substitution of a cast iron piston—a sop to the novice and careless user. A new French carburetter, the Vici, is now fitted, and a simple exhaust valve lifter takes the place of the decompressor.

Autoglider.

A very wide range of Autogliders are offered for 1921. The standard model has no seat, but provides standing room for two. Very fully mudguarded, the De Luxe model, which has a large padded seat, should appeal especially to professional men and ladies. Two serviceable models for light delivery purposes have a carrying capacity of approximately 3 cubic feet; while the new sporting model is a unique partially streamlined machine, with a maximum speed, it is claimed, of 50 m.p.h.

Kenilworth.

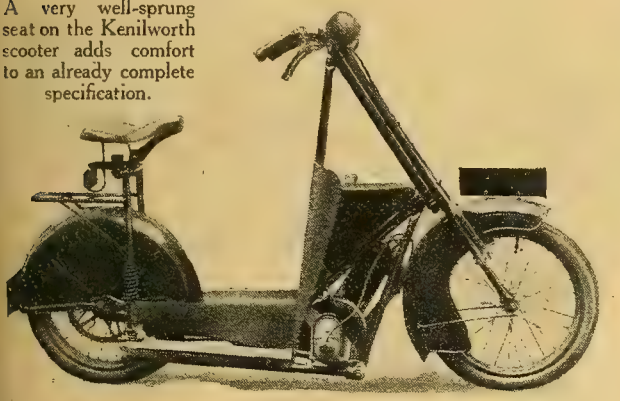
A very full description of the 1921 Kenilworth scooter appeared in our issue of April 29th, under the name of the G.S.C. Autocyclette. It is a very practical job, and has not been radically altered since its inception. Leg shields and a carrier have been added, and the frame has been modified. Chain adjusters on both rear wheel and countershaft are also a standard fitment, and the saddle standards are connected with the footboards, and suspended on springs.

Miniature Machines at Olympia—

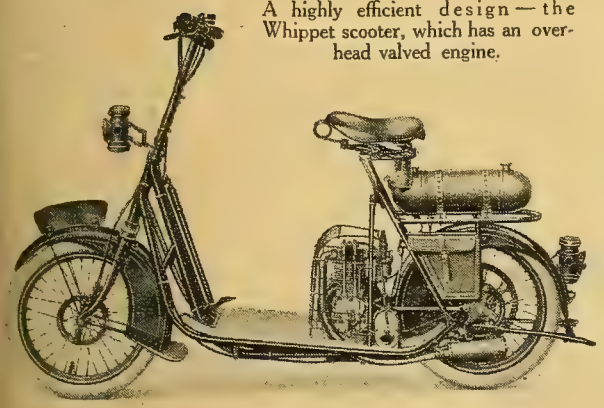
Skootamota.

Recognising their field of potential customers to have many varying requirements, the makers of the Skootamota have adapted their vehicle for several specific needs. For example, the light delivery machine has a large carrier basket in front and a box underneath the seat. The doctor's mount has a removable case, which may be readily detached and carried in the ordinary way. Mechanically, several modifications have been made, including an altered combustion head and a new single-lever carburetter designed by the makers.

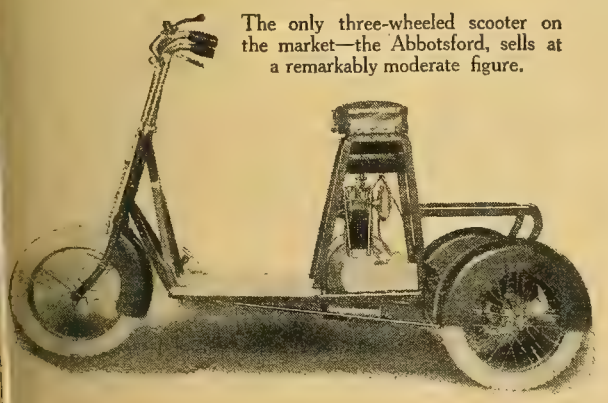
A very well-sprung seat on the Kenilworth scooter adds comfort to an already complete specification.



A highly efficient design—the Whippet scooter, which has an overhead valved engine.

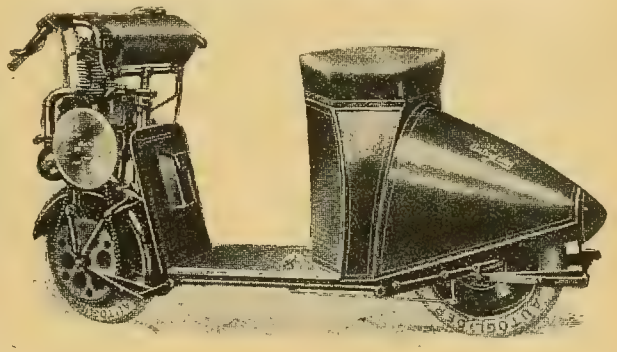


The only three-wheeled scooter on the market—the Abbotsford, sells at a remarkably moderate figure.

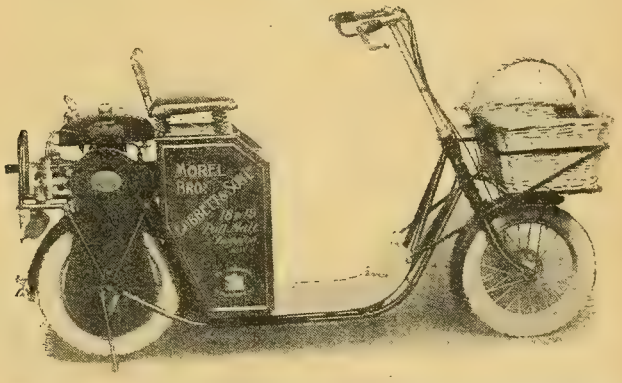


Unibus.

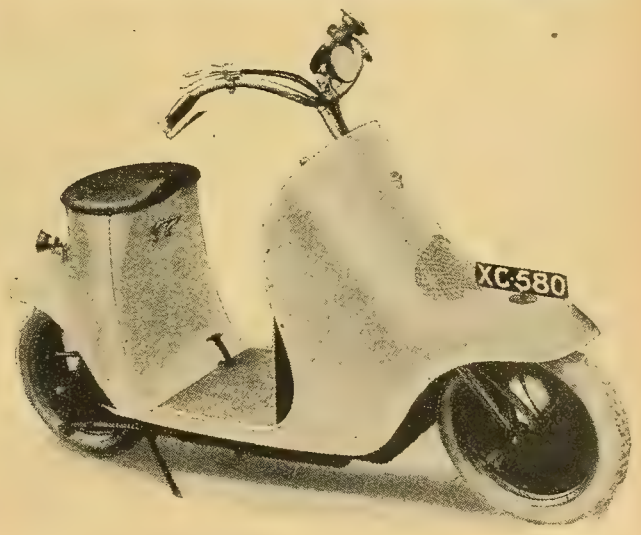
A scooter in a very limited sense only, the Unibus is in many respects more advanced than the average motor cycle. Ample protection and clean outline will make an appeal to the all-weather rider. A full description appeared in our issue of August 19th, 1920, but the more interesting points are worthy of recapitulation. A three-port two-stroke engine of 269 c.c., supplies the power to a Ferodo-lined dry plate clutch, thence to a two-speed constant mesh gear box, and by shaft to an underslung worm drive to the rear wheel. The brakes are also on car lines, and the springing system is very complete. The selling price, of course, is in accordance with the high potentialities of this machine.



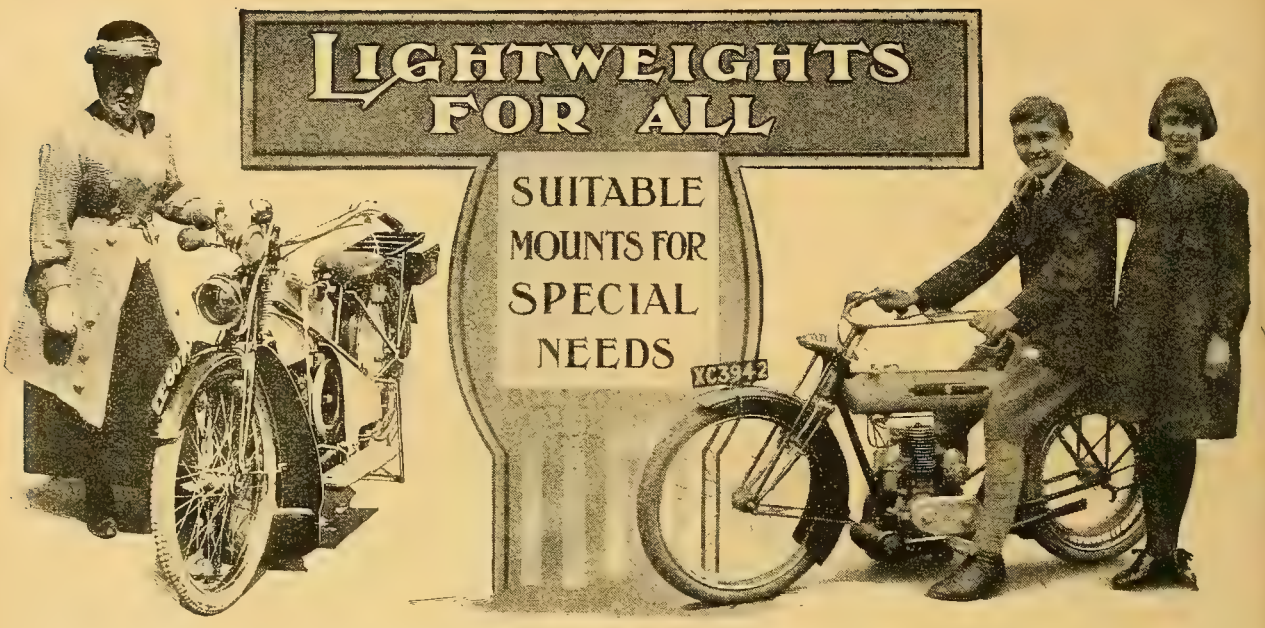
A sporting scooter—the Autoglider, for which a maximum speed of 50 m.p.h. is claimed.



The light delivery Skootamota which has ample goods accommodation.



A type of its own, the Unibus, has many exceedingly interesting details



IF every person over fourteen years of age realised the utility and reliability of the modern lightweight, there would be hundreds of thousands of them on the road.

As it is, their popularity increases year by year, and every one sold may be said to be a missionary to induce the sale of others. Boys, girls, men, and women in all stations of life use them in their various forms; and now that there is a type suitable for every individual requirement, the time is not far distant when they will be regarded as a necessary adjunct in every household possessing the necessary capital for their purchase.

Fifty pounds may be regarded as the present minimum price for a new lightweight machine, which represents about £25 on pre-war values. To some it may seem a lot of money, but there are thousands of the working class who annually spend this amount in seeking other pleasures for which they can see nothing at the end of the year. In purchasing a motor cycle, only the amount representing depreciation is lost, and for this the owner may have extracted more pleasure than the whole capital outlay spent in other directions.

However, it is not our purpose here to discuss this point, but to show how the requirements of the various classes of buyers may be fulfilled.

Novices—that is, newcomers to the motor cycling fraternity—may be divided into four classes—girls, boys, women, and men—but each does not require an entirely different type of mount. In many cases the machines which will appeal to the average girl are the same as will find favour with her mother. But the girl of to-day does not insist that her machine shall have an open lady's frame, although in most cases they prefer it.

In our present office, as advisers to all novices, we will first consider the school miss and her mother jointly, assuming that an open frame is regarded as a necessity. The first machine to be considered perhaps will be a motorised bicycle—say a lady's machine fitted with a Simplex or a Young auxiliary engine on the rear carrier. We recently tried one of these power units, and found the power developed capable of propelling the machine, without pedalling, over all roads where a lady cyclist would go.

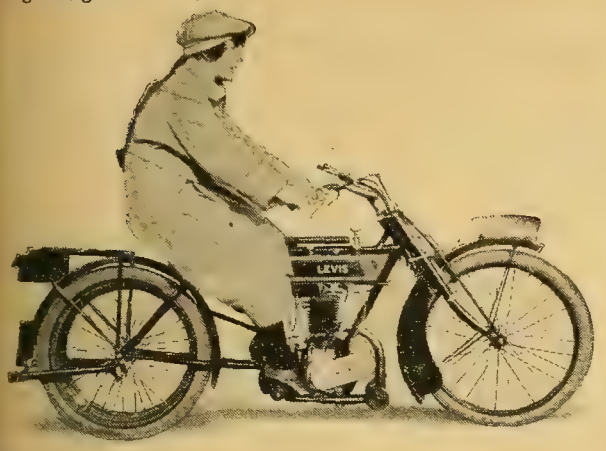
The step between the pedal cycle and the machine specially built to be driven by an engine, a Simplex-engined lady's bicycle.

The extra weight—about 20 lb.—on the carrier makes the handling of the machine when dismounted somewhat strange, but one soon becomes accustomed to it.

Next on the list would be the several excellent miniature motor cycles with open frames, which have been developed from the scooter, but, being fitted with a comfortable seat and having emerged from the experimental stages, may now be regarded as trustworthy little mounts of greater merit than is generally appreciated. In this group may be considered the Kenilworth—now a real 70 lb. motor cycle, the Skootamota, the Whippet, and Mobile Pup. Those desiring a spring frame machine miniature will be interested in the Autoglider, the Macklum, and the Unibus.

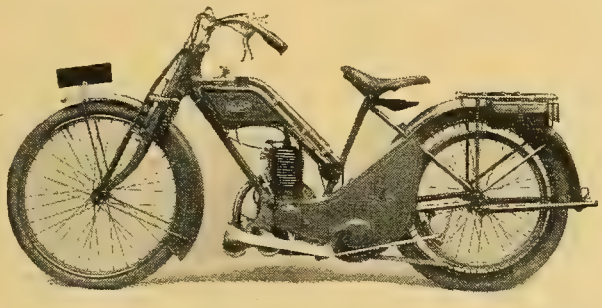
Fully equipped motor cycles with open frames are not so numerous as they might be. In this class we have the new Velocette, illustrated elsewhere, the Ixion, the Sun, and the Cedos—all with efficient two-stroke engines and two-speed gears. The Ixion and Sun have kick-starters and clutches.

Lightweights for All.—



A single-geared Levis, a model very popular with both boys and girls and very suitable for those who have not a great deal of traffic riding to do.

In the next category one may group together the requirements of the rest of girl riders (*i.e.*, those who will ride a machine with a "diamond" frame) and their brothers. The whole of the lightweight field seems to be open to these riders. On forty odd stands at the Show there will be machines fulfilling their requirements; and many of them will be offered in several types, that is, with or without gear boxes, with two-stroke and four-stroke engines, and ranging in size from 200 c.c. to 350 c.c. capacity.



A fully-equipped ladies' motor cycle, the Ixion, with special frame, clutch, kick-starter, and two-speed gear. The Velocette ladies' machine is illustrated on page 583.

For the youth or sporting girl, a single-geared two-stroke will be found quite satisfactory. In this group we have the Levis, O.K., Bown, Connaught, Diamond, Hobart, Ivy, Ixion, Olympic, Radco, Wolf, and Sparkbrook. Most of these machines may be obtained with two-speed gears, to which must be added the Allon, Armis, Alecto, Calthorpe, Coulson, Coventry Eagle, Cedos, Chater Lea, Douglas, Enfield, Hoskison, Francis-Barnett, James, Kingsbury, New Hudson, Triumph, New Imperial, New Scale, Metro-Tyler, Omega, Paragon, Cotton, Velocette, Verus, Victoria, Vindec, Wooler, and Beardmore-Precision.

Again, some of the above may also be obtained with clutch and kick-starter, or with a two-stroke or four-stroke engine as desired.

More Powerful Models.

We will now take the machines offered to the enthusiastic clubman, who wants a fast solo machine on the lines of the pre-war solo "3½." There are quite a number of such machines now offered, thanks to the introduction of the 350 c.c. Blackburne four-stroke engine. Among the better known makes on which this engine is fitted, are the British Excelsior, a low and handy little mount, Hoskison, Verus, Coulson B, and Wilkin. Other four-stroke machines round about this size are the Royal Ruby, F.N., with shaft drive, and Bradbury.

For the business man, a two-speed gear is sometimes regarded as a necessity, while a clutch is almost as important. Any of the machines mentioned under these headings will be found suitable. On the other hand the artisan, who does not do so much traffic riding, will not be seriously inconvenienced by the absence of a variable gear or a clutch.

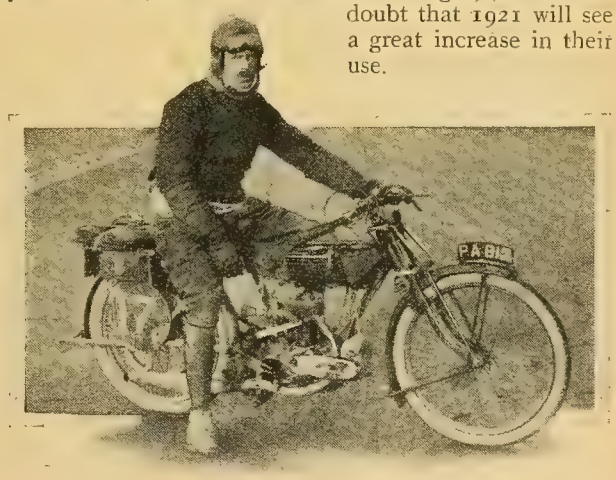
Those who require spring frame machines also are well catered for. In this class there is the new Hobart, the Wooler, Coulson, Beardmore-Precision, Royal Ruby, and P.V.

Motorised Bicycles.

There is one other type of machine which has not been mentioned in the foregoing. We refer to the ultra lightweight motor cycle on pedal cycle lines, but having a spring fork, a specially designed frame, and an engine of about 1½ h.p. Chief among such machines, which, incidentally, may be seen in greater numbers next year, is the J.E.S., a mount which is extremely economical, splendidly made, and a thoroughly good engineering job.

So far we have confined our remarks to solo machines, but there is no doubt that in the near future light sidecar outfits will become popular on account of their low initial cost, economy, and lower taxation than larger outfits. Several makers of lightweights are introducing complete outfits for 1921; and visitors to the Show, who are interested in this type of vehicle, should make a note to see the examples which will be exhibited by the makers of the Beardmore-Precision, Armis, Alecto, Connaught, Ixion, and Ivy.

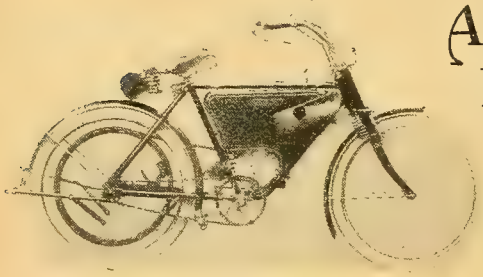
From the above it will be seen that there are lightweights for all; and, in view of the lower taxation next year for machines under 200 lb. in weight, there is no doubt that 1921 will see a great increase in their use.

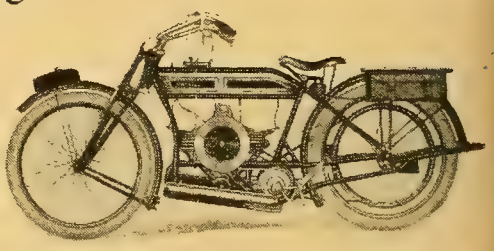


A type of mount favoured by those who enter seriously into competition with the larger machines—a 350 c.c. Blackburne, which made a splendid performance in the last Junior T.T.

The Lightweight

A Review of its Development



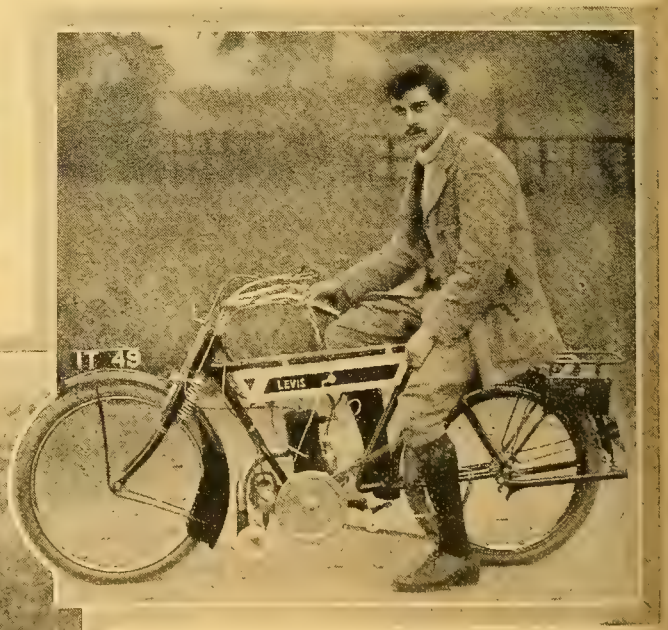


In tracing the History of the Motor Cycle Movement, it is apparent that the True Lightweight still requires Development.

AFTER the first motor cycles of the pioneer days had gone their way, the industry commenced to take notice of itself, to adopt a nomenclature, and to classify its products according to type.

Some years ago standards of measurements, as far as engine sizes are concerned, were vastly different from those obtaining to-day. For instance, a machine which exceeded a very nominal 2¾ h.p. was regarded with an awe something akin to fear by the average motor cyclist of the period, and the production of such machines invariably resulted in the press of the time being filled with comments on the over-development of motor cycles. The lightweight, as such, was then almost unknown, but at a little later date the industry decided that there was scope for two classes of machines; the first and most popular class comprised of those hurtling monsters of 350 c.c. or a little more, which served most purposes for fast travelling and passenger carrying (so long as the accumulators held out), while the second was something smaller, embodying a power unit developing 1¼ h.p., more or less, which it was thought would serve the needs of the modest solo rider who preferred to enjoy his riding in solitude. These machines, mark you, were all single-geared.

As time went on motor cycles generally became increasingly powerful, and capable of dealing with greater loads, but still the true lightweight as a type scarcely came into existence, although between 1907 and 1912 there were many machines which, as far as weight considerations alone are concerned, were in that category. These, however, were somewhat in the



(Left) In 1911-1913 a four-stroke 2¾ h.p. New Hudson machine had a considerable vogue, but it approached the mediumweight class, and could not be lifted up like this 1921 two-stroke which now bears its name, and even excels it in performance and reliability.

(Right) One of the pioneers of lightweight two-stroke construction, W. Hughes Butterfield, designer of the Levis, on a 1912 model. As will be seen, it possesses the general outlines of his latest production

The Lightweight—A Review of its Development.—

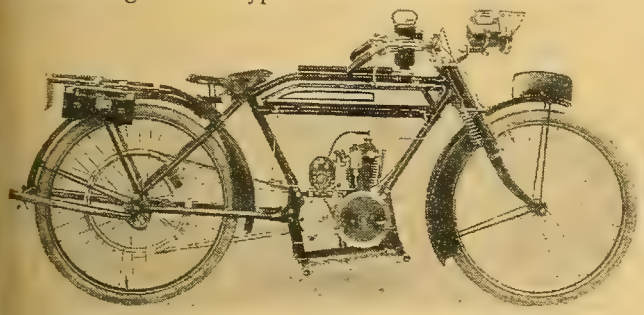
nature of glorified motor-assisted pedal cycles, and one or two of them, at any rate, enjoyed a considerable vogue. In this class, of course, the series of Motosacoche models, commencing with the 1 h.p. and finishing with the 2½ h.p. engine, stood pre-eminent.

The tendency to increase engine size, and, in consequence, to increase weight, is shown in the above example; and each increase of power gave an increase in range, which in turn gave birth to a desire for a still better performance, and so induced the designers to again enlarge the size of the engine, and so on.

Possibly this inclination to develop engine size was due to the lack of a really satisfactory change-speed gear, thus giving the designer no alternative other than an increase in cubic capacity if he wished to extend the performance range of his machine.

"Light Heavyweights."

The paradox of the heading to this paragraph is justified when we look back at the type of motor cycle which was most popular in the period from 1908 to the beginning of 1912. During those years the 3½ h.p. (500 c.c.) machine with single gear came into its own. The type was pre-eminent, and fully justified the gradual increase in engine size which led to its being. As a type which was almost the ideal



A design which did not survive, despite its apparently high promise. It is the Precision Junior of 1913, which had an integral two-speed gear and crank case, and may be said to be the forerunner of much modern lightweight design.

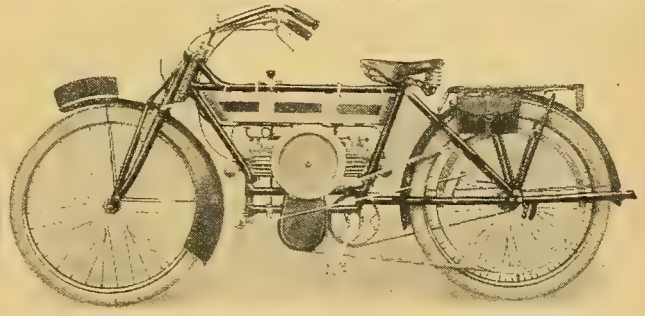
roadster machine it was capable of high speeds, it could climb almost any main road hill, it was economical to run, and, above all, it was light in weight, and consequently easy to handle. A machine with all these qualities can be turned out ready for the road with a total weight not exceeding 190 lb. Thus such a model used in 1921 would come under the lightweight ruling as far as taxation purposes are concerned.

The very success, however, of the fixed gear "3½" proved to be its own undoing from the standpoint of weight and simplicity. Equipped as it was, without any pretence at variable gearing, it could, nevertheless, haul a sidecar and passenger with quite considerable success over the majority of our British main roads, but, being put to this use, it followed that its frame had to be stiffened, and a clutch and gears introduced, in order to make it controllable in traffic and to give it climbing range in adverse circumstances. Thus the close of 1912 saw the end of the type which may truly be dubbed the "light heavyweight," since it was the custom to describe machines as lightweights or heavyweights according to the power of their engines.

About the same time as the fixed gear 500 c.c. machine developed into a luxuriously equipped passenger model, a certain section of the trade realised that there was some room for a hitherto undeveloped type. Instead of the heavy solo machine and the dual purpose (and passenger) outfits, it seemed that there was a potential demand for a machine of low power and light weight, which added to these qualities the capability of travelling anywhere where a motor cycle could reasonably be expected to go. Amongst others, the Douglas and Humber companies were successful in producing this type.

The years 1913 and 1914 saw many machines answering to this description, but, for the most part, their life was a short and merry one. The coming of the countershaft gear certainly increased the scope of machines fitted with miniature engines, but the latter did not seem to take kindly to the high revolutions which the use of an ultra-low gear called into use. Some of the most promising designs of that time did not prove as successful in the hands of the public as might have been expected.

Of late, however, the improved results which have been obtained from small two-stroke engines have entirely revolutionised the state of affairs as regards the utilisation of small capacity engines. Thanks to its



The forerunners of the Douglas were exceedingly small, but in the effort to compete with bigger machines, the 2¾ h.p. model developed into a comparatively heavy three-speed touring mount. The illustration is of the 1911 model, to which a two-speed countershaft was first fitted, while pedalling gear was retained.

increased efficiency, and the knowledge which has been gained in several years of searching test, the small two-stroke is now capable of running continuously at high revolutions without being subject to the overheating troubles which were experienced with the earlier samples, and consequently this type of engine is extremely well fitted to be used in conjunction with a wide range of gears, thus taking advantage of the low weight of a small power unit.

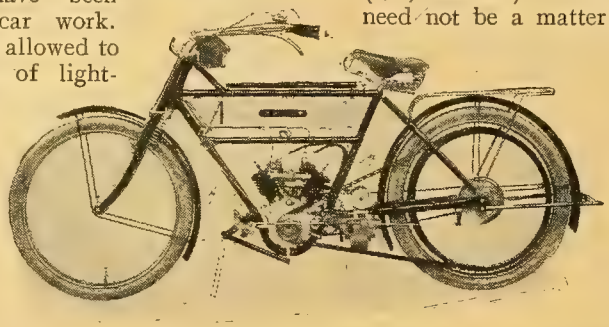
A Plea Against Over-development.

At the present time it is possible to produce a lightweight machine equipped with chain-drive, mechanical lubrication, and, indeed, a thoroughly modern specification, at the same time keeping its weight within reasonable limits. Unfortunately, however, the machines of this class are capable of doing much more than the ordinary rider wants of them in everyday running, and in consequence there is a temptation to make the most of this surplus power by introducing light sidecar attachments.

If the limitations of an outfit of this class are strictly regarded, no great harm is done by the above-men-

The Lightweight—A Review of its Development.—

tioned tendency, but if manufacturers produce such machines, the public will no doubt expect the same performance from them as from larger and more powerful outfits, which have been designed specially for sidecar work. Should this state of affairs be allowed to develop, those same makers of lightweight machines will find themselves, willy nilly, increasing weight in order to guard their products against the breakages which almost inevitably follow the addition of a sidecar to a light frame; and thus, having increased the weight of the frames by so doing, they will need to increase the size of the engine in order to tow the additions, and so the vicious circle recommences.



When the Enfield Cycle Co. produced this 2¼ h.p. machine in 1910 it was exceedingly light, but as time went on it developed into a 3 h.p. medium weight, and was finally abandoned, leaving a miniature two-speed two-stroke as the sole lightweight representative of its name.

The True Market.

The lightweight machine as such should be capable of travelling over any reasonable road or hill in the British Isles, it should be reliable and economical in upkeep, and offer the rider himself a reasonable degree of comfort. At the same time, in view of the fact that machines from 1921 onwards will be taxed according to weight, the machine intended purely for solo work should be brought within the lower weight limit (*i.e.*, 200 lb.). The actual power of the machine need not be a matter of great importance, since a machine of 8 h.p., if it conforms to the legal weight limit, would still be in the lightweight class. In order to keep down weight, however, the machine should be developed solely as a single-purpose machine, and any attempt to equip it for passenger work should be rigidly avoided.

Within reason, the lighter the machine the better, so long as the weight is not cut down to the extent of sacrificing safety or comfort. A machine produced with these requirements in view would appeal to a very large market at present unsatisfied by the heavy double purpose mounts which have been largely developed with an eye on their performances as sidecar machines.

WHARFEDALE.

FRENCH LIGHTWEIGHT DESIGN.

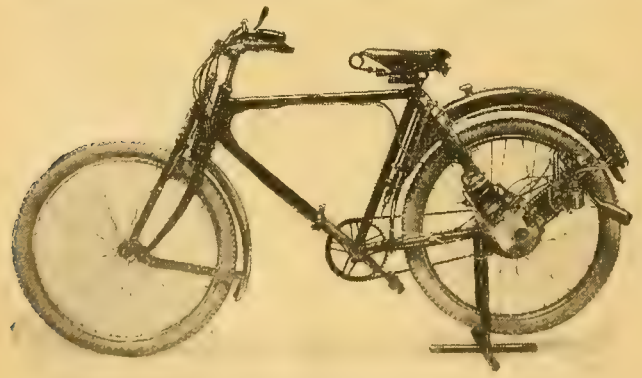
Two Examples of "Clean" Design from Across the Channel.

IN matters relating to motor cycles the French are the exact antithesis of the Germans. The former are nearly always original, but the Teuton has less initiative, and generally prefers to copy. British and American designers may be said to represent a happy medium.

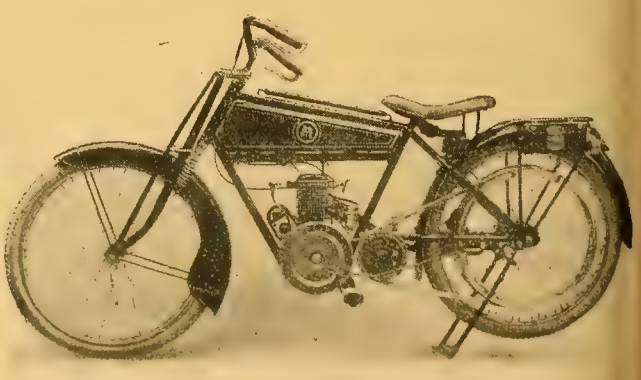
The revival of the French motor cycle industry revealed more ingenuity and advanced design than have been produced by any other country producing motor cycles, the chief aim being neatness and cleanliness of design generally. As a result unit construction of engine and gear box is fairly general practice, both in sidecar and solo machines.

We give below two examples of French lightweight design, which are of special interest in an issue devoted mainly to light solo motor cycles. The Lumen, with its invisible drive, represents a type of which there are too few machines to suit the pedal cyclist about to take up the petrol-driven vehicle. It may not seem important to the actual motor cyclist that there are no chains or belts in its transmission; the Lumen transmission and the position of the engine may not be so conventional as usual British practice, but there is certainly less mechanism *visible*, and its apparent simplicity is a point in its favour when the market for which it is designed is taken into consideration.

As an example of clean design, the little Moto Solo is of interest, while there are several other French machines which embody combined engine and gear box units.



A neat lightweight having a Lumen engine on the side of the rear wheel and a curved petrol tank which serves as a mudguard



The Moto Solo—a French lightweight on British lines, but smaller and lighter.

THE OUTLOOK FOR LIGHTWEIGHTS.

Among the Many Factors which will further Popularise the Light Machine in the Future are Low Cost, Low Upkeep, and Low Taxation.

By B. H. DAVIES.

IF you ask the average small dealer how lightweights are selling just now, his reply will be either lugubrious or blasphemous according to his temperament. He will admit that he has sold a good many during the past year, and that the vast majority of his clients are quite satisfied with their bargains. But he will probably complain that he still has a few in stock which he cannot dispose of, and he will state his intention of being very cautious in sizing his lightweight contracts for 1921.

In casual conversation the average small dealer probably delivers his soul in this strain, and the spectacle of several unsold 1920 lightweights, remaining unsold in his window or showroom week after week, creates a somewhat similar impression. But in actual fact such superficial impressions are entirely misleading, as I will proceed to demonstrate.

An Assured Demand.

In the first place, the lightweight is necessarily the cheapest type of motor cycle, and because nobody is less cautious or more irrepressible than the budding motor cyclist, lightweights will inevitably sell very freely in these days of high prices. They will sell irrespective of whether the average commercial pattern is good, bad, or indifferent, of whether it can or cannot do what the typical rider desires. The higher its quality, and the wider the range of its performance, the bigger the sales. But they *must* be big, in any case, because each year brings thousands of new motor cyclists up to the purchasing point, and many of them can afford £70, though they cannot produce £150. Under the current *régime* of high wages, the young bachelor artisans will be good buyers of lightweights.

The Tax Incentive.

In the second place, another six weeks will see the industry overshadowed by the 1921 taxation scheme, under which machines scaling less than 200 lb. contribute less to the revenue than machines which exceed that figure. It is plausible, but idle, to pretend that this somewhat arbitrary classification will have no marked effect on design or on the market. The R.A.C. rating of car h.p. has unquestionably sired the small bore, long stroke, car engines of to-day. For years past, eight car buyers out of ten have been sensibly influenced by the taxable ratings of the cars between which their fancy oscillated.

At the 1920 and succeeding Shows we shall see manufacturers guaranteeing the actual weights of their machines, salesmen making a great talking point of light weight, and customers growing increasingly inquisitive on the subject.

It will take a year or two to bring the new factor into high relief, but never again will the trade or public regard the weight of a machine with their old

The real lightweight of the future should be as light as this little Baby Levis, which could be carried about quite easily

indifference. In particular, from January 1st, 1921, machines which exceed the 200 lb. limit *by a few pounds* (say 50 lb. or less), and *without any very obvious justification for doing so*, will steadily tend to become unsaleable. The machine which weighs distinctly less than 200 lb., all on and ready for the road, will become stereotyped, and the alternative class will weigh a great deal over 200 lb., or will offer very substantial compensations in specification for the extra tax with which its owner is burdened.

Seeing it is a long while since an A.C.U. Six Days Trial secured any appreciable entries scaling less than 200 lb., there will be a regular scurry to reduce weights this winter.

Lightweights in the 1920 Six Days.

Yet a third factor of the first importance is to be noted in the great efficiency shown by some of our best lightweights in the 1920 Six Days Trials. The opinion of the men who were there is that no special reason exists to prevent a dozen makes of lightweight doing as well in 1921 as the Velocette did in 1920: and that all of them did very much better than any printed account of a remarkably strenuous week can ever convey. The triple considerations of price, tax, and quality thus guarantee an abnormal and increasing demand for lightweights.

The facts cited up to this stage of the argument are demonstrable. The precise future of the lightweight unfortunately hinges upon considerations about which it is too early to dogmatise. The first and most important doubt is whether or not a certain section of the trade will continue to make appallingly bad

The Outlook for Lightweights.—

lightweights, and to dump them on an innocent section of the public. The engine is the only really expensive component of a motor cycle, and a small two-stroke engine is quite cheap to build, though by no means easy to design. If a bad engine is assembled with fittings of the cheapest class into a crude and shoddy layout, a peculiarly objectionable lightweight results. Such machines have been sold by the hundred, perhaps by the thousand; and every one of them has done the movement untold harm. Parsons, lawyers, chemists, doctors, and bricklayers prevent unqualified persons from entering these honourable professions, but there is nothing to prevent a half-baked amateur mechanic with a litle cash or credit from starting in business as a motor cycle engineer in a small way. The lightweight machine is generally the happy hunting ground of such gentry; the expense and discomfort of machines begotten in this way utterly baffle description. It would be a public benefit if the trade society could strangle such enterprises at birth; if they are allowed to survive till their cash or credit are exhausted, they will help to perpetuate an unfortunate prejudice. Few journalists are familiar with the sort of machine I mean; I know them through friends who made foolish purchases, and can testify that the best engine, if assembled in an unduly whippy frame with cheap fittings, can form a regular nightmare of a mount.

Good Factory Methods Essential.

The plain fact is that narrow limits of weight and cost intensify all the technical problems of design. A good designer and a good factory are absolutely essential. The small dealers should relentlessly refuse to handle dud stuff in these lines. Still less should they prefer the increased profit of assembling an "own transfer" machine to the small commission payable on the sale of a first-class proprietary mount. I go so far as to hope that before long the lightweight will cease to figure as the "side line" of a big factory devoting its main energies to another type of machine. No man can serve two masters. If the Rolls-Royce Co. bought up the G.N., they would spoil it, unless they maintained two entirely separate staffs and organisations. I am not blind to the debt which the lightweight owes to the Baby Triumph and Clyno—both "side lines." They are the exceptions which prove the rule. The full development of the lightweight can never come until more first-class concerns run lightweights as their main line.

What Will They Do?

Finally, it must be admitted that the modern lightweight has already come within measurable distance of offering the kind of performance which the more sedate types of solo rider demand. They can climb absolutely any hill. They are fast enough—if apt to be fussy at speed, and over-liable to both engine and road vibration. Their reliability factor may hardly be as high as that of a first-class 500 c.c., but it is a great deal higher than it was, and quite high enough for ordinary service. Their economy is distinctly good; oil, petrol, and tyre bills are all proportionately low. Comfort ought certainly to be isolated as the item in which their shortcomings are concentrated. I do not think the solution lies in the direction of extra springing. Hitherto the majority of lightweights have been foolishly disfigured with small tyres and tiny saddles. It is obvious that they want big tyres and big saddles, because rough roads deflect them so violently. So long as their tyres were small, weight had to be piled on to their mechanical parts; if heavy tyres were boldly adopted, it might be possible to lighten the mechanical structure appreciably without detriment to strength.

In the meantime, it is the business of every agent to refuse to handle any shoddy stuff. It is the duty of makers to expect large business beneath the 200 lb. line, and to be ready with good propositions.

Lightweights on the road. Both speedman and tourist will find their needs easily met in the many various types on the market to-day.

CURRENT CHAT

Times to Light Lamps.

Nov. 18th	... ...	4.36 p.m.
,, 20th	... ...	4.34 ,,
,, 22nd	... ...	4.31 ,,
,, 24th	... ...	4.29 ,,

A Guide to Olympia.

Next Thursday's issue of *The Motor Cycle* will be a comprehensive forecast of the exhibits at Olympia, which opens its doors to the motor cycle world on November 29th.

Motor Cycling in Ireland.

A press photographer who often officiates for *The Motor Cycle* is at present in Ireland, and from his accounts of experiences during the present crisis, there are more pleasant places for motor cyclists than the Emerald Isle. As the railway service is slowly being strangled, the motor vehicle is the only convenient means of getting about; and a few days ago, in company with several other pressmen, our correspondent states he was held up at the point of a revolver, first by the R.I.C. and then by Republican Volunteers.

Coachwork on Cars.

To-morrow's issue of *The Autocar* is the fifth and last of the 1920 Show numbers. Special features include a fully illustrated and detailed report of the coachwork exhibited at Olympia and the White City, thus concluding the most complete review of automobile progress which has ever been provided.

THE MOTOR CYCLE

GUIDE to OLYMPIA.

Intending visitors to the Motor Cycle Show at Olympia (Nov. 29th—Dec. 4th) will appreciate the special contents of next Thursday's issue. It will form a convenient Guide to the Exhibits. Illustrations will be a feature.

ON SALE THURSDAY, Nov. 25th
—— 4½d.——

FREAK HILL-CLIMBING IN CALIFORNIA.

An American X on Capistrano Hill. Observe the large rear sprocket and the tractor bands on the rear tyre. Both British and Americans delight in hill-climbing, but how different their conception of this particular sport.

Special Features.

LIGHTWEIGHTS FOR ALL.
WHICH TYPE OF MINIATURE?
LIGHTER LIGHTWEIGHTS.

Weights.

It behoves every manufacturer of a lightweight to be prepared at Olympia to give proof of the weight of his machines. Why not a weighbridge certificate displayed in a prominent position?

Motor Cycle Fox Hunt.

Motor cyclists are being invited to a fox hunt being arranged at Salt Box Hill, Cudham, and the event promises to be a novelty. Some years ago a Bradbury rider took part in a fox hunt in the same district, and was present at the death. The coverts are in the chalk hills of Cudham, and depredations by the foxes are becoming serious.

Stolen Motor Cycles.

Every week we receive detailed particulars of stolen machines from readers who hope that their appearance in *The Motor Cycle* may lead to their recovery. Probably some of the culprits are readers of *The Motor Cycle*, therefore by publishing particulars of those small matters by which a machine may be identified, we should draw attention to them, and so cause their removal. It is far better that these details, such as a cracked grip, or an odd size nut, are known only to the police; but we fear that the majority of robberies are the work of an organised gang, who dismantle and rebuild before attempting to dispose of them.

Imports and Exports for October.

A slight increase over last month is evident in the Board of Trade returns of foreign motor cycles and parts imported during October. The actual figures with comparative amounts for two previous years are:

IMPORTS.

	October, 1913.	October, 1919.	October, 1920.
No. of motor cycles ..	116	142	212
Value of machines and parts	£8,962	£9,397	£26,406

There is a slight fall in the number of British motor cycles exported compared with September, but on the whole the figures remain at a high level.

BRITISH EXPORTS.

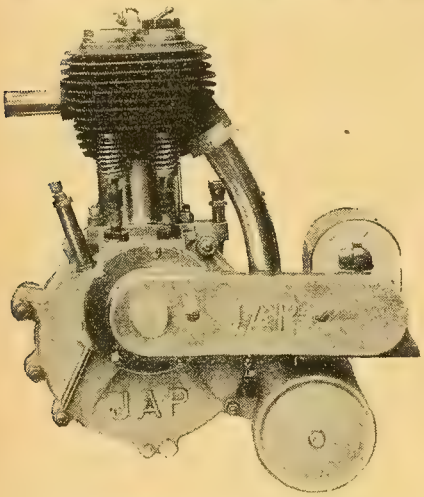
	October. 1913.	October, 1919.	October, 1920.
No. of motor cycles ..	1,431	661	2,333
Value of motor cycles only	£63,861	£46,416	£191,857
Value of parts and accessories	£23,246	£39,618	£67,953
Total value ..	£87,107	£86,034	£259,810

J.A.P. Engine Modifications.

Improved Cooling, Timing Gear, and Finish.

CONSIDERABLE improvements have been made in the construction and design of the latest pattern J.A.P. engines, and on the occasion of our last visit to Messrs. J. A. Prestwich and Co.'s now extensive factory we were struck by the excellence of finish and workmanship. The die-cast aluminium crank case and the polished timing gear and chain case look particularly attractive, and give the engine an extremely handsome appearance. Other external improvements are also evident. It can be seen from the illustrations that the cylinder fins are numerous and thin, while their shape has been slightly modified. The apex oil union has been discarded, and an oil lead to the front cylinder is now permanently built in. These features are common to all of the twin-cylinder models. The chief difference, however, in the 5 h.p. twin-cylinder is the simplification of the timing gear, which now follows the design of the 8 h.p., there being only two timing wheels, a small pinion and the larger one carrying two cams operating all four valves. The position of the compression taps has also been altered, and instead of being in the centre of the cylinder, these are now at the side opposite to the valve cap. A straight induction pipe now joins the two unions, whereas formerly this was arranged in the shape of an inverted V.

Racing models are fitted with long "fir cone" pattern aluminium exhaust valve caps, which, we are assured, dissipate the heat very rapidly.



The newly-designed 2¾ h.p. J.A.P. engine

Engines for All.

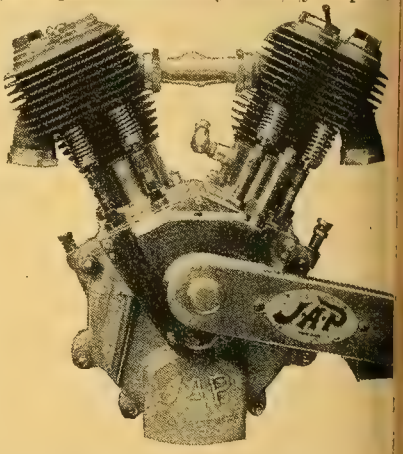
The 8 h.p. water-cooled engine for cycle cars has also undergone considerable improvement, and is now provided with larger water jackets. It follows the lines of the air-cooled pattern in most other respects.

New pistons are fitted to all types, and these are provided with two thin rings at the top, and one scraper ring at the bottom, while the gudgeon pins are a driving fit, and have brass caps at their extremities.

The popular little 2¾ h.p. has also been slightly altered in design. The cylinder has many more radiating fins, and those on the top of the cylinder run longitudinally, thereby greatly aiding the cooling. One of these we saw fitted with three overhead valves (two exhaust and one inlet), and a similar side-by-side valve engine with an aluminium piston, roller big end and ball bearing crankshaft, with which Mr. Vivian Prestwich intends to attack the lightweight records.

There is also a six-valve twin-cylinder racing engine of 500 c.c.

Extreme care has been exercised in the manufacture of these engines and their wonderful finish is noteworthy. There seems little doubt that the popularity of the J.A.P. during 1921 will be enormously extended, all the brains in the factory being concentrated on obtaining the highest possible efficiency in every respect.



Years of experience are behind the production of J.A.P. engines. Here is shown the new 5 h.p. model.

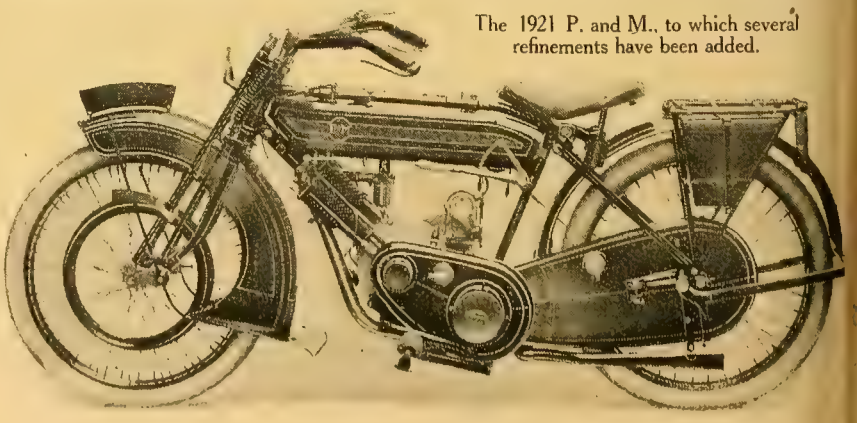
The P. and M.'s in 1921.

New Spring Drive and Modified Oil Pump among the Detail Improvements.

THE 1921 P. and M. is an interesting machine, which shows the result of five years' intensive motor cycle manufacture during the war, and has proved so entirely satisfactory that it is to remain the company's sole model.

Although the engine is not designed for excessively high speeds, it has been considerably improved as regards power output in comparison with its predecessor. Thanks to the horizontally-arranged radiating fins and the design of the combustion chamber and valve ports, the 500 c.c. engine will easily pull a sidecar without the slightest tendency to overheat. Since also the frame and forks are of abnormal strength, the machine itself is well up to sidecar work, while the lugs incorporated in the construction enable the sidecar to be attached at four points on either side of the machine. In a word, the P. and M. is an efficient double-purpose mount.

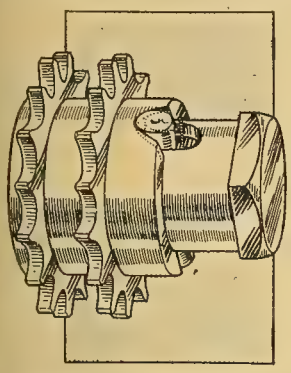
A mechanical oil pump, the efficacy of which was proved in a recent officially-observed A.C.U. trial, has been slightly modified in design. The oil pipe leading from the tank is now situated at the top, and a new cap is provided at the end, which has two internal seatings or faces preventing any possibility of leakage. Owing to the great leverage obtained on the kick-starter, and the fact that it acts directly on the engine-shaft, very little effort is required to get the engine to fire; and, as an example of the refinements to be found on the machine, it may be mentioned that rubber buffers are provided, against one of which the starter pedal rests when out of use, while it comes up against the other one at the furthest end of its travel. The chain drive and substantial and easily detachable chain covers remain unaltered, but an improvement in the transmission has been incorporated



The 1921 P. and M., to which several refinements have been added.

P. and M.'s in 1921.—

in the shape of a new transmission shock absorber. This consists of a sleeve rigidly attached to the engine-shaft carrying both engine chain sprockets; a peg held by



P. and M. shock absorber.

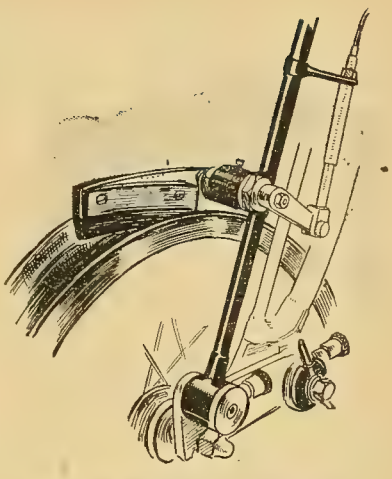
means of a spring projects through slots in the fixed sleeve, and engages with two V-shaped notches in the loose-fitting sprockets. Oil holes are provided at the back of the device for purposes of lubrication.

Some improvement has also been effected in the design of the brakes. Not only is the excellent rear wheel contracting band brake, actuated either by a hand-operated ratchet lever or a brake pedal, retained, but a new front brake has been designed, consisting of a long shoe fitted with two compressed Ferodo blocks engaging with a dummy belt rim. The system of braking is especially suitable for sidecar work, as, in addition to two powerful and efficient brakes, the ratchet lever allows the machine to be left standing on a gradient with absolute safety.

Good Mudguards.

Throughout the whole machine great attention has been paid to detail. Mudguarding has been specially studied. The design of the clips fastening on the rear mudguard is particularly sound, while the front guard is completely valanced, and is provided with a large splashguard. The finish is as good as ever, and the machine still remains one of the best equipped, best turned out, and most reliable mounts on the market.

The following details may be of interest: Weight, 265 lb.; ground clearance, 5½in.; petrol capacity, 1¾ gallon; oil capacity, 3½ pints. The tyre equipment is 2½in. anti-skid Kempshalls. The makers claim that the petrol consumption with sidecar and passenger is 70 miles to the gallon, and 1,200 miles to the gallon of oil, and these figures were more than substantiated in the recent A.C.U. tests.



The improved form of front brake.

For Speedmen and Fast Tourists.

A 3½ h.p. Six-valved Sporting Twin and a Light 5-6 h.p. Model added to N.U.T. Range.

DURING the present year the 3½ h.p. N.U.T., which has made itself well known by the number of successful erformances in competition, has shown o sign of requiring alteration in any irection, and consequently the makers ave decided to continue with the same pecification next year.

Primarily, the N.U.T. design was inended to represent the best that could e made as a purely solo machine, but has been found that a number of users esired to attach light sidecars. When his has been done, the charm of the achine has been somewhat decreased, it is well known that the small V vin engine owes its popularity to ich qualities as smooth running, quick celeration, and the ability to maintain high average speed with little apparent fort. These qualities, however, are most at once sacrificed if an engine this type is unduly overloaded, since does not possess the "slogging" power a single-cylinder engine of the same bic capacity.

A Fast Solo Machine.

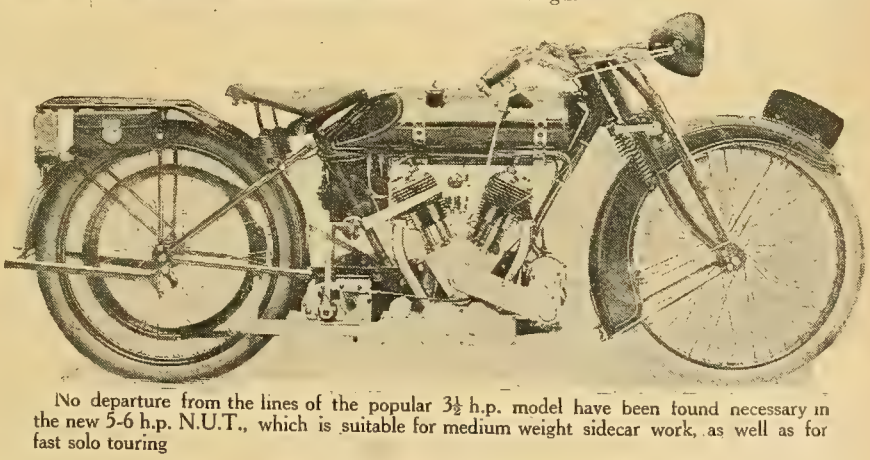
The makers of the N.U.T. have, therere, decided to include a second model their programme which will be more itable for sidecar work. This will take e form of a 5 h.p. machine having actly the same specification as that of e 3½ h.p., with the exception of an crease in cylinder dimensions. It must understood, however, that the new odel remains essentially a solo machine, ce the weight is kept low, and final lt transmission is employed. It is not ended that the machine shall compete th the high-powered and luxuriously-rloaded sidecar outfits of the 8 h.p. ss, but a special form of light sidecar will be recommended for use in connection with it.

The general specification of the 3½ h.p. and 5 h.p. models is identical; and, indeed, with the exception of the engines, the two machines are composed of interchangeable parts. The Lucas Magdyno electric lighting and ignition outfit is a standard fitting on these machines.

A High Efficiency Model.

In addition to the two machines mentioned, a new line, which will appeal especially to the sporting fraternity, is the 3½ h.p. overhead valve model. The dimensions of the V twin engine are the same as the standard 3½ h.p. (64.5×76 mm.), but the engine is of a special racing type, having one inlet and two exhaust valves per cylinder, these being carried in detachable heads. The specification of the machine remains much the same as that of the 3½ h.p. model, since the frame and transmission are similar. There are some departures in detail, however; for instance, the Magdyno gives place to a simple magneto, while, instead of the complete chain case on the primary drive, a light cover is fitted over the top run of the chain. The spring forks, mudguards, and handle-bars are of the racing type. In other respects the finish and appearance conform to the general high standard which characterises all the N.U.T. products.

The N.U.T. made its first public appearance at the Olympia Motor Cycle Show of 1919, and there attracted a considerable amount of attention amongst the sporting fraternity, as it was designed as the "last word" in solo mounts. It is interesting to note that the manufacturers have found no reason to modify their design.



No departure from the lines of the popular 3½ h.p. model have been found necessary in the new 5-6 h.p. N.U.T., which is suitable for medium weight sidecar work, as well as for fast solo touring

100 Miles Within 100 Minutes with a Sidecar.

More Indian Records. Mean Speed Figures Established.

FOLLOWING on the successes created by H. Le Vack, reported in the last issue of *The Motor Cycle*, the same rider broke a wonderful series of records with the same machine, but with sidecar attached. The machine he used was a standard Indian Powerplus racing model, bore and stroke 79 mm. × 100 mm., 997 c.c., fitted with side by side valves, while he used Shell aviation spirit and Wakefield Castrol.

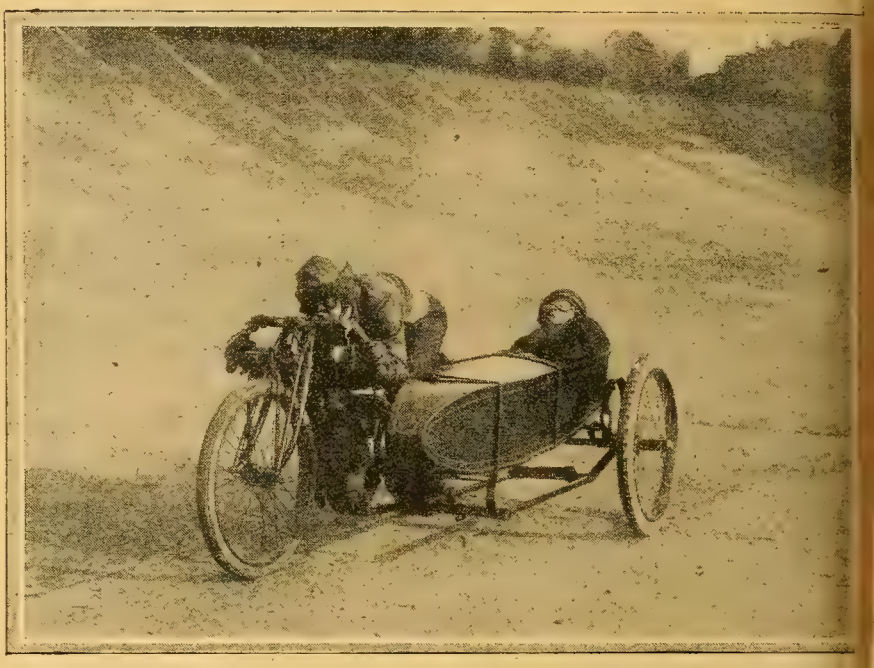
Le Vack opened the ball by an attempt on the two short distance records, and succeeded on each occasion. The flying kilometre was covered in 29s. at a speed of 77.14 m.p.h., the flying mile in 48.4s. at a speed of 74.38 m.p.h. If confirmed, these will be world's records. The average mean speed record flying kilometre worked out at 29.9s., a speed of 74.82 m.p.h.; and the flying mile at 50.7s., 71.01 m.p.h. These, of course, would be international records.

Over 60 m.p.h. for a Hundred Miles.

Le Vack next attempted and succeeded in breaking the five-mile flying start record, covering the distance in 4m. 16.1s., 70.28 m.p.h. He then tackled the ten miles standing start, time 8m. 51.08s., 67.78 m.p.h. After this he settled down to make havoc of the long-distance records, and started by capturing the fifty miles, which he covered in 43m. 55⅖s. (68.03 m.p.h.). In the hour he covered 65 miles 394 yards, his average working out at 65.22 m.p.h., and he finished up with the 100 miles record, which was covered in 1h. 39m. 40⅕s., average 60.19 m.p.h.

This is the first sidecar machine to accomplish 100 miles in under 100 minutes. The weather conditions were fairly good, but a strong south-westerly wind was blowing all the time.

Just before the hour record was completed, tyre and chain trouble was experienced, which naturally lowered the speeds. Altogether three chain breakages occurred, the last occasion occupying over six minutes, as it occurred some distance from the timing box. The machine was travelling just as fast during the last part of the record run as at the outset.



The first sidecarist to cover one hundred miles in less than a hundred minutes. H. Le Vack on his record-breaking Indian.

This performance is one of which the Hendee Manufacturing Co. may be justly proud. It reflects great credit on the prowess of the rider, the excellent tune of the machine, and its ability to stand up under such strenuous conditions.

The previous best performances were: Class 1, for motor bicycles with sidecar of which the cylinder capacity does not exceed 1,000.—Flying km., May 17th, 1912, G. F. Hunter (Zenith-Jap), 30.76s., 72.72 m.p.h.; flying mile, May 17th, 1913, F. W. Barnes (Zenith-Jap), 51.35s., 70.1 m.p.h.; flying five miles, D. R. O'Donovan (Norton), September 22nd, 1915, 5m 6.2s., 58.78 m.p.h.; ten miles, July 17th 1920; E. C. Baragwanath (Zenith-Jap 9m. 48s., 61.22 m.p.h.; fifty mile October 18th, 1913, E. B. Ware (Zenith Jap), 53m. 25.4s., 56.50 m.p.h.; 100 miles July 12th, 1920, J. D. Marvin and J. O'Sullivan (Harley-Davidson), 1h. 53m 1.4s., 53.09 m.p.h.; one hour, October 18th, 1913 E. B. Ware (Zenith-Jap), miles 542 yards, 56.30 m.p.h.

Thus many long-standing records have been beaten as well as some of recent date

CLUB NEWS.

A Motor Cycle Club in Eltham.

It has been suggested that a motor cycling club be formed in Eltham with a view to arranging sporting and other events for the forthcoming year. The proportionately large number of motor cyclists in this district would seem to warrant the step, and should ensure its success. Perhaps interested persons will communicate with Mr. C. N. Macarthy, 22, Crookston Road, Eltham, S.E.9, when a meeting will, if at all possible, be arranged, and the matter discussed if sufficient support be forthcoming.

Leeds and District M.C.C.

Fourteen entrants competed on a seventy-five mile course of moderate severity in the reliability trial held on November 7th. In spite of the very greasy surface on Greenhow Hill, the titbit of the trial, all starters finished, including Miss Spink, who rode a lightweight Triumph. Results: 1 (gold medal), W. Backhouse (4 Triumph), lost 5 marks; 2 (silver medal), S. Jepson (6 A.J.S. sc.), lost 7 marks; 3 (bronze medals), M. Hardy (8 Enfield sc.), lost 11 marks, which was the number also lost by P. Ward (8 Matchless sc.).

North Wales M.C.C.

The old crock hill-climb, organised by the above club, was held on Moel Parc Hill, Avonwen, on Thursday, November 4th. The machine used was an old New Imperial, kindly lent for the occasion by the president, Mr. W. Edwards, Denbigh. The machine proved not so much of an "old crock" as was expected, for, to the astonishment of all, after many failures, three competitors actually took the machine over the top, which was at first considered beyond the capacity of the machine. To find the winner, each competitor was given one attempt on top gear, with the result that the club gold medal is awarded to A. J. Thomas, Preswylfa, Denbigh.

Cambridge University M.C.C.

A very successful hill-climb was held by the C.U.M.C.C. at Croydon Hill on Saturday, November 6th. A fast and slow flexibility test on the hill gave the following results on formula: 1, H. Howson (3½ Norton); 2, G. Rea-Arm (7-9 Harley-Davidson); 3, G. A. Jenk (7-9 Harley-Davidson). Also a fast hill climb with varying classes: Unlimited solo.—1, E. G. Saunders (7-9 Indian); 2, A. S. Brereton (7-9 Harley-Davidson). Under 600 c.c.—1, E. Reed (3½ Sunbeam); 2, J. R. Thomson (3½ Norton). Under 350 c.c.—1, S. J. Basse (Douglas); 2, J. L. Giles (2¾ Omega). Sidecars.—1, R. North (3 A.B.C. sc.); B. A. Hall (4 Triumph sc.).

Club News.—

The Western Centre A.C.U.

In our report of the recent team trial amongst clubs with the A.C.U. Western Centre (when, as reported in our last issue, no one succeeded in making a non-stop performance) the results announced transposed the mileages achieved by A. King-Smith and P. Grout, which were 2.9 and 15.8 miles respectively. This did not affect the total of the Bristol M.C.C., however. The reserve rider who made up the Stourbridge team was J. M. Dosher.

Yorkshire Centre A.C.U.

A second meeting in connection with the above centre was held at the Great Northern Hotel, Leeds, on November 8th. Mr. J. Norman Longfield presided, and Mr. A. Walton (Leeds and District Motor Cycle Club) was elected treasurer *pro tem.* of the centre. Three new clubs were elected to membership, now bringing the total to eleven, as follows: Bradford, Ilkley, Leeds and District, Leeds Motor Union, Sheffield and Hallamshire, York, Doncaster, Dewsbury, Wakefield, Wombwell, and Keighley.

Mr. Longfield was unanimously elected delegate to represent the centre at the meetings of the A.C.U. at Olympia, and two resolutions were passed which will be of interest to other centres.

(1.) That the A.C.U. be asked to allot at least three open events for 1921 to the Yorkshire Centre. (2.) The A.C.U. be asked to allot all open events to centres only, and not to individual clubs, and that centres shall decide to which of their clubs in membership these events shall be given.

Mr. W. A. Dovener (secretary of the Bradford Motor Cycle Club) is hon. sec. *pro tem.* of the centre, to whom all correspondence should be addressed at 26, Beamsley Road, Frizinghall, Bradford.

West Kent M.C.

The West Kent Motor Club has absorbed the recently formed Bromley Motor Cycle Club, and, as a result, one is justified in anticipating a promising future for the club. The secretary will be pleased to meet intending members at either of the runs on November 28th, at 11 a.m., starting from the Bull Hotel, Chislehurst (a flexibility test), or on Saturday, December 11th, at 2.30 p.m.

West Birmingham M.C.C.

The prizes in the trial held on September 20th will go to the following. Best performance, S. Brand (3½ Indian), 29% marks; 1, over 500 c.c., H. J. Edwards (4¼ B.S.A.), 28%; 2, over 500 c.c., W. H. Scott (6 Zenith), 21%; 1, under 500 c.c., E. C. Iles (3½ Sunbeam), 7%; 2, under 500 c.c. E. Leek (3½ Rover), 3%; sidecar prize, J. Hamilton Ross (3½ Sunbeam sc.).

Barrow and District M.C.

A new club has been formed in Barrow-in-Furness by certain members of the local branch of the N.M.C.F.U. Application has been made for affiliation to the A.C.U. The secretary is W. A. Singleton, 144, Sutherland Street, Barrow.

Southport A.C.

This club's trial for the Blake challenge cup was run off on Saturday last over grass-grown tracks and included a sporting hill climb in the quarry district of Parbold. Out of sixteen starters only five finished, the winner of the cup being E. C. Eckroyd (Triumph). T. Picton (Sunbeam) took the White cup.

A Sports Model Royal Ruby Lightweight.

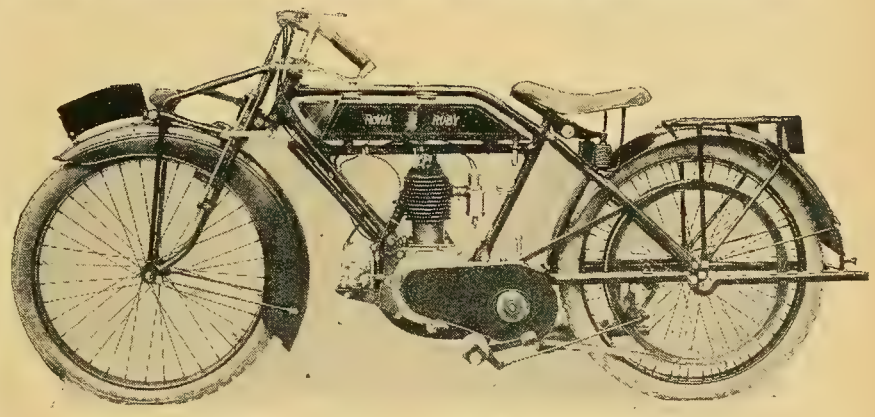
Weight Reduced and Rigid Frame Adopted to Provide a Light and Simple Machine.

HITHERTO the Royal Ruby machines have been fitted with a completely sprung frame, but a new model lightweight with a rigid frame will be placed upon the market during 1921.

This machine largely conforms to the specification of the spring frame model which was exhibited at Olympia last year, but it has been designed specially to appeal to the sporting rider who is prepared to sacrifice a certain amount of comfort for a decrease in weight with the corresponding possibility of obtaining greater speed.

The main frame follows conventional lines, but it embodies the Royal Ruby patent safety stays, which eliminate all chance of a fracture of the front down tube. The spring forks also are of similar design to those used on the spring frame model, and embody the same laminated and adjustable system of springing.

Engine and gear box are the same as those used in the spring frame models, the engine being a 3 h.p. single-cylinder four-stroke, and the gear a two-speed countershaft box with clutch and kick-starter. Both these components are manufactured throughout in the extensive works of the makers at Altrincham, Manchester.



A new sports model 3 h.p. Royal Ruby. It differs from the standard production in the elimination of the spring frame and the substitution of footrests for footboards.

In place of the footboards of the standard model, footrests are fitted and semi-T.T. or up-turned handle-bars may be had as desired. The equipment and finish are excellent, and in every way come up to the high standard which has been set in all the products of the makers.

CURRENT CHAT (Continued from p. 595.)

Subscriptions Go Up.

Both the A.A. and the A.C.U. have raised their subscriptions. The latter is now £1, but there is no entrance fee, while motor cycle membership of the A.A. will henceforth be £1 1s., with an entrance fee of 10s. 6d. for new members.

London-Exeter Run.

Thirty-seven entries have been received for the M.C.C. annual Christmastide run to Exeter and back. As already mentioned, Peak Hill is to be included on the outward journey, and those who are not familiar with this hill will be interested to know that a warning board at the top announces that the gradient is 1 in 5. It is doubtful if the hill averages this gradient throughout its length.

Flexible Sidecar Connections.

An exceedingly interesting development in connection with sidecar attachments is the subject of a provisional patent by Mr. W. F. Grew and E. J. Hardy and Co., Ltd., of Coventry. Briefly, the Hardy patent flexible coupling, which is largely used on cars, has been interposed in the connections between the sidecar and the motor bicycle.

Economy.

Recently the makers of the Levis two-stroke motor cycle tested two of their machines for petrol consumption over a give and take course approximating twenty-five miles. One machine was standard in every respect, and, with the rider, weighed 252 lb. Its consumption worked out at the rate of 164 m.p.g. The other mount had a specially tuned carburetter, and, with driver, weighed 281 lb., yet the mileage was equivalent to 226 m.p.g. These figures are contained in the report issued by the A.C.U.'s engineer, who officially observed the test.

LIGHTER LIGHTWEIGHTS

A Consideration of Commercial Possibilities in Design.

IN January next motor cycles will be taxed on the basis of weight alone, and 200 lb. has been chosen as the figure which is to form a dividing line between lightweights and—other machines.

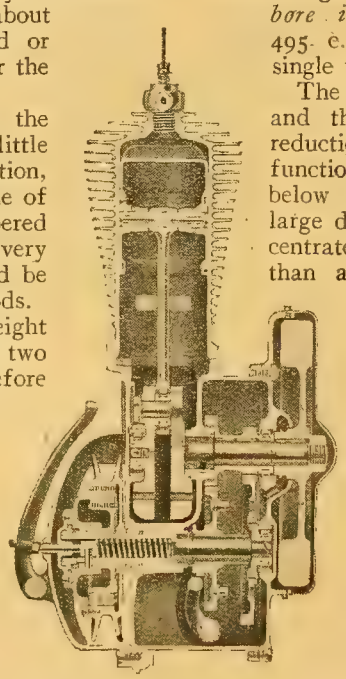
Now, there are very many machines which hover on this elusive borderline, and it behoves us to study the question with considerable care. Not only is it undesirable under any circumstances to carry about unnecessary weight, but an extra pound or two may cost us 30s. extra in taxation for the year 1921.

By the time a motor cycle reaches the private owner there is—or should be—little to be done in the way of weight reduction, so that the question resolves itself into one of design, and even here it must be remembered that the factor of price will have a very definite bearing on sales, so that it would be unwise to recommend unduly costly methods.

There are very few parts of a lightweight motor cycle where more than a pound or two can be cut away with impunity, and therefore we must be content with the example of the modern battleship, and cut ounces wherever possible.

Single or Multi Cylinder?

Perhaps the easiest way of explaining how weight can be reduced is to start with nothing but standard accessories, and see where improvements can be made without materially increasing costs. Many variations will occur to our readers, and it should be explained that the specification is intended as an illustration only, and not as a hard and fast description of the "ideal machine."



Only five gear wheels are necessary in the Clyno engine and gear box unit including the magneto drive.

To begin with, let us take the power unit and transmission, which should undoubtedly come under the same heading, since it is possible to save a considerable amount of weight by combining the two and saving extra fittings.

In spite of the fact that we are dealing with lightweights only, the type of engine is so largely a matter of opinion that it is impossible to dogmatise on this point; let it suffice to say that a two-stroke should always be lighter than a corresponding four-stroke, and a twin or multi-cylinder engine should be lighter than a single of the same capacity, *provided that the bore is not too small.* (The four-cylinder 495 c.c. F.N. was lighter than the average single with countershaft gear box.)

The flywheel is the heaviest unit of the engine, and therefore affords most scope for weight reduction, but it is required to carry out certain functions, and therefore it must not be cut below certain dimensions. Since, however, a large diameter flywheel with all the weight concentrated in the rim is very much more effective than a wheel of smaller radius, but similar weight, it is obvious that much can be gained by increasing flywheels to the maximum practical diameter.

Flywheel Sizes.

Nearly all two-strokes and many lightweight four-strokes already possess outside flywheels, but in some cases the rim sections are narrow and deep rather than wide and shallow. Plain bearings are very much lighter (and, incidentally, cheaper) than ball or roller bearings, and though I have no wish to decry the use of ball and roller bearings, which have done so much for the modern motor cycle, good cast iron or phosphor bronze bearings working on hardened and ground pins, and reasonably lubricated, will provide most excellent results. Reciprocating parts must obviously be as light as possible, for not only do heavy parts affect bearing wear adversely, but also they necessitate extra balance weights. Two small points which save more weight than would appear at first sight are the inclusion of the magneto platform

Lighter Lightweights.—

on the crank case casting, and a carefully laid out gear drive for the magneto. In this connection the little Clyno two-stroke is an admirable example of what can be done in this direction, for the whole engine and gear box contain but five gear wheels, including that on the magneto itself.

The Unit System.

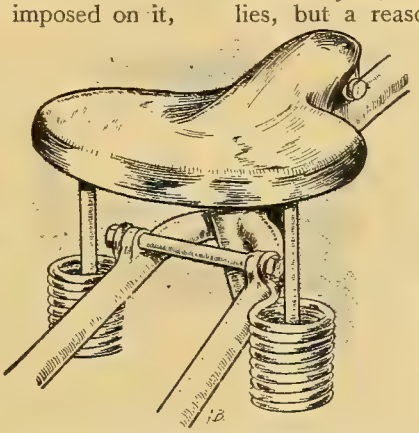
If a clutch is to be included in the specification it should be placed on the engine shaft for preference, since, in this position, it revolves faster and can consequently be made smaller and lighter than a countershaft clutch.

The combined unit engine and gear box, which is becoming standard practice on continental motor cycles, is obviously lighter than the two-unit job, since extra cradle plates and anchorages are avoided, and one wall of the gear box will serve also as part of the crank case. A difficulty arises over this point, due to the provision for chain adjustment, but if the chain is reasonably short, up to the loading imposed on it, and thoroughly enclosed *in an oil bath*, it is doubtful if such a provision is necessary. The unit system renders the enclosing of the chain particularly light and simple, and might, with advantage, be used more frequently.

It goes without saying that gears should be designed for the loading imposed, and not with the idea of being embodied also in larger engines.

Frames.

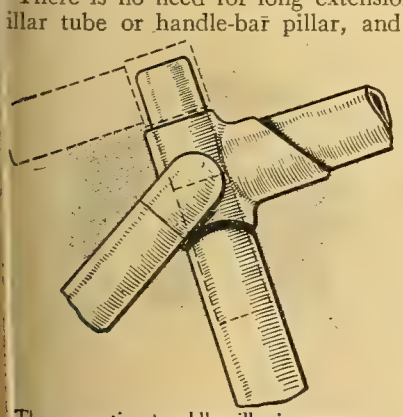
Without deviating from conventional lines, frames can be lightened considerably, though to save the maximum possible weight an unconventional frame might be advantageous.



Anchoring the saddle directly to the frame, thus dispensing with a saddle-pillar saddle frame and swivel clips.

To begin with, all frame tubes should be straight, since sudden bends necessitate liners or heavy gauge tube. Next, brazed joints can be improved and lightened if the lugs are cut off at an angle after machining, and thirdly, all clip and bolted joints should be avoided, since they entail either weight or weakness.

There is no need for long extensions on the saddle-pillar tube or handle-bar pillar, and the former may be replaced by a lug on the top tube, to which the nose of the saddle may be pivoted, while the saddle springs could be anchored from the back stays.



The conventional saddle-pillar is unnecessarily long and may be replaced by a short straight tube.

Clips should be avoided like the plague, and all necessary accessories should have their fixings brazed or welded in position. As long as motor cyclists persist in using the carrier as a passenger-carrying attachment it is presumably unwise to lighten this fitting; but if the usual pannier tool bags be replaced by a single tool case on the top or saddle tube, and the carrier be retained for its original object (*i.e.*, for a reasonable quantity of baggage), quite a saving might be effected.

Types of cut-away lug which save weight and improve the joint

Where Weight Pays.

No attempt should be made to save weight in wheels, tyres, or mudguards, since that way trouble lies, but a reasonable economy would be the provision of a maximum of four nut sizes throughout the machine, which would save considerable weight in the tool kit, since two double-ended spanners and a first-class screwdriver should be all that were necessary to undertake the complete assembly of any part.

No mention has been made of the use of special materials or unorthodox designs, since these are apt to lead to costly, and sometimes unsatisfactory, experiments. It is, however, certain from existing knowledge that a considerable saving in weight could be effected at a comparatively slight extra cost if special steels and modified designs were used in certain parts. Here, however, is a chance for the recently formed Research Association, which, it is to be hoped, it will seize at an early opportunity.

Some readers will consider that the details mentioned in this article are too trivial to merit so much attention, but I would remind them once again of that extra 30s. annually, and of the fact that it is largely through correct detail that perfection is attained.

UBIQUE.

A Guide to Olympia.

Next Week's FORECAST NUMBER.

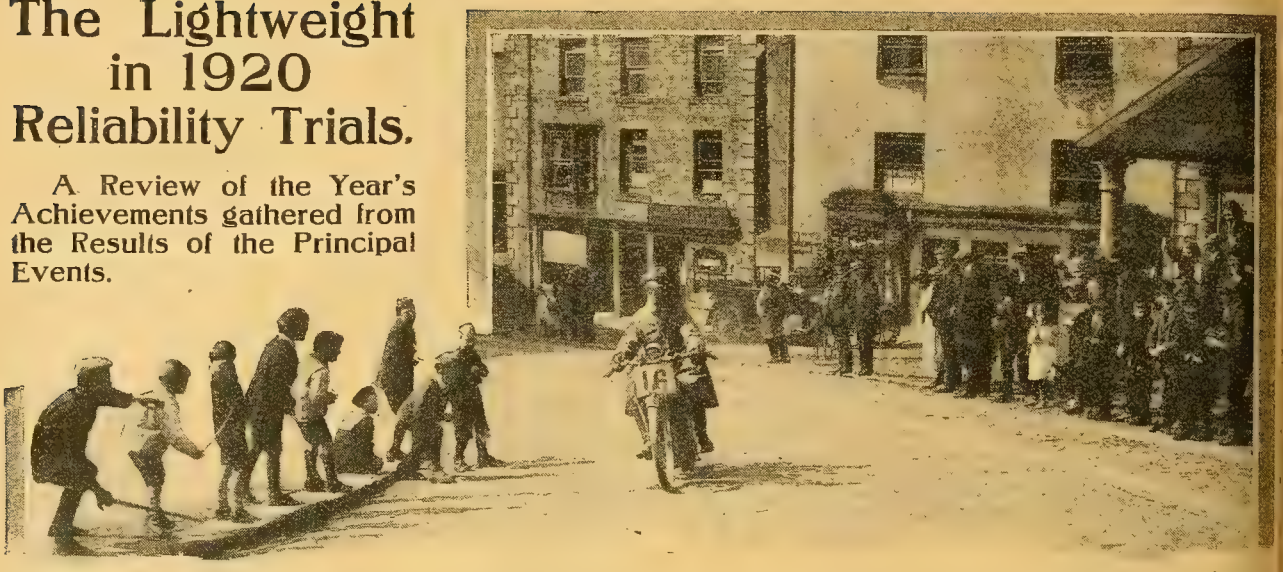
Second Enlarged Show Issue of "The Motor Cycle," dated Thursday, Nov. 25th.

A comprehensive forecast of the machines which will be exhibited at Olympia. Advance particulars of the motor cycle exhibits, and full instructions as to how to get to the Show. Fully illustrated.

In addition to the usual and well-known features, MANY SPECIAL ARTICLES are in course of preparation.

The Lightweight in 1920 Reliability Trials.

A Review of the Year's Achievements gathered from the Results of the Principal Events.



THE year 1920 has been one of exceptionally severe trials: freak hills and boulder-strewn gulleys often causing them to be more productive of protests than prizes. Indeed, the whole future of reliability trials hangs in the balance on account of this very sevrity, which throws the skill of the rider into undue prominence. But reviewing them now from afar it must be acknowledged that they have had at least one useful purpose, apart from the stock claim of "improving the breed." They have demonstrated to an extraordinary degree the capabilities of the lightweight: so much so, indeed, that many now consider that this type, solely, will survive as the ultimate solo mount.

Types of Lightweight.

The term lightweight, if taken literally, nowadays is occasionally somewhat of a misnomer: here are included all machines under the conventional 350 c.c. limit, but it is worthy of note that some of the more pronounced successes were registered by miniatures of 211 c.c. and 250 c.c.

Early in the year this was indicated, when the running of the little James and Levis two-strokes in the Colmore Cup Trial was so favourably commented on; and although neither make succeeded here in lifting a special award in competition with the heavier mounts, both probably caused riders of the latter furiously to think. Then came the Victory Cup Trial, and, repeating the 1919 success, when a Levis secured the chief prize, a small machine (a 2½ h.p. Diamond this time) gained the premier award from a field of 165, including most makes and types of machine.

A competitor on a 2¾ h.p. Wooler, in the London-Edinburgh run, leaving Ambleside for Kirkstone Pass, which was surmounted by most of the lightweight entrants.

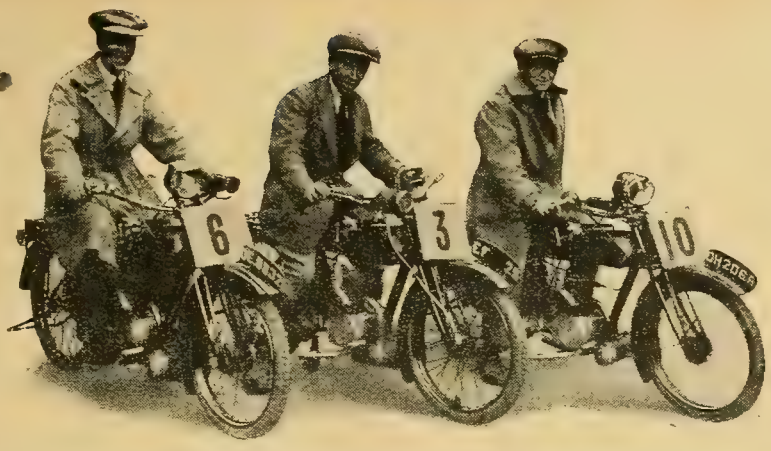
There has been a tendency of late years to regard the classic London-Edinburgh run as an annual joy-ride where a "gold" was but the recognised barter for an entry fee; but this year the inclusion of Kirkstone Pass considerably upset this comfortable viewpoint. Therefore, the presence of a genuine lightweight, the Levis, amongst the only six firms to gain 100% success is an excellent tribute both to the type and to Messrs. Butterfields, whose product, a pioneer in its way, has done incalculable good in removing public prejudice against small machines.

Although not a reliability event in the popular fancy, the T.T. is actually the most strenuous trial of the year, and R. O. Clark, on the 2¼ h.p. Levis that gained *The Motor Cycle* Cup, probably did more than ever before to remove last lingering doubts as to the staying powers of the microscopic two-stroke engine.

"Freak" and Genuine.

With a 350 c.c. engine another make, the 2¾ h.p. Wilkin, driven by its designer, G. W. Wilkin, made an outstanding performance in the Ilkley Trial, an event which was frankly a "freak" event, and which, according to many of the entrants, was the most "impossible" of all such competitions. One of the very few first-class certificates went to this machine. Close on the heels of the Ilkley scramble came the Scottish Six Days, which is recognised as the most "honest" test of the year. And here the little Clynos showed that Scottish passes are nowadays no more a deterrent to the two-stroke than to its heavier 3½ or 8 h.p. brothers. In fact, the weight of the latter is sometimes an awkward factor on "tricky" routes.

Lightweights in 1920 Reliability Trials.— Although outside the trials classification in the strictest sense of the word, mention must be made of the attempt by the Ivy people in July to prove that their 350 c.c. two-stroke engine maintained its power even after a long period of heavy output. They demonstrated this by making twenty-five consecutive ascents of the Old Wyche, and later by fifteen ascents with side-car and passenger. A notable performance.



The Velocette team are naturally all smiles after their outstanding success in a trial over 1,000 miles of the worst roads in England. They were placed third for the Manufacturers' Team Prize against all comers in the 1920 A.C.U. Six Days Trial.

A Fitting Climax.

But perhaps the finest performance of the year was that of the Velocettes in the A.C.U. Six Days Trial in August. For a team of three 220 c.c. two-strokes (the Velocette) to finish third for the Manufacturers' Team Prize is such a keenly contested and severe competition, conclusively proves that a lightweight may be made that justifiably deserves the title of "go-anywhere mount." The 2¾ h.p. Wilkin again did well here: and also in that cinema stunt-like scramble, the Scott Trial, which followed. Indeed, the Six Days event this year was somewhat in the nature of a lightweight triumph. Although the basis of the awards was admittedly lower in the smaller capacity classes, two lightweight riders, B. Kershaw (2¾ h.p. Verus) and R. B. Clark (2¾ h.p. Coulson B) finished "+4" and along with the twelve other gold medallists in this class deserve great credit. Mention of the Verus reminds one of how consistently this machine has run throughout the season (and special awards, after all, are often a matter of luck or "stunting"). The same may be said of the O.K. Junior, with special emphasis on its moderate selling price, of the Royal Enfield, of the New Imperial-Jap, and, of course, of the ever-popular 2¾ h.p. Douglas,

Two riders of O.K. Juniors in the 1920 A.C.U. Six Days Trial. (Left) N. M. Hall on Keighley Hill, and (right) W. L. Handley, near Alston. These popularly-priced lightweights made a fine performance here, and also in the M.C. and A.C. Open Trial in October.

The Lightweight in 1920 Reliability Trials.—

although the latter machine has not been officially entered in many competitions this year.

Petrol Consumption Tests.

In a somewhat different category from the big endurance trials we have been dealing with, the petrol consumption test, albeit usually a closed club event, is valued by the general public, especially the non-motoring public, perhaps more than a purely reliability event. The economy of the lightweight usually brings it into prominence here, and some remarkably fine consumption figures, in some cases more than 200 m.p.g. for machines up to 2¾ h.p., have been recorded from time to time in our "Club News" pages.

Several trials lately were confined solely to lightweight machines, and one or two were really stiff tests (*e.g.*, the Birmingham M.C.'s trial for the Olai award, won by G. Kuhn on a 2¼ h.p. Levis): but, obviously, they must be disregarded here, for in each case a "lightweight success" was the only possible result.

This review by no means exhausts the roll of honour of the lightweight—practically every 1920 trial, open or club, furnished some example of the smaller machine, if not beating, at any rate equalling, the field—but it touches the majority of the more important and therefore more difficult events.

If the general public scrutinise trials results and reports they need no longer be afraid of buying a "pup."

Lightweight Motor Cycling for Beginners.

A Few Useful Words of Explanation to those who Contemplate taking up the Pastime.

AFTER a few years of pedal cycling a man's fancy turns to thoughts of motor cycles. This state of mind generally attacks him when he is passed by a motor cyclist as he is slowly grinding away up his favourite "de-test" hill. Or if he be very young, possibly the idea is engendered by the impression he thinks he can create on his friends, especially on those of the pillion sex, to whom his new machine is bound to prove an irresistible attraction.

Whatever the reason, the fact remains that "he wants a motor cycle"—and means to have one. Now, various questions arise, regarding price to be paid, make and type of machine, new or second-hand, which combine to cause the novice some perplexity. Unless he happens to be one of those fortunate persons whose friends all own motor cycles, and so has had the benefit of their experience, or one of that still more fortunate class to whom money is no object—a little guidance on these points will be very welcome to him.

First and foremost the novice should consider the following points. For what use does he require the machine? Should it be new or second-hand? Two-stroke or four-stroke?

New or Second-hand.

Dealing with our first interrogation, does he want a machine as nearly like the old push cycle as possible, *i.e.*, a real lightweight of simple design and construction to ride to business daily and for short week-end runs into the country; or does he want a more powerful 'bus capable of exceeding the speed limit and suitable for all day non-stop runs, and which will have no objection to having a sidecar attached? Probably the beginner will decide that as it is only once a year that he would be able to enjoy to the full the advantages of the latter type, it would be useless having a heavier and more powerful (not to say expensive) machine, when his requirements will be fully met by the simple lightweight.

That point settled, the question of new or second-hand has next to be considered. In this case, expense is bound to be the deciding factor. A new machine is nicer and better, of course, than an old one, but, at the same time, it is quite possible to reduce the outlay considerably, and still obtain a machine in good order and condition, by looking out for a mount from one to three years old that has been well treated. Earlier machines can be purchased cheaper, but as they are usually in worse condition they are not such good value, and should be left alone by the novice. He will probably decide upon a second-hand mount "to learn on," with the ambition of exchanging it for a brand new machine the following year.

Other Details.

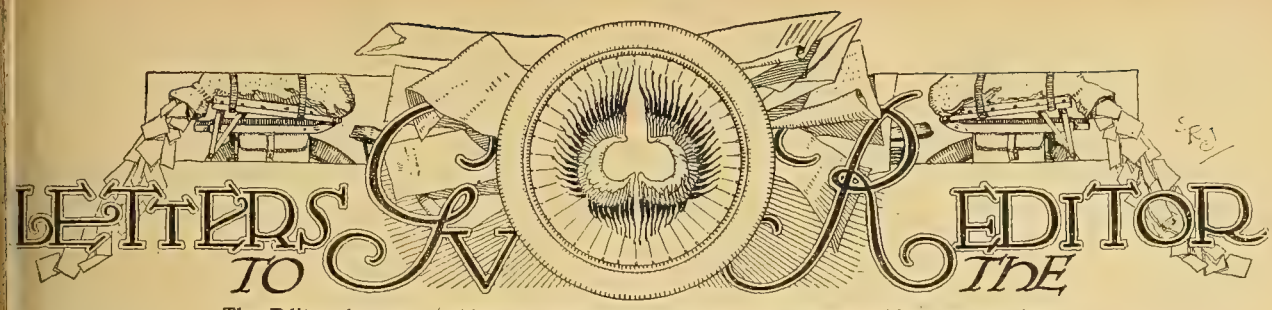
Now as to type—two-stroke or four-stroke engine, change-speed gear box or direct belt drive? The difference in the type of engine is mechanical—both will work equally well and give complete satisfaction. In the four-stroke engine the petrol gas is admitted to and permitted to discharge from the cylinder by means of mechanically-operated valves, which enable one explosion or power impulse to take place to every fourth stroke of the piston, that is to say, once every two revolutions. In the two-stroke engine there are no valves, the gas being admitted and ejected through holes or ports provided in the walls of the cylinder, which are opened and closed (uncovered and covered) by the travel of the piston. This enables a firing or power impulse to occur on every second stroke of the piston (once every revolution). Hence the names, two or four-stroke. Now the absence of valves means the absence of attendant valve gear, and the result is that the two-stroke is a much simpler and lighter engine than its fellow, having fewer parts to need attention.

As regards gears, here we must be guided by the physical condition of the rider. For the active man the single speed is perfectly satisfactory, especially with a two-stroke engine, but if the rider does not want to run and jump on, or even to paddle off, and wishes to be certain that no hill will ever be too much for his mount, then he should go in for a two-speed model fitted with clutch and kick-starter. This will enable him to sit on the saddle and glide away, uphill or down.

But we will suppose that our novice (as a cyclist being fairly active) decides that a single-speed two-stroke lightweight will meet his requirements. A machine of this type is the essence of simplicity.

The minor details incidental to one's first machine will soon be overcome, and he will be the proud possessor of a means of easy and economical locomotion—the enjoyment and exhilaration of which will exceed his greatest expectations.

R. BUXTON.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

THE W.D. PONCHO COAT.

Sir,—In reply to your correspondent, Mr. H. F. Birt, who enquires, in your issue of November 4th, whether the W.D. poncho coat is now obtainable, I recently purchased one of these from Messrs. Jones Bros., of Holloway Road, London, N., who deal extensively in ex-W.D. stores.

Withington. HOPLITE.

BABY ON TOUR.

Sir,—Having read the letter of Mrs. R. J. Carter on "Baby on Tour," I decided that I would write you *re* our own child. She began coming with me in the sidecar at the tender age of six weeks. She was five years old in August this year and up to writing baby's mileage works out at 15,000 miles. When she was very young, and nothing would induce sleep, she would be wrapped up, rushed through the air for half an hour, coming home simply snoring. So we can recommend motor cycling for *all* babies. She asks the boy each Friday morning for *our Motor Cycle* book, and talks motors whilst sat on the ever glorious road. Our steed is called by girlie "dear old Jimmy" (James). The only precaution I have ever taken against the wind (we have no windscreen) was advised by a medical friend, viz., a veil over the eyes.

Wishing your paper every success,

(Mrs.)—J. J. HOLDCROFT.

TWO-STROKE STARTING TIP.

Sir,—The following little device for rendering the starting easy on a two-stroke fitted with a B. and B. carburetter, and running on the petroil system, may be of interest to some of your readers.

Obtain a short length of black garter elastic, ¼in. wide, and make a ring to slip on the dome at the end of the extra air inlet so as to cover the holes cut therein.

It will be found that the very rich mixture thus obtained will start the most obstinate engine in a few yards.

As soon as the engine four-strokes, engage the top gear, when it will resume two-stroking for a short distance, but will quickly four-stroke once more. When this occurs, remove the elastic ring, and place it on the handle-bar grip, where it will remain quite out of the way and almost invisible until it is again required. D.L.

Chelsfield, Kent.

WHERE ARE THE OLD 3½'s?

Sir,—I read with interest the description in your issue of October 21st of how modern machines in skilled hands failed to conquer Chalk Pit Hill.

I first encountered this hill (I had never heard of it before) when cruising round one afternoon in 1914 on a touring single gear fixed engine 1909 Triumph. Charging up the unknown one with my touring ratio of 4¾ to 1, I was, of course, pulled up at the sudden right angle turn. Returning 200 yards, I adjusted the pulley to a gear of 5¾ to 1, and was successful in reaching the summit without putting a foot to the ground. Admittedly, that was on a "summer" surface.

I notice your report says it was difficult enough to stand on the hill. It will interest all who saw the hill during this trial to learn that a certain squad training at Oxted in January, 1915, was daily marched up Chalk Pit Hill at 120 to 130 r.p.m.—timed. (The surface was not "summery" then. I was not in that squad.)

While training there I rode a 2½ h.p. Villiers-engined Royal Ruby, which never once failed to take Chalk Pit Hill on a low gear of 10 to 1 in mid-winter. E. M. WRIGHT.

BEATING THE PUNCTURE FIEND.

Sir,—The letter of "Never Again" is truly remarkable. During the many thousands of miles I have motored (with a sidecar) I am quite sure I have not averaged one puncture per 1,000 miles. There are only three possible explanations of his experience. (1.) He may be using absolutely unsuitable tyres. (2.) They may be fitted wrongly and used wrongly. (3.) He may be the victim of the most appallingly bad luck I have ever heard of, which quite obviously will not continue.

At a time when there is quite a definite movement to replace solid tyres by pneumatics on even heavy commercial vehicles, such as chars-à-bancs (because of their undoubted advantages in several directions), his opinions appear very strange.

I hold no brief for the puncture-proof tyre or tube, but since I fitted a puncture-proof tube to my back wheel (in a well-worn Dunlop outer cover) I have not had a single puncture—or rather, let me say, I have never had to blow up my tyre. U 11.

Leeds.

Sir,—To my mind, "Never Again," in his tirade against pneumatic tyres in your issue of November 4th, is unwisely complaining of his tools.

When I took up motor cycling in 1909, an experienced friend warned me to keep my tyres pumped decently tight, and to have my outer covers retreaded before getting almost down to the canvas, if I wanted to avoid punctures. This I did, and this is an almost certain puncture preventive, or else I have been exceedingly lucky. I have had three machines, the first a heavy four-cylinder solo, the other two sidecar outfits. I forget how many miles I rode the first before selling, but I never had one puncture. My first sidecar was equally successful, until I broke my own rules and used an outer cover which was badly worn. As a result I had punctures and a burst, got a new cover and had no further trouble.

On my present 8 h.p. outfit I have so far done only 3,700 miles, with no punctures at all in spite of the bad roads.

Of course, these precautions are not proof against flat-headed nails standing point up, but even these can be rendered harmless by the M.P. Puncture Preventer.

Personally, unless "Never Again's" alternative gives the same resilience and comfort as a pneumatic tyre, I, for one, shall retain my "air-bound wheel." C. TYERS.

Sir,—Having read "Never Again's" lament on the subject of pneumatic tyres, I should like to say that my experience has been very different. I use nothing but Palmers with Avon tubes, and have nothing but praise for both. Recently I ran from Edinburgh to Haverfordwest in South Wales, and did not touch a tool of any sort. This is on a home-made 'bus, including engine and wheels.

In conclusion, would it not be much better if "Never Again" were to slow up and render assistance, if necessary, than to "smile a superior smile"?

S. G. MASTERMAN.

TORQUE AND COMFORT.

Sir,—In answer to Mr. A. Newsham's letter in the issue of October 28th, in which he asks for opinions of readers as to the possibilities of the double-acting motor cycle engine, I beg to submit what, in my opinion, would be the most obvious defects.

A very desirable feature of a motor cycle engine is simplicity, but, unfortunately, up to now this cannot be claimed for the double-acting motor. An engine of this type

introduces a bottom end cylinder cover and piston rod, which involves a gastight piston rod gland. It is at this point that the rider would have trouble. The piston rod being exposed to the direct action of the flame would become carbonised, scouring of the gland and the destruction of the packing would follow, with an immediate loss of compression and misfiring on the piston rod side, thus destroying the only advantage the engine can claim (*i.e.*, more uniform torque). A very efficient method of cooling would be necessary, involving the cooling of the piston rod as well as the cylinder. Unless this was so, distortion of the piston rod would take place, this being due to the temperature changes in the rod.

It must be remembered that the same degree of uniformity of torque can be obtained in a single-acting two-stroke as in a double-acting four-stroke, and at the expense of a much less multiplication of parts.

Mr. Newsham does not say whether the engine he has designed is a double-acting four or a double-acting two-stroke. However, this letter is not intended to criticise the engine, as, in the absence of further information, it may be assumed that Mr. Newsham has foreseen and in some way guarded against these inherent defects; but this must not have been done at the expense of complications, or the disadvantages would outweigh the advantages.

Now, with regard to springing, it is my opinion that, no matter what perfection in uniformity of torque is reached, this does not in the least eliminate the necessity of springing a motor cycle frame. This is, and will remain, an engineering problem of importance. R. H. ARCHER.

AN ENTHUSIAST'S MINIATURE.

Sir,—I enclose a print of a miniature motor cycle which I finished in February last. I have covered about 1,200 miles, and it has given excellent results. The design is original, and a sound engineering proposition. (I have been managing engineering works over twenty years.) Details might be of interest to some of your readers who are looking for a job during the winter months.

A neat little machine constructed in the spare time of one of our readers. (See letter from "Mac.")

The frame is built up of light steel channel and angle sections bolted together; the only brazing about it is the usual type of cycle fork crown. Wheels, 20×1¾in.; wheelbase, 4ft.; height, saddle to ground, 27in. (adjustable); Brooks B130 saddle; engine, 1 h.p. Auto-Wheel, altered to ⅝in. V belt drive; lubrication, sight feed drip regulated by cock below small tank; minimum and maximum speeds, 3 to 24 m.p.h.; petrol consumption, 140 m.p.g.; total weight, tanks full (½ gallon petrol, 1 pint oil), 65 lb. It can be dismantled and packed in a box 26in. square, and reassembled in twenty minutes. MAC.

HAND SIGNALS ON GREASY ROADS.

Sir, I am very interested to see "Ixion's" remarks in his "Occasional Comments" on November 4th, with regard to hand signals whilst riding on greasy or wet roads. T is an important question, and one which, personally, I grea appreciate, as indeed must most other practical motor cycli who have given the matter any thought.

I am a daily and all-weather solo rider (Douglas 2¾ h. from Staines to Kew Bridge *via* Hounslow, Isleworth, a Brentford (which is a terribly trying journey on a greasy da and I certainly entirely agree with "Ixion" that it impossible on wet wood block roads (and tramlines) to move a hand from the bars for an instant in order to sig to other traffic without very grave risk of a bad skid sideslip.

If signals to other traffic are made compulsory, some eas operated signalling device worked from the bars will essential.

Incidentally, can "Ixion," or any other old timers, g any good hints for the prevention of skidding on greasy wo block roads or wet tramlines? These would be appreciat by DUGGIE.

Egham.

Sir,—I am under the impression that a very similar type road signal is being used to denote two different actions, a on occasion it is difficult to distinguish what is meant. Th are (1) the waving of the arm from rear to front, meani "come on," and (2) the usual "turn to the right" signal.

I was overtaking a lorry, which was slowly proceeding the same direction as myself, when I observed the driver slow and give me what I have above described as "the come o signal. On my coming on, and as I was about to pass hi he suddenly turned sharp right to proceed down the s turning. I was forced off to the right, and made an endeavo to proceed in his direction. I failed to get round and stru his radiator.

Afterwards, whilst giving me a lift to the nearest stati the lorry driver stated he had simply stuck out his arm denote that he was turning right, and although he had se me coming he imagined I should pass him on his inside.

The first thing he knew of my proximity was when crashed. Of course, he had complied with ordinary rd usage, and I had to admit I had misunderstood his signal. was, of course, doing more speed than the lorry—in fact, t accident was caused by my failure to distinguish between "wave, or come on signal" and the waving of "I about to turn."

Can anyone suggest more distinct signals? GARFIELD. North Kensington.

Sir,—May I ask you, in the interests of fair play a sportsmanship, to allow me space for a word of frien protest against a point in the otherwise excellent letter "B.Y.6617" on "Hand Signalling" in the issue for Nove ber 4th? I merely mention "B.Y.'s" letter as one of ma in which the same point has arisen, and instance it as "test case" as it were, and, I readily admit, a very m one.

There has unfortunately arisen a general mutual antipat between cyclists and motor cyclists, based on each s upon the bad manners of a section of the other. May I allowed to mention that as a motor cyclist and an engin I am keen on all appertaining to motors, and, on the ot hand, as a lover of sport depending on exercise and for m other reasons, am also a keen cyclist, and divide my sp time between the two pursuits. I also read regularly journals of both, and therefore am in a position to appreci impartially the views of both sides.

Although at the present time a great number of irresp sible and ill-mannered people are abroad on cycles, same remark applies with equal force to motor cycles. decent and sportsmanlike members of such famous cycl clubs as the North Road, Anfield, etc., as well as thousa of well-intentioned unattached cyclists, resent bitterly imputations of some motorists that to cycle is to be a c and equally the respectable members of motor cycl fraternities resent the idea of some ill-conditioned cycl that all men in goggles and overalls are "road hogs." Al all, there are good and bad in all walks of life, and to da a whole class on account of the misdemeanours of a co paratively small section of its members is, to say the le unsportsmanlike. I venture to suggest if motor cyclists cyclists were to halt by the roadside occasionally and change ideas, neither would find the other to be the u outsider he had thought him. I exclude altogether

'pedestrians on wheels" who, without thought or interest or their machines of either type, use them simply as hacks o save 'bus fares. It is among this class of "cyclist" and 'motor cyclist" that exist the black sheep who cause, hrough their ignorance and carelessness, the bad feeling etween the "genuine article" of either side.

ARTHUR G. BANKS,
B.Eng., A.M.I.C.E., Lieut., R.E.(T.).

ENZOLE-PARAFFIN MIXTURE.

Sir,—*Re* Mr. Sharp's enquiries in your issue of October 8th, concerning benzole-paraffin mixture, perhaps my experiences will be of value to him. I have tried various mixtures n all types of internal combustion engines, ranging from the ½ h.p. two-stroke to the 25 h.p. Mogul tractor. The results re interesting, since I find that the former, a petrol engine, annot be induced to run satisfactorily on pure paraffin, while ne latter, a paraffin engine, runs very efficiently on pure enzole. Proportionally as the engine gets larger, and slower nning, so will it burn a mixture containing more and more araffin without heating the induction system.

I find that the 2¼ h.p. two-stroke will run quite well on a 0% paraffin mixture, provided that the air given be about ⅓% more than with Shell 1.

As tractors are outside the scope of this journal, I will oceed to other motor cycles that I have experimented with. n old 4¼ h.p. Bradbury ran perfectly with a mixture of 33⅓% araffin, used with a 27 jet, and air lever full open for normal nning, closing it to about one-third open for hills. Simiarly with a B.S.A. with an Amac carburetter and 26 jet.

There is no need to multiply instances, as all my experiences to show that any four-stroke and most two-strokes will run a mixture containing not more than one-third paraffin with nzole, and not more than a quarter paraffin with petrol, ovided, *(a)* a reasonably small jet be used, *(b)* the air ver be used intelligently, and *(c)* (most important) the gneto timing be retarded about half a tooth and the lever elf retarded on the first symptoms of knocking.

It should be borne in mind that paraffin tends to detonate a hot engine, hence the retardation of the ignition; it o tends to destroy the lubricating oil, therefore slightly re is required. Note "*slightly*," otherwise sooted plugs ll result.

TRACTOR.

Bow, E.

NS MAGNETO.

Sir,—I do not think that any of your correspondents on s topic have referred to the Bolinder or semi-Diesel gine, and the principle of this engine probably supplies explanation of the "S.M." phenomenon. These engines generally of the two-stroke variety, and their designed mpression is probably in the neighbourhood of 250 lb. per uare inch, but there is no doubt that they will run at a ch lower compression than this, as they will go on runng when in a very bad condition. The charge is fired a red hot bolt in a hot bulb, originally heated by blowp and kept hot by the subsequent explosions. In the e of a motor cycle, the lower compression is compensated by a more combustible fuel of petrol and lubricating , which is fired by some red hot projection in the cylin-. I should expect the "S.M." condition to be brought by a combination of full throttle driving and copious rication. Old readers of *The Motor Cycle* may remember correspondence on "abnormal running" of four-cylinder N.'s, and I believe the explanation of this is practically same, even though they would respond to the magneto out. I often experienced, when running at full speed der favourable conditions (about 45 m.p.h.), a sudden and inite increase of 8 or 9 m.p.h., the only explanation of ich can be increased power from burning lubricating oil.

As a Scott rider, I am most interested in its performces in trials. We are so frequently hearing about the tt's prowess on hills, that I feel tempted to ask whether makers test their sidecar combinations on these mounnous roads, as it is all I can do to coax mine over ordinary in road hills, loaded with a ten stone passenger and a derate supply of luggage. My experience is identical h that I had with my four-cylinder F.N.'s. With a low r of 12-1, they would go practically anywhere, and so pressed was. I with their hill-climbing capacity that I ed a sidecar, only to find a peremptory demand for low r at every pimple. An "even torque" machine will do nders on a low gear, but they suffer badly from "fussiness," especially some twins which vibrate abominably at speeds over 12 m.p.h. on low gear. Petrol consumption has to be watched, and I feel that an 8 h.p. four-stroke would get me there faster with the same amount of petrol.

H. E. RENDALL.

ELECTRIC LIGHTING.

Sir,—Perhaps my experience of electric lighting may be of some use to others. I will commence with the accumulator. This should be of the 4 volt 40 ampère hour size, and must be constructed on the Fuller block principle, or, as an alternative, the elements should be cylindrical in shape, with the "positive" cylinder inside the negative, and insulated from it by a porcelain cylinder. This is a very reliable type of accumulator indeed, will withstand any amount of road shocks, and a "dead short" does not appear to harm it in the least, as I found, after discovering that a file which I had been using had found its way across the two terminals, and was too hot to handle with any degree of comfort. I have also dropped this accumulator on three occasions, the only damage being a bent lug, the cylinders not even shedding any trace of paste. This type of accumulator is manufactured by the Erith Battery Co., of Belvedere, Kent.

As regards the wiring, well, I have tried all kinds of "twin flex" and "C.T.S.," but I cannot find any to beat the brass armoured twin cable, supplied by the C.A.V. for cars.

The bulbs should be of the miniature bayonet cap type, with a spiral filament, of similar design to the filament used in the construction of the half-watt lamps, as I find the filaments shaped as an S will not withstand the vibration. I do not recommend the 2 volt pea lamps with the Edison screw First, because they are too fragile, and, secondly, the vibration has a tendency, in time, to unscrew them, thus extinguishing the light immediately the centre contacts part. For the head lamp an 8 watt bulb is advisable, and the side and tail lamps are quite sufficient when served by 2 watt lamps.

Now, as regards the layout, I am afraid your correspondent has not sufficiently grasped this principle, otherwise he would not complain of spilled acid, damaged shoes and skirts, etc. The ideal position for the accumulator is underneath the sidecar seat. The accumulator should be fitted with good fitting conical shaped rubber vents which have the glass tube with bulbous end passing through the centre, as an air release, and I can confidently state that it is absolutely impossible to spill any acid. I constructed a box for my accumulator, allowing a space of ¼in. on all sides, and after putting a layer of sawdust to the depth of ½in. in the bottom of the box bedded in the accumulator, by compressing the sawdust round the sides. The sawdust has a dual capacity. First, it acts as an insulator from road shocks; and, secondly, it absorbs any spilt acid. The accumulator is held in position by a brass strap, passing round the box, and bolted to the sidecar panels. The strap need not be a binding fit, otherwise it would be difficult to lift the box out of the sidecar when the accumulator needed recharging. To the lid of the box I have secured a small distribution board.

T.D.L.

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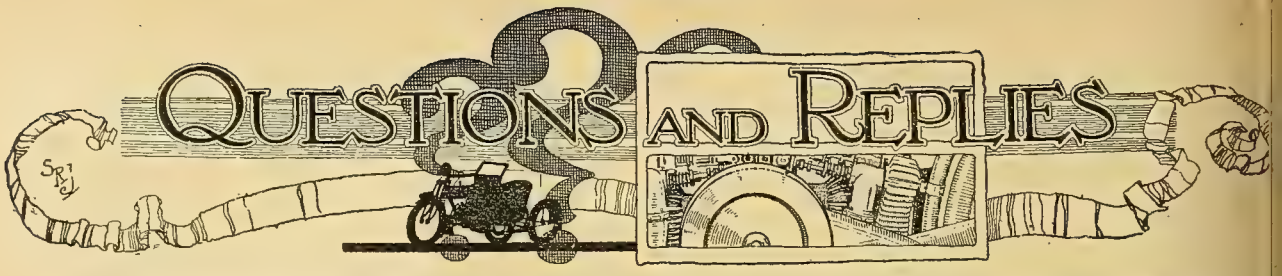

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

How to Change Gear.

What is the correct method of changing with a plain two-speed countershaft gear?—L.C.B.

When changing from low to high gear, throttle down the engine and lift the exhaust valve while moving the gear lever. When changing from high to low there is no actual need to lift the exhaust at all, merely throttle down a little and push the gear lever over quickly.

Building a Miniature.

Do you think an Auto-wheel engine, if properly geared, would be a success in a light motor cycle? Would it be powerful enough for ordinary touring? My weight is 10 st. What is the most suitable gear if a countershaft drive be used?—R.E.

An Auto-wheel engine would be quite satisfactory as the power unit for a miniature motor cycle, provided you do not expect extraordinary results from it in the way of hill-climbing. It should be geared about 6¾ to 1 or 7 to 1. It would answer quite well in moderately level or undulating country. We do not know of any countershaft gear which would be suitable for use in conjunction with it.

Accumulator to Dynamo.

I have an accumulator lighting set on my sidecar outfit, and have recently purchased a dynamo. (1.) Can you inform me how to wire up, using four lamps, separate switches except head and tail, voltmeter and ammeter? (2.) Is it absolutely necessary to have an automatic cut-out, or would an ordinary switch serve the purpose, provided one remembers to switch it off when the dynamo is not running.—F.A.V.

(1.) As you do not say what type of dynamo you have obtained, we cannot advise you upon its suitability for motor cycle use, nor can we give you any wiring diagram. Presumably, however, the lamps should be wired in parallel with separate switches on each circuit (it would be much better to connect the side and tail lamps in series on one of the circuits rather than have head and tail together as you propose.) The accumulator must be connected across the dynamo terminals if the dynamo is one specially designed for motor cycle use; it should not be necessary to have either a voltmeter or an ammeter. (2.) If the dynamo commences to charge at very low speeds, an automatic cut-out is not absolutely necessary, provided you remember to switch off as soon as the engine stops.

Valve Replacements.

(1.) I have made two valves of mild steel, and am going to case-harden them. Will they stretch so much as to prevent the valve properly closing? (2.) Also, my exhaust valve seating has worn nearly $\frac{1}{16}$in. below the top of the casting. Would it be advisable to turn down the top of the casting?—J.A.N.

(1.) The valves do not need to be hardened. Three per cent. nickel steel would be better than mild steel. (2.) If the exhaust valve seating is worn as you describe, it would be advisable to turn down the casting until the valve seating is level again.

IMPORTANT DATES.

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Dec. 10th - 19th—
Brussels Show.

Dec. 27th-28th—
M.C.C. London-Exeter Run.

Jan. 28th to Feb. 5th, 1921—
Scottish Motor Exhibition, Kelvin Hall, Glasgow.

Balance.

Will you kindly inform me: (1.) Whether a motor cycle engine should balance when at rest or not? My 3½ h.p. Rover requires 6 oz. opposite the crank on the rim to balance it; or, if I replace the piston by a weight which is about 16 oz. lighter it will then balance. (2.) Is power lost through a badly balanced engine?—C.E.C.

(1.) When the cylinder is removed the piston will invariably go down to the bottom of the stroke. Usually, in the balancing of single-cylinder motor cycle engines the balance weight (at the same mean distance from the main shaft as the crank pin) equals the total weight of the rotating parts plus half the weight of the reciprocating parts—that is, the weight of the big end, crank pin, and lower half of the connecting rod, plus half the weight of the remainder of the connecting rod small end, gudgeon pin, and piston. (2.) If the engine is incorrectly balanced power is lost, owing to excessive vibration. You can take it, however, that if the engine is as delivered by the makers it is suitably balanced, and it is not advisable to make alterations.

Taxation of Three-wheelers.

Will you please tell me what the tax on an 8 h.p. Morgan the present time and also what will be under the new regulatio next year? What is the diff ence on a 10 h.p. model?—W.J.A.

Under existing laws the Morgan (irresp tive of horse-power) pays the same tax a motor cycle, namely, 20s. annually, b the registration fee is 20s., as for ca Commencing January 1st, 1921, the t on the Morgan and similar three-wheel under 8 cwt. will be £4, irrespective horse-power.

An A.I.V. Flat Twin.

I have an early model Doug motor cycle in which all timi has been lost on overhauling (t timing wheels being inside t crank case). Would you be kind as to advise me what to do?—D.

As the inlet valves are automatic, y can disregard them. Set the exha valve of each cylinder so that it clo when the piston reaches the top de centre of the outward stroke. The ig tion should be timed, so that the cont breaker points just commence to separ when the piston reaches top dead cent of compression stroke with the magn control two-thirds retarded.

When to Decarbonise.

I want advice re my 2¾ h Omega-Jap. I am a novice, wi a four-stroke, and I only pu chased it (new) some five wee ago, and it goes perfectly, though at present the engine g exceedingly hot. I have complet about 600 miles, and have given excess of oil to run it in. Does t machine need decarbonising yet? L.C.B.

It would probably be advisable to dec bonise the engine if you have been ov lubricating, but under normal circu stances it should run 1,000-1,500 miles.

RECOMMENDED ROUTE.

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	£	s.	d.
Cylinders	3	17	6
Ditto, with valves complete	4	17	6
Piston complete	1	8	0
Rods complete	1	2	0
Fork Girders, each	1	12	0
Buttress Springs, each		8	6
Engine Pulleys complete	1	6	0
Exhaust Valves complete		9	0
Inlet		6	0
Valve Caps		4	0
Silencer, complete with long exhaust piece	1	0	0
Rubber Pedals		10	6

Practically every 1914 Part in stock.

PRESENT-DAY 4 H.P. TRIUMPH PARTS.

	£	s.	d.
Cylinders	3	17	6
Ditto, with valves complete	4	17	6
Pistons	1	8	0
Piston Rings		2	0
Exhaust Valves complete		9	0
Inlet		6	0
Inlet Valve Caps		4	0
Front Brake complete	1	12	0
Ditto, less the lever	1	4	0
Chain Sprockets		15	0
Renolds Chain	1	2	0
Brampton		16	0
Rear Stand	1	10	0
Hub Cups		1	0
Front Wheel Spindles complete		14	0
Back Wheel Spindle		15	0
Front Hubs complete	1	5	0
Rear Hubs	1	10	0
Front Wheel complete	2	5	0
W. D. Bars, with draw bolt and handles fitted, also Bar with slightly raised and dropped ends	1	12	0

Every Spanner in Stock.

2¾ H.P. DOUGLAS PARTS.

	£	s.	d.
Cylinders	1	15	0
Pistons complete		16	0
Valve complete		5	6
Rods		17	6
Engine Chain Sprockets		3	6
Renold's Driving Chain		12	0
Crankshafts	1	15	0
Complete Gear Boxes	7	10	0
Front Forks	1	15	0
Front Guards		12	6
Front Brake	1	2	0
Hub Cups, either right or left hand thread		2	6
Spindles		3	6
Back Carriers	1	2	6
Rear Stands		12	6
Handle Bars, T.T	1	2	0
Fork Springs		2	6
Back Stand Catches complete		2	0
Armoured Tool Bags, with two straps, or with lock and key, each		6	0
Tool Roll, with full set of spanners	1	2	6

4 H.P. DOUGLAS PARTS.

	£	s.	d.
Cylinders	1	15	0
Pistons complete		16	6
Valves complete		6	6
Valve Caps		2	6
Fly Wheel Chain Sprockets		4	0
Renold's Chain, per foot		7	0
Back Carriers	1	0	0
Side Carriage Chassis complete, less tyres and body	11	0	0
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Renold's Chain Rivet Extractors for ½″ pitch 6/-, ⅝″ 7/-, ¾″ 8/- each			
Bramptons ⅝in. x ¼in. Spring Link Chain, per foot		8	6
Brooks B170 Saddles	2	10	0
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½″ x ¼″ and 3/16″ Renold's Chain also in Stock.

"Jap" 6 & 8 h.p. Cylinders, Pistons, Con. Rods, & Valves in Stock. Front Chain Cases for Enfield 6 h.p.

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ALBION ENGINEERING CO., LTD.,
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(Patent applied for.)

An adjustable springing device.

A stoutly made and thoroughly tested Laminated Spring Seat Pillar for Motor Cycles.

PRICE 33/-

No alterations required, can be attached in a few minutes to most Rigid Frame Machines.

Write for leaflet and copies of testimonials if your Agent cannot supply.

E. H. DERRICOTT, 72B, Lozells Road Birmingham.

"RUST-PROOF DOPE"

for BRIGHT METAL PARTS.

"Corrosine" W. W. Glaze

has received the approval and recommendation of hundreds of motor owners since a casual reference was made to its reliability by "IXION." It is easy to apply, reliable, and no trouble to remove.

Supplied in 1/6 and 2/6 tins, postage extra

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Metal Cuttings and Preserving Compositions.

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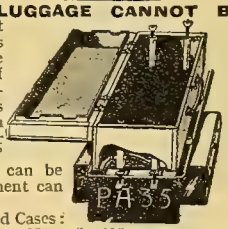
YOUR LUGGAGE CANNOT BE LOST.

Your luggage cannot be lost or stolen, if it is attached by means of "EACO" Security Equipment. There are no straps or other visible means of attachment, and yet the case is held perfectly secure and cannot be removed unless it be unlocked. It can then be detached with ease and celerity, leaving the carrier perfectly free for other uses. The "EACO" Security Equipment, can be made to any size required, or the equipment can be fitted by us to your own suit case.



Size of Standard Cases: C1, 15¾"×10"×6". C2, 18"×12"×6¾". C3, 22"×14"×6¾"

Prices: C1, £2 2 0. C2, £2 12 0. C3, £3 3 0.

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Don't be satisfied with less than the best, but demand **"SPEEDON."**

Sole Manufacturers:
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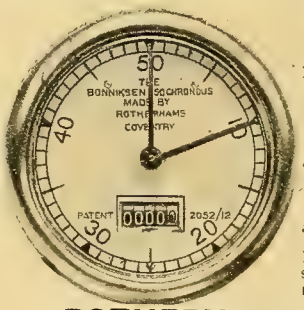

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Trip and Non-Trip Types for Motor Cycles, Cars & Cycle Cars.

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Trip.	Non-Trip.
£6 5 0 each.	£5 10 0 each.

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We are now delivering our 2-stroke Lightweight Motor Cycles fitted with Villiers' Engines, Burman 2-speed Gears, and made from the very best materials throughout.

Single-speed, 52 gns. Two-speed, 61 gns.
Two-speed, kick-starter, clutch control, 68 gns.

Send for Catalogue.

Further particulars from the makers. *Agents wanted.*

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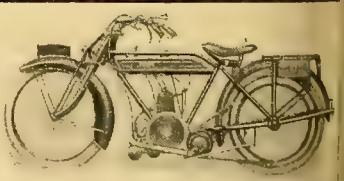

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Giving perfect protection to the driver, without in the slightest degree impairing the vision.

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CAN BE RAISED AND LOWERED TO SUIT ALL RIDERS.

Fixed on to the cross bar in a few minutes

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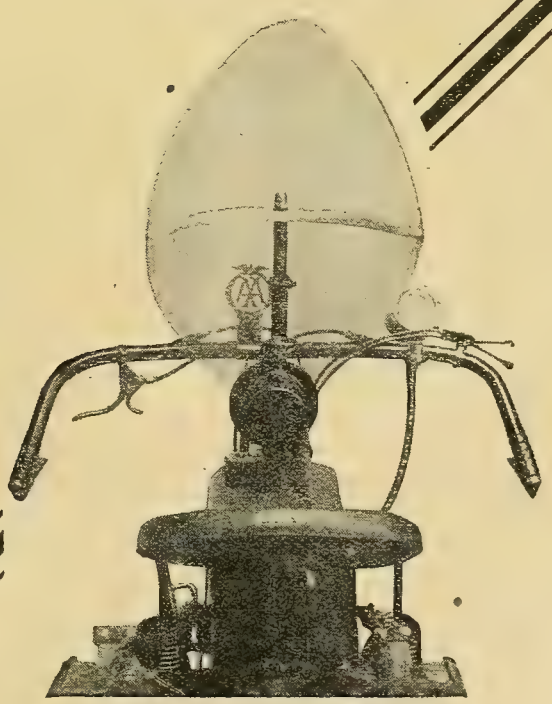

View from the rear of machine.

U-NEAD-IT

VULCANISING & PATCHING ABSOLUTELY SUPERSEDED.

No more burnt tubes or patches peeling off.

One Outfit (motor cycle size) 3/- will repair **50 PUNCTURES**

TYRE REPAIRS SIMPLIFIED.
NO HEAT OR TOOLS REQUIRED.
Makes a permanent repair to covers & tubes.

The filling material is a plastic compound, which on being pressed into the puncture with the finger dries very quickly, and makes a weld with the surrounding rubber of the inner tube. In the case of an ordinary puncture, the tube can be placed in the tyre and pumped up immediately after the repair, and the pressure of air in the tyre, and heat generated while on the road only results in further homogeneity of the filling compound. To deal with a cut in the outer cover, the same process of repair is gone through. The "U-nead-it" outfit is sold in motor cycle size at 3s., cycle size 1s. 3d., and a car size at 5s. 6d. Postage, 4d.
Stocked by all leading Garages & Stores, or from

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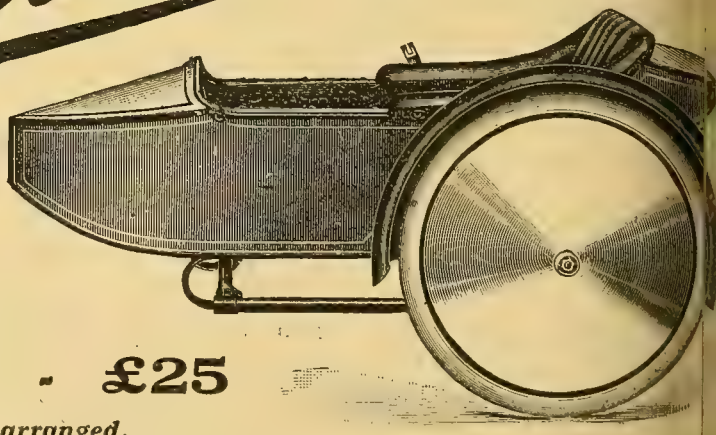
The Foxton

THE LAST WORD IN LUXURIOUS BODY BUILDING



CLASSIC SUPER LIGHT-WEIGHT Suitable for 2¾ h.p.
Regd. No. 671,273

TRADE SUPPLIED.

PRICE, Complete with TYRE - - **£25**

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Write for complete Specification. State your requirements and we will gladly quote yo

THE FOXTON SIDECAR CO.

Regent Park Road, Small Heath, BIRMINGHAM. 'Phone: Vic. 4

COULSON-B

MORE TRIUMPHS!!

9 World's Records!!!

¶ To its ever-lengthening list of successes, the Coulson-B now adds a special award in the Ballards Cup Trial, on October 30th, for best performance with 350 c.c. and Sidecar—this in addition to

15 Gold and Silver Medals,

and various other awards this season.

¶ In addition, for 350 c.c. and Sidecar, Coulson-B now holds the following 9 World's Records (Capt. M. C. Breese, at Brooklands, Sept. 2 and Nov. 4):

50 miles	...	average 40·95 m.p.h.
100 miles	...	,, 39·69 ,,
150 miles	...	,, 38·89 ,,
200 miles	...	,, 38·52 ,,
2 hours	...	average 39·62 m.p.h.
3 hours	...	,, 38·25 ,,
4 hours	...	,, 38·72 ,,
5 hours	...	,, 38·45 ,,
6 hours	...	,, 38·35 ,,

¶ Thus has the spring-framed Blackburne-engined Coulson-B demonstrated its qualities under the most strenuous and convincing tests.

¶ See riders' opinions reproduced herewith.

"Having ridden a Coulson-B Motor Cycle over 4,000 miles this season, including many severe trials over the worst roads to be found in the British Isles, I feel I must write you a line in appreciation of the excellent springing of the machine. I find I can ride fast over the worst surfaces without feeling that the machine is being shaken to pieces. Also luggage remains on the carrier and tools do not chafe through the tool-roll and wreck the toolbags, as is usual in unsprung machines. The absence of fatigue after a long run is very marked, and owing to its simplicity, the springing gives no trouble whatever. The tyres wear remarkably well, due no doubt to the absence of bouncing and wheel spin."

"I would add that your machine is 'the goods,' and I would not exchange for any other 2¾ h.p. on the market. The engine is a marvel and the springing a revelation."

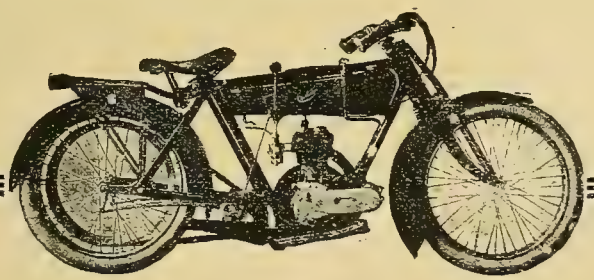
"The machine itself I am well pleased with; the engine is one of the best singles I have had, and the spring frame is admirably conceived."

F. Aslett-Coulson Engineering Co.

(Proprietors: Flightcraft, Limited),

168, Regent Street, LONDON, W.1.

Gerrard 356.



H.G.T. 11/11/20.

THIS INTERESTS ALL INDIAN RIDERS.

S. J. Redmond, Famous Indian Rider, 10/10/20, writes about

SPEEDWELL

"I used your oil when I won the 50 Mile Championship of Ireland at Magilligan.
I have used 'SPEEDWELL' all the Season for Road Work, and so have most of my customers. Bearing in mind how hard it is to please everybody, it is extraordinary to find a UNIVERSAL CHORUS OF PRAISE FROM ALL USERS.
THE ENTIRE ABSENCE OF ANY TENDENCY TO 'GUM UP' WHEN COLD is always commented upon. Something better MIGHT come along. Until it does I am 'Nap' on 'SPEEDWELL.'
On a test over a flying mile on the road some few weeks ago I used your ordinary Motor Cycle Oil, and clocked 76 miles per hour on my 3½ h.p. Indian."

SPEEDWEEL OILS are stocked at all leading garages. Insist on "SPEEDWELL," and get better results.

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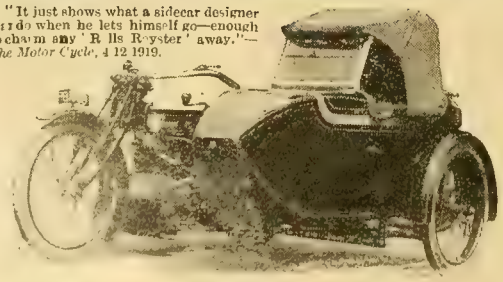
"It just shows what a sidecar designer can do when he lets himself go—enough to charm any 'Rolls Royster' away."—*The Motor Cycle*, 4.12.1919.



As fitted to the 8 h.p. Zenith. Auster Triplex screen, disappearing hood, £86/5

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'phone—Hamm. Smith 1606.

Read the following article on the combination by

F.N.

extracts from a 7 h.p. 4-cyl. F.N "A Motor Cyclist

IN THE

"Daily (Oct. 21st, 1920) Mail"

. . . . . .

"Recently I had a new 7-9 h.p. four-cylinder shaft-driven F.N for a few days, and I can only sum up my impressions after a ver critical examination by saying that it is an exceedingly fine motor cycl

. . . . . .

"Candidly, the splendid workmanship, the excellent materi and finish, and the lowness of price left me surprised at the remarkab industrial recuperation which had made this possible. When it remembered that the £205 charged for the machine and sidecar inclusive of the import duty, it makes one wonder still more how Briti makers are going to get trade with home manufacturing conditio as they are.

. . . . . .

"The F.N. is years ahead of anything else on the motor cycle mark at home or abroad. I cannot imagine anyone who has once tast the delights of shaft drive, the perfect transmission, and of a fo cylinder engine, ever reverting permanently to belt or chain, and t shaft drive is the cheapest transmission for wear."

We are exhibiting at Olympia, Nov. 29th to Dec. 4

IMMEDIATE DELIVERY.

Also 2½ h.p. single-cylinder, shaft drive, multiple disc clut 2-speed sliding gear, luxuriously fitted.

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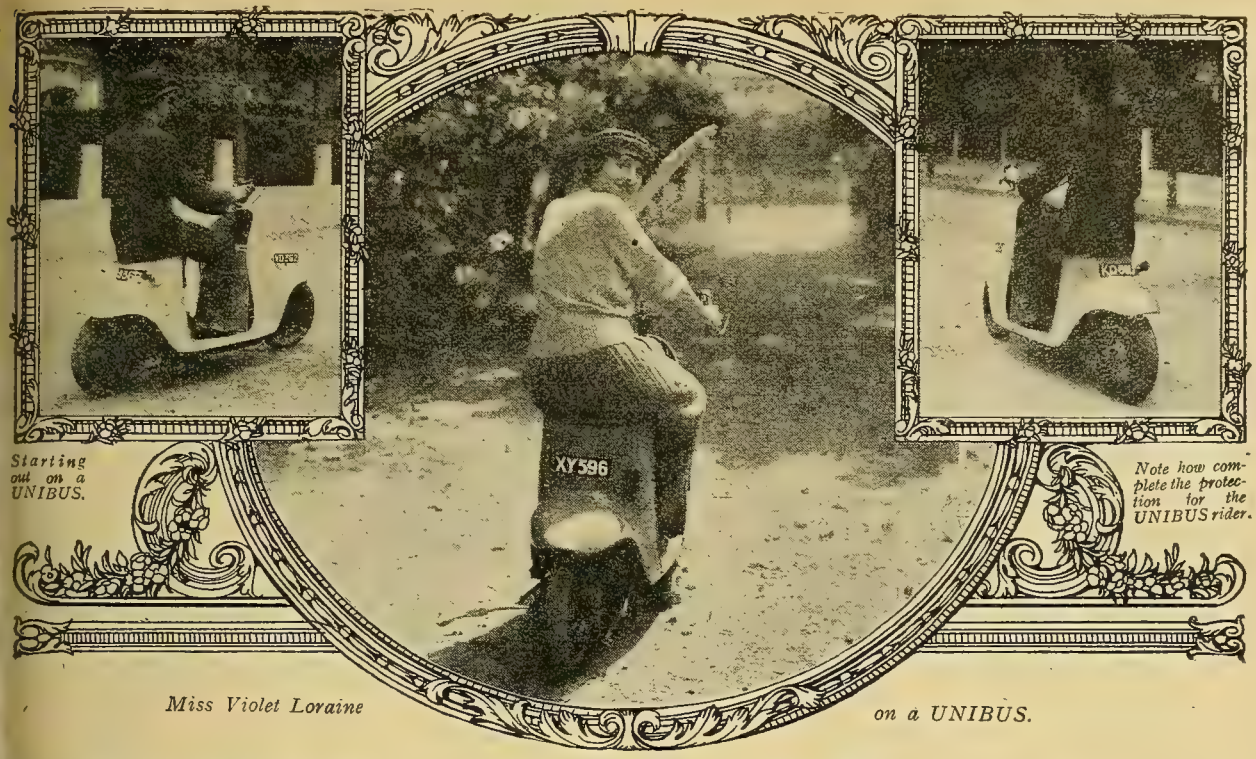

Starting out on a UNIBUS.

Note how complete the protection for the UNIBUS rider.

Miss Violet Loraine on a UNIBUS.

UNIBUS—the Ideal Runabout

TO see the UNIBUS is to want one.

One recognises in it the most useful solo machine that has yet been introduced to the public.

Car practice in design is followed throughout, and the UNIBUS runs without noise or vibration at any speed up to 25 m.p.h. over any road surface.

The rider is completely protected from oily engine parts and road splashing, so that there is no need to dress in motoring clothes — you *cannot* get muddy.

Mile after mile you may drive as comfortably and free from driving strain as in a very good car.

For long or short journeys the UNIBUS fulfils its purpose so completely that doctors and others find it indispensable.

You need a UNIBUS — get to know all about this car on two wheels.

MOTOR CYCLE SHOW
STAND 26
OLYMPIA

UNIBUS
THE CAR ON TWO WHEELS

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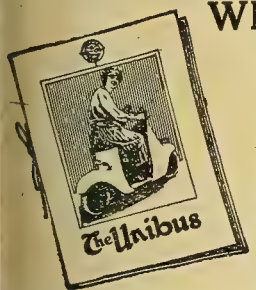

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The UNIBUS book is profusely illustrated in colours with reproductions of actual photographs. The joys of UNIBUS riding are fully explained and pictured, and complete information given as to its construction. Write for a copy from the Sole Concessionnaires: The Service Motor Co., Ltd.

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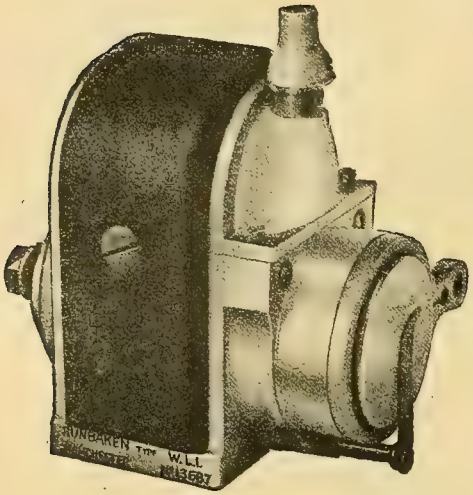

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TWO NEW MODELS.

The W.L.1.
For single cylinder engines up to 3 h.p. Weight 3½lbs. Spindle Height from base 35 mm. Can be supplied with a flanged base.

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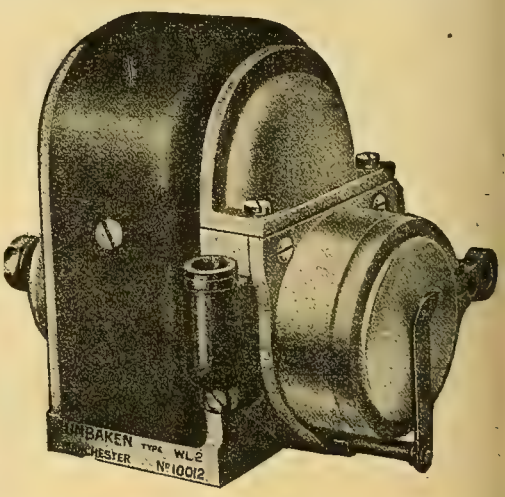
For 180° twin engines up to 4 h.p.; also for V twins. Weight 3½lbs. Spindle height from base 35 mm. Can be supplied with a flanged base.

Write for Booklet describing both Models.



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Don't be Silly and Neglect Insurance.

TWO GUINEAS A YEAR

isn't much to add to the price of your machine, but it may save you hundreds!

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"Ixion" knows how to keep dry!

"Finally I bought a first-grade suit of grey Oilskins made by Barbours "of South Shields, and found I could ride my 200 miles of a trial, "stand in a steady downpour through two hill-climbs per diem, sit on wet "grass banks when my legs wearied, and get into the hotel at night bone-"dry; moreover, if the oilies were hung up overnight in a wall-less "stable for the draughts to play around them, they were invariably bone "dry long before the first competitor got away next morning."

"Ixion," in his Occasional Comments—"The Motor Cycle."

Money back in full if they go sticky, leak, or fail on any point.

Beacon Oilskins

NEVER GO STICKY OR LEAK.

The Beacon Motor Cycling Suit will keep you as dry as it does "Ixion," and will enable you to drive all day against wind-driven Rain and Sleet without letting you get wet or chilled.

Black double lightweight Jacket with windcuffs, double fronts, and two roomy pockets, **30/-** Semi-buttoned Legging Overalls, **17/6**

SUIT COMPLETE (post free) **47/6**

In Bronze Grey—Jackets, **35/-**. Semi-buttoned Legging Overalls, **20/-**. Suit complete, post free, **55/-**; with Seated Trouser Overalls in place of leggings, **60/-** and **68/6** the suit respectively.

Prices given are for Jacket length 33". For 36" & 39" length please add 2/6 and 5/- per jacket respectively. Overalls: prices are for 28" to 31" inside leg, and for Seated Trouser Overalls up to 40" waist.

Postage Free U.K.; extra abroad. (Allow also extra time for special Seasoning of Overseas Orders.)

To order, kindly state colour needed, give jacket length, chest and inside leg measures, and enclose remittance.

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Send a postcard to-day for this Booklet of "Weather Comfort."

J. BARBOUR & SONS, Ltd., 26, Beacon Buildings, South Shields, England. (1)

O.K.-JUNIOR

NO LIVE AGENT OR KEEN MOTOR CYCLIST CAN AFFORD TO MISS OUR STAND

101

AT THE MOTOR CYCLE SHOW, NOV. 29———DEC. 4.

Where a full range of New Models will be on view, comprising:

2¼, 2½, and 2¾ h.p. SINGLE-SPEED
2½ h.p. PLAIN TWO-SPEED
2½ h.p. TWO-SPEED, CLUTCH AND KICK-STARTER

The prices will be in keeping with our policy of the past, that of giving genuine value for money.

EACH MODEL WEIGHS LESS THAN 200 Lbs.

THE O.K.-JUNIOR HAS PROVED ITS RELIABILITY IN OPEN TRIALS

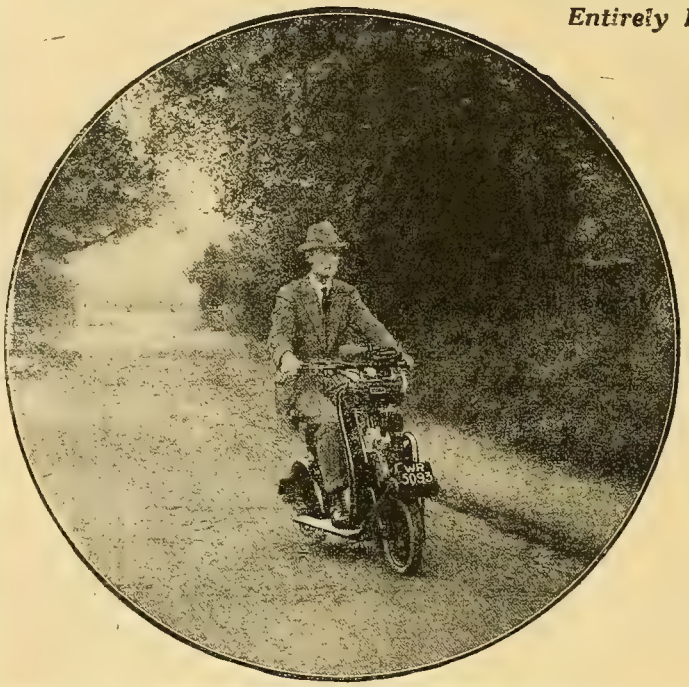
AND SOUND, SOLID PRODUCTION AT A PRICE HAS ONLY BEEN MADE POSSIBLE BY ADOPTING THE LATEST METHODS IN THE MOST UP-TO-DATE OF FACTORIES.

HUMPHRIES & DAWES, Ltd.

HALL GREEN WORKS BIRMINGHAM

1921 MACKLUM MOTORETTE

Entirely British.



"Sooner or later the lightweight open-frame machine will come. Of this we are convinced."

Vide "The Motor Cycle," Jan. 22, 1920.

Letter from customer: "The springing is wonderfully good; in fact, easier than any motor cycle I have ever ridden."

SHORT SPECIFICATION—2¼ h.p. Verus 2-stroke engine, Brampton spring chain, two band brakes.

PRICE - £60

For further particulars apply to the manufacturer:

F. MACCALLUM,
Guildhall Buildings,
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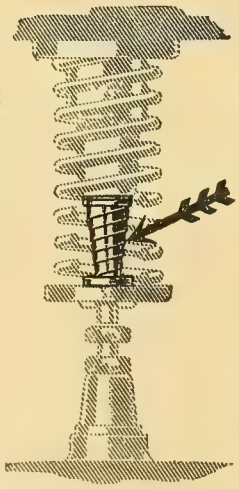
"FLEXEKAS"

Patent Applied for Regd.

"My brother is riding a 1919 2¾ h.p. Douglas, to which he has lat ly fitted a set of FLEXEKAS The im] rovement in the running of the machine is really remarkable she will start in her own length in top gear and can be thrott'ed down to six or seven miles per hour, still on high gear. We have not yet tes'ed the petrol consumption fully, but there is an improvement in this also. Perhaps the biggest differ-ence in running is the quietness of the entire valve mech-anism. I enclose 10/- postal ord r for a set of FLEXEKAS for my own machine."



An airtight flexible spring casing enclosing the valve stem and filled with special heat-proof graphite paste

2/6
EACH.

A notable advance in engine design which shou'd be fitted to all motor cycles old and new.

ECONOMY, EASY STARTING & SLOW RUNNING.

Prevents your valve guides wearing, stops air leaks absolutely, and permanently quietens valve clatter, and enables you to obtain perfect carburation in each cylinder.

No packing need. Nothing to wear out. Refill with "Flexekas" Paste (carton 1s. 6d.) when you overhaul—this is all the attention necessary.

State make and year of machine

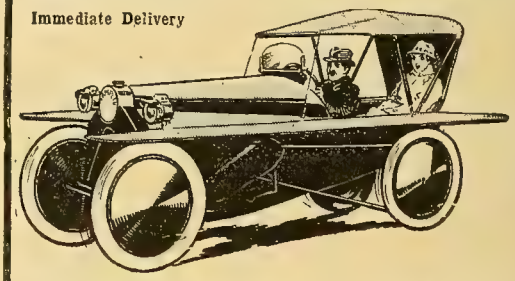
Obtainable through Garage, or direct from the Patentee & Sole Manufacturer:

CLIFFORD PRESSLAND, A.M.I.E.E., Engineer, Hampton-on-Thames.

TAMPLIN

— 1921 —
£165
Immediate Delivery

FOUR-WHEELER



Agents please write for 1921 Proposition.

Specification.—8 h.p. J.A.P. A.C. twin in front. Amac Carburetter. Sturmey-Archer 3-speed Gearbox. Drive by enclosed chain and long one-piece belt. Seat kick-starter. Pedal-operated clutch and brake. Separate hand brake. Solid live axle, giving drive and braking on both wheels. Car type ball bearing throughout the transmission and wheels. Springing by adjustable coil type in front, and semi-cantilever rear. Ackerman steering by rods. Coach finished body, painted Royal Blue, and varnished; with black bevel mud wings. Entire bonnet instantly detachable. Petrol tank capacity 4½ gallons. Oil tank ½ gallon. Overall length 117ins. Width 39ins. Seat width 20ins. Ample leg room. Speed up to 50 m.p.h. Consumption 60 to 102 m.p.g. guaranteed.

THE TAMPLIN ENGINEERING WORKS,
KINGSTON ROAD, STAINES, MDDX. 'Phone: 139 Staines.

SEASON 1921.

THE "DEFY-ALL"

STARTLING BUT TRUE! GOOD NEWS AT LAST!

READ THIS ASTONISHING DECLARATION!

HE TRUTH, THE WHOLE TRUTH, AND NOTHING BUT THE TRUTH.

WE wish to draw the attention of the riding public to the fact that we have at last accomplished what has been the designer's greatest problem, namely, a OTOR CYCLE SPRING FORK AND SPRING FRAME ssessing freedom of movement in the vertical direction, the same time eliminating all possibilities of lateral play d providing absolute freedom from vibration, thereby suring perfect steering at all speeds.

It will be remembered that Mr. Caddick was, at the time of the last Olympia ow, connected with the Royal Ruby Cycle and Motor Cycle Co., and on the Daily Mail" expert examination of some of the design and craftsmanship, report was that they were "Monuments of Technical Skill, combined th the knowledge of what the user wants, etc."

Immediately after the Show, Mr. Caddick severed his connection with that pany and commenced business on his own account, since which time his ile brains have not been idle.

Mr. Caddick, being the inventor of many unique Motor Cycle and Sidecar ing suspensions and other devices, and having had over thirty years of prac- l experience in the Cycle and Motor Cycle Trade in general, has at last duced what he believes to be the ideal device for springing a Motor Cycle and aft.

He is of the firm belief that, unless a Motor Cycle is designed which will stand the condition of the roads, and also relieve the rider and the whole he machine from vibration and shocks, the Motor Cycle will undoubtedly tually lose its popularity. This he believes to be one of the main causes of present condition of the trade in general.

After long experiments, trials, and research, he is convinced that it is not necessary to spring the RIDER, but the WHOLE OF THE MOTOR LE; and also its springing abilities must be unlimited, without any of those ctionable rebound shocks which are visible in most types of springing arrange- ts. Above all things there must be NO SIDE-PLAY.

To obviate this, inventors have had their hardest task, and numerous attempts proved unsuccessful, with great loss of time and expense.

Many of the so-called Spring Frames on the market to-day, and which are how at the Olympia, will be found wanting, inasmuch that in—

No. 1 Model, the RIDER will be sprung, but not the POWER UNIT.

No. 2 Model will go one better, and spring the RIDER and the POWER UNIT, but not the CARRIER.

No. 3 Model, being the APEX of ambition, goes "NAP," and springs the RIDER, the POWER UNIT, and the CARRIER; but this luxurious model is so extremely expensive that it is only found in the sphere of the HEAVY-WEIGHT machine.

Still, the "NAP" machine is wanting in several characteristics—

1.—The objection to so many working parts, which are likely to cause trouble and provide a constant need for special attention.

2.—If anything happens to their springs or couplings thereof, the machine is rendered unrideable.

This has proved itself to be the main cause of prejudice and fear amongst riding public with regard to spring frames.

All these difficulties and objections have been successfully removed in the "DEFY-ALL" 1921 LIGHTWEIGHT SPRING FRAME MOTOR CYCLE, which will be on view at the Hyde Park Hotel, Knightsbridge, London, S.W.1, from Monday, November 29th, to Saturday, December 4th, for exhibition and trial purposes. All competitors and critics are specially invited, who will be allowed to have a trial run on the machine, which will convince them of the genuineness of our claim.

In the "DEFY-ALL" Spring Frame Motor Cycles there will be found many improvements—

1.—The absence of many working parts.

2.—The frame is relieved from all strains, the load being entirely balanced or taken upon the centre of a semi-elliptical spring, the said spring being able to move freely throughout its entire length, and has no rigid points.

3.—The device for instantaneously transforming the SPRING FRAME into a SOUND AND PERFECTLY RIGID FRAME.

4.—The adjustment of the front driving chain (from the gear box to the main driving-shaft).

5.—Quick-detachable footrests or footboards.

6.—Quick-detachable mudguards and carrier.

7.—Rear spring-up stand, with improved locking device.

8.—Improved methods of securing the tank.

9.—Duplex frame throughout.

10.—The machines will also be fitted with our latest Double-action Spring Fork.

Some special features of this unique Spring Fork are as follows:

1.—A centrally disposed spring, which is compressed automatically at both ends simultaneously; the load being entirely balanced upon a rocking lever attached to one end of the spring, ensures perfect steering at all speeds.

2.—A novel device in which the spindles are prevented from turning and the nuts from working loose; the latter are capable of being adjusted to the extent of 1-156th part of an inch.

3.—The fact of the spindles being locked ensures perfect bearing and lubrication to all working parts.

4.—Simplicity of design, which lends itself to the fitting of the brake and mudguard.

5.—The absence of plain and spring washers for taking up side-play.

This machine will be one of our 1921 models, and will be the first to take its place on the road.

We are also busy with our MEDIUM-WEIGHT and HEAVY-WEIGHT Models, but it will be some time before we shall be able to place these on the market.

In consequence of the large demand for these machines, the Company are considering the question of an increase in their capital, to assist them to execute their orders.

Further particulars will be given on application.

Agencies and contracts are now being fixed up, and applications should be made speedily. All orders will be executed in rotation and booked at current prices.

Price will be given as soon as possible.

THE "DEFY-ALL" CYCLE & MOTOR CYCLE CO., LTD.,

Inventors, Patentees, and Manufacturers,

CHAPEL ST., STALYBRIDGE,

CHESHIRE.

Telegrams: "Defiance, Stalybridge."

Telephone: 867, ASHTON.

In answering this advertisement it is desirable to mention "The Motor Cycle."

B49

BENETFINKS

"The City's Own Store."

THE ENORMOUS POPULARITY OF OUR ACCESSORIES FOR MOTOR CYCLISTS TESTIFY TO THE VALUE CONSISTENTLY OFFERED.

MASCOTS

The Red Devil

Mascot, complete with two screw clips. Price **16/-**, post free.

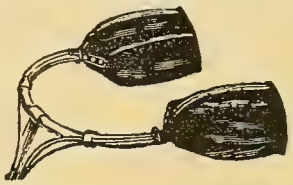
The Swift Mascot

Nickel plated, finely chased and finished.

Price **10/-** post free.

The "ROBI"

(Patent) Motor Cycle Handle-bar Muffs.



Complete protection against cold and rain. Absolute freedom of movement for the fingers.

Model		pair
M7	Tan leather, lined furry fleece	50/-
M4	Best black mac., lined curl ...	25/-
M6	" " " lined woollen Tweed	19/6
M3	" " " " " cloth ...	15/6
M5	" Khaki mac., lined cloth ...	14/6

Post free.

TYRES

DUNLOP "W.D." HEAVY R.S. COVERS
26 x 2¼ or 26 x 2⅜

37/9

Post Free.

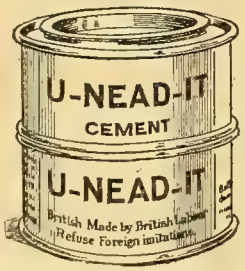
Limited number only at this price.

A WONDERFUL SUCCESS!

U-NEAD-IT!

A Real Economiser. Have you tried it? The Tyre Stopping that will not come out.

REPAIRS Punctures in Tubes and Cuts in Covers.



U-NEAD-IT! MOTOR CYCLE OUTFIT consists of preparatory solution and cement in patent combination tins.

Price, post free

3/-

N.B.—Free demonstration at our Store.

No Motor Cyclist should be without it.

A New Line! "ALL SORTS."

An Emergency Kit that every Motor Cyclist should carry, comprising a good selection of the following—

NUTS AND BOLTS, SPRING WASHERS, SPLIT PINS, INSULATING TAPE, COPPER WIRE, ASBESTOS STRING

complete in stout linen bag. Price **5/-**, post free.

BENETFINKS, 107, CHEAPSIDE, LONDON, E.C.2.

Valve Productio

WE claim that STANDA VALVES are BETTER VALV

Those who have used them our claim is justified.

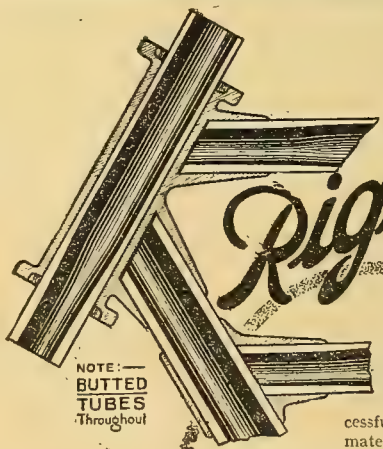
And the reason for their "bett ness" is to be found in the f that we specialise in their prod tion—in fact, make nothing el

And that means that all our kn ledge, all our facilities, all experience, all our efforts concentrated on one activity. Surely then, the result should exceptional—and it is!

Standard Valves are made to all the popular makes of M Cycle Engines, including B.S Enfield, Triumph, Douglas, and in every case you'll find t give "better" service than th which they replace.

Ask for folder and name of nearest stock

STANDARD VALVES, L
STANDARD WORKS, BALMORAL
NORTHAMPTO



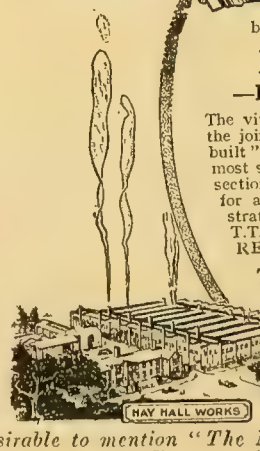
Rigidity

—that essential element in the construction of the successful motor cycle—is materially assisted by the building of the frame with the famous

REYNOLDS'
—BUTTED TUBES.—

The vital parts are their chief concern, and the joints of a "REYNOLDS'-Butted-Tube-built" machine frame are its strongest and most scientifically-designed parts—note the sectional illustration. And that they make for all-round efficiency is clearly demonstrated by the winning of the 1920 Senior T.T. Race on a machine built with RENOYLDS' Butted Tubes.

The Patent Butted Co., Ltd., Hay Hall Wks, Tyseley, B'HAM.



OUR OWN SHOW

Of New and Guaranteed Second-hand Machines is unequalled—remember all used machines are guaranteed for 3 months from date of purchase.

At Olympia, during Show Week, our representative will be in attendance daily, and we trust we shall have the pleasure of meeting all our old friends and making many new ones.

RE-CONSTRUCTED EX W.D. MACHINES.

All of which have been thoroughly overhauled, re-enamelled, and plated. Guaranteed for three months from date of purchase.

TRIUMPH, 4 h.p., 3-speed countershaft, clutch and kick starter .. **£90 0**
DOUGLAS, 3¾ h.p., 2-speed, pump, and toolbags **£60 0**
P. & M., 3½ h.p., 2-speed, clutch **£82 0**
DOUGLAS, 4 h.p., 3-speed countershaft, clutch and kick starter ... **£90 0**

(The above machines are finished in makers' 1920 colours). **TRADE SUPPLIED.**

These must not be confused with the usual type of Service Green Finish W.D. Machines.

SECOND-HAND MACHINES.

1920 Model H **MATCHLESS,** Lucas accessories, hood and screen, speedometer **£190 0**
1920 **ROVER,** 3½ h.p., and Swan sports Sidecar, £25 worth of accessories, as new **£150 0**
1920 **HARLEY-DAVIDSON** de Luxe Combination, lamps and horn, unscratched **£225 0**
1920 **ZENITH,** 5 h.p., sports model, completely equipped, as new .. **£120 0**
1920 **RUDGE,** I.O.M., 3½ h.p., all lamps, run under 50 miles **£100 0**
1920 **ROVER,** 3½ h.p., Philipson pulley, as new, run under 500 miles **£90 0**
1920 **HARLEY-DAVIDSON,** 5 h.p., sports model, and Swan sports Sidecar, all lamps, horn, and speedometer, as new in every respect; cost £205; snip **£170 0**
1920 **DOUGLAS** 4 h.p. Combination, as new in every respect **£145 0**
1920 **JAMES,** 3½ h.p. twin, all lamps, horn, etc., long exhaust, semi-T.T. bars **£120 0**
1920 **ZENITH,** 8 h.p., countershaft model, and Swan sports Sidecar, all lamps, speedometer **£180 0**
1919 **MATCHLESS,** 8 h.p., Victory model, spare wheel, Lucas lamps **£150 0**
1919 **INDIAN** 7-9 h.p. Combination, electrically equipped **£150 0**
1919 **INDIAN,** 7-9 h.p., and brand new Sidecar **£145 0**
1919 **JAMES,** 5-6 h.p. twin, and Sidecar **£130 0**
1919 **DOUGLAS,** 2¾ h.p., 2-speed, splendid condition **£72 10**
1919 **ROVER** 3½ h.p. Combination, lamps, horn, speedometer **£130 0**
1919 **INDIAN,** 7-9 h.p., solo, 3-speed, clutch and kick starter, new condition **£110 0**
1918 **ENFIELD** 8 h.p. Combination, new sidecar body **£140 0**
1918 **TRIUMPH,** 4 h.p., and Swan sports Sidecar, lamps, horn, speedometer **£130 0**
1918 **TRIUMPH,** 4 h.p., and Henderson B1 Sidecar **£125 0**
1918 **TRIUMPH,** 4 h.p., 3-speed, clutch and kick starter, all lamps, and horn **£92 10**
1918 **HARLEY-DAVIDSON,** 7-9 h.p., 3-speed, clutch and kick starter **£110 0**
1918 **DOUGLAS** 4 h.p. Combination, new sidecar body **£120 0**
1918 **DOUGLAS,** 4 h.p., solo, 3-speed, clutch and kick starter **£80 0**
1917 **HUMBER,** 3½ h.p. flat twin, with 3-speed, clutch and kick starter, overhauled, re-enamelled, and plated **£82 0**
1916 **INDIAN,** 7-9 h.p., 3-speed, Powerplus, special T.T. model, thoroughly overhauled, re-enamelled, and plated **£100 0**
1916 **NORTON,** 3½ h.p., Brooklands Special, T.T. bars, Philipson pulley, re-enamelled, and plated, as new **£75 0**
1915 **INDIAN,** 7-9 h.p., spring frame, 2-speed, clutch and kick starter **£75 0**
1914 **ROYAL RUBY,** actual I.O.M. model, special wide tank, 3½ h.p., J.A.P. o.h.v. engine, 2-speed, clutch, 65 m.p.h., guaranteed ... **£75 0**

NEW MACHINES AT MAKERS' LIST PRICE.

1920 **MATCHLESS,** Model H, latest improvements, longer sidecar body, larger hubs, etc., completely equipped, dynamo lighting, speedometer, hood and screen, etc. **£244 9**
1920 **A.J.S.,** 6 h.p., dynamo lighting, screen, spare wheel **£238 0**
1920 **NEW IMPERIAL** 8 h.p. Combination **£186 18**
1920 **BLACKBURNE,** 8 h.p., and Henderson Elite Sidecar **£210 0**
1920 **MARTINSYDE-NEWMAN** 6 h.p. Combination **£170 0**
1920 **ARIEL** 4 h.p. Combination **£157 10**
1920 **NORTON,** 3½ h.p., sports model **£98 0**
1920 **SCOTT,** 3¾ h.p., 2-speed, clutch and kick starter **£140 0**
1920 **JAMES** 5-6 h.p. Combination **£190 0**
1920 **O.K.** Junior, 2½ h.p., 2-stroke **£50 8**
1920 **COULSON-B.,** 4 h.p., 3-speed, clutch and kick starter **£127 10**

10% UNDER LIST PRICE 1920 SHOP-SOILED MODELS.

SALTHORPE-J.A.P., 2¼ h.p., 2-speed Enfield gear **£70 0**
COVENTRY EAGLE, 2¾ h.p. Villiers engine **£60 0**
DIAMOND, 2¾ h.p. Villiers engine **£52 0**
VERUS, 2½ h.p., single-speed **£50 0**
VERUS, 2¾ h.p., 2-speed, clutch and kick starter **£70 0**
EXCELSIOR-J.A.P., 2¾ h.p., 2-speed **£70 0**
EXCELSIOR, 2½ h.p., Villiers 2-speed **£60 0**

SIDECARS.

50 actually in stock, all leading makes, from £20. Fitted while you wait.

A FEW EXAMPLES OF BARGAINS SELECTED FROM OUR ACCESSORIES STOCK.

Tyres, **29/-** each, brand new, ex-W.D. stores, 28×3 only.
Toolkits, containing 12 tools; usual price, 25/-; our price, **15/-.**
Douglas Valve, genuine, **5/-,** complete with spring collar and cotter.
Toolchests, Clyno, all tools; cost £7; our price, **50/-.**
XL'All Tan Saddles, **25/-** each.
Triumph Valves, genuine, **7/6,** complete with spring collar and cotter.

LAMPS, HORNS, TYRES, TUBES in Stock; in fact, everything connected with Motor Cycles. REPAIRS and RENOVATIONS executed in the least possible time by Expert Motor Cycle Mechanics. ESTIMATES FREE.

EXTENDED PAYMENT TERMS—One-third down, balance in twelve monthly instalments. WRITE FOR PROPOSAL FORM.

ALLEN-BENNETT MOTOR CO.,

'Phone: Croydon 2450. **9, 10, 11, ROYAL PARADE, WEST CROYDON.** *'Grams: "Track, Croydon.',*

P. J. EVANS

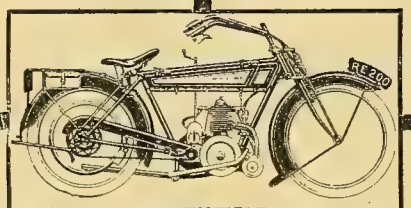
Showrooms: 81-91, John Bright S
Service Depot: 14-22, Severn S
'Phone: Mid 2910. Telegrams: 'Lyc

THE BIRMINGHAM HOUSE FOR MOTORISTS.

AGENT FOR ALL THE BEST
MOTOR CYCLES

A.J.S., ENFIELD, INDIAN, TRIUMPH, NORTON, JAMES, ROVER, HUMBER, RUDGE, BLACKBURNE, EDMUND, NEW IMPERIAL, MASSEY-ARRAN, CALTHORPE, METRO-TYLER, CONNAUGHT.

ALL FOR DELIVERY FROM STOCK.



2¾ h.p. ROYAL ENFIELD £73 10 0

OLYMPIA SHOW
Nov. 29th - Dec. 4th.

Representatives will be attendance to meet YO.
Make an appointment

SEND FOR CATALOGUES
and list of Special Bargains.

BRICO
TRADE MARK
PISTON RINGS

These Piston Rings are manufactured on the most advanced principles known to-day. The experience of aircraft requirements during the war is embodied in both design and material.

We claim that BRICO Piston Rings are as near perfection as any piston ring in the world.

Even in appearance alone BRICO Piston Rings proclaim "quality," and a practical test of the rings in an engine will prove that their performance is equal to their appearance.

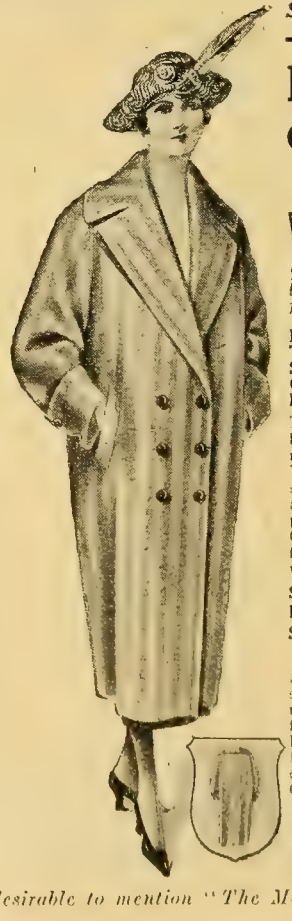
Perfect in finish, in fit, and in material, BRICO Piston Rings increase engine power and save lubricating oil.

BRICO Piston Rings are made for all popular motor car and motor cycle engines and are supplied from stock by return.

Traders should write for new Price List H. Private motorists are supplied by Garages and Dealers

The BRITISH PISTON RING CO., LTD.,
Holbrook Lane, — — Coventry.
Grams "Pistrings, Coventry." 'Phone: 1214-1215.

Show this to your lady enthusia



Remarkable direct offer

The Stylish Ramont Ragla

WARM WINTER COAT

Tailored by the famous *Ramont Sports Coat People*

Made to measure in Six Styles. Tailor-made to your measure in Twe Striped, and Over-check Fleecy Blan Cloths and Velours, and sold w MONEY-BACK GUARANTEE

This is the greatest direct offer ever m by a manufacturer, and, judging by resu many women are quick to realise The Ramont is the smartest and m serviceable Warm Winter Coat ever offe and any lady who has not yet sent patterns should do so NOW. GUARANTEE—made to measure—per fit—superior finish—and every coat is with a money-back guarantee.

SOLD WITH MONEY BACK GUARANTEE. SEND NO MONEY—PATTERNS FREE.

A p.c. brings patterns, styles booklet and measurement form. Also send for patterns of tailored Dress Skirts (from 12/6). Ladies' and Gents' Raincoats (from 40/-), and Gent's Overcoat (from 70/-

MADE TO MEASURE from 45/-
(slight extra charge for over 42in. bust.)

Ramont Ltd (Dept. 14)
Finsbury Pavement House, E.

O'Limp here
(OLYMPIA)
Or walk here
Or ride here
but get here somehow

to see our fine selection of machines. We can give delivery from stock of 1921 models of most of the following makes:

A.J.S. - - MATCHLESS
NORTON - CALTHORPE
LEVIS - ROYAL ENFIELD
TRIUMPH NEW IMPERIAL JAP
B.S.A - - MARTINSYDE
FRANCIS BARNETT

Will you make an appointment to meet us on any day, at any time, on any of the above Stands?

JULIAN,

8, BROAD ST.,
READING.

'PHONE 1024.

Biggest Motor Cycle Dealer in the South.

Make a note of Lamb's MOTOR-CYCLE SHOW

50, High Road, Wood Green.
'Phone: Hornsey 1956.
'Grams: "Doulamocy, 'Phone, London."

151, High Street, Walthamstow.
'Phone: Walthamstow 169.
'Grams: "Cyclotomo, 'Phone, London."

387, Euston Road, London, N.W.
'Grams: "Lamocy, Eusroad, London."
'Phone: Museum 4978.

IN STOCK.

O.K.
P. & M.
B.S.A.
N.U.T.
A.J.S.
SCOTT
ARIEL
LEVIS
JAMES
RUDGE
ROVER
MORGAN
ZENITH
ENFIELD
TRIUMPH
DOUGLAS
ALLDAYS
CALTHORPE
MATCHLESS
BLACKBURNE
NEW HUDSON
LEA-FRANCIS
NEW IMPERIAL
HARLEY-DAVIDSON

IN STOCK.

Cars.
ROVER "8"
G.N.
KINGSBURY
HARPER-BEAN.

Promptest delivery assured.

Write for list of Second-hand Machines.

In answering this advertisement it is desirable to mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue on which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements the mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt. The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½ %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited. The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the case as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

1920 3h.p. A.B.C. Motor Cycle, new; £150.—King and Harper, 6 and 7, Bridge St., Cambridge. [8932

1920 3h.p. A.B.C. Combination, new; £193.—King and Harper, 6 and 7, Bridge St., Cambridge. [8931

1920 A.B.C., 4 speeds, done 150 miles; £135.—Dunn's, 326, Euston Rd., London. Museum [2978

A.B.C., perfect, fast, and a clean clothes bike, delightful to ride, done 200 miles; £125.—E. Ward, Rock St., Sheffield. [8664

WAUCHOPE'S

Easy Terms of payment to suit customers' own convenience. Write or 'phone.

We offer a large and selected variety of **New Machines,** and can arrange to take Second-hand Motor Cycles, Combinations, Cycle Cars, and Light Cars in part payment.

The following can be delivered from Stock:

NEW MACHINES.

ZENITH, 8 h.p., sporting, Model G.
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B.A.T. Combination, 6 h.p.
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B.S.A., 4½ h.p., Model H., solo.
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TRIUMPH, solo, 4 h.p., Model H.
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TRIUMPH, renovated, 4 h.p., and new Henderson Sidecar.
TRIUMPH Junior, 2¼ h.p., new 1920.
LEA-FRANCIS, 3 h.p., new 1920.
SUNBEAM, 3½ h.p., new 1921.

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WOOLER, 2¾ h.p., 1920.
CLYNO, 2½ h.p., 2-stroke, 1920, all accessories.
RUDGE, 3½ h.p., 1912.
TRIUMPH, 4 h.p., 1914.
ZENITH, 5 h.p., countershaft, 1920.
BRADBURY, 4 h.p., 2-speed, kick-start, 1920.
ZENITH, 5 h.p., twin countershaft, 1914.
2¾ h.p. **DOUGLAS,** 2-speed, 1916.
SPARKBROOK, 2¼ h.p., 1920, 2-speed.

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J.H. Combination, 7-9 h.p., 1915.
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BRADBURY, 6 h.p., 1914, fitted with new Grindlay Sidecar.
ARIEL and Sidecar, 3½ h.p., 1916.
SUNBEAM Combination, 8 h.p., 1919.
MATCHLESS Combination, 8 h.p., 1920, accessories
MATCHLESS, 8 h.p., and Sidecar, 1915.
HENDERSON and Swan Sidecar, 10 h.p., sporting model.
ZENITH, 5 h.p., twin, countershaft, 1920, with new Stanford Sidecar.
ROVER Combination, 4-5 h.p., 1920.

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PREMIER Super Runabout, 8 h.p., new 1920, spare wheel, detachable wheels.
A.V. Monocar, 6 h.p., 1919.
CARDEN Monocar, 5-6 h.p., 1914.
MORGAN, 10 h.p., Aero Model, 1920, M.A.G. engine.
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3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only run about 300 miles, condition as new; cash £150 (list price £173/10); may be obtained on deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [9032

A.B.C. Combination, 3½h.p., very fast, do 50 with sidecar easily, racy sidecar properly fitted, splendid condition, spring frame, electric lights, few spares, most attractive machine, prize winner in competitions; sale, £160, or near offer; or may consider exchange.—O. E. Carter, 17, Webster St., Greenheys, Manchester. [X6683

Abingdon

ABINGDON 3½h.p. Sporting T.T., lamps, horn, etc. excellent condition; £38, or exchange Douglas.—12, Rayleigh Rd., Basingstoke, Hants. [9250

1920 Abingdon King Dick 5-7h.p., 3 speeds, clutch and kick starter, with Canoelet sidecar, only 800 miles; £145; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [9338

Acme.

ACME-J.A.P. New 8h.p. Combination, in stock; liberal exchanges.—Motories, 25, Horton St., Halifax. [8986

ACME 3h.p. Twin; £30, bargain; would exchange lightweight (closed Sundays).—Bunting's Motors, Wealdstone, Harrow. [9343

1920 Acme 8h.p. Combination, spare wheel and tyre, electric lighting equipment, used for few demonstration runs only; £195.—The Premier Motor Co., Aston Rd., Birmingham. [9453

A.J.S

DAN GUY, Weymouth.—5-6h.p. A.J.S. combination in stock; £210. [5958

A.J.S. Combination, latest model; £210.—Marston, 31, Bridge St., Chester. [8895

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

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UNREGISTERED and Brand New A.J.S. 1920 Combination; £195.—Box 9,333, c/o *The Motor Cycle.* [8991

DAN GUY, Weymouth.—Sole district agent of A.J.S. motor cycles; trade supplied early delivery 1921 models. [5957

1920 A.J.S. Combination, less 1,000 miles, as new; £170.—G., The Saxons, Dorchester Rd., Weybridge. [9170

1915 2¾h.p. A.J.S., 2-speed clutch, kick start, new accessories; £65.—5, Victoria Terrace, Duncombe St., Wollaston, Stourbridge. [X6751

1919 A.J.S. Combination, spare wheel, electric lights; exchange Morgan not earlier 1918, or sell, £190. 179, Columbus Ravine, Scarborough. [8725

A.J.S. Specialists: Walsall Garage, Wolverhampton St., Walsall, Tel. 444, can give delivery from stock of these world-famous outfits; price £210; write for catalogue. [8998

1920 A.J.S. Combination, dynamo lighting, electric horn, speedometer, all spares, small mileage, perfect condition; £240.—Blyth, 19, Courtfield Gardens, London. [9049

A.J.S. 6h.p., 1919, electric lighting, hood, screen, spare wheel, in perfect order; £210, or nearest; trial arranged.—Percy Harris, Effingham St., Rotherham. Tel.: 218. [8667

F.O.C.H. have a new A.J.S. Combination, 1920.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8855

1920 (July) A.J.S. Combination, lamps, horn, spares, complete, little used, perfect throughout; £200; delivered 100 mile radius.—Elliott, Ivy Lodge, Abington, Cambs. [8918

A.J.S. 4-5h.p. Twin, 1916-17, countershaft, 3-speed, clutch, K.S., detachable wheels, excellent condition, equipped; 85 gns.; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [9426

1920 A.J.S. Combination, 6h.p., delivered May, dynamo lighting, speedometer, horn, all tools, spares, small mileage, perfect condition; £200.—24, Huntingdon Rd., Cambridge. [9061

1920 A.J.S. Combination, electric lighting, Cowey trip, hood and cover, horn, Cameo wind screen, side curtains, full insurance, all standard fittings; £205.—Box 9,300, c/o *The Motor Cycle.* [8733

MOTOR CYCLES FOR SALE.

A.J.S.

1920 A.J.S. Combination, small mileage, spare wheel unused, complete with accumulator lighting set, horn, tools, spares, perfect condition; £195; owner bought car.—69, Abington St., Northampton. [X6755

A.J.S. 1920 6h.p. Combination, dynamo lighting, speedometer, hood, screen, hood cover, side curtains, Klaxon horn, Tan-Sad pillion seat, mechanically perfect, as new; £250.—Parker's, Bradshawgate, Bolton. [X6720

A.J.S. Combination, 1918, 6h.p., spare wheel, speedometer, lamps, tools, spares, screen, good condition, any trial; £120; after 8 on Saturdays and Sundays.—81, Ashburton Av., Addiscombe, Croydon. [9043

F.O.C.H. have an A.J.S. combination, detachable wheels, spare, lamps, horn, grid, screen; £115.—5, Heath St., Hampstead (near Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, including Saturdays. [8851

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A.J.S.—Immediate delivery of this high-grade 6h.p. combination from stock. Standard model, with detachable wheels and spare, £210; Lucas dynamo lighting set, £28 extra; local trade supplied.—P. J. Evans, sole Birmingham agent, 83-91, John Bright St., Birmingham. [0299

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Alldays.

1920 Allon, 2-speed, K.S., clutch model, slightly shop-soiled; £85.—26, Tulse Hill, Brixton. [8701

ALLON, 1916, new cylinder, late 1919; can be seen.—Lewer, Horeham Road, Sussex. [9215

ALLDAYS Allon, 1915, 2-speed, 2¾h.p., good condition; £45.—Edwards, Bryn Awel Gwersyllt, Wrexham. [9191

ALLDAYS-ALLON, 2-speed, clutch, kick-starter, shop-soiled; at greatly reduced price.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7176

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ARIEL 3½h.p., ready to ride away; a bargain, £36. —Gibbs, Burnham, Bucks. [9317

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DAN GUY, Weymouth.—Sole agent for Ariel motor cycles; early delivery given of all-chain 1921 model. [5959

1914 3½h.p. Ariel Combination, excellent condition; any trial; £65; lightweight wanted.—Brownlow Cottage, Pleasington, Blackburn. [X6747

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1920 3½h.p. Ariel Combination, new condition; cost with spares, accessories, £170 in May, accept nearest £120.—Jones, 24, Bold St., Morecambe. [9087

ARIELS, order now for 1921 all-chain and chain-cum-belt models; spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

3½h.p. Ariel Combination, 1919, perfect order, used 32 occasionally on fine afternoons, one puncture only, spare, etc.; bargain, £135.—Smith, Chemist, Clay Cross. [9298

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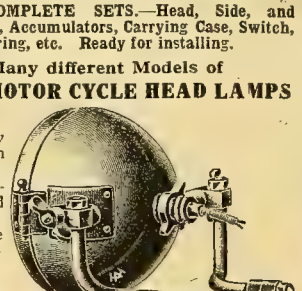

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B.S.A. Auto-wheel; £14; approval; deposit Richards, Kellands Hemyock, Devon. [93

AUTO-WHEEL for sale, cash adjustment for h.p. Douglas.—Box 9,338, c/o *The Motor Cycle.* [90

1914 B.S.A. Auto-Wheel, good condition; £10, c riage paid.—Simpson, Motorist, Sunbury- Thames. [9]

AUTO-WHEEL, 1920, Model VI., as new; £17/10 Lamb's, 50, High Rd., Wood Green, 151 H St., Walthamstow, and 387, Euston Rd., Lond N.W.1. [8]

Bat.

1920 Bat, Model 4, shop-soiled; £150.—Wrigl Garage, Saffron Walden. [9]

8h.p. Bat Coachbuilt Combination, countershaft, on; 100 gns., or nearest.—Thistle Hill Fa Knaresboro', Yorks. [90

NEW 1920 Bat, Model No. 4, 6h.p., 3-speed, redu as shop-soiled to £140.—The Premier Motor Aston Rd., Birmingham. [9]

1920 8h.p. Bat Combination, spare wheel, us equipment; list price.—Tel.: 6626 Museum A.S.C., 60 Mortimer St., W.1. [8]

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BEAUMONT, July, 1920, 2¾h.p. Blackburne eng electric head and tail lamps, guaranteed perf £85.—Peet, Devonshire Av., Grimsby. [X6

BRAND New Beaumont-Redrup, 3-cyl., 2-sp K.S. and clutch; cost £100, will accept £9 Wood, 153, Leymoor, Golcar, Huddersfield. [8

Blackburne.

4h.p. Blackburne and Sidecar, hub gear, splen condition; £70, or best offer; must sell.—Bu 26, Knoll Rd., Wandsworth. [9

BLACKBURNE 4h.p. Combination, bought J 1920, all accessories, splendid machine; £1 'Phone: Rutherford, City 9242. [9

BLACKBURNE, latest 1920 3½h.p. model, new shop-soiled; makers' price £135; reduced £120.—Maudes', 100, Gt. Portland St., W.1. [9

BLACKBURNE 4h.p., 1920, hand clutch, Stu 3-speed, electric lighting, Klaxon, tools, perf £120.—Bryant, 40, Grove Lane, Kingston, Surrey. [9

1920 4h.p. Blackburne Combination, all la speedometer, 2 horns, Easting wind scr £150.—Tel.: 6626 Museum.—A.S.C., 60, Mort St., W.1 [7

BLACKBURNE 4h.p. Combination, 1920, mi 500, sidecar new, undershield fitted, lamps, h spare valve, tools; £150.—Granger, 1, Skinner Whitby. 'Phone: Whitby 11. [9

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4h.p. Blumfield Combination, 3-speed Arm gears and clutch, as new, good tyres, new canoelet with lamps; £80.—Burgess, Motor A Stoke Poges, Bucks.

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4h.p. Bradbury, 3-speed, with Millford sidecar, rand new and unused, slightly shop-soiled; list 161/10, to be cleared at £130.—Alexanders', thian Rd., Edinburgh. [8762

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1919 Calthorpe, 2¾h.p. J.A.P., 4-stroke, Enfield 2-speed gear, lamps, horn, and tools, very little used, perfect condition; £55.—Davey, 22, King St., Weymouth. [8768

SHOP-SOILED Brand new Calthorpe-Jap 2¾h.p., 2-speed, 1920 models. A few to clear at very greatly reduced prices.—Alexander and Co., 115, Lothian Rd., Edinburgh. [8761

CALTHORPE Motor Cycles, wholesale and retail agents for the county of Devon, all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7180

CALTHORPE Motor Cycles.—2¾h.p. J.A.P. model, £78/5; two-stroke model, £75; both fitted with Enfield 2-speed gear; delivery from stock.—P. J. Evans, 83-91, John Bright St., Birmingham. [0174

Campion.

1920 4h.p. Campion-Jap, 3 speeds, clutch, and kick starter, lamps, tools, pump; £135.—Preston, Granville House, Hinckley. [9102

1919 8h.p. Campion-Jap Combination, Easting, new tyres, all accessories; any trial anywhere; cash £160.—Stephens and Kay, Staveley, Chesterfield. [8831

Chater-Lea

CHATER-LEA 8h.p., countershaft, all chain, coach-built, nice order; £75.—198, Sheen Lane, Mortlake. [X6714

CHATER-LEA 1920 2-stroke Lightweight, used, but absolutely as new, tyres not even scratched, condition perfect; cost £70, sell £60; any inspection.—98, Mayola Rd., London, E.5. [8020

Chater-Lea-Jap.

CHATER-J.A.P. 6-8h.p., 3-speed clutch, guaranteed perfect; £40, near.—329, Old Ford Rd., E. [8844

CHATER-J.A.P. 1920 6h.p., Sturmey C.S., all in excellent order and tune; best offer over £100, must sell, cash wanted.—11, Terminus Rd., Maidstone. [9093

CHATER-LEA-J.A.P., water-cooled 8h.p., 3-speed, handle starter, coachbuilt sidecar, with all accessories, as new; sacrifice £175; any trial given; seen by appointment.—F., 64, Bishopsgate, London, E.C.2. [8740

Chater-Lea-Peugeot.

PEUGEOT CHATER 3h.p., mag., B. and B., good tyres, perfect; £18.—Derby Arms Garage, Mortlake. [X6713

Cleveland.

CLEVELAND 3h.p., 1920 model, shop-soiled. Buy now and secure a record bargain at our reduced price.—Alexanders', 115, Lothian Rd., Edinburgh. [8764

CLEVELAND 3h.p., shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7181

WRITE for Catalogue of the 3h.p. Cleveland, with kick starter, clutch, and 2-speed gear; price £85. —Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0279

Clyno.

CLYNO Lightweight, brand new, cost £75/10; £65. —Fox, Barracks Golf Club, Lichfield. [9168

CLYNO Lightweight, only used 3 weeks, cost £75; sell £55.—Fox, Central Garage, Lichfield. [9169

MOTOR CYCLES FOR SALE.

Clyno.

1920 2¼h.p. Clyno Motor Cycle, new; £75.—King and Harper, 6 and 7, Bridge St., Cambridge. [8937

1920 8h.p. Clyno Standard Combination, new; £250.—King and Harper, 6 and 7, Bridge St., Cambridge. [8938

CLYNO Lightweights and Combinations.—Write Rothwell and Milbourne, Cowleigh Garage, Malvern. [1795

CLYNO 6h.p., countershaft, accessories, perfect; offers.—Mitchell, 44, Wellington St., Camden Town, N.W. [9017

STANDARD 1921 Clyno Combination, delivery from stock; £250.—Maudes' Motor Mart, 100, Paris St., Exeter. [8977

DAN GUY, Weymouth.—Sole district agent for Clyno motor cycles; new 8h.p. combination, £250; 2-strokes, £75. [5960

CLYNO Combination, 5-6h.p., spare wheel, lamps, etc., good as new; what offers?—Owner, 122, Gloucester Rd., Walthamstow. [7297

CLYNO New 8h.p. spring-frame Combination, electric lamps, etc.; best offer over £220.—Geo. Taylor, 28, Lower Addiscombe Rd., East Croydon. [8166

6h.p. Clyno C.B. Combination, 2-speed, K.S., any trial; £65, or offer, or lightweight and cash.—Bennett, 6, Alfred Place, High St., Battersea, S.W. [8827

1920 Clyno 2-strokes, brand new, at price which will quickly clear them. Secure one while they last by writing at once.—Alexander and Co., 115, Lothian Rd., Edinburgh. [8760

1918 Clyno 6h.p., Easting, spare wheel, lamps, horn, many spares, tyres almost new, a complete outfit in perfect order for £117/10.—Dunn, 326, Euston Rd., London. [7701

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re enamelling, and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3459

CLYNO Lightweights! Reduced prices! Brand new, shop-soiled 1920 models. Buy now and secure a very special bargain.—Full particulars from Alexander and Co., 115, Lothian Rd., Edinburgh. [8759

5-6h.p. 1916-17 Clynos, less mag. and carburetter, £40 each. These require overhauling and renovating. They are worth £120 when finished. The engines and gear boxes are quite sound. See advert. under "Miscellaneous" for spares. 1916-17 3-speed K.S. Clyno W.D. Models, recondition, new Thomson-Bennett mag. and carburetter, running order, £65 each.—Please write or call, J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [8867

Connaught.

1920 Connaught 2-stroke, as new, delivered Aug.; £52/10; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [9337

CONNAUGHT Motor Cycles.—2½h.p. 2-speed model, £70; single speed, £62; immediate delivery.—P. J. Evans, 83-91, John Bright St., Birmingham. [0252

1920 Connaught, 2-speed, kick start, H.C. clutch, speedometer, mirror, mileage 720, new condition; £80, or offers.—Topham, Decorator, Bridlington. [8958

Coulson.

COULSON-BLACKBURNE 2¾h.p., 2-speed, new condition; any examination; bargain, £70.—22, Powney Rd., Maidenhead. [9282

COULSON B.—All models in stock; sole agents for Wiltshire.—Wessex Motors, Ltd., incorporated with H. P. Moore and Sons, Salisbury. 'Phone: 72. [4053

COULSON-B, 4h.p. and 2¾h.p. models, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7182

COULSON B, 2¾h.p., 1920, very fast, and in splendid condition, complete with lamps, horn, etc., mileage 500; £85.—Apply, W. Sparrow, Ltd., Osborne Garage, Yeovil. [8861

NEW Coulson B, 2¾h.p., £99/15; fitted with 2-speed gear, spring frame, Blackburne engine; 2¾h.p. model, with clutch and kick starter, £110/5; 4h.p., with 3-speed, clutch, and kick starter, etc., 118 gns.; if fitted with smart boat-shaped sidecar, painted royal blue, £162/10, or on deferred payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments. Harrods, Ltd., 118, Brompton Rd., London. [9027

Coventry Eagle.

1920 (Aug.) Coventry Eagle, 2¾h.p. J.A.P., Sturmey Archer 2-speed, kick start, little used, as new; £80. Clipson, Rushden, Northants. [8625

De Luxe.

DE LUXE 1920 (July) 2¾h.p., 2-stroke, 2-speed, E.I.C., scarcely used; £53. Treasure, Stoke, Oakhill, Bath. [X6743

Dot.

DOT-J.A.P. 6h.p., Maben clutch, hand starter, tyres perfect, bullnose back sidecar and chassis, nearly new; £65; North London.—Box 9,340, c/o *The Motor Cycle*. [9354

REYS

173, Gt. Portland Street

Telephone—Mayfair 879.

Our competitors are advertising SHOP-SOILED goods. There is no need for us to imitate. Our reputation guarantees that prospective customers will get the RIGHT GOODS at the RIGHT PRICE.

WE CAN OFFER THE FOLLOWING:

1921 4 h.p. **DOUGLAS** Combination.
1921 2¾ h.p. **DOUGLAS,** with clutch and kick starter.
1921 2¾ h.p. **DOUGLAS,** without clutch and kick starter.
1921 8 h.p. **MATCHLESS** Combination.
1920 2¾ h.p. **NEW IMPERIAL,** 2-speed.
1920 2¾ h.p. **NEW IMPERIAL,** with clutch and kick starter.
1920 3¾ h.p. **LEA-FRANCIS,** 2-sp., clutch, and kick starter.
1920 2-stroke **DIAMOND.**
1920 4¼ h.p. **B.S.A.,** 3 speed, clutch, and kick starter.
1920 6-7h.p. **B.S.A.,** 3-speed, clutch, and kick starter.
1920 3¾ h.p. Isle of Man **RUDGE.**
1920 8 h.p. **ZENITH,** sports model.
1920 5-6h.p. **A.J.S.** Combination.
1920 4 h.p. **TRIUMPH,** 3-speed, and starter
1920 2-stroke **TRIUMPH,** 2-speed.
1920 5-6h.p. **JAMES** Combination.
1920 6 h.p. **ENFIELD** Combination.
1920 8 h.p. **MATCHLESS** Combination.
1920 6 h.p. **NEW IMPERIAL** Combination.

MORGANS in stock at list price.

SECOND-HAND.

1916 2¾ h.p. **DOUGLAS,** 2-speed	£55
1915 4 h.p. **TRIUMPH,** 3-speed	£75
1915 4 h.p. **TRIUMPH** and accessories	£85
1920 2-stroke **JAMES,** 2-speed, and acces.	£70
1920 4 h.p. **DOUGLAS**-Combination and accessories	£155
1915 4 h.p. **TRIUMPH** and Sidecar	£105
1920 8 h.p. **MATCHLESS,** dynamo lighting and all accessories	£205
1919 8 h.p. **ZENITH,** sports model, with Sidecar and accessories	£135
1920 8 h.p. **NEW IMPERIAL** and Gloria Sidecar	£140
1915 **A.B.C.,** 4-speed, spring frame	£85
1915 Grand Prix **MORGAN**	£160

GOOD STOCK OF SIDECARS.

EASY PAYMENTS TAKEN ON ALL MACHINES, AND EXCHANGES ENTERTAINED.

Large Stock of Powell & Hanmer Lamps, and other Accessories.

CAR DEPOT:

378, Euston Road.

Telephone—Museum 6430.

MOTOR CYCLES FOR SALE

Douglas.

DOUGLAS, Douglas, Douglas.

1921 Models in Stock; 4h.p. combination, 4h.p. solo, £130; 2¾h.p. clutch model, £1[illegible] h.p. without clutch, £100.—Douglas Specialists, Hardie and Lane, Ltd., 24, Woodstock St. (off St.), Bond St., London, W.1. 'Phone: Mayfair

THE Great Douglas Agent, J. W. Gourlay, Foll[illegible] Manchester.

£40 for Incomplete 4h.p. Douglas; call Satu[illegible] 91, Mapledene Rd., Dalston.

DOUGLAS 4h.p. Combination, as new, lamps, £125, or offer.—12, Adams Mews, W.1.

1920 2¾h.p. 3-speed Clutch Douglas, as new[illegible] or offers.—Boulton, Saffron Walden.

DOUGLAS.—A fine assortment in stock at[illegible] to suit all.—Ross, 86, High St., Lee.

1916 Douglas 2¾h.p., Binks, Klaxon, lights,[illegible] order; £58.—195, Fulham Palace Rd., W.6

2¾h.p. Douglas, 1911, 2-speed clutch model, e[illegible] condition; £25.—Davies, 23, Old Bailey,

2¾h.p. Douglas, 2-speed, Lucas lamps, and K[illegible] trial welcomed; £52.—22, Goulton Rd.,

DOUGLAS 2¾h.p. W.D. Model, not used sin[illegible] £50.—1, Green Rd., Hall Green, Birming[illegible]

BRIGHTON, Hove and District Douglas a[illegible] Turpin's, 22 and 29, Preston Rd., Bri[illegible]

DOUGLAS 2¾h.p., single speed, Bosch m[illegible] thorough good order; £50.—Sims, Longfield

1917 4h.p. Douglas Combination, all equipp[illegible] fect; £68, quick sale.—Box 9,356, c/o *Th[illegible] Cycle*.

1918 4h.p. Douglas Combination, new app[illegible] lamps, etc.; £78.—Box 9,355, c/o *Th[illegible] Cycle*.

DOUGLAS New 1920 Solo and Combina[illegible] stock; exchanges wanted.—Motories, 25, St., Halifax.

DOUGLAS, 2¾h.p., splendid running co[illegible] £45; must sell; after Friday.—5, Sou[illegible] Blackheath

DOUGLAS 2¾h.p., 1919, 2-speed, in new[illegible] tion; £65.—216, Portobello Rd., Nort[illegible] sington, W.

4h.p. Douglas Combination, 1920, just d[illegible] fully equipped; £140.—216, Portobel[illegible] Bayswater, W.

1915 Douglas 2¾h.p., perfect condition, t[illegible] new; £42/10.—Dunn, 326, Euston Rd., Museum 5391.

NEW Douglas 2¾h.p. K.S. Model, £100; ne[illegible] las 4h.p., 3-speed solo, £130.—Mous[illegible] Bridge St., Chester.

1920 Douglas 2¾h.p. Clutch Model, lam[illegible] speedometer, all as new; £90.—The Cr[illegible] mans Park, Surrey.

DOUGLAS 4h.p. 1920 Combination, new c[illegible] fully equipped; £130.—Wood, 42, Westb[illegible] North Finchley.

DOUGLAS 2¾h.p., 1916, 2-speed, makers' ol[illegible] tools and accessories; £50.—19, Valy Tooting, London.

1918 Douglas, 2¾h.p., 2-speed, new 1920, [illegible] and perfect machine; £52.—60, W[illegible] Av., N. Kensington.

1919 Luxurious 4h.p. Douglas Combinat[illegible] age 1,000, fitted regardless; £115.—60, [illegible] ford Av., N. Kensington

1919 4h.p. Douglas Combination, lamps, [illegible] as new; £125.—Tel.: 6626 Museum. A 60, Mortimer St., W.1.

1921 Douglas Models, immediate delivery. [illegible] your requirements. Trade supplied.—Mot[illegible] las Agent, Yeovil. Tel.: 50.

1920 Douglas Combination, fully equipp[illegible] chased August this year, for quick sale £ 132, High Rd., East Finchley.

SPEED Douglases.—Each machine prepar[illegible] dividual requirements.—Robert Bamf[illegible] under Consulting Engineers).

1917 4h.p. Douglas Combination, new t[illegible] plete lamps, Klaxon; any trial; £8[illegible] Bensly, Much Hadham, Herts.

ALL Douglas Motor Cycle Models, also li[illegible] stock ready to drive away.—Gibb, Dig[illegible] pert, Gloucester. 'Phone: 852.

1919 2¾h.p. 2-speed Douglas, fully equi[illegible] ceptionally smart, engine perfect; [illegible] Ladbroke Grove, Notting Hill, London.

DOUGLAS 1916 2¾h.p., makers' colours, n[illegible] plating as new, splendid condition; £[illegible] Crystal Palace Park Rd., Sydenham.

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

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1920 Olympia Prospects.

ON Monday next, November 29th, the doors of Olympia will once again be opened to admit the public to the world's most representative gathering of motor cycles. Indications would show that there will be a very large number of visitors, as usual, for interest was never so pronounced in the most economical form of motoring vehicle. There are perhaps a few who may wonder if there will be sufficient novelty to warrant a long journey to Town in view of the fact that some manufacturers frankly intend to retain their 1920 models. To these we would point out that there will be several novelties well worthy of attention, and that these departures will be of a much more practical nature than the sensational "freaks" which are usually brought out at Olympia and seldom see the light of day on subsequent occasions.

On the whole, the note struck by 1921 exhibits will be one of sound and steady progress, progress along already well-tried lines, and improvements brought about as a result of long experience on the road. There will be but few firms who do not include at least a few useful modifications in design, and there will be a sprinkling of more striking departures, which, however, have either been thoroughly tested, or are designed on commercial ines.

Apart from the exhibits, the Show will be well worth a visit from the social standpoint. As a meeting place for motor cyclists, Olympia is unique, and there will be many gatherings of ex-despatch riders, members of the Motor Machine Gun Corps, and other technical arms, in addition to club members who will meet to discuss the progress of the movement in general, and the new features of their favourite mounts.

In this issue of *The Motor Cycle* will be found many features which will assist our readers to see the Exhibition with a minimum of trouble. Our annual forecast has been divided into sections, one each for solo, dual purpose, purely sidecar machines, sidecar attachments, and runabouts, so that a prospective buyer need only use the section which interests him as a guide to the Show. In addition, a map and instructions for reaching the Show will be of value to those who are but ill-acquainted with London, while a *résumé* of the leading features of each exhibit is published. The chief novelties consist of a new four-cylinder motor cycle, a new cooling system applied to a flat twin, and a twin two-stroke three-wheeler.

Restrictions.

ELSEWHERE in this issue we are able to publish preliminary details of the new taxation scheme. These details are not likely to appeal to the average motor cyclist, and may possibly act as a hindrance to the already handicapped trade.

It will be noted that the certificate of payment must pass to the new owner on sale of the machine, thus the prospective purchaser at the Olympia Show will—unless he can dispose of his present mount before the New Year—be obliged to pay for two machines at the new and increased rate, in spite of the fact that he may possess only one machine at a time.

The fact that the certificate must be displayed in a conspicuous position is, perhaps, a lesser cause for complaint, and has obvious advantages from the official standpoint. Nevertheless, it implies the addition of an extra handle-bar fitting, which will not be welcomed by those who are fond of "clean" bars.

Again, many riders have for years retained a number-plate to which they have become attached, possibly because of the low numbers or appropriate initial letters.

There are still many points awaiting elucidation, and one is constrained to wonder whether the Department concerned has not left the matter a little late. No official statement has been announced yet, only five weeks remaining before the new regulations come into force.

An index to the advertisements in this issue will be found on the page facing the back cover.

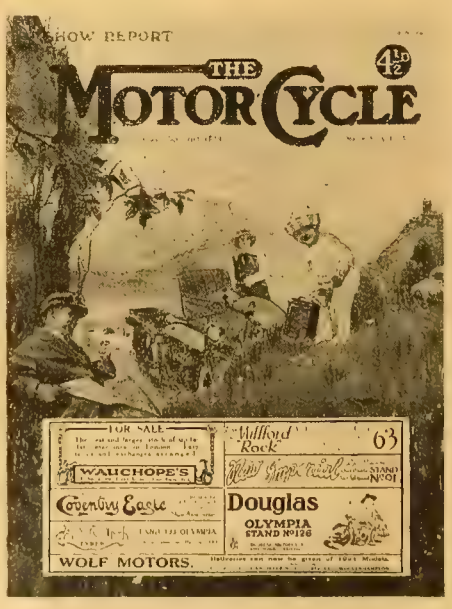
Occasional Comments by "Ixion"

Oil-cooling?

SOME months ago I ran into Granville Bradshaw, whose fertile brain was being tugged two ways. Apparently his tail lamp had dropped off its bracket, and been rolled out flat by a steam lorry; moreover, he had been charged some £2 for a new one. So one hemisphere of his brain was busy inventing a mass production tail lamp, which would merely dent the tyre or buckle the wheel of any motor lorry sufficiently misguided to run over it. The other hemisphere of his cerebellum was employed on a new engine, of which he did not display the drawings: but I gathered it was oil-cooled, and had the cylinders neatly concealed inside the crank case. In fact, my feeble brain conjured up a Heath Robinson nightmare of an overhead crankshaft. At the Car Show I ran into F. W. Barnes. "What's the latest Zenith stunt?" I inquired. He hinted that the latest Bradshaw engine *might* be seen on his stand, and that Emerson *might* be exploiting its track capacities before long.

A Loop Road Round London.

THE most amazing defect of our road system is the continuous failure of all road organisations to signpost a loop route completely encircling London. The ideal would, of course, be a special highway so distinctive that even a stranger would recognise it when he came to it. A cheap substitute, which is immediately possible at very small outlay, would be to signpost in some special way (*e.g.*, posts striped black and white) the existing loop roads which experienced suburbanites use when they drive, say, from Willesden to Kingston without crossing town. The loop roads already exist. A few metropolitan motorists know them all. But every year thousands of nervous car drivers and provincial motor cyclists flounder hopelessly in a maze of cross-roads in the effort to avoid such traffic vortices as Westminster Bridge and Trafalgar Square. Will the A.A. oblige? And if not, why not? Our contemporary, *The Autocar*, once published a useful map of these loops, but maps are unfortunately of little use to solo riders in this particular case—the net of roads is too close-meshed for driving by a map. Help in this direction would be specially valuable south of the Thames, for, to the average provincial, S.E. and S.W. comprise a vast *terre inconnue*.



A miniature reproduction of the coloured cover of our next week's issue, which will contain a full report of the Olympia Show.

An Autumn Ride.

COLD fingers certainly. A little blue-nosed, maybe. A certain restraint in corner work, thanks to the frequent patches of grease under the trees or where the road chanced to run sunless between high banks for a little way. But nevertheless quite the jolliest ride of the entire year. The foliage, instead of being a monotonous green, was splashed with every tint in nature's palette—quiet primrose, blazing orange, sedate russet, brilliant crimson, grey, brown, purple—what you will; maybe one tree with just a few palest yellow leaves still unfallen silhouetted against an evergreen cypress, so green that it was almost black: then a crazy chaos of orange, and green and mauve in giant splashes; then a tall, graceful leafless monster with silver bark clean cut against a lofty bank of vivid moss or fallen leaves, or fine needles. Just enough "bite" in the air to make you hungry and a country inn at the end of the run.

A Sidelight on Production Methods.

I AM bound to camouflage the facts which underlie this paragraph, but readers may take the figures as proportionately accurate. An inventor perfected a design of special interest to motor cyclists and got tenders for its manufacture from a British firm of the highest class—a firm which wanted work to keep a big plant busy. If he gave them the contract and allowed for a reasonable personal profit, the retail price would have come out at £75. It occured to him to get a tender from a French firm of equal standing. By giving them the contract and allowing himself the same percentage of profit, he could retail at £61 5s., of which sum over £15 was absorbed by import duty and cross-Channel transport. Under Free Trade the French article would have sold at less than £45, against £75 for the British article. This incident is eloquent of the difficulties under which export trade is now conducted. I do not imply that "ca canny" is by any means the sole factor; if any trades unionist likes to assert that "ca canny" has no responsibility for such contrasts, he will only strengthen the hands of those who teach that intensive production is needed to balance the handicaps from which our trade suffers (as it does, indeed, suffer at the present time) on the home as well as on the international markets.

The Best and the Worst.

A READER has compressed five years of motor cycling experience into a tabloid for my benefit, tersely naming the best and the worst sample of everything—'bus, engine, carburetter, lamps, etc.—and giving his reasons. The libel laws prevent my quoting his delightful impressions; perhaps I am further muzzled by the desire to be fair, as one man's meat is another man's poison, and our very best rough-rider (I name no names) implored me the other day to use no carburetter except that which my correspondent denounces. But an impromptu "best and worst" discussion would provide some fun for a club gathering on a winter evening, provided that any trade members were excluded, or, at least, handcuffed until the speakers had got a mile start on their several journeys homeward.

Flogging a Dead Horse?

'TIS an old saw which denounces flogging a dead horse; but I am going to talk waterproof gloves until I succeed in resurrecting them. I have scoured the earth for a satisfactory article, since the Continental rubber variety ceased to be procurable. At present I can only name the following successors:

1. Asbestol mitts. (Very warm. Don't get sodden under several hours' exposure to a real drencher. Too thick for delicate lever work.)

2. Archangel field force mitts. (Very warm. Waterproof. Too thick for delicate lever work.)

3. Dunhill proofed twill gloves, leather-faced. (These were specially made for me. Either the measurer or the cutter was at fault, as they are a bad fit. The firm stated that the proofed will won't stand much friction—hence the leather facings. The net result is waterproof, but too stiff.)

4. Beacon oil-skin mitts. (Strongly recommended by a correspondent. To my mind no mitt is nice unless you use a single lever carburetter.

The Cost of Electric Lighting Outfits.

DURING the past season I have heard many riders comment on the somewhat limited extent to which dynamo lighting outfits have adorned motor cycles up to date; in many cases they draw the conclusion that the reliability of these installations has been disappointing. Nothing could be further from the truth. I have personally covered a good mileage, and my sole difficulty was ascribable to an outside cause—accidental damage to an exposed cable. Three facts have militated against the popularity of these novelties. The first is a shortage of supplies, which will be remedied before another season opens. The other is more serious—their cost. A first-class acetylene set ranges in price from £5 to £10 according to size. An electric set has so far been charged at about £30 retail, if bought complete from its makers, or at about £24 if purchased through a motor cycle maker who allows for the magneto. The third handicap is the dislike which many riders evince for a rectangular battery case, awkwardly clipped in excrescent fashion on to the rear forks.

Some Considerations.

IN the new Maglita set the battery is carried in the rearward prongs of the lamp bracket, *à la* generator—a safe and convenient place, but no safer, no more convenient, and not so sightly as a platform on top of the gear box, where sufficient space can always be provided if designers are forewarned. The cost question will be solved. I have no experience of the Astra equipment, but it is advertised "complete from £12," which is getting down towards the price of a first-class high-powered acetylene set. The baby two-stroke edition of the new M-L installation is listed at seventeen guineas, from which the cost of an ordinary magneto must be deducted. So long as these sets cost appreciably more than a magneto plus a first-rate gas outfit, the ordinary rider will cling to acetylene, and manufacturers will hesitate to standardise an item which burdens their clients with unnecessary outlay. Ten pounds is about the figure (exclusive of the magneto) which would enable these installations to become universal. When that figure is reached, they will boom to an unprecedented extent.

THE LIGHTWEIGHT AT THE MEET.

Hunting has started in earnest, and at many meets the motor cycle has been in evidence. Here is shown a rider of a Junior Triumph enquiring of the huntsman where he is going to "draw."

WHAT THE SHOW WILL REVEAL

AN ADVANCE SUMMARY
of the Great Motor Cycle Exhibition which opens Next Monday.

THOSE who go to Olympia with the idea of finding a big change from present policies will have to look carefully if they are to discover much novelty. First impressions will undoubtedly produce the idea that there has been no change, but this impression will be only partly correct.

It is true that the majority of manufacturers will retain their existing models with but minor modifications, made during the past year; but there is an interesting undercurrent in existence at the present moment which will eventually steer motor cycle design into sound and progressive channels.

Specialisation.

The tendency towards the preparation of machines to meet specific requirements has already been noted in *The Motor Cycle*, and though it is no new thing as far as certain firms are concerned, it is beginning to affect the popular "$3\frac{1}{2}$." One of the first symptoms visible to the public appeared when Messrs. John Marston, Ltd., announced a light sporting model on the lines of their famous Tourist Trophy machine. Undoubtedly they will reap the benefit of their go-ahead policy, and the new model will form a centre of attraction for sporting solo riders. Messrs. Lea and Francis also are departing from their previous policy, in that they will stage a $3\frac{1}{2}$ h.p. three-speed solo machine on similar lines to the present two-speed model, and also an entirely new passenger machine with 5 h.p. M.A.G. engine and conventionally placed three speed gear. There are many others working on the same lines, including the Verus and Rex Co.'s, which next year will introduce "light" 4 h.p. models purely for solo use. Some other purely solo machines, with engines of 500 c.c., may not be ready for the Show. Many other examples might be given, including the N.U.T. and the new $3\frac{1}{2}$ h.p. Douglas.

This catering for specialised needs is all to the good, since a dual-purpose mount cannot possibly be either the best possible solo or the ideal sidecar machine, though its popularity is sufficient proof that it is admirably suited to its special purposes; indeed this should be so, since the type has received more attention than any other during the past few years.

Oddly enough, though the "$3\frac{1}{2}$" is likely to become a solo machine once more, many little two-strokes which up till now have been looked upon as purely solo mounts, are blossoming into sidecar machines with specially strengthened frame and sidecar chassis designed to suit.

Three-wheelers.

Amongst the three-wheelers, the Scott Sociable and the New Hudson will be new to the public, though both models, particularly the former, have been on the stocks for some time past. The Coventry Premier, modified in details only, has now attained its first birthday, and the Stanhope, front driven, has been on the road for several years, and to our knowledge has proved a remarkably tractable machine. The Castle-Three is a fully developed three-wheeler, with four-cylinder water-cooled engine and shaft drive and, like the T.B., which will also be exhibited, is only on level terms with the Premier so far as appearance is concerned.

Perhaps the best known three-wheeler in existence is the Morgan, which is noticeable for its simplicity as compared with latecomers to this market, which

What the Show will Reveal.—

tend towards over-elaboration rather than the production of the simple and inexpensive substitute for the sidecar. Several manufacturers of well-known sidecar outfits are experimenting with three-wheelers, which, however, will not be on view at Olympia, and it is to be hoped that these may be simplified to the utmost possible extent so that they may be sold at a price not in excess of their present productions. There is little noticeable change in engine design, and motor cycles have not yet followed the example of many post-war cars in adopting overhead valves and up-to-date design founded on war-time experience. The new 3½ h.p. Douglas, the 3½ h.p. Brough, and the Bradshaw-engined Zenith are exceptions, which will be on exhibition, though some of our most prominent manufacturers have experiments in hand.

Two Strokes.

The two-stroke design has improved to a certain extent, though this is not visible to the casual observer. There will be nevertheless the twin two-stroke of the Scott Sociable and the production model of the 500 c.c. single-cylinder Dunelt to attract the attention of two-stroke enthusiasts.

The flywheel-magneto Villiers is an interesting departure, since it offers an infinite range of spark advance, and thus overcomes one of the commonest two-stroke troubles, for the two-stroke requires a wider range than any other type, and yet, since the ordinary magneto runs at engine speed, it usually gets just half the range of a four-stroke engine.

The countershaft gear is now universal, but the Show will fail to reveal the use of lightweights fitted with suitable three-speed gears in any great quantities. Here the Levis and Velocette have made a bold attempt to get ahead of their competitors, and deserve to be congratulated for their perspicacity. The 2¾ h.p. Douglas has, of course, been fitted with a three-speed gear for the past year, but the Douglas firm have been pioneers in so many ways that one is apt to overlook their claims to priority.

Shaft drive seems to be as far away as ever, though the F.N., of course, will retain this feature. Those interested in shaft drive will find the transmission of the little Unibus worthy of examination. While not being motor cycles, but nevertheless driving to a single wheel, the T.B. and Castle-Three runabouts also will be of interest. Chain drive is forging ahead slowly, but there is no great change in this direction.

Equipment.

Larger tyres are on the increase, and it will be seen that saddle suspension has received much attention, but spring frames have not made the headway that might have been expected from the state of the roads.

Quite a few manufacturers will fit automatic carburetters at option, since during the past year several makes, notably the Claudel Hobson and the Cox Atmos, have given great satisfaction to the experimental staffs. Mechanical lubrication is slow in catching on, though Messrs. Lamplugh and Best and Lloyd have done their best to help in this direction. Here the American machines are undoubtedly ahead of us, and it is time that our designers woke up to the fact that nine out of ten riders do not know how much oil to give or when to give it, and would not wish to be bothered with the job even if they did.

The Real Lightweight.

There will be more complete electric equipments than ever before, especially since the M-L lightweight set is now an accomplished fact, and fulfils a much-needed end, as does the Lucas Magdyno.

In spite of the fact that, in 1921, a pound or two extra weight may mean an extra 30s. tax, there has been little attempt at weight reduction, but it seems probable that most lightweight manufacturers will be able to guarantee that their standard machines weigh not more than 200 lb. complete. Shall we see the real lightweight at the Show? Scooters, motorised push-cycles, and so-called lightweights, yes! but the real miniature motor cycle with two-speed gear weighing around 100 lb. has not yet appeared. There are such machines in the experimental stage, and every effort is being made to finish them in time for the Show. They are on the stocks, by now they may be on the road, but it is likely that those who go to Olympia to find them will be disappointed.

Those who have read so far will say they can see little that is new, and that, we fear, will be the verdict of many casual observers who go to Olympia. Nevertheless, there will be novelties, and no good motor cyclist should miss the great exhibition, for there is much to be learned from a comparison of machines, and there is an undercurrent of novelty which is the first symptom of a great change. Business and manufacturing difficulties have not encouraged departures from standard practice up till now, but when trade becomes more normal it will be found that the more progressive of our manufacturers will be ready to blossom out with something quite new to the public, though thoroughly tried out by themselves.

Novelties.

We know of a four-cylinder sidecar outfit that regularly does 100 m.p.g., and several new types of twin-engined machines, but the public will agree that little would be gained by exhibiting them when their production on a commercial basis cannot be organised for several months to come.

There *are* entirely new models, however. Among others the 4½ h.p. Ariel, the 3½ h.p. Douglas, the Bradshaw engine, and the 5 h.p. Lea-Francis are new throughout; the Enfield has a splendid new engine, built for them by Vickers; there will be at least one new four-cylinder machine—and a countershaft Rudge will be shown. And there will be new sidecars and accessories galore.

No motor cyclist who can afford the time should miss a visit to Olympia. There he will see that, although the innovations may not be startling, almost every exhibit will reveal sound commonsense progress in several directions.

Another trend indicating the commercial development of the motor cycle movement is shown by the number of sidecar taxicabs which will be exhibited. In these days of high prices this form of transport, which offers cheaper facilities, bids fair to become popular as soon as police regulations are satisfied.

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OFF THE BEATEN TRACK.

The A.J.S. on Bobbin Mill Hill. This stiff loose gradient leads from the lovely vale of Duddon, which lies between Coniston Old Man and Scawfell, climbing finally into the midst of the Langdale Pikes.

OVER *the* CUMBERLAND FELLS *with a* SIDECAR

BY GEO. D. ABRAHAM

A Lady's Exploits with a Sidecar on the Packhorse Tracks in Western Lakeland.

Author of "The Complete Mountaineer," "Motor Ways in Lakeland," "On Alpine Heights and British Crags," etc., etc.

THE war brought a considerable increase in the number of lady drivers, but nowadays they are seldom seen on the Lakeland secondary roads. True there are very few whom one would wish to accompany over these adventurous mountain heights, which add spice to the taste of touring. But the invitation was irresistible when Mrs. Riley, an expert competition rider, suggested a sporting run on her new A.J.S. outfit; for there were pleasant memories of her many feats on the Lakeland hills. Surely one might go anywhere with a driver who, for instance, had made the first lady driver's crossing of Hard Knott and Wrynose Passes from Eskdale to Langdale.

Thus there was a feeling of security as we set our faces southward from the northern metropolis of Lakeland, upwards over the char-à-banc-thwarted hill of Castlerigg, and down into the depths of Naddle Vale, with Helvellyn towering ahead, all golden purple and pink in full autumn vesture. We were bound for what is undoubtedly the finest long day's motor run in Lakeland, and, with the exception of a venturesome *détour* over a shoulder of bulky Black Combe, it is a very useful route for all motorists visiting the northern land of mountain and lake. On this account the details and principal features are well worth mentioning.

Thirlmere was seen at its best in glorious sunshine, after a summer wherein St. Swithin had extracted his full penalty of forty days' rain, and the forty-first day gave promise of a wonderful autumn, which was then being fulfilled. There was nothing to be seen of the ugly mudbank shore lines which last year resulted from Manchester's thirsty toll on the lofty lake. But the popular road on the eastern side of the dale had sadly deteriorated. Despite the remarkably efficient springing of the A.J.S. machine, interminable pot-holes spoiled the enjoyment of the scenery in comfort, and there were regrets that the curlier and longer way on the western shore had not been chosen, for it still retains an excellent surface. The long straights on the eastern side were strong evidence that speed soon tells on the best of roads. One wonders if in normal running a char-à-banc has ever been known to travel this section at the legal limit of twelve miles an hour.

A Jarring Note.

On high gear the sturdy machine carried its heavy load of three passengers and luggage speedily over Dunmail Raise and down into the pretty valley, where ugly sports erections still bore evidence of the *outside* world's invasion of "Grasmere's peaceful vale." On entering Ambleside the main trunk road was left by turning to the right and so through the foliaged hollows to Skelwith Bridge, with the Langdale Pikes looming ahead, ever beautiful in colour and contour. After crossing the Brathay, the twisting steeps of Oxenfell

Over the Cumberland Fells with a Sidecar.—

showed the normal climbing powers of the machine to perfection.

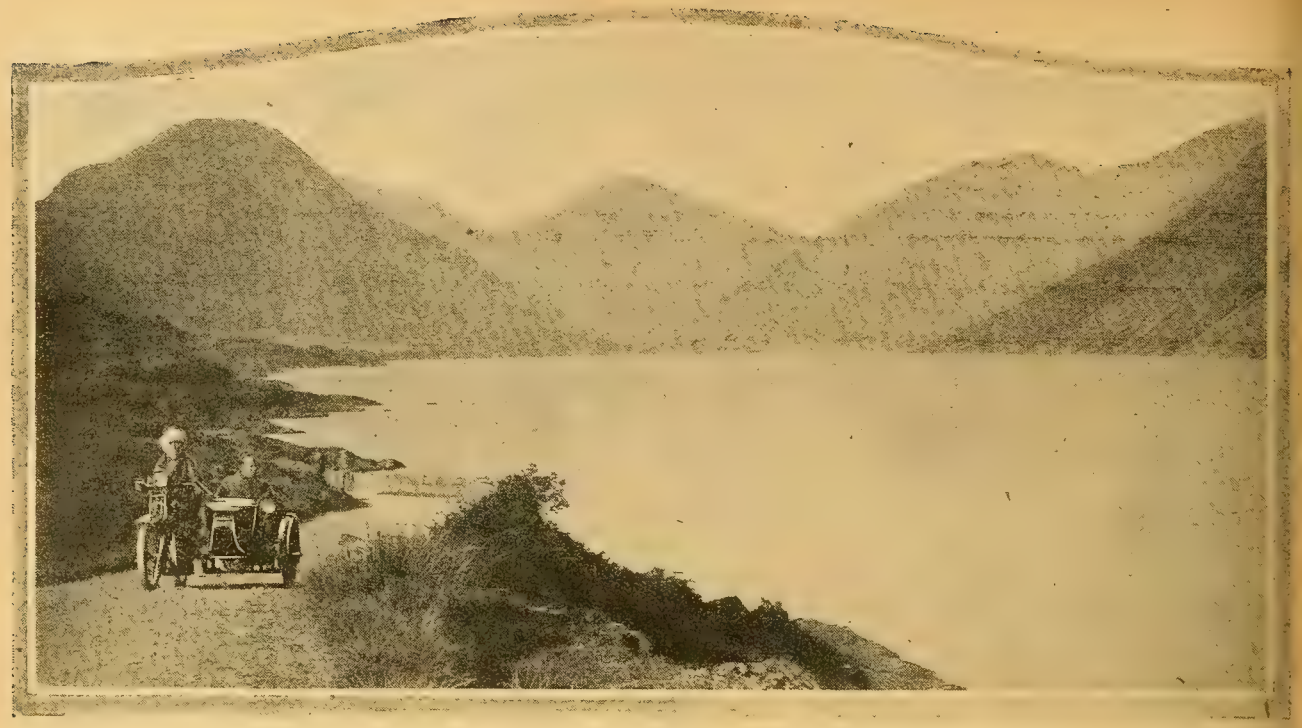
Soon we were speeding over the lofty wilds with distant views of Wrynose and its attendant rugged sentinels, whilst nearer at hand the road wandered onwards past rocky hollows 'midst a pageant of colour splendour, and through air strong with the scent of sunny heather. Down the brackened depths of Yewdale, with overhead glimpses through the larches of grim, grey precipices mantled in pervasive pinkness, we came under the shadow of the Old Man to the grey narrows of Coniston. Over its awkward bridge and round the sharp corners, where grey and white dwellings close-lined the roadway, the route lay distantly along the western shore of Coniston Water and on to Broughton-in-Furness. The main part of the town was missed by branching to the right, and so for a short time we followed the main west coast road to Duddon Bridge.

An Awkward Climb.

A sharp turn to the right now led into the pretty tree-clad hollows of Duddon Dale, and after negotiating the surprisingly awkward hairpins on Bank End Hill, where the three-speed gear box proved a friend in sudden need, we climbed over the slopes and swung down to the picturesque bridge over the Duddon at Ulpha. With a view to new hill discoveries for the next trials in Lakeland, the village of Ulpha was avoided by turning sharp to the left after crossing the bridge. Incidentally, it might be mentioned here that for those tourists who are making the round of the Lakes, the quickest way would be to run to the right beyond the Ulpha Bridge, and at the Traveller's Rest Inn turn up the steep hill on the left which leads to Birker Moor, and so over to Eskdale. The alternative ordinary route, which is considerably longer, would skirt round the southerly front of Black Combe, avoiding Millom by going from Hallthwaites to Whickham, where the main highway would be joined.

(Top) At the foot of Wastwater, where the road swerves out from the last of the trees to the wide open shore-line of Britain's deepest lake.

(Bottom) The A.J.S. in the shadow of the Screes by Wastwater. This is the most impressive of the Lakes, and the precipice on the further side, along which it is impossible to construct a road, plunges down 250 feet below the lake surface.



Another view of Wastwater, which conveys a good idea of the grandeur of the mountain scenery.

But the less-known mountain road over the high shoulder of Black Combe appealed irresistibly, and, turning south-west from Ulpha Bridge, there was a speedy dash at the tree-clad confronting heights. We jumped stirringly over a narrow, sharp, hog-backed bridge, to find ourselves suddenly "smacked in the face," as our eager driver pithily put it, by a regular cat's climb of a place. Instantly there was deft handling of the gears, and we were at grips with a long, stony gradient of 1 in 4. The ascent proved somewhat of a struggle, yet the heavy weight on the carrier prevented serious wheel slip, and ere long we were out amongst the heather and bracken revelling in a glorious prospect over Duddon Vale with the river curling far up into the southerly recesses of England's highest mountains.

The Summit of Black Combe.

A narrow "tricky" road now led steadily past lonely mountain farms that showed evidence of wild weather on these far-away heights; but now the sweet scent of hay was wafted in soft breezes from flowery pastures, wonderfully Alpine in effect and beauty. The road was excellent past Logan Beck, but surprising gates were frequent. One of these accentuated another excellent feature of the A.J.S. machine, for the front mudguard is arranged so far back that it was possible to slide into a gate and only the tyre took the impact. Fortunately, the aged gate was collapsible and readjustable. Then at the three road ends, one of which came up from the westerly side of Duddon Bridge, a signpost indicated a broad, grassy road leading to Whitehaven, and this carried us easily up a two-mile climb to the summit of Stoneside, 1,838ft. above sea level. Cloud-capped and gloomy, Black Combe justified its name. Then we swept swiftly over the crest, leaving behind the wild array of mountains, range beyond range, and gazing suddenly ahead over the open sea with rich tilth-lands underneath us lining the golden sands and afar off the peaked mass of the Isle of Man hanging apparently in mid-air.

From near this point, had time permitted, it would have been an easy walk to the top of Black Combe, which, from its peculiarly isolated situation, affords almost the finest viewpoint in the country. In really clear weather, England, Ireland, Scotland, and Wales may be seen. In fact, Wordsworth could scarcely be accused of poetical licence in his lines:

> "For from the summit of Black Combe (dread name,
> Derived from clouds and storms!) the amplest range
> Of unobstructed prospect may be seen
> That British ground commands."

Beyond the highest point on Stoneside the road divided—that to the right would have led more shortly to the main road near the foot of Eskdale, but after such a wet season boggy sections might have threatened engulfment, so the direct descent to the main road at Bootle was chosen. This was steep, grassy, and exciting, but one admired the beautiful soft, safe braking of the machine and the unusual comfort of the sidecar. A double hairpin in the lower section proved so entertaining that our plucky driver persisted in putting her skill and the A.J.S. against the difficulties of an ascent. It was a somewhat thrilling performance, and this Bootle Hill can be strongly recommended to those in search of adventure. Can it be climbed excepting under dry conditions?

A Feast of Colour Splendour.

Once on the main road it was a delightful run northwards over capital roads, with ever-changing glimpses towards the mountains and wide-views over seaward stretches; then, on past Eskdale until, beyond the glimpses of tree fringed Muncaster, the shapely heights

Over the Cumberland Fells with a Sidecar.—

of Wastdale appealed irresistibly. About three miles beyond the Muncaster Castle entrance a road on the right led up to Santon Bridge. Soon we were mounting upwards to scan that wonderful prospect over Wastdale, with the huge masses of the Screes bulking largely on the right, and in the centre Great Gable lording it finely amongst a host of giant peaks. Nearer at hand larchy hollows and grey, rocky foothills, fringed with heather and golden gorse, formed a magnificent feast of colour splendour in the rich autumn warmth of evening sunshine. This, and the sight of Wastwater—the most impressive of the Lakes, embosomed amongst England's grandest mountains—proved the unforgettable features of a remarkable day's outing.

Deep and Gloomy Waters.

The notable details of this remote Lakeland dale are the highest mountain, the deepest lake, and the smallest church. Time did not permit the run to be made up to Wastdale Head to see the quaint little sanctuary sheltering in the shadow of the eternal hills, but it was easy to realise the depth of the gloomy waters hid under the rugged precipices of the Screes, which plunge far downward below sea level. The height of the surface of the lake is 200ft. above the sea, and the depth is nearly 260ft.

The return journey from the shore near the foot of Wastwater, where the capital roads still bore evidence of the good work done by German prisoners during the war, was made by the high level route under the rugged scarp of Buckbarrow to Gosforth. Thence, after a speedy run to Calder Bridge, the useful divergence was made to Cold Fell, where a splendid road saved time as well as distance, and afforded more of the pleasures of the heights. After revelling in the sunset gleam over Ennerdale, with the rosy afterglow tinging the Pillar's rugged dome, the quickest homeward way lay by Lamplugh, Loweswater, Lorton, and the more familiar pass of Whinlatter. In gathering gloom we slid down into the vale of Derwentwater with pleasant memories of a day of perfection both of driver, machine, and ideal weather, such as this treacherous summer has seldom afforded.

The distance covered was just over a hundred miles, and, with the exception of the divergence from Duddon Dale over the shoulder of Black Combe, the roads were in excellent condition—in fact, much better than in pre-war days. There are few parts of the country of which the same can be said.

A Forecast of the New Taxation Scheme.

Licences to be carried in a Visible Position. Special Regulations regarding Sales.

IT is now possible to clear up a few points about which our readers are in doubt concerning the new taxation scheme. As has been previously announced, the following motor cycle taxes will be imposed: Motor bicycles up to 200 lb., 30s.; over 200 lb. and up to 8 cwt., £3; sidecars, £1; three-wheeled cycle cars under 8 cwt., £4. It is anticipated that these weights will be less fuel and oil, and loose accessories such as horns, lamps, speedometers, watches, clocks, and badges.

It is not likely that the authorities will insist upon every machine being weighed, but probably if a machine is suspected to be over weight the motor cyclist will be expected to bring proof that it weighs the amount claimed by him.

Many motor cyclists have been in doubt as to the future of the registration of the machine, and in this connection we are now able to announce that the registration fee is included in the licence fees, but in addition the motor cyclist will still have to pay the 5s. for his driving licence.

Log Books Required.

The registration must be with the registration authority of the district in which the motor cyclist resides, and he will have to fill up a declaration form. He will also have to carry a licence card in such a position on the machine that it is clearly visible from the near side. This card will be about 4in. × 3in., and must be carried in a waterproof case. This will enable the police to see without stopping the vehicle that the licence fee in respect of it has been paid.

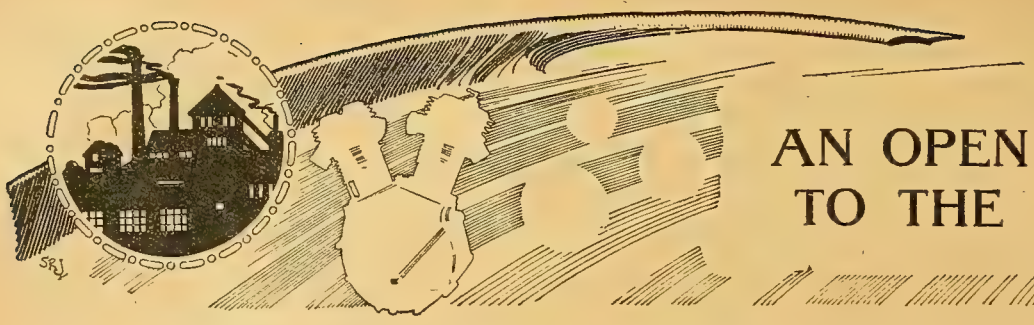
Every owner will also have a registration book, which will take the place of the copy of the entry of the registration he now possesses. This book will belong to the machine and will record its whole history. Therefore, in years to come, if the machine is still running, the book will give the particulars of each previous owner. Also, no machine may be sold without the registration book, and if an owner loses one it is likely to be a serious matter for him. He will have to satisfy the authorities that it was really lost, and will probaby have to pay to obtain another. The idea does not appear to be a very happy one. Many motor cyclists are, we are afraid, naturally careless, and it is reasonable to suppose that a good many of these books may be lost.

No Quarterly Licences.

One of the results of the new regulations will be that a motor cyclist may not retain his old number after this year. Previously, it may be remembered, he might, on selling his machine, cancel the registration and ask permission of the authorities to have this number transferred to his new mount. For the present, existing numbers may be retained, but they must be recorded by the local licensing authority.

The motor cyclist will not have the opportunity of taking out his licence quarterly or half-yearly, but it must be borne in mind that the licence belongs to the motor cycle, and if it is sold during the year, and a second-hand one is purchased on which the licence has been paid, no further expense is entailed.

It will be seen from the above outline that there will be a very great increase in the formalities with which the motor cyclist will be compelled to comply on January 1st next. No doubt these will prove irksome, especially until riders become accustomed to them, and it is not at all clear why all the new arrangements have been introduced. The log book idea is apparently an effort to frustrate motor thieves, who at present appear almost free to do as they wish.



AN OPEN LETTER TO THE TRADE.

Reviewing the Progress of the Industry since Last Year's Olympia Show. Prospects and Possibilities for 1921.

GENTLEMEN,—Once more it is my privilege to address an annual letter to you, and to congratulate you that we are now within nodding distance of business as usual, after four and a half years of war work, and two years of reconstruction and a motor cycle famine which inevitably accompanied your efforts to clear off the accumulated arrears. I don't know that I ought to say "business as usual," for you are having a trying time with "E.P.D."; those of you who have genuine sympathies with Labour (as I know most of you have), find yourselves between the devil and the deep sea as demand flows and ebbs: and our export prospects are certainly as streaky as a Cubist painting of a thunderstorm. Still, we are attaining a sort of equilibrium between supply and demand—not quite the equilibrium which we dreamt of during the nightmares of the war, but something better than the emergency manufacture of fuses, or the "kissing goes by favour" sort of delivery system into which you were driven last spring.

In the Matter of Prices.

With very few exceptions you have emerged most creditably from the maelstrom of the past few years. Most of you did all that could be expected in maintaining "service" for the users of your pre-war 'buses. I know there were a few shocking failures in this respect, but the public will give them cause for repentance, so we will try to forget. Most of all, I have to congratulate you, on behalf of all discerning motor cyclists, because you resisted the temptation to profiteer in the first half of 1920. Motor cyclists are like the crowd at a football match, who generally boo the referee when he gives a decision against the home team, even if their hefty full-back has handled a bantam wing man after the fashion of an elephant stepping on an egg-shell. So we, your customers, invariably grumble when you give a decision against us and put up your prices. But we are surely rather foolish: and we have all noted two things. One is that you have not put prices down again, as certain car firms have done: and we know you would if you could, for there will hardly be a fat living for all of you when demand has shrunk to normal dimensions. Secondly, however much we complain at your prices, we notice that they haven't gone up as much as clothes, boots, food, tobacco, and whisky. From which we gather that, if your figures sound rather steep, they are, nevertheless, commercially justifiable. You doubtless regret them as much as we do. Anyhow, we realise that your scutcheon bears no very indelible stain of profiteering, so here's to you! (By the way, what is a scutcheon?)

And so to technical matters. Some of you served in the Army, and you remember what happened at sick parade. You possibly had lumbago; your right-hand man had mumps; your left-hand man had scabies. But you all got a No. 9 pill. Which things are a parable. Thuswise. Jones is superintendent of a district for an industrial insurance company, and rides solo in all weathers. Brown is an undergraduate knut (pale mauve socks, shirt, tie, and, for all I know or care, pants as well). Robinson is an elderly grocer with a small wholesale business amongst rural chandlers: he drives a sidecar, filled from Monday to Saturday with grocery samples, and on Sunday by Mrs. Robinson. In the bad, pre-war days you supplied identically similar machines to all three users, except that you gave Brown a higher gear and a shorter, flatter kind of handle-bar. That is what I meant by reminding you of the dear old No. 9 pill. Silly, isn't it? So your standard 3½ h.p. was stiffened up to withstand poor old Robinson's bad driving, and geared down to haul Mrs. Robinson's ample, matronly 15 st. up Porlock on their summer tour: and it was rapidly becoming impossible to obtain a reasonably light and lively solo touring machine. "Thanks be," as they say in Ireland, No. 9 has made some of you think. The Sunbeam people are slashing lumps off their 3½ h.p. as if they were carving for a purple-faced alderman at the Lord Mayor's banquet; and I hear others are following suit. That extra tax on machines scaling over 200 lb. in 1921 may do a lot of good, eh? Or are you going to accept supertax on all touring machines, and confine the rebate to the babies? I fancy you'll get stung by some of the brightest brains in the industry if you should take that line.

The Case of the Spring Frame.

We can't blame you for the added discomforts of riding. You and we pay for the roads: but we neither designed them, nor made them, nor ruined them. What are you going to do about it, all the same? I know spring frames are not booming quite as much as we all expected. Too heavy, certainly. Too expensive, perhaps. But the real crab against them is that a super-fork with a super-saddle, and a pair of great big puddingy tyres affords about the same comfort at the same cost and without sacrificing simplicity. Of

An Open Letter to the Trade.—

course, we can't have full provision for comfort at a really low weight: and that is where different sections of the public are pulling you different ways. Here's a story to the point. A young man married into a family in which all the girls' hair turned grey at 28. People soon began to say he'd married her for her money. He said he wouldn't have complained if she'd had any money. I don't think many motor cyclists will complain of the weight of your machines provided they are really comfortable: but if they are neither—? For the immediate future give us the choice between a light, unsprung machine at less than 200 lb., and a heavy, pot-hole-defier, which may weigh almost anything you like so long as it doesn't give us concussion of the spine.

As a blindish sort of old gentleman with numerous evening engagements, let me say how I relish your new electric lighting systems. I now get home punctually without suffering from a fiery sensation at the back of the iris, and without having frequent fracas with pedestrians whom I have inadvertently rammed. These dynamos are very dear and rather heavy: but they are unquestionably the goods for the night rider, who hails them as his ancestors hailed the first high-tension magneto.

Fine Weather Finish.

You have probably noticed that machines are quite as awkward to clean as they used to be? It doesn't worry me. When I receive delivery, I apply a certain dope to the nickel plating for which you evince such an absurd fondness. It makes my plating look a thought sickly, but it keeps rust at bay. When I sell the 'bus, it takes me about eight hours with a sand-blast, a steam jet, a vacuum cleaner, a pick-axe, and a gallon of Brasso. My next door neighbour is eighteen years of age, and something of a dude. He spends at least twelve hours a week cleaning his 1920 machine. *Can't* you do something to shorten the process?

There are three motor vehicles for which you may hope to find a moderate assortment of spares in any sizable British town. I am sorry to say that the most universal supply fits an American car: I am proud to add that the other two supplies fit British motor cycles. "A stock of spares in every sizable town" is one interpretation of that much-abused term, "service." Another is to keep a businesslike man in charge of your replacement department in the Midlands. The latter is the standard usually accepted in the motor cycle industry. I fancy the time has come for an intermediate system. It costs a Westmorland rider several pounds to send his 'bus to Wolverhampton, and the process of obtaining a small spare by post is a four-day job. His lot might be transformed if there were a super-agent with a skilled mechanic and £100 worth of spares in Carlisle? I won't speak of overseas "service": you know what it is, so do I. We both know that it is the quality of the "service," quite as much as the quality of the 'bus, which gets the trade over the water.

The Efficient Front Brake—

There are a few lesser items in regard to which we eye you magnates of the trade with hope and trust. We have waited long enough for front brakes which are safe, usable, and powerful. One or two came along this year. Are they the van of a mighty host? There are tool-kits and tool-kits. At the Car Show the Standard people pinned their tool-kit up on a blackboard. You'd be surprised to know what interest it excited. Some motor cycle manufacturers could wisely copy the dodge: others would rather lie down in front of a lampless steam roller on a dark night. Some of you do your own motoring in Rolls-Royces: some of you on two wheels. The former class do not comprehend how much lumber the average motor cyclist carries with him on his jaunts. I have just catalogued my own odds and ends. One spare plug, two spare electric bulbs, three one-minute tyre levers, a tyre repair kit, half a dozen chain bits, a rivet punch, a tyre gaiter, some "concentric" electric wiring. Where do I stow them? Obviously the off side tool-bag, which has a c.c. equal to that of a half-pound cocoa tin, cannot accommodate the lot. They used to go inside my gas lamp until twilight: now they mostly reside in my pockets—ask the tailor what my bill for ironing and pressing my Mallaby-Deeley's was last quarter.

— And 1921.

Well, gentlemen, this mixed brew of bouquets and tirades is getting somewhat tedious. As you know, we riders bark a great deal more than we bite. We have not been through the mill of producing a motor cycle with shareholders all around us, Bob Williams spouting in the town on Sundays, and Austen Chamberlain sending his myrmidons round once a week to demand a few more millions of E.P.D. for the new war in Mesopotamia. So we are really heartily proud of you and of the 'buses with which you provide us. We wish ourselves a fine season in 1921 with a keenly fought T.T. and a less Colonial Six Days: and we wish you pleasant relations with Labour, a new Chancellor of the Exchequer, and a healthy recovery in all-round trade.—Yours very respectfully,

B. H. DAVIES.

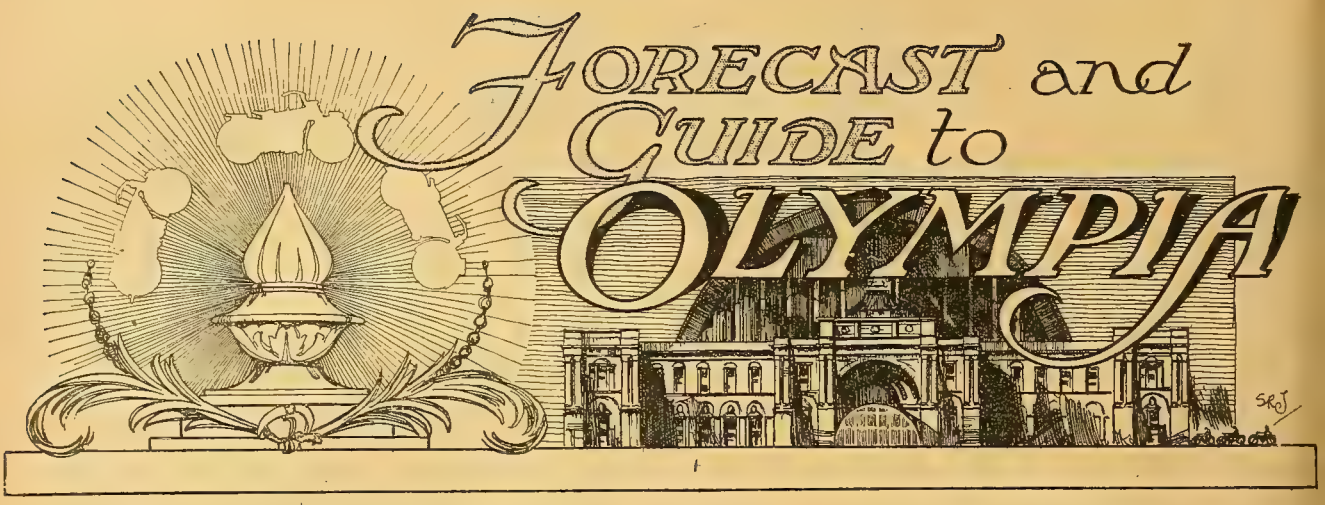
"PHOTOGRAPHY MADE EASY."

THE motor cycle and the camera are almost complementary, especially to the man who rides for pleasure, so we need not apologise in calling our readers' attention to an excellent volume on the use of the latter. "Photography Made Easy*" is the title, and a perusal of this little volume convinces us that photography *is* easy—when one knows how.

Much of the pleasure of photography is missed when the services of the professional are utilised for the developing and printing processes; and these tasks, with a proper understanding of the subject, are interesting and easy. The volume provides this information in a simple, clear, and readable form (the chapter on lenses, for example), and in a manner that should be of much use to the expert. The author is R. Child Bayley, who is also editor of *The Amateur Photographer and Photography*.

* Published by Iliffe & Sons Ltd., London, at 3/3 post free.

Forecast and Guide to Olympia



Exhibits at the Motor Cycle Show which opens on Monday next, arranged in sections grouping the several classes of machines.

I.—SOLO MOUNTS .. .. .. pages 620 to 622
II.—DUAL PURPOSE .. .. .. „ 622 to 626
III.—MACHINES FOR SIDECAR WORK „ 627 to 632
IV.—SIDECAR ATTACHMENTS .. pages 633 to 636
V.—RUNABOUTS .. .. .. „ 636 to 637

Section I.—SOLO MOUNTS.

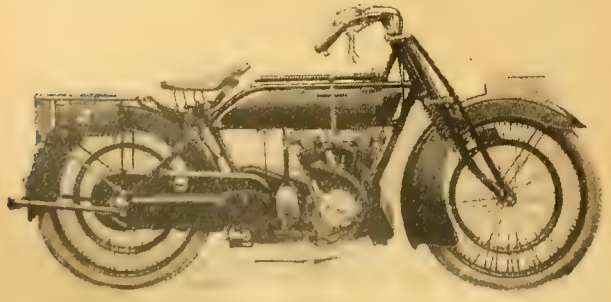
In last week's special lightweight issue we gave particulars and illustrations of 55 lightweight motor cycles and miniatures which will be marketed in 1921, and which will be exhibited at Olympia next week. In order to make this section of our forecast complete, we give below a list of these solo motor cycles of the smaller type, together with the number of the stands upon which they will be staged.

	Stand No.		Stand No.		Stand No.		Stand No.
*Alecto	147	‡*Calthorpe	112	*Kingsbury	43	*Radco	61
‡*Arms	22	†Diamond	98	†Kenilworth	144	§‡Royal Ruby	125
†Autoglider	21	‡Dot	28	*Levis	121	*Sparkbrook	122
†Abbottsford	162A	‖Douglas	126	*Motoped	18	*Sun	65
*Allon	62	‡Edmund	145	*O.K.-Junior	101	*Triumph	114
*Beardmore-Precision	115	*Enfield	118	†Skootamota	142	‖*Verus	161
*‡Beaumont	163	§‡*Excelsior	67	‡Massey-Arran	24	†Whippet	26A
§Bradbury	60	†*Francis-Barnett	34	*Metro Tyler	57	†Unibus	26
*Clyno	141	†F.N.	139	‡New Imperial	91	*Velocette	123
§Coulson-B.	162	‡*Hobart	102	*New Hudson	75	*Vindec	191
‡Chater-Lea	90	§‡Hoskison	51	*New Scale	130	*Victoria	127
*Connaught	95	*Ivy	124	‡*Omega	27	‖Wooler	33
*Cotton	165	‡J.E.S.	111	‡*Olympic	32	§Wilkin	146
*Cedos	36	*James	88	*Paragon	56	‡§*Wolf	76

§ 350 c.c. four-strokes. ‖ Flat-twin. * Two-stroke. ‡ Four-stroke. † Miniatures

Stand **LEA-FRANCIS.**

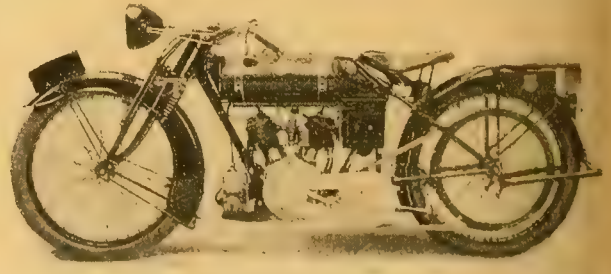
58. A 3½ h.p. M.A.G. engine forms the power unit of this well-known twin solo machine, and for 1921 a three-speed gear, in place of the two-speed hitherto used, will be included in the specification. It is a machine which stands almost alone, in a class known for its superfine finish and refinement in detail. Larger tyres than usual on solo machines are fitted, viz., 26×3in.



The 3½ h.p. Lea-Francis shares with three others the market existing for 500 c.c. V twin solo mounts. The engine is a M.A.G. with a cylinder capacity 496 c.c.

Stand **N.U.T.**

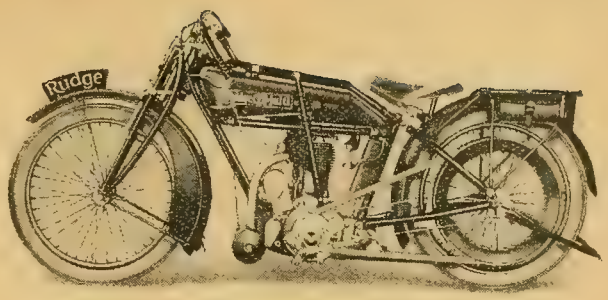
140. Although described fully in last week's issue we again illustrate the 3½ h.p. N.U.T. in order to make this section as complete as possible. Built purely for solo work, it is fully equipped for the road, and has a Magdyno lighting and ignition set as part of the standard equipment. A special T.T. model will also be shown which retains most of the standard features, but is fitted with an overhead six-valve engine and a plain magneto in place of the Magdyno.



Fully equipped with Magdyno lighting set and many other refinements, the N.U.T. 500 c.c. V twin last year set a new standard in solo machines.

Stand **RUDGE.**

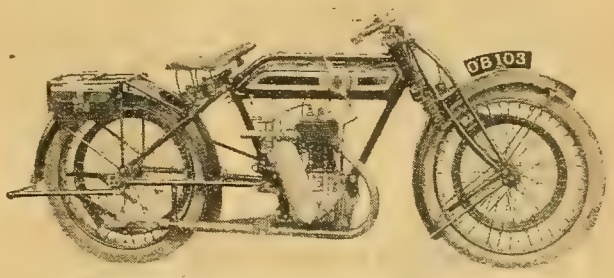
113. A type of machine for which there is always a steady if somewhat limited demand, the Rudge 3½ h.p. (85×88 mm. = 499 c.c.) Isle of Man models will attract the attention of those riders to whom the charm of infinitely variable gearing appeals. No more desirable type of solo mount can be imagined, especially when a clutch and starting device are incorporated in the design. The necessarily high bottom gear ratio and the all-belt drive demand reasonable handling if the machine is to be used in a mountainous district.



The success of the Rudge in the 1914 T.T., and the convenience of the multi gear, are responsible for its continued popularity as a solo mount.

Stand **ROVER.**

89. Although the majority of Rover models are of the utility or double-purpose variety, the makers nevertheless find that a certain market is always open for a machine stripped of all but its bare essentials. To fill this the sporting direct driven 3½ h.p. single-cylinder machine will be shown, and it should make an irresistible appeal to the man who wishes to shine in speed events, or who finds his joy in keeping a highly efficient engine in the very pink of tune.

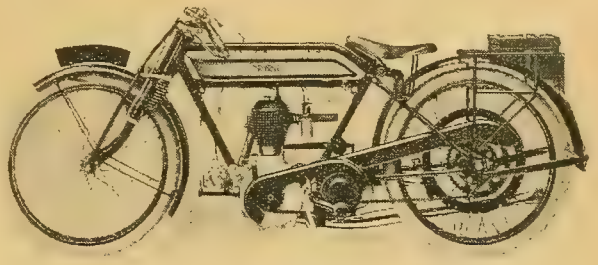


A simple solo single which the New Rover Cycle Co. will offer to sporting riders. Recently we observed it accomplish a speed of 75 m.p.h.

Stand **NORTON.**

71. The 3½ h.p. single-speed Norton may be regarded as the culmination of its type; it represents the best of a class which was predominant in the hey-day of the "singles," and it still makes its claim for popularity. It pioneered the long stroke movement, and its 79×100 mm. (490 c.c.) engine is an object lesson in clean and efficient design.

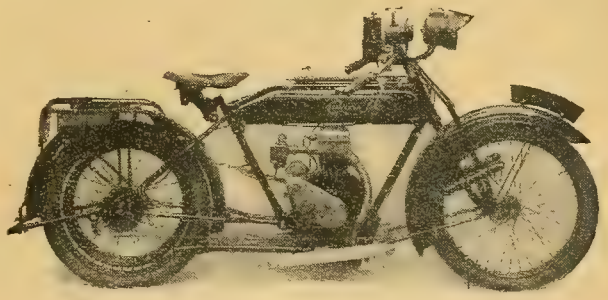
While the direct, belt-driven "3½" is nowadays regarded as a survival, no sweeter running and more flexible mount can be imagined, especially if the Philipson pulley is used. To the man who "travels light" and confines his week-end kit to a tooth-brush and a safety razor it makes a touring mount which teaches the joy of living.



A favourite with speedmen—the 3½ h.p Norton

Stand **CORONA.**

47. Simple engine construction with outside flywheel and mechanical lubrication are features of the Corona engine, which has been designed primarily for incorporation in a sporting solo layout. The 3½ h.p. engine is full of interest, and several innovations are embodied in the frame and forks; these are dealt with on another page.



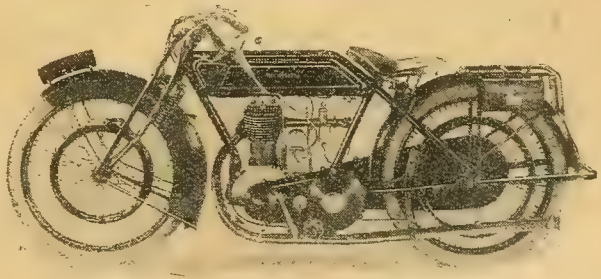
The crank case and part of the cylinder are integral in this new outside flywheel Corona.

Stand **SUNBEAM.**

129. A complaint frequently urged against modern machines of medium power is that they often tend to become unduly weighty in the maker's efforts to render them suitable for sidecar work. The result of this feeling no doubt has brought into being the 3½ h.p. sporting model Sunbeam, which has been based upon the general lines of the standard productions of the firm with certain detail modifications which make for weight reduction, such as the elimination of the kick-starter and the substitution of ordinary wheels for the quick detachable variety. Whether the makers succeed in persuading the public to refrain from attaching a sidecar is a moot point.

Stand **REX.**

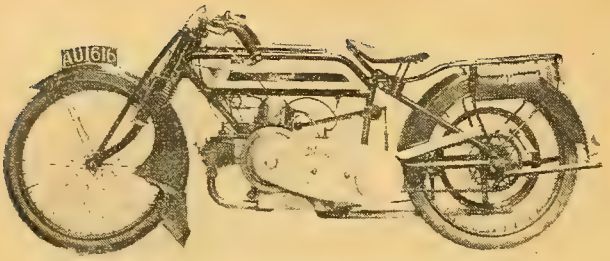
84. Hitherto the post-war products of the Rex Motor Co., Ltd., of Coventry, have been in the direction of sidecar outfits, but it has been felt that the old-established name (always associated with advanced designs) should be represented by a solo model; in consequence a lighter machine, of much shorter wheelbase than the standard, will be shown. It has a 4 h.p. Blackburne engine, three-speed Sturmey gear, and Brampton forks combined with many detail refinements, peculiar to Rex machines.



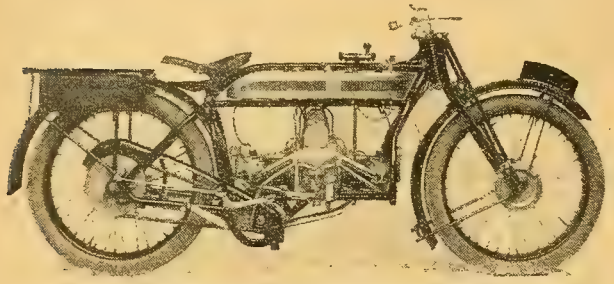
A new 3½ h.p. sporting Sunbeam—designed specially for solo work.

Stand **VERUS.**

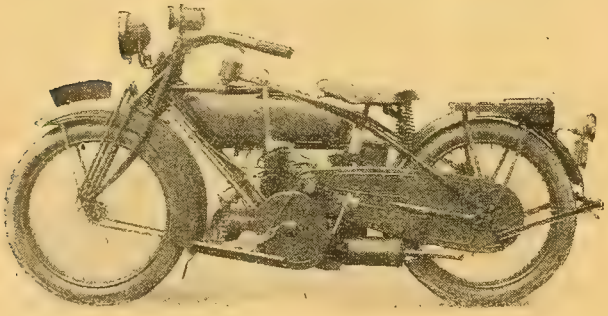
161. Designed purely for solo service two new models of the Verus will make a strong appeal to visitors to Olympia. The light sporting frame and a Sturmey-Archer three-speed gear box are common to both machines, one of which has a 4 h.p. Blackburne engine, and the other a 2¾ h.p. power unit of the same make. It is interesting to know that the latter scales but 195 lb., and will therefore be subjected to the 30s. tax.



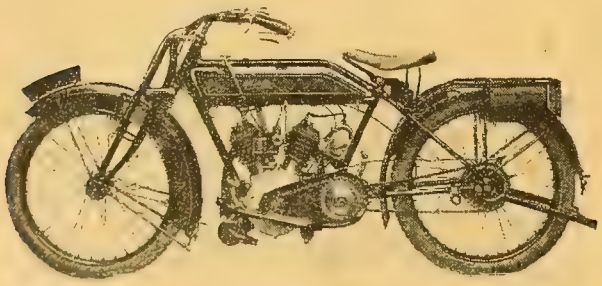
A solo flat twin with overhead valves—the 3½ h.p. Brough.



The first all-chain-driven Douglas is the new sports model "3½," which has overhead valves.



A mount originally designed to conform to the requirements of solo riders in America—the flat twin Harley-Davidson.



3½ h.p. James V twin solo machine—a light and therefore handy mount with plenty of power.

Stand **ZENITH.**

87. Although of recent years Zeniths have had big twin power units, they have been very popular solo mounts; but it was only last year that a machine below 500 c.c. was marketed. It embodies a soundly designed flat twin engine of 58.75×65 mm. (347 c.c.), and, of course, the Gradua gear, which operates from a countershaft underneath the engine. Primary chain adjustment may be effected by a vertical movement of the countershaft without affecting final belt tension. By means of an ingenious link mechanism, rear braking efficiency is maintained when the rear wheel moves back to take up belt slack on the lower gear ratios. Combined with great accessibility and efficient mudguarding, this machine makes a wide appeal to potential riders.

Stand **BROUGH.**

64. Speed with comfort is the aim of the new sporting 3½ h.p. Brough. The product of eight years' experience with this type, its 496 c.c. overhead valved flat twin is primarily a high-speed engine; while an even torque and long wheelbase both contribute to smooth running and easy control. Noteworthy features of the design are (1) the lubrication of the valve rockers through the hollow operating rods, (2) the lubrication of the primary chain from the crank case release, (3) the detachable cylinder heads, and (4) the large internal expanding Ferodo-lined front brake built up with the hub. To the engineer, naturally, the inherent design is well worthy of note.

Stand **DOUGLAS.**

126. The new sporting model 3½ h.p. Douglas has everything in its favour for making a strong appeal to the "fast" solo man. The name and reputation of the company, past performances, an "efficiency" design, and the very lines of the machine all suggest speed, and we feel sure that the suggestion will be confirmed in the future. Detailed particulars appeared in our issue of October 28th. Briefly, the flat twin engine of 68×68 mm. (494 c.c.) is an entirely new design, possessing all those recognised efficiency points such as overhead valves, a nearly hemispherical combustion head, and a really complete system of mechanical lubrication. The drive is all chain, through a new three-speed gear box, with clutch and kick starter.

Stand **HARLEY-DAVIDSON.**

29. America, to the motor cyclist anyhow, is chiefly noted for its big twins. So the appearance in this country last year of a flat twin Harley-Davidson aroused considerable interest and curiosity. During the year the controllability and smooth running of this model have been amply demonstrated on the road, and 1921 will see little change in the general design. One camshaft operates each pair of staggered valves, in the 4 h.p. 70×76 mm. horizontally-opposed twin engine, where simplification in design has been undertaken to a much greater extent than is outwardly apparent. The final drive only is by chain, the primary drive being direct to the three-speed gear box.

Stand **JAMES.**

88. To classify exactly the 3½ h.p. twin James it is necessary to use boxing nomenclature and to call it a light-medium-weight. This exhibit will be all the more interesting on account of the fact that the type (a 500 c.c. V twin) is something of a rarity nowadays. Nevertheless, with a three-speed gear and all-chain drive, this James makes an exceedingly attractive little solo mount; and the temptation to add a sidecar is not too strong.

Section II.—DUAL-PURPOSE MOUNTS.

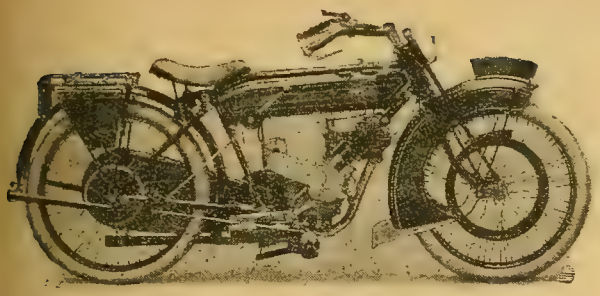
Stand **P. & M.**

74. The P. and M. is a machine which may be said to have been slowly evolved rather than one which has been altered drastically at any one time. It was a success almost twenty years ago, and it still retains most of its original features in a modified form. It is not surprising, therefore, that the P. and M. is renowned for its reliability, while its finish has always been of the best; it was these qualities which made it the choice of the R.A.F.

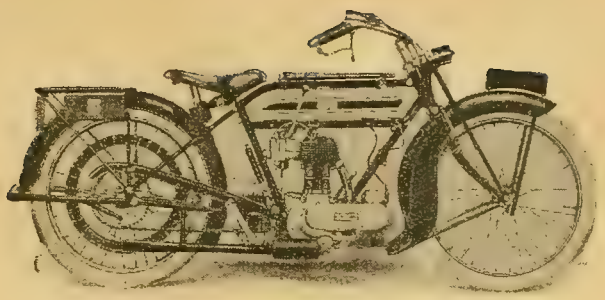
Having a bore and stroke of 84 mm. and 88.9 mm. respectively, the capacity of the cylinder is 498 c.c., which nowadays is regarded as being on the small size for serious sidecar work; nevertheless, the P. and M. is used for this service quite as much as without an attachment. It is distinctive in many ways; the engine is placed in an inclined position in the frame, and two speeds are provided, engagement being by expanding clutches operated by a lever on the side of the tank.

Stand **TRIUMPH.**

114. It is common knowledge among motor cyclists that nothing is ever standardised on a Triumph until it has had at least twelve months testing in the hands of various riders. The new chain-driven model may be said to be the net results



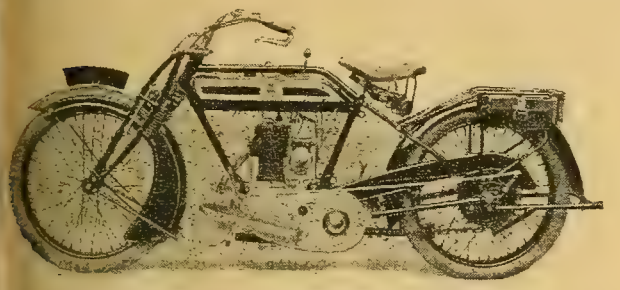
A two-speed gear machine which still retains its place in the front ranks of dual-purpose mounts—the P. & M.



The 1921 chain-driven Triumph embodies several innovations, including new type of fork suspension and improved front guard.

of several years' experimentation. It may be remembered that the nucleus of this model successfully accomplished the A.A. 5,000 mile benzole test, when an average consumption of 83 m.p.g. was obtained with a sidecar. 4 h.p. Triumphs of this type also emerged successfully from this year's Six Days Trial, when every one of the eight competitors riding them were awarded gold medals.

An improved design of front mudguard is now fitted. This is wider and deeper than usual, and is turned in at the sides, forming a channel which is continued through the front extension as far as the stays, where it is carried across the inside of the guard. By these means liquid mud is trapped and disposed of down the channel or *via* the front stays, which are of channel section, to the ground. The chain-cum-belt model, with Sturmey-Archer gear, is also fitted with this guard.



A single, noted for its silence; the 3½ h.p. Rover, which now has chain drive.

Stand **B.S.A.**

69. The 4¼ h.p. B.S.A. for 1921 is of a new design, and is fully dealt with elsewhere in this issue. A new pattern gear box is fitted, and other modifications include improved spring forks. Both chain and chain-cum-belt models are offered.

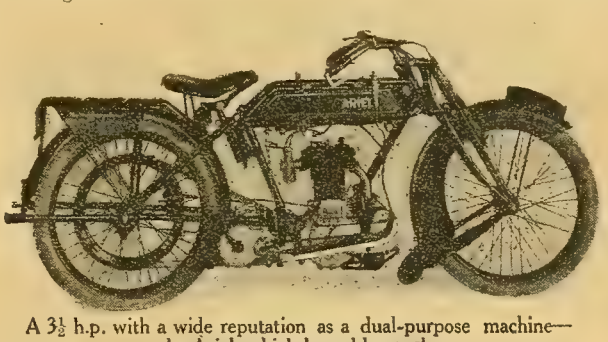
Stand **ROVER.**

89. Pre-war 500 c.c. machines used for both solo and sidecar are not very numerous, most of them having been enlarged by 50 c.c. and over. Nevertheless, this size of engine will probably be used during 1921 by a larger number of makers than ever. The Rover 3½, however, has always been regarded as being very suitable for the double purpose work, and among the "singles" is noted for its quiet running, and the fitting of all chain transmission has not robbed it of this commendable feature. Although more often classed as a sidecar machine, the 5-6 h.p. twin model, illustrated on page 627 is frequently used for solo purposes.

Stand **ARIEL.**

97. Larger wheel bearings and an improved spring fork are among the improvements embodied in the 3½ h.p. Ariel for 1921. We are pleased to note that this model is being retained in addition to the new 4½ h.p. single, described on page 656 and which is intended for passenger work. The Ariel 3½ has long been a favourite dual-purpose mount, and has perhaps a better record in reliability trials than any other machine of its size. Its success with a sidecar has been remarkable.

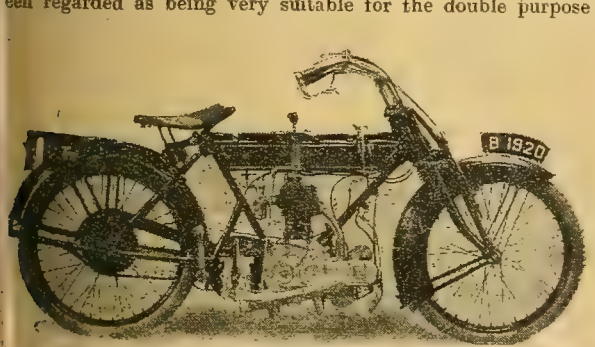
The engine is fitted with a decompressor to facilitate starting.



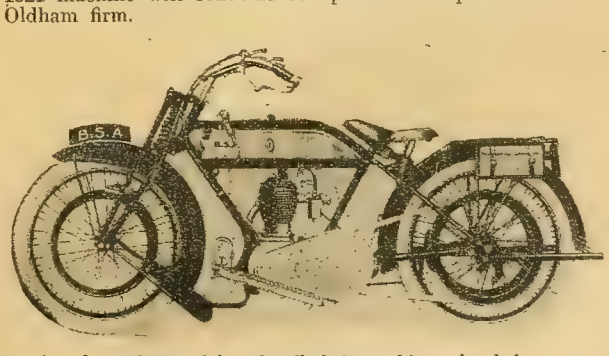
A 3½ h.p. with a wide reputation as a dual-purpose machine—the Ariel, which has a blue tank.

Stand **BRADBURY.**

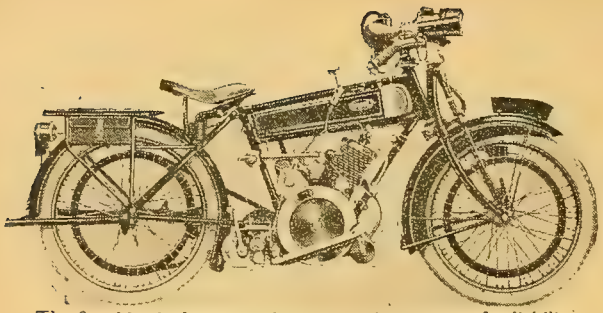
60. One of the first of the 4 h.p. singles, the Bradbury dual-purpose machine has several distinctive features. The method of fixing the engine is one of these, the periphery of the crank case being part of the frame. Its bore and stroke are both 89 mm. (554 c.c.), and the transmission is by chains through a three-speed gear box with cork-insert clutch. For many years this model, in its various forms, has held a front rank position, and there is every reason to believe that the 1921 machine will continue to uphold the reputation of the Oldham firm.



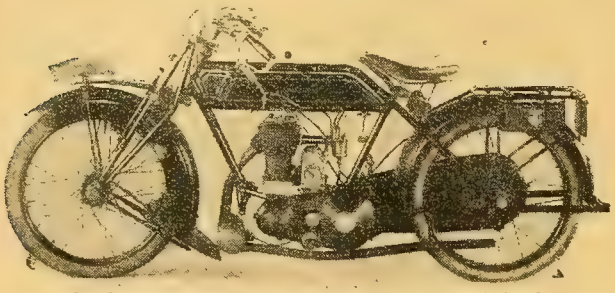
The big single Bradbury. Observe the method of carrying the engine in the frame.



An alternative model to the all-chain machine—the chain-cum-belt 4¼ h.p. B.S.A.



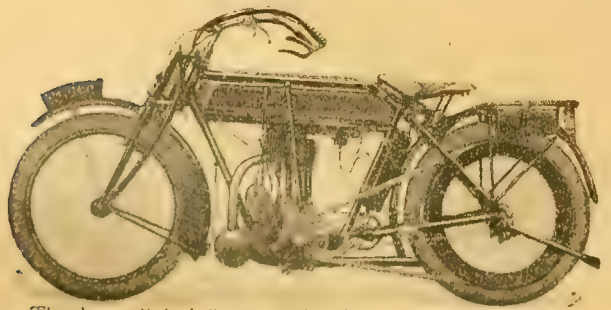
The first big single two-stroke to prove its power and reliability in a Six Days Trial—the 4½ h.p. Dunelt



On the dual-purpose Sunbeam the chain transmission is enclosed in an oil bath case.

The 4 h.p. Norton—a popular dual-purpose machine which, besides being suitable for solo use, makes one of the fastest of sidecar mounts.

Although designed as a solo mount, this year the Indian Scout will also be exhibited as a sidecar outfit.



The largest "single" now made—the dual-purpose 5-6 h.p. Rudge Multi.

Stand **DUNELT.**

138. Of recent years there has been a tendency to increase the size of the air-cooled two-stroke; but only one firm (Dunford and Elliott, Ltd.) has gone so far as to market a 500 c.c. single of this type. Its design has now had a considerable amount of severe testing and has proved very satisfactory. Naturally, the initial cost of such a machine (solo or sidecar) is going to be considerably less than an equally powerful four-stroke.

Stand **SUNBEAM.**

129. One of the higher priced medium-weight sidecar outfits, the 3½ h.p. Sunbeam, has proved itself a proportionately high performance machine both in private ownership and open competition. Little alteration to the luxurious specification will be noticed, but the makers recently introduced a sidecar suitable for use with this machine, which will no doubt attract much attention on account of the well-known excellence of Sunbeam productions.

Stand **INDIAN.**

100. Primarily intended as a solo machine, the power and strength of the Indian Scout make it very well suited for sidecar work with an attachment of the "sporting" type. The speedy lines of the machine are not belied by actual performances. 26 × 3in. tyres, in addition to giving an appearance of solidity, are responsible for greatly enhanced riding comfort.

Stand **RUDGE.**

113. Many sidecarists still prefer a hefty single to a large twin, and to such the 5-6 h.p. Rudge should make a distinct appeal. It is one of the few surviving big singles with direct belt drive, and in conjunction with the compulsorily high range of gear ratio given by the Multi gear, it often calls for skilful driving in difficult country. However, the power is there, and also the simplicity—two very important points.

Stand **NORTON.**

71. All fields of competition work have been grist to the mill of the Norton, but the speed successes of the T.T. and Brooklands machines have tended to obscure the reliability performances of the Big Four. As these latter successes are not isolated examples, and as the very term "Big Four" is claimed to have originated here, this model actually attracts as wide a *clientèle* as the popular solo machines. The long stroke of the engine is, perhaps, the most interesting feature. The bore and stroke are 82 mm. and 120 mm. respectively, and the capacity 633 c.c.

Stand **BROUGH.**

64. The 5-6 h.p. Brough is one of the small group of flat twins which are capable of serious sidecar work, and at the same time remain light and handy enough for pleasurable solo riding. The flat twin engine has a bore and stroke of 70 × 90 mm. (690 c.c.), and the machine generally follows the outlines of the 3½ h.p. model.

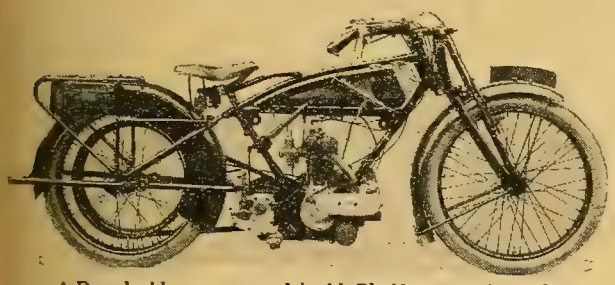
Stand **VERUS.**

161. An entirely new model in the 1921 Verus range is a sidecar outfit upon which the makers have spent a considerable amount of thought. It is engined with a 4 h.p. Blackburne engine, and the gear box a Sturmey-Archer—around these two main units a very taking machine. Exceptionally wide mudguards are fitted, and the outside flywheel is enclosed in an aluminium cover which forms part of the case for the primary chain. A large capacity saddle tank encloses the top tube of the frame, and is of a design which eliminates the massive appearance of some tanks of this type. The details are well carried out. For example, the front wheel stand is secured to the mudguard valance by means of side clips. Sidecar lugs are integral with the frame. 26×3in. tyres are fitted.

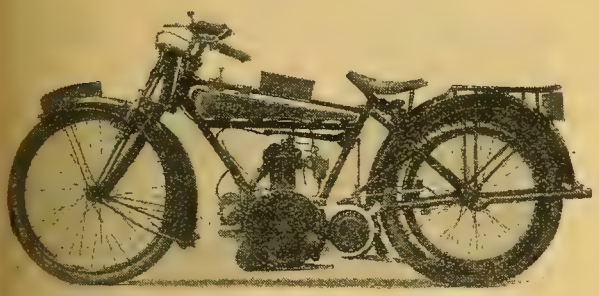
Stand **DALTON.**

15. Well tested features are adhered to in the 5.7 h.p. outfit made by the Dalton Motor Co., of Manchester; the engine is the Coventry Victor flat-twin, and transmission is by chain through a Sturmey-Archer gear box. It is a substantial looking machine with a low riding position, and a long wheelbase.

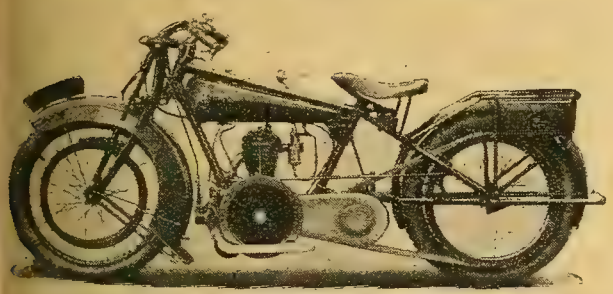
The 4 h.p. New Scale—a good-looking machine for solo and sidecar service



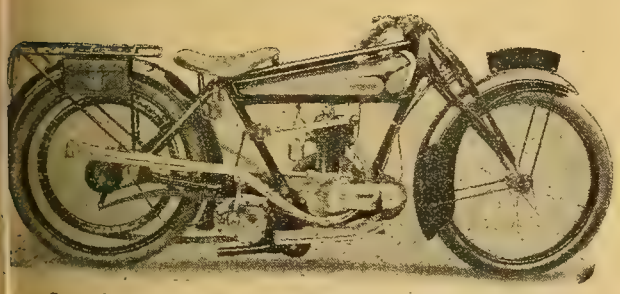
A Rex double-purpose model with Blackburne engine and Sturmey gear.



The Verus "4"—a big engine in a small frame.



A newcomer to the sidecar field—the 4 h.p. Omega



One of the few medium powered dual-purpose mounts with a spring frame—the 4 h.p. Coulson B.

Stand **HOSKISON.**

51. Hitherto the makers of the Hoskison have specialised on lightweight machines, but a new 4 h.p. model will be shown. Special features are Best mechanical oil pump, extra large mudguards and light car tyres. The front brake acts on a dummy belt drive, while chain-cum-belt transmission is used.

Stand **BLACKBURNE.**

72. The Blackburne engine is used on an enormous number of machines assembled by various makers, but those who prefer a machine built throughout in the same factory will be interested in Messrs. Burney and Blackburne's exhibit. The 4 h.p. model is equipped with all-chain drive through a Burman three-speed gear box, and has 28×3in. wheels. Neat design in the sloping top tube frame and attractive black and red finish contribute to the pleasing appearance.

Stand **DALTON.**

15. A product of Manchester, the Dalton 4 h.p. Blackburne engined model represents a careful assemblage of well tried components in a neat sloping top-tube frame. The layout is on semi T.T. lines, with three-speed gear and final belt drive; 26×2½ (oversize) tyres are fitted.

Stand **OMEGA.**

27. Under the above name the products of Messrs. W. J. Green, Ltd., of Coventry, have chiefly become known as a result of the success of the popular 2¾ h.p. four-stroke models. A new type, however, incorporating a 4 h.p. Blackburne engine will be staged, and its frame design is particularly clean and workmanlike, although more or less conventional lines are followed.

Stand **WILKIN.**

146. All the new features incorporated in the Blackburne-engined Wilkin have been tested in the "round-the-coast" ride which was carried out by the designer under A.C.U. observation. The improvements naturally are of a practical kind, and include adjusting devices for the gear box and magneto drives, as well as wider and more substantial mudguards and readily detachable chain-cases.

Stand **VERUS.**

161. Despite a comparatively recent entry into the world of motor cycle competitions, the Verus machines have secured an enviable record during the past two years. Their success has been widely associated with the Blackburne engines, which the makers, Messrs. A. Wiseman, Ltd., of Birmingham, have largely used. A new 4 h.p. model will be shown, and its special claim to notice is the fact that its overall dimensions render it equally suitable for the soloist who requires a handy machine, and for those who have need for a sidecar.

Stand **SHEFFIELD HENDERSON.**

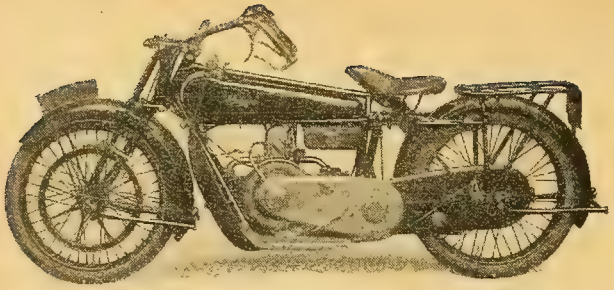
44. The well-known sidecar makers of Sheffield are turning their attention to motor cycles, and although Blackburne engines and Sturmey gears will be used, the rest of the specification will break away from conventional lines. New and practical ideas in frame construction and springing are being introduced.

Stand **REX.**

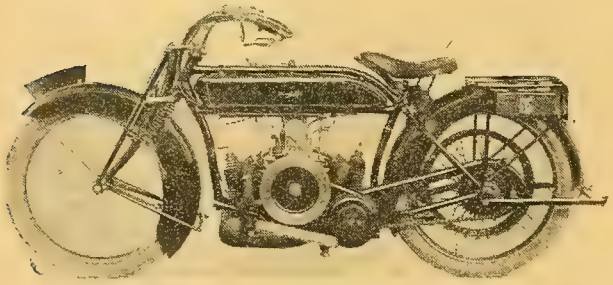
84. In addition to a smaller and a larger Rex machine with Blackburne engines, built for solo and sidecar work respectively, a medium-weight double-purpose model will be shown. This has a 4 h.p. Blackburne engine, and although the general specification is similar to the big twin outfit, a shorter wheelbase has been arranged, and the interchangeable wheels are eliminated.

Stand **NEW SCALE.**

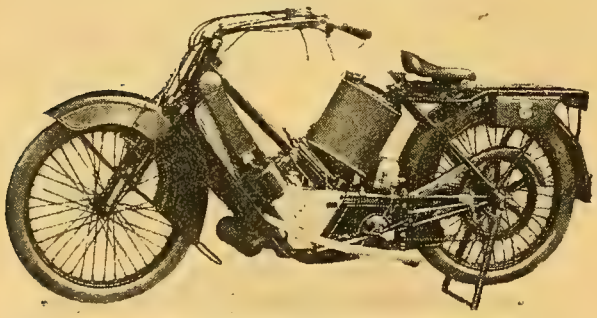
130. The makers, Messrs. Roberts and Hibbs, Ltd., of Manchester, have hitherto specialised on two-stroke machines, but they are now entering the lists with a 4 h.p. double-purpose model. Much care has been devoted to providing a machine of neat appearance and good proportions,



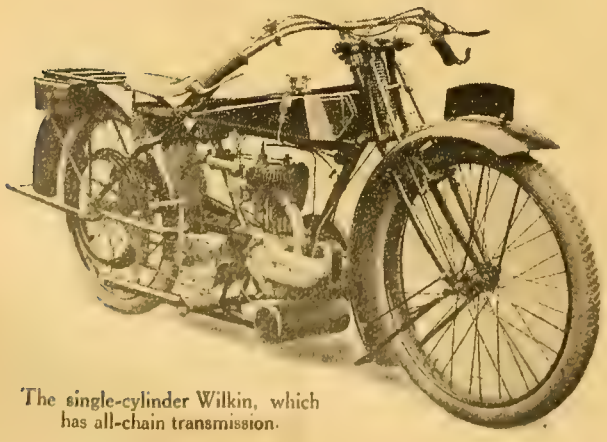
The spring frame flat twin Raleigh attracted a great deal of attention at the last Show. This is the production model.



A double-purpose flat twin—the 4½ h.p. Humber, which is one of the quietest machines on the road.



Despite the fact that it has held its unique position for several years, the water-cooled Scott remains the only twin two-stroke on the market.



The single-cylinder Wilkin, which has all-chain transmission.

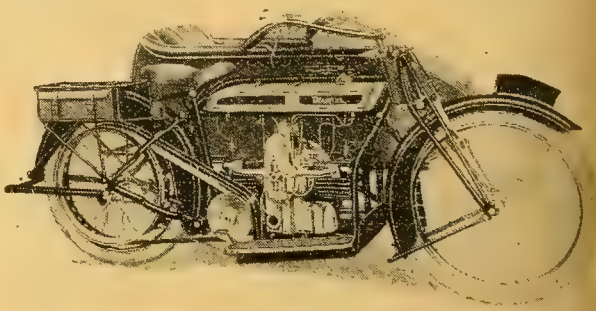
making the best use of standard components. A Blackburne 4 h.p. engine, Sturmey gear box, and chain-cum-belt transmission are used, while the Brampton forks carry a brake which acts on a dummy belt rim on the front wheel. Wide mudguards are used, and the finish is a handsome all red, the tank being finished in aluminium.

Stand **COULSON-B.**

162. Although the Coulson-B machines made quite an unobtrusive beginning, they have come forward in strides, proving their worth on track and road in no uncertain manner. Some practical detail improvements have been carried out for the new models, the greatest being a lowering of the saddle position by six inches. The spring frame and the special forks common to all the products of Messrs. The F. Aslett Coulson Engineering Co., of Albion Street, Kings Cross, N.W.1, are naturally used on the 4 h.p. model, which also has sidecar lugs incorporated in the frame.

Stand **DOUGLAS.**

126. Very popular for light transport and passenger work with the British Forces in France, the return of the 4 h.p. Douglas sidecar outfit last year to more peaceful spheres saw several detail improvements. This year, however, it has not been found necessary to make any alteration. The even torque of the flat twin engine makes this machine a fascinating solo mount in addition to a capable passenger outfit.



The 4 h.p. Douglas is equally suitable for solo and sidecar.

Stand **RALEIGH.**

99. The interest aroused last year by this exhibit will certainly be repeated and possibly augmented, for the promising product of the famous cycle firm has not yet reached the hands of the general public. Its salient features include, of course, a 698 c.c. flat twin engine and a simple but efficient spring frame, which permits full chain cases to be used. 1921 improvements comprise a strengthened rear frame structure, an improved mudguard fastening, an independently detachable rear chain case, and wide effective leg shields, which also act as air deflectors for the cylinders. The toolbag is carried under the tank.

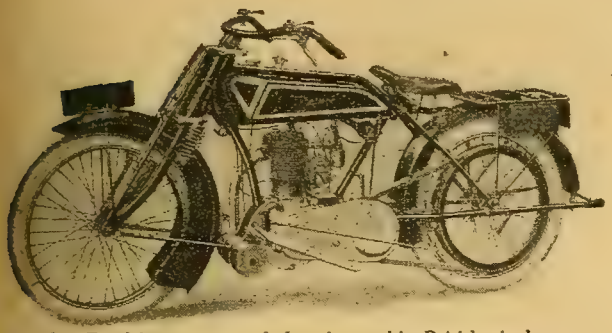
Stand **SCOTT.**

148. The makers of the Scott do not change their design for changing's sake; in this respect they are like an equally famous automobile firm who modify their production as necessary and not seasonally. Therefore, although no change has been announced, and little change is apparent to the eye, several small improvements have recently been incorporated, particularly some tending to strengthen the frame. Sectional and dissected exhibits will attract much attention on the Scott stand.

Stand **HUMBER.**

86. The 4½ h.p. Humber has been decidedly prominent in most of the recent and severe reliability trials, and, as a sidecar machine, it was the lowest-powered outfit of its type to come through the A.C.U. Six Days Trials with first-class honours. In addition to reliability, silence is an outstanding feature of the 75×68 mm. (600 c.c.) flat twin engine, and the T.T. model, with footrests in lieu of footboards, is a most attractive solo mount.

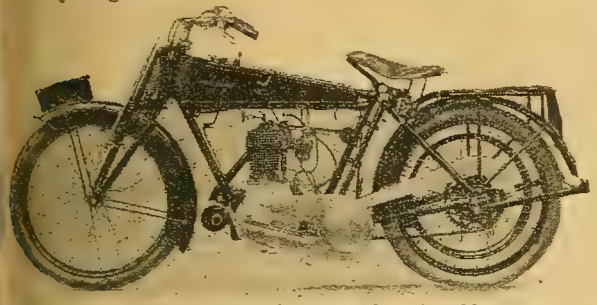
Section III.—MACHINES FOR SIDECAR WORK.



The Excelsior was one of the pioneer big British singles, and is re-introduced in a modified form.

Stand **BRITISH EXCELSIOR.**

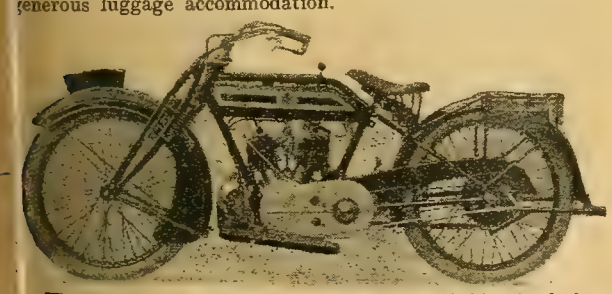
67. The 4½ h.p. Excelsior is a post-war modification of a successful pre-war machine from a factory which pioneered the big single. It was designed to meet the demand for a full tourist outfit at a moderate price, and for that reason several of the luxuries, such as interchangeable wheels offered in the Excelsior big twin, have been omitted. The price is £125, or £160 with sidecar. The larger machine, which is offered with either 6 or 8 h.p. engine, is very little altered from last year's model. It has enclosed all-chain drive, interchangeable wheels, and a *de luxe* sidecar of unusually large size.



A big single which, with sidecar complete, is sold at a very moderate price. The 4¾ h.p. Quadrant.

Stand **ROVER.**

89. Successful as a medium-sized twin sidecar machine, the 5-6 h.p. Rover for 1921 remains practically as in the present year. It is interesting to observe that several machines of this type—or rather using this size of J.A.P. engine—will be staged at Olympia, which fact must be taken as a direct compliment to the New Rover Co. In 1920 it was almost alone in using the particular size of engine employed, and it occupied a midway position between the 3½-4½ h.p. and the 6-8 h.p. classes. All chain transmission is used, the rear element being of the Brampton spring link type which has proved very satisfactory. By reason of good design and artistic coachwork, the Rover sidecar is now quite one of the most pleasing vehicles on the road. The body is one of the few that retain a sporting and clean outline, and yet provide ample comfort for the passenger and generous luggage accommodation.

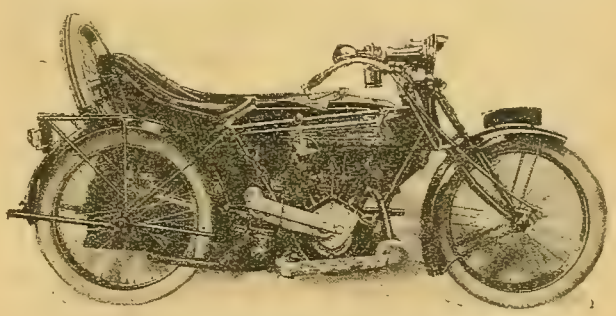


The 5-6 h.p. twin Rover which has set a new fashion in dual purpose machines.

One of the largest machines with chain-cum-belt transmission —the 8 h.p. Rex, which will also be made with all-chain drive.

Stand **BLACKBURNE.**

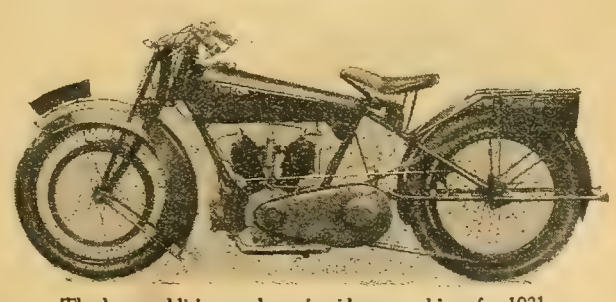
72. The large Blackburne twin, which is by reason of its outside flywheel, one of the smoothest running machines on the market, is naturally the power unit of the 8 h.p. Blackburne sidecar outfit. This machine possesses the inherent advantage of being designed—engine and cycle—as a whole for production in the one factory. Internal engine improvements for 1921 include roller bearings to the big end, a lighter piston and a micrometer adjustment to the small timing pinion. While instead of being screwed into position the magneto pinion is now fitted on a taper, thus following more conventional practice. The outfit, as a whole, is thoroughly designed, having all chain drive and interchangeable 28×3in. wheels.



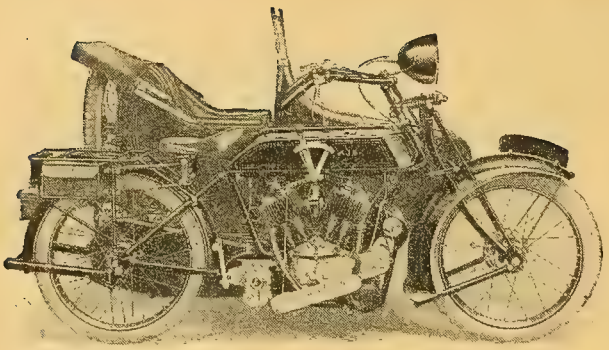
The Blackburne '8' offered by the makers of the well-known engine.

Stand **REX.**

84. A mount that has made a name for itself in a remarkably short time, after its introduction, the 8 h.p. Rex sidecar outfit has a more complete specification than the majority of large sidecars. Excellence of design and a long-established name, famed years ago for very advanced products, are probably equally responsible for this rapid success. A choice of J.A.P. or Blackburne engines is offered, while the remainder of the machine is consistent with the high quality of either of the power units. For 1921 an all-chain driven model will be exhibited, which will no doubt appeal to the many riders who prefer a rigid drive for a heavy and powerful outfit. A special taxi-sidecar will also be shown, and for the work associated with this class of vehicle the dimensions and power of the Rex should be ideal.



The latest addition to the twin sidecar machines for 1921— the 5-6 h.p. Omega-Jap.



One of the most popular sidecar machines—the A.J.S., noted for its refinements and good finish.

Stand **LEA-FRANCIS.**

58. The 5 h.p. M.A.G.-engined Lea-Francis is the product of two firms who both are noted for super workmanship and detail finish. Therefore, those interested in such refinements will welcome a "small twin" sidecar outfit. As the engine capacity is only 592 c.c., the term "miniature" is almost justified. The three-speed gear box is new and is of the constant mesh type. All the selecting mechanism is mounted above the box, and the whole is surmounted by a very large oil filler cap. Situated on the engine-shaft, the clutch is of the dry multi-plate class, and both chain cases are of cast aluminium.

Stand **ARIEL.**

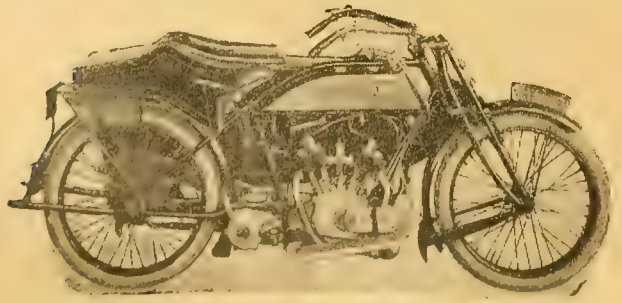
97. Many buyers of "passenger" machines require something more powerful than the popular big single, and yet do not wish to go to the other extreme and buy a *de luxe* 1,000 c.c. outfit with its much greater initial and running costs. To such the 6-7 h.p. (795 c.c.) Ariel should appeal strongly. In general outline it is somewhat similar to the 4½ h.p. machine, described elsewhere in this issue, with exception, of course, of the long-stroke twin engine. Great economy is claimed for this machine, and, with 28×3in. tyres, it is a serviceable addition to the range of medium-powered twins. The sidecar has a capacious locker at the rear which renders a luggage grid unnecessary.

Stand **BRADBURY.**

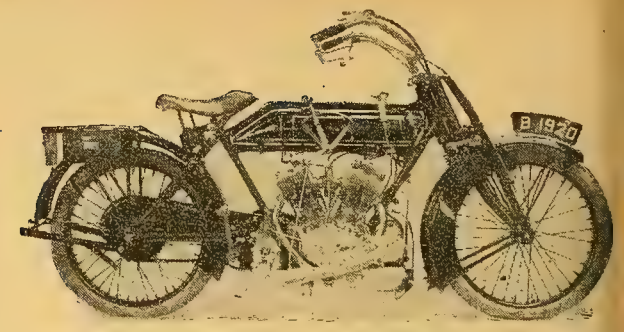
60. The leading Bradbury model for 1921 will be the 6 h.p. sidecar machine, which is a fine example of a design where strength and reliability are first considerations. Nevertheless, it possesses many other pleasing refinements. For instance, detachable cylinder heads make the process of decarbonisation less tedious, and an efficient magneto shield and large footboards are useful fitments, as also is the quickly detachable rear wheel. The drive is by chain through a Bradbury three-speed countershaft gear box. Guards only partially enclosing both chains are somewhat unusual on big sidecar machines, but the advantage, should a chain break, is at once apparent.

Stand **JAMES.**

88. Speed and reliability are proved attributes of the new 7 h.p. James sidecar outfit, which, in a trial form, has been well tested in competition work this year, and of which a full description appears on page 643 of this issue.



Of nearly 800 c.c. capacity, the 6-7 h.p. Ariel, with 28×3in wheels, is capable of hauling heavy loads.



The Bradbury "6" was one of the group of machines which set the fashion for this type of sidecar mount.

Stand **B.S.A.**

69. For many years the B.S.A. had been famous as a single, and the introduction last year of a twin naturally caused much comment. Time has proved that in this case anyhow the old rule that a firm specialising on singles cannot make twins does not hold good, and this machine should meet with an even greater reception this year. Externally and internally the engine is a fine piece of work, and all details have been carefully thought out. Lubrication is by means of a mechanical oil pump, which ensures a constant supply of oil under all circumstances, and yet ensures that the front cylinder is not starved at the expense of the rear.

Stand **A.J.S.**

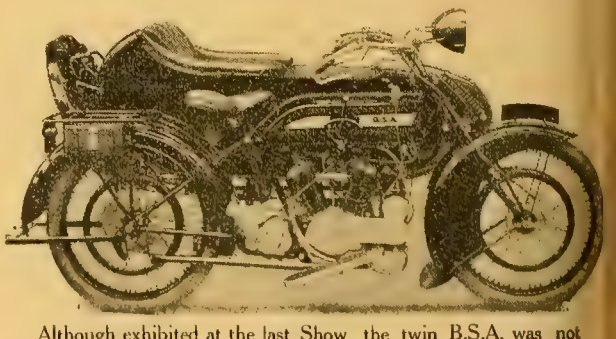
119. That extra ounce of power has been granted to A.J.S. enthusiasts for 1921. For the engine size is to be increased from 749 c.c. to 800 c.c., and the makers' rating is now 7 h.p.—a conservative figure, we should imagine. With the exception of a few racing lightweights, one of which won the Junior T.T. this year, the firm now concentrate on their sidecar outfit, which is one of the most luxurious and completely equipped in existence.

Stand **COVENTRY VICTOR.**

227. Of especial interest to the small dealer and trader, this machine is sold only in its component parts for building up by individual agents, under their own names and transfers. The flat twin engine of 688 c.c. is an accessible and well-constructed job, and the other details are evidently the work of keen motor cyclists and clever designers. For example, the tank holds no less than three gallons of petrol, and one of oil. The finished machine is most attractive.

Stand **MARTINSYDE.**

163. Everything stands in the favour of the Martinsyde sidecar outfit. It is the modern design of a practical motor cyclist—Mr. H. Newman—and is produced in the finely equipped works of Messrs. Martinsyde. Thus no considerations of established precedent or the retarding influence of existing drawings, jigs, and tools should hamper this effort. A natural temptation to depart radically from conventional lines has been overcome, and the result is both sound and interesting. For 1921 the rear frame will be slightly altered, but otherwise the machine remains unchanged.



Although exhibited at the last Show, the twin B.S.A. was not produced in any great quantities this year. It will be seen at Olympia with several improvements.

The largest of the three 1921 Sunbeams—an 8 h.p. Sidecar machine.

Stand **QUADRANT.**

41. Designed by a pioneer motor cyclist—Mr. T. Silver—the big single Quadrant is one of the lowest-priced full touring sidecar outfits on the 1920 market. Its low price, however, was not made possible by poor workmanship and finish. For 1921 two types will be offered—4½ and 6 h.p.—the latter is referred to at length on page 651

Stand **ARIEL.**

97. The 4½ h.p. Ariel described elsewhere in this issue is purely a sidecar machine having 28×3in. wheel and a frame of a type too heavy for solo use in the hands of the average user. It is one of the few singles designed exclusively for sidecar work, no attempt being made to evolve a compromise which would be a little too light for "double harness" or a little too heavy for solo riding. This year the Ariels will have a royal blue tank finished in black and gold.

Stand **ARMIS.**

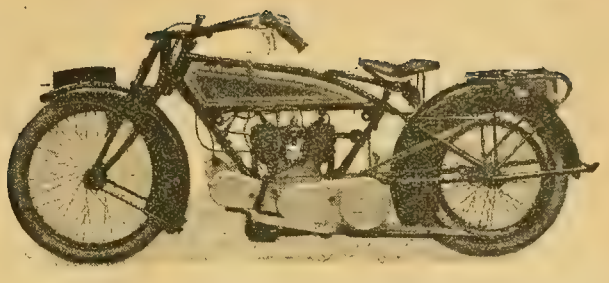
22. A comparatively newcomer to the motor cycle field, the Armis has made steady progress as a lightweight during the present year. A sidecar mount, however, is an entirely new proposition, and the model which will be exhibited at Olympia promises to attract attention on account of its compact design. It will be fitted with a 5 h.p. J.A.P. engine and Burman gear box, and the frame will be of the sloping top tube type. The moderate selling price and comprehensive specification of this outfit should make a ready appeal to family men not blessed with ultra deep pockets.

Stand **SUNBEAM.**

129. Improved only in minor details, the 8 h.p. model will again be included in the Sunbeam range. Fitted with an 8 h.p. J.A.P. engine, this machine holds a similar position in the big twin field to that enjoyed by the 3½ h.p. Sunbeam. The all-chain transmission is enclosed in oil bath cases which, in conjunction with the efficient shock absorber, renders the drive as sweet as that obtained by means of a belt. The wheels are shod with 28×3in. tyres, and a spare is carried on the commodious sidecar, which, like the machine, is finished in the well-known Sunbeam style in black and gold. Although the 3½ h.p. Sunbeam, despite its low capacity engine, is very popular for sidecar work, many have a prejudice against the "3½" for passenger work. For these, the 8 h.p. outfit is intended—and, after all, a big twin is certainly more suited to the overloading nowadays prevalent, and gives that extra ounce of power and that extra thousand miles before decarbonisation that fulfil the requirements of the really "hard" user. Probably after the initial expense be overcome it is possible to run a big twin outfit as cheaply, if not more so, than a "single"—but the choice, of course, is a matter of individual preference.

Stand **OMEGA.**

27. Having 26×3in. wheels, a 5-6 h.p. J.A.P. engine, and a comparatively long wheelbase, the new Omega-Jap sidecar machine should prove an interesting proposition. During the past two years the Omega-Jap lightweight has earned for itself a reputation for reliability and sound workmanship, and a sidecar machine from the same works is probably what a number of Omega riders require, for every year sees a certain number of soloists joining the ranks of sidecar users. The equipment of the new model includes Brampton forks, Sturmey-Archer gear, and Amac carburetter, and the saddle tank has a capacity for over two gallons of fuel. A special feature of this machine is the care with which the frame design has been carried out; this is specially noticeable in the case of the bottom bracket casting, which presents a clean and rounded upper surface, with strengthening ribs underneath.



On the 8 h.p. Coventry Acme the magneto drive is taken from the mainshaft.

Stand **COVENTRY ACME.**

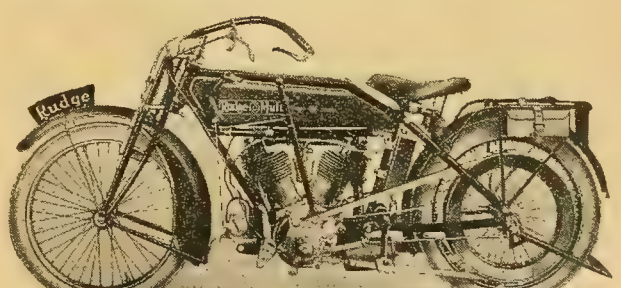
85. An 8 h.p. J.A.P.-engined machine with many points exclusively its own. For example, the magneto drive is taken from the main shaft, the reduction in speed being obtained by a chain and sprockets, the one on the magneto being twice the diameter of the driver. The machine has a particularly long wheelbase which makes for greater comfort, while the wheels are 28×3in., quickly detachable and interchangeable, a spare being carried at the rear of the sidecar. A capacious boot is fitted to the sidecar body. For 1921 an all-chain model will be added to the range, while a J.A.P. 6 h.p. engine will be supplied at option. Adjustable handlebars, Sturmey-Archer gear, and a 2½ gallon tank form part of the very complete equipment.

Stand **ROYAL ENFIELD.**

118. The main new feature of the 1921 Royal Enfield sidecar outfit is the new engine, which is made specially for this machine by Messrs. Vickers, who appear to have put into its construction the same quality of workmanship which characterised the Vickers gun. The late war showed a large number of our readers the quality of the gun, and an engine from the same factory makes the Enfield slogan "made like a gun" more apt than it has ever been. The capacity (*i.e.*, 996 c.c.) remains the same as hitherto. One of the features of the new sidecar is the fixing of the mudguard on the body, which permits a large locker to be fixed between the two. Further reference to this model is made on another page.

Stand **BAT.**

59. A pioneer machine with many distinctive features, the 1921 Bat-Jap promises to enhance its present high position in the world of wheels. The well-known Bat suspension is retained, and for the benefit of new readers we would point out that this takes the form of a sub-frame which carries the rider completely insulated from road shocks. The engine is an 85×85 mm. twin J.A.P., and the gear box is a Sturmey-Archer. 28×3in. wheels are fitted, and the transmission is by chain throughout. As usual, the finish is in all grey.



The big twin Rudge with its Multi gear, makes a fast sidecar machine in a class it shares with only one other.

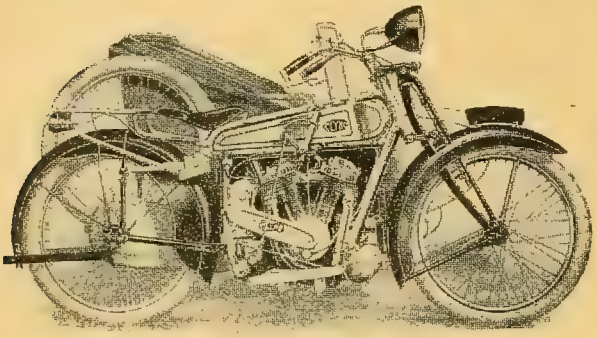
Forecast and Guide to Olympia.

Stand **HAZLEWOOD.**

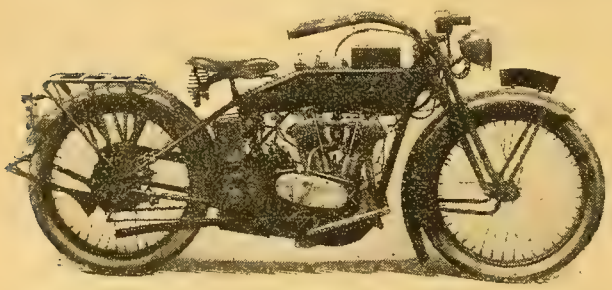
96. A Coventry big twin which has always been regarded as a high-class machine. There are several modifications in the 1921 models, including a saddle tank. These, however, are referred to in a description of the machine appearing on another page.

Stand **ROYAL RUBY.**

125. This fully sprung 8 h.p. outfit, which is illustrated and described elsewhere in this issue, attracted a great deal of attention at the last Show. It has an 8 h.p. J.A.P. engine, Sturmey-Archer gear, all-chain transmission, and equipment of the highest class. The sidecar is equipped with a windscreen as a standard fitting.



Four big twin sidecar outfits with spring frames will be shown at Olympia. This is the Clyno "8," which is finished in grey and black.



The Harley-Davidson—one of a trio of American big twins on the British market.

Stand **RUDGE.**

113. The twin-cylinder Rudge made its first appearance at last year's Show, and it will be exhibited again in the same form. To those who favour the expanding pulley type of gear and direct belt drive (which is at its best when ample power is available), the 7-9 h.p. Multwin makes a special appeal. Quite a new model, however, is the three-speed, all-chain drive sidecar outfit, which has detachable and interchangeable wheels and many similar refinements.

Stand **HARLEY-DAVIDSON.**

29. Amongst American machines the Harley-Davidson 7-9 h.p. passenger outfit has taken a prominent place. Its silence, smooth running and speed have earned for it a well deserved popularity. No drastic innovations will be seen on the Show models, one of which will carry the full electrical equipment, which has been standardised on the *de luxe* outfits.

Stand **MATCHLESS.**

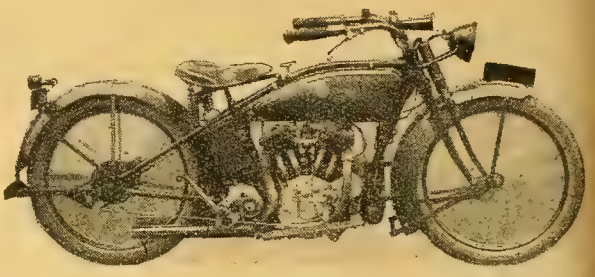
68. One of the most luxurious of British machines, the Matchless remains faithful to its system of coil springing, which is used for both frame and sidecar chassis. The engine is an 8 h.p. M.A.G., which is famous for its silence, long life and excellent workmanship. Detail improvements in the bearings of the detachable wheels have been carried out, but the general design is unaltered.

Stand **MASSEY-ARRAN.**

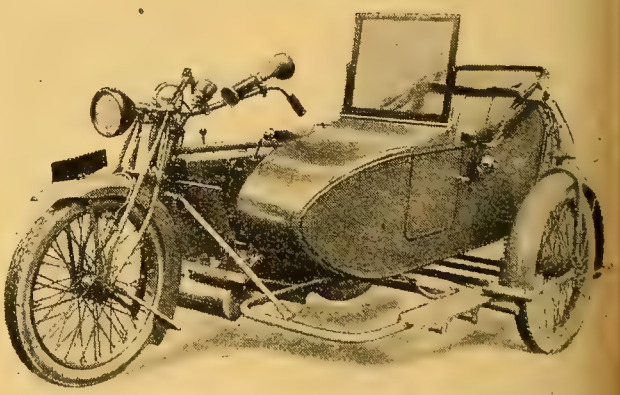
24. Among the new names at this year's Olympia will be that of the Massey-Arran. During the present year a limited number of lightweights have been marketed, and they have already earned a reputation for their refinement and high-class finish. The 5-6 h.p. model will be built with the same ideals which actuate the concern making it, i.e., to produce machines comparable with the very best. It is a high aim for a new firm, but a commendable one.

Stand **ZENITH.**

87. Detail improvements embodied in the 1921 Zenith-Gradua are dealt with in an article on the new models which will be found in this issue. An 8 h.p. sports model, minus a clutch, will be included in next year's range. The 5 h.p. model remains practically unaltered.



The largest twin on the market, the Reading Standard, fitted with an engine of 1,100 c.c.



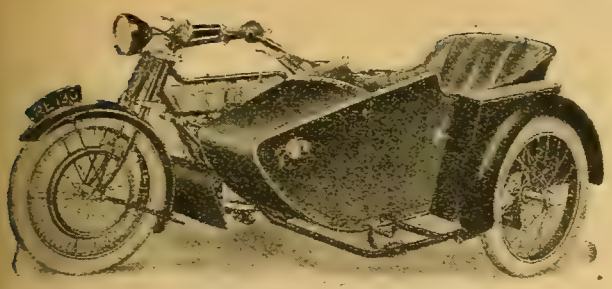
As usual, the 1921 spring-frame Matchless outfit provides the maximum comfort for owner and passenger.

Stand **CLYNO.**

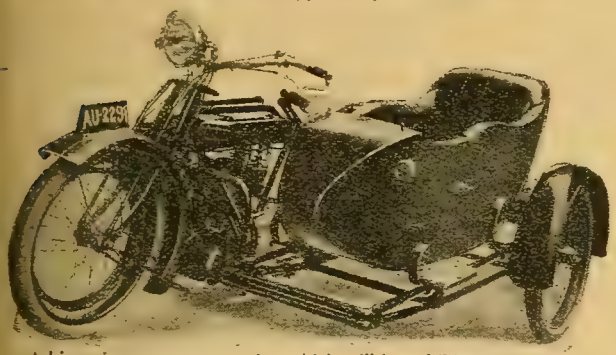
141. Despite the fact that troublous times have delayed the production of large numbers of Clyno outfits, the machine is one which has become much desired. This interest on the part of the public is due entirely to the attractive and workmanlike lines on which it is designed. Everything desired in the "ideal" specification is incorporated—mechanical lubrication, accessible engine, detachable wheels, simple chain cases, adequate mudguarding, electric lighting and luxurious comfort. The latter quality, of course, is due to the excellent system of frame suspension by laminated springs, which is also applied to the sidecar chassis. A hood and screen also ensure complete weather protection for the passenger.

Stand **INDIAN.**

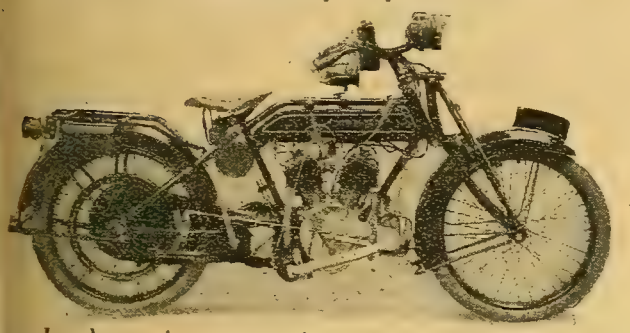
100. After some five years of continuous production, the 7-9 h.p. Indian remains unchanged. This is a splendid testimonial to the excellence of the design. The handsome finish remains unaltered, and its distinctiveness is such that it has made the machine one which is almost as familiar to the general public as to the community of motor cyclists. Laminated springs, as applied to motor cycle frames, were largely pioneered by the Indian machines, and such features as a built-in dynamo lighting system and interlocking clutch and gear mechanism, typical of American practice, are here seen in specially advanced form.



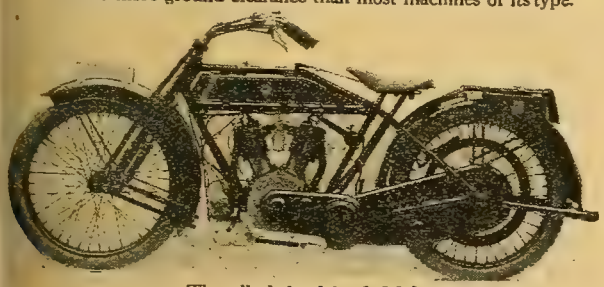
A Magdyno equipped Royal Enfield.



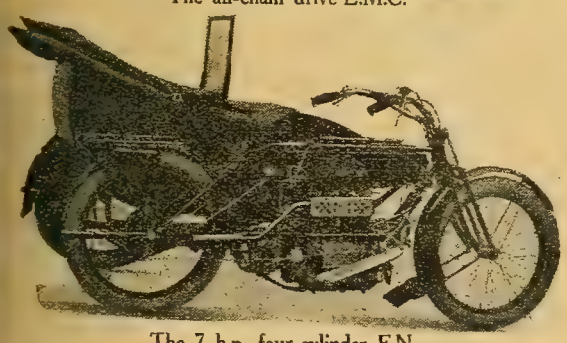
A big twin passenger machine which will be exhibited as a taxi sidecar—the 8 h.p. Campion.



In order to suit overseas requirements, the New Imperial big twin has more ground clearance than most machines of its type.



The all-chain drive L.M.C.



The 7 h.p. four-cylinder F.N.

Stand **READING-STANDARD.**

37. Possibly no American machine has approached the general lines of the conventional British layout so closely as the big twin Reading-Standard. The side-by-side valve engine has undergone several modifications, which make for an increase of efficiency, and the design generally is of great strength and simplicity.

Stand **F.N.**

139. An ever extending public are beginning to appreciate the charm of the four-cylinder, and this fact, combined with the F.N. reputation for excellence of material and workmanship, and that other advanced feature of design, final shaft drive, should together keep the rebuilt Belgian factory continuously busy. Although amply powerful (the cylinders have a bore and stroke of 52×88 mm. = 748 c.c.), this big F.N. is not weighty; in fact, considering the specification it is remarkably light, and 26×3in. light car tyres should contribute greatly to the comfort of the rider.

Stand **CHATER-LEA.**

90. Few firms have had greater experience in the building of passenger machines than Messrs. Chater-Lea, Ltd., and this year their popular "No. 7" outfit will be still nearer perfection. All wheels will be detachable and interchangeable. The front chain is now entirely enclosed, and the rear chain protected by means of a guard. A bracket for spare wheel is situated on the sidecar chassis.

Stand **L.M.C.**

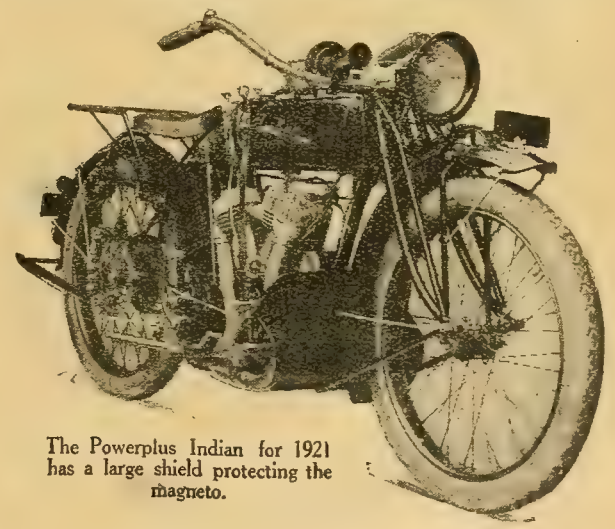
70. For a considerable time now colonial requirements have been the special study of the Lloyd Mfg. Co., Ltd., but either their standard or their special overseas model is interchangeable as regards suitability for home or colonial use. Indeed, the colonial model will undoubtedly appeal to many home riders, while the home model will no doubt similarly be suited to some of the less exacting localities abroad. The patent seat suspension is the chief feature of the machine, while the 960 c.c. twin engine is a sound job.

Stand **NEW IMPERIAL.**

91. The 8 h.p. New Imperial sidecar follows the lines of the 1920 model. Large leg shields which fully protect the rider from foot to thigh are the most important addition, and they are so arranged that an air draught is deflected to impinge upon the cylinders. The sidecar mudguard is now securely attached to the body—a construction much to be preferred to direct attachment to the axle of the chassis.

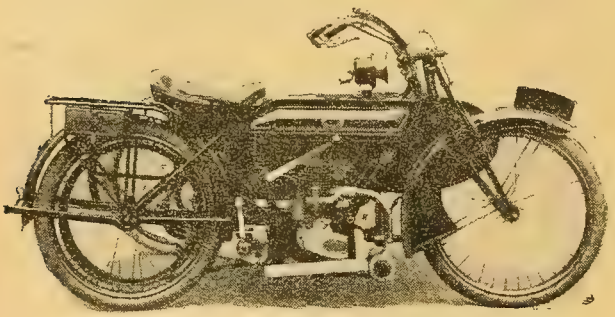
Stand **CAMPION.**

163a. The manufacturers of the Campion have been making big and very sturdy sidecar outfits for many years now, and it is not surprising that they should be one of the first firms to turn seriously to sidecar taxis.

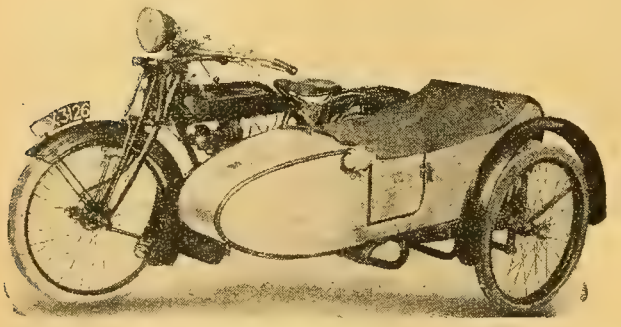


The Powerplus Indian for 1921 has a large shield protecting the magneto.

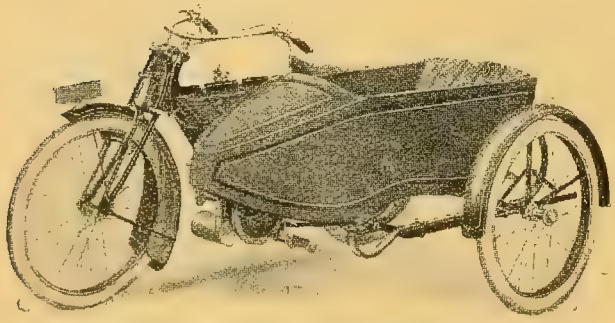
LIGHTWEIGHT SIDECAR OUTFITS.



One of the pioneer two strokes—the Connaught with its 293 c.c. engine—will be marketed as a sidecar outfit.



Having a 350 c.c. engine, the Alecto two-stroke is suitable for light sidecar work.



A sidecar model of the Ixion has been catalogued for several years and has given every satisfaction.

The Allon was one of the first two-strokes to impress us as suitable for light sidecar work.

Stand **IVY.**

124. By making fifteen consecutive ascents of the Old Wyche, Malvern, which has a maximum gradient of 1 in 2⅔, the makers of the 3 h.p. Ivy lightweight outfit have demonstrated that their production is a serious go-anywhere proposition. A two-speed Sturmey-Archer gear box with clutch and kick-starter will be used on this model, and the final drive is, optionally, belt or chain.

Stand **CEDOS.**

36. Sidecars have always been particularly in the sphere of feminine interest, but up to the present no firm has specifically designed a sidecar outfit for the lady driver. Judging, therefore, by the number of ladies who already drive standard machines, the new Cedos outfit should prove very popular. The larger Cedos engine (247 c.c.) and a two-speed gear box with clutch and kick-starter are fitted. Worthy of note is the fact that these machines are made throughout under one roof.

Stand **CONNAUGHT.**

95. One of the earliest small two-stroke sidecar outfits on the market, the Connaught, gave us some very satisfactory results when under test last summer. The capacity of the 73×70 mm. engine is 293 c.c. A new type of sidecar body is now provided with a locker under the seat, while the chassis is of the latest underslung pattern. Two speeds with clutch and chain-cum-belt are used.

Stand **ARMIS.**

22. A very popular power unit for this type of machine, the 350 c.c. Precision two-stroke, is used in the Armis, intended for sidecar work. Suitably geared, this outfit should easily attain the expected range of such machines.

Stand **ALLON.**

62. Recognising that serious sidecar work on a low-powered machine makes more than two gear ratios desirable, the makers of the Allon lightweight are substituting a three-speed gear of their own manufacture on this model. A specially light sidecar completes a very useful lightweight outfit.

Stand **BEARDMORE-PRECISION.**

115. A road test and full description of the Beardmore Precision lightweight sidecar appeared in our last week's issue. The chief feature of the sidecar is a flexible chassis specially adapted for use with the Beardmore spring frame.

Stand **OMEGA.**

27. Following popular lines, the 2½ h.p. Omega-Villiers sidecar is a good example of a lightweight outfit at a competitive price.

Stand **IXION.**

160. Constructed of sound and well-tried components, the Ixion sidecar outfit should gain a large following among the economically-minded public of to-day, who are largely attracted by a low initial cost and a promise of correspondingly low running expenses.

Stand **ALECTO.**

147. Although only of 76×76 mm. bore and stroke (345 c.c.), the little Alecto passenger outfit is rated by the makers at 3½ h.p., and recent Brooklands performances tend to prove that this is by no means a too optimistic figure. It will be remembered that the Alecto was the first two-stroke to break long distance records. For sidecar work a considerably stronger frame, a larger tank, bigger spring forks and wider mudguards are being standardised.

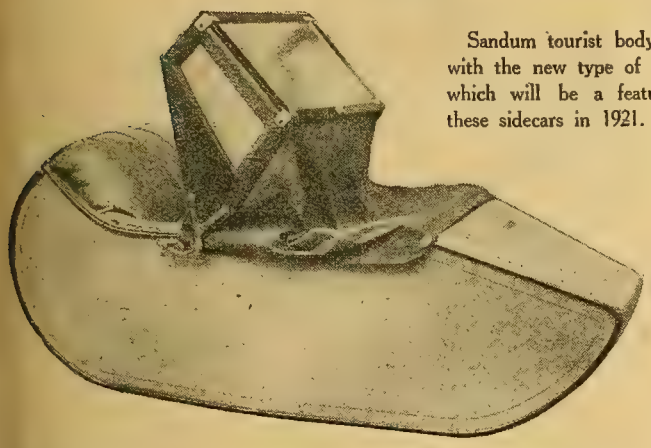
Stand **CALTHORPE.**

112. Among the wide range of Calthorpes for 1921, the small sidecar outfit will be by no means the least interesting exhibit.

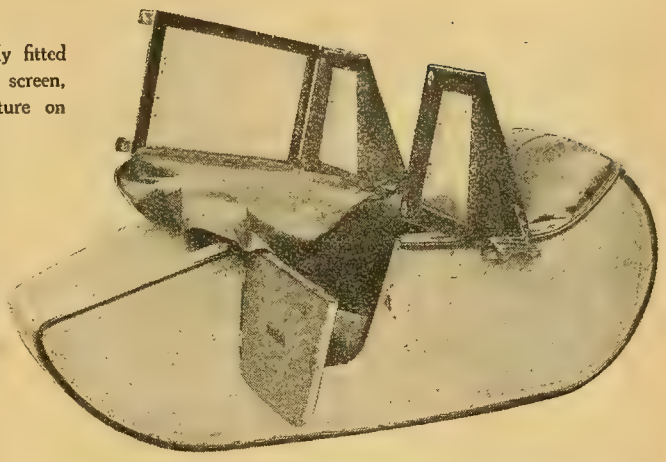
Stand **SCALE.**

130. One of the earliest firms to recognise the possibilities of the lightweight sidecar, the makers of the new Scale will show a 3 h.p. Precision two-stroke-engined outfit. Silence and comfort are two important points that have received especial attention here.

Section IV.—SIDECAR ATTACHMENTS.



Sandum tourist body fitted with the new type of screen, which will be a feature on these sidecars in 1921.



Stand **SANDUM.**

23. A remarkable selection of sidecars from a feather-weight racing shell to a double-seated sidecar taxi will be produced for next year by the Sandham Engineering Co., whilst a feature of their exhibits at Olympia will be the new Sandum screen.

A curved mica screen shields the rider from the front, whilst attached by clips to each side are substantially constructed side pieces, in the centre of which are mica windows. These side pieces are held by a metal fork to a universal link attached to the sides of the body, and the number of positions to which the screen can be adjusted is practically unlimited. A weather-proof cape attached to the bottom of the screen is fixed to the body in front, and completely excludes the wind and rain.

A body which should attract considerable attention is the two-seater sidecar taxi. It resembles in shape two large sidecars placed side by side with the centre partition removed. There is plenty of room for two persons, and it is possible for a six foot man to stand inside without touching the hood. An exceptionally large locker is located at the rear, and it is intended to accommodate suit cases or other small luggage. The upholstery is excellent, whilst the spring back rest and seat are very comfortable.

A screen will, of course, be fitted, and a special spring wheel chassis has been designed so that its width does not greatly exceed that of the sidecar.

Amongst the other exhibits is the Sandum two-seater, which was previously described in *The Motor Cycle*. The second seat is provided by lifting up the hinged bulbous back.

Other new models, the attractive appearance of which strikes the eye, are the new streamline model, low seated, and tapering towards the front similar to a boat, and the redesigned lightweight racing model. This latter body is extremely light, and is covered on the top only at the nose.

The seat is on the floor of the body, and permits the rider to assume a reclining position which offers little wind resistance for racing purposes.

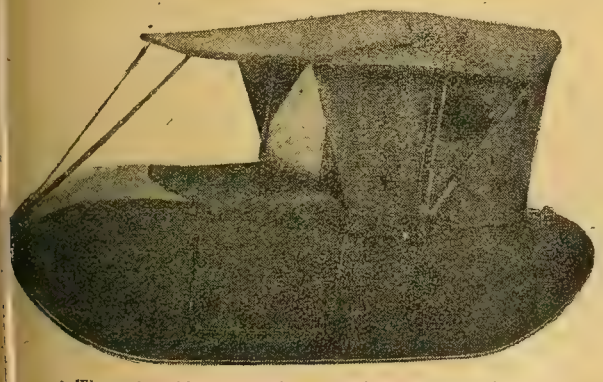
Many other sporting models will be shown, some with the back rest raised above the top of the body, and others deeper, which protect the rider to a greater extent from the wind and rain.

Stand **GRINDLAY.**

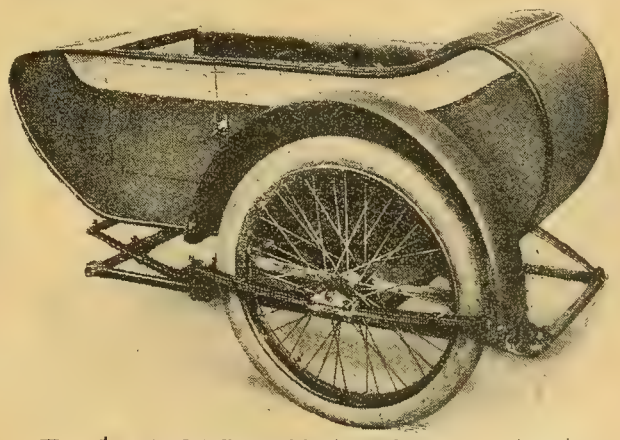
50. In addition to the model known during this year as the De Luxe, which has a sprung wheel and body suspended on cantilever springs, this spring chassis is being embodied in two new models. The first of these is a full tourist type with bulbous back, containing a large locker and, at option, a child's dickey seat. The body is roomy, well made and finished, and has a glove locker in the dash. The other new model embodying this double sprung chassis has a doorless body on sporting lines, but having a larger amount of room than is usual with this type of attachment. The dash is brought well back, and has a neat adjustable windscreen, which enhances its appearance, and provides extra comfort for the passenger. At the rear of the body there is a larger locker, upon the lid of which is secured a light grid to carry a spare petrol can.

The third new model is of the pure sporting type, small, light, low, and fitted with a leather hammock seat behind the back rest, of which there is a locker of useful capacity. This model has been designed for the larger type of lightweights and the spring frame A.B.C.

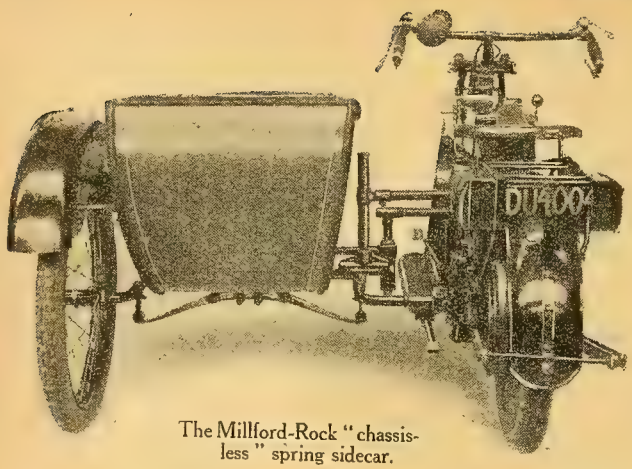
In all cases the mudguards are of round section and secured to the body. A full tandem sidecar is also under consideration.



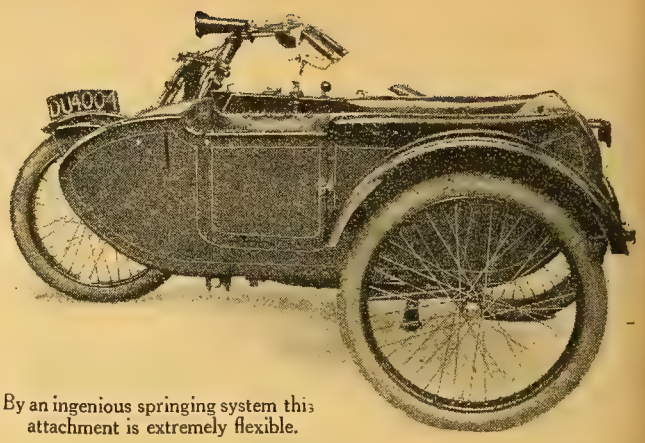
A Watsonian sidecar, affording complete protection for the passenger.



The full tourist Grindlay model with spring wheel and cantilever suspension for the body.



The Millford-Rock "chassis-less" spring sidecar.



By an ingenious springing system this attachment is extremely flexible.

Stand **RIDE-EASY.**

35. Among the exhibits of the Sidecar Body Co., of 25, Upper Clapton Road, London, E.5, will be a single-seater sidecar fitted with a novel disappearing hood.

Contrary to usual practice, it is constructed of metal, and in shape conforms to the contour of the back of the sidecar. When it is lowered and out of use it appears to be part of the body.

Its action is simple, and pivoted on two studs on the sides of the body, it is easily drawn over the seat and clipped to the top of the windscreen. By the provision of two rollers it can be lifted by two silk cords, attached to the top of the hood, when seated in the sidecar. A hinged dash provided with two side pieces of pleasing shape is fitted, whilst the roominess of the seat and the ample leg room provide a comfortable all-weather body. A locker of reasonable size and capable of holding a two-gallon tin of petrol is located behind the seat.

A luxurious sidecar, the bulbous model No. 4, suitable for Henderson and Harley-Davidson motor cycles, will also be shown. A hinged dash is again fitted, whilst the upholstery, which is in antique leather cloth, and the attractive sweeping lines of the body are most noticeable. An underslung chassis supports the body on two three-leaf C springs with solid shackles.

An enclosed wheel is now fitted to all sidecar chassis manufactured by this firm, whilst special chassis, suitable for all American machines, are also made.

Other models include the bulbous No. 2, which is slightly smaller than the No. 4, but is provided with an equally comfortable spring seat and back rest. A tool locker is located beneath the seat, whilst the price of this model complete is £26.

Another sidecar suitable for lightweight machines is the lightweight No. 5. It is well finished and has a distinctly pleasing shape, whilst the total weight of 25 lb. is comparatively small and would permit its use on low-powered machines. This body is mounted on a special underslung enclosed wheel chassis, and is sold for less than £20.

A very novel two-seater sidecar, it is hoped, will also be exhibited. The bulbous back is hinged, and when lifted back forms the second seat, whilst a well beneath the front seat provides ample space for rear passengers' feet.

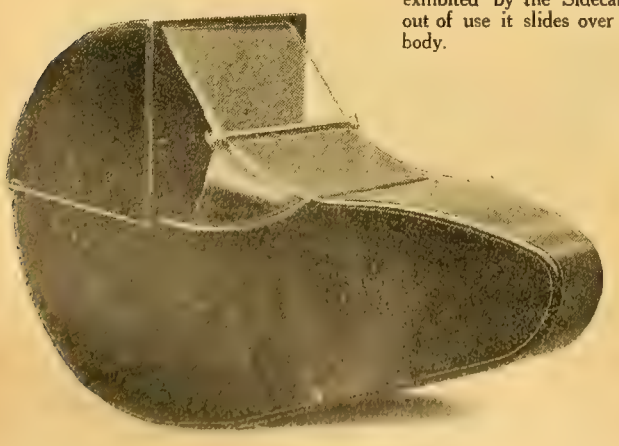
Stand **MILLFORD.**

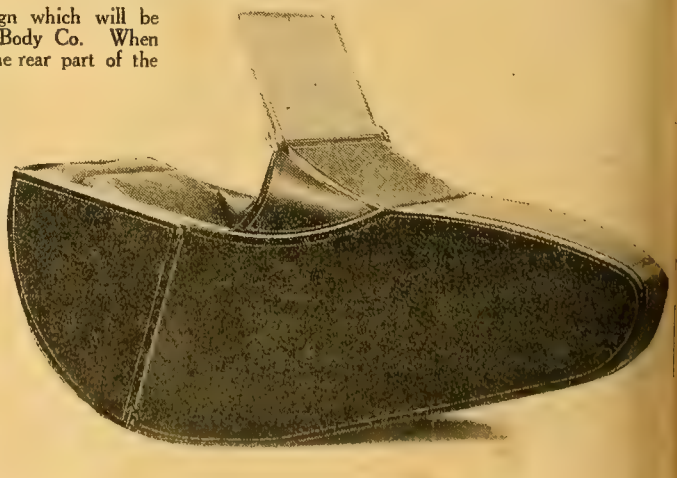
63. The leading sidecar of this well-known make for 1921 will be the Millford Rock, regarding which we recently gave a description of a demonstration. It will be recalled that the Rock sidecar chassis is an Australian invention, embodying a flexible construction from which a chassis, properly so called, is eliminated. From our experience we can say that it gives remarkable comfort. Several types of bodies will be used as hitherto, and these range from the small to the very largest type. The special feature of the springing system is that it may be instantly adjusted to any weight of passenger, while the axle is made from the solid bar, and is, therefore, practically unbreakable.

Stand **CANOELET.**

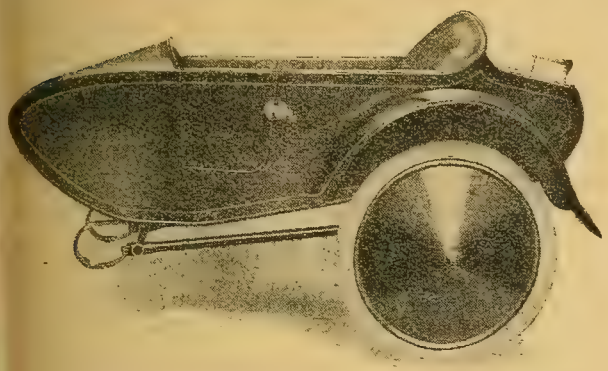
143. One of the first firms to introduce a coach-built sidecar body, Messrs. Mead and Deakin, of Tyseley, will show several new models which will be worthy successors of the well-known Canoelet range, while on many other stands the Canoelet will be shown fitted to well-known makes of motor cycles. Probably one of the most popular sidecars of its type on the road, the sporting Canoelet may be obtained in two models, the more elaborate of which has a hammock seat, and is strong enough for fast work on a heavy machine. A taxi-sidecar will also be shown.

A novelty in hood design which will be exhibited by the Sidecar Body Co. When out of use it slides over the rear part of the body.

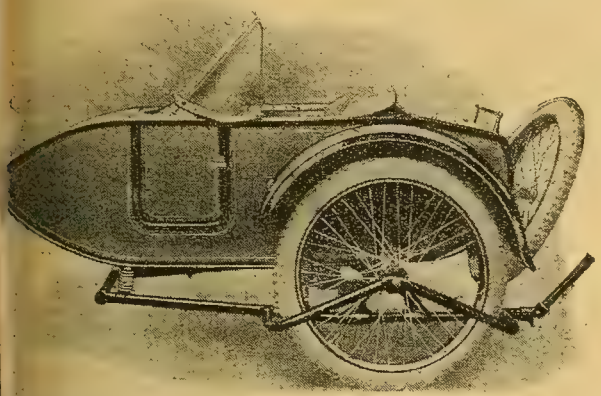




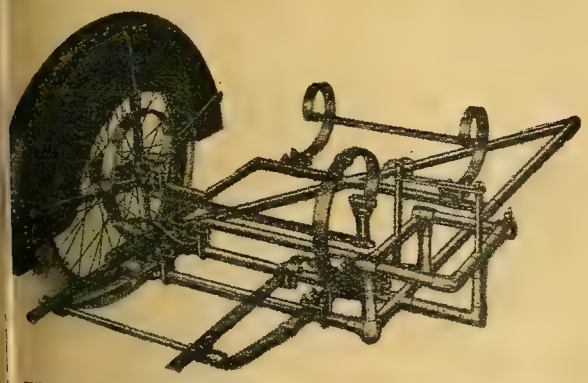
On one of the Watsonian new models a child's dickey seat forms part of the equipment.



That a spring wheel sidecar can be designed without sacrifice of neat appearance is shown from this view of the Henderson.



Luxurious equipment, refined springing and ample weather-protection are the special features of the Sheffield Henderson Elite sidecar.



The substantial chassis of Dunhill's touring sidecar, in which a spring luggage grid is embodied.

Stand **WATSONIAN.**

92. Like several other firms making sidecar attachments, the Watsonian Co., of Birmingham, will exhibit a sidecar-taxi. This is a large two-seater cabriolet, having a commodious locker at the rear which accommodates, among other things, a spare wheel. The rear half of the "top" takes the form of a hood which may be lowered at will. The front part is permanent. Several other interesting features will be noted on the Watsonian stand, among these may be mentioned a celluloid screen which has side pieces and hinges at the rear, the whole of the covering being pivoted at this point. The arrangement seems to offer the advantages of saloon type of body without undue weight. There are several types in the Watsonian range for next year, and they will embody many points of interest which show that they are the outcome of actual road experience.

Stand **HENDERSON.**

44. Coming from the centre of the steel making industry it is only fitting that the Henderson sidecar chassis should be constructed of specially selected materials. Every care is taken in the choice of the various grades of steel tubing used in the various parts, and the connecting stays are all made from material possessing a high elastic limit. Bolts which might be liable to corrode in their holes are made from rustless steel, while the wheel axles are of high tensile. The models range from a lightweight, suitable for machines of the smallest classes up to the Elite type, which is equipped to conform with the most powerful and luxurious machines to which it may be attached. Springing is a special feature of all Henderson sidecars, and an adjustable system combining leaf and coil springs suspends the body in each case. A spring wheel model of exceedingly neat design will be shown, and in all cases the mudguards are attached to the bodies instead of to the rigid portions of the chassis; this method of fitting was largely popularised by the makers of these sidecars which were amongst the first to be fitted in such a manner.

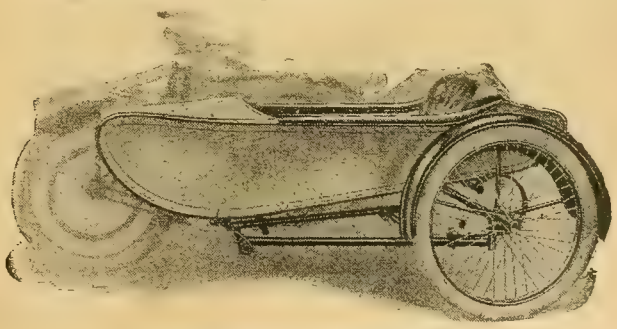
Stand **DUNHILLS.**

103. The essentials of the Dunhill designs are triangulation and strength. The lightweight chassis, one of the simplest forms of sidecar frame, has proved to be eminently satisfactory. We recently illustrated this chassis, which should give a maximum of strength for weight; and, although primarily intended for a light sporting body, comfortable springing has by no means been neglected.

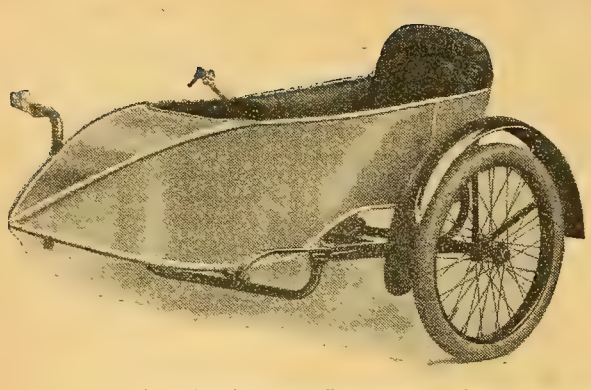
A heavier touring model, suitable for attachment to powerful twin-cylinder machines, will also be shown, and remains very much the same in design as the 1920 pattern, but it has been improved by the addition of a well-sprung luggage grid mounted on quarter-elliptic springs. The platform is 20×15in. Incorporated with the chassis, and forming an integral part of it, is a special spare petrol tin carrier, which is provided with an extremely ingenious clip, allowing the can to be quickly removed, and yet holding it securely in position.

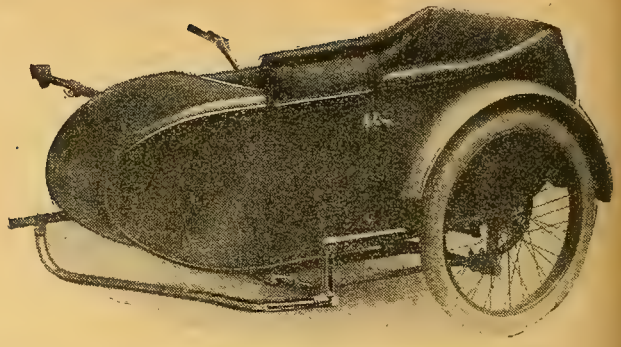
Stand **MONTGOMERY.**

46. One of the neatest sporting model sidecars in the Show will be exhibited by the well-known Montgomery firm, who will also have a complete range of their sidecar attachments suitable for all classes of motor cycles. The *de luxe* model is a particularly fine piece of work, intended for use with all types of machines of 4 h.p. and over. It has a hinged dash upon which is mounted an adjustable glass screen. The back contains a large locker.



The sporting model Montgomery.





Two Royal Leicester models—the "Racer" in polished aluminium and a "medium weight" with bulbous back.

Stand **ROYAL LEICESTER.**

137. Several new models of the Willowbrook Co.'s sidecar attachments will be exhibited, and the range will include a number of lightweight models of interest to those who wish to fit a sidecar to a medium-powered machine. A touring model built upon an entirely new style of chassis, having compensated coil springs, will be one of the leading features of the exhibit, and it is claimed that the springing system eliminates entirely any tendency to sway. In all cases, Willowbrook sidecars now have the mudguards fixed to the body, and therefore insulated from road shocks. This also reduces unsprung weight.

Section V.—RUNABOUTS.

Stand **COVENTRY PREMIER.**

94. The Coventry Premier runabout, which was introduced to the public at the last Olympia Show, will again be staged by the Premier Company. Several small alterations have been made, but none of these are of a very drastic character. The engine fitted is a water-cooled "V" twin, with a bore and stroke of 80 and 105 mm. respectively (1,055 c.c.). It may be recalled by our readers that this runabout has three speeds and reverse, and that the transmission is by shaft to the gear box, thence by an enclosed chain. The rear wheel is quickly detachable, and a spare wheel is carried on the tail of the body. One interesting point in connection with the Coventry Premier is the fact that the price has been reduced, and is now 275 guineas complete with dynamo lighting set.

Stand **MORGAN.**

93. There are several detail improvements of an important nature in the 1921 Morgan. Chief among these being the fact that the rear wheel may now be quickly detached without the necessity of disconnecting the chain links. This feature has been secured by a new type of rear fork which allows the axle to be slid along the fork ends for adjustment to the chain. By sliding the wheel to its most forward position, it is allowed to drop out of the forks when the chains can be lifted off the sprockets and left endless. Both chains are now of the same length, which has been rendered possible by fitting a certain combination of small and large sprockets. Gear ratios of 4½ to 1 and 8 to 1 are obtained. Others improvements include redesigned clutch withdrawal fork, which is of a very simple nature, and provides an easy action. Several models of the Morgan will be shown at Olympia, including two of the *de luxe* type, a Grand Prix, and a new Aero model, which has a streamline tail and V front air deflector behind the radiator. Another model will be the four-seater, which is suitable for two adults and two children. Prices range from £206 to £226.

Stand **NEW HUDSON.**

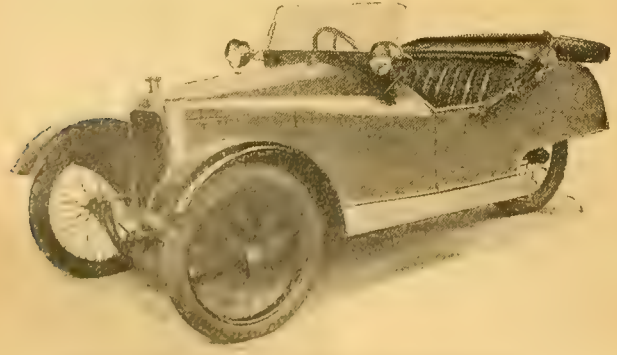
75. Undoubtedly one of the most interesting three-wheelers at Olympia will be the New Hudson, in which the company has pinned its faith as a passenger machine in lieu of a sidecar outfit. An air-cooled 50° V twin of 1,100 c.c. provides the power, and the transmission is by shaft and chain through a three-speed and reverse gear box. The rear wheel is quickly detachable. £300 is the price at which it will be offered.

Stand **STANHOPE.**

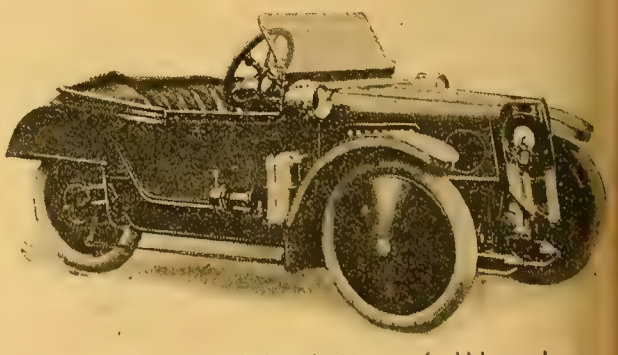
144a. Although exhibited for the first time, the Stanhope is by no means a new proposition. For several years it has been running about in its present form in the hands of its designers, and has earned quite a reputation for itself on account of its remarkable tractability. It is unlike any other three-wheeler at present made, inasmuch as the drive is to the single front wheel which is also the steerer. Although somewhat unconventional in appearance, it is not by any means unsightly, and now that the designer is entering the market with it, we see no reason why it should not be a successful commercial proposition.

Stand **T.B.**

31. Two models of the T.B. three-wheeler will be offered next year, one being equipped with an 8 h.p. water-cooled twin engine, and the other with an air-cooled engine of a similar type. This vehicle has all-shaft drive, and the gear box provides three speeds and reverse. It is manufactured by Thompson Bros. (Bilston), Ltd., Staffs., and includes several unusual features, amongst which must be included a neat detachable wheel. From personal experience we can state that the water-cooled model is speedy and quiet on the road and well sprung. A single seater is also made.



A refined little machine with a very complete specification—the Coventry Premier runabout.



The three-wheeler, which made this type of vehicle popular—the Morgan.

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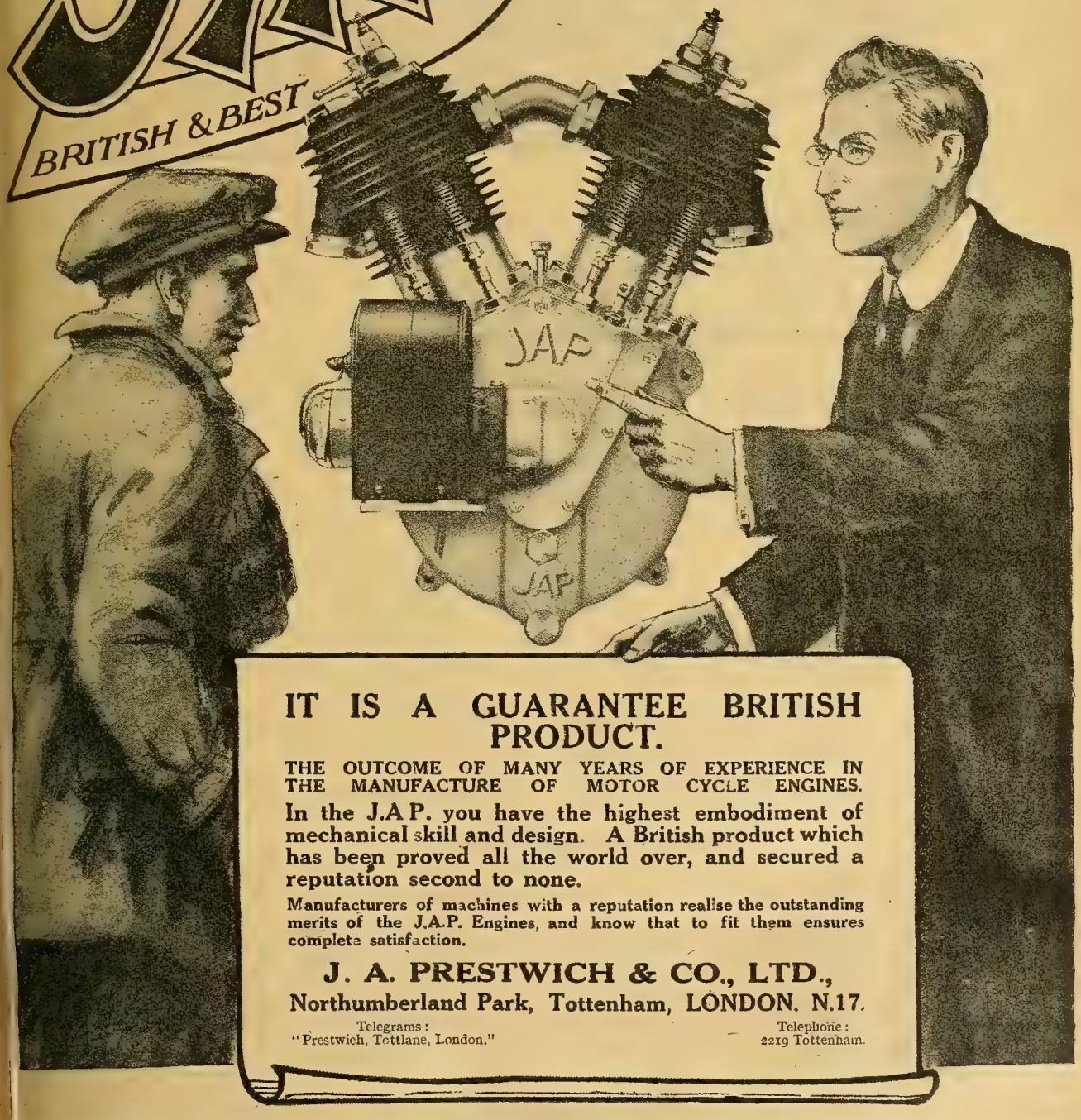

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Olympia Show

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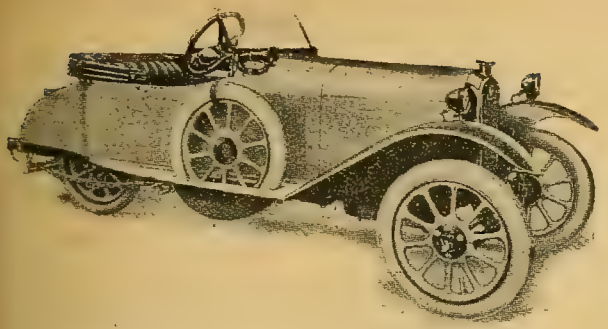


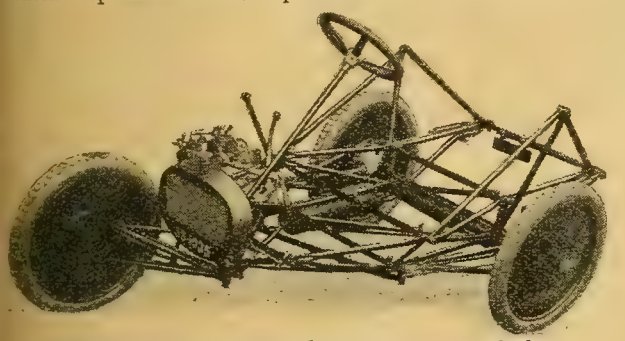
The Castle-Three, a runabout having a four-cylinder water-cooled engine and shaft drive.

Stand **CASTLE-THREE.**

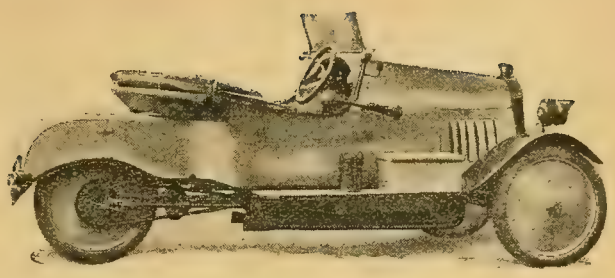
42. A fully developed three-wheeler on car lines, the Castle-Three runabout is probably the last word in three-wheelers, having a four-cylinder water-cooled car type engine of 1,207 c.c. capacity, and all shaft drive through an epicyclic gear, giving two forward speeds and reverse. The vehicle has many commendable features, many of the working parts of the chassis are fitted with patent oil-less bearings, which need no lubrication whatever. The bevel drive is totally enclosed and runs in oil, and is provided with extra large ball bearings throughout. The rear wheel is easily detachable by use of a single spanner, and is interchangeable with the front wheels, a distinction which the Castle shares with very few other makes of three-wheelers of its type. Artillery wheels are fitted.

Stand **SCOTT SOCIABLE.**

19. The Scott Sociable was fully described in a recent issue of *The Motor Cycle*, and no doubt readers who visit the Show will make a point of inspecting it in its finished form. As is well known, the machine is a three-wheeler, which represents a development of sidecar construction,



Chassis of one of the most remarkable little three-wheelers extant—the Scott Sociable.



The T.B. has a V-twin engine and shaft drive.

inasmuch as there are two tracks, and the side and rear wheels are in line. A two-cylinder two-stroke rotary valve water-cooled engine of 578 c.c. is fitted, and a crank case extension contains a constant mesh three-speed gear box, from which the drive to the off side rear wheel is taken by shaft and bevel. A self-contained starting device, operated from the driver's seat, is contained in the crank case, and the whole power unit with its controls complete may be removed from the chassis by undoing four bolts. One unusual feature of the Scott Sociable engine is the double-pole system of ignition. This is a method with which the designer gained much experience in past T.T. races, and the lessons there gained have resulted in the design of a special two-pole plug, which is used in conjunction with a sparking plug of standard pattern. An M-L magneto provides the spark, and this is equipped with the "impulse starter" produced by the makers of this type; the device greatly facilitates the starting of the engine. It is noteworthy that all ordinary adjustments to the engine may be carried out by the driver without him leaving his seat. The chassis construction is unusual, since no brazed joints are used, all the members throughout being tubular units of standard lengths. The bodywork completely encloses the chassis, and the engine is entirely concealed from view. Detachable and interchangeable wheels are fitted, and the body provides ample accommodation for two people, with an additional dickey seat at the back. A special feature of the Sociable design is its extreme mobility; it can be turned in its own length.

Stand **L.S.D.**

40. A soundly constructed three-wheeler, the L.S.D. has an 8 h.p. J.A.P. air-cooled engine, and two speeds and reverse. The transmission is by shaft and chain, and the wheels are of artillery type. This little vehicle made its appearance first at the last Show, and has not undergone any drastic alterations. Its manufacturers are Sykes and Sugden, Ltd., Huddersfield, and as their works are situated in a district which is notorious for a combination of difficult hills and inferior road surfaces it may be assumed that the machines are designed to withstand, and are tested under the most arduous conditions. The staunch appearance of the car bears out this assumption.

International Trials.

The Work of the F.I.C.M.

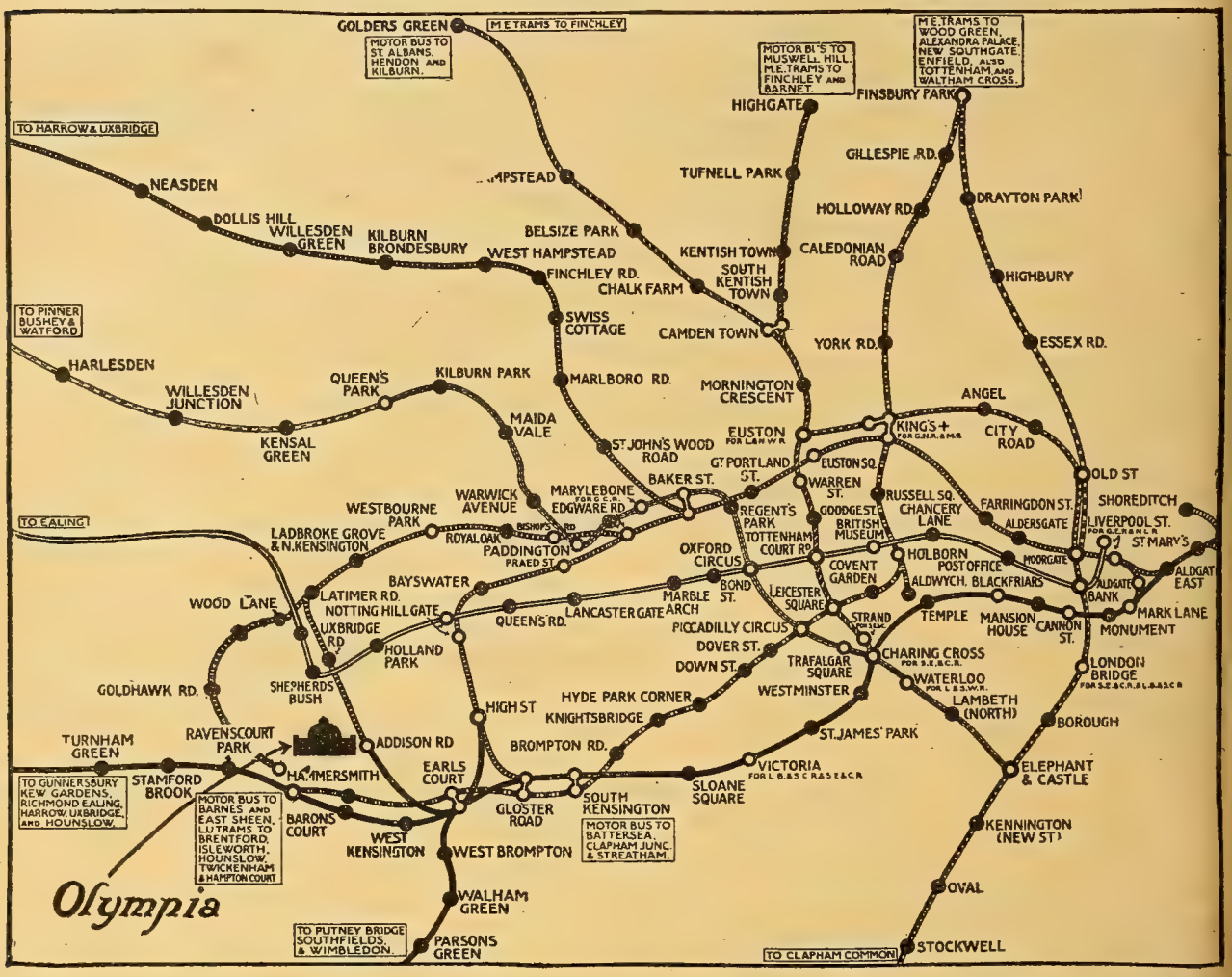
ON a recent occasion the Spanish Royal Automobile Club was approached by a Paris motor cycle paper, requesting the King of Spain to give a cup for projected trial from Paris to Madrid arly next year. The Real Automobil lub d'España then wrote to the Secretary of the International Federation of otorcyclists, asking for information on e subject, and whether there was any uarantee that the trial would be roperly organised. The F.I.C.M. therefore communicated with responsible ersons in the country concerned—in this se the Union Motocycliste de France—ho disclaimed all knowledge of the proposed trial, and could not offer any guarantee as to how it would be organised. This is but a small example of the value of the work of the F.I.C.M., who were thus able to prevent the offer of a valuable trophy for a competition which might have proved a fiasco.

It has also come to the knowledge of the International Federation of Motorcyclists that a suggestion had been put forward for holding the Paris-Nice trial again next year. The U.M.F. were interrogated, and replied that they would not give a permit for this event unless they had very certain guarantees that the competition would be organised in such a manner as to bring no discredit on the motor cycling movement.

The position regarding Spain is quite interesting. Motor cycling has prospered in that country, but there has been no body to rule the sport. There were two successful motor cycle clubs in Spain, between which a certain amount of rivalry existed, and for a long time the R.A.C.E. could not come to a satisfactory arrangement. We are glad, however, to state that the rival clubs have now been amalgamated, which has resulted in the formation of the Real Moto-Club d'España, which now governs motor cycle sport in Spain.

HOW TO GET TO OLYMPIA.

Map and Table of Underground and Motor Omnibus Routes from Principal London Termini.



THE following information may be of service to those of our readers who do not know their way about London, and clearly shows how Olympia may be reached by underground railway or by motor omnibus from the principal London termini.

BAKER STREET. Inner Circle train to High Street, Kensington; and thence by 'bus to Olympia—Nos. 9 and 33.

BROAD STREET. Inner Circle train from Liverpool Street Underground to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

CANNON STREET. Inner Circle train to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

CHARING CROSS. Inner Circle train to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

EUSTON. Euston Square Underground (Inner Circle, to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

FENCHURCH STREET. Mark Lane Station (5 mins. walk); Circle train to High Street, Kensington; and thence by 'bus to Olympia—Nos. 9 and 33.

KING'S CROSS. King's Cross Underground; Inner Circle train to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

LIVERPOOL STREET. Liverpool Street Underground; Inner Circle train to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

LONDON BRIDGE. Walk or 'bus to Monument Underground station; Inner Circle train to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

MARYLEBONE. Edgware Road Underground station; Circle train to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

PADDINGTON. Paddington Underground to High Street, Kensington; thence by 'bus to Olympia—Nos. 9 and 33.

ST. PANCRAS. See King's Cross.

ST. PAUL'S. Blackfriars Underground; Circle train to High Street; thence by 'bus to Olympia—Nos. 9 and 33.

VICTORIA. Victoria Underground; Circle train to High Street; thence by 'bus to Olympia—Nos. 9 and 33.

WATERLOO. By Bakerloo to Charing Cross; Circle train to High Street; thence by 'bus to Olympia—Nos. 9 and 33.

Connected with the District Railway at Earl's Court there is a train running to Addison Road Station, just outside Olympia. This line is also directly connected with Willesden Junction, on the North-Western Railway.

Those visitors who desire to travel above ground may find the following list of omnibus routes from the main London termini to be useful :

BAKER STREET (Metropolitan Ry.). 'Bus service No. 27—Highgate to Twickenham.

BROAD STREET (L. & N.W. Ry.). No. 9—Liverpool Street and Barnes.

CANNON STREET (S.E. & C. Ry.). No. 13—London Bridge and Hendon to Piccadilly Circus; thence by No. 9—Liverpool Street and Barnes; or No. 33—Charing Cross and Richmond.

CHARING CROSS (S.E. & C. Ry.). No. 33—Charing Cross and Richmond; No. 9—Liverpool Street and Barnes.

EUSTON (L. & N.W. Ry.). No. 73—Stoke Newington and Richmond.

FENCHURCH STREET (L.T. & S. & G.E. Rys.). No. 23—Leadenhall Street to Oxford Circus; thence by No. 73.

KING'S CROSS (G.N. Ry.). No. 73—Stoke Newington and Richmond.

LIVERPOOL STREET (G.E. Ry.). No. 9—Liverpool Street and Barnes.

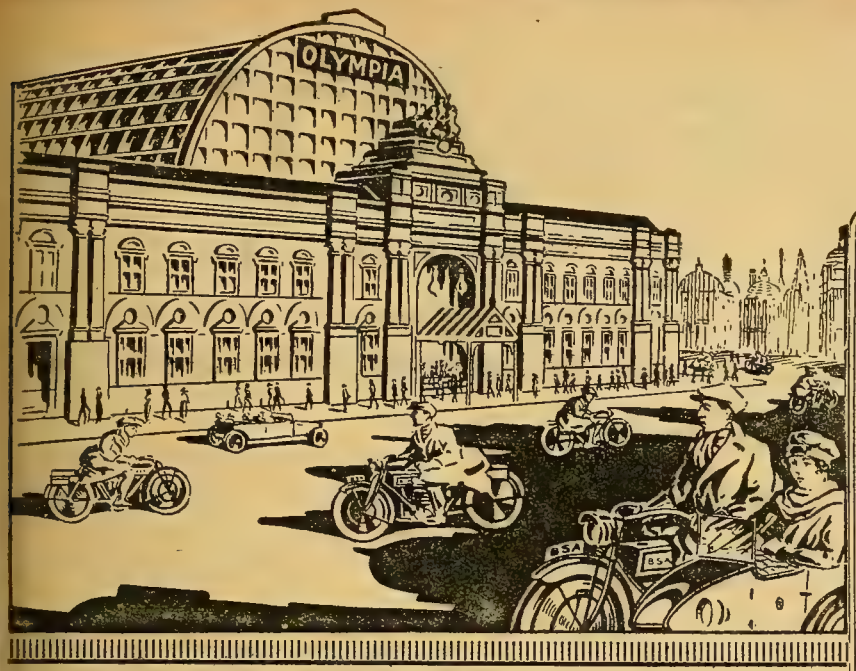
LONDON BRIDGE (L.B. & S.C. & S.E. & C. Rys.). No. 13—London Bridge and Hendon; or 13a—London Bridge and Southfields, Hampstead to Piccadilly Circus; thence by No. 9—Liverpool Street and Barnes; or No. 33—Charing Cross and Richmond.

MARYLEBONE (G.C. Ry.). No. 27—Highgate and Twickenham.

PADDINGTON (G.W. Ry.). No. 27—Highgate and Twickenham.

VICTORIA (L.B. & S.C. & S.E. & C. Rys.). No. 16—Victoria and Cricklewood; or No. 2—Victoria and Seven Kings; or No. 38—Victoria and Walthamstow to Hyde Park Corner; thence by No. 9—Liverpool Street and Barnes; or No. 33—Charing Cross and Richmond; or No. 73—Stoke Newington and Richmond.

WATERLOO (L. & S.W. Ry.). No. 1a—London Bridge and Hendon; or No. 68—Chalk Farm and Tulse Hill to Strand; thence by No. 9—Liverpool Street and Barnes.



B.S.A. Stands No. 69 *Floor.* No. 216 *Gallery.*

B·S·A at Olympia

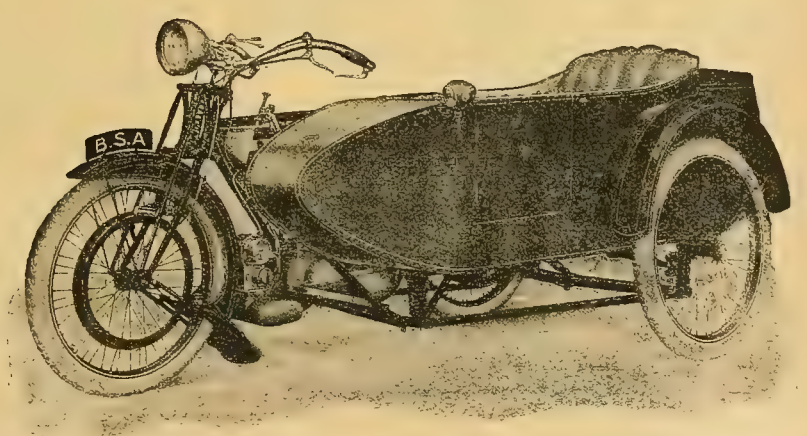
Nov. 29th –Dec. 4th

New Engine Detail and Sidecar

form the chief alterations on the famous B.S.A. 4¼ h.p. Model. The various new features further enhance the efficiency of the famous B.S.A. 4¼ h.p. Model, which, it will be remembered, won the Team Prize in the 1919 A.C.U. and 1921 Scottish Six Days, and 5 Gold Medals with 5 entries in the 1920 A.C.U. The new B.S.A. Sidecar is of exceptionally graceful appearance, and affords the maximum of riding comfort and luggage capacity. In every detail the 1920 B.S.A. 4¼ h.p. follows out B.S.A. practice with regard to excellence of material and workmanship.

1921 B.S.A. 4¼ h.p. Motor Bicycle

For Solo and Sidecar.



Other B.S.A. Models will also be shown, including the B.S.A. 6/7 h.p. Twin.

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" SPRING-FRAME " " " "
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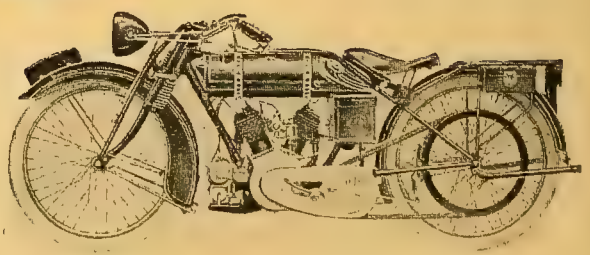

THE 3½ h.p. STANDARD MODEL

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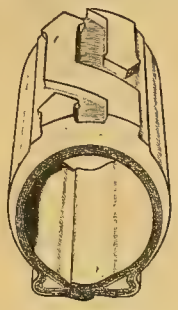
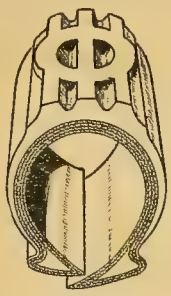
TYRES AT OLYMPIA.

A Résumé of the Various Makers' Specialities with Illustrative Cross-sectional Diagrams.

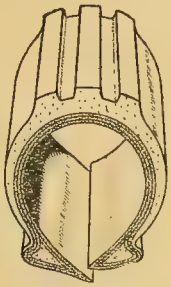
The Dunlop rubber-studded.

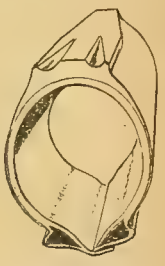
The Clincher "Cross" tyre (for cycle cars).


A Macintosh tread.


A cover by Messrs. Hutchinson.

The Kempshall anti-skid.


The grooved tread Midland.


The Moseley heavy arrow pattern cover.

THE number of makes, types, and patterns of outer covers to be seen at the 1920 Motor Cycle Show will be considerable, and a study of them will reveal the ingenuity displayed by many of the designers in attempting to obtain an effective non-skid pattern. Of late years considerable improvement has been effected in tyre construction, with the result that better wearing qualities have been obtained, and naturally a greater freedom from punctures. In the case of motor cycles, as with cars, the tendency is to fit as large tyres as possible.

Avon.

THE AVON INDIA RUBBER CO., LTD. (Stand No. 133, Annexe.)—The Avon tyre must always be remembered by the numerous successes gained during the past season, including twenty-six cups and trophies, a hundred and fifteen gold medals, and numerous other awards, to say nothing of numerous records at Brooklands. The covers are made to the correct size, and have been improved in manufacture. All treads are now produced from a new black rubber, which is more resilient than the former grey mixture. Avon tyres are not only better in quality, but cheaper in price for the coming season. The two models which specially appeal to us are the Avon extra heavy three-ribbed cover, in which the ribs have themselves a series of indentations, and the heavy three-ribbed pattern, which follows standard practice in the design of its tread.

Bates.

MESSRS. W. AND A. BATES, LTD. (Stand 134, Ground Floor.)—The Bates all-weather tyre has been specially designed for high-powered and passenger machines. The design of tread is unconventional and ingenious, and it should prove an efficient non-skid. It is interesting to record that Bates tyres are moulded in the inflated shape, and are vulcanised under the tremendous pressure of over half a ton to the square inch, consequently the tyres are extremely difficult to puncture, and if cut the edges tend to close.

Beldam.

THE BELDAM TYRE CO., LTD. (Stand No. 82.)—Beldam tyres have long been known for their excellent quality and hard-wearing properties. The pattern illustrated is known as the V tyre. It has a flat tread with V shaped indentations and a transverse groove between each indentation. The flexible rubber V's not only take up circumferential slip, but also prevent skidding, while they support the machine when a corner is negotiated. It is also claimed that with this tyre punctures are reduced to a minimum

Clincher.

THE NORTH BRITISH RUBBER CO., LTD. (Stand No. 79.)—A novel pattern exhibited by this firm is the Clincher Cross tyre, suitable for Morgans, Blériots, and other cycle cars. It is made in the 700 mm. × 80 mm. size to fit 650 mm. × 65 mm. rims. One of the most popular patterns of the motor cycle tyres is the three-ribbed Dreadnought, which is not only strongly constructed, but is also resilient. It is also made in the stud and bar pattern.

Clipper.

THE CLIPPER TYRE CO., LTD. (Stand No. 53.)—The Reflex Clipper Ideal is specially constructed for high-powered machines; the Clipper rubber-studded is a lighter tyre, sold at a moderate price, and is suitable for machines of moderate horse-power.

Dunlop.

THE DUNLOP RUBBER CO., LTD. (Stand No. 77.)—The famous house of Dunlop will be exhibiting a full range of motor cycle tyres, including three grades of rubber-studded covers for machines of varying horse powers. The most interesting exhibit on this stand will be the Dunlop Magnum tyre, made in British standard sizes to fit British standard rims. It is a motor cycle tyre constructed on car lines. Practically no alteration has been made in the design of these tyres for the coming season.

Goodrich.

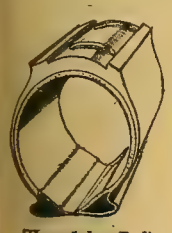
THE B. F. GOODRICH CO., LTD. (Stand No. 109.)—The B. F. Goodrich Co. is another firm constructing a motor cycle tyre on car lines. Like the larger car tyre it is fitted with a safety tread consisting of two groups of three lozenges interrupted by transverse oval bars. Its makers claim it to be the strongest tyre on the market, and state that it is highly suitable for sidecar work.

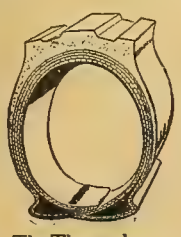
Hermetic.

THE SELF-SEALING RUBBER CO., LTD. (Stand No. 136.)—The company are marketing two types of motor cycle covers. The type F, suitable for machines of moderate horse-power, may be had with wired or beaded edges. It is, however, the type Z in which the company are specialising. The casing is composed of four-ply canvas, while the zigzag pattern rubber tread with longitudinal ribs running each side of the centre pattern has four plies of canvas. The tread is exceptionally thick, and of excellent quality.

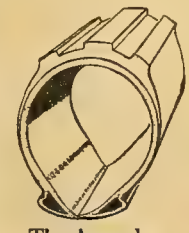
Hutchinson.

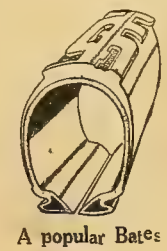
THE HUTCHINSON TYRE CO., LTD. (Stand No. 107.)—A new pattern Hutchinson tyre will be shown in which

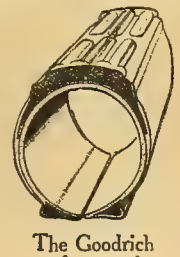

The John Bull cross-groove cover.

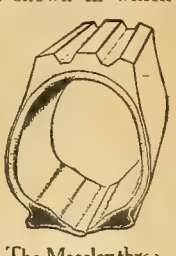

The Thames heavy cover.

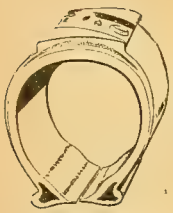
The Avon extra heavy three-ribbed.


The Avon heavy three-ribbed.

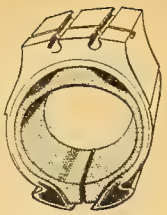

A popular Bates cover.

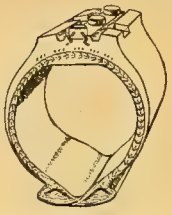

The Goodrich safety tread.

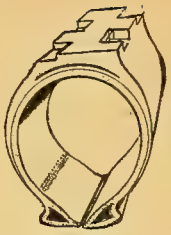

The Moseley three-ribbed.

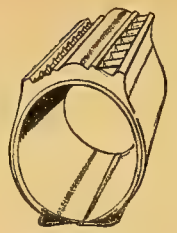

The Rom combination cover.

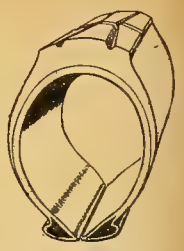
The "V" Beldam tyre.


The Rapson tyre.


The Palmer steel-studded tyre.


The Richmond.


The Alfred Roberts.


The Rom tyre.

the principle is followed of putting the main portion of the tread into the studs, so that it retains its non-skidding qualities practically throughout its whole life. Another new pattern will be of the three-ribbed variety, but with rings moulded between the ribs. This increases the surface and prevents rolling, and is invaluable for heavy motor cycles and cycle cars. Quite a new pattern introduced for 1921 by the Etablissements Hutchinson is a tread consisting of three rows of rubber studs, of which the studs in the centre row alternate with lozenges.

John Bull.

THE LEICESTER RUBBER CO., LTD. (Stand No. 80.)—The section shown of the ribbed stud cover is one of the 28×3in. sizes. Being a combination of the ribbed and studded patterns, it is a non-skid in all directions, and should neither roll nor skid. Another pattern is the John Bull cross-groove cover, consisting of two longitudinal ribs, between which are transverse grooves. This is one of the company's oldest patterns.

Kempshall.

THE KEMPSHALL TYRE CO. (OF EUROPE), LTD. (Stand No. 104.)—The popular Kempshall will be shown in two patterns—the famous non-skid model, so constructed that the buttresses moulded against the tread present additional radiating surface which helps to keep the cover cool, and the ingenious and unique heavy anti-skid pattern, combining the qualities of a ribbed and studded tyre.

Macintosh.

MESSRS. CHAS. MACINTOSH AND CO., LTD. (Stand No. 64.)—Messrs. Chas. Macintosh and Co. will be showing two patterns—the extra heavy moulded non-skid, which has staggered longitudinal indentations round the exterior of the tread, and the heavy non-skid, the tread of which is of peculiar design and, we are informed, most effective against skidding even long after the centre portion of the tread has been worn, as the exterior of the pattern then comes into contact with the road.

Midland.

THE MIDLAND RUBBER CO., LTD. (Stand No. 83.)—The Midland Rubber Co. specialise chiefly in a plain three-ribbed cover of conventional design.

Max.

MESSRS. CHAS. L. CUTHBE. (Stand No. 135A.)—The Max Cycar tyre is built entirely on car lines. The tread is of registered design, and consists of longitudinal ribs, between which are lozenge-shaped studs. Another tyre is known as the Max End-to-end tyre, which has met with considerable success during the past season.

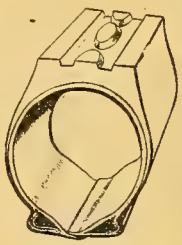
Moseley.

MESSRS. DAVID MOSELEY AND SONS, LTD. (Stand No. 52.)—The three patterns of tyres to be exhibited by Messrs. David Moseley and Sons will be the heavy arrow pattern, provided with an arrow-shaped tread of white rubber; another pattern is of the three-ribbed variety and composed of dark rubber, which is designed for both heavy and mediumweight machines.

Pedley.

MESSRS. JOHN PEDLEY AND SON, LTD. (Stand No. 132.)—Two patterns of treads are being shown by this firm—the rubber-studded variety and the three-ribbed pattern, the latter for heavyweight motor cycles, while the former is for lighter machines.

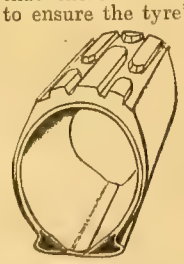
The Pedley heavy-weight beaded edge pattern.


The Cuthbe Max cover.

Richmond and Rapson.

MESSRS. OYLERS, LTD. (Stand No. 108.)—The Richmond heavy tread non-skid tyre, which will be shown by this firm, has been specially constructed to withstand the stresses present on the rear wheels of heavy motor cycles, while the Richmond heavy round non-skid tyre has been designed for the front wheels of heavy machines, and is also an excellent all-round cover for lightweight motor cycles.

The Rapson motor cycle tyre will make its appearance on this stand. As our readers are probably aware, this tyre is claimed to be unpuncturable, and yet to retain all the resiliency of an ordinary pneumatic tyre. It has a substantial all-rubber non-skid tread, while inside is an inner casing of soft resilient rubber, while the top of this is so constructed that there are air spaces so as further to ensure the tyre's resiliency.


The John Bull rib stud cover.

The Hermetic Peerless, type Z.

Palmer.

THE PALMER TYRE, LTD. (Stand No. 106.)—The Palmer exhibit will consist of tyres of various grades and sizes suitable for all types of machines. There will be the two-ply pattern, Palmer Cord motor cycle tyres, and the heavy and extra heavy patterns. Mention must also be made of the Palmer combination tread, which is made in the 700×75 mm. size to fit 650×65 mm. rims. It is of the interrupted three-ribbed pattern with steel studs anchored to the centre rib.

Roberts.

MESSRS. ALFRED ROBERTS AND SONS, LTD. (Stand No. 81.)—The Roberts motor cycle tyre possesses a peculiar and distinctive pattern. Being moulded under great pressure, the rubber is rendered very compact, and consequently presents a heavy resistance to cuts. The peculiar design of the tread renders it an effective non-skid.

R.O.M.

THE ROM TYRE AND RUBBER CO., LTD. (Stand No. 110.)—In addition to their combination cover, which was the first of its kind to be placed on the British market, and is most effective for the driving wheels of sidecar outfits, three-wheelers, and other light cars, the company are now placing on the market an all-rubber non-skid of original design. The tread is so intersected by grooves that large hexagonal studs are formed, projecting three-sixteenths of an inch above the tread.

Thames.

THE THAMES RUBBER CO., LTD. (Stand No. 105.)—The Thames Rubber Co. are specialising in a three-ribbed cover of pleasing design, which they will be showing in addition to the Rich open-ended detachable inner tube, which has long been one of the most practical of its kind on the market.

Wood-Milne.

WOOD-MILNE, LTD. (Stand No. 78.)—The Wood-Milne tyre has long been known to motor cyclists as a practical article. The most popular model is known as the Key-Grip, the substantial tread of which consists of staggered indentations which give it an excellent grip of the road.

The Wood-Milne tyre.

The Pedley rubber-studded.

VISITORS

TO THE
MOTOR CYCLE and CYCLE
EXHIBITION, OLYMPIA,
SHOULD MAKE A POINT
OF CALLING AT:

STAND 79

WHERE A COMPLETE
RANGE OF THE FAMOUS

"CLINCHER"
NORTH BRITISH
Regd TRADE MARK

CYCLE & MOTOR CYCLE **TYRES**
WILL BE EXHIBITED.

THE NORTH BRITISH RUBBER CO., LTD.
EDINBURGH, LONDON & BRANCHES.

In answering this advertisement it is desirable to mention "The Motor Cycle."

B3

ROVERS
AT
OLYMPIA

3½ h.p.	MODEL	£135
5-6 h.p.	MODEL	£150
T.T.	MODEL	£105
SIDECAR		£45

STAND No. 89

The New ROVER Cycle Co., Ltd.,
COVENTRY.

In answering this advertisement it is desirable to mention "The Motor Cycle."

WHAT SHALL IT BE?

Some Notes on the Selection of a Motor Cycle.

THIS article is one which is not intended to appeal to the experienced motor cyclist.

The man who has had one or two machines of his own should not need to be told what would suit him best, but the prospective motor cyclist with no previous knowledge of the subject stands in a different case. Such a one taking up a copy of *The Motor Cycle* and glancing through its advertisements, or looking through the Show report, is bewildered by the claims of a hundred and one machines, all of which might or might not answer his requirements. In short, he does not know what to choose while, if he actually visits Olympia, his troubles may be further increased by the over-enthusiasm of the bright young men who grace the stands, and who are boiling over with zeal and modern methods of salesmanship.

Let Requirements Dictate.

Before embarking upon the purchase of a machine it is necessary to examine very closely, and to anticipate, the uses to which it will be put. For example, the man who has ambitions to cut a dash amongst the local sporting fraternity by establishing new figures for the "unlimited" flying half-mile in his club trials is wasting his money if he invests in certain classes of lightweight two-strokes; in the same way the business man who wishes to make his calls by the aid of a motor cycle would be foolish to purchase an 8 h.p. speed model.

Machines for All Purposes.

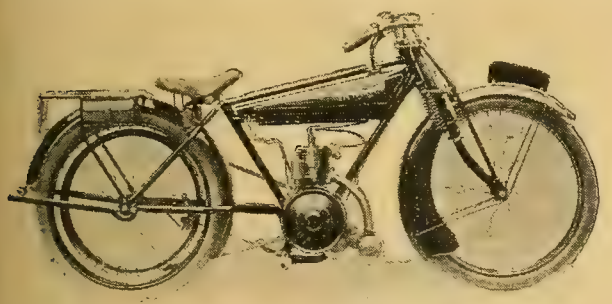
At the present time there are machines on the market which will answer every requirement; by that we do not mean that every requirement can be met by one machine, but for each class of service there are certain types which are most suited. To help the beginner in his understanding of these is our task.

First of all, let us take the solo machines and the class of use to which they are subjected. The lightweight type, for instance, is largely employed for short distance work and about-town riding—in short, all that kind of use which is termed "pottering." Nevertheless, it must not be assumed that the lightweight solo machine is totally unsuitable for serious touring purposes, since most of the leading makes of lightweight machines have shown themselves capable of surviving a Six Days Trial. For short distance work generally, a single-geared two-stroke of about 2½ h.p. will answer most requirements, especially in the moderately flat undulating districts. If, however, severe hills have to be climbed and much traffic negotiated, the advantages of a two-speed gear and clutch are so great as to be not only desirable, but almost essential.

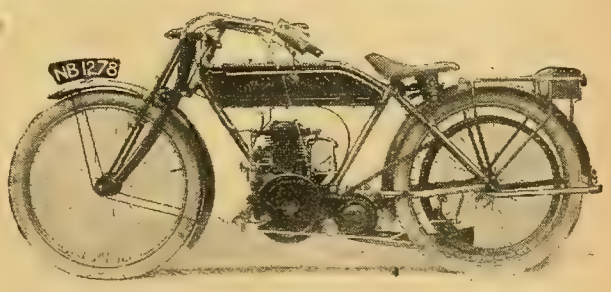
Medium Weight for Comfort.

To those whose ambitions or business lead them further afield, a machine of greater power and weight than those in the pure lightweight class may be desirable: it is much less fatiguing to ride long distances over an engine which, by reason of increased capacity, may be geared higher, and thus be less "fussy" in the performance of its duty. The medium weight 3½ h.p. to 4¼ h.p. single, and the twin-cylinder machines of corresponding power, are ideal for the class of rider who undertakes long journeys, and has a moderate amount of luggage to transport.

The final class of solo machine is the speed mount pure and simple. This type is dying a natural death, since the 1920 T.T. races and Brooklands records all



The single speed lightweight represents the extreme end of the scale so far as minimum weight and complication are concerned; the ideal type for young people, short business calls, and general "runabout" work.



A development of the lightweight; a 350 c.c. two-stroke with two-speed gear, clutch, and kick-starter. This class of machine is becoming more and more popular, for it is capable of almost any service as a solo machine, and it *will* take a light sidecar.

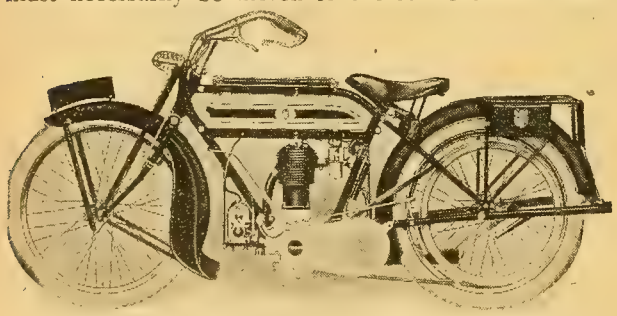
What shall it be?—

go to prove that the speed of a standard touring machine with three-speed gear and chain drive cannot be excelled by the old type of fixed gear machine which was once favoured. However, for a certain type of rider, the old style of direct driven sporting solo machine still has its attractions, and the man who only rides for pleasure and leaves his machine at home when weather conditions are unfavourable will find that there are still a number of makers who cater for his needs.

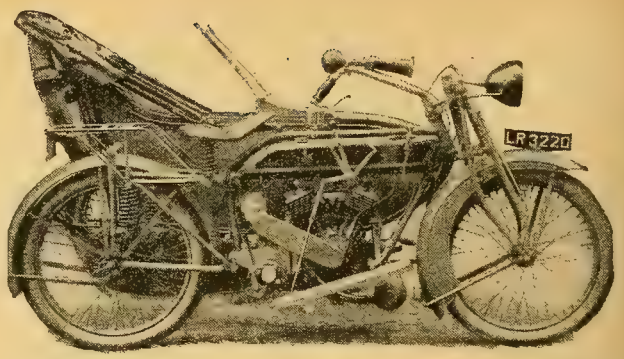
Passenger Machines.

Undoubtedly the passenger machine has become the most popular type of motor cycle on the road, and probably two out of every three motor cyclists purchase machines with a view to sharing their pleasures with someone else. Those who have only an ultra-light and low powered solo machine will find it impossible to use a sidecar, and if they wish to take a companion on their runs must adopt the pillion seat, which method does not provide a permanent, go-anywhere type of transport for two people. In consequence the sidecar has achieved an enormous success, and its numbers are legion.

To those whose normal riding does not include any more serious hills than are found in the Midlands and Southern Counties, a 350 c.c. two-stroke machine of substantial frame design and suitably geared will perform wonders with a light sidecar, but as small engines must necessarily be driven to the full extent of their power in order to maintain decent average speeds, it is important that users should realise the decided limitations of miniature outfits. The man who wishes to take out his family, for instance, should not consider any machine of less than 4 h.p., since the use of a large and roomy sidecar, with perhaps an additional passenger on the carrier, makes very serious demands upon the engine, especially if hill-climbing has to be done, or a long run carried out against a strong head wind. The difference between the 4 h.p. type of single-cylinder sidecar machine and the 6 or 8 h.p. twin-cylinder outfits is mainly one of speed and refinement of fittings. The 8 h.p. machine, for instance, with its large reserve of power, may be equipped with all the luxuries which the mind of the rider or his passenger may imagine, but to load a lower powered machine with the same weight would be disastrous to its performances. It should be understood, therefore, that the only difference between the two types lies ultimately in the average speed which it is possible to maintain with them. In the hands of a careful driver the medium weight single-cylinder outfit will answer every requirement of the tourist, the family man, or the tradesman who needs a staunch and reliable vehicle for pleasure or business purposes; that this is so is amply proved by the overwhelming number of machines of this type which are to be seen on the roads to-day.



Motor cycles as a whole owe their popularity to this type of machine—the double-purpose mediumweight. The solo mount *par excellence*, and capable of touring the length and breadth of the land with a sidecar, its service is that of the willing hack.



To the man who insists on travelling *en famille*, or who wants every refinement for his passenger and the speed of a car, the 8 h.p. outfit is the only possible solution. Lower powers may do the work, but the owners always sigh for bigger engines.

"A Rag-bag of Recollections."

"Ixion's" Reminiscences of Motor Cycling from Earliest Days.

"IXION" has not disappointed us. Our appetites whetted by an extract published in these pages some months ago, and by regular weekly perusal of his incomparable Comments, we motor cyclists have awaited his reminiscences as breathlessly (if not as fearfully) as did the politicians await Margot's revelations.

Essentially readable, they are yet extremely informative, containing as they do a complete *résumé* of the motor cycling movement almost from its birth, and breathing the early atmosphere—sadly changed nowadays—of enthusiasm battling against innumerable prejudices.

As a humorist, "Ixion" reveals another side of his many-phased talent, occasionally indicated to his Comments' acquaintances. It is usual, and would be justifiable to claim an inability to close such literature before reaching *finis*, however late the hour. Establishing a precedent, we confess that the call of the blankets proved too strong; but next morning, relegating Teddy Tail for later reference, our explosive chuckles required careful timing between gulps of breakfast coffee to avoid disaster.

And should his early misfortunes tend to deter the outsider from the pastime, his concluding chapter on the pleasures of motor cycling is so attractive as to cause an immediate boom on its own.

"My Motor Cycle Reminiscences" is published by Iliffe and Sons Ltd., 20, Tudor St., E.C.4, at 5s., by post 5s. 3d.

OLYMPIA
HUTCHINSON
YOU are cordially invited to view the finest range of Cycle and Motor Cycle Tyres at present before the public, including the latest Models of Hutchinson Tyres for the 1921 season.
STAND Nº 107
HUTCHINSON TYRES, 70, BASINGHALL ST., LONDON, E.C.2
TYRE MANUFACTURERS SINCE 1807.

AGENTS :
We are now arranging our agencies for 1921—write us for particulars

DUNELT
TWO-STROKE

4½ h.p. Single Cylinder Motor Cycle

When visiting the OLYMPIA SHOW make a note to call at STAND No. 138 and see the "DUNELT" Two-Stroke—examine it thoroughly—note its original design, sound construction and special points of superiority—and you will readily admit that it stands in a "class of its own."

Note its Specification

ENGINE. Patent 4½ h.p. single cylinder two-stroke, air-cooled, 85 mm. bore × 88 stroke, 500 .c.c.

FRAME. Specially designed strong section loop frame, with straight dropped top tube, giving low saddle position. The lugs are heavily reinforced throughout where the maximum strain occurs, thus ensuring an almost unbreakable frame. Front and back stands fitted.

MAGNETO. M-L. CARBURETTER. Cox Atmos.

SPRING FORKS. Laminated spring, specially designed to absorb vertical and horizontal shocks.

LUBRICATION. Best & Lloyd drip feed to cylinder walls.

GEAR. Sturmey-Archer three speed and clutch.

TRANSMISSION. ⅝" roller chain to gear and 1" belt to back wheel.

TANK. Capacity, 2½ gallons petrol, 3 pints oil.

WHEELS. 26" × 2½", easily detachable, and interchangeable throughout. "Knock-out" spindles. Improved aluminium footboard and rest combined. Ground clearance 6".

BRAKES. Specially designed front and rear brakes, operating on belt rim. Wheels can be removed without interfering with brakes.

MUDGUARDS. 6" wide, giving ample protection in all weathers.

SADDLE. X-L-ALL. TYRES. Hutchinson Heavy, 26" × 2½".

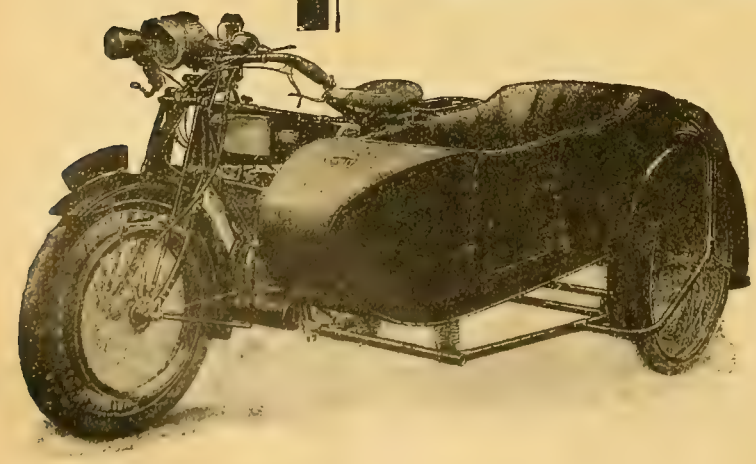
COMBINATION. Specially designed "Watsonian" sidecar, allowing interchangeability of wheels, complete with apron and spare wheel.

Failing a visit to the Show, write us for Catalogue

DUNFORD & ELLIOTT
(Sheffield) Ltd.
Bath Street, Birmingham

AT OLYMPIA STAND No. 138

"DUNELT" machines gained TWO GOLD MEDALS in the A.C.U. SIX DAYS TRIAL



F. W. Wall.

The "DUNELT" Sidecar Combination Price: £150-0-0
SOLO machine. Price: £115-0-0

In answering this advertisement it is desirable to mention "The Motor Cycle."

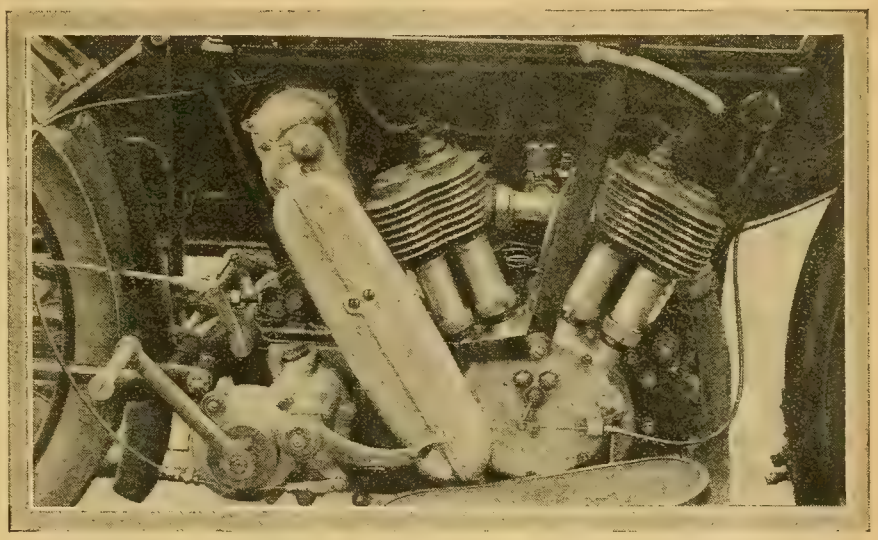
NEW AND IMPROVED MODELS.

A HIGHER POWERED JAMES SIDECAR OUTFIT.

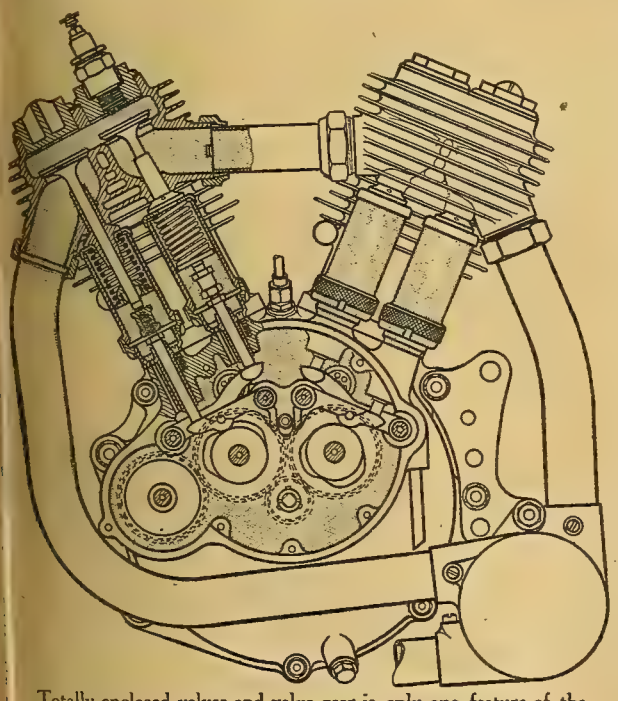
All External Moving Parts Completely Enclosed in the New 7 h.p. V Twin Engine

WHEN the recent extensive fire at the James Works is recalled, one would be inclined to pardon the James Cycle Co., Ltd., if they, like so many other firms, had rested upon their laurels this year and retained unaltered the highly successful 5-6 h.p. twin as their big passenger machine. Therefore we congratulate them on the production, necessarily under difficulties, of a new 7 h.p. twin sidecar outfit.

A fine example of its type, the engine is of strikingly clean external design. Conventional otherwise, the latter feature is gained by an entire absence of nooks and crannies in its crank case and valve-gear cover, and by the adaption of quite the neatest valve-spring covers we have seen. These latter are of aluminium, cylindrical in shape and instantly detachable on a split bush and taper principle. Provision is made for lubricating the valves and for allowing surplus oil to return to the crank case. The 73×89.5 mm. cylinders give a total capacity of 749 c.c., and the makers rate this, their No. 10 model, at 7 h.p., a figure we have no doubt it greatly exceeds in practice.



Very clean external design is a commendable feature of the 7 h.p. twin James engine. Note the valve covers.



Totally enclosed valves and valve gear is only one feature of the new 7 h.p. twin engine, here shown in part section.

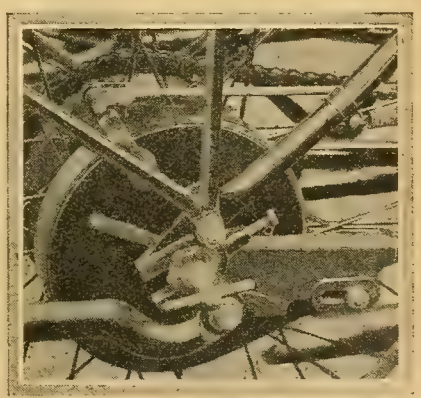
Although of exactly similar action to last year's model, the gear box and kick-starter have been considerably strengthened, an improvement which in the Six Days Trial and subsequent tests proved to exceed all expectations.

The internal expanding rear brake has also been redesigned on a larger and stronger basis; and the rear wheel is now quickly detachable whilst leaving the transmission and cases *in situ*. However, the brake drum comes away with the wheel, thus necessitating (an unusual feature) the spare wheel carrying a complete spare brake as well. By periodically changing wheels the user may thus keep his tyres and brakes in A1 condition.

Additional comfort for the rider is provided by a specially adapted type of Lycett pan saddle, which is suspended in front by an extended leaf spring pivoted well forward on the top tube.

Included in the complete specification is a handsome and roomy sidecar to the body of which is attached a strong luggage grid.

This model replaces the 5-6 h.p. machine; and the remainder of the James range is unaltered.



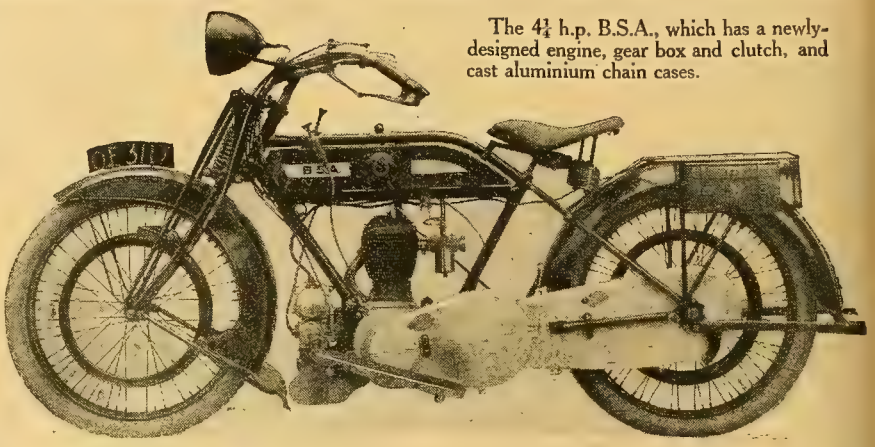
The internal expanding brake on the James sidecar machine is removed with the quickly detachable wheel.

Three B.S.A. Models for 1921.

A New 4¼ h.p. Engine, Re-designed Transmission, and All-chain or Chain and Belt Drive.

SILENCE and serviceability are obviously the watchwords of the B.S.A. Co. in introducing their new 4¼ h.p. motor cycle. Reliability and a capacity for hard work have long been associated with the firm's productions, and the regular performances of these machines in all the big reliability trials are now taken as a matter of course.

Though the general layout of the new models follows standard B.S.A. practice and embodies all the well-known features, two points have received very special attention in the redesigned machine. First, the question of silence has been carefully studied, and external cams mounted on a common shaft and operating the tappets through long rockers are now employed, and the whole of the valve gear is most carefully manufactured. The new cam gear has obviously been designed with a view to silent action, and a large silencer is also fitted, which, in conjunction with a long tail pipe, reduces exhaust noise to a minimum without causing any appreciable back pressure, since no baffles are used.



The 4¼ h.p. B.S.A., which has a newly-designed engine, gear box and clutch, and cast aluminium chain cases.

A Much Desired Improvement.

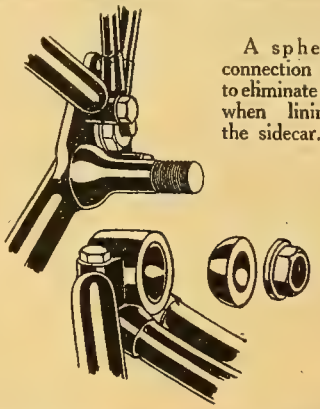
The second point consists of a very considerable improvement in the controllability of the machine, brought about by shifting the clutch to the primary shaft of the gear box. The clutch is also fitted with a handle-bar control.

With the exception of the timing gear already mentioned, the engine has been altered comparatively little. An improvement has been made in the shape of the combustion head and valve ports; the interchangeable valves are made of a chromium steel in order to prevent breakage and pitting, and easily adjusted tappets are fitted.

A slight offset of the cylinder centre minimises the wear on the cylinder walls during the power stroke. The crankshaft is carried in extra large ball bearings, while the connecting rod has a caged roller bearing big end.

A very simple form of decompressor, acting on the exhaust valve, facilitates starting; the kick-starter mechanism is now entirely enclosed in the gear box.

The well-known B.S.A. spring shock absorber is mounted on the engine-shaft,

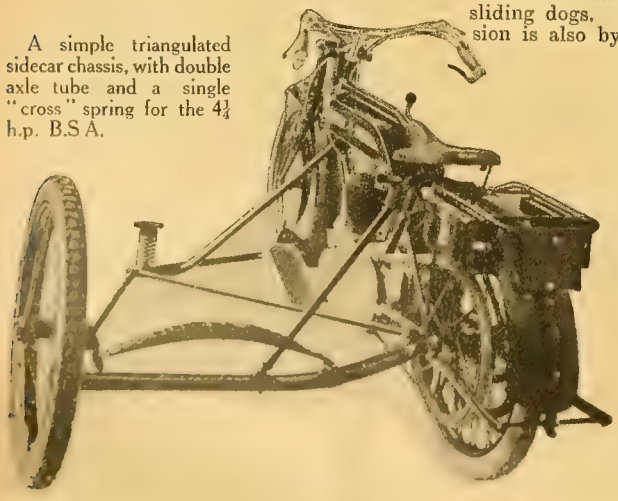


A spherical connection helps to eliminate strains when lining up the sidecar.

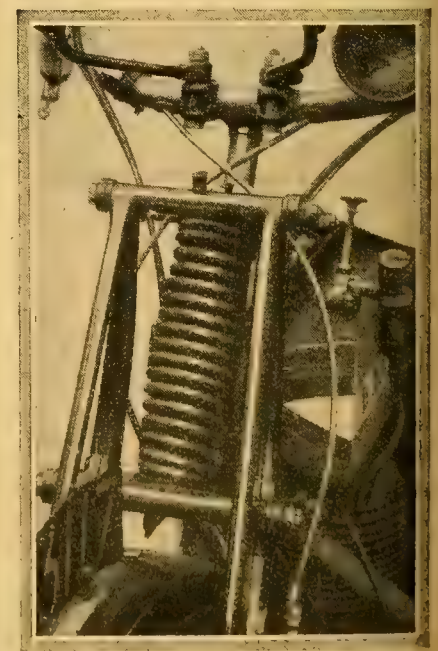
and thence a chain transmits the power to the new clutch and gear box. This clutch is of the dry plate type, having seven plates, and the gear box is similar to that of the 6 h.p. machine; that is to say, all gears are constantly in mesh, the ratio changes being effected by sliding dogs. The secondary transmission is also by chain, and both chains are entirely enclosed in oiltight, but detachable, aluminium castings. Except for the more general adoption of steel lugs, the frame has undergone but little modification; but a new spring fork is now used having one long barrel-shaped spring housed between the fork blades, and giving an exceptionally long "travel" without bumping. This fork, combined with the B.S.A. spring saddle-pillar, provides excellent insulation from road shocks. Internal V brakes are used on both front and rear wheels, the heel-operated back brake being fitted with a parallel link motion to ensure even and easy engagement.

A Serviceable Finish.

Details include 26×2½ tyres, sight feed drip lubrication, armoured tool bags and B.S.A. carburetter, while it goes without saying that the finish is superlative. It is, however, perhaps worthy of mention that fork links, springs, hubs, brake rods, etc., are heavily enamelled, thus providing a more serviceable finish than the usual mass of plated parts. For the benefit of those who still prefer "a belt somewhere in the drive"—and these are not a few—a chain and belt-driven model will be marketed, but except for the transmission the above



A simple triangulated sidecar chassis, with double axle tube and a single "cross" spring for the 4¼ h.p. B.S.A.

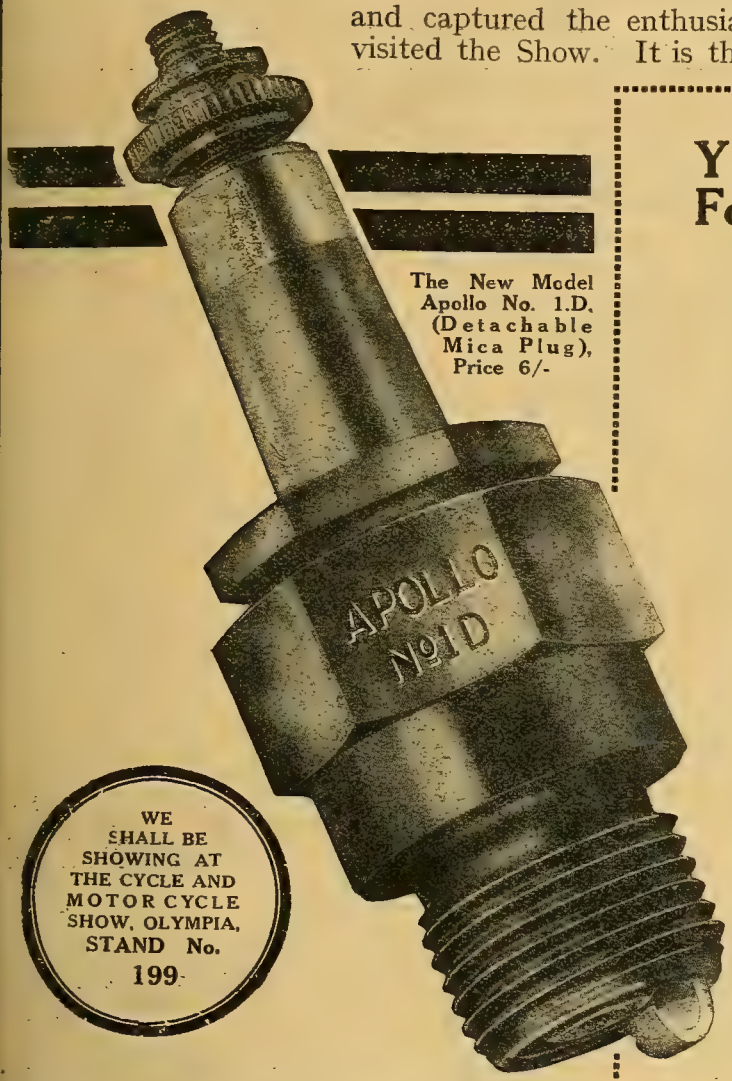


A single central fork spring and large link bearings are features of the new B.S.A. spring fork.

THIS TOOK THE-

MOTOR SHOW BY STORM

and captured the enthusiasm of the motor cyclists who visited the Show. It is the new Apollo Standard No. 1.D.



The New Model Apollo No. 1.D. (Detachable Mica Plug), Price 6/-

WE SHALL BE SHOWING AT THE CYCLE AND MOTOR CYCLE SHOW, OLYMPIA, STAND No. 199

You Can Have One For Your Engine Now

and you will be surprised at the difference you will find in the running of your machine, it's a plug that's built up to an Ideal not down to a price.

If your engine is likely to get hot, this is the plug for it, you can't soot it up! There is nothing but nickel exposed to the flame on the central electrode. This prevents pre-ignition.

The firing surface of the central electrode exposed to the flame has been reduced to a minimum. The point of heavy design is fixed to the shell, and readily disposes of heat.

NO PAINS HAVE BEEN SPARED TO ACHIEVE THE REMARKABLE RESULTS GIVEN BY THIS PLUG UNDER SPECIAL TESTS SO AS TO ENSURE THE MOTOR CYCLIST A DEGREE OF POWER HITHERTO UNKNOWN.

We are endeavouring as early as possible to meet the huge demand for this Plug; arrangements for its distribution have not yet been completed in their entirety, but should any difficulty be experienced in obtaining them through local agents, write to Apollo about it.

APOLLO PLUG MFG. CO., LTD.,
MOSELEY STREET, BIRMINGHAM.
'Phone: Midland 278. 'Grams: "Apollo, B'ham."
84a, GREAT TITCHFIELD STREET, LONDON.
'Phone: Museum 6281 Grams: "Ugornapol, Wesdo, London."

Apollo

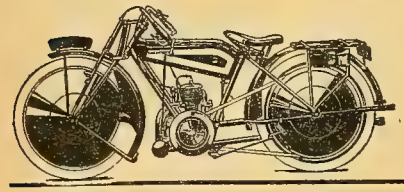
APOLLO PLUGS MAKE A GOOD MACHINE BETTER

THE "IVY"

'Phone: Mayfair 4084. SOLE WHOLESALE AN

H. G. HENLY & Co., 91

MIDLAND DEPOT: THE WALSALL



We are in a position to giv

One of the sensations of the Show will be the new "IVY THREE." There will be a big demand, and early booking is strongly advised.

ALEX^R. THOM,

201 City Rd. CARDIFF,

will be personally in attendance at the Show, and as Sole Agent for Cardiff and District can offer South Wales buyers early delivery.

Ex. large contract placed.

"IVY" ADVT., Page 1.

"IVY"

REG. TRADE MARK — THE "IVY" — REG. TRADE MARK — THE "IVY"

TWO-STROKES

enjoy a world-wide reputation, built upon satisfaction to users. In the following pages we have pleasure in announcing

OUR 1921 PROGRAMME,

which, with the addition of our new model, a 3 h.p. two-stroke, is of more than usual interest. All models on show on our

STAND No. 124

Olympia.

S. A. NEWMAN, Ltd.,
ASTON CROSS,
BIRMINGHAM

WINCHESTER

District Agents:

G. E. DOMINY & Co.

Showroom:

JEWRY ST.

Special Garage and Workshop for Motor Cycles only:

Staple Gardens

ENQUIRIES WILL RECEIVE IMMEDIATE ATTENTION.

Frank Whitworth Ltd.

139, New Street

'Phone: Mid. 2221.

SOLE AGENTS AND "IVY" RETAIL SERVICE DEPOT FOR

BIRMINGHAM AND DISTRICT

THE ARISTOCRAT

TWO-STROKE

A MOTOR CYCLE OF EXCEPTIONAL MERIT
is the opinion of
The J.C.J. Motor Cycle Co.,
124, Holdenhurst Rd., Bournemouth,
on the "IVY THREE."

Early Delivery Guaranteed.

Sole Agents for
BOURNEMOUTH and District.
'Phone: 2699

Trade Enquiries Invited.

J. BLAKE & CO
LANCASHIRE'S LEADING MOTOR CYCLE HOUSE
LIVERPOOL - MANCHESTER

IVY

Name the Features you look for in a Two-stroke — you'll then have described the "IVY."

Always in Stock
at
WALTER WILLIAMS,
118, Tavistock Rd.,
PLYMOUTH.
'Phone: 829.
Telegrams: "Motors"

I consider the "IVY" excellent value for money and unbeatable for the rough and hilly roads of DEVON and CORNWALL.

"IVY" ADVT., Page 4

Do you doubt us ?

In the "IVY THREE" we have accomplished the seemingly impossible engineering feat of producing a lightweight motor cycle with its attendant low first cost and low upkeep, and yet withal having the speed and reserve power of a heavyweight listed at considerably more money and costing twice as much in upkeep. It scarcely seems credible, but read below and you will be convinced.

	Weight.	Average Max. speed.	Average M.P.G.		Tax.
All Purpose Single-speed Model E.	160 lb.	42/45 m.p.h.	85/90		30/-
All Purpose Two-speed Models F and G.	188 lb. fully equipped.	42/45 m.p.h.	85/90		30/-
I.O.M. Single-speed Model H.	160 lb.	52/55 m.p.h.	85/90	Touring conditions	30/-
I.O.M. Two-speed Model J.	188 lb. fully equipped.	52/55 m.p.h.	85/90		30/-

Bedford

is the home of a large number of the wonderful little "IVY" Two-strokes. I am perfectly satisfied with their performances, and so are my customers. If you want to be one of a happy band of satisfied owners, get in touch with

Frank Garlick,
6a, St. Loyes
Bedford.

THE SKINNER MOTOR CO., LTD.,
6, NORTH PARADE,
BATH. 'Phone: 1070.

Sole Agents for
BATH and District
for
"IVY" MOTOR CYCLES.

BUY YOURS FROM
WHITFIELD & MOSLEY,
CARRINGTON STREET,
NOTTINGHAM.

Specially tuned and ADDITIONALLY guaranteed by US for Power, Speed, Reliability, and Economy.
EVERY ONE A SPECIAL.

OF ITS TYPE

THE "IVY"

Jack Russell

49a, Mandale Rd.,
THORNABY-ON-TEES,

SOLE DISTRICT AGENT

for the wonderful "IVY" Two-stroke, can offer early delivery, all models. I am convinced the new "IVY THREE" will make motor cycle history, so place your order without delay.

Immediate Delivery

of all Models of the

"IVY"

Wires—"Motorbike."
Telephone—22284.
PALMER & WINDER BROS.,
HYDE PARK CORNER
LEEDS

Olympia Motor Cycle Show,
STAND NO. 124

Ask for our Representative on the "IVY" Stand

JOHNSTON BROS.,

73, Nethergate,
DUNDEE,
and
13, High Street,
KIRRIEMUIR
are

Sole District AGENTS

for

"IVYS"

and can give

Early Delivery

with a guarantee of an efficient service after purchase.

"IVY" ADVT., Page 5

The "Ivy" Two-stroke

"THREE"

Isle of Man Sporting (Models H and J)

Prices on page 2 of our advertisement.

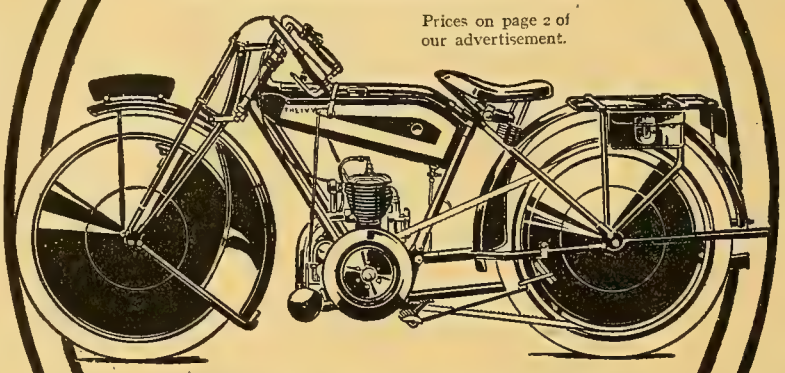


Illustration shows Model H with discs.

ON VIEW ON STAND 124

The above is a mount for the Sporting Rider, and is particularly suitable for hill-climbs and reliability trials. It is as fast if not faster than the average 3½ h.p. four-stroke (see page 4 of our advt.), and the upkeep and first cost is considerably less.

PRESTONIANS
PRESTONIANS

R. I. Cookson

—125—
North Road
PRESTON

Is Sole Agent for PRESTON AND DISTRICT for the "IVY" TWO-STROKE the undoubted Aristocrat of its type, and is in a position to give early delivery of all models.

Make a Note of it.

PRYCE TROW, LTD.,

230, Oxford St., SWANSEA

are the officially appointed "IVY" Agents for

Swansea and District.

We shall be in attendance throughout Show Week, on the "IVY" Stand, No. 124, where our advice and assistance is at the disposal of prospective purchasers.

Efficient Service is obtained all the time

by purchasing your "IVY" from

GRAHAM & ROBERTS

Botchergate, CARLISLE.

SOLE DISTRICT AGENTS.

Our Representative — will be on the — "IVY" STAND, No. 124.

THE ARISTOCRAT

In answering this advertisement it is desirable to mention "The Motor Cycle."

New Models.—

description stands. Mudguarding on both types is excellent.

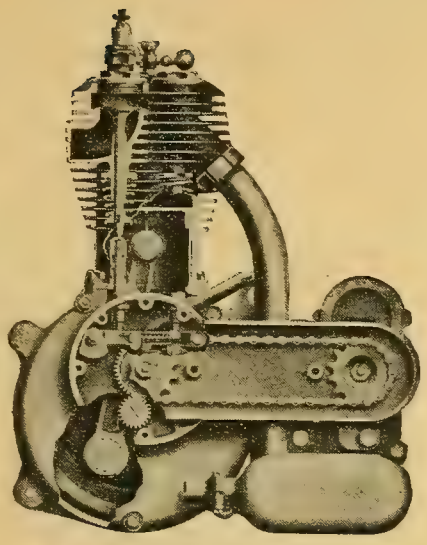
A New Sidecar.

Specially designed for the machine is a new sidecar, the chassis of which is of peculiarly simple construction. Briefly it consists of a double tubular axle member, and two side members converging forwards to form a triangle with the axle. This construction is extremely light and strong, and since it is attached to the machine by special lugs and fastenings, forms a rigid whole which cannot get out of line.

The rear attachment is formed in an ingenious manner with hemispherical seatings for the attachment, which render fitting easy and automatically take up any slight variation in centres.

Unusual Method of Springing.

Mounted on the chassis is a luxurious body with deep back and cushions, and having a locker of really useful proportions. The top of this locker is flat and acts as a platform for additional luggage. An unusual type of springing is employed, the front of the body being supported from the apex of the chassis by a single coil spring, while at the rear a single cross spring, having eleven leaves enclosed in a leather gaiter, is attached to the body in the middle, and to the double axle at either end. One end is, of course, shackled to take up the stretch of the spring.



Entirely new timing gear has been applied to the 4¼ h.p. B.S.A. for 1921. This allows a neater cover to be used,

The 6 h.p. Twin.

The 6 h.p. model, which was exhibited for the first time at the last Olympia Show, has undergone but slight modification.

Our readers will remember that this machine is fitted with a V twin engine of 76×85 mm. bore and stroke (770 c.c.), lubricated by an ingenious type of oscillating plunger oil pump. Transmission is by chain throughout, a three-speed constant mesh gear box being carried in the usual position. Both chains are entirely enclosed in aluminium castings, which, though oiltight, are easily removable. One of the most striking features of the 6 h.p. B.S.A. is the excellent mudguarding. Both guards are exceptionally wide, and enclose the forks and chain stays. For 1921 these guards have been further improved.

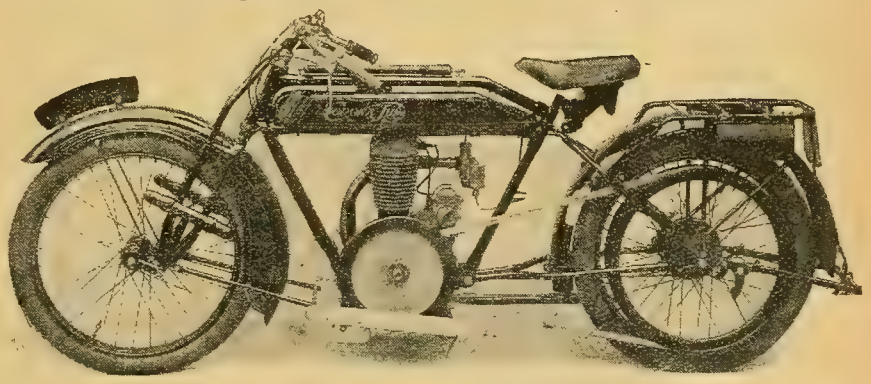
A 450 c.c. Single with Outside Flywheel.

The New Corona Junior, in which the Crank Case and Lower Part of the Cylinder are Integral.

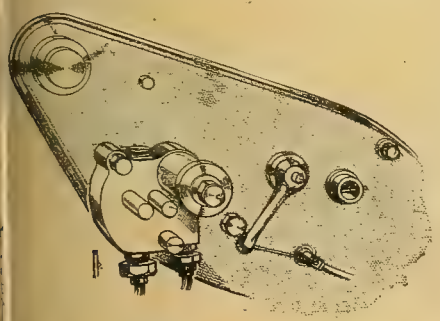
A WELL-DESIGNED machine which attracted a great deal of attention at the Motor Cycle Show last year was the Corona Junior; and, in consequence of a year's thorough testing and experiment, the new models for 1921, which have been greatly improved, should again be a centre of interest.

A feature of the power unit, it will be remembered, is the construction of the greater part of the cylinder and the crank case in one unit, whilst the detachable head, which is cast from a special heat radiating alloy, accommodates the side-by-side inlet and exhaust valves. These are inclined 5° from the vertical, the purpose of which is to enable them to be operated directly by cams made integral with the timing wheel and magneto chain sprocket. The use of rockers is therefore eliminated.

An aluminium case enclosed the valves and springs in the earlier models. This has now been removed, as in overseas climates it was found unsatisfactory. The cylinder has a bore and stroke of 72×100 mm., 450 c.c., and the magneto is accessibly mounted on a platform at the rear.



The new Corona four-stroke, now fitted with mechanical oil pump.



The mechanical oil pump and the new operating lever of the enclosed valve lifter.

An Oiling Indicator.

The oil pump, which was originally located behind the magneto chain case, is now fixed in front, and is provided with a glass tell-tale. The sump has been slightly enlarged, whilst the filler and breather are now located in front of the cylinder. A useful little device fitted to the front of the crank case enables the rider to fill the sump to the correct level. It consists of a small plug, provided with a long pin for ease of turning, which uncovers a hole, the position of which is at the correct level for the oil in the sump. The escape of oil through this hole, whilst filling up, indicates that the sump is full. An intermediate sprocket, driven by the magneto chain, operates the pump, which is of the usual gear wheel type.

An outside flywheel is used, which can be easily removed by unscrewing a lock-nut in its centre.

The crankshaft and connecting rod are dismounted by taking off the end plate on the near side of the crank case, whilst the piston can be removed after taking off the detachable head.

It is interesting that the frame lugs are made entirely of steel stampings. Another new feature is the totally enclosed exhaust valve lifter, the actuating lever of which is located on the outside of the magneto chain case.

Three models will be produced, all of which will be equipped with an acetylene lighting outfit, pump, and horn. These are the belt-driven solo machine, £97; the two-speed countershaft machine, £105; and the three-speed at £120.

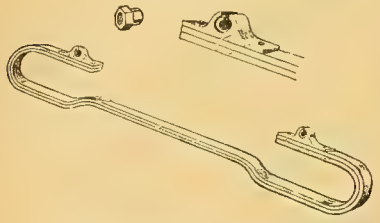
The manufacturers of the Corona motor cycles are the Meteor Manufacturing Co., Ltd., 98, Tollington Park, London, N.4.

A Luxurious Sidecar Outfit.

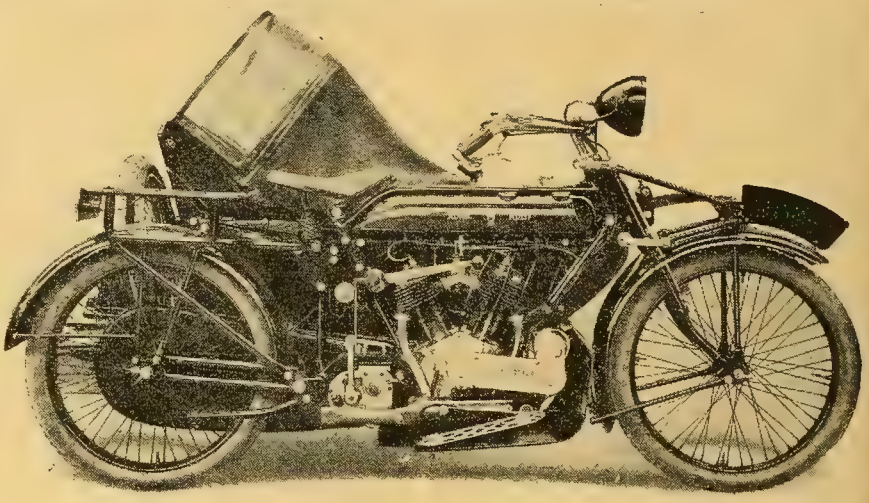
Detail Improvements on the 8 h.p. Royal Ruby Spring Frame Machine.

ALTHOUGH the 8 h.p. Royal Ruby machine was on view at the last Olympia Show, deliveries during the past year have been more or less confined to rigid framed models.

The spring frame design, however, with its adjustable insulation on the well-known Royal Ruby laminated spring system, has been submitted to searching tests, and now that the makers are installed in their splendid new factory at Altrincham, near Manchester, it will be put into production on a large scale, with certain detail modifications. Moreover, with Hugh Gibson actively connected with the Royal Ruby name, we shall no doubt see these machines taking a leading place in the competition world.



Simple springs of the sidecar body. The enlarged detail shows the lug and shouldered nut which allows the body to be instantly removed.



The 8 h.p. Royal Ruby, a machine which is completely sprung, including the sidecar chassis, and which is sold with a very extensive equipment.

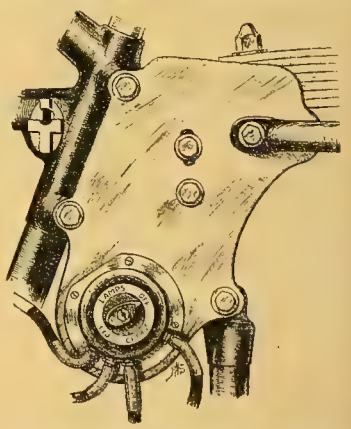
Probably the Royal Ruby passenger machine will be one of the most completely equipped machines on the market, since it will be supplied with the Lucas Magdyno outfit, a spare wheel, and an Easting windscreen, while, in addition to the usual kit of tools, a jack will be included which greatly facilitates wheel changing.

Car Type Mudguards.

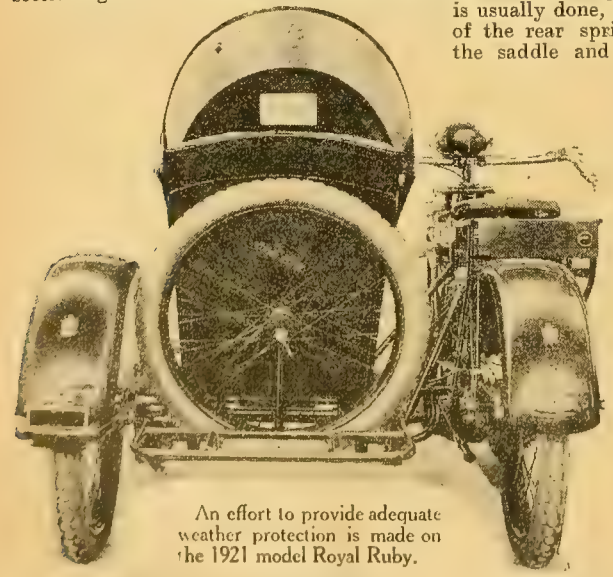
One noticeable feature is the ample arrangement for mudguarding; 8in. dome section guards are used on all three wheels, and these are all readily detachable in case of necessity. In addition, there is a large underscreen, which extends beneath the long adjustable footboards, and in front protects the Magdyno. During the general efforts to render the machine weatherproof, the transmission has not been overlooked, for the chains are protected in ample cases, which are easily removable. This, of course, is another amongst the growing number of British machines which combine a spring frame with complete chain guarding.

In general specification the machine remains unaltered. The power unit is an 8 h.p. J.A.P., with Amac carburetter and T.B. magneto or Lucas Magdyno. When the latter is fitted, the switch box, instead of being mounted in the tank, as is usually done, is carried on an extension of the rear spring housing plate below the saddle and on the near side of the frame; being thus between the machine and sidecar, it is unobtrusive, and so offers no temptation to tamperers.

The sidecar body is of the flat-bottomed variety, and is mounted on the spring wheel chassis on simple leaf springs in such a way that it can be easily detached by undoing four nuts, or swung forward out of the way, to facilitate any attention which the transmission may necessitate.

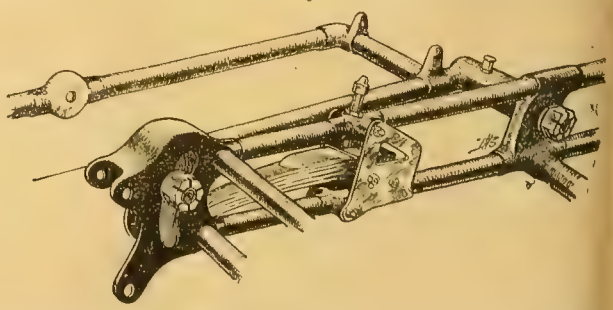


On the rear spring housing plate an extension is formed to carry the Lucas switch-box in a neat and unobtrusive manner.



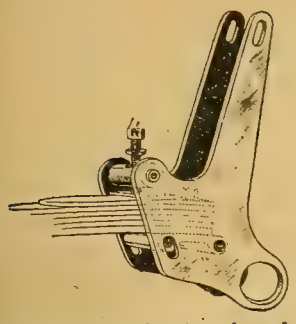
An effort to provide adequate weather protection is made on the 1921 model Royal Ruby.

8in. car-type guards, a large undershield, and an Easting screen are fitted as standard.



Adjustable spring suspension of the Royal Ruby sidecar wheel. The action of the wheel-supporting frame is guided by the special housing at the back of the chassis.

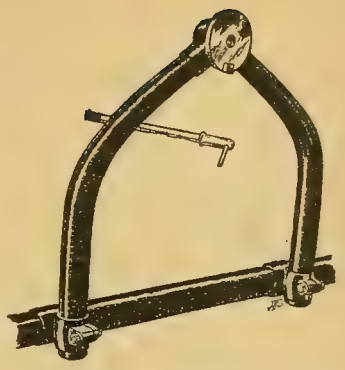
New Models.—



The front spring housing plates form a rigid connection between the fork crown and the head clip. The Royal Ruby method of spring adjustment is shown.

As before mentioned, an Easting screen is a standard fitment on the body, while at the back, as a separate unit attached to the chassis, is a large luggage grid and petrol can carrier. Immediately behind the body, but secured to the chassis, is the main portion of the spare wheel carrier, which supports the extra 28×3in. wheel and tyre. It will be seen that, although the grid and wheel carrier have the advantage of the chassis springing, they do not impose any extra load on the springing of the body, which therefore can be arranged for a normal load.

Details of the machine are made clear in the illustrations, and it remains to add that the finish is most attractive, being carried out in the characteristic Royal Ruby scheme of red and black with gold lining.



The spare wheel carrier on which the wheel is secured by its own centre bolt and driving dog.

A New Countershaft Gear Box.

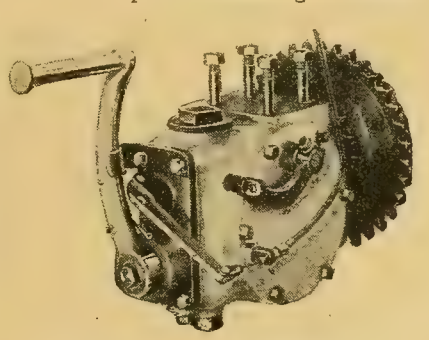
Only Six Constant Mesh Pinions provide Three Ratios and Kick Starter in the Comery Gear Box, which is suitable for Machines of any Power.

IT has been fashionable of late to disparage the gear box as an unmechanical survival of early engineering practice.

This criticism in many cases has some justification, but the Comery gear, of which we are now able to give a full description, fairly proves that this unit is just as amenable to inventive ingenuity as the engine itself. It is the product of a well-known designer, Mr. Comery, who was previously employed as chief engineer to the Raleigh Cycle Co., Ltd., and Sturmey-Archer Gears, Ltd.; and, from the lubrication arrangements to the top of the control lever, it simply bristles with novelties. These novelties are not complications, but those sure and simple touches that cause one to wonder why they have not been thought of before.

Burnished External Finish.

Before proceeding with the description, we must mention one fact of especial interest. The Comery gear is neither a drawing-office dream nor a backyard product. Plant, jigs, tools, and gauges are practically completed for the production of several hundred boxes a week, showing the complete confidence of the designer in his new product. Of the excellent workmanship we speak from actual knowledge, having personally inspected the well-equipped works at Nottingham. The gear box is of the countershaft type, and is suitable for machines up to 10 h.p. Commencing with the casing, this is a *one-piece* oil-retaining aluminium

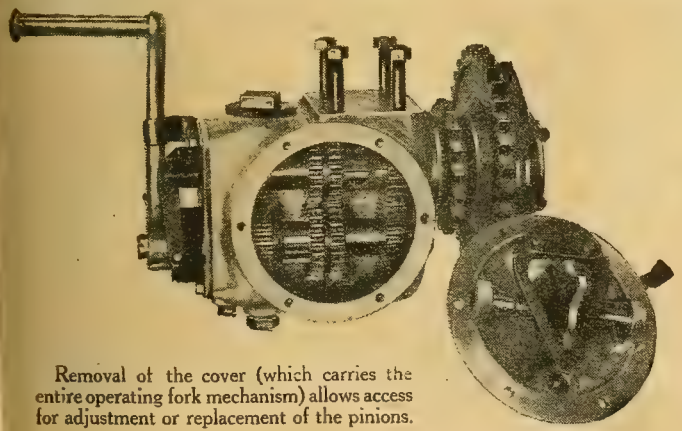


The clean external outline is noticeable in this view of the gear box, complete less control levers.

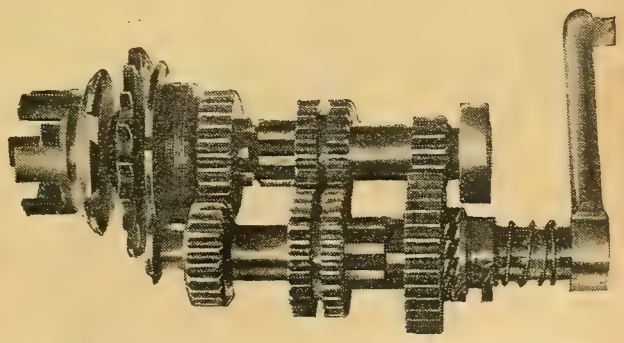
shell of exceptionally clean external outlines and polished finish. Thus the alignment of the shafts does not depend on the positioning of a detachable end plate. A large circular door (which, incidentally, carries the entire operating mechanism) permits the removal of the internal gears for repair or replacement. Six pinions only provide the three ratios and the kick start gear. Thus the action of the kick starter directly on to the low gear pinion allows the usual seventh pinion to be dispensed with. Large size Skefko ball races support the mainshaft, while the stationary layshaft lies directly underneath.

Constant Mesh Pinions.

For the purpose of explanation, the primary drive sprocket, mainshaft, and low gear pinion on the mainshaft may be regarded as one rotatable mass, although, as a matter of fact, the sprocket and pinion are splined on to the mainshaft, and may be replaced in case of wear. This method of construction is followed throughout, and thus the replacement of parts is simple and inexpensive. In the same way, the final drive sprocket or pulley, the near side pinion, and the sleeve on which both are mounted, may also be regarded as one mass rotating freely on the mainshaft. An extension of this sleeve beyond the pinion has eight splines or dogs. For about an inch and a half along the mainshaft there are coincident splines, and the diameter for the rest of its length is equal to the "bottom" diameter of the splined portion. The low gear (far side) pinion meshes with a pinion carried on a free sleeve on the layshaft, the inwardly pro-

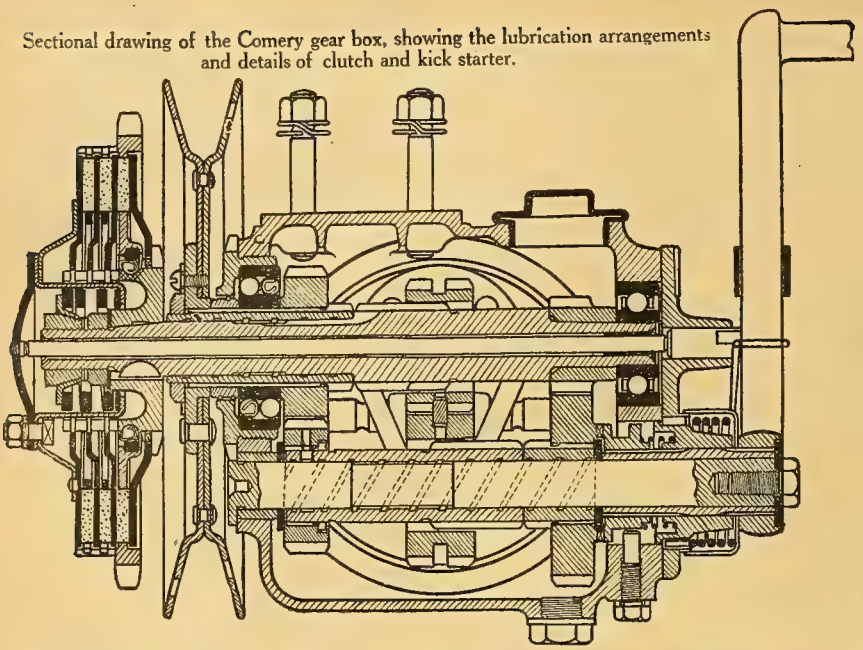


Removal of the cover (which carries the entire operating fork mechanism) allows access for adjustment or replacement of the pinions.



The simplicity of the Comery gear is well illustrated here. Note how the kick starter acts on the low gear pinion.

Sectional drawing of the Comery gear box, showing the lubrication arrangements and details of clutch and kick starter.



jecting part of the sleeve being splined in the same way. This layshaft pinion also forms the "quadrant" of the kick starter. Lastly, the near side layshaft pinion is mounted on a long sleeve running freely on the layshaft, this sleeve being externally a replica of the opposite side of the mainshaft. The two pairs of pinions mentioned so far are, of course, in constant mesh.

The rest is simple. A pair of axially movable constant mesh pinions, which are internally splined, and mounted on the mainshaft and layshaft respectively, give the various ratios by moving into positions where they clutch or free (or both) the various sleeves and shafts, and through them the pinions mounted thereon.

The Operating Mechanism.

For example, top gear is obtained when the upper movable pinion is half on the mainshaft splines and half on the splines of the sleeve carrying the rear drive, locking these members together and giving a direct drive. When the sliding pinions are in a central position, the drive is *via* the splines on the mainshaft, the movable pinions themselves, the splines on the long layshaft sleeve, the pinion on the same sleeve, and thence back to the rear drive sleeve on the mainshaft. Movement to the extreme far side clutches the two layshaft sleeves, the low gear drive then being "right round the gear box."

To ensure easy engagement, every alternate working spline in the box, internal or external, is cut away for a short distance. In practice, although an extremely neat delayed action rod is incorporated with the outside operating lever, the gears, when positively moved, slide in and out easily at any speed, like the bolt of a well oiled rifle.

As already mentioned, the gear box cover carries the operating mechanism, which consists of a fork which projects in a recess formed by centrally grooving the sliding pinions. This fork slides on a guide bar grooved at the various gear positions, and held at these points by a spring plunger. It will readily be understood that this construction automatically locks each gear independently of exact adjustment of the quadrant. Radial movement of a pear-shaped member (see illustration) converts a pull or push motion of the hand lever to an axial movement of the fork. Incorporated in

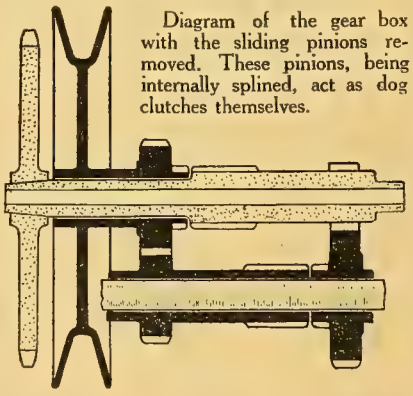


Diagram of the gear box with the sliding pinions removed. These pinions, being internally splined, act as dog clutches themselves.

the outside control rod is an enclosed delay action device, which should be quite clear from the drawing without further explanation. The whole control mechanism—and indeed the whole gear box—has a minimum of working parts.

The subject of a separate patent, the gate and quadrant are adjustable to any size and shape of tank. A slight rocking movement controlled by a light spring allows the hand lever to find the staggered wards of the gate. It is thus impossible to "miss" a change even in the dark.

An Oilproof Clutch.

Returning to the gear box, or rather to the clutch, this member (of the disc type) is a big advance on the average method of obtaining a free engine. It is of large diameter, and has six driving surfaces of Ferodo. Since the Ferodo takes the form of insets, and does not extend continuously round each disc, the clutch is unaffected by leakage of oil. The driving centre of the Comery clutch is solid, and one large adjustable spring keeps the discs in contact.

Clutch Operation.

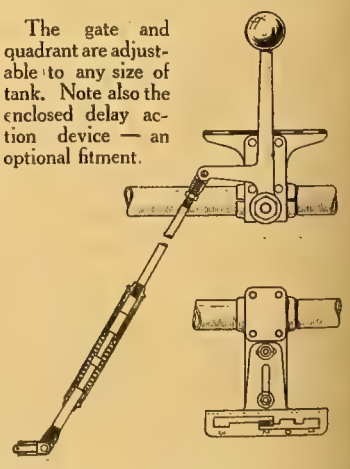
The usual method of disengaging the clutch, *i.e.*, by a push rod extending through the hollow mainshaft, is incorporated, but instead of the more common worm a simple lever, pivoted near to the end of the push rod, is pulled inwardly by the Bowden wire from the hand control. Running under the tank, and behind the engine instead of underneath, the clutch wire may be adjusted by means of the ordinary Bowden screwed nipple. Less exposure for highly important control mechanism is the undoubted advantage claimed for this alternative path for the clutch wire.

Splined on to a sleeve on the layshaft, the kick starter lever is of heavy construction. Its return spring is enclosed, as are the engaging dogs and disengaging cam.

Lubrication.

Finally, the lubrication arrangements are so complete and efficient that they must be briefly outlined. A large filler cap permits the oil-tight box to be partially filled with oil. The near side pinions being radially drilled to their respective shafts, the oil is forced under pressure to the two shafts, which are spirally grooved and recessed where necessary, and special provision is made to lead the lubricant into the main ball race.

This box, of course, may be obtained suitable for either final chain or belt drive; and the pulley and sprocket lines suit standard engine and frame dimensions.



The gate and quadrant are adjustable to any size of tank. Note also the enclosed delay action device — an optional fitment.

These are the main points of the Comery gear that will interest the average reader. However, the engineer will find many more interesting constructional and manufacturing details upon personal examination, and we advise all who can to make a point of visiting Stand 64 at Olympia.

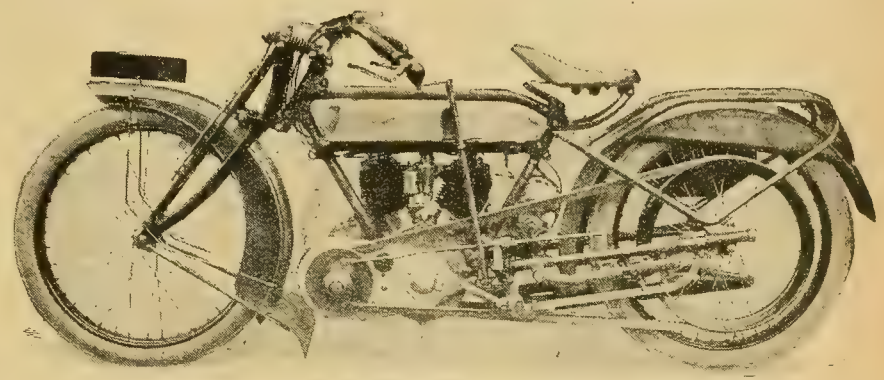
Detail Improvements for Zeniths.

Many Refinements on Standard Models; a New Flat Twin to be Exhibited.

IN the new models of the Zenith for 1921, the chief alterations are in the nature of detail improvements which have been found desirable in practice.

Particular attention has been paid to mudguarding. The front mudguard extension, instead of following the curve of the wheel, now slopes up slightly, with the result that the liquid mud has a chance to run to the rear. A further improvement is the addition of a mud-flap, underneath which the front stand is fastened. With this improved mudguard there is now no necessity for the shield, which serves to protect the belt and clutch casing on former models Moreover, this and the crank case are not shielded from a cooling current of air. The side valances to the rear mudguard are now provided with a trough, which prevents mud and wet from dropping directly on to the belt rim. One of the new features will be a front brake acting on a dummy belt rim, and this is both smooth and powerful in action.

So far as the transmission is concerned, the chain to the countershaft is now entirely enclosed in a handsome aluminium casing, the top half of which may be removed after undoing three bolts. This casing has done much to silence the chain, which, after a personal trial, we found to be **quite inaudible.** Some considerable improvement has also been effected in the method of working the clutch, which is now released by means of an exceedingly long pedal; with the latter is incorporated an ingenious pawl allowing the clutch to be held out of engagement when the machine is brought to a standstill.



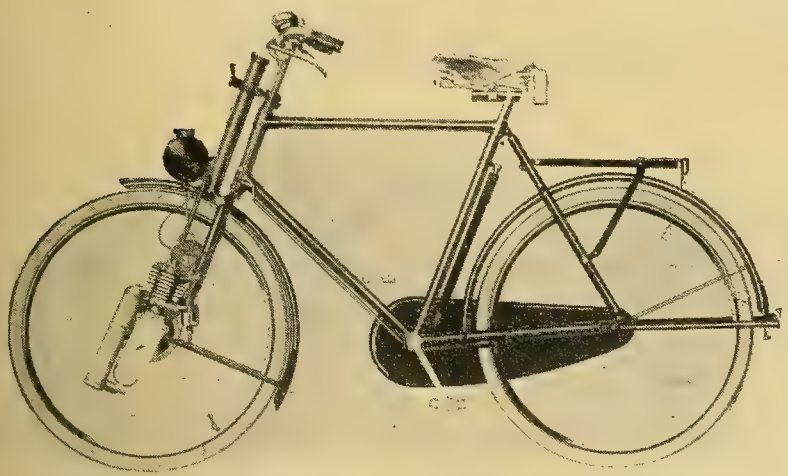
The 1921 Zenith, to which several detail improvements have been made.

An 8 h.p. Sports model will be made, and it is equipped, like the machine we have just described, with 28×3in. tyres and the latest pattern mudguards, but it is without a clutch.

The 2¾ h.p. flat twin and the 5 h.p. models will remain practically unaltered, while the new Bradshaw-engined model with its horizontally-opposed power unit, which is described elsewhere in this issue, will be one of the Show's attractions.

A Motor in the Front Wheel.

An Ingenious Auxiliay Unit to be Shown at Olympia.



The Cykelaid motor-propelled pedal cycle, with the engine embodied in the front wheel.

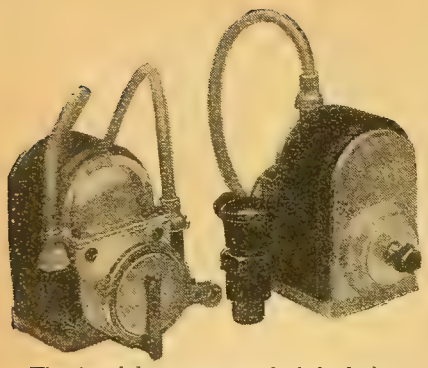
THE latest auxiliary engine for fitting to pedal cycles is the Cykelaid, which will be shown at Olympia, and is illustrated on this page. Briefly, the unit consists of a complete front assembly, *i.e.*, front forks, wheel, and engine. The forks are of the spring type, and the shaft of the 1¼ h.p. two-stroke engine passes through the hub of the wheel, having the flywheel on one side and the rest of the engine on the other. Two chains are used for the transmission, with a small countershaft embodying a cork insert clutch on the right fork blade. Lubrication is mechanically controlled by means of a small rotary pump in the base of the oil chamber, which consists of a tube forming part of the fork construction. The rest of the details may be seen from the illustrations. The makers of the Cykelaid are the Sheppee Motor Co., Thomas Street, York.

A Magneto for Lightweights.

A New Runbaken with Conventional Type of Make and Break.

AS a featherweight magneto, the Runbaken has already earned an enviable reputation, and for 1921 the manufacturers have decided to retain practically all the main features of previous models, with one notable exception. The parallel action make-and-break, which has up till now been a feature of this particular magneto, has been replaced by the more usual bell crank type with which the motor cycling public is already familiar. In making the alteration, the makers have been characteristically thorough, and it will be noticed that the cam is made in one piece with the whole of the outer casing, and is of considerable thickness in order to prevent distortion. The advance lever takes a friction grip on this rocking member, and can be moved to the most convenient position for controls, and a brass liner is placed in the housing, so as to ensure a free bearing for the advance mechanism

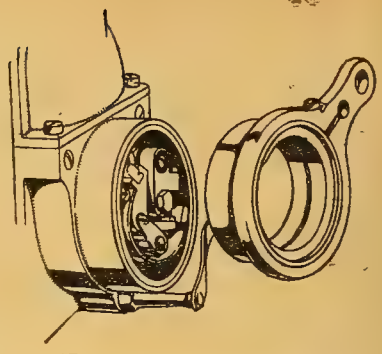
The edges of the single horseshoe magnet are now rounded, which gives a neat appearance to the instrument, and has a slight electrical advantage. It will



The size of the magneto can be judged when compared with the standard sparking plug.

be remembered that laminated pole shoes are employed, cast in with the aluminium carcase, and that the armature bearings are insulated from the body to prevent earthing through the ball races, as this has been found to be detrimental to the races. The latest type is fitted with a convenient type of detachable and waterproof high-tension terminal. An additional feature is that brass bushes are cast into the stud holes by which the magneto is attached to its platform.

Magnetos suitable for either single-cylinder or twin-cylinder engines can be supplied, and our illustration gives a good idea of the size of this tiny magneto. In spite of its size, however, the Runbaken magneto is no toy, but a highly practical and beautifully made instrument.

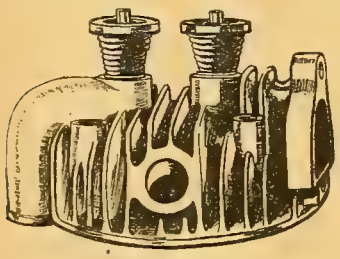


The new contact breaker of the Runbaken lightweight magneto.

An Unconventional Flat Twin Engine.

A Bradshaw Power Unit to be fitted to Zenith Machines.

AS might be expected, the new engine from the hands of Mr. Granville E. Bradshaw is full of very interesting features. Mr. Bradshaw is nothing if not original, and in the design of the medium-weight engine under consideration he has certainly excelled himself. There is nothing freakish in the engine, yet it is full of originality. His aim has been to produce the highest possible power for the engine capacity, and, notwithstanding the many special features, manufacturing possibilities have not been ignored. Mr. Bradshaw has worked on the theory that



The cylinder head of the Bradshaw flat twin.

the air-cooled engine is in effect largely an oil-cooled engine, and therefore if the engine is to be kept cool the lubrication system requires special attention. Recent experiments have proved that the amount of heat dissipated by the crank case is relatively large, and Mr. Bradshaw has set out to keep the crank case cool and to keep the pistons cool, and claims that, having done this, a considerable step towards perfection in air-cooling has been taken.

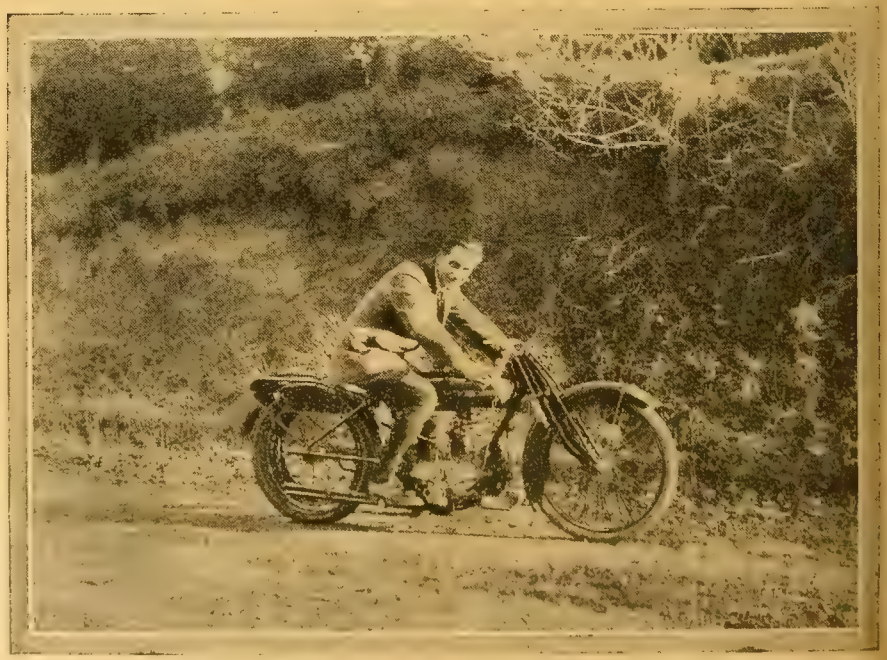
Partially Concealed Cylinders.

Contrary to his usual practice, Mr. Bradshaw has made use of cast iron cylinders. These take the form of liners pushed into the aluminium crank case and clamped in position. The reason for this choice of cast iron is that it is found to be more satisfactory than steel when aluminium alloy pistons are employed. These pistons are of quite plain design. They possess the usual gudgeon pin fastening as found in aero practice, which has been for a long time adopted in A.B.C. engines, and are provided with a single piston ring at the top and a scraper ring at the bottom.

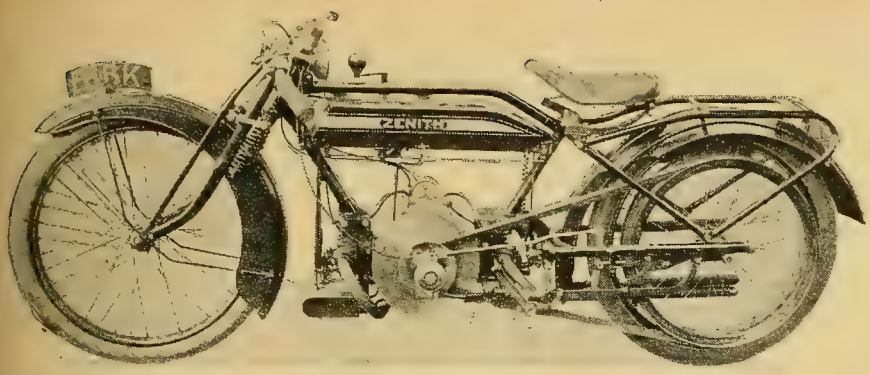
Practically none of the cylinder projects beyond the crank case. The orifice into which the cylinders fit is bored a few thousandths small, so that they are held firmly in position by the clamping together of the two halves of the well-ribbed crank case casting. Since the induction pipes form part of the crank case casting, each cylinder flange has a port in it registering with the inlet port in the crank case, and this in turn registers with the port in the cylinder head proper. The cylinder head is a nice piece of design, although it is not hemispherical in shape. Like every other part of the engine, it has been carefully thought out. Between each valve there is a deep recess down to the actual thickness of the head casting, so that there is no unnecessary metal in the hottest part of the head, and there is a clear passage of air between the two valves. The actual bolts through the cylinder head clamping it on to the cylinder serve also to support the spindle on which the valve rockers work. These supports being adjustable may be made use of for the purpose of taking up the wear, while the push rods are provided with the usual adjustment.

Dual Pump Lubricators.

Internally, careful attention has been paid to the lubrication of the engine, which is effected by means of two pumps driven off the timing gear, and situated at the base of the crank case. Both these pumps are of the gear type, and are placed side by side in a single gun-metal casting consisting of three parts. Owing



J. L. Emerson astride the new Zenith which is fitted with a Bradshaw flat twin engine.



The latest model Sporting Zenith, engined with a very striking flat twin designed by Mr. Granville Bradshaw.

to the design of these pumps, which are driven off the crankshaft, incorrect reassembly is impossible. The small pump delivers oil from the tank to the hollow crankshaft, while the larger pump pumps the oil back again to the reservoir. Since forced lubrication under high pressure is employed, plain phosphor-bronze bearings are used for both small and big ends, and the oil, after circulating through the drilled crankshaft, is ejected on to the camshaft, which carries all four cams. This camshaft lies below the engine, and splashes the oil over the timing gear case which is used to radiate the heat.

The Mainshaft Bearings.

So far as the mainshaft is concerned, the driving side has one roller bearing and one ball bearing running in a steel housing, provided with an oil-retaining washer. The other side of the crankshaft runs on two plain bearings, the shaft at a point adjacent to the flywheel being 30 mm. in diameter. Next comes a sharp taper to take the flywheel, and then a square shaft for the fitting of the Gradua gear.

Amongst the most interesting features in the design are the induction pipes, which, as we have said before, are cast in the crank case on the side opposite to that on which the flywheel and distribution gear are situated. This renders the magneto accessible. The new single-lever motor cycle model Zenith carburetter is to be standard on these engines, and is bolted to the centre of the induction pipe at a point where a V-shaped projection is formed in the casting in order to direct an equal quantity of mixture to each cylinder. The carburetter is provided with a lateral adjustment, so that if there is any irregularity of firing the distribution may be corrected by a slight movement to the right or left. Yet another important feature in the design of the induction pipe is the fact that each pipe rises from the carburetter—a fact which has been lost sight of by most designers of flat twins.

Induction Pipe Design.

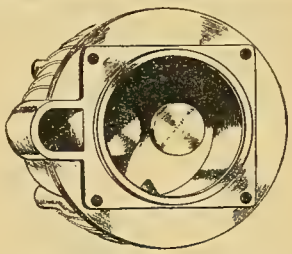
This means that there is never an accumulation of unvaporised petrol adjacent to the inlet valves. The valves themselves (of the overhead type) are of ample size, and each one is larger than half the bore of the cylinder. The valve mechanism is entirely controlled by straight rods, and is, we are assured, absolutely silent.

An ingenious form of magneto coupling has been fitted, which clips on to the magneto shaft, and is provided with a dog engaging with the shaft, so that the magneto can only be reassembled in the right place.

Essentially a Sporting Mount.

This engine, which is made by E. T. White and Co., 1, Albemarle Street, London, for its designer, Mr. G. E. Bradshaw, will be a feature of the exhibit of Messrs. Zenith Motors, Ltd., at Olympia, where it will be seen built into a specially-designed frame, the whole proving to be an ideal sporting mount. No clutch will be fitted, simply the Gradua gear, so that there are as few complications as possible, and yet an adequate means of altering the gear ratio to suit varying conditions is provided.

An experimental racing model has been on Brooklands track for some time. An oil tank is situated in front of the engine, in which the lubricant is cooled



Interior of the cylinder head.

before returning to the oil delivery pump. The Gradua gear lever projects through the tank, and is connected by bevel wheels to a long rod running underneath it, on the rear end of which is the chain wheel connected to the rest of the gear mechanism. This machine, which is practically a replica of the type which will be sold to the public, has already shown great promise on the track, while the appearance of the new model will undoubtedly create a sensation.

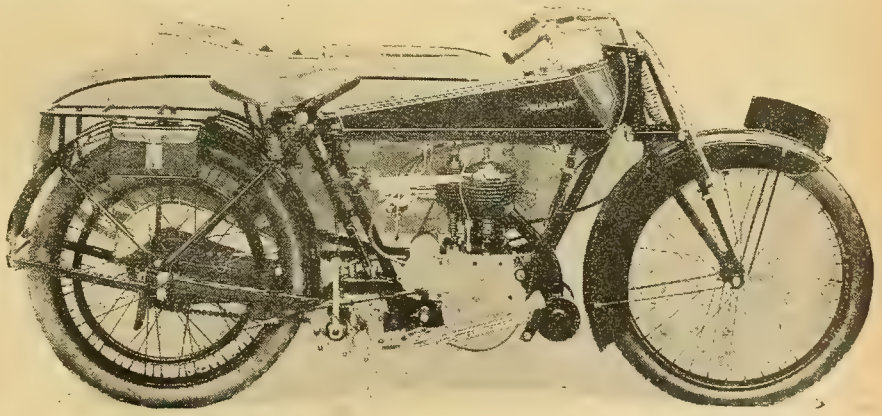
The New 6 h.p. Quadrant.

A Powerful Single-cylinder Passenger Machine.

ONE of the best known names in the early days of motor cycles, the Quadrant remains a sound straightforward machine that is a typically British production embodying good workmanship and solid useful design.

The latest addition to the Quadrant range is the new 6 h.p. single-cylinder outfit, which in all its main features closely resembles the better known 4½ h.p. model.

Having a single bore and stroke of 87 × 110 mm. respectively (653 c.c.), the design retains the well-known Quadrant disposition of the valves, the exhaust being at the side, and the inlet behind the cylinder. Special care has been taken to ensure an easy flow for both inlet and exhaust gases, and two features in this respect are obvious, though a full appreciation cannot be obtained without sectional drawings. The obvious features are the gradually expanding inlet pipe, and the very large expansion chamber for the exhaust gases. The silencer itself is of unusual construction, in that the end plates form part of the engine cradle castings, and hold between them a large diameter tubular expansion box, from which a tail pipe runs below the left footboard.



A single-cylinder of 653 c.c. The 6 h.p. Quadrant, a sturdy machine of sound construction.

New Models.—

The all-chain drive is protected by cast aluminium covers, which, like the crank case, are beautifully polished.

Accessibility has been studied throughout the machine, and by the removal of two nuts the left footboard, the chain case and silencer tail pipe can be removed, giving immediate access to the primary chain and the drive side of the engine. A choice of Amac, Senspray, or B. and B. carburetters is provided, and the whole machine is built in keeping with the sturdy single-cylinder engine. In spite of this it is not clumsy, and the sloping saddle tank gives a very clean appearance.

It has been the special care of the designer to include every refinement that is necessary, and to exclude such features as are not essential, but would cause a considerable increase in price. For these reasons we find that a new compensated rear brake, acting on the inside of a dummy belt rim, and good mudguarding, have been included, while ample sized tyres are used, but interchangeable wheels are considered to be a luxury, and therefore are not fitted.

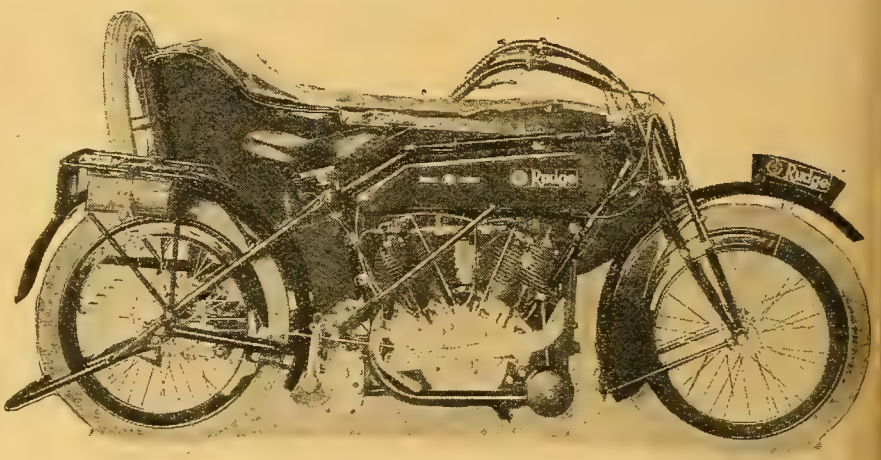
We are looking forward to an early road test of this fine sidecar outfit, and we are expecting a performance which will be up to the standard of the design.

An All-chain Rudge.

The 8 h.p. Twin—Now Fitted with Three-Speed Countershaft Gear, Chain Drive and Interchangable Wheels.

IN addition to the well-known single and twin-cylinder Rudge-Multi models an entirely new passenger outfit will be staged at the forthcoming Olympia Motor Cycle Show. This machine is certain to attract a large amount of attention, since it is a newcomer to the ranks of the 1,000 c.c. sidecar machines, which are so popular at the present time. There are many features of considerable interest, though such well-known components as the Rudge spring forks, separate oil tank with pedal control pump, and the sloping top tube are, of course, retained.

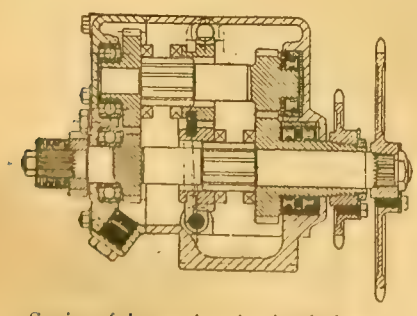
The 85×88 mm. V type twin engine is similar to that which has already proved itself in connection with the Rudge Multwin, with the exception of the fact that the magneto is placed behind the rear cylinder and gear driven from the timing gear. Mounted on the crankshaft is a multiple clutch similar to that already well-known to Rudge riders, but carrying externally a spring drive in the form of a series of face cams on the driving sprocket, held by a spring in engagement with a corresponding series on the driven member. A cast aluminium chain case protects the primary chain to the gear box.



A 8 h.p. twin three-speed countershaft gear model is the latest development of the Rudge Company. The interchangable wheels will be noticed.

Roller Bearing Gears.

Singularly stout construction characterises this new box. Both shafts are of large diameter and heavy splines are used. All gears are in constant mesh, top and low being engaged by means of stepped dogs having slightly inclined faces. Middle gear is obtained when the two central gears which move together are both locked on their respective shafts by the splines. It should be noted that a double row roller race is employed on the primary member, and large single row roller and ball bearings in other parts of the box. The kick-starter is of the exposed type, but provides ample leverage, and is stoutly constructed. A second chain transmits the power to the rear sprocket, which is mounted on double row bearings in the rear forks. All wheels are instantly removable and interchangeable, the hubs being of the well-known tubular construction associated with the manufacturers.



Section of the gear-box showing the heavy shafts and bearings.

Large ball bearings are used and the drive is taken through a series of dogs, all working parts of the hub being thoroughly protected by caps. Each wheel is equipped with a large diameter brake drum flanged on to the wheel rim, and since the shoes of both back and front brakes are of considerable length a very satisfactory retarding effect should be obtained.

All-steel Frame Construction.

At first sight it would appear that the frame is of normal construction, but it should be pointed out that steel lugs are used throughout. This feature extends even to the engine plates and gear box bracket. This latter is a steel stamping bent over to form a channel in which the box is gripped, and since both quadrant and gear lever are carried on the box any movement of the box to compensate for chain stretch will not affect the selecting mechanism. In order to render easy the removal of either cylinder, the lower tank rail is set over to one side to a considerable extent, but this in no way detracts from the pleasing appearance of the machine. 650×65 Dunlop grooved tyres are fitted, and a roomy and comfortable sidecar is attached to this powerful outfit. Details include a Senspray carburetter, set vertically between the cylinders, the well-known spring-up stand, large aluminium footboards, and a serviceable black finish to many parts which are usually plated.

A short trial run convinced us of the ample power of the engine and the absence of snatch from the chain transmission. Gear changes were made easily and quietly; indeed, in spite of the fact that we were entirely strange to the box, the changes were practically inaudible.

Exterior of the gear-box showing quadrant and change speed lever mounted on the box.

Improvements to a Pioneer Model.

The 6 h.p. and 8 h.p. Bat Machines fitted with New Spring Forks and Gear Box.

THE new Bat models which will be exhibited at Olympia embody numerous interesting and novel features. The exhibit will consist of 6 h.p. and 8 h.p. solo models, and 6 h.p. and 8 h.p. sidecar outfits, with and without dynamo lighting. Despite the improvements to which we have referred above, the design has been in no way complicated, the working parts are even more accessible than before, and the weight has been in no way increased.

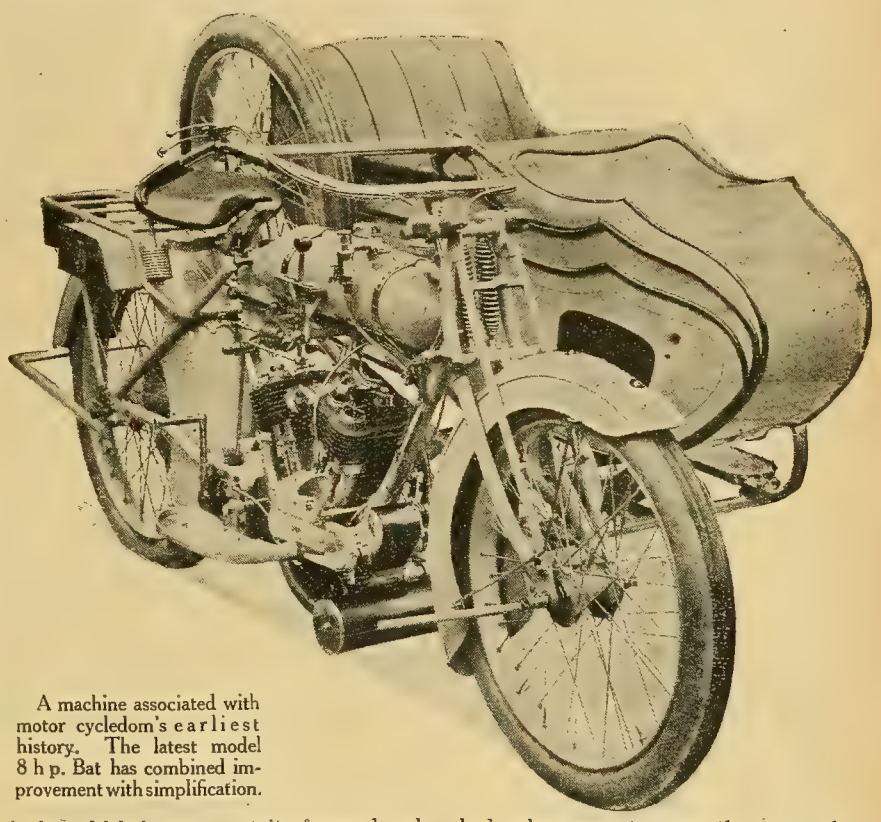
When the Lucas Magdyno forms part of the equipment, a special chamber to contain the switch box is let into the tank, otherwise no alteration has been made. The chief difference from previous years lies in the adoption of 28×3in. wheels, Brampton spring forks, and the fitting of a Sturmey-Archer three-speed gear box incorporating clutch and kick-starter. The gate change at the side of the tank has been retained, and the lever from this runs direct to the standard delayed-action control mechanism, which is bolted through the saddle tube.

Spring Insulation for the Driver.

The original and effective Bat spring seating has been retained, but it has been considerably improved in design. Although originally marketed in 1902, it has since undergone little modification; the device consisted of springing the saddle in conjunction with the footboards, these latter being hinged at their forward ends. The new footboards, however, may be described as being of the full floating variety, since they are only attached to the crossbar at the base of the sprung portion of the frame. This new method of fixing has greatly increased the comfort of the machine, as the footboards are no longer anchored at one end; at the same time, they are adjustable and quickly detachable.

The silencing arrangement consists of a large expansion chamber, which is easily detachable for cleaning purposes, and a long securely stayed tail pipe. As before, the transmission is by chain, but the chain employed is the Brampton spring link pattern, which efficiently absorbs all engine shocks.

Considerable ingenuity has been displayed in the design of the chain covers, the top half of which may be removed by undoing three screws. A clever improvement is the method of fixing the sidecar body, which is sprung at its forward end on small C springs, and at the rear on long quarter-elliptical springs. The method of anchorage to the two pairs of springs consists merely of two long bolts, which pass through the special shackles at the end of the springs and through tubes underneath the sidecar body. The withdrawal of one of these bolts allows the body to be swung out of the way in the event of adjustments being necessary on the near side of the motor cycle.



A machine associated with motor cycledom's earliest history. The latest model 8 h.p. Bat has combined improvement with simplification.

Ample Locker Space.

Several types of sidecar bodies will be shown, while that illustrated is not only exceedingly comfortable, but has plenty of locker space behind, on the top of which is a small luggage grid. The body also serves to carry the spare wheel carrier. The sidecar chassis is mainly composed of short tubes, is simple in design, and strongly constructed. A sidecar stand is included in the latest model.

The ingenious detachable wheel with hinged distance piece, detachable rear mudguard, and the sprung sidecar wheel, introduced last year, remain unaltered.

One of the most interesting exhibits on the Bat stand will be the Bat taxi-sidecar, the body of which seats two side by side, and is attached to a chassis which is less than 1ft. wider than the standard. The method of springing is the same, which system leaves more room than the usual type of C springing, but in this case the body is suspended on six springs instead of on four.

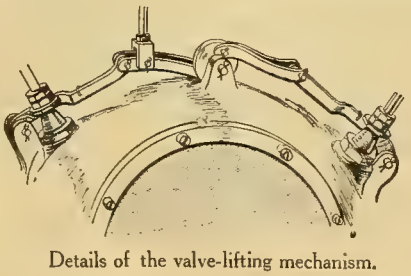
A Famous Swiss Product.

M.A.G. Engines for 1921. A New 90° V Twin and a Small Single, with Detail Improvements on all Models at Olympia.

AMONG the M.A.G. engines which will be at Olympia may be mentioned the small single-cylinder models which are not at present very well known in this country. As regards excellence of finish, design, and workmanship, they follow very closely the lines of the better known and larger twin-cylinder models.

The following improvements have been incorporated in all the engines exhibited: improved balance, a telescopic tube protecting the tappet rod which allows the tappet to be adjusted without interfering with the inlet dome, an improved inlet dome giving a freer passage to the mixture, larger radiating fins, and larger cams giving increased lift to the valves. These engines will be generally quieter, and yet will provide more power.

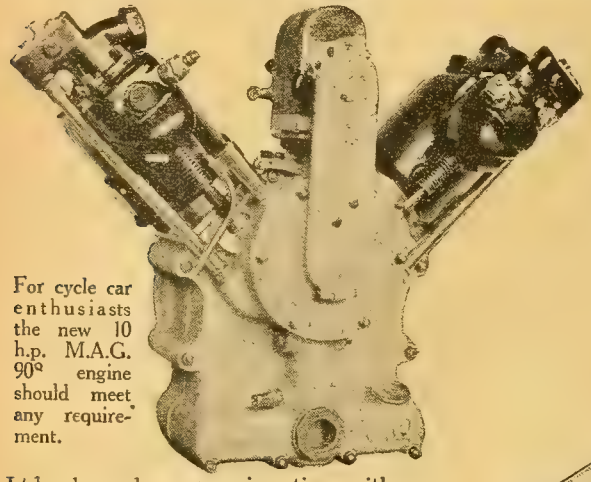
The Morgan engine will have the position of the bevel altered so that it may be more easily extracted. This will entail the fitting of a magneto running in a clockwise direction, but otherwise the standard specification is followed.



Details of the valve-lifting mechanism.

New Models.—

Quite a novelty is the 90° M.A.G. water-cooled cycle car engine, 82 mm. × 102.5 mm., 1,100 c.c. We have known for a long time that M.A.G. Engines, Ltd., have been experimenting with a forced lubrication system. This is now carried out by means of a plunger pump on the timing gear side of the engine, driven by means of a cam off the crankshaft, from which run three leads, one to the timing gear, and one to each crankshaft bearing.



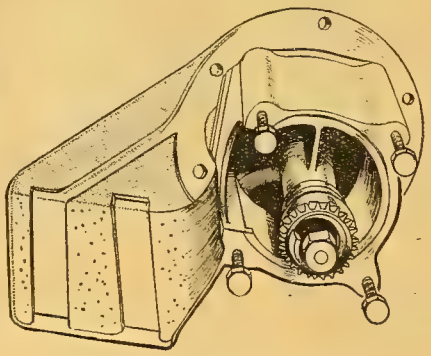
For cycle car enthusiasts the new 10 h.p. M.A.G. 90° engine should meet any requirement.

Mechanical Lubrication on 90° Engine.

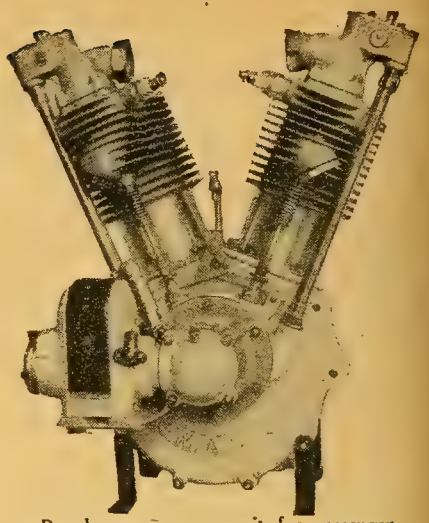
An ample supply of oil is carried in a large flat-based sump at the base of the crank case, into which it is introduced through a large filler cap. At the base of the sump is a glass window.

The magneto is mounted on a platform between the cylinders, and is driven by means of an enclosed chain from the mainshaft. The chain may be adjusted by slackening or tightening the nuts on the retaining bolts which serve to raise or lower the magneto from the platform.

Valve-operating mechanism follows M.A.G. principles throughout, but a new type of exhaust lifter has been introduced. The mechanism consists of two links connected by means of a small wheel to two cranks thereon. The action of pulling up the lever serves to raise the left-hand valve, and at the same time pulls round the wheel, causing a similar movement on the right-hand valve stem. A release valve is now supplied to the oil sump, which serves to return the oil thereto if the pressure is too great; this feature eliminates any danger to the pump driving mechanism.



The hand-starter pinion of the M.A.G.



Popular as a power unit for passenger machines of all types—the 8 h.p. air-cooled twin M.A.G.

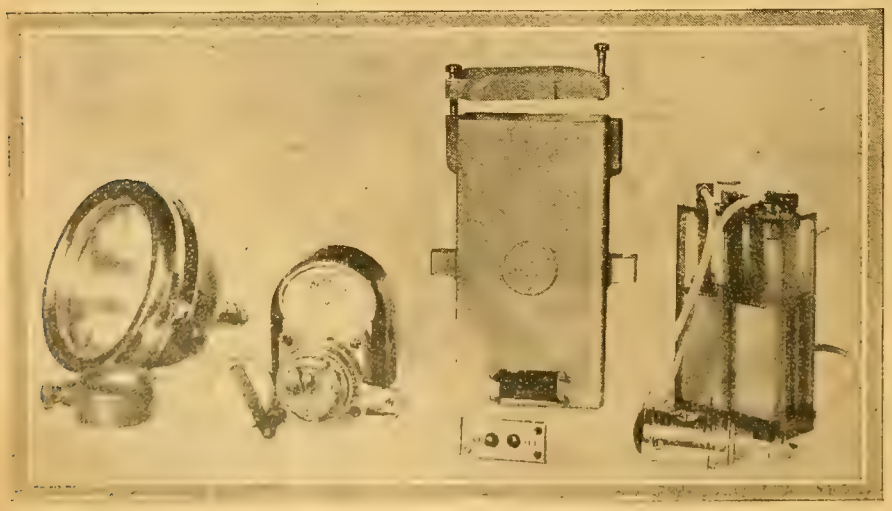
In addition to the above, the range of M.A.G. engines exhibited will consist of the 2½ h.p., 250 c.c., 64×77 mm.; 2¾ h.p., 300 c.c., 64×92 mm. (both these are single-cylinder models); the 3½ h.p., 500 c.c., 67×77 mm.; the 6 h.p., 750 c.c., 72×91 mm.; and the famous 8 h.p., 1,000 c.c., 82×94 mm.

Lighting from the Magneto.

A B.T.H. Electric System for Two-stroke Singles involving only an Additional Fitting on the Contact Breaker.

THE inventiveness of our electrical experts which, during the period subsequent to 1915, placed the English magneto in a plane above anything previously produced has not been allowed to lie dormant.

Most of the designers of magnetos have turned their attention to the adoption of compact and highly efficient lighting sets for motor cycle use, and the latest entrant to this field is Mr. A. P. Young, of the British Thomson-Houston Co.



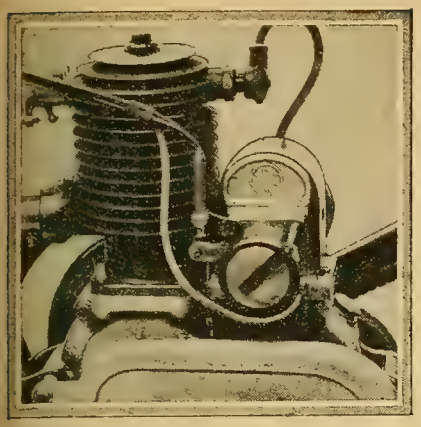
Electric lighting for two-stroke singles; the complete B.T.H. apparatus which utilises the surplus low-tension current of the standard magneto for lighting and charging.

Realising that there exists an enormous demand for a reliable lighting set which can be easily applied to the two-stroke lightweight machine, a simple system has been evolved which works in conjunction with the ordinary high-tension magneto, and yet eliminates all the objections which have previously been raised against such methods of using the surplus current generated in the ignition unit.

Using Surplus Energy.

It will be realised that in the single cylinder magneto running at engine speed (as is the case with single cylinder two-stroke engines) there are two maximum positions of the armature, but only one of these is used for ignition purposes, and the B.T.H. system, by an extremely simple arrangement, makes use of this fact.

The only additions to the ordinary magneto are an extension of the contact breaker casing, which contains an insulated segmental track and a centrifugally controlled brush connected to the primary winding through the insulated portion of the contact breaker, with which it rotates. When the magneto is running at any speed above 500 r.p.m. this brush is thrown outwardly so that it runs upon the track segment which is connected by a single wire to the accumu-



An extension of the contact breaker casing is the only external feature of the B.T.H. combined magneto and lighting generator.

lator. The other terminal of the accumulator is earthed to the frame through which the circuit is completed.

Independent of the Ignition System.

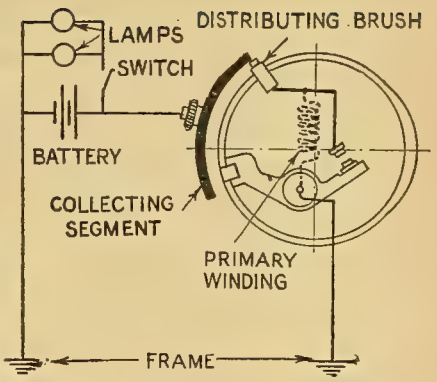
The insulated segment of the lighting collector ring is so placed that the brush is only in contact with it during the building up of that primary current which is not used for ignition. It will be seen, therefore, that as the lighting circuit is disconnected during the period of propagation of the high-tension spark, the quality of the latter is in no way deteriorated. In the same way it follows that the use of the primary current for lighting has no effect on the starting of the machine, especially when the centrifugal control of the before mentioned brush keeps it out of action at very low speeds.

The Lighting Equipment.

As the set is only intended for solo machines, a head and tail lamp only are supplied, and the bracket which carries the former is also arranged to support the cast aluminium box for the accumulator. The latter is specially made to avoid splashing, and it will be noticed from the illustration that it is of very great depth, only about two-thirds of the interior being filled with acid, so that there is no possibility of splashing out over the top. Combined with the battery box is a simple switch for the lamps, this being the only part of the set which requires attention from the driver.

Low Price Possible.

Owing to the fact that the component parts are few and simple, it is expected that the complete outfit will be marketed at a comparatively low price. The makers are also seriously considering the organising of a department for the conversion of any existing single-cylinder two-stroke magneto. At a later date the apparatus may be made suitable for other types of engines.



A diagram of the primary circuits for lighting and ignition.

Results in Practice.

On test, the B.T.H. lighting and ignition system has proved thoroughly satisfactory, having already been used in the maker's hands for some 5,000 miles. It is found that the average charging current obtained at 20 to 25 m.p.h. is about .65 amp., while the demand of the two lamps is .9 amp. This means to say that the battery is only discharging at the rate of .25 amp., and in consequence, the battery will remain in good condition if the period of use at night is in the proportion of one to three of daylight riding; of course, few riders exceed this.

Royal Enfield Innovations.

New Engine built by Vickers. Kick-starter on Two-stroke Model.

EVER since its first introduction to the public the Royal Enfield sidecar outfit has stood in a class by itself. Prior to the war it was obtainable at a lower cost than the average present-day lightweight with two-speed gear, and its price set a standard which many tried to emulate, but few succeeded in doing.

A New Engine.

It is the only twin-cylinder sidecar outfit on the market to-day, having only two gear ratios. These, however, must not be regarded as inadequate, for the reasons that render a three-speed gear necessary on most other machines do not exist with the Royal Enfield, *i.e.*, friction losses in the gear box, and excessive over-all weight. It is not generally realised that the Royal Enfield is the lightest machine of its power on the road.

Weight-power ratio plays a very important part in the performance of a machine, and in this respect the Royal Enfield is certainly at an advantage.

The performances of this machine in the classic reliability trials have proved its hill-climbing abilities, while there are but few private owners who consider that a third ratio is necessary. The majority who have given this matter consideration probably affirm that the advantages obtained by the use of the simple Enfield gear outweigh any inconvenience caused by the lack of a middle ratio, since all frictional losses are eliminated by having both gears direct.

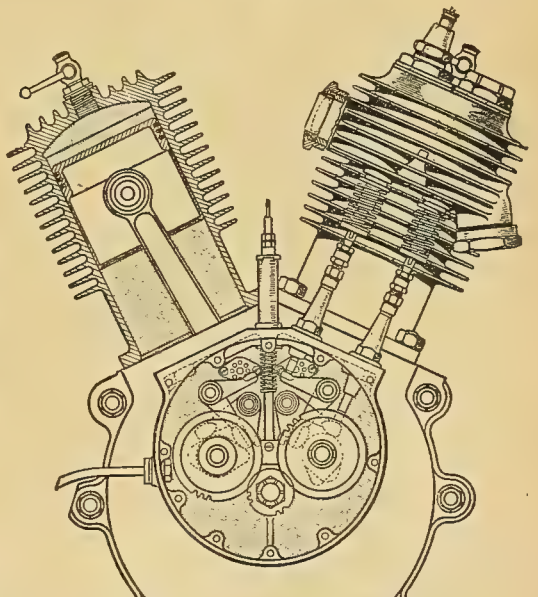
The 1921 model will again be offered with a few minor modifications, and one important innovation. It will have a new engine of Enfield design, which is built by the famous Vickers firm—a particularly appropriate combination, since for many years the slogan of the former concern has been "made like a gun."

We recently inspected this engine, and the slogan came to our mind. Many of our readers have been made familiar with the standard of quality on the Vickers gun, and we can say that the new Enfield engine is as well made. There is nothing radically new in the design; rather it is an engine following conventional practice, but of absolute refinement and finish. It has a mechanical oil pump driven off one of the camshafts—a very neat little piece of mechanism containing but a few parts. The bore and stroke are 85.5 and 85 mm. respectively (964 c.c.). The framework of the machine remains practically as before.

The Lightweight Model.

Easy as is the Royal Enfield lightweight to "paddle off," there are times when owners have wished for a kick-starter, which apparently has been regarded as a difficult proposition with the Enfield gear. However, the company have overcome this without undue complication.

It is interesting to know that, like the big twin, the Royal Enfield lightweight is one of the lightest machines in its class. It scales approximately 147 lb.



The newly-designed Enfield 8 h.p. twin engine.

A 1,000 c.c. Sidecar Machine.

The Hazlewood Co. adopt an 8 h.p. J.A.P. Engine for their New Passenger Outfit.

AS was to be expected after a successful year's trading, all the well-known features of Hazlewood machines have been retained for 1921. Nevertheless, such considerable additions and modifications have been made that the latest models present quite a new appearance. Perhaps the most striking machine is the 8 h.p. J.A.P.-engined passenger outfit, on which the changes that immediately catch the eye are the saddle tank covering a straight top tube frame, the new spring seat-pillar, compound action Druid type forks, and 28×3in. tyres. A choice of either chain and belt or all-chain drive is provided, and in the latter case a spring shock absorber is fitted to the rear hub. Of course, the Hazlewood three-speed countershaft gear and cork insert clutch is retained, also the large flat brake drum on the rear wheel.

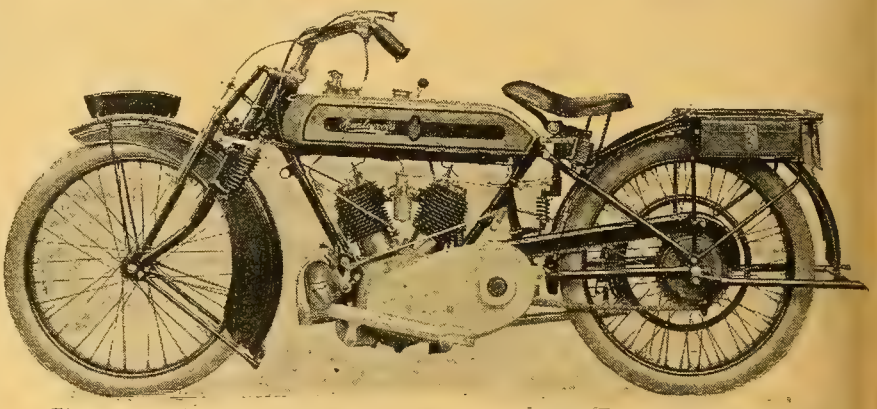
Detail Improvements.

The silencer is held in position by the two bolts which support the large footboard castings. Excellent mudguards are fitted, and the magneto is provided with a special metal shield. Detail improvements include steel castings for all the main frame lugs, and a very smart finish in black and grey. The sidecar provided for this imposing machine is a new production by Messrs. Mead and Deakin, and is finished in grey to match the machine. As in previous years, the two front attachment lugs incorporated with the head are reinforced by a special strengthening plate, which also simplifies the process of attachment.

A smaller model, fitted with the new 6 h.p. J.A.P., conforms more nearly to previous Hazlewood models, since the curved top tube is retained. In this case 650×65 mm. tyres are fitted, and a lighter Canoelet sidecar is attached. With these exceptions the smaller machine resembles the 8 h.p. type in practically every detail.

For the solo enthusiast, the 6 h.p. Hazlewood is specially modified, and in this instance is provided with footrests instead of footboards, a hand-controlled clutch, and a brake pedal set in a particularly convenient position.

Every make of machine worthy of its name has its own peculiarity, and the distinguishing feature of all recent Hazlewood models is a certain sturdiness of construction which gives the impression of great strength without excessive weight. The machine is most practical in every respect, though a few will be apt to criticise the retention of foot clutch control for the standard models. This, however, can be altered to suit the needs of those who prefer hand control, and there are still many who prefer a clutch pedal on passenger machines.



The 8 h.p. Hazlewood sidecar outfit is altered in several details, and fitted with 3in. tyres.

The Ariel "Big Single" Outfit.

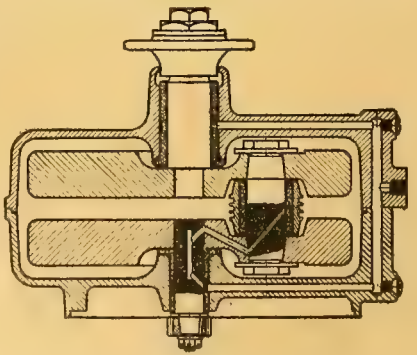
A Full Touring Sidecar Machine with a 4½ h.p. Engine.

OF the several models marketed by the Ariel Co. since they first entered the motor cycle field, probably the best known is the 3½ h.p. single, which has performed consistently well in competitions in both solo and sidecar classes.

It is as a sidecar outfit, however, that it has earned the greatest praise, due chiefly, perhaps, to the fact that as such it has attracted attention by competing against machines of twice the capacity. Latter-day trials have become so stiff that, one by one, 500 c.c. sidecars have dropped out, leaving the Ariel almost alone in representing this economical type of dual-purpose machine. This it did so well that in many quarters it was thought it would be "the last to go," but the introduction of the new 4½ h.p. single indicates that in future the 3½ h.p. sidecar will only be entered in competitions by private owners. The "3½" will still be made, but, automatically, it ranks more as a solo mount, since the latest Ariel catalogue does not offer a sidecar for use with it.

The increase in the size of the cylinder from 86.4×85 mm. (498 c.c.) to 86.4×100 mm. (586 c.c.) has not been made in order to obtain better speeds than were possible with the smaller mount, but rather to make it essentially a sidecar machine with all the comforts of a big twin without the higher cost of this latter type of machine. Thus we have a specification including 28×3in. tyres, a 2½ gallon tank, chain drive, and large sidecar, such as the average dual-purpose mount cannot propel satisfactorily.

Durability is a very desirable point in a sidecar machine, and apparently the designers of the new Ariel have had this in view in working out the details. One has only to glance at the large frame, the substantial nature of the lugs, and the spring fork to appreciate this; while, when the construction of the engine and such parts as the fork links and the hubs are examined, one must agree that it has been designed for hard service.



Note the large diameter (1⅛in.) plain bearing at the driving side of the new Ariel. The diagram shows the oilways.

Plain Bearings Throughout.

The driving side mainshaft is 1⅛in. in diameter and, like the opposite shaft and the big end, runs in phosphor bronze bearings of ample dimensions. At every point the question of lubrication has been given the closest attention, and does not stop at the engine, but is well carried out in the hubs and fork links. A feature of the latter is that each link is built up permanently with one of the bolts. These are drilled to take a charge of lubricant from an oil gun.

The lubrication of the hubs is carried out in a similar manner, and provision is made to retain a good quantity of oil within the barrels, on which there are no lubricators.

As on the smaller single-cylinder model, a decompressor is fitted to facilitate starting, and the exhaust lifter is dispensed with. The gear box is the same as has been fitted to Ariels for some years, but the top gear ratio of 4⅝ to 1 appears to be rather high when the size of the engine, the weight of the machine, and the 28in. wheels are considered.

"Why puncture, jolt, or slide,
Get RAPSON Tyres—and glide."

RAPSON
UNPUNCTURABLE TYRES

for

MOTOR CYCLES

will be exhibited on

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Messrs. Oylers' new 1920 type RICHMOND Motor Cycle Tyres, better even than the old Pre-war London-Edinburgh Winners, will also be on exhibition.

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The only Saddle with Flexible Waterproof Seat

PRICE 39/6

Absorbs ROAD SHOCK and REBOUND.

Vertical Action in addition to Rear Springing.

We have not had a single complaint through last season——NOTHING BUT APPRECIATIONS.

Guaranteed Waterproof, Resilient

Size 13 × 11

— TESTIMONIAL —

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Messrs. Jelley's Saddle Co., Coventry.

Dear Sirs,

"I should like to say how much I like your patent 'Flexo' Saddle that you supplied me with for my 'Levis' Motor-Cycle 7 months ago. I have just completed 3,000 miles, and it has given me entire satisfaction throughout. I have been over some very rough roads and I have not felt the jar from road shocks like you get from some saddles. I think it is the best saddle I have ever had, and it has kept its original shape.

Yours faithfully, M.R.S. BRAY.

SEND FOR SAMPLE

The FLEXO WATERPROOF Rivetless Saddles on view at Stand 242 Gallery, Olympia.

Flexo-de-Luxe
Special Large Size
$13\frac{3}{4} \times 12$.
Price 46/6.

JELLEY'S SADDLE COMPANY, SPON STREET, COVENTRY.

THE SHEPHERD PATENT OVERCOAT (Patent No. 30606).

You can appear like this

This rubber flap protects our clothes.

Or this.

Has the appearance of an ordinary overcoat with all the advantages of a suit of overalls, but none of the disadvantages.

Enables you to get on the road at once.

Gives you full protection when needed.

If you are caught in the rain the leg protectors can be slipped down and fastened in an instant. No need to arrive at your destination with drenched knees.

Designed by a motor cyclist for motor cyclists.

Don't be without one; it will save you trouble.

Made in good quality heavy waterproof with wind cuffs and storm collar.

PRICE:

£4 16 0

Carriage paid.

Cash with order. Money returned if not satisfied.

When ordering please give height and chest measurement.

Only obtainable from the Patentee

W. SHEPHERD, 4, HOLMFAULDHEAD DRIVE, GOVAN, GLASGOW.

CURRENT CHAT

Times to Light Lamps

Nov.	25th	4.28 p.m.
,,	27th	4.26 ,,
,,	29th	4.24 ,,
Dec.	1st	4.23 ,,

Next Week's Show Report.

The big issue of the year—a fully illustrated description of all the motor cycle exhibits at Olympia.

Weights.

A reminder to makers of lightweights: Prospective purchasers will ask exhibitors for definite information regarding the weight of the machines.

A 3½ h.p. Martinsyde.

A smaller edition of the 6 h.p. Martinsyde, rated as 3½ h.p., will be shown at Olympia. It has a V twin engine, all chain drive totally enclosed, and an exceptionally neat frame with a sloping top tube.

Of Interest to Overseas Readers.

In the last issue of each month *The Motor Cycle* usually includes a section referring particularly to matters relating to motor cycles for overseas. In this issue the feature is omitted, as the Show Forecast, in fact, all the Show numbers of *The Motor Cycle*, are of special interest to motor cyclists of other lands.

B.M.C.R.C. Dinner.

It may assist London readers who contemplate attending the B.M.C.R.C. dinner, next Wednesday, to know that they may obtain tickets from Mr. W. Pratt, the manager of Maudes' Motor Mart, 100, Great Portland Street, W.1.

NEXT THURSDAY!

THE MOTOR CYCLE

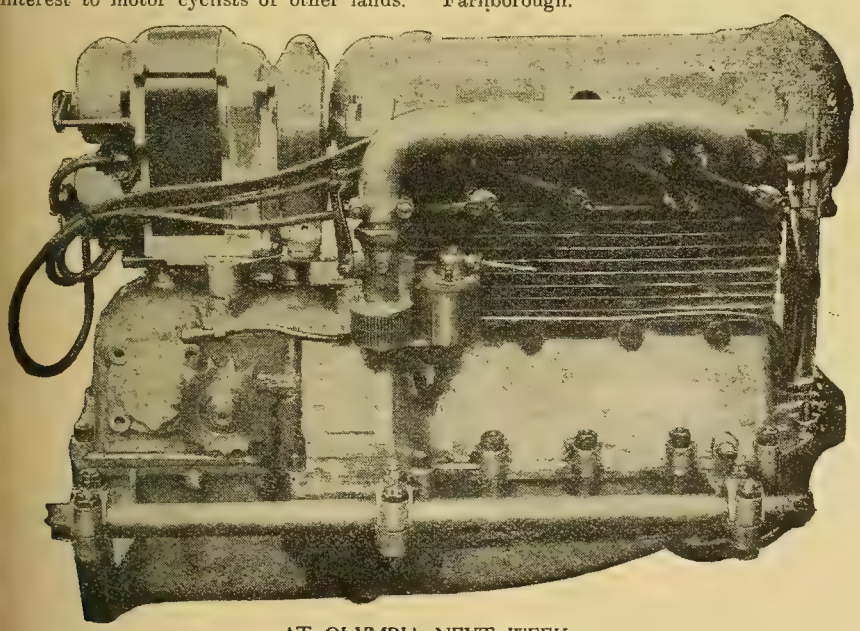
SHOW REPORT.

A stand-to-stand description of th exhibits at Olympia, written and illustrated by "The Motor Cycle" staff, will appear in the next issue. Of enlarged size, this Olympia Show Report Number will be preserved for years to come.

Order a copy early! 4½d.

Assistance Wanted at Christmas.

Any motor cyclist who is open to help the organisers of the London-Exeter run is invited to communicate with Mr. B. Alan Hill, Apsley Fellows Road, South Farnborough.



AT OLYMPIA NEXT WEEK.

Undoubtedly one of the novelties of the Show will be the four-cylinder Superb motor cycle, the first British four-cylinder to be exhibited at the Motor Cycle Show since the days of the T.M.C. The illustration depicts the power unit, which has an overhead camshaft and a *monobloc* aluminium cylinder casting.

Special Features.

HOW TO GET TO OLYMPIA.
WHAT THE SHOW WILL REVEAL.
OPEN LETTER TO THE TRADE.

320 M.P.G.

A second petrol consumption test was made by the makers of the Levis last Saturday, which was officially observed by the A.C.U. with a standard 211 c.c. Levis, weighing 129¼ lb. and a rider of 117 lb. Geared 5½ to 1 and averaging a speed of 21.6 m.p.h., the consumption worked out at the rate of 245 m.p.g. Another machine, weighing 131¾ lb. with a rider of 151 lb. and geared 5⅞ to 1, covered fifty-four miles at 21.6 m.p.h. on a consumption equivalent to 320 m.p.g. Standard Amac carburetters were used.

Trial for Sutton Cup.

On Saturday last the Sutton Coldfield and North Birmingham A.C. held a reliability trial on the lines of the Colmore Cup Trial of 1912. The organisers planned a main road course, such as is covered by the average tourist, and the main idea was to prove how much modern machines have improved since pre-war days. At the time of going to press the official awards had not been made known, but the following made non-stop runs:

B. Kershaw (2¾ Verus), A. W. Thrush (4 Triumph), W. H. Riley (6 A.J.S. sc.), J. Roberts (3 A.B.C.), L. Paynter (3½ Norton), F. Giles (6 A.J.S. sc.), L. Newey (6 Ariel), T. F. Blumfield (6 Ariel sc.), F. A. Watson (3½ Sunbeam sc.), L. H. Brown (8 Acme sc.), H. Morgan (8 Morgan), Gus Kuhn (2¾ Verus), and B. L. Bird (2¾ Marloe-Blackburne).

The following cars also qualify for non-stop awards.

Seymour Smith (10 Humber), B. Harcourt (20 Austin), Dr. C. H. Harcourt (14 Angus-Sanderson), S. H. Roe (10 A.C.), and Geo. Bedford (9.7 Hillman).

The London-Exeter Run.

Over fifty entrants have already been received for the M.C.C. annual Christmas-tide run to Exeter. These include the following riders:

SOLO MACHINES.

A. C. Rhodes (3½ N.U.T.), H. B. Browning (3¾ Scott), R. C. Staunton (4 Triumph), C. E. Hagenbach (4½ Humber), J. F. Hull (2¾ Wooler), L. W. G. Gotley (2½ Omega), L. Keevil (3½ Sunbeam), George Brough (8 Brough Superior), C. A. McKeand (4 Harley-Davidson), E. O. Brodin (3 A.B.C.), G. Richardson (2¼ Velocette), L. R. Richardson (——), H. F. Fellows (4 Sunbeam), B. Silver (4½ Quadrant), J. C. Walker (2¾ Edmund), B. E. Belfield (3 A.B.C.), P. Street (3½ Sunbeam), F. A. Longman (2¼ Wooler), B. F. C. Fellows (2¼ De Dion), C. Bourlet (3½ Ariel), J. I. Anderson (3½ Sunbeam), Lt. V. Belfield (3 A.B.C.), W. G. Boyer (5 Rover), Capt. C. D. Michalis (6 Zenith), Harold Karslake (5 Brough), and F. W. Stevenson (3½ Brough).

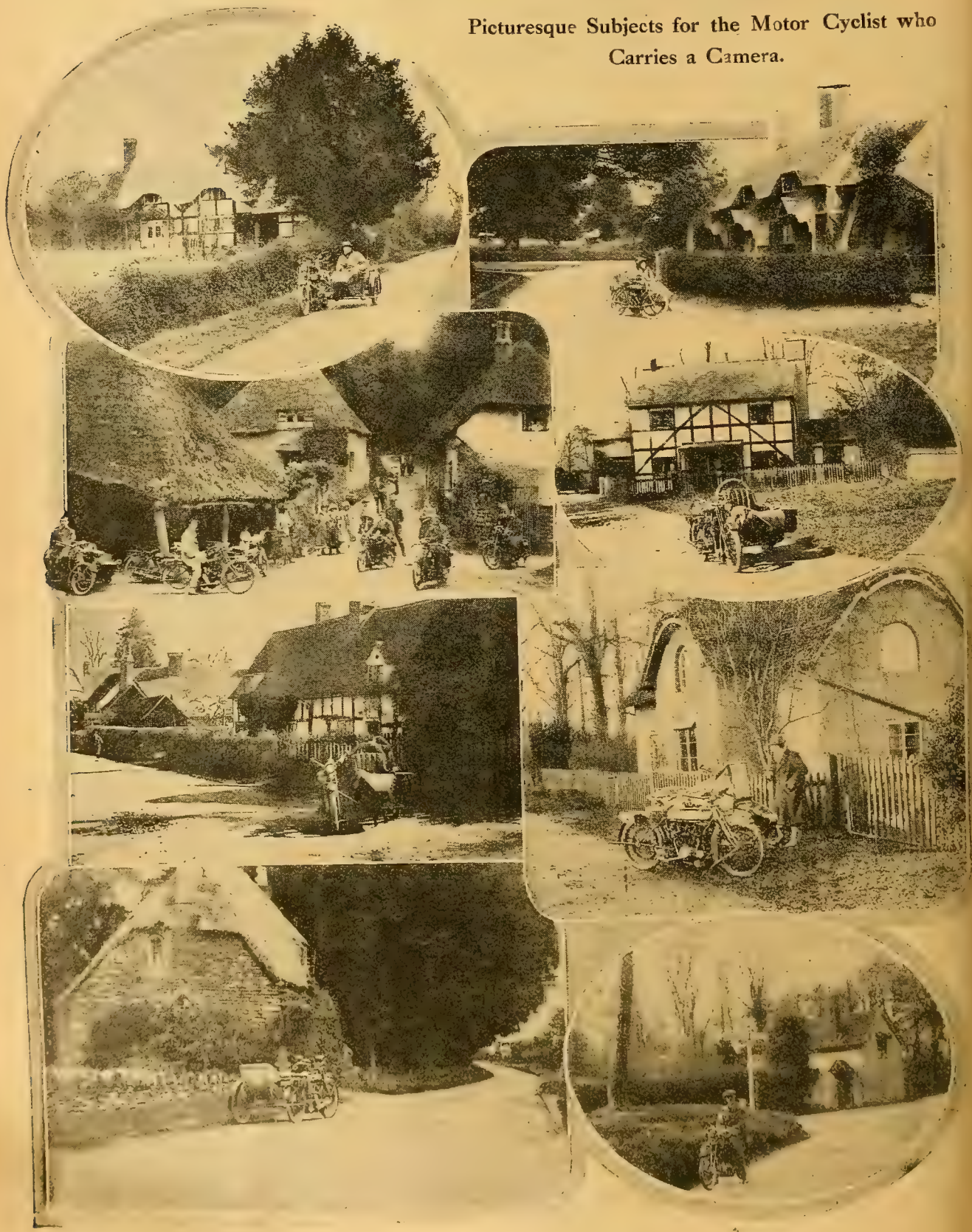
PASSENGER MACHINES.

E. Kickham (3½ Douglas), Eli Clark, jun. (6 Douglas), S. J. Marks (4 Triumph), Ian Macdonald (7-9 Indian), P. W. White (8 Sunbeam), Rev. E. S. Powell (6 A.J.S.), E. Atkins (3½ Ariel), O. P. C. Collier (8 New Imperial), J. L. Roy Jensen (7-9 Harley-Davidson), W. A. Fell-Smith (8 Rex), Flt.-Lt. C. B. Cooke (5-6 James), R. B. Whiffen (8 Blackburne), Wilfred C. Hemy (6 A.J.S.), H. W. Holmes (10 Morgan), Clifford Wilson (4½ Quadrant), L. Arnold (8 Matchless), J. G. Goodenough (8 Zenith), R. Newitt (7-9 Harley-Davidson), R. A. Rayner (6 A.J.S.), Capt. H. F. O. Evans (4½ Humber), W. H. Julian (8 Matchless), Lt. G. D. Daly (7-9 Indian), H. A. Reyre (6 James), F. W. Giles (6 A.J.S.), D. H. Noble (7 A.J.S.), G. L. Speeson (2½ Connaught), and G. L. White (5 Rover).

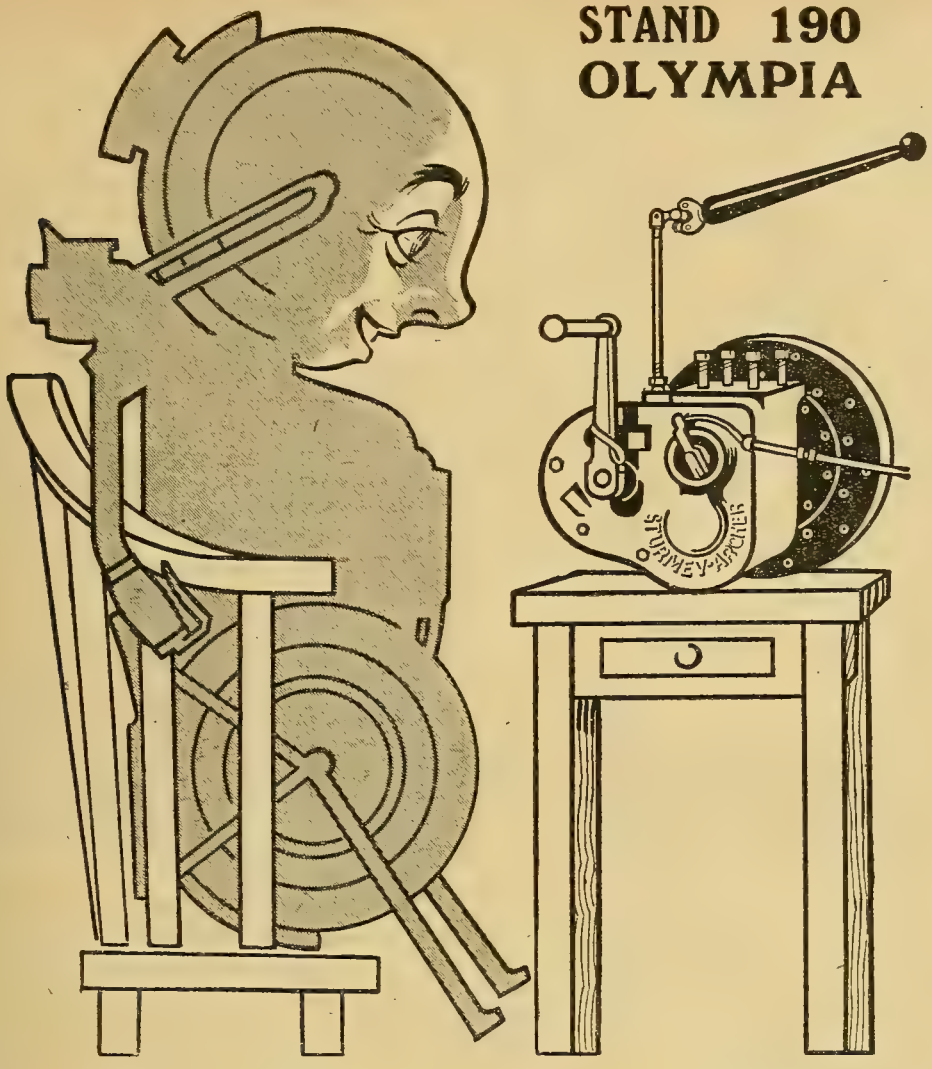
Entries close definitely on December 8th.

AMONG OLD-WORLD COTTAGES.

Picturesque Subjects for the Motor Cyclist who Carries a Camera.



STAND 190
OLYMPIA



If your Motor Cycle could talk

he would cry out for a Sturmey-Archer Countershaft Gear. He would tell you it is the greatest help he knows for his engine, and he would guarantee to take you up any gradient you liked. If you respect your machine fit it with the best gear known to the Motor Cycling World, viz.—

STURMEY ARCHER
COUNTERSHAFT GEAR

3-speed for heavyweights (up to 8 h.p.)
2-speed for lightweights (up to 2¾ h.p.)

Special Sturmey-Archer gear oil may now be obtained from dealers and garages in quart tins, 4/6 each.

Write for descriptive Booklet—

STURMEY-ARCHER GEARS, LTD.,

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PARKER'S

BOLTON & MANCHESTER.

TO all our friends—old and new—we extend a hearty invitation to visit either of the above Shows, where our Representatives will be glad to discuss the merits of the various machines.

The following comprehensive list of agencies which we hold, includes every type of machine:

B.A.T.
CEDOS
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ENFIELD
MATCHLESS
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NEW HUDSON
LEA-FRANCIS
ALLDAYS-ALLON
HARLEY-DAVIDSON

DEFERRED PAYMENTS AND EXCHANGES ENTERTAINED.

DEPOTS:

BOLTON: 71, BRADSHAWGATE. Tel.: 1348.

MANCHESTER: 245, DEANSGATE. Tel.: Cent. 864.

An Exceptional OFFER!

Quantity	Price each.	Total Price.
1	14/-	14/-
2	13/-	26/-
3	12/8	38/-
4	12/3	49/-
6	12/-	72/-
12	11/6	138/-

Carriage Paid. Cash with Order.

Illustration shows front of case taken out.

Size $5\frac{3}{4}$" × $3\frac{1}{4}$" × $3\frac{3}{4}$"

Surplus Government Accumulators

PETO RADFORD MODEL S.G. ACCUMULATORS

4 Volts. Capacity—12 ampere hour continuous, 24 ampere hour ignition.

DESCRIPTION.—Two separate cells consisting of 5 plates, each in a strong celluloid box with sealed lid, vent plugs and non-corrosive terminals; the two connected together by non-corrosive link and contained in strong black enamelled metal case with leather strap handle Never had acid in Weight 5 lbs. each.

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The Mark THE CLIFFORD WILSON MFG COMPANY LTD of Integrity

"By Appointment to the NEW Poor."

A Merry Xmas!

Yes, we are aware that it is a little previous to refer to Yuletide, but, at certain hours, in certain corners of Olympia, the festivities are reminiscent of that Season.

Anyway, it is a certain fact, that your Christmas will be all the happier, if you are the lucky possessor of a 1921

QUADRANT

or, being a Trader, if you hold the Agency. Prompt attendance at

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will ensure delivery within a few days.

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CLUB NEWS.

Ystalyfera and Swansea Valley M.C.C.

A reliability trial over a circular course was held by the above club on Thursday, November 11th. A speed-judging competition was incorporated in the trial. Best performance of trial: T. P. Lewis (2¼ Levis), error 1m. Lightweight prize: T. P. Lewis (2¼ Levis). 500 c.c.: D. E. Rees (3½ Sunbeam), error 6m.; B. J. Lydden (3½ James), error 6½m.

West Kent M.C.

The winter session of the above club opened on Saturday, the 13th inst., with a speed-judging competition. The course included many of the Kentish test hills, and was about thirty miles in length. The result was based on the aggregate time error at the secret check and at the finish: 1, M. Welch (3 A.B.C.), error 5m. 10s.; 2, G. Jessop (8 Imperial-Jap sc.), 5m. 42s.

Gorseinon and District M.C.C.

The above club held its first open reliability trial on November 13th. The course was around Gower, a thirty-three miles non-stop run. The roads were in a very bad state, but nevertheless some very good performances were made. The final results are now to hand, and are as follows:

1 (silver cup), J. Thomas (3½ Norton sc.); 2 (gold medal), T. P. Lewis (2¼ Levis); 3 (silver medal), D. Jones (2¼ Juno).

Cambridge University M.C.C.

The following are the results of the speed trials run off at Thetford recently. Timekeeping was carried out by Mrs. Knowles, the well-known trials rider:

300 c.c. CLASS.—1, J. L. Giles (2¾ Omega), 52 m.p.h.; 2, K. D. Bates (2¼ Triumph), 38.7 m.p.h.; 3, Sefton Jones (2¾ New Imperial), 33.7 m.p.h.

350 c.c. CLASS.—1, J. V. Prestwich (2¾ Nut-Jap), 64.7 m.p.h.; 2, S. J. Bassett (2¾ Douglas), 57.1 m.p.h.; 3, C. A. McKeand (2¾ New Imperial), 55.9 m.p.h.

500 c.c. CLASS.—1, T. J. Wright (4 Indian Scout), 66.2 m.p.h.; 2, J. V. Prestwich (3½ Nut-Jap) and H. W. Rice-Evans (3½ Norton) tied, 64 m.p.h.

600 c.c. CLASS.—1, T. J. Wright (4 Indian Scout), 65.7 m.p.h.; 2, H. W. Rice-Evans (3½ Norton), 63.5 m.p.h.; 3, J. McLeod (3½ Sunbeam) and J. A. G. Dent (4 Triumph) tied, 55.9 m.p.h.

750 c.c. CLASS.—1, F. W. Ayreton (5 Zenith), 58.2 m.p.h.; 2, H. St. V. Norman (Nut-Jap) and J. A. G. Dent (4 Triumph) tied, 55.9 m.p.h.

UNLIMITED CLASS.—1, G. Rae-Arnot (7-9 Harley-Davidson), 72.2 m.p.h.; 2, A. S. Brereton 7-9 Harley-Davidson), 69.2 m.p.h.; 3, T. J. Wright (4 Indian Scout), 68.2 m.p.h.

SIDECAR CLASS (under 600 c.c.).—1, O. G. Smart (4 Norton sc.), 53.3 m.p.h.; 2, H. B. Howson (4 Norton sc.), 50.9 m.p.h.

UNLIMITED SIDECAR CLASS.—1, M. H. Rollason (7-9 Harley-Davidson sc.), 59.4 m.p.h.; 2, Saunders Davies (7-9 Indian sc.), 57.1 m.p.h.; 3, W. G. Sykes (8 Zenith sc.), 55.9 m.p.h.

Colchester and District M.C.

The official results of the Colchester and District Motor Club's speed event held at Lexden on November 11th, over a course of half a mile (fifty yards flying start), are as follows:

CLASS 1. Solo up to 350 c.c on formula.—1, L. Weatherell (2½ R.W. Scout); 2, A. E. Clark (2¾ Douglas); 3, R. W. Tracey (2¼ Royal Enfield).

CLASS 2. Solo up to 500 c.c.—1, A. E. Clark (3½ Norton), 32⅘s.; 2, R. W. Tracey (3½ B.S.A.), 35⅗s.; 3, R. Weatherell (2½ R.W. Scout), 39⅘s.

CLASS 3. Sidecar up to 650 c.c.—1, T. S. Wilkin (4 Norton sc.), 34⅘s.; 2, A. Medcalf (4 Norton sc.), 37⅘s.; 3, A. E. Clark (3½ Norton sc.), 37⅘s.

CLASS 4. Sidecar up to 750 c.c.—1, R. Charlesworth (5 Zenith sc.), 34s.; 2, T. S. Wilkin (4 Norton sc.), 35s.; 3, A. Medcalf (4 Norton sc.), 38⅘s.

CLASS 5. Sidecar, unlimited c.c., on formula.—1, R. Charlesworth (5 Zenith sc.); 2, A. E. Clark (3½ Norton sc.); 3, T. S. Wilkin (4 Norton sc.).

CLASS 6. Solo up to 650 c.c.—1, T. S. Wilkin (4 Norton), 31s.; 2, A. Medcalf (4 Norton), 32s.; 3, A. E. Clark (3½ Norton), 33s.

CLASS 7. Solo up to 750 c.c.—1, R. Charlesworth (5 Zenith), 28⅘s.; 2, T. S. Wilkin (4 Norton), 29s.; 3, A. Medcalf (5 Zenith), 31⅗s.

CLASS 9. Sidecar ridden by veterans over 40, on formula.—1, A. G. Simpson (5 Rover); 2, F. Medcalf (4 Norton); 3, G. Lloyd (3½ B.S.A.).

FASTEST TIME OF DAY.—R. Charlesworth (5 Zenith), 28⅘s.

A collection taken on the course raised a considerable sum for local hospitals.

Warrington M.C.

On Saturday, November 6th, this club held motor cycle speed trials on a private road at Catten Hall, Kingsley, by kind permission of C. T. Sproston, Esq. The event was particularly well attended, attracting 107 entries for the various classes. The results have now been announced, and are as follows:

CLASS 1a. Expert and General. Solo Machines up to 350 c.c.—1, S. A. Crabtree (2¾ A.J.S.); 2, Geo. Cowley (2¾ A.J.S.); 3, S. Eastwood (2¾ Royal Ruby).

CLASS 1b. Expert Barred. Solo Machines up to 350 c.c.—1, L. C. Crabtree (2¾ A.J.S.); 2, S. Eastwood (2¾ Royal Ruby); 3, I. Bernard (2¾ Sunbeam) and E. M. Brown (2¾ Douglas) tied.

CLASS 2a. Expert and General. Solo Machines up to 500 c.c.—1, T. Simister (3½ Norton); 2, G. E. Cowley (3½ Norton); 3, H. R. King (3 A.B.C.).

CLASS 2b. Expert Barred. Solo Machines up to 500 c.c.—1, H. R. King (3 A.B.C.); 2, G. F. Burns (3½ Sunbeam); 3, L. C. Crabtree (2¾ A.J.S.).

CLASS 3a. Expert and General. Solo Machines up to 600 c.c.—1, G. E. Cowley (3½ Norton); 2, T. Simister (3½ Norton); 3, S. A. Crabtree (3½ James).

CLASS 3b. Expert Barred. Solo Machines up to 600 c.c.—1, H. R. King (3 A.B.C.); 2, E. S. Abram 3 A.B.C.); 3, S. A. Crabtree (3½ James).

CLASS 4a. Expert and General. Solo Machines of Unlimited c.c.—1, T. Simister (3½ Norton); 2, H. R. King (3 A.B.C.); 3, E. S. Abram (3 A.B.C.).

CLASS 4b. Expert Barred. Solo Machines of Unlimited c.c.—1, E. S. Abram (3 A.B.C.); 2, H. R. King (3 A.B.C.); 3, L. C. Crabtree (2¾ A.J.S.).

CLASS 5a. Expert and General. Sidecar Machines up to 750 c.c.—1, G. E. Cowley (3½ Norton sc.); 2, T. Simister (3½ Norton sc.); 3, S. A. Crabtree (3½ James sc.).

CLASS 5b. Expert Barred. Sidecar Machines up to 750 c.c.—1, S. A. Crabtree (3½ James sc.); 2, A. J. Bailey (3½ Norton sc.); 3, J. Massey (6 Royal Ruby sc.) and H. A. Bleckly (6 Bradbury sc.) tied.

CLASS 6a. Expert and General. Sidecar Machines of Unlimited c.c.—1, G. E. Cowley (3½ Norton sc.); 2, T. Simister (3½ Norton sc.); 3, F. Bolton (7-9 Indian sc.).

CLASS 6b. Expert Barred. Sidecar Machines of Unlimited c.c.—1, J. M. Bullough (8 Dot sc.); 2, J. Massey (6 Royal Ruby sc.); 3, F. Bolton (7-9 Indian sc.).

SPECIAL AWARDS.—Fastest A.J.S. prize, L. C. Crabtree; fastest Douglas prize, E. M. Brown; fastest Sunbeam prize, G. F. Burns; fastest A.B.C.

Dublin and District M.C.C.

The annual general meeting of the Dublin and District M.C.C., held recently, attracted a large attendance of members. The election of club officials for next year resulted as follows: President, S. L. Hutchinson; vice-presidents, Messrs. Doolin, Wallen, Curtis, Kelly, Waters, Dunphy, and the President of the Cork M.C.C. Working Committee, Messrs. Carton, Grimes, Allen, Browne, McAllister, Carvill, Humpreys, Smith, and Walsh; secretary, W. H. Freeman; treasurer, P. H. Hurse (both re-elected); honorary solicitor, P. Grimes; honorary auditors, Messrs. Doolin and Carton; club captain, Major J. A. H. Waters. The annual dinner has been arranged for a Saturday early in December.

Sheffield and Hallamshire M.C.C.

The Bisby Trophy trial was held on November 6th, over a very sporting course of thirty miles, a good half of which could be described as representing Colonial conditions, being over the hills and dales of South Yorkshire. After an exciting afternoon's sport the results worked out as follows:

1, G. W. Wilkin (2¾ Wilkin), who takes the trophy for one year and replica; 2, C. E. Turner (3½ Triumph), club gold medal; 3, J. O. Vessey (4 Triumph) and E. Searle (3½ Norton) tied, club silver medal each; 5, C. W. Ward (3½ Norton), silver spoon; 6, F. W. James (Morgan), silver spoon.

R. Stacey wins the captain's prize for the first sidecar to finish; and C. E. Turner wins the hon. secretary's prize for the first ex D.R. to finish. R. Stacey and E. Wheatley win the hon. trials secretary's prize for the nominated pair to finish with most marks.

The Club Cup trial was held on November 14th, over a very hard course of 105 miles in South Yorkshire and Derbyshire, included in which were six observed hills, and one watersplash which ran about nine inches deep. Results:

1, E. Wheatley (4 Triumph), cup for one year, replica, and gold medal; 2, C. W. Ward (3½ Norton), gold medal and one tankard; 3, E. Sneath (3½ Wilkin), gold medal and one tankard; 4, L. Padley (4 Triumph) and E. A. Ward (4 Triumph) tied, two tankards each; 6, J. O. Vessey (4 Triumph), one tankard; 7, F. W. James (4 Triumph), one tankard. E. Wheatley also takes the prize of a silver spoon for the best performance on Hunger Hill.

A DAY OF SKIDS.

THAT he would not go round again for £50 was the verdict of a finisher in the Leicester and District M.C.C. Trial for the Lunt and Pascell Cups on November 14th.

However, the fact that Master A. Bowerman (aged 14 years) on a Velocette successfully completed the course to a very slight variation from schedule, proves that it was not at all an "impossible" event.

Out of a representative entry of eighty-two, seventy-two started and forty-three finished—many as much as half-an-hour late, however. It was long after lighting-up time before the last man got in.

It was a day of spills, and the solo competitor who could number his skids on the fingers of one hand was a rarity.

The hairpin at Amergate was the scene of an unfortunate accident, where W. Athwell (4 Douglas sc.), after making a splendid climb, found trouble in some ruts, and, running off the road, fell several feet. His sidecar passenger was rather severely hurt.

The two A.B.C.'s were prominent in the acceleration test on Rowsley Bar, while the Nortons and Triumphs ran very consistently throughout. H. Bashall (6 Martinsyde sc.) made an exceptionally good show until he tried conclusions with a brick wall near Green Hill. The latter precipice proved the undoing of many, but the A.J.S. and Matchless outfits were almost all good.

The results are not yet to hand, but Bowerman's performance will probably gain him a special award.

D45

COMBINING IGNITION AND LIGHTING.

The New M-L Maglita for Single-cylinder Motor Cycles of any Size.

A DEVELOPMENT of great importance to motor cyclists, and one which should make a very wide appeal, is represented in the new electric lighting and ignition system known as the M-L Maglita. After many months occupied in testing the equipment in the laboratory and on the road, the M-L Magneto Co., Ltd., of Coventry, have now standardised the outfit in a form rendering it suitable for single-cylinder machines with either two-stroke or four-stroke engines.

The set, which can be fitted readily to existing machines, comprises two units beyond the usual head and tail lamps. The first is a combined magneto and dynamo capable of being substituted for the ordinary magneto, the second is a combined battery and switch unit, which displaces the generator of acetylene lighting systems and occupies very little more space.

Gearing Eliminated.

An outstanding feature of the magneto and dynamo unit is the fact that it has only one rotating member; there is no gearing whatever. This rotating member is an H section armature with a low-tension winding, and a two-part commutator which rectifies the alternating current first generated, changing it to a continuous current suitable for battery charging or lighting the lamps.

There is no interconnection between the lighting and ignition circuits, so that any accident to the lighting circuit cannot affect the ignition, and yet, in effect, the machine is similar to one employing two separate armatures with gearing between them. Further, the ignition system is quiet independent of the battery; if the latter should be run down or even removed the engine can be started and run normally, and efficient lighting obtained so long as the engine is running.

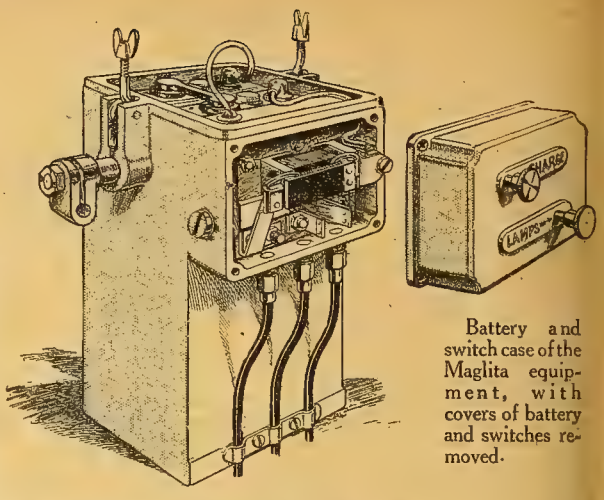
Current for ignition purposes is generated by the low-tension and high-tension windings being wound round a stationary laminated iron core which forms a bridge between the upper ends of one of the two pole shoes of the machine, the ignition windings thus being placed in the magnetic circuit. The rotation of the armature causes changes in the direction of the magnetic flux, and these changes are employed to produce the ignition current.

The contact breaker of the ignition system is stationary, the face cam which actuates it being mounted on the armature and operating to break the circuit at the correct moment; it serves to make the change of flux in the magnetic circuit so sudden as to produce a high-tension current of ample strength to cause a spark to occur at the plug.

Great Accessibility.

While an exceedingly compact and simple machine has been designed on these lines, the parts which may require occasional attention are peculiarly accessible. The commutator and the contact breaker are both brought immediately into view by removing a flanged dust cover which encloses the end of the machine. The brushes of the commutator are of compressed copper carbon, and can be instantly removed for examination or replacement by lifting and moving to one side the flat steel springs which bear upon their outer ends.

In place of the usual rocking lever for the contact breaker is a triangular member of spring steel, secured to the frame of the machine at its two upper corners by screws and carrying one of the contact points at its lower end. This end, when the face cam operates, is pushed away from the fixed contact point, making contact again subsequently when the cam moves on. There are no small springs or carbon brushes, and the contact points can be adjusted or removed with an ordinary magneto spanner.



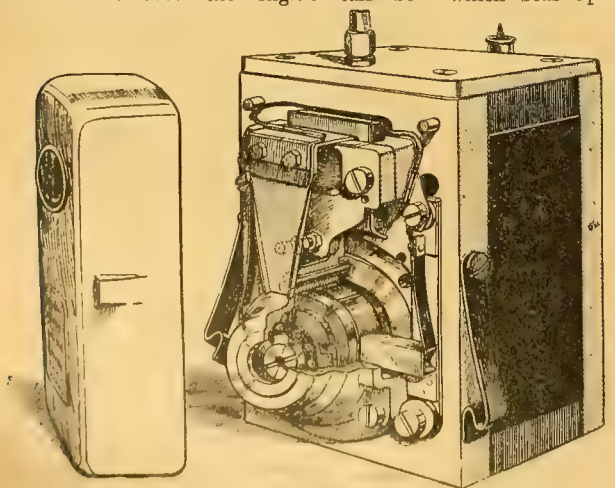
Battery and switch case of the Maglita equipment, with covers of battery and switches removed.

Stationary Condenser and Contact Breaker.

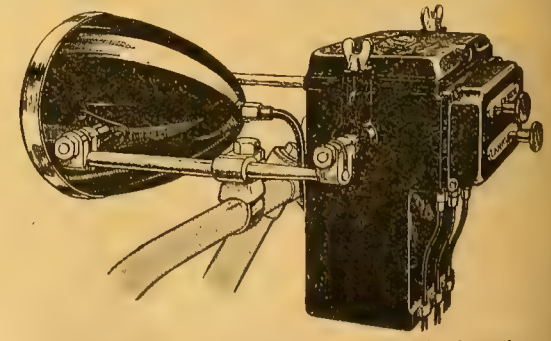
The condenser and the contact breaker are mounted together as a single unit, which can be removed as a whole, if desired, without disturbing any other portion of the machine, merely by detaching two screws.

To provide the armature speed necessary to give sufficient current for lighting purposes, the armature is run at engine speed. The machine is therefore not only eminently suitable for two-stroke engines with their normal gearing, but when applied to four-stroke engines the higher armature speed ensures a considerably better spark for starting than is provided by the ordinary magneto run at half-engine speed. The idle spark produced on alternate strokes of four-stroke engines occurs during the exhaust period, and prolonged trials have demonstrated that this spark is then quite harmless.

The combined battery case and switchboard consists of an aluminium unit carried at the rear end of a bracket on the handle-bar, the front end of the same bracket carrying the head lamp. The switch gear is enclosed in a compartment



Part sectional view of the Maglita combined generator and magneto, showing the commutator of the lighting circuit, also the face cam, insulated thrust pin, and spring steel blade of the ignition contact breaker.



Maglita head lamp, bracket, and cases containing batteries and switches.

COPPEN ALLAN & CO

+1 PLUS ONE

Reading Standard

AT OLYMPIA,

STAND 37 MR. HOBBS

READING 1921 STANDARD

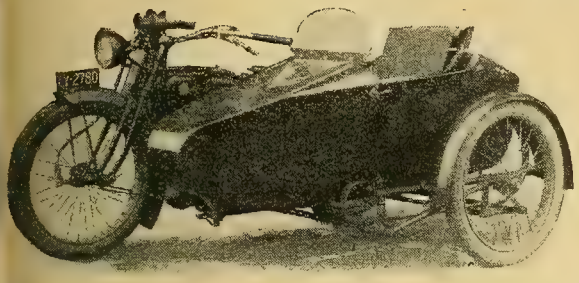
The World's Master Motor Cycle

SOLO, £184 COMBINATION, £229

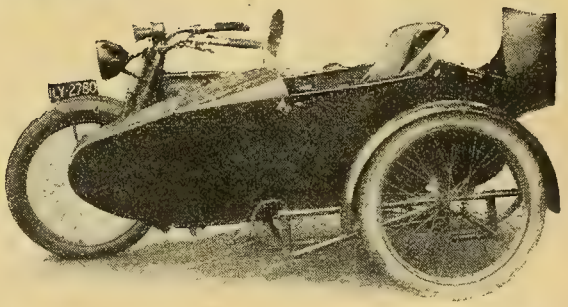
Including Dynamo Lighting, Head, Tail, and Side Lamp, Electric Horn, etc., and large bulbous back M.P. Sidecar.

BEFORE DECIDING ON YOUR NEW OUTFIT,
SEE THIS LAST WORD IN SIDECARS

PLUS ONE



STAND 37



A SINGLE OR DOUBLE SEATER AT WILL.

SPECIFICATION. Sidecar body and chassis (finished in any one of the six standard colours). Coverall apron, complete with turn-buttons. Adjustable lamp bracket. Aluminium step plate. Self-locking sidecar wheel stand. 26in. or 28in. wheel, less tyre. Four point suspension complete with steel sidecar lugs for attachment to most makes of motor cycles. The whole of these guaranteed for six months. Total weight—185 lb. No irritating extras. Will carry two adults in comfort.

CATALOGUE WITH PLEASURE ON REQUEST. AGENTS NOW BEING APPOINTED.

COPPEN ALLAN & CO. beg to announce that they have been appointed Sole Agents for the first modern British-made four-cylinder Motor Cycle:

The "SUPERB FOUR"

A Masterpiece of Motor Cycle Design.

STAND 37A. MR. LINE.

Sole Home Counties Agents for ACE 4-cylinder Motor Cycles. Sole London Agents for the DUNELT MOTOR CYCLE.

89, GREAT PORTLAND STREET, LONDON, W.1.

'PHONE: MAYFAIR 5399.

G·N

The test-hill record regained

ON Tuesday, November 16th, at the first ascent the test—hill record was regained by Captain A. F. Nash on the G.N. racer "Kim," of 1086 c.c.

TIME 9·37 SECONDS.

This performance gives an average speed, from a standing start, of 25·63 miles per hour up an average gradient of 1 in 5·027.

The start was made on the 1 in 8 gradient, which changes to 1 in 5, and ends with 150 feet of 1 in 4.

Details of the G.N. Touring, Legere and Vitesse models will be sent with pleasure on application.

G.N. Ltd., East Hill, Wandsworth, London S.W.18.

An average of 25·63 up 1 in 5 from standing start.

Raymond.

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THE
North Wales Motor Exchange
WREXHAM.

Our Representatives will be in attendance all week

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ASK FOR

Mr. Billy Jones on the A.J.S. Stand
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We are open to accept orders for the following—

Norton, Omega, Edmund, Powell, New Imperial, P. & M., Zenith, Indian, Rudge, James, Sparkbrook, Ixion, A.J.S., Levis, Sunbeam, O.K., Douglas, Scott, B.S.A., Matchless, Wooler, Ivy, Bradbury, Rover, and Allon Motor Cycles. Also Singer, Morgan, Coventry Premier, G.W.K., G.N., and Calthorpe Cars.

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Makes any Cycle a MOTOR CYCLE.

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Write for Particulars. **Price 25½ Gns.** FITS ANY CYCLE.

1½ h.p. 150 miles per gallon. Twin Cylinder horizontally opposed.

Economic Motors, Ld. 62, Castle St. East, London, W.1

Combining Ignition and Lighting.—

behind the battery, and the push-in switch controls are therefore immediately in front of the rider. There are two switches, one comprising a combined charging and reverse current switch, the other being for the head and tail lamps.

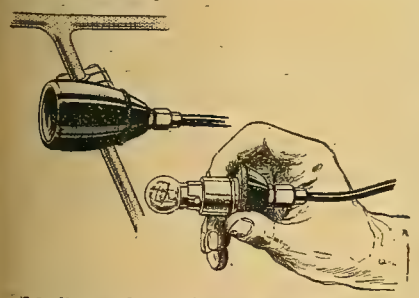
Special features which will be greatly appreciated are embodied in the charging and reverse current switch. In the first

The special cable terminal used in Maglita set provides waterproof wiring and firm contact for "earth" return through metallic sheath of cable.

place, if it be closed (pushed in) it will not remain so but will automatically open (return to the "off" position) if the engine is stationary or be stopped. Thus, it is impossible for the battery to be discharged inadvertently through the generator windings. The switch consists of a permanent magnet and an armature wound with a coil of wire in the charging circuit. The armature may be moved by hand with the switch plunger; but, if the engine is stationary, current flows from the battery to the generator, opposes the action of the magnet, releases the armature, and allows the switch contacts to separate again.

Automatic Dimming Device.

The armature of the switch also takes effect upon a pair of auxiliary contacts so arranged that when the switch is open ("off") the head lamp is automatically dimmed. The current consumption is therefore reduced very considerably when the engine is stationary, and when, obviously, the full amount of light is not needed. Further, the fact of the head lamp being dimmed reminds the rider when he starts the engine again that he should close the charging switch so that the battery may not be run down, as it would be if he ran for several hours, or on a number of successive occasions without recharging it.



Maglita rear lamp; the lampholder is detachable for use as inspection light.

The generator alone, without assistance from the battery, provides enough current to light both head and tail lamps fully while the engine is running at or above 20 m.p.h. In normal running, therefore, the battery is not drawn upon, but serves to provide current at low speeds and when the engine is standing.

Lamps and Wiring.

The standard set is made for use with four-volt lamps using a 2 amp. 8 watt bulb in the head lamp and a ½ amp. 2 watt in the tail lamp; on sidecars a third light with another ½ amp. bulb can be fitted.

The wiring is extremely simple, and is on a concentric system with an earthed return; but the latter consists of the black-coated metallic sheathing of the single insulated cable, and is not dependent upon the return current finding its way through the frame of the motor cycle. Waterproof gland terminals secure the cable sheath firmly where it enters the machine, battery box, and lamps, and, apart from its simplicity, an advantage of this system is the fact that it is impossible to connect the generator wrongly or reverse the polarity. No special tools, merely a screwdriver and a small spanner, are required to make the connections, and no soldering is necessary.

The battery is specially made to meet motor cycle requirements, and the acid cannot be splashed over while running. Its capacity is 12 amp. hours, and it is capable of giving five hours' light with the machine standing without the engine running.

An outstanding practical merit of this system of lighting and ignition lies in its compactness and convenience, as well as in the fact that it is eminently suited for fitting to existing machines as well as to new ones. It has been submitted to a series of lengthy road tests on even the smallest of two-stroke and four-stroke lightweights, while it can equally well be applied to single-cylinder machines of any size, either solos or sidecars.

To Suit any Engine.

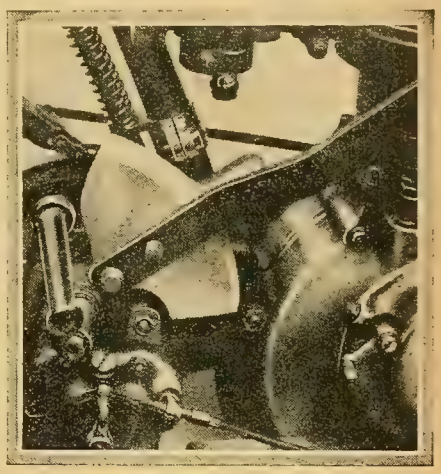
Although only the single-cylinder outfit is referred to in the foregoing, the M-L Co. has already adapted the system to flat twin engines, while models for V twins are being designed, but will not be ready for some little while.

Maglita sets will be fitted by several motor cycle manufacturers to machines which they will show at Olympia, and the system will be thoroughly demonstrated on the M-L Co.'s stand. Bulk supplies will be available in February next, we understand.

The efforts which are now being made to provide efficient apparatus for electric lighting at a moderate cost suggest that motor cycles in the future, like present-day cars, will be sold to the public "ready for the road," and with no necessity for irritating extras.

FOR OLD STURMEY GEARS.

A DEVICE for protecting the quadrant mechanism of the old type Sturmey-Archer gear box from the ill effects of mud and dust, as well as guarding it from petrol overflow, which washes out the lubricant and often causes sticking, has been marketed by Mr. H. Birch, Coton Road and Princes Street, Nuneaton.

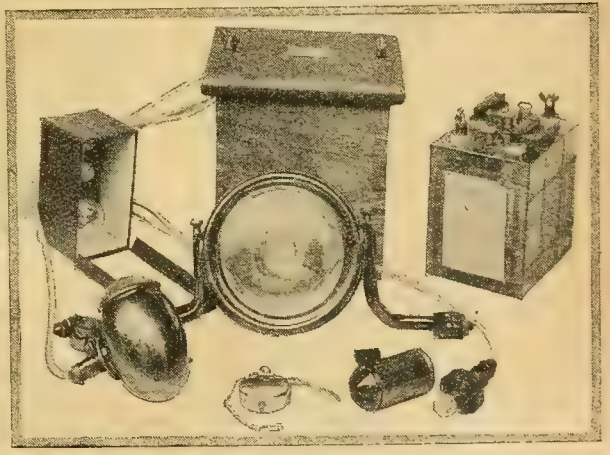


The Birch gear box quadrant cover.

A PRACTICAL LIGHTING OUTFIT.

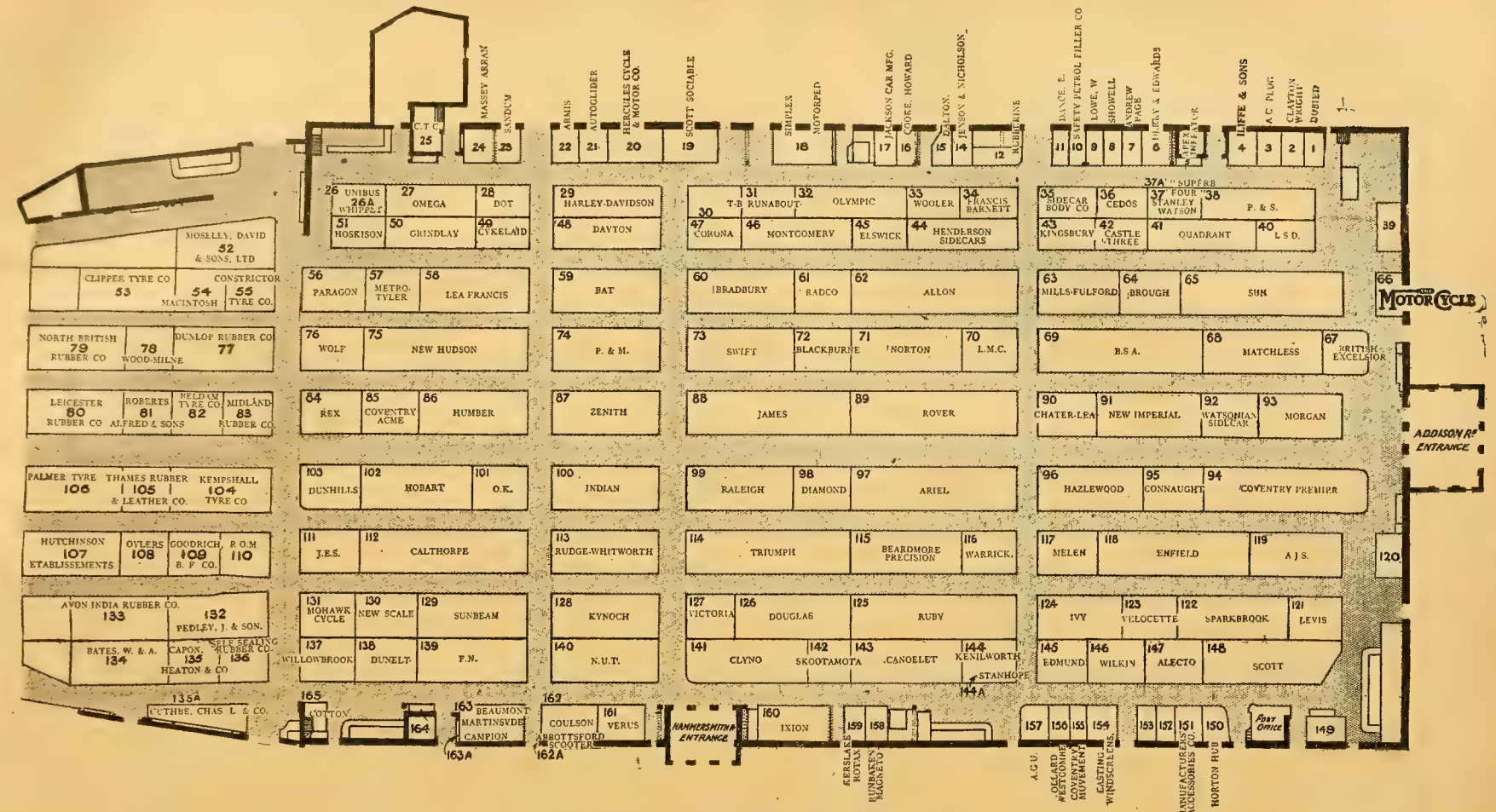
AN extremely practical lighting set is now being handled by Messrs. Godfreys, Ltd., 208, Great Portland Street, London, W.1. It consists of a six-volt accumulator in a teak box, a handsome head lamp provided with brackets for any handle-bar, a torpedo side lamp, and a tubular tail lamp, the back of which is made detachable, so that it can be used as an inspection lamp. Sufficient armoured cable is also supplied.

The necessary switches themselves are incorporated in the bayonet fitting in each lamp in which the bulbs are carried.



Godfrey's accumulator lighting set for sidecar outfits.

A GUIDE TO THE EXHIBITS AT OLYMPIA.



Plan of the Stands in the Main Hall.

An Alphabetical List of Exhibitors at the 1920 Show.

	Stand No.
Abbottsford Motor Scooter and Eng. Co.	162a
A.C. Sparking Plug Co., Ltd.	3
Alterna Cycle Light Co.	226
Alldays and Onions, Ltd.	62
Amac, Ltd.	179
Apollo Plug Mfg. Co., Ltd.	199
Ariel Works, Ltd.	97
Armis Cycle Co.	22
Auto-Cycle Union	157
Autoglider, Ltd.	21
Automobile Assoc. and Motor Union	164
Avon India Rubber Co., Ltd.	133
Baker, F. E., Ltd.	115/236
Bat Motor Mfg. Co. (1918), Ltd.	59
Bates, W. and A., Ltd.	134
Bayliss, Thomas, and Co., Ltd.	67
Beaumont Motors (Leeds), Ltd.	163
Beldam Tyre Co. (1920), Ltd.	82
Best and Lloyd, Ltd.	238
Binks, C., Ltd.	171
Bluemel Bros., Ltd.	188
Booth Bros.	144
Bordesley Eng. Co., Ltd.	95
Bowden Brake Co., Ltd.	231
Bowden Wire, Ltd.	246
Bowns, Ltd.	174
Bradbury and Co., Ltd.	60
Brampton Bros., Ltd.	218
Brooks, J. B., and Co., Ltd.	263
Brough, W. E.	64
Brown Bros., Ltd.	191
Brown and Barlow, Ltd.	238
B.S.A. Cycles, Ltd	69/216
Burney and Blackburne, Ltd.	72
Burton, C. F. and H.	226a
Butterfields, Ltd.	121
Calthorpe Motor Cycle Co.	112
Campion Cycle Co., Ltd.	163a
Campling, Gilbert, Ltd.	142
Cashmore Bros.	147
Castle Motor Co., Ltd.	42
Chater Lea, Ltd.	90
Clayton Wright, Ltd.	2
Clipper Tyre Co., Ltd.	53
Clyno Eng. Co., Ltd.	141
College Leather Co.	247a
Collier, H., and Sons, Ltd.	68
Components, Ltd.	223
Constrictor Tyre Co.	55
Cooke, Howard S., and Co.	16
Cooper-Stewart Eng. Co., Ltd.	241
Cotton Motors, Ltd.	165
Coulson (F. Aslett) Eng. Co.	162
County Chemical Co., Ltd.	244
Coventry Acme Motor Co., Ltd.	85
Coventry Chain Co., Ltd.	192
Coventry Premier, Ltd.	94
Coventry Victor Motor Co., Ltd.	247
Cowey Eng. Co., Ltd.	252
Cox Carburetters, Ltd.	227
Cuthbe, Chas. L., and Co.	135a
Dalton Motor Co., Ltd.	15
Dance, E., and Co., Ltd.	11
Day, Chas. H., Mfg. Co., Ltd.	48

LIST OF EXHIBITORS (continued).

	Stand No.
Degory No-jet Carburator Co.	251a
D.F. and M. Eng. Co., Ltd.	98
Dot Motors	28
Douglas Motors, Ltd.	126
Dover, Ltd.	253
Dunford and Elliott (Sheffield), Ltd.	138
Dunhills, Ltd.	103/214
Dunlop Rubber Co., Ltd.	77
East London Rubber Co.	258
Easting Windscreens, Ltd.	154
Edmund, C., and Co. (1920), Ltd.	145
E.I.C. Magnetos, Ltd.	235
Elephant Chemical Co., Ltd.	168
Elswick Hopper Cycle and Motor Co., Ltd.	45
Enfield Cycle Co., Ltd.	118
F.N. (England), Ltd.	139
Forward Sparking Plug Co.	260
Francis and Barnett, Ltd.	34
Gloucestershire Aircraft Co., Ltd.	26
Goodrich, B. F., Co., Ltd.	109
Gough and Co., Ltd.	237
Green, W. J., Ltd.	27
Grindlay (Coventry), Ltd.	50
Hanwell and Sons Components, Ltd.	36
Harley-Davidson Motor Co.	29
Hayward, W. G. C., and Co., Ltd.	26a
Hazlewoods, Ltd.	96
Hendee Mfg. Co.	100
Henderson Sidecars	44
Hercules Cycle and Motor Co., Ltd.	20
Hobart Cycle Co., Ltd.	192
Hoffmann Mfg. Co.	262
Horton Hub and Eng. Co., Ltd.	150
Hoskison Motors, Ltd.	51
Hudson, Arthur	176
Humber, Ltd.	86
Humphries and Dawes, Ltd.	101
Hunt, A. H.	255
Hutchinson Etablissements	107
Iliffe and Sons Ltd.	66/4
Ixion Motor Mfg. Co.	160
Jackson Car Mfg. Co.	17
James Cycle Co., Ltd.	88
Jenson and Nicholson, Ltd.	14
Kempshall Tyre Co. (of Europe), Ltd.	104
Kingsbury Eng. Co., Ltd.	43
Lamplugh, S. A., Ltd.	228
Lea and Francis, Ltd.	58
Leatheries, Ltd.	256
Leicester Rubber Co., Ltd.	80
Lloyd Motor Eng. Co., Ltd.	70
Lodge Plugs, Ltd.	219
Lombard Rim and Tube Co.	185
Lucas, Joseph, Ltd.	217
Lucas Electrical Co., Ltd.	217a
Lycett Saddle and Motor Accessories Co., Ltd.	211
Macintosh, Chas., and Co., Ltd.	54
M.A.G. Engine Co., Ltd.	230
Marston, John, Ltd.	129
Martinsyde, Ltd.	163
Massey-Arran Motor Co.	24
Mead and Deakin	143
Meteor Mfg. Co., Ltd.	47
Middlemores (Coventry), Ltd.	166
Midland Gear Case Co., Ltd.	232
Midland Rubber Co., Ltd.	83
Miller, H., and Co., Ltd.	222
Mills-Fulford, Ltd.	63
M-L Magneto Co., Ltd.	239
Mohawk Cycle Co., Ltd.	172/131
Montgomery, W., and Co.	46
Morgan Motor Co., Ltd.	93
Moseley, David, and Sons, Ltd.	52
Newcastle-upon-Tyne Motor Co., Ltd.	140
New Hudson, Ltd.	75
New Imperial Cycles, Ltd.	91
Newman, S. A., Ltd.	124
New Rover Cycle Co., Ltd.	89
North British Rubber Co., Ltd.	79
North and Sons, Ltd.	248
Norton Motors, Ltd.	71
Olympic Cycle and Motor Co., Ltd.	32
Palmer Tyre, Ltd.	106
Paragon Motor Mfg. Co.	56
Patchquicks Patent, Ltd.	210
Patrick Eng. Co., Ltd.	18
Pearson and Sopwith, Ltd.	38
Pedley, J., and Son, Ltd.	132
Perry and Co., Ltd.	202
Phelon and Moore, Ltd.	74
Phillips, J. A., and Co. (1916), Ltd.	189
Powell and Hanmer, Ltd.	215
Prices Co., Ltd.	198
Pugh, Chas. H., Ltd.	181
Quadrant Motor Cycles	41
Radnall, E. A., and Co.	208/61
Raleigh Cycle Co., Ltd.	99
Renold, Hans, Ltd.	221
Rex Motor Mfg. Co., Ltd.	84
Ripaults	225
Roberts and Hibbs	130
Rom Tyre and Rubber Co. (1909), Ltd.	110
Rotax Motor Accessories Co., Ltd.	159
Rotherham and Sons	212
Rubberine, Ltd.	12
Ruby Cycle Co., Ltd.	125
Rudge-Whitworth, Ltd.	113
Runbaken Magneto Co., Ltd.	158
Safety Petrol Filler Co., Ltd.	10
Sandham Eng. Co.	23
Scott Autocar Co., Ltd.	19
Scott Motor Cycle Co., Ltd.	148
Seabrook Bros.	251
Self-sealing Rubber Co., Ltd.	136
Sheppee Motor Co., Ltd.	49
Showell, E., and Sons, Ltd.	8
Sidecar Body Co. (Coleford Motors, Ltd.)	35
Smith, J. E.	111
Smith, S., and Sons (M.A.), Ltd.	240
Sparkbrook Mfg. Co., Ltd.	122
Sphinx Mfg. Co., Ltd.	178
Stanhope Motors (Leeds), Ltd.	144a
Stevens, A. J., and Co. (1914), Ltd.	119
Stourbridge Rolling Mills, Ltd.	184
Sturmey-Archer Gears, Ltd.	190
Sun Cycle and Fittings Co., Ltd.	65
Superb Four Motors	37a
Surridge's Patents, Ltd.	187
Swift of Coventry, Ltd.	73
Sykes and Sugden, Ltd.	40
Tan-Sad Works, Ltd.	194
Terry, Herbert, and Sons, Ltd.	213
Thames Rubber and Leather Co.	105
Thompson Bros. (Bilston), Ltd.	31
Timperley, Chas. B., Ltd.	175
Timson Bros.	206
Triumph Cycle Co., Ltd.	114
Tyler Apparatus Co., Ltd.	57
Vacuum Oil Co., Ltd.	193
Vandervell, C. A., and Co., Ltd.	254
Veloce, Ltd.	123
Victoria Motor and Cycle Co., Ltd.	127
Villiers Eng. Co., Ltd.	261
Wakefield, C. C., and Co., Ltd.	243
Warrick, John, and Co., Ltd.	116
Watson, Stanley J.	37
Watsonian Folding Sidecar Co., Ld.	92
Wilkin Motors, Ltd.	146
Willowbrook Co.	137
Wiseman, Alfred, Ltd.	161
Wood-Milne, Ltd.	78
Wooler Motor Cycle Co. (1919), Ld.	33
Wulfruna Eng. Co.	76
Zenith Motors, Ltd.	87

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

BENZOLE-PARAFFIN MIXTURE.

Sir,—In reply to Mr. Sharp, who asks what size jet, and what carburetter I used with my benzole-paraffin mixture, I may say that I used a standard Triumph carburetter with a No. 32 jet. The only objections I find to this mixture are (1) the smell, and (2) the fact that I have since found it carbons up the cycle much more. C. C. KING.

SIGNPOSTING IN TOWNS.

Sir,—The subject of signposting in towns raised by Mr. Cyril C. Twiss is of real importance, and if *The Motor Cycle* will move the local authorities to improvement it will prove another claim to our gratitude.

Intelligent "blazing" would in many towns divert through traffic from overladen centres: this is done successfully in Kidderminster and Loughborough.

A motor cyclist stopping to ask the way increases congestion often where traffic is heaviest. E. SIMPSON.

GOLF BALL V. MOTOR CYCLE.

Sir,—The question raised in your issue for the 11th inst. as to the winner of golf ball *v.* motor cycle match is decidedly interesting. It is not generally realised that a well hit golf ball covers, say, the first 100 yards of its flight at an amazing velocity, and I am quite confident that the motor cyclist would have to maintain a speed of 90 m.p.h. over the distance of 250 yards at least to tie with the golf ball. I can imagine some difficulty in arranging the contestants to start together.

Whitley Bay. SCRATCH.

BABY ON TOUR.

Sir,—*Re* letter and photograph of "Starting Early," published in *The Motor Cycle* of October 28th, I may mention that my son was taken in the sidecar when seven weeks old, and covered over 2,000 miles before six months. My husband being one of the first despatch riders in the war, is a great motor cyclist, therefore I am an enthusiast also, and like father like son. My husband still relies on the Triumph, as he did for years in France.

My experiences are the same as those of the previous writer, that while the machine was at a standstill baby was not at all pleased. I have had my boy christened after that great motor cyclist, Eric Williams. During our trips this year, the old 'bus, as my husband terms it, has not failed at anything, and we have not had a mechanical defect of any kind. (Mrs.) D. WILLIAMS.

SERVICE.

Sir,—May I tell you my experience? Six months ago I bought a sidecar outfit. After a few short and pleasant runs, I went to Scarborough. Arriving there I found my front spindle nuts were loose, and took the cycle to a garage to have them looked at. I called for my machine for the return journey, and had not gone more than five miles out when the spindle wore completely in two and let me down, through the garage man having put the wheel in the wrong way round. My machine was laid up five weeks at a cost of £5. I started again, but found in a week or two that my back cones and cups were done; again I took it to a garage, and was promised it in three days. That was on September 9th. I have not got it yet. After having parts sent that did not fit, I sent the wheel to the makers. I have not received it yet, and have no idea when it will come. It appears to be lost on the railway. A machine without a wheel is no use to

A POOR MAN.

Guiseley.

HAND SIGNALLING.

Sir.—"BY 6617" is all right so far as he goes, except where he says that "an overtaking vehicle going straight on has the right of the road over a vehicle ahead of him who wishes to cut across the former's path into a side road."

If "BY 6617" is an old cycle racer he will remember that no overtaking rider might cut in in front of a man he had passed until he was a clear length in front. The leader might swing right across the track if he liked—and did so on certain shapes of banking without reference to who was behind him, as he was forbidden to look round.

The road is of course not quite the same. The leading rider can and should look round before attempting to turn across the road, but (here is my main point) the overtaker has no right to come up with or pass anyone, and especially opposite a cross road or side turning, without satisfying himself that the man in front is aware of his proximity. Large and silent cars are probably the worst offenders in this respect, and it is quite easy when swinging a yard or two to avoid a pot-hole, to put one's self in danger of which one has not the least suspicion. OLD 'UN.

Leeds.

A HINT TO CLUB SECRETARIES.

Sir,—Now the year is drawing to a close, and club secretaries will be drawing up programmes for 1921, may I give them a hint which might increase membership. There are quite a lot of keen riders who, like myself, find it quite impossible to go in for Sunday runs, or to attend events held on Saturdays. There is badly needed a mid-week series of trials. Personally, around here I know a lot of keen young motor cyclists who are free on Wednesday afternoons, or who can occasionally get off for a week-day trip, who belong to no club, and who would much like to belong to one. Take the nearest local clubs to this town. All their events are on Saturdays and Sundays, and so many who would join do not do so.

Much also could be done in the way of short evening runs and competitions in the summer months. No provision seems to be made in this way, so that a hint may be useful. This last summer I organised an informal sort of club on these lines, and we had ideal sport on several occasions. Is the matter worth enlarging on? R. C. MEASURES.

Northfleet, Kent.

MORE CONSUMPTION FIGURES.

Sir,—May I take the liberty of giving you a few details respecting the running of a 1920 P. and M.?

I took delivery of this machine (solo) on Easter Saturday, and before leavng the shop had fitted a fairly heavy Millford sidecar.

I have run 3,749 miles on various mixtures of petrol and benzole, petrol alone, and benzole alone, but I find I get best results by far on benzole.

I give you the averages as follows: 3,749 miles on forty-seven gallons of spirit, equal to 79.71 m.p.g.; 3,749 miles on five gallons B.B. oil, equals 749.8 m.p.g.

I weigh 9½ st., my passenger 10 st. I consider this a very satisfactory record. Oil may be rather heavy, but I have not been sparing with this, and consider I have got the benefit by the smooth and even running of the whole outfit under all conditions experienced.

The only trouble I have had was a link break in the back chain and becoming locked in the forward end of the chain case; and, of course, this can happen to all riders.

R. F. WHITLEY.

CONCENTRIC WIRING FOR ELECTRIC LAMPS.

Sir,—With reference to "Ixion's" paragraph in a recent issue concerning concentric wiring for electric lamps, I may say that I was troubled in the same way and tried, first of all, twin flexible wire, metal braided, but this was not a success owing to the braiding becoming damaged and eventually wet perishing the cable insulation.

I have for the last two years used cab tyre sheathed cables. The particular type which has been in use on my motor cycle consists of two rubber insulated flexible wires laid side by side and covered by the cab tyre sheathing, which, in addition to being an ideal protection from burning oil, rough usage, etc., is, in itself, an excellent insulator, so that troubles likely to occur at night on the roadside, owing to defects in the wiring system and shorting, are practically non-existent.

It is extremely flexible and quite easy to work with, the outer sheathing peeling off without any difficulty or damage to the inner conductors, provided the rubber is cut with a sharp knife and ordinary care taken. The complete cable is approximately the same size as the usual H.T. wire.

I hope this information may be of some use to motor cyclists who, like myself, ride in all winds and weathers, and at any time of the night.

I may add that the wire appears to be in as good condition as the day I installed it and it has never failed me.

Llanelly. Y 9062.

AN A.B.C. TIP.

Sir,—Doubtless other riders of the A.B.C. machine have experienced the same trouble as myself after a period of usage, *i.e.*, the tendency for the gear lever to jump into neutral when placed in the top gear notch.

This tendency is doubtless brought about by wearing of the dogs, and the only permanent remedy is to have them renewed. As a temporary measure, however, the lever may be kept in its place by looping one end of an elastic band, bought at a stationer's, over it, the other end of the band being stretched over a nut or other projection at the rear of the gate. I was compelled to do something to stop the lever jumping in the manner described during a recent trip of 200 miles on business and hit on this plan. The same band, which is still intact, has done duty for over 600 miles in all, and never once has the gear lever jumped out of the notch since it was fitted. The tension can be varied by stretching the band to a greater or less extent, *i.e.*, over an object closer to or further away from the quadrant, and when this has been determined it will be found that all four gears can be engaged and the movements of the lever not interfered with in the least.

This is the sum trouble met with in 4,000 miles riding in all weathers and all classes of roads. Not bad for such a "complicated machine with so many little parts to go wrong," as the critics will have it.

As a matter of fact, I have found the A.B.C. one of the most reliable mounts I have ever owned in fifteen years riding.

It is certainly one of the fastest, and practically vibration less. OH211.

Bedford.

FRONT WHEEL BRAKES AND SKIDDING.

Sir,—Doubtless the majority of motorists will be in accord with the views expressed by Mr. Dufton in his article on "Brakes and Skidding," published in your issue of November 4th. Many drivers have had the unpleasant experience of their car swinging completely round and proceeding in the reverse direction, owing to the injudicious application of brakes on a greasy road surface.

But Mr. Dufton appears to forget that the use of the front brake on a motor cycle, ridden solo, is an entirely different thing, and its probable behaviour in various circumstances is a thing not demonstrable by the use of small models. Here the rider depends for his stability on the free movement of his front wheel, any tendency to lean to either side being corrected by a movement of the steering head in the same direction, the balance being thus preserved. If, however, the front wheel be locked by the brake, the turning of the bars, say, to the left, immediately causes the lower part of the front wheel to skid to the right, and the balance is at once considerably upset.

I have only twice had to use my front brake on greasy surfaces, each time to avoid a collision with a careless horse driver, and on two different machines. The result to myself was identical in both cases—a heavy fall.

K. C. HIBBS.

TORQUE AND COMFORT.

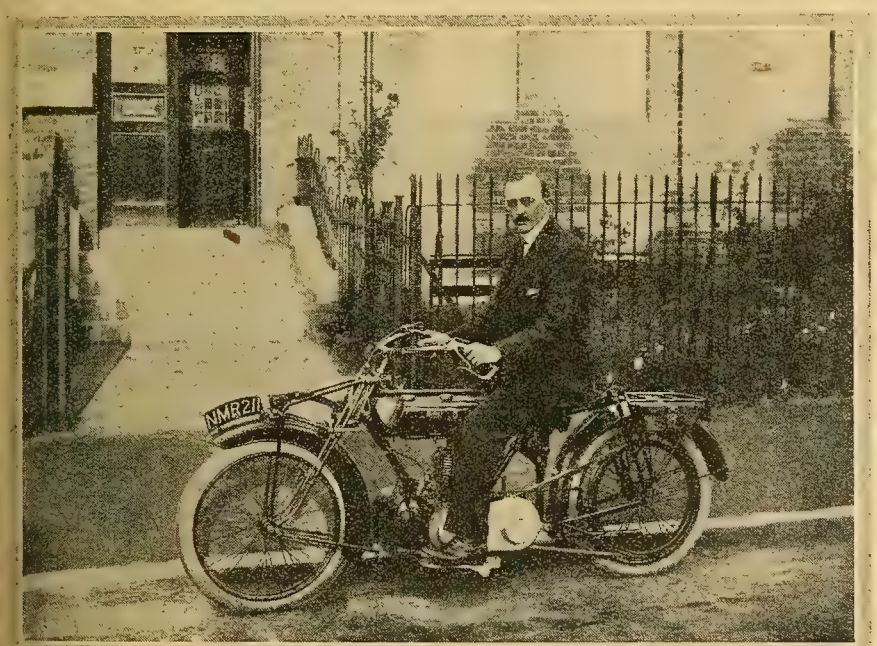
Sir,—I have read Mr. A. Newsham's letter upon "Torque and Comfort," and venture to give my opinion concerning his engine. The double-acting I.C. engine raises many interesting problems, but its added complications, such as cooled pistons, piston rod glands (if required), coupled with increased weight of reciprocating parts, are decided drawbacks for motor cycles. The "unbalance" makes a twin engine a necessity, preferably a 90° twin with cranks at 90° to get both balance and even torque.

Possibly Mr. Newsham is aware that high-speed steam engines are generally, with one notable exception, single acting? Nevertheless, I wish him every success, as a practical double-acting engine would revolutionise the motor industry.

With regard to the "Sans Magneto" problem, the action is possibly that of the Hornsby-Ackroyd oil engine, the fuel being vaporised by a hot cap in constant communication with the cylinder (in this case probably carbon supplies the necessary heat) and fired by the temperature corresponding to a compression pressure of 40 lb. per square inch (in the original engine).

R. C. STEBBING.

[The balance of a 90° twin engine with cranks at 90° is not ideal, though a reasonable compromise can be effected. Perhaps Mr. Newsham would be prepared to forward drawings to illustrate the principles on which his double-acting engine is designed, either for publication or confidentially, as a matter of interest?—ED.]



A popular rider, Hugh Gibson, outside the new offices of the Royal Ruby Works, on his mount, a 3 h.p. spring frame Royal Ruby. Mr. Gibson is best known for his prowess on Bradbury and Clyno machines. During the past ten years he obtained many notable successes, including the English and Irish End-to-end journeys, and other fine performances in England, France, and Holland.

RUNNING EXPENSES.

Sir,—From time to time I have seen expense accounts in your valuable paper, and I thought that the following particulars may be of interest to your readers.

I would like to mention one or two facts first. The cycle is a second-hand 1919 4½ h.p. B.S.A. with Cooper sidecar, Binks carburetter, and Lucas dynamo lighting. Accounts date from November, 1919, to November, 1920. I had never ridden a motor cycle or driven a car before November, 1919, consequently all repairs were at first effected by garages. For the first six months I had no home or fixed garage, but was moving about the country. A great number of tours were carried out in very hilly country (Devon and Cornwall) with passenger and luggage, and in all weathers. The following are the final figures :

Total expenditure (excluding capital and depreciation), £95 18s. 10d.
„ miles, 6,819.
„ gallons of petrol, 114.
„ gallons of oil, 7.
Miles per gallon, petrol, 59.81.
Miles per gallon, oil, 974.

The expenses were made up as follows :

	£	s.	d
Petrol	19	10	11
Oil	3	16	2
Tyres and repairs	15	2	4
Repairs and maintenance	37	0	1
(Includes strengthening C springs to take luggage, £2; new main bearing, £3; new sidecar axle, and mudguard fixed to body, £3 7s. 6d.; new belt rim, £2 2s. 6d.; chassis repair, £2 15s.; two sidecar spring breakages previous to strengthening and new belts.)			
Garage	8	6	3
Sundries	12	3	1
(Includes insurance, A.A. and A.C.U. subscriptions, tax, maps, etc.)			
	£95	18	10

Total cost per mile, 3.37d. Oil, petrol, and tyres cost 1.35d. per mile.

TYRES USED.

	Miles.	
Wood-Milne extra heavy, 3/12/19 to 9/4/20, back wheel	2,273	
Wood-Milne re-tread, 26/7/20 to 27/7/20, back wheel (beading weak)	22	
Dunlop heavy, 2/2/20 (unfinished), sidecar	6,000	(to date)
Palmer Cord extra heavy, 9/4/20 to 10/6/20, back wheel	1,219	
Palmer Cord extra heavy, 10/6/20 to 9/10/20, front wheel	2,253	
Palmer Cord extra heavy, 8/6/20 to 26/7/20, back wheel	1,435	(bad cut)
Palmer Cord (repaired), 9/10/20 (unfinished), front wheel	400	(to date)
Dunlop extra heavy, 27/7/20 (unfinished), back wheel	1,660	(to date)

I hope these expenses and particulars may be of interest to some, and I trust that next November you will allow me to submit a new and probably better set of accounts. In any case the tyre record should be of more interest by then.

Bristol. E.W.

NAKED DRIVING CHAINS.

Sir,—*Re* "Ixion's" comment on chains, I should like to bring to his notice my experience with a naked chain.

I bought my machine in April of this year. It was second-hand, and am afraid I cannot say how old the chain was when I took it over. Since then I have run it about 5,000 miles, 1,500 of which were covered by a tour in Devonshire and Cornwall, and there are some places there where a chain is subjected to no mean strain. I refer to Lynton and Porlock, and the going from Penzance to Land's End, to mention but a few. Returning home, when just out of Oxford, the nuts of the rear hub somehow worked loose. The wheel, which is held in position by chain adjusters of the push bicycle variety, pulled out, and the wheel became so jammed that I was unable to shift it. The chain had wound itself round the driving sprocket and jammed so hard that I had to get a hammer and chisel and hack the spring link away to relieve it, and, consequently, the wheel. This chain is still giving excellent service, and looks like lasting several journeys yet. The chain is a Hans Renold, and the cush drive the Enfield patent, attached to my 6 h.p. Enfield combination.

If "Ixion" knows anything about this district he will, I have no doubt, know that the riding is by no means all plain sailing, and therefore realise that the test of this chain is, if anything, above the average call on any chain.

I use Prices' (?) "shaving stick" graphite for lubrication, and once boiled the chain in fat before going on the aforementioned tour. I always keep it adjusted, and if it gets bright on a journey put some engine oil on. N.E.A.

Bradford.

Sir,—We have noted "Ixion's" comments in your issue of the 11th inst., with reference to naked chains, and, as requested, we are passing on our remarks on the subject.

Obviously, the ideal method of lubricating a chain is by means of an oil bath gear case, as fitted to the Sunbeam; but, as you are aware, many makers fit cases which are merely chain covers, and unless the chain is periodically attended to by a conscientious owner, they are more dangerous than when the chain is running exposed, and can, consequently, draw the owner's attention to its condition by its appearance.

In our experience, the best method of lubricating a protected or open chain is to take a dish such as an old roasting dish or similar shallow receptacle, and place in it a quantity of Price's "Rangraphine" or Atcheson's "Gredag," which is warmed up to melting point. The chain, which has previously been cleaned in paraffin, or some similar liquid, is then immersed in the molten lubricant and allowed to soak for five or ten minutes, the lubricant being just kept at the liquefying point. These compounds have not the peculiar smell associated with molten tallow, and we do not think that Mrs. "Ixion" will have further cause of complaint.

Home-made mixtures of tallow and graphite we cannot recommend, as our experience has been that the particles of graphite are not generally fine enough to percolate into the inner bearing areas of the chain, and, consequently, while the outside looks as though everything has received a most excellent coating of grease and graphite on the inside, the reverse is the case.

Trusting this will clear your contributor's mind on the subject, HANS RENOLD, LTD.

SUMMARY OF CORRESPONDENCE.

Three readers have recently added their testimony to the usefulness of A.A. membership.

Apollo No. 1 plugs have given great satisfaction to Mr. W. A. E. Featherstone, of Edgbaston, Birmingham, who writes us to this effect.

The following garages have recently received strong recommendations from various correspondents: Messrs. Smallpiece, Milford; Phillips, Bridgend, Glam.; Rice Bros., Horsham; Sandham Engineering Co., Gray's Inn Road, London; S. Lewis, Great Portland Street, London; Howe, Walsingham; Baxter, Fakenham; and the Holborn Depot of the James's Cycle Co.

And the following manufacturers gain entirely unsolicited testimonials for their fair and prompt business methods: The Triumph Cycle Co., Coventry; the Clyno Engineering Co., Wolverhampton; the Albion Engineering Co., Birmingham; the Wooler Engineering Co., Hayes; the Coventry Eagle Cycle and Motor Co., Coventry; Bayliss, Thomas, and Co., Tyseley; Hanwell, Sons, Components, Ltd., Northampton; W. E. Brough and Co., Nottingham; Auto-Carriers, Ltd., Westminster; E.I.C. Magnetos, Ltd., Birmingham; the London Speedometer Co., Earls Court; Sturmey-Archer Gears, Ltd., Nottingham; and several other firms, mentioned, however, by anonymous correspondents.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

	Price net.	By post.
"MOTOR CYCLES AND HOW TO MANAGE THEM." The standard handbook on the motor cycle. Covers every subject relating to all types of motor cycles, their management and care. Twenty-first Edition. Just published	2/6	2/10
"HINTS AND TIPS FOR MOTOR CYCLISTS." Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition.	2/-	2/3
"TRACING MOTOR CYCLE TROUBLES." A reliable system for tracing motor cycle faults and of remedying any trouble when found. Fourth Edition.	2/-	2/3
"THE MOTOR CYCLE" ROAD MAPS. England and Wales. Scotland. London (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.	5/6	5/10
"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District. New Edition. Just published	5/-	5/4

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street London, E.C.4, or of leading Booksellers and Railway Bookstalls

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

"Some" Exhaust Pipe.

The exhaust pipe fitted to my machine has no silencer, but is over 3½ yards long and 1½in. diameter. Is it necessary to fit a silencer, or does this length of piping suffice within the Motor Act? —W.G.

If the machine is reasonably silent, it is perhaps unnecessary to fit a silencer. The requirements of the law are not quite clear on the point. The chief thing, however, is that the machine must not create an objectionable noise, and we think that with the pipe you have fitted (if it really *is* 3½ yards, and not feet!) your machine should be in order.

Recognising an Engine.

I have bought a Villiers two-stroke, the engine of which is said to be a 1920. How can I prove that it is a 1920? and how can I assure myself that it is a Villiers?—H.W.

Your best plan to ascertain the date would be to submit the engine number to the makers. Features of the majority of Villiers engines are as follows: There is a sharp angle in the exhaust pipe where it branches out from the cylinder, the name is usually cast on the magneto chain cover, and two silencers are fitted, one behind the other. Also, if it is a 1920 model, the lubrication is by drip feed to one of the front engine bolts, which is hollow and has a special union incorporated for the oil pipe.

Effect of Extra Air Inlet.

My machine is a Rudge, with Senspray carburetter, and the makers recommend a 40-42 jet, but even with a 38 jet I can use full air at all speeds and throttle openings. It would appear that I need more air for speeds above 20 m.p.h. I have tried a slightly smaller jet, but the engine does not develop enough power and gets rather warm. Even then the carburetter takes full air at all speeds, and, in short, seems to function as an automatic one instead of "semi-automatic." Do you recommend an "extra air intake," and what size jet should I use?—H.F.T.

The Senspray carburetter works almost automatically, and provided you get reasonably good consumption with the 38 jet, we do not recommend you to alter it or fit an extra air inlet. As your machine is a Rudge, however, if you wish to try the effect of admitting extra air you can open the injection tap on the inlet dome.

A Question of Liability.

Early in this year the pistons of my 6 h.p. twin were smashed, and I took the machine to a repairer to have the whole engine overhauled in March. It was not returned until July. I was not at home when the machine was delivered, but when I first tested it I found that the timing was far from correct, and that the compression was not nearly so good as it should have been. Then I took the machine to the nearest recognised agent of the make of cycle, and asked them to dismantle the engine and put things right. This firm has given me a written statement that they found: (1.) That no washers had been placed between the joints of the crank case and cylinders and between the portions of the crank case. (2.) That the cylinders were $\frac{1}{32}$in. from being properly set on the crank case. (3.) That the big end bushes were slack. (4.) That the crank pin was worn. (5.) That several engine bolts were not the correct size. (6.) That spring washers were omitted where necessary and fitted where unnecessary. The bill for the first overhaul amounts to £8 3s. 3d. The second overhaul was £3 9s. 2d. I will be obliged if you will give me your advice regarding liability for the first repairer's account. —J. McD.

We gather that the whole of the second bill of £3 9s. 2d. is due to the negligent way in which the repairs were done at first. We therefore think that you would be justified in deducting the £3 9s. 2d. from the £8 3s. 3d., but rather than have an action over the matter it would be best to come to some settlement. It would certainly be best to pay the difference straightaway, as if the garage proprietor started proceedings for the £8 3s. 3d. he would be entitled to costs up to the time the amount is paid into court.

IMPORTANT DATES.

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Dec. 10th-19th—
Brussels Show.

Dec 27th.28th—
M.C.C. London-Exeter Run.

Jan. 28th to Feb. 5th, 1921—
Scottish Motor Exhibition, Kelvin Hall, Glasgow.

Using Waste Oil.

In order to prevent oil from dropping from the waste pipe of the crank case while my motor cycle is standing in the garage, I have fitted a shaving stick tin. This has put the idea into my head as to whether it would be possible (by fitting a larger receptacle) to catch the oil whilst running, and use it again, or would the lubricating properties be so deteriorated as to make it detrimental to the working parts of the engine?—W.G.

It would not be advisable to use again the waste oil which you catch from the release valve of the engine; at any rate, you should not use it for engine lubrication, but there should not be any harm in using it for other purposes, such as spring fork bearings or wheel bearings.

Use of a Variable Jet.

Would you please give me advice as to how to get the most satisfactory results from a variable jet adapter? I have failed, probably from inexperience, to get good running from a two-lever carburetter fitted to a 6 h.p. twin. No instructions were sent with jet, and every adjustment I tried gave thumpy running. At last I set it to just turn over the engine with quarter throttle and air full off. This practically turns it into a one lever carburetter, as it will run the engine satisfactorily with the throttle lever only, the mixture at this setting not needing any extra air unless the throttle is fully open. I do not know if this is the correct method of using the adapter, but I am continuing it until I find a better, as it saves me the trouble of a second lever; and as far as I can tell by rough experiment the engine is running cooler than when I had a fixed 28 jet that took nearly full air. Why this should be so I do not know?—BINGO.

The chief advantage of a variable jet adapter is that it enables carburetter tuning (by varying the size of the jet) to be carried out while the engine is running. Of course, there is probably only one position which will give the best all-round satisfactory results, and no doubt those which you have obtained show that you have found this position. Probably an air leak in the induction system accounts for the curious behaviour of your carburetter; if this is so, its cure should be coincident with an increase in the amount of air which may be given at low speeds.

Suitability of Gear Ratios.

I have a 1919 5-6 h.p. outfit with gear ratios varying between 3½ and 7 to 1, and in view of your statement in a recent issue that a 3½ or 4 to 1 top gear on a Triumph would be useless, I beg to ask if you consider my machine to be too highly geared? For instance, while touring in Devon recently I could not get up Porlock, and put the reason down to the fact that my lowest gear was much higher than on other machines of the same power. At the same time, I manage to negotiate all the district around North London (except one or two really steep hills) on the 3½ to 1 top gear. Should I reserve such a high gear for down grades only?—H.F.T.

A gear of 3½ or 4 to 1 is much too high for ordinary running with a sidecar outfit, although it may be used under favourable conditions. Very few machines, irrespective of power, are geared higher than 4½ to 1 on top for sidecar work.

A Sales Transaction.

I left my motor cycle at a shop to be sold. The agent let it go without first getting the money (£70). The buyer left his motor cycle, value £40, with the agent as security. I have sold this £40 motor cycle with the owner's consent. Should I claim the balance owing (£30) from the agent or the buyer? Would it matter whether the agent had ever obtained the balance from the buyer if my claim is on the agent? All my transactions in this affair have been through the agent.—L.G.

Apparently you did not insist on the agent selling the motor cycle for cash, and approved of, or acquiesced in, the agent selling it for credit, because you afterwards allowed the other motor cycle to be sold and accepted the £40 on account. We do not think you have any claim at all on the agent, unless you can show that the agent has received the £30 from the purchaser. We therefore recommend you to sue the purchaser for the balance due to you.

EXPERIENCES WANTED.

M.W. (Paignton).—1920 4¼ h.p. B.S.A., solo and sidecar; consumption, mileage of chains, and maximum gradient climbable with passenger in sidecar.

J.A.P. (Kirkwall).—Grado multi-pulley on 3½ h.p. machine with sidecar; reliability, belt slip and belt wear.

RECOMMENDED ROUTE.

LONDON TO LAND'S END (VIA SOUTHAMPTON AND COAST).—T.E.

Kingston-on-Thames, Cobham, Guildford, Godalming, Milford, Haslemere, Henley, Midhurst, Cocking, Singleton, Lavant, Chichester, Havant, Cosham, Fareham, Titchfield, Botley, Southampton, Totton, Lyndhurst, Lymington, Melton, Christchurch, Boscombe, Bournemouth, Poole, Wareham, East Stoke, Wool, Proxwell, Osmington, Weymouth, follow coast road to Bridport, Lyme Regis, Seaton, Beer, Sidmouth, Newton Poppleford, Clyst St. Mary, Exeter, Exminster, Dawlish, Teignmouth, Shaldon, Torquay, Brixham, Dartmouth, Stokenham, King's Bridge, Modbury, Plymouth, Saltash, St. Germans, East and West Looe, Pelynt, Fowey, St. Blazey, St. Austell, Tregony, Truro, Penryn, Helston, Marazion, Penzance, Land's End.

The two machines on the left are the Levis two-strokes which underwent an officially observed petrol consumption test recently. The fuel consumption worked out at 164 m.p.g. and 226 m.p.g. respectively. The trial was reported in last week's issue.

J. L. Emerson Joins Zeniths.

The well-known rider, J. L. Emerson, who has been so long connected with the A.B.C. motor cycle, and whose performances on this make have been extraordinarily good, is now employed by Zenith Motors, Ltd., Hampton Court.

Gear Conversions.

In view of the numerous applications received by Messrs. Hazlewoods, Ltd., Albion Mills, Coventry, from riders of Hazlewood motor cycles fitted with three-speed hub gears requiring them to be converted into gear box models, the company is now undertaking to carry out such modifications.

P. and M. Repairs.

The numerous riders of P. and M. motor cycles in London and the Home Counties will be interested to learn that the makers of these machines have recently taken over spacious repair works in the West End of London, where all repairs and overhauls can be carried out. The office address is 4, Berners Street, Oxford Street, W.1.

Improving the Sidecar.

In our issue of September 23rd last, we referred to a new design of sidecar chassis as the Bachelier. It appears that the proprietors of this chassis are the United Aircraft Co., Ltd., of Gosport, Hants. A further description of the United Aircraft Co.'s chassis appeared in our issue of the 21st ult., and we are desirous of correcting any misapprehension there may be as to the ownership of the chassis.

A French Water-cooled Motor Cycle.

During the Show week, two new types of Viratelle motor cycle, a 3½ h.p. single and a 6 h.p. vertical twin, will be shown at Messrs. Burt's Motors, 245, Hammersmith Road, London, W.6. The machines, which are equipped with water-cooled engines, have also ingenious three-speed gears and spring frames. We understand that the makers, La Société Française des Motoreyclettes et Automobiles Viratelle, Lyons, are prepared to license the manufacture of these machines in Great Britain and in the Colonies.

An Alteration of Title.

Messrs. James Thomson and Son (Motor Factors), Ltd., who amalgamated with Messrs. Brown Brothers, Ltd., in 1919, have now decided to change their title to Messrs. Thomson and Brown Brothers, Ltd., under which title all Messrs. Thomson's branches situated in Aberdeen, Edinburgh, Glasgow, Leeds, Newcastle, Birmingham, Dublin, and London will be known. Messrs. Brown Brothers, Ltd., original title will not be affected, but the words, "with which is amalgamated Thomson and Brown, Brothers, Ltd.," will be added.

Burlington
Motor Cycle Co, Ltd.

OUR STAND

will not be found inside Olympia, but we extend a cordial invitation to all our friends to visit us at our Temporary Showrooms opposite Olympia Main Entrance. We shall have on view, amongst other goods, samples of our reconstructed Motor Cycles,

2¾ H.P. DOUGLASES, 4 H.P. DOUGLASES,
AND
TRIUMPHS.

Several Models of our BURLINGTON SIDECARS, including our latest model, "Bird-catcher." We shall also be pleased to demonstrate our New Clutch Conversion Set for 4 h.p. Douglases.

DON'T FORGET TO GIVE US A CALL DURING SHOW WEEK!

Temporary Offices and Showrooms: **7, Hammersmith Road** (opposite Olympia). 'Phone; Western 4005.

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Large quantities of 2¾ and 4 h.p. Spare Parts at miles below makers' price.

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Inlet complete with Spring and Cotter .. 4/-
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Ex W.D., Type 111A, Brand new, each 15/-
List price 27/6. Postage 1/-.

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2¾ h.p., 12/6 per pair; 4 h.p., 15/- per pair. These footboards are all rubber covered, with brass edgings.

TO 4 H.P. DOUGLAS OWNERS—

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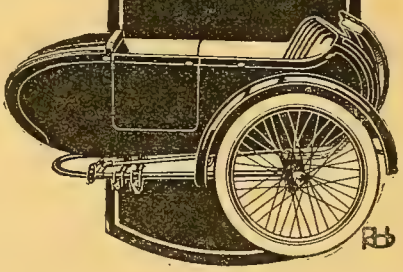

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our

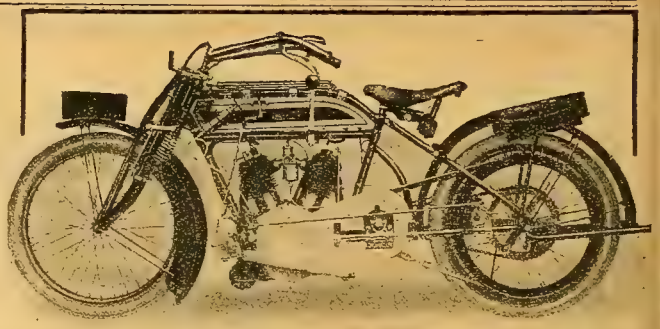
Engineering Perfection and

WONDERFUL COACHWORK

you will decide on Canoelet.

MEAD & DEAKIN,

TYSELEY, BIRMINGHAM.



"LINCOLN ELK" - 6 h.p.
"LINCOLN ELK" - 4¼ h.p.
"LINCOLN ELK" - 2¾ h.p.
2 and 3 speed gears.

FOR HOME AND EXPORT.

Catalogues from—

J. KIRBY,
BROADGATE,
LINCOLN.

OMEGA
MOTOR CYCLES

2¾ h.p. J.A.P. 2-speed
4 h.p. Blackburne 3-speed
5 h.p. J.A.P. Twin 3-speed

And the price is right

CASH OR DEFERRED PAYMENTS

London and District Agents

G. B. BARTLETT & Co.,
93, GREAT PORTLAND ST., W.

STAND 27
OLYMPIA.

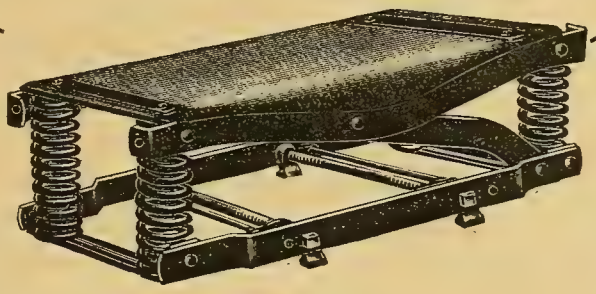
THE TAN-SAD SERVICE

AT
Tan - Sad
Stand 194

EVER TRIED & TRUSTY
TAN - SAD SEAT
FOR
PILLION RIDING
AND
INSURANCE.

AT
Tan - Sad
Stand 194

SIT ON IT.



SIT ON IT.

100 % COMFORT

100 % SAFETY

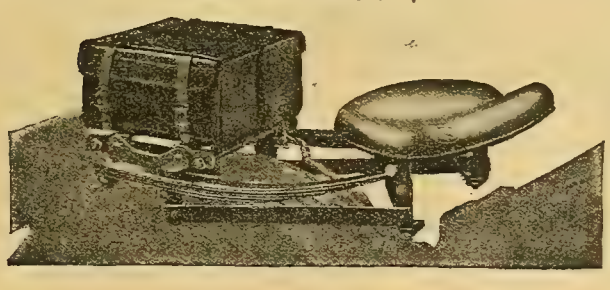
By-the-Bye—Do you know we make a TAN-SAD CHAIR? It is for Workers, and has "NO HURTS."

NO HURTS

TAN-SAD MOTOR SADDLE

SHOCKPROOF.

100 % PLEASURE



100 % ECONOMY

SIT ON IT.

SIT ON IT.

SIT ON IT

AT ALL THESE STANDS

ATKEY & CO.	195
BROWN BROS.	191
EAST LONDON RUBBER CO.	258
MFG. ACCESSORIES CO. ..	151
HOBDAYS	200
DUNHILLS	103 & 214

and you will thank
F. H. HEADLEY'S INVENTIONS.

AT
TAN-SAD
STAND 194
After the Show,
go to your Trader
AND SIT ON IT.

AT
TAN-SAD
STAND 194
AND BUY IT.
BUY IT.
BUY IT.

GET IT AT
TAYLORS

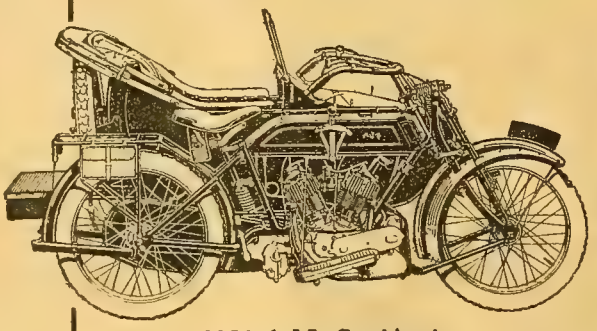
Stocktaking Bargains—Buy NOW

We need all our available space for 1921 Models and are therefore offering the following high-class, shop-soiled, and second-hand Motor Cycles and Combinations at BARGAIN PRICES **for CASH or EXTENDED PAYMENTS.**

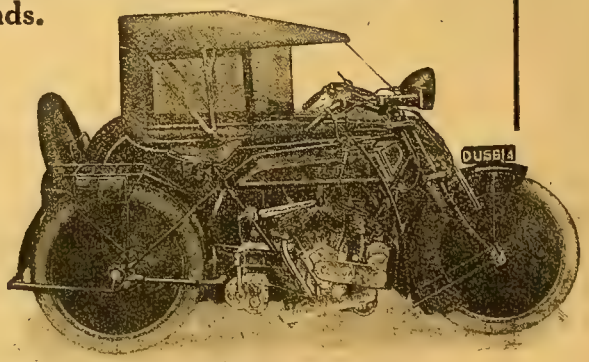
A.J.S. TRIUMPH ENFIELD DOUGLAS
ZENITH ROYAL RUBY CALTHORPE BLACKBURNE
EXCELSIOR LEA-FRANCIS NORTON SCOTT
A.B.C. NEW IMPERIAL & AMERICAN EXCELSIOR.
WATSONIAN, MILLFORD, WHITLEY, & CANOELET SIDECARS.

On view at our South Kensington Showrooms, or, if unable to call, write for Bargain List and state particular requirements, as our stock is constantly changing. Trial runs arranged. Exceptional Bargains in CHEVROLET, MORRIS-OXFORD, LAGONDA, and G.N. Cars.

When at OLYMPIA ask for the TAYLOR representative on the A.J.S. and EXCELSIOR Stands.



1921 A.J.S. Combination.



1921 Excelsior Combination.

SOLE LONDON AND DISTRICT AGENTS
For the Famous A.J.S. and EXCELSIOR Combinations and Solo Mounts.

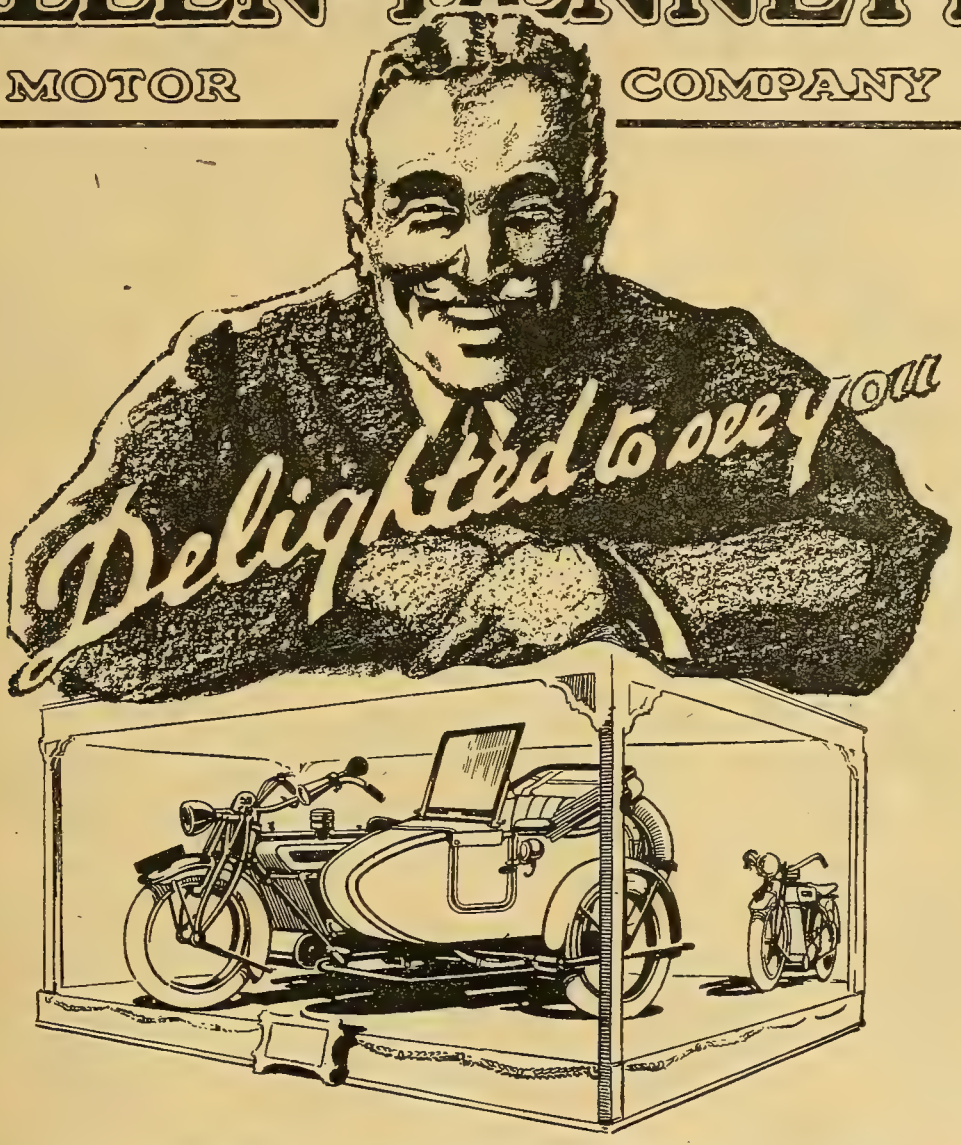
EARLY DELIVERIES GIVEN OF THE FOLLOWING MOTOR CYCLES & LIGHT CARS—
A.J.S., Matchless, Excelsior, Enfield, P. & M., Zenith, Levis, Scott, Blackburne, Lea-Francis, B.S.A., Triumph, Rudge, O.K., Harley-Davidson, etc. Also G.N., A.B.C., Kingsbury, Lagonda, and Morris-Oxford Light Cars.

H. TAYLOR & Co., Ltd. 52-53, Sussex Place, South Kensington (For Cars and Motor Cycles)
21a, Store St., Tottenham Court Rd., W.C.1 (For Accessories and Repairs)

Telegrams—"Dynametro, Westcent, London." 'Phones—Museum 1240 and Kensington 7260.

ALLEN-BENNETT

MOTOR COMPANY



OUR representatives are in daily attendance at the following stands at the Olympia Motor Cycle Show. They will be pleased to see you at any of these stands, or at any other stand by appointment.

O.K. MATCHLESS BLACKBURNE HARLEY-DAVIDSON

We are Contracting Agents for all leading makes. In many cases immediate delivery from stock can be given.

EXTENDED PAYMENTS ARRANGED.

Over 200 Second-hand machines in stock.

May we send you our latest list of Bargains?

ALLEN-BENNETT MOTOR COMPANY,

9, 10, & 11, Royal Parade, London Rd., West Croydon, SURREY.

In answering this advertisement it is desirable to mention "The Motor Cycle." C51

ACCESSORIES SPECIALITIES

H. A. H. GENUINE HELLESEN DRY BATTERIES.

(See catalogue 43.)

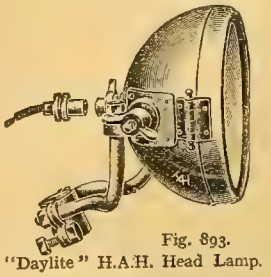


Fig. 893.
"Daylite" H.A.H. Head Lamp.
Price:
Nickel-plated 72/6 each.
Black " 76/6 "

PATENTS FOR 1921

H. A. H. COMPLETE ELECTRIC LIGHTING SETS.

(See catalogue 44.)

IMPORTANT NOTICE TO THE TRADE.

We sincerely hope that all our friends in the Motor Cycling Trade will make our personal acquaintance once again next week, and also that our new Accessories, Specialities, and Patents, under this Trade Mark, will interest them as much as those for which they have already found a ready market.

H. A. H. ELECTRIC HAND & INSPECTION LAMPS.

(See leaflet 108.)

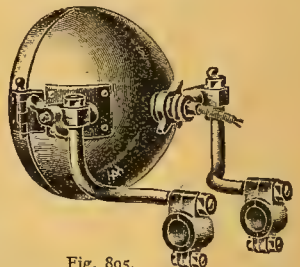
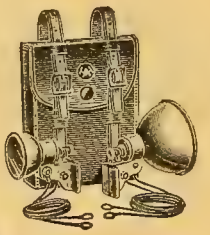


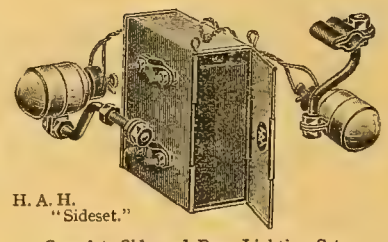
Fig. 895.
"Daylite" H.A.H. Head Lamp.
Price:
Nickel-plated 72/6 each
Black " 76/6 "

CALLS FOR YOUR 1921 PROGRAMME AT STAND GALLERY 255 OLYMPIA A VISIT

Fig. 428.
1 way totally insulated Switch, screw action.
Price 3/6 each.



"Pedalset" for Pedal Cycles or Scooters.
Price 31/- per set.
Black and Nickel finish.



H. A. H. "Sideset."
Complete Side and Rear Lighting Set.
Price 43/- set.

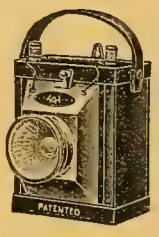
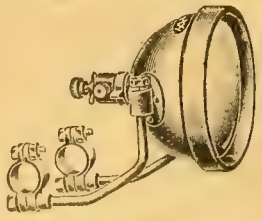


Fig. 1040.
Dry Battery Electric Handlamp for all kinds of domestic inspection work. Complete with battery.
Price 25/- each.

Fig. 150.
H. A. H. Voltmeter.
Price 12/6 each.



Codeword "Roadlite"

	Nickel.	Black.
Fig. 881.	43/-	47/-
Fig. 878.	54/-	55/-

Fig. 881 and 878.
Headlamps.

H. A. H.
Fig. 850.
Thief Proof Device. Complete with Padlock.
Price 3/6 each

Fig. 347
H. A. H. Patent Speedometer Lamp.

Codeword "Speedolite."
Price 7/6 each.

A. H. HUNT, LTD.,

Works, Offices, Showrooms, and Warehouse,

H.A.H. WORKS, TUNSTALL ROAD,

CROYDON, SURREY, ENG.

NEAREST STATION (Goods and Passenger) EAST CROYDON MAIN.

In answering this advertisement it is desirable to mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box ooo, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. ooo, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, ½ %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

1920 3h.p. A.B.C. Motor Cycle, new; £150.—King and Harper, 6 and 7, Bridge St., Cambridge. [8932

1920 3h.p. A.B.C. Combination, new; £193.—King and Harper, 6 and 7, Bridge St., Cambridge. [8931

A.B.C. 1920, 4-speed, scarcely used; £105; first telegram secures; genuine bargain.—Leng, 164, Broadfield Rd., Catford. [9775

BARGAIN, new 1920 A.B.C., Lorn, insurance, owner ridden, 250; £105; after 6 evenings.—Hunt, 29, Parkholme Rd., Dalston, London. [1003

CLEARANCE WEEK.

Machines quoted below.
No reasonable offer refused.
All under cost price.

COMBINATIONS.

1920 **MATCHLESS** Combination, M.A.G. engine, Lucas dynamo lighting, speedometer, etc., new ..... **List price**

1920 **RUDGE** Combination, 6 h.p., with Rudge-Whitworth best sidecar. Immediate delivery.

1920 4 h.p. **DOUGLAS** Combination, brand new ..... **List price**

1920 3½ h.p. **SUNBEAM** Combination, brand new ..... **List price**

1920 Model H **MATCHLESS** Combination, M.A.G. engine, Lucas acetylene lamps, Lucas horn, speedometer, legshields. Immediate delivery ..... **List price**

1920 **A.J.S.** Combination, complete. Immediate delivery ..... **List price**

1920 8 h.p. **ENFIELD** Combination, Lucas Magdyno, brand new ..... **List price**

1920 8 h.p. **ENFIELD** Combination, standard model ..... **List price**

1920 8 h.p. **ZENITH,** countershaft model, Swan sporting Sidecar, complete with lamps. Special bargain; under list price **£195**

1920 4½ h.p. **B.S.A.** Combination, all-chain drive model, brand new ..... **List price**

1920 6 h.p. **B.S.A.** Combination, immediate delivery ..... **List price**

1920 latest chain drive 4 h.p. **TRIUMPH** Combination; immediate delivery. **List price**

1920 Sports Model **ZENITH,** electrically equipped, speedometer. Cost £165, accept **£125**

1920 **A.J.S** 6 h.p. combination, Lucas dynamo lighting set. Brand new..... **£240**

1920 7-9 h.p. 4-cylinder **F.N.** Combination, complete with all accessories, Lucas lamps, speedometer, hood, windscreen **£190**

1914 8 h.p. **MATCHLESS** Combination, M.A.G. engine, just been thoroughly overhauled and re-enamelled at Matchless works **£125**

1920 **HENDERSON** Combination, dynamo lighting set, electric horn, and Henderson Elite sidecar.....**Offers**

1920 **EXCELSIOR** Combination, dynamo lighting set, electric horn, and Henderson Elite sidecar **£165**

SOLO MACHINES.

1920 4 h.p. **TRIUMPH,** countershaft model, brand new ..... **List price**

1920 **RUDGE-MULTI,** I.O.M., immediate delivery ..... **List price**

1920 3½ h.p. **LEA-FRANCIS,** J.A.P. engine, immediate delivery ..... **List price**

1920 8 h.p. **ZENITH,** countershaft, kick-starter model, immediate delivery. **Makers' list price**

1920 **A.B.C.,** 4 speeds, brand new, immediate delivery ..... **List price**

1918 7-9 h.p. **HARLEY,** just been overhauled and re-enamelled at Harley-Davidson's, special bargain. Only wants seeing **£110**

SIDECARS.

Immediate delivery, **Henderson Elite Sidecars,** suitable for Harleys, Hendersons, etc.; also famous **Dinky Sidecars,** all models in Stock.

1920 **G.N. Light Car,** with or without dynamo. Immediate delivery ..... **List price**
WANTED.—**First-class Combinations.**

J. SMITH & CO.,
52 & 54, Hampstead Rd., London. N.W.1.
(Bottom end of Tottenham Court Rd.)
Phone: Museum 5938.

MOTOR CYCLES FOR SALE.

A.B.C.

1920 A.B.C., winner of several gold medals and silver cup in hill-climbs and competitions, absolutely as new in every respect, mileage under 700; 112 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [9701

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only run about 300 miles, condition as new; cash, £150; may be obtained on deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [1312

A.B.C. Combination, 3½h.p., very fast, do 50 with sidecar easily, racy sidecar properly fitted, splendid condition, spring frame, electric lights, few spares, most attractive machine, prize winner in competitions; sale, £160, or near offer; or may consider exchange.—O. E. Carter, 17, Webster St., Greenheys, Manchester. [X6683

Abingdon.

ABINGDON King Dick 3¾h.p, Coachbuilt Combination, perfect order.—Harris, 205, St. James Rd., Bermondsey. [9475

ABINGDON King Dick, 1920, complete unit, Binks with controls, mag., bracket, silencer, pipes, perfect; £25.—Brierley, Stewartlee, Queen Victoria St., Airdrie. [9558

1920 Abingdon King Dick, 5-7h.p., 3 speeds, clutch, and kick starter, with Canoelet sidecar, discs, lamps, horn, etc., mileage 800; £145; exchanges or easy terms.—2, Nightingale Rd., Lower Clapton, N.E. [1281

A.C.E.

ACE 10-16h.p., 4-cyl., specially built sidecar with 27×3½in. tyre, Easting wind screen, just delivered. This outfit attracted a crowd of 50 people when left unattended in the City. Selling reason, overdue car arrived; cost £291.—Offers to Elwin Neame, 4, Onslow Place, South Kensington. 'Phone: Kensington 7426. [1063

Acme.

ACME-J.A.P. 8h.p. Combination in stock; cash, exchange, or extended payments.—Motories, 25, Horton St., Halifax. [9866

A.J.S.

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

1920 5-6h.p. A.J.S. Combination, new; £210.—King and Harper, 6 and 7, Bridge St., Cambridge. [8933

1916 A.J.S. 2¾h.p., 3-speeds, renovated and overhauled; complete, £78.—Cross, Agent, Rotherham. [X1919

A.J.S. 1916 Combination, completely equipped, detachable wheels, spare, grand condition; £125.—Collier, 33, Grove St., Leamington. [9557

A.J.S. 2¾h.p., 2-speed, clutch, K.S.; £50, or would exchange for 5-6h.p. Indian, cash adjustment.—Griffiths, 8, Morden Rd., Newport, Mon. [9662

A.J.S. 1920 6h.p. Combination, horn, lamps, spare wheel, wind screen, splendid condition; £190.—Egdell, Newsagent, 16, Side, Newcastle-on-Tyne. [1058

A.J.S. 1920 Combination, new March, little used, practically unscratched; £170, lowest, less lamps and horn.—Lucking, 15, Chatsworth Gardens, Acton, W.3. [9524

A.J.S. Specialists: Walsall Garage, Wolverhampton St., Walsall, Tel. 444, can give delivery from stock of these world-famous outfits; price £210; write for catalogue. [8998

1920 A.J.S. Combination, Lucas lamps, speedometer, etc., perfect condition; £190; Crystal Palace district; by appointment.—Box 9,422, c/o *The Motor Cycle.* [9469

1920 A.J.S. Combination, Lucas lamps, all accessories, tyres unpunctured, mileage 1,000, purchased July; £185.—O. White house, Poplars, Bridgtown, Cannock. [X1842

F.O.C.H. have a new A.J.S. Combination, 1920.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9771

A.J.S. 6h.p., new Sept., 1920, Cowey horn, Watford speedometer, D.A. lighting set and small car generator, Binks carburetter; £200, or offer.—Shirley, 5, Robertson Terrace, Hastings. [1298

A.J.S. 1920 6h.p. Combination, dynamo lighting, speedometer, hood, screen, hood cover, side curtains, Klaxon horn, Tan-Sad pillion seat, as new; £250.—Parker's, Bradshawgate, Bolton. [X1865

A.J.S. Combination, 1920 model, fitted complete with lamps, horn, tools, etc., spare wheel, hood, and wind screen; £180, or exchange for solo machines to value.—Taplin, Alford, Lincs. [X1832

MOTOR CYCLES FOR SALE.

A.J.S.

A SNIP.—1918 A.J.S. 6h.p., M.M., B.S.A. sidecar, spare wheel, hood, screen, electric lighting, Lucas horn, mileage 5,000, splendid condition; £150.—Richardson, Bramber Rd., North Finchley. [9935

A.J.S. 1916 6h.p. Combination, hood, screen, speedometer, spare wheel, electric light, etc., appearance as new; bargain for someone, £130; mechanically perfect.—E.H., Post Office, Desborough. [1075

A.J.S. Combination, 6h.p., late 1916, stored 2½ years, overhauled makers, new tyres (oversize), spare wheel, Tan-Sad; £130.—72, Longridge Rd., Earl's Court. 'Phone: Western 1344. [1222

A.J.S. 1915 6h.p. Combination, lamps, accumulator lighting, horn, new spare wheel, speedometer, Easting wind screen excellent condition; £145.—F. Isemonger, 3, Devonshire Terrace, Sandgate. [9638

A.J.S. Combination, Oct., 1919, hood, hood cover, Miller head light, horn, speedometer, Empire de luxe saddle, Tan-Sad, excellent order, 2,500 miles; £200.—Parish, Shortheath, Farnham, Surrey. [1191

1916 2¾h.p. A.J.S., 2-speed, kick start, clutch, new tyres and tubes, lamps, mileage approximately 3,000; inspection and trial invited; £62.—Barber, Hurstbourne Tarrant, Andover, Hants. [9483

1920 A.J.S. Combination, hood, screen, 3 lamps, hood, screen, 3 lamps, speedometer, Tan-Sad, legshields, handle-bar muffs, spare wheel, in very good condition; £200.—Cambridge, 44, Caerau Rd., Newport, Mon. [9526

F.O.C.H. have an A.J.S. combination, detachable wheels, spare, lamps, horn, grid, screen; £115.—5, Heath St., Hampstead (near Hampstead Tube Station) 'Phone: Hampstead 3752 Hours 9-7, including Saturdays. [9767

1920 A.J.S. Combination (May), Lucas dynamo lighting and horn, spare wheel, hood, screen, Klaxon electric horn, Cowey trip speedometer, fully insured to Sept., 1921; £220.—14, Westbourne St., S.W.1. 'Phone: Victoria 5391. [9564

A.J.S. 6h.p. Combination, 1918 model, complete spare wheel, F.R.S. lamps, Klaxon, Tan-Sad, hood, screen, turnout like new; bargain, £145; any trial given.—Young, Ironmonger, 231, Coventry Rd., Redhill, Yardley, Birmingham. [X1831

A.J.S. 2⅞h.p., 1916 (?), 3-speed gear box, kick start, hand clutch, all enclosed chain drive, Dunlops, Lucas head and rear lamps, appearance and running order as new; seen any time.—Wood, 1, Heath House, New End Sq., Hampstead, nr. Tube Station. [1122

A.J.S. Late 1919 6h.p. Combination, excellent condition, just overhauled, spare wheel, hood, screen, horn, lamps, ordinary generators, special Low generator, light car size, Sterling mud shields, large Brooks luggage bag, overalls and numerous spares; £190, or nearest offer.—Bower, 57, Belmont Rd., Portwood, Southampton. [9656

Alldays.

ALLDAYS Allon, new 1919, 2¾h.p., 2-speed, fast, powerful, take 2 anywhere; £45, or near offer.—Heslop, Morton-on-Swale, Northallerton. [9797

ALLDAYS, late 1914 4h.p., 3-speed countershaft, coachbuilt sidecar, hood, screen, lamps; 70 gns., or offer.—King Edward Garage, Church End, Finchley, N.3. [9945

ALLDAYS 2-stroke Lightweight, late model, with lamps, horn, tools, spares, overhauls, perfect, any trial; £32.—Harry Jowett, 41, Falmouth Av., Bradford. [X1947

1920 Alldays Allon, 2-speed, clutch, and kick-starter, carefully run in, better than new; near offer £83.—13, Carnarvon Rd., Whipps Cross, Essex. After 6. [9970

ALLDAYS-MATCHLESS (Villiers), Senspray, U.H., new cylinder, crank pin, rollers, Palmer rear, Dunlop front, nearly new; £30.—Box 911, *c/o The Motor Cycle.* [X2022

ALLDAYS Allon 2¾h.p., 2-speed, hand clutch, April, 1920, condition as new, just overhauled; 75 gns.; all on; after 6 p.m.—17, Lavender Gardens, Clapham Junction. [9484

1914 Alldays Matchless 4h.p. Combination, 2-speed, handle start, B.B., Bosch, coachbuilt, screen, apron, recently overhauled, splendid order, appearance; 55 gns.—4, Clarence Gardens, Hackney. [9507

ALLDAYS Allon (late), 2-speed, lamps, mechanical horn, knee grips, T.T. bars, speedometer, perfect tyres, oversize Dunlop on back, splendid condition; bargain, £52.—Noyes, Grocers, Bracknell. [9977

American X.

AMERICAN X 7-9h.p. Combination, 2-speed; any trial, £80.—Johnson, 172, Avenue Rd., Acton. [9985

Ariel.

ARIEL 1920 6h.p. Combination, slightly shop-soiled; £150.—Below.

ARIEL 1920 3½h.p. Combination, slightly shop-soiled; £132/10.—Below.

ARIEL 1920 3½h.p., slightly shop-soiled; £100.—The James Garages, Ltd., Shrewsbury. [X1882

ORDER YOUR 1921 MOUNT FROM US

DURING THE SHOW WEEK OUR REPRESENTATIVE WILL BE IN ATTENDANCE DAILY

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MOTOR CYCLES FOR SALE.

Ariel.

3½h.p. Ariel Combination, just delivered; accept £140 to clear.—Humphreys, Green Grize, Bullingham, Hereford. [9895

1919 3½h.p. Ariel Combination, electric lighting, horn, wind screen, as new; £125.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [1253

ARIELS, order now for 1921 all-chain and chain-cum-belt models: spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

1920 Ariel 3½h.p. Combination, shop-soiled only; 128 gns.; this represents over £20 off list price.—Julian, 84, Broad St., Reading. 'Phone: 1024. [9702

1919¾ 3½h.p. 3-speed Ariel, all on, over 55 m.p.h., excellent condition.—Stamped addressed envelope for full particulars to Cox, The Poplars, Henley-in-Arden. [X1847

ARIEL 3½h.p., 3-speed, clutch, kick start, new B.B., saddle, piston, mudguards, back tyre, engine overhauled, decarbonised, lamps and tools; £60.—Bray, Hookwood, Horley. [1173

ARIEL and Sidecar, 3½h.p., 3-speed and kick starter, lamps and generator, speedometer, horn, etc., in new condition; £50.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [1151

1916-17 Ariel Combination, 3½h.p., 3-speed countershaft, K.S., speedometer, hood, screen, lamps, horn, spare tyre accessories perfect condition; £97.—16 Hollies Rd., Northfields, Ealing, W.5. [1054

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert, 7 Rochdale Rd., Harpurhey, Manchester. [8231

1920 3½h.p. Ariel Combination, hand and foot clutch, large P. and H. head lamp, spares, complete tool kit; owner going abroad; highest offer.—Apply, Supply, Cox's, 22, Charing Cross, S.W. [9007

Auto-Wheels

AUTO-WHEEL, B.S.A., model de luxe, 1920, absolutely like new; £20.—Dr. Tibbits, North Muskham, Newark. [9595

AUTO-WHEEL B.S.A. and Gent.'s New Hudson cycle; £20, or A.W. £12.—36a, Chilton Rd., Richmond, S.W. [1019

AUTO-WHEEL, 1920, Model VI., as new; £17/10.—Lamb's, 50, High Rd., Wood Green, 151 High St., Walthamstow, and 387, Euston Rd., London, N.W.1. [8111

Bat.

1920 Bat, Model 4, shopsoiled; £150.—Wright's Garage, Saffron Walden. Tel.: 16. [1177

BAT 1920 6h.p., new, slightly soiled; £140.—Clark, 7, Exhibition Rd., S.W.7. 'Phone: Kensington 4096. [9623

1920 8h.p. Bat Combination, spare wheel, usual equipment; list price.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [1255

BAT Combination, Swan sidecar, speedometer, etc., only done 3,000 miles; cost £220 this season; what offers?—Grimes, 18, Bruton Place, Bond St., W.1. [1232

OXFORD.—6h.p. Bat-Jap combination, war-time model, guaranteed perfect; best offer (£120 expected); inspection invited route-suite.—Undergraduate, Somerville, Hill Top Rd., East. [9746

LATEST Bat 8h.p. Combination, bulbous spring wheel sidecar, screen, one of the smartest outfits on the road, run 400 only; £205.—White, back of Picture Palace, Thames St., Staines. [9533

1920 Bat 8h.p., 3 speeds, with Bat spring wheel sidecar, Volex lighting set, Binks, horn, luggage carrier, perfect; £150; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [1279

BAT-J.A.P. 8h.p. 1920 Combination, not run 100 miles, makers' full guarantee; list price £204; offers invited; financial loss cause of sale; letters appointment.—B.J., 46, Chaucer Rd., S.E.24. [X686

NEW 1920 Bat Combinations, fitted with the 6h.p. J.A.P. engine, 3 speeds, all-chain drive, clutch and kick starter, £175; shiping order cancelled, usual price £204.—Wauchope's, 9, Shoe Lane, London. 'Phone: Holborn 5777. Cash or easy terms. [989

Beardmore.

BEARDMORE, 1920, latest pattern, slightly shop soiled only, cost £96; for £79/15.—138, Gray's Inn Rd., London. [836

Blackburne.

BLACKBURNE, latest 1920 4h.p. model, new, but shop-soiled; makers' price £135, reduced to £120.—Maudes', 100, Gt. Portland St., W.1. [978

1920 (April) Blackburne 4h.p. Combination, Sturmey-Archer, mileage 200, well equipped £145.—Orossen, 20, Bloomsbury Sq., London. [135

1920 4h.p. Blackburne Combination, all lamps, speedometer, 2 horns, Easting wind screen £150.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [135

MOTOR CYCLES FOR SALE.

Douglas

1918 4h.p. Douglas Combination, perfect order; £75.—Hillier, Bath Rd., Burnham, Bucks. [X6870

BRIGHTON, Hove and District Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS 1919 4h.p. C.B. Combination; £86.—Walker, 769, Romford Rd., Manor Park, London, E. [9653

JUST arrived, 2¾h.p. Douglas; with clutch, £105, without clutch, £100.—W. I. Binks and Co., Lincoln. [9714

4h.p. Douglas Combination, just delivered; accept £155; for quick sale.—Douglas, Bryanston, Leominster. [9894

4h.p. Douglas Combination, lamps, 1919; trial, as new; £105, or offer.—10, Stockwell Park Rd., Clapham. [9470

4h.p. Douglas Combination, new, only run 500 miles, complete; sacrifice £135.—23a, Crescent Grove, Clapham. [9937

DOUGLAS 2¾h.p., clutch, 3-speed, in stock; £105.—Clark, 7, Exhibition Rd., S.W.7. 'Phone: Kensington 4096. [9626

1920 4h.p. Douglas Combination, new, unregistered; £140.—Dunn, 326, Euston Rd., London. Tel.: Museum 5391. [9877

1915 Douglas 2¾h.p., good condition, horn, pillion, etc.; £55; Saturday or Sunday.—5, Eileen Rd., South Norwood. [1291

DOUGLAS 1916 2¾h.p., new tyres, accessories, fast; £52.—80, Lawne Park Rd., Sydenham. 'Phone: Sydenham 1476. [1361

4h.p. Douglas Combination, 1916, excellent condition throughout; £75, or offer.—Ashby House, York Av., Hunstanton. [X1964

DOUGLAS New 1921 Solo and Combination in stock; cash, exchange, or easy payments.—Motories, 25, Horton St., Halifax. [9867

1919 4h.p. Douglas Combination, lamps, horn, etc., as new; £125.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [1254

1918 2¾h.p. Douglas, 2 speeds, in perfect condition, original tyres, any trial and inspection; £58.—Holdway, Cople, Bedford. [1128

1920 Douglas 2¾h.p., ridden less than 1,000 miles; owner leaving England; what offers?—Mayell, 8, Florence Rd., Sanderstead. [9928

1921 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Douglas Agent, Yeovil. Tel.: 50. [5043

2¾h.p. Douglas, excellent order, new Dunlops and belt; bargain, £50. After 6 p.m.—H. Knight, 9, Etta St., Deptford, S.E. [9933

DOUGLAS, 2¾h.p., W.D. model, new last May, not renovated, mileage 500, all accessories; £70.—E. B. Darby, Sutton, Cambs. [1026

SPEED Douglases.—Each machine prepared to individual requirements.—Robert Bamford (see under Consulting Engineers). [6693

4h.p. Douglas Combination, 1920, four months old, in excellent condition, with lamps and horn; price £127.—J. Fryer, Ltd., Hereford. [9891

1920 2¾h.p. Douglas, clutch model, with new lamps and horn, not ridden; must sell; what offers?—Box 9,510, c/o *The Motor Cycle*. [1248

1915 2¾h.p. Colonial Model Douglas, good condition; £50, or near offer; bargain.—Ridge Cottage, Coleridge Rd., N. Finchley. [9968

ALL Douglas Motor Cycle Models, also light car, in stock ready to drive away.—Gibb, Douglas Expert, Gloucester. 'Phone: 852. [6340

DOUGLAS 1916 2¾h.p., makers' colours, enamel, and plating, as new, splendid value; £55.—30, Crystal Palace Park Rd., Sydenham. [1034

1918 2¾h.p. 2-speed Douglas, new March, 1920, beautiful and perfect machine, equipped; £52.—9, Wallingford Av., North Kensington. [1184

DOUGLAS 1915 2¾h.p., excellent condition, speedometer, lamps, Klaxon; £45.—Clark, 7, Exhibition Rd., S.W.7. 'Phone: Kensington 4096. [9629

DOUGLAS 2¾h.p., 1920, clutch, K.S. model, brand new, just delivered; must sell; offers.—104a, Finchley Rd., N.W.3. Hampstead 7822. [9513

1919 Luxurious 4h.p. Douglas Combination, mileage 1,000, equipped regardless, perfect; £110.—9, Wallingford Av., North Kensington. [1183

DOUGLAS 2¾h.p., uncrated end 1919, makers' colours, accessories, splendid condition, little used; £55; appointment.—32, Gerard Rd., Barnes. [9748

DOUGLAS. Douglas.—2¾h.p. snips, 1916, several W.D., complete, want overhauling; from £35.—Harry Nash, 365, King St., Hammersmith. [9758

1920 2¾h.p. Douglas, with lamps, horn, tools, knee-grips, as new; £95, or best offer.—Bowes, Montese House, Eastwood Rd., Rayleigh, Essex. [9838

1919-1920 Douglas Combination, horn, electric lamps, spare tyre, tube, accessories; any trial; £145.—, Esmond Rd., Cheetham Hill, Manchester. [9751

Clouds of dust, or pouring rain—the "Howard" keeps your mount as bright as new.

Thoroughly waterproof it can be fitted in a few minutes—that's how it saves in space and housing costs.

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Your bike needs one before the winter; write us, we can give immediate delivery, As supplied to H.R.H. Prince Henry.

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Thief-proof Attachment ..		7	6
Two Leather Straps for fastening to the Carrier		2	9

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71 HIGH HOLBORN
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MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 1913-14 2¾h.p., 2-speed, fully equipped; can be seen at Thomas and Boyers' Garage, Solomons Passage, Peckham Rye, S.E.; price £40. [9987

DOUGLAS 1916 2¾h.p., 2-speed, W.D. model, splendid condition; will ride reasonable distance to meet purchaser; £50.—Bourner, Castle Rd., Sandwich. [1239

1920 Douglas 2¾h.p., T.T. bars, all lamps, horn, knee grips, soiled only; £85; extended terms or exchanges.—2, Nightingale Rd., Lower Clapton, N.E. [1282

DOUGLAS 2¾h.p., 1920, Cowey speedometer (trip), lamps, Klaxon, all accessories, as new; £95; owner buying combination.—Bleeze, Wellington, Swanley, Kent. [1362

DOUGLAS Late 1919 Combination, as new, electric or acetylene lamps, screen, pillion, luggage grid; must sell; 115 gns., offers.—18, Union Rd., Clapham, S.W.4. [9978

DOUGLAS 2¾h.p., 1916 W.D., new 1919, good condition, mileage 1,000, recent overhaul; £60, or near offer.—H.W.L.M., 26, Upper Gloucester Place, N.W.1. [9646

DOUGLAS T.T. 2¾h.p., 2-speed, 1916, small mileage, re-enamelled, overhauled, like new; price £65, nearest; stamps; (D).—Poole Hall, Wishaw, Birmingham. [9580

1916 2¾ Douglas, not W.D., private owner, enamel like new, tyres unpunctured, tools, spares, fully equipped, any severe trial, perfect; £50.—14, Estcourt St., Devizes. [9733

1920 Douglas 2¾h.p., 3-speed, kick starter, clutch, lamps, speedometer, insurance, delivered Sept., perfect condition; £100; Shrewsbury.—Box 9,495, c/o *The Motor Cycle*. [9940

DOUGLAS 2¾h.p., 2-speed, F.E. 1914, lamps and horn, tools, excellent condition; genuine offer; purchasing light car; £50.—Reeves, 125, Slinn St., Crookes, Sheffield. [9604

DOUGLAS 2¾h.p., 1919, purchased new from makers, new oversize tyres, extra large lamp set, chain cover, first-class condition; £75.—Moore, 61, Highbury New Park, N. [9473

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS 2¾h.p., 1915, 2-speed, with horn, tyres nearly new, new belt, just overhauled at £21 cost; any trial; £75; purchased combination.—Shorrock, 6, Victoria St., Morecambe. [9750

DOUGLAS 1920 4h.p. Combination, brand new, slightly shop-soiled; special price to clear, £145.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

1920 2¾h.p. Douglas, 3-speed, kick-start, hand clutch, new August, for 1920 model P. and M. solo or combination, cash adjustment, or sell £95; ride 50 miles.—58, Newall St., Abertillery. [1096

NEW Douglas 1921 2¾h.p., 3-speed gear; £100; latest improved frame, forks, tank, and Renolds ⅝×¼ chain; in stock; delivery passenger any part of country.—Herbert Robinson, Ltd. (below).

NEW Douglas 1921, three-speed gear, hand-controlled clutch and kick starter; £105; latest improved frame, forks, tank, and Renolds ⅝×¼ chain; in stock, delivered passenger any part of the country.—Herbert Robinson, Ltd. (below).

NEW Douglas 1921 4h.p., 3-speed, £130, with improved frame, clutch and kick starter, forks, etc. (solo); or with fine finish coachbuilt Douglas sidecar, including wind screen, painted saxe blue; £174; in stock; delivered passenger any part of the country.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9873

BARGAIN.—1920 Douglas, 3-speed, kick starter, only done 300 miles, speedometer, all lamps, Klaxon, indistinguishable from brand new; cost £115, sacrifice for £95.—Reynolds, Waterbeach, Cambs. [1261

JUNE, 1920, 4h.p. Douglas Combination, complete with 3 lamps, Cowey horn, Bonniksen speedometer, Cameo screen, and luggage grid; £130, or nearest offer.—J. R. Cox, 60, De Freville Av., Cambridge. [1397

F.O.C.H. have a late 1919 Douglas combination, many accessories, as new; cheap.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [9766

1915 2¾h.p. 2-speed Douglas, engine and gear box thoroughly overhauled, good appearance and perfect running order; £52/10.—Herbert Robinson, Ltd., Green St., Cambridge. T.A.: Bicycles. Tel.: 995. [9875

60 M.P.H. Special 2¾h.p. Douglas, actual winner of numerous awards at Brooklands this year, mileage under 3,000 since new, a very sporty mount; £65.—Watson, 6, Cavendish Parade, Clapham, S.W.4. [1048

1913 2¾h.p. Douglas, 2-speed, K.S., and clutch, guaranteed stored August, 1914 till August, 1919, plating good, fast, splendid condition; £55, offers Saturday afternoons.—20, Woodville Gardens, Ealing. [9986

MOTOR CYCLES FOR SALE.

Douglas.

1916 2¾h.p. Douglas, lamps, horn, tools, spare Dunlop Magnum, just overhauled, new piston rings and valves; what offers?—Write R. G. Pearce, 79, Finsbury Pavement, E.C.2, or call between 12 a.m. and 3 p.m. [9829

1919-20 Douglas 4h.p. Combination, delivered December, fully equipped, including Easting screen and many spares, almost new condition; any trial or examination; £110, or near offer.—Coak High St., Baldock. [9577

WAUCHOPE'S, 9, Shoe Lane, London.—2¾h.p. 1920 Douglas, 3-speed models, new, £100; 2¾h.p., 3-speed, clutch, and kick start models, £105; combinations, 4h.p., £170; trade supplied.—'Phone: Holborn 5777. Easy terms or exchange. [9896

4h.p. Douglas Combination, 1919, just thoroughly overhauled (£20), has been carefully used, goes like a bird; any offer above £125; may be seen on application at Gordon Watney, 31, Brook St., S.W.1.—Box 9,484, c/o *The Motor Cycle*. [9826

DOUGLAS, 1916, excellent condition, fast, enamelled grey, high and low gear pulleys, Dunlops, 6-volt electric light, engine No. 34884, 2in. flexible exhaust; £55.—H. S. Whitley, Percy Garages, Percy Rd., Shepherds Bush. Tel.: Hammersmith 621. [9871

1920 Douglas Combination, 4h.p., 3-speed, clutch, kick start, Cowey speedometer, Klaxon, complete lighting system, mirror, pillion, hood, Easting wind screen tools, 800 miles, full insurance from October; trial; £180.—Hillman, Courtenay Beach, Hove, Sussex. [9660

DOUGLAS, 1916, 2¾h.p., 2 speeds, brand new 1920 C.A.V., new belt, tyres perfect, new control wires and casings throughout, enamel and plating unscratched, thoroughly overhauled and in splendid condition; £53, worth £65.—G., 63, Solon Rd., Brixton, S.W.2. [1174

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Little used Douglas combination, £120; Ixion 2-stroke, £32; Campion-Villiers, 2-speed, £45; Enfield 2-speed 2-stroke, leg shields, electric lighting, new A.B.C., N.U.T., Lea-Francis, Ivy, Cedos, Coventry Premier. [X1880

DOUGLAS Motor Cycles, on easy terms of payment, 4h.p. combination, £170; 2-speed solo model, £100; 3-speed, clutch, and kick starter model, £105; plus a small charge for delivery from works to London. The above are makers' list prices; for easy payments 4% extra is charged, only one fifth deposit, balance payable by 12 monthly instalments; write for latest lists of other machines in stock, etc.—Harrods, Ltd., 118, Brompton Rd., London. [1320

Edmund.

1920 Spring Frame Edmund-Jap, Burman gear box and kick-starter, delivery from stock; £98.—The James Garages, Ltd., Shrewsbury. [X1884

EDMUND 1919 2¾h.p., spring frame, completely equipped, 2-speed gear; £65; privately owned; can be seen at Eardley Garage, Belvedere, Kent. 'Phone: Erith 239. [9481

Enfield.

1915 3h.p. Enfield, 2-speed, must sell; £29/10.—3, Park St., Wellington, Salop. [X1951

1918 Enfield Combination, like new; £135.—Grimes, 18, Bruton Place, Bond St., W.1. [1231

1920 Enfields, new, all models in stock; makers' prices; exchange.—Rose's Garage, Uxbridge. [1065

IMMEDIATE DELIVERY, 1920 Royal Enfield 2-stroke, 2-speed.—Morris, 139, Finchley Rd., N.W.3. [9724

2¾h.p. 2-stroke Enfield, 1920 model, in excellent condition; price £45.—J. Fryer, Ltd., Hereford. [9890

ENFIELD M.C., June, 1920, 2-stroke, 2-speed gear, new condition; £56.—20, Finchley Rd., N.W.8. [1259

ROYAL ENFIELD Lightweight, 2¼h.p.; a bargain, £38.—McPherson, Clynnog, Llanwnda, N. Wales. [9840

IMMEDIATE delivery new 6h.p. Enfield combination with dynamo lighting; £200.—Walbro, Ely, Cambs. [X1844a

1920 Enfield Lightweight, low mileage, as new, perfect; £65.—Richards, Cusgarne, Perranwell, Cornwall. [1372

ENFIELD Combination, unused, 1920, 8h.p., Magdyno; £175. — 25, Davisville Rd., Shepherd's Bush. [1050

ENFIELD 3h.p., 1916, good condition, special handlebars, long exhausts; £55.—Rhodes, Caius, Cambridge. [9516

1917 3h.p. Enfield Twin, good machine, any trial; £65.—A pinall, 63, North St., Lockwood, Huddersfield. [1079

ENFIELD 1914 6h.p., C.B. combination, splendid condition; £100, or near offer.—Ireland, Sankey, Warrington. [X1937

ENFIELD Combination, 1916, 6h.p., Lucas dynamo lighting, in perfect condition, £125.—40, Hertford Place, Coventry. [X1966

1920 Enfield, 2-stroke, 2 speeds, complete, new set Lucas lamps, perfect condition; £70.—H. Pegler, Hollydene, Wantage. [1121

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I shall be at the forthcoming Show the whole of the week, and will take it as an honour if all our clients and friends—prospective and otherwise—will give me the opportunity of meeting them at the Enfield Stands, where I shall generally be found.

It being true that the greatest factor in the success that has come to us is the courtesy and friendship of our many clients, I ask all our friends—especially those whom we to-day know only by post—to at least give me the opportunity of shaking hands. I earnestly desire to say "Thank you" face to face, and although I shall be heartily glad to quite impartially discuss the machines that we enthusiasts love, I shall under no circumstances press sales.

Looking forward to many happy re-unions, and also to meeting many whose writing we know quite well, but whom distance has prevented our hitherto meeting,

I am, gentlemen,

Yours most gratefully and happily

J. W. TOLLADY,
General Manager.

The Layton Garages

London Road, Bicester, and 90, High Street, Oxford.

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MOTOR CYCLES FOR SALE.

Enfield.

ENFIELD 1920 2¼h.p. Model. Miller's head and rear lamp, Lucas horn, as new; £70.—Parker's, Bradshawgate, Bolton. [X1872

ENFIELD Combination, 1916, lamps, horn, speedometer, splendid condition; £127.—98, Westcombe Hill, Blackheath, S.E.3. [9914

2¼h.p. Enfield, 1919, 2 speeds, lamps, accessories, just like new; expert examination; £60.—26, Newland Rd., Worthing. [9835

ENFIELD 3h.p., 1917, 2-speed, excellent condition, complete, all accessories, waterproof; £65.—99, Kingsland Rd., Plaistow. [9669

ENFIELD Combination, late model, perfect order, Easting; £120.—Clark, 7, Exhibition Rd., S.W.7. 'Phone: Kensington 4096. [9627

NEW 1920 8h.p. Enfield Combination in Stock; maker's price.—Shepherd and Co., Enfield, Highway. Tel.: Waltham X31. [0340

1920 Enfield Combination, in first-class condition, and tyres almost as new, lamps, and screen.—Moss Bros., Wem, Shropshire. [1267

ROYAL ENFIELD Combination, 6h.p., luggage carrier, new tyres, Binks carburetter, mechanically perfect; £85.—62, Holland Park Av., W. [9955

1920 Royal Enfield Combination, 8h.p., £177; 2-stroke, £73/10; new, in stock; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [1273

1915 6h.p. Enfield Combination, fully equipped, wind screen, really good order; £130, offers, or exchange for light car, cash adjustment.—Plaistowe, Southall Rd., Southall. [1363

ENFIELD Combination, 6h.p., 1916, mechanically perfect speedometer, lamps, Klaxon, hood, screen; 90 gns.—Major Lowe, c/o Hucklebridge, 133, Sloane St., London, S.W.1. [X1843

1919 Royal Enfield 8h.p. Combination, electric lights, horn, screen, speedometer, spare tyre, 2 spare inner tubes, tools; £145, no offers.—J. Poole, 90, Lavender Hill, Battersea, S.W.11. [9832

ENFIELD - MOTOSACOCHE Combination, 6h.p. M.A.G. engine, Enfield gear, practically new tyres, chain spares, tools, Millford sidecar, in good condition, fast; a bargain, £85.—Rettie, 48, Church St., Luton. 'Phone: 916. [X1913

ENFIELD 2-stroke, 2-speed, brand new, but slightly shop-soiled; a very special bargain, £63, usual price £73/10; this offer cannot be repeated, and only has to be sold once.—Wilkins, Simpson, opposite Olympia, London. [9496

ROYAL ENFIELD Combination (late 1916), 6h.p., 2-seater G.K. sidecar, with over-all hood and screen, accumulator lighting, horn, speedometer, spares, perfect condition, recently overhauled.—140, Belgrave Rd., Wanstead. [8528

ENFIELD Latest 6h.p. and 8h.p. Models in Stock £175, £177, and £200; also lightweight, £73/10; deferred payments and exchanges if desired.—Lamb's, 50, High Rd., Wood Green, 151, High St., Walthamstow, and 387, Euston Rd., London, N.W.1. [8111

1920 (August) Enfield Combination, 6h.p. Magdyno lighting, speedometer, horn, hood, screen, side curtains, luggage grid, new spares include driving chain, valves complete, bulbs, tube, extensive toolkit, mechanically perfect, appearance new, little used, got cash bargain, £190.—Trent, Winn Lodge, Lee, S.E. [9528

ENFIELD (1920, April) Combination, fully equipped, spares, driving chain, tube, Tan-Sad, complete with foot-rest and back-rest, tyres unpunctured, complete set of lamps, wind screen, speedometer, mileage 2,000, full insurance till May, 1921; £150; will ride 100 miles on receipt of deposit.—Rapp, 159, High St., Winchester. [9611

Excelsior

1920 Excelsior 4½h.p. Combination; £125.—Howe, 21, Friars Stile Rd., Richmond. [9811

F N

JUST arrived, F.N. lightweight; £89/5.—W. I. Bird and Co., Lincoln. [9711

F.N. 1920 7h.p. Combination, 4-cyl., hood, screen and lamps, guaranteed as new; £170.—Mundy, 100, Gt. Portland St., W.1. [9711

F.N. Lightweight, Bosch, Amac, cylinder regrouved, new rings, good tyres and tubes, everything in first-class condition; first cash £23.—126, Ullswater Rd., Lancaster. [9[illegible]

1920 F.N. 4-cyl. Coachbuilt Combination, with wind screen, 3-speed clutch, acetylene lamps, Cowey horn, Palmer cords, all accessories, good condition; £120.—Evans and Sons, Stone. [1[illegible]

F.N. 5-6h.p. Combination, 2 speeds, h.b. clutch control, newly overhauled, good tyres and tubes; £58; can be seen and tried any morning till 10.30.—75, Tulgarth Rd., Barons Court, W.14. [1[illegible]

Francis-Barnett

1920 Francis-Barnett, not run 500 miles, magnificent condition; 68 gns.; real snip.—Julian, 84, [illegible] St., Reading. 'Phone: 1024. [9[illegible]

MOTOR CYCLES FOR SALE.

J.A.P.

90×77½ o.h.v. Twin J.A.P., specially built 1919 competition machine, 3-speed, kick start, dynamo, speedometer, mileage 5,000, fast; £95.—43, Shernhall St., Walthamstow. [1061

J.E.S.

J.E.S. Engine Set, complete, good condition; 12 gns.—131, Kinveachy Gardens, S.E.7. [9737

J.E.S. 1919 (July), low mileage, good running order; £25.—Smith, Oak House, Northend, Felstead. [9488

J.E.S. Motor Cyclette, quite new, slightly shop-soiled; bargain price to clear, £37/10.—22, Rodney St., Liverpool. [9881

J.E.S. Lightweight, 1920, low mileage, as new, lamps, and all accessories; £37.—Alfred Crane, 21, St. John's Rd., Caversham, Reading. [7965

J.E.S. 1h.p., in strong frame, new Whittle belt and tyres, small Amac carburetter, and all accessories; £20.—Barber, 9, Buckingham Rd., South Woodford. [9684

J.H.

6h.p. J.H., M.A.G. engine, Sturmey C.S. and sidecar, complete; £72.—Cross, Agent, Rotherham. [X1921

Juno.

JUNO, 2¼h.p. Villiers, just overhauled, new belt, new back tyre, good order; £40.—54, Fentiman Rd., Clapham Rd., S.W. [9951

JUNO 2-stroke, Villiers engine, Albion gear box, Saxon forks, lamps, horn, mileometer, leather case on carrier, low mileage, privately owned; price £50.—Apply, Tunbridge, Vale Rd., Tunbridge Wells. [9664

Kingston.

KINGSTON 1921 2¼h.p. 2-strokes, 2-speed, chain drive. We have secured several of these splendid little machines; list price 73 gns.; our price 63 gns.—Colonial Motor Co., 104a, Finchley Rd., N.W.3. Hampstead 7822. [9511

L. and C.

L. and C. 5h.p., fine sidecar machine; sell cheap, or exchange lightweight.—57, Kenbury St., Camberwell, London. [1038

Lea-Francis.

LEA-FRANCIS, new 1920, slightly soiled; £125.—Clark, 7, Exhibition Rd., South Kensington. [9630

LEA-FRANCIS, M.A.G. engine, immediate delivery; £130.—Maudes' Motor Mart, 100, Paris St., Exeter. [9792

LEA-FRANCIS 1920 3½h.p. Twin, lamps, horn, speedometer; £105.—86, Monday St., Newcastle-on-Tyne. [9560

1920 Lea-Francis Twin; solo, £120; combination, £135.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [1256

1920 Lea-Francis, twin M.A.G. engine, chain drive, done 300 miles; best offer over £120 secures same.—Lewis, Post Office, Llanpumpsaint. [1167

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0099

LEA-FRANCIS, M.A.G., as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. Phone: 3426 Mayfair. [9887

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 18, Brompton Rd., London. [1310

Levis.

JUST arrived, latest Levis Popular; £60.—W. I. Binks and Co., Lincoln. [9712

LEVIS, perfect order, lamps, horn; accept 30 gns.—24, Geraldine Rd., Chiswick, W.4. [1134

LEVIS 2¾h.p., in splendid condition; £48.—Francillon, West Allington, Bridport, Dorset. [9736

GENUINE 1918 2½h.p. Levis, Enfield 2-speed, fully equipped; £45.—37, Arlington Rd., Surbiton. [1008

£25.—2-stroke countershaft Levis, engine running; wants adjustments.—Pinder, Lincoln Row, Newark. [1305

1915 Levis Poplar, all accessories, 7 months insurance; £56, bargain.—Wilson, 6, Brown St., Barrow-in-Furness. [1214

LEVIS, the finest 2-stroke in the world, delivery from stock; £60.—District agents, The Walsall Garage, Walsall. Tel.: 444. [9001

1h.p. Levis, 1917, splendid running condition, just overhauled, accessories; £42.—Flack, 5, Barton St., West Kensington. [9678

1919 Levis, perfect, smart, original unpunctured tyres, accessories; 43 gns.—Fersfield, Westbury Rd., New Malden, Surrey. [1004

LATE 1920 Levis Popular, small mileage, all accessories; owner buying combination; £50.—Slater, Tumbourne End, Romford. [9952

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Levis.

1917 Levis Popular, T.T. bars, discs, new tyres and belt, engine just overhauled by makers, 38 gns.—Backhouse, Black Lion Hotel, Bridlington. [9711

1920 Levis Popular 2-stroke, semi-T.T. bars, in stock; £60; exchanges or easy terms, third down and nine monthly payments.—2, Nightingale Rd., Lower Clapton, N.E. [1276

LEVIS 2-stroke, 2-speed, lamps and generator, speedometer, knee grips, mechanical horn, splendid condition; £35.—Moffatt, 406, Garratt Lane, Earlsfield, S.W.18. [1150

LEVIS Popular, latest model, in stock; £60.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London W.1. 'Phone: Mayfair 6559. [0318

Lincoln-Elk

1912 Lincoln-Elk, 3½h.p., Bosch, B. and B., running order; £20, or offer.—Robinson, 106, Fawe Park Rd., Putney. [9760

LINCOLN-ELK 3½h.p., running order; offers; machine or parts; cash adjustment; sell £25.—102, Kenyon St., Fulham. [9960

L.M.C.

1920 L.M.C., 4½h.p., single, 3-speed Sturmey and K.S., H.B. clutch, done 800, all on; solo £75 and combination £95; for quick sale.—Box 905, c/o *The Motor Cycle.* [9647

Martinsyde.

6h.p. Martinsyde, the super combination; immediate deliveries, Norfolk agents.—Norwich Motor Co., Ltd., Norwich. [2786

MARTINSYDE-NEWMAN Combination, delivery from stock; £170.—Maudes' Motor Mart, 100, Paris St., Exeter. [9793

1920 Martinsyde Combination, beautiful condition, used for demonstration runs only, remarkable snip; 140 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [9703

MARTINSYDE-NEWMAN 1920 6h.p. Combination, Easting wind screen, Watford speedometer, Lucas horn, fully insured; £160, or near offer.—Lieut. Ellis, St. Columb, Cornwall. [1192

MARTINSYDE Combination, 6h.p., clutch, kick start, 3-speed, luxurious sidecar, hood, wind screen, large locker, electric light, horn, mileage under 300, Monmouthshire; bargain, £175.—Box 9,424, c/o *The Motor Cycle.* [9543

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford, also Cornwall and Devonshire, for Martinsyde-Newman combination; £170; delivery ex stock; trade supplied; exchanges and deferred payments.—Maudes', 100, Gt. Portland St., W.1., and Paris St., Exeter. [5777

Matchless

MATCHLESS.

1921 Models now ready; all the latest improvements. You can have one now, or book delivery for any forward date. Every combination personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 18, Bloomfield Rd., Plumstead. [6881

NEW Model H Matchless in stock; list price.—Cross, Agent, Rotherham. [X1920

MATCHLESS T.T., 5h.p., o.h.v., sound condition; £65.—Eddell, Thorne, Doncaster. [9510

1921 Matchless.—Official Agents and Service Depot: S. E. Clapham (Motors), Greenwich.

INSPECT the various makes at the Show. Compare. Your selection will be a Matchless. We can arrange immediate or early delivery to suit clients.

BOOK Orders with the Matchless Specialist; our reputation guarantees satisfaction.—Note address: S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [1376

1921 Matchless Models soon.—Lincolners please order through W. I. Binks and Co., Lincoln. [9718

1920 8h.p. Model H Matchless Combination, new; £205.—King and Harper, 6 and 7, Bridge St., Cambridge. [8944

4h.p. Matchless, 1914, twin-cyl., J.A.P., 3 speeds, clutch; £38; running order.—83, Cherry Orchard Rd., Croydon. [1143

1920 Matchless Combination, as delivered, shop-soiled; £195.—Wright's Garage, Saffron Walden. Tel.: 16. [1178

1921 Matchless Combinations, Magdyno; delivery from stock.—Agents, Hewitt Bros., 94, Western Rd., Hove, Sussex. [0334

£30.—1914 Racing Matchless, J.A.P., overhead valves, single cylinder, overhauled.—8a, Blue Ball Yard, St. James's St., S.W.1. [9762

1918 Victory Model Matchless Combination, £135; also 6 h.p. combination, £70.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [1194

1919 Victory Matchless Combination, only ridden five miles, complete, spare wheel, lamps; £125.—29, St. Leonard's St., Bromley-by-Bow. [1118

MOTOR CYCLES FOR SALE.

Matchless.

8h.p. Matchless, M.A.G. engine, 3-speed, 2-seater sidecar, running order; for sale, or exchange new 3½h.p. Sunbeam.—Thompson, Potato Marchant, St. Peter's St., Ipswich. [9588

MATCHLESS.—Immediate delivery 1921 models; £205.—R. B. Clark, Matchless Agent, 7, Exhibition Rd., South Kensington. [9631

1920 H. Nearly New Matchless, Lucas acetylene lamps, hood, spare wheel unused; offers.—Beauchamp, 15, Matilda St., Old Bethnal Green Rd., E. [9913

MATCHLESS-J.A.P. 6-7h.p. Combination, 3 speeds, Bosch, just overhauled, new gears, clutch, lamps, horn, etc., insured; £97; no dealers.—20, Berners St., W.1. [1104

MATCHLESS Combination, chain-drive, fine turnout; 100 gns., or exchange lower power, cash adjustment.—57, Kenbury St., Coldharbour Lane, Camberwell. [1040

MATCHLESS (Aug., 1920) M.A.G. Combination, speedometer, screen, lamps, spare wheel; £175; exchange lower power.—Spurling, 8, Courthope Rd., Hampstead, N.W. [9764

MATCHLESS Combination, 1921 model dynamo in stock.—Vivian Hardie and Lane, Ltd., 24 Woodstock St. (off Oxford St.) Bond St., London, W.1 'Phone: Mayfair 6559 [0317

8h.p. Matchless Combination, 2-speed, kick-start, overhauled, new sidecar, complete with electric lighting, all accessories; £90, or near offer.—Apply, 36, The Common, Woolwich. [1108

MATCHLESS Combination, 8h.p., late model, Lucas dynamo, speedometer, best offer accepted; or exchange late Indian model, cash adjustment.—74, St. James Rd., Bermondsey. [9974

MATCHLESS, 1920, spare wheel, hood, screen, lamps speedometer, many extras and spares, luxurious outfit, as new; must sell; £170, or near offer.—Bannister, Midhurst, Sussex. [1147

1919 Victory Model Matchless Combination, interchangeable wheels, 1 spare, new F.R.S. electric lighting set (cost £15), Easting screen, spares; £125. —60, Wallingford Av., North Kensington. [1185

BARGAIN.—1920 Model H Matchless, as new, complete, mag., dynamo lighting, Lucas horn, recording trip speedometer, all accessories; £210; appointment only.—17, Broxholm Rd., West Norwood, London. [1190

1914 8h.p. Matchless M.A.G. Combination, acetylene lighting, horn, luggage carrier, new main frame just fitted, mileage about 4,000, 55-60 m.p.g.; £95.—Apply by letter, L. Hawkes, Bryn Menai, Cheam Rd., Sutton. [9962

MATCHLESS Combinations.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock [3850

MATCHLESS 1920, small mileage, fully equipped, dynamo lighting, horn, leg shields, sidecar hood, curtains, step, spare wheel, and policy, guaranteed all in first-class condition, and genuine bargain, £200.—92, Birkhall Rd., Catford. [9988

MATCHLESS 1920 Combination, just delivered and used for 50 mile demonstration run by Mr. Harry Martin, Lucas electric Magdyno, horn, spare wheel, screen, M.A.G. latest type engine, very fast; £210.—Eve, 105, Oval Rd., Croydon. [9485

MATCHLESS Combination, 1914, 2-speed, all-chain drive (new), clutch, K.S., tyres 700×80 (new), Millford sidecar, electric lighting, luggage carrier, engine overhauled and new connecting rods fitted, etc., ideal touring mount; £90.—104a, Finchley Rd., N.W.3. Hampstead 7822. [9512

MATCHLESS 1920 Model H Combination, M.A.G. engine, Lucas gas lighting set, horn, speedometer, hood, wind screen, fully equipped, condition nearly new, unscratched, mileage 1,500; £175.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

MATCHLESS 1920 Model H. Spring Frame Combination, special 8h.p. J.A.P. engine, straight line up to 2,700 r.p.m., 3-speed clutch and kick starter, 4 interchangeable 28×3 wheels, rear driven Watford speedometer, Lucas head lamp and horn, electric side and rear lamps, Orto and Easting screens, also stormproof cover-all apron, front shield and sidecar step. This machine is mechanically perfect, and was one of the five sidecars to finish in the Matchless Cup Trial and gained a silver medal. It is exceptionally silent and flexible, and does 20 m.p.g.; spares enough for a season include complete rear chain, tube, cover, hollow spindles, valves and springs, F.E.W. set of full kit of tools, mileage 2,200. For immediate possession £200. —G. Wainwright, Millfields, Wolverhampton. [X1875

Metro.

METRO-TYLER, 1920, Type A., ridden 250, accessories; £55.—Duchan, 804, Seven Sisters Rd., Tottenham. [9741

METRO-TYLER 1920 Red Model, discs, lamps, speedometer, Tan-Sad spares; £55, near offer.—Squirrell, 13, Nealdon St., Stockwell. [9498

1920 Metro-Tyler, 2-speed, tyres and condition as new, disc wheels, T.T.; £49; cash wanted.—Smith, 45, Ravensbury Rd., Earlsfield, S.W.18. [9830

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A. V. MONOCAR 1920 8 h.p., fitted with rear cushion for passenger Price (shop-soiled)..... **£150**

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METRO-TYLER, latest 1920 model S., brand new and unused, but slightly shop-soiled. Secure a record bargain at our clearing price.—Alexanders', 115, Lothian Rd., Edinburgh. [8765

Minerva.

MINERVA, 3½h.p., Bosch, B.B., complete, slight adjustments; £12.—1, Pewsey Rd., Marlborough, Wilts. [1024

2¼h.p. Minerva Lightweight, E.I.C., B. and B., druids, Dunlop, excellent condition; £20.—F. S. Collard, West Drayton, Middlesex. [1295

WHAT Offers?—Minerva 3½h.p. engine (new cylinder and valves), Bosch mag., 4ft. copper pipe, 8ft. ¾in. belt (new), two 26in. covers and tubes, ¾ handlebars, etc.; or sell complete cycle (frame broken), £10.—Bryant, Marson Rd., Clevedon. [X1848

Moto-Reve

NICE Little 2¼h.p. Twin Moto-Reve, new back tyre, magneto requires overhaul; £14, carriage paid.—Spacie, Todwick, Sheffield. [9804

New Hudson

1915 New Hudson 2¼h.p., 2 speeds, excellent condition; £50.—Edouard, Lancing College, Shoreham. [1053

2¾h.p. New Hudson-Jap, good tyres, Tan-Sad nated, wants cleaning; sacrifice. £28/10, lowest.—[illegible], Cavendish Rd., Balham, S.W.12. [1070

1920 New Hudson 2-stroke, 2-speed, fully equipped; cost over £80, price £68; exchange or terms considered.—97, Nightingale Rd., Wood Green. [9833

3½h.p. New Hudson, 3-speed clutch, in good order, lamps, horn, etc.; £35; bought combination.—T. P. Taylor, Brookfield Brickworks, Bolton. [1081

NEW HUDSON 2-stroke, 1916, stored during war, good tyres, horn, etc., perfect condition; £35; trial week-ends.—59, Station Rd., Redhill, Surrey. [9579

£95.—New Hudson 1916 6h.p. combination, Bosch mag., 3-speed clutch, Montgomery sidecar; any trial by appointment.—Burgoine, 160, Anerley Rd., Anerley. [9680

6h.p. New Hudson Combination, 3-speed, kick-starter, lamps, horn, etc., tyres almost new, splendid running order; £65.—Crouch, 91, Mason's Hill, Bromley, Kent. [9589

NEW HUDSON 2-stroke, new Sturmey-Archer gear, engine overhauled by makers, perfect running order, worth £60; offers wanted.—28, Elgin St., Crookes, Sheffield. (D) [1126

1914-15 New Hudson 4h.p., 3-speed, K.S., counter-shaft drive, full equipment, overhauled, mechanically guaranteed; 60 gns., or exchange for good 1916 2¾h.p. Douglas, or A.J.S., fully equipped.—22, St. James's Rd., Kingston, Surrey. [1113

New Imperial.

1920 6h.p. New Imperial Combination, new; 17[illegible] gns.—Hall, Burwood, Tonbridge. [1013

£78.—New Imperial-Jap combination, 8h.p., complete perfect.—R. Aspden, 6, Southport Rd., Chorley.

NEW IMPERIAL-J.A.P., 1917, 2¾h.p., kick starter, £50.—Gaitskell, The Cottage, Sympstone, Devon [115

1920 8h.p. New Imperial Motor Cycle, new; £147 —King and Harper, 6 and 7, Bridge St., Cambridge. [894

1917 2¾h.p. New Imperial, 2-speed, lamps, horn etc., excellent condition; £45.—Power, Chobham Woking. [947

1920 New Imperial Combination, condition as new £160.—Wright's Garage, Saffron Walden Tel.: 16. [112

NO. 2 1920 2¾h.p. New Imperial Motor Cycle £89/5; new.—King and Harper, 6 and 7, Bridge St., Cambridge. [894

NO. 1 1920 2¾h.p. New Imperial Motor Cycle, new £80/17.—King and Harper, 6 and 7, Bridge St., Cambridge. [89[illegible]

NEW IMPERIAL, 2¾h.p., 2-speed, lamps, perfect condition; £46.—W. Herrington, Amen Corner, Binfield, Berks. [96[illegible]

NEW IMPERIAL, 1917, 2-speed, 2¾h.p., in perfect running order; bargain, £50.—Robins, Broadway, Dorchester [11[illegible]

NEW IMPERIAL-J.A.P. 2¼h.p., 2-speed, lamps, tools, spares, top-hole condition; £43.—57, Wentham Rd., Streatham. [90[illegible]

NEW IMPERIAL-J.A.P. Lightweight, 2-speed, fine condition, 2 generators, lamps, horn, tools, spares —Box 9,485, c/o *The Motor Cycle*. [98[illegible]

1919 8h.p. New Imperial Combination, Rehnox sidecar, all lamps, horn, Flexus seat-pillar, first-class turnout; £135.—Mawson, Morecambe. [X19[illegible]

1921 New Imperial Combination, 6h.p., latest model just arrived; £186/18; exchanges or easy terms —2, Nightingale Rd., Lower Clapton, N.E. [12[illegible]

MOTOR CYCLES FOR SALE.

Triumph.

1920 Countershaft Triumph, brand new Millford sidecar, completely equipped, whole turnout guaranteed as new; £145.—H. Bagott, Manor Farm, Oddington, Islip, Oxon. [X1841

1913 3½h.p Triumph, wicker sidecar, lamps, horn, speedometer, clutch, Philipson, tyres good, stored 2 years, reoushed, in splendid order; £55.—Bushe, White's Garage, Camberley. [9552

1914 4h.p. Triumph, £95; combination, 3-speed clutch, 75 m.p.g., lighting set, hood, wind screen, tools, and spares, in perfect order.—Smith, 8, Grove Terrace, Church End of Finchley N.3. [1360

TRIUMPH New 1920 Model H., £127/10; Triumph Junior model, £75; Triumph Model H., renovated by makers, just delivered, as new, £105.—Eagles and Co., 275, High St., Acton, London. [X1961

COUNTERSHAFT Triumph, sportsman's pucca speed combination, fully insured and equipped, heaps of spares; £105; write for particulars; exchange for lightweight.—6, Brondesbury Villas, London, N.W.6. [8838

1920 Triumph, 3-speed Sturmey gears, hand and foot clutch, shock absorber, leg guards, Lucas horn, pillion seat, spares, 2 extra tyres, tubes, 2 extra belts, buffer spring, etc.; £130.—Box 899, c/o *The Motor Cycle.* [X1873

TRIUMPH, Model H. £127/10, S.D. £140, D. £105, L.W. £75; combination, Model H. £182/10, S.D. £195; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London, W.1. [0329

TRIUMPH, Model H, renovated by makers, delivered May, mileage under 500, fitted H.A.H. electric lighting set, complete, all tools, spares, accessories, including spare tube, perfect condition; £110.—154, Ultra Rd., Wimbledon S.W.19. [1301

1920 Model Triumph (as new), large Lucas head light, speedometer, Tan-Sad etc., guaranteed, disappointment impossible, strictest examination welcomed, 900 miles free delivery, seen any time; wanted, reasonable offer.—Solwarbank, Hayes, Kent. Bromley 532. [X1840

NEW Triumph 1920 4h.p. Countershaft Model, £127/10; 4h.p. Triumph, Type W.D.B., £105; 4h.p. Triumph, all chain drive, £140; 4h.p. Triumph, fixed engine, sporting, £105; all models in stock.—Cambridge Agents for Triumphs, Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [9874

VAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 1920 4h.p. Triumph, delivery from stock, £127/10 solo; can be fitted with Gloria or any other make of sidecar immediately from stock; also new 1920 4h.p. Triumph combination, all-chain drive, £195; and one W.D. renovated Triumph and sidecar, renovated 1920 by Triumph Cycle Co., £120. [9902

1919 Late Triumph Combination, No. 1 Montgomery de luxe sidecar, colours purple and cream, with hood, Triplex screen, luggage and petrol carrier, Brandish patent footboards, D.A. and generator lighting, tyres unpunctured, extra strong back wheel, tools, spares, etc., the whole in perfect condition; £50.—A.J.E., 113, Helix Rd., Brixton Hill, S.W.2. Seen by appointment. [9576

Velocette

JUST arrived, latest Velocette model; £75.—W. I. Binks and Co., Lincoln. [9715

VELOCETTE, 1914, 2-speed, chain drive; £32, bargain.—W. Yard, 3, The Crescent, Risca, Mon. [9506

NORSMAN can do Velocettes from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0328

VELOCETTE, late 1920, latest 1921 model, little used, as new; what offers —Box 9,508, c/o *The Motor Cycle.* [1245

1h.p. Velocette 2-stroke, good condition, just rebushed, guaranteed sound and reliable; £32.—C. 13, Victoria Rd., Upper Norwood, S.E. [9983

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

Verus.

VERUS-BLACKBURNE, all models, delivery from stock. Maudes' Motor Mart, 100, Paris St., Dover. [9790

Vindec.

VINDEC Special 5-6h.p., new tyres, requires gear, etc.; £27/10.—51, Stockwell Rd., S.W.9. [9932

VINDEC 6h.p. Twin, new tyres, tubes, overhauled, perfect; £30.—Music Shop, 73, Haverstock Hill, Hampstead. [1351

VINDEC 2½h.p., 2-speed, nearly new, spotless, tyres, etc., perfect, must sell; £48.—257, Cavendish Rd., Clapham, S.W.12. [1071

4h.p. Vindec Special Combination, fitted 1920 K.S., 3-speed countershaft, takes three adults easily, sendable turnout, must sell, nearest £80; Riley wizard table, all accessories, 110/-.—Particulars of appointment, Lunn, 97, High St., Sutton, Surrey. [1015

Viper.

VIPER-J.A.P., new, slightly shop-soiled; offered at £65 to clear.—22, Rodney St., Liverpool. [9878

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26×2	Clincher Ribbed	29/-
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26×2¼	Heavy rubber non-skid	27/6
,,	Avon Sunstone	39/6
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,,	Goodrich safety tread	56/6
26×2⅜	Dunlop heavy rubber stud.	41/-
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,,	Bates' special heavy	37/6
,,	Wood-Milne extra heavy	37/6
,,	Avon tricar	34/6
,,	Hutchinson passenger	36/-
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,,	Englebert touring	47/6
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FOR 2½ RIM.		
26×2½	Heavy non-skid	37/6
,,	Wood-Milne combination	55/-
26×2½	Clincher de luxe heavy	50/-
26×2½×3	Dunlop extra heavy	52/6
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700×80	Dunlop Grooved	80/-
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5-6h.p. V.S. Motor Cycle and Sidecar, twin, 2-speed gear. 46, Beeson St., New Cross. [9471

Williamson.

1920 6h.p. Williamson Combination, brand new, shop-soiled; list price £200, for quick sale £165.—Alexanders', 115, Lothian Rd., Edinburgh. [8763

Wolf.

2¾h.p. Wolf, 2-stroke, late model; £22/10.—Shaw, Jeweller, Wellington, Salop. [X1952

1914 Wolf 2½h.p., splendid condition; £25/10, bargain.—179, Earlsfield Rd., Wandsworth. [9583

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Wooler.

2¾h.p. 1920 Wooler, 6 speeds, McNab's record breaker; £85.—Wauchope's, 9, Shoe Lane, London. [9903

WOOLER, 1920, practically as new; £80; easy payments, exchange.—Bunting's Motors, Wealdstone. (Closed Sundays.) [1271

WOOLER, 1920, lamps, Cowey horn, quantity of spares, small mileage; bargain, £85.—Coles and Shirley, Chepstow. 'Phone: 48. [0313

WOOLER, ridden 200 miles, unscratched, £80, for quick sale; exchange Coulson-B, 4h.p. Douglas.—Mellersh, Clarence Rd. St. Alban's. [1013

Zenith.

1921 Zeniths, in stock.—Agents, Hewett Bros., 94, Western Rd., Hove, Sussex. [0344

3½h.p. Zenith, enamelled and plated, Bosch, new tyres; sacrifice £45.—152a, Swaby Rd., Earlsfield. [9673

ZENITH 1913 3½h.p., overhauled and re-enamelled; any trial; £40.—Day, Thorn Farm, Marden, Kent. [9682

4h.p. Zenith Combination, guaranteed faultless; owner bought car; £75.—Cloon, Eavin, Sunningdale. [9477

ZENITH-GRADUA 4h.p., excellent condition, fast; what offers?—F., 55, Alkham Rd., Stoke Newington. [1224

1921 Zenith 2¾h.p. Flat Twin, brand new; £110.—S.A.S., Sawkinge Farm, Stodmarsh, Canterbury, Kent. [8839

ZENITHS, any model supplied; we are sole agents in the Isle of Wight.—Downing and Donovan, Ryde. [illegible]

ZENITH 8h.p. Combination, 1914, electric lamps, Lucas horn, perfect; £95.—103, Moore Park Rd., Fulham. [9836

CLEARANCE Sale.—Brand new 8h.p. Zenith, sporting model; what offers —Reynolds, Waterbeach, Cambs. [1262

8h.p. Zenith-Gradua, 1915, lamps, speedometer, 1920 Henderson sidecar; cheap.—6, Ethelden Av., Muswell Hill. [9975

1920 6h.p. Zenith, magnificent condition, absolutely indistinguishable from new; 110 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [illegible]

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ZENITH 1919 (Sept.) 6-8h.p., new condition, hardly used, mileage about 1,200, unscratched; giving away for £90; must sell.—48, Grenville Rd., Hornsey Rise. [9759

ZENITH 1920 Late Model Combination, 8h.p., Millford sidecar, excellent condition, any trial given; what offers?—Apply, Box 9,423, c/o *The Motor Cycle.* [9542

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1916 Zenith 6h.p. Countershaft Clutch Model, just overhauled, Bonniksen, lamps, tyres and belt in good condition, spare belt; £85.—Worsley, 25, St. Cuthbert's, Bedford. [9763

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NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments; one-fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [1315

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BOOTH'S Motories, Halifax.—1914 Enfield combination, £89/15; 1916 3½h.p. Brough, opposed cyls., 3-speed countershaft, and sporting sidecar, £81/10.

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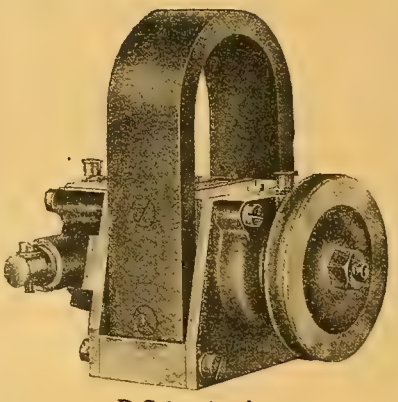

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8h.p. 1917 Morgan De Luxe, air-cooled M.A.G., in good condition; price £140.—J. Fryer, Ltd., Hereford. [9889

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—5h.p. A.V. Monocar, 1919, 2-speed, all accessories; £85. [9905

ROVER, 8h.p., 1920, the light car of the year; price £300; immediate delivery.—Muskett Bros., Huntingdon. [X5158

110 Gns.—8 to 10h.p. 2-seater car, water-cooled, 1914, excellent condition; trial.—96, Prescot St., Liverpool. [X6868

A.V. Monocar, 1920, 6h.p. J.A.P., like new, fitted with electric lamps; to clear, £120.—22, Rodney St., Liverpool. [9884

A.V. Monocar, 2-speed, fine condition; £120, or exchange Morgan or combination.—57, Kenbury St., Camberwell, London. [10

RUNABOUTS AND CYCLE CARS.

A.V. Monocar, 1920, 8h.p., fitted with rear cushion for passenger; price (shop-soiled) £150.—22, Rodney St., Liverpool. [9885

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Morgan De Luxe, 1920, air-cooled J.A.P., excellent condition; £180. [9906

1921 Morgan de Luxe Model, w.c. 10h.p. M.A.G., brand new; immediate delivery; list price.—Clarke and Co., Queen St., Louth. [1135

BARGAIN.—8h.p. cycle car, w.c. engine, 3 speeds and reverse, hood, screen; £68.—1, Bellingham Terrace, Bromley Rd., Catford. [1042

G.N.—We are large contractors, and can usually supply from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0327

ROVER Light Car, 1912 model, 8h.p., in stock, for immediate delivery; £300.—Wright's Garage, Saffron Walden. Tel: 16. [1176

MORGAN, 1914, Air-cooled, in fine condition, lamps, horn, speedometer, etc.; £115.—Watson, 6, Cavendish Parade, Clapham S.W.4. [1045

3-WHEEL 6h.p. Water-cooled Chassis, 2-speed, clutch, chain-driven, wheel steering; £37.—Box 9,500, c/o *The Motor Cycle*. [1333

6h.p. A.V. Monocar, 1920; £165; motor cycle or motor cycle and sidecar taken in part payment.—Wauchope's, 9, Shoe Lane, London. [9907

A.C. Runabout, hood, side curtains, glass screen, tools lamps, B type; any examination; £65; lightweight as part.—32, Bamford Rd., Wolverhampton. [X1860

A.V. Bicar, 1920, 2-seater, fitted with hood and screen, 8h.p. J.A.P. 2-speed gear; price (shop soiled), £200.—22, Rodney St., Liverpool. [9883

G.W.K., 1913-14, hood, screen, lamps, spare wheel, grand running order; £195; combination and cash entertained.—P. Riddelsdell, Boxford, Suffolk. [9780

T.B. Cyclecar, J.A.P. engine, complete, lamps, horn and spare wheel, discs, delivery from stock; £275.—Maudes' Motor Mart, 100, Paris St., Exeter. [9794

1920 Bleriot-Whippet, hood, screen, spare wheel, all lamps, under 500 miles, as new; £230; exchange or easy terms.—2, Nightingale Rd., Lower Clapton, N.E. [1284

A.C. Sociables, modern types, fully equipped, mechanically sound, good appearance; from £60 to £85; trial. 23 Allsop St., Upper Baker St., London, N.W. [7959

G.N., 1920, new end September, done 1,000, six weeks' makers' guarantee, dynamo lighting, spare wheel, hood, as new; £265, offers.—Moore 2, Pembroke St., Cambridge. [9823

8-10h.p. 1920 Aero Morgan, M.A.G. engine, yellow finish, done about 2,000 miles, electric lights £250.—Wauchope's, 9, Shoe Lane, London. 'Phone: Holborn 5777. [9904

1919 Grand Prix Morgan, hood, screen, flush set speedometer; C.A.V. lamps, 2 horns, etc., as new; £210; exchanges or easy payments.—2, Nightingale Rd., Lower Clapton, N.E. [1283

GRAND Prix Morgan 10h.p., overhead valve water-cooled J.A.P., disc wheels, electric lamps, tools, spares, etc., splendid condition; any trial; £165.—8, Adelaide Sq., Bedford. [1152

1920 G.P. Morgan, delivered April, unused till August, W.C. J.A.P., lamps, horn, discs; property of naval officer going abroad; £200.—Chauffeur, Royal Lodge, Windsor. [1044

GIBBONS Mark III. Cycle Car, reduced to £115, delivery within one month; trials any time by appointment. Agents required.—Gibbons and Moore, Chadwell Heath, Essex. [4838

MORGAN, 1919, Aero model, W.C. M.A.G., just been repainted as new; £176.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [1344

£95.—1920 4-wheel cycle car (discs), 5h.p. J.A.P., Bosch waterproof, Amac, 2 forward and reverse, electric horn and lamps, racy; inspection and trial.—Bennett, 133, High St., Barnet. [9666

A.C. Sociable, good running order, take 3 anywhere, Palmer tyres, new Liversidge back, new Coventry chain; price £50, no offers; trial week-ends.—Box 9,486, c/o *The Motor Cycle*. (Derbyshire.) [9828

MERRALL-BROWN 3-wheeler, new, with spare wheel and other extras, 4-cyl. Coventry Simplex engine; £358/10; cash, exchange, or easy payments.—Motor Exchange, Horton St., Halifax. [9870

10h.p. 1917 G. P. Morgan, water-cooled, o.h.v., J.A.P., electric lights, disc wheels, painted primrose and black, in excellent condition; price £170; or exchange for combination.—Minton, 95, Edgar St., Hereford. [9888

MORGAN.—We are sole Wolverhampton agents; our allotment for this season is already booked, but send us your old machine for repairs, overhauls, or repainting.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3460

50 M.P.G. 8h.p. Twin Water-cooled Enfield 2 cater light car, 3 forward and reverse, worm drive 5 wheels, complete lamps, horn, wind screen, and hood, in very sound condition; price £120.—Turner, 22, Langley St., Luton. [1225

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NEW G.N. Cycle Car, 10h.p., dynamo lighting system, etc., and to makers' specification; immediate delivery; £275; may be obtained on Harrods deferred payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [13

SIMPLIC Cycle Cars: 4-wheelers, 2-seaters, two J.A.P. engines, chain transmission throughout, 2 speeds, foot starter; £185.—List and specification Surrey Agents, Chase Bros., Ltd., Cobham. Manufacturer, G. Wadden, Jessamy Rd., Weybridge. [94

1920 8-10h.p. Bleriot Whippet, Blackburne engine, good running order, complete with speedometer, head lamp, accessories, spare wheel and belt; cost £225 first £195 secures; seen Streatham by appointment. Letters to F. B. Hobson, Hill Lodge, Welwyn, Herts. [99

RICHARDSON, 1920, J.A.P. engine, dynamo lighting, unused Dunlop cover and tube and many useful spares, fully insured, the property of an officer shortly returning to the East; best offer over £220. The Seven Dials Motor Cycle Depot, Prestonville Rd., Brighton. [95

NEW Bleriot Whippet 8h.p. Cycle Car, 2-seater, with latest handle starter, hood and screen, detachable wire wheels, standard equipment; £250, or on deferred payments 4% extra, only one-fifth deposit, balance by monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [13

MORGAN De Luxe, 1920, M.A.G. engine, overse wheels and tyres, hood, wind screen, speedomet clock, acetylene head and tail lamps, pump, jack, too and sundry spares, mechanically perfect; £225; a trial or examination by appointment.—Box 9,425, *The Motor Cycle*. [95

MORGAN.—All models for immediate delivery list price. Grand Prix, £216; sporting mod with M.A.G. engine, £211; de luxe water-coo M.A.G. engine, £230; trade supplied.—Elce and Co., 16, Bishopsgate Av., Camomile St., E.C.3. 'Phon Avenue 5548. Spare parts in stock. [0

G.N.—Latest models for immediate delivery fr stock. Standard touring model, with full equ ment, spare wheel, £241/17/6, or with dynamo lig ing set, £275/12/6.—City agents, Elce and Co., 16, Bishopsgate Av., Camomile St., E.C.3. 'Phon Avenue 5548. Spare parts in stock. [0

ASTOUNDING Bargains.—1920 Bleriot-Whippet seater, many extras, cost £290, accept £185; 19 8-10h.p. sporting 2-seater, Blumfield engine, dyna lighting, live axle, gate change, dics, fully equipp accept £140; biggest bargains in this paper.—Oscar Cox, Waylett Place, West Norwood, S.E. [12

NEW Tamplin Tandem, 8h.p. J.A.P. engine, 3-sp Sturmey-Archer gear, clutch, and foot starter, fu equipped with hood and screen, discs on all whe lamps, and horn; £189/7, or unequipped £165; imm diate delivery; may be obtained on Harrods defer payment system, 4% extra.—Harrods, Ltd., 118, Bro ton Rd., London. [13

1920 Morgan Grand Prix, royal blue, new, just livered, M.A.G. w.c. engine, magnificen equipped, discs, hood cover, spring cushion, extra r ning board, large electric head lights, side, rear, dash lamp, switchboard, clock, Lucas horn; cost £2 100 miles trial if desired; £225 cash.—F.G.A., Park Terrace, Swindon, Wilts. [97

CARS FOR SALE.

£38 and £55; De Dion 2-seaters; bargains.—1 Dafforne Rd., Upper Tooting. [86

2-SEATER Car, all accessories, twin cylinder; £ or offer.—16, St. Mary Abbott's Terrace, K sington. [1

10h.p. Darracq 2 or 4-seater, cheap or exchan anything, motor cycle or lathe.—Hall, Prest Rd., Chorley. [1

10h.p. Darracq 4-seater, 3-speed, car lamps, perf order; £40, bargain; after 5.—42, Naylor R Peckham, S.E.15. [97

£75.—Rover 8h.p. 2-seater, dickey, hood, scre lamps, Stepney; exchange combination. — Greenside Rd., Croydon. [10

2-SEATER Car, in splendid condition, 8h.p. Pouge fully equipped; £70.—Picture Stores, 331, Bu ing Rd., East Ham, E.6. [99

1916 4-seater Morris-Cowley, dynamo lighting, wheels; £450.—Smith, 54, Hampstead R N.W.1. Tel.: Museum 5938. [9

10h.p. Rover 2-seater, good running order, ho screen, lamps, Stepney, etc.; £90.—Stewa c/o 13, Victoria Rd., Upper Norwood. [99

HUMBERETTE, 1913-14, hood, screen, lamps, ap did condition; £150; easy terms, or exchan combination.—Bunting's Motors, Wendlstone. [1

SMART 2-seater, 10h.p., large dickey, wind scre brass lamps, hood, drive away, snip; £150.—Ap Kickerty, next Post Office, Hartshill, Warwickshire. [9

12-40h.p. D.F.P. Special Sporting Model, attacha wire wheels, dynamo lighting, guaranteed miles an hour; £550.—Smith, 54, Hampstead R N.W.1. Tel.: Museum 5938. [9

1920 10h.p. Swift 2-seater, dickey, self-star dynamo lighting, complete with £20 accessor cost £550; accept £390.—Smith, 54, Hampstead R N.W. Tel.: Museum 5938. [9

CARS FOR SALE.

LEVENTH Week of my astounding systematic reduction scheme, and going stronger than ever. I duce my prices by £250 every week, not less than cars being reduced every week. This week 12 cars duced by £256/10, making nearly £4,000 total reictions in 11 weeks. Note: All advertised dates aranteed accurate, as always.—Cox (below).

LEVENTH Week, and still more reductions!—6h.p. De Dion parcels van, mag., Binks carbutter, runs well, reduced from £85, now £25! 3-ton 15 Seabrook lorry, several parts missing, but could completed for £50, price £35! 15h.p. 4-cyl. chassis, known make, live axle, gate, Bosch. Zenith, real tique, £45! new 1920 Wooler flat twin lightweight, untershaft, spring frame, cost £103, shop-soiled, 78/10! 20h.p. Leon Bollee chassis, live axle, enclosed lves, 4-speed gate, reduced from £185, now £80! -16h.p. Belsize 4-5-seater, live axle, gate, Zenith, lls splendidly, £95! 1920 A.V. monocar, extra llion seat, electric lighting, as shown at White ty for £165, bargain, £120! 12h.p. Sizaire-Naudin orting streamline 2-seater, discs, fast, smart, £125; -12h.p. Alldays van, Ford type body, £135; 8-10h.p. umfield-engined streamline light car, 2-seater, 3-ed gear box, water-cooled V twin, £145; absolutely e of the poshest Harley-Davidson efficiently uipped combinations going, 1918 model, £175; 8-10 . Warne light car, streamline 2-seater, dynamo hting, discs, live axle, gate, £185; smart little 8-10 . 1913 Globe coupe light car, Claudel, gate, £185; -12h.p. 4-cyl. Humber, sporting streamline 4-seater, 19 body, bulbous back, armchair seats, particularly art, £195; Unic 15-cwt. van, sump lubrication, nonobloc, detachables, originally £350, now £225; 20 Bleriot-Whippet cycle car, 8-10h.p., detachable eels, £235; 16h.p. Bell landaulet, enclosed valves, e, sump, £235; 10h.p. 4-cyl. Delage sporting 2-ter, bulbous back, dynamo lighting, 5 lamps, monoc, fast, absolute bargain, £235.—Cox (below).

LEVENTH Week or systematic reduction scheme! Exceptionally nice camouflaged Ford 4-seater, A.V. dynamo lighting, real posh lot, £100 worth ras, bargain, £245; G.W.K. 2-seater, detachable eels, £245; 12-14h.p. Unic torpedo 5-seater, monoc, sump, £265; smart 15.9h.p. 1912 Darracq, ve valve, roomy torpedo, worm drive, 4-speed gate, nth, £385 originally, £285; nice 11h.p. 1915 onda light car coupe 2-seater, bull-nosed radiator, achable wheels, streamline, £285; 1-ton 1916 desdale lorry, £285; 18h.p. 6-cyl. Horbick streame tourer, £295; 12-15h.p. Opel landaulet, monoc, gate, cord, Zenith, £295; 10h.p. 1920 .G. 3-seater, dickey, opposed twin, C.A.V. amo, detachable wheels, starter, £325; 15-20h.p. evrolet 3-seater, English coachwork, dickey, dynamo, ter, smart, £335; 11h.p. Brennabor streamline ater, 4-cyl. monobloc, enclosed valves, steel disc eels, detachables, particularly smart, £350; really 4-cyl. Itala sports 4-seater, low streamline body, ed steering, live axle, 4-speed gate, fast £350; 15.9h.p. Knight Daimler 4-seater, m drive, detachable wheels, smart, bargain, 50; 12-15h.p. Crossley 3-seater, dickey, monobloc, losed valves, detachable wheels, £350; smart 15h.p. 1913¾ Sizaire-Naudin streamline 5-seater, nobloc, detachable wheels, £350; 15.9h.p. Arrolnston 3-seater, dickey, enclosed valves, detachable els, smart, £350; particularly posh 11.9h.p. 1913¾ nber streamline 4-seater, enclosed valves, detach-wheels, £375; 12-15h.p. 1913 valveless Darracq amline torpedo, detachable wheels, 4-speed, smart, 15.—Cox (below).

LEVENTH Week.—Exceptionally smart 1915 Bedford-Buick 3-seater, 15-18h.p., dickey, English hwork, C.A.V. dynamo lighting, Zenith, gate, detables, £385; 9.5h.p. 1915 Standard 2-seater, .V. dynamo lighting set, £385; other cars of all es in stock, landaulets, interior drive saloons, latest lover-side streamline tourers as fine as any West l style and finish at suburban prices. Full printed free (or see "The Autocar" or "The Motor").—(below).

OMMERCIALS. Commercials. Commercials.—Sorry, I'm nearly sold out, but my systematic uction scheme won't let me keep them. All solid d: 3-ton 1913 De Dion lorry, enclosed valves, m drive, £165; 3-4-ton 1915 Locomobile y, worm drive, 4-speed, overhauled, retyred, £485 inally, £325; 5-ton Lacre lorry, 4-speed, gate, l wheels, new tyres, roomy body, fine lot, £345; n 1914 Scout chassis, live axle, enclosed valves, aluminium radiator, £375; 2-ton 1916 Vinot y, monobloc, 4-speed gate, worm drive, £380; n 1916 Seabrook lorry, worm drive, monobloc, 5; 2-ton 1915 Palladium chassis, worm drive, obloc, enclosed valves, fine lot, £385; 3-ton 1915½ ize lorry, worm drive, overhauled, new tyres, 5; 3-ton 1916 White lorry, monobloc, Zenith, 4-d gate, £450; also several chars-a-bancs.—Cox ow).

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20 6-cyl. Buick 4-seater Touring, spare wheel, not been used, mileage under a thousand, indistinguishable from new; special bargain, £550.—Smith, Hampstead Rd., N.W.1. Tel.: Museum 5938 [9538

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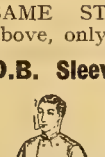

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8½h.p. Rover 2-seater, recently overhauled, thorough good running order, new piston and new tyres; trial offered; £75 for quick sale; genuine bargain.—Apply, by letter, English, Colehill, Wimborne, Dorset. [1208

PAXTON Car Depot, 228a, Gipsy Rd., West Norwood.—1914 4h.p. Green-Precision sporty combination, £67/10; 16h.p. Bell parcels van, live axle, gate, £125; 25-cwt. Unic commercial, large van body, solids, 4-cyl. monobloc, sump lubrication, bargain, £250; 12-15h.p. Opel landaulet, delivered 1915, bargain, £285; 12-14h.p. Crossley 2-seater, dickey, detachable wheels, monobloc, enclosed valves, £295; smart 1915 Overland streamline 4-seater, self-starter, dynamo lighting, £335; also brand new 1920 25-cwt. commercial, £50 below list price. All on view. Call. Part exchange entertained if real good value.—Paxton. [1287

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ENGINES.

MINERVA Engine, m.o.v., 2⅝in. bore, and carburetter; £4.—153, Howbury St., Bedford. [9739

DOUGLAS 2¾h.p., 1913, Isle of Man T.T. racing engine, minus carburetter, mag., and exhaust; £6.

£38; Scott engine, No. 1015, or exchange 1914 4-stroke.—Whiting, St. Marks, Henley-on-Thames. [1297

TRIUMPH 4h.p. Engine, 1917, with mag., chain cases; £15.—52, Manor St., Clapham, S.W.4. [1072

3½h.p. De Dion Engine, a.i.v., perfect, £3/10; 2¾ h.p. engine, perfect with mag. sprocket, £2/10.—Hall, Preston Rd., Chorley. [1394

2¾h.p. 1920 Hockley 2-stroke Engine, slightly used, £6; also new magneto, perfect, suit same, £4/10.—74, Woolman Rd., Blackpool. [9561

BRAND New 8-10h.p. J.A.P. Engine, 1920, water-cooled, magneto included; first cheque £45.—Wauchope's, 9, Shoe Lane, London. [9909

P. and M. Engine, 3½h.p., kick starter, as new, mag. and carburetter; £14, or nearest offer.—A.R., c/o 608, High Rd., Chiswick, W.4. [1343

1910 2½h.p. Minerva Engine, m.o.v., stored during war, recently overhauled like new, perfect running order; £4.—Box 9,488, c/o *The Motor Cycle.* [9859

VILLIERS Brand New 2-stroke Engine, type Mark 2, complete, less carburetter; £18; carriage extra.—W. S. Bird and Sons, 13, Henrietta Park, Bath. [9486

FOR Sale, Levis 2-stroke flat twin engine, Bosch mag. and Binks carburetter, complete; £30.—Zelandia Motor Co., Loveridge Rd., Kilburn, N.W.6. [9618

7-9h.p. Peugeot, Bosch mag., Binks carburetter, engine irons, silencer, controls, complete unit, little used; £19, or near offer. -4, Dean's Yard, Westminster. '6 to 7' evenings.) [9677

3½h.p. Single, enclosed mag. drive, Mabon clutch, pulley, exhaust lifter, all controls, silencer, £10; take good magneto part exchange.—Apply, 18, Hertford Place, Coventry. [9946

1919 2¾h.p. T.D.C. 2-stroke Unit, engine, Senspray carburetter with controls, Dixie magneto, and silencer, unused, condition as new; £16/10.—Bowscar Farm, Penrith, Cumberland. [9675

2¾h.p. Paragon 2-stroke Engine, 2-speed gear incorporated, complete unit, ready for fitting, magneto and carburetter; £21; brand new; bargain.—P. Riddelsdell, Boxford, Suffolk. [9779

8-10h.p. Douglas Lighting Sets, water-cooled engine with radiator, 120 v. dynamo, 20 amps., all on one base-plate. These are complete with switchboard, which includes 1 voltmeter, 2 amp. meters, and 6 switches.

8-10h.p. Douglas Engines only, with radiator, mag., and carburetter; £30.

4-CYL. Standard Lighting Sets, 10h.p. engine with radiator, 120 v. dynamo, 30 amp., switchboard, and switches, as used in workshop lorries; £75 each.

10h.p. 4-cyl. Austin Lighting Sets, particulars as above; £75 each.

10h.p. Singer Engine, complete, less mag. and carburetter, as used in the Singer cars; £25.

8h.p. J.A.P. Engine, less timing gear, 1918; £10.

5-6h.p. Clyno Engines, less mag. and carburetter, 1917, £15 each.—Please apply, or write J. J. Dooley, 33, Killyon Rd., Clapham. [9819

ENGINES.

HEPPELTHWAITE'S.—Two-stroke engines, new, £7/10; a.i.v. Hobart, £3/15; De Dion, £3/15; 3h.p. Kerry, cylinder damaged, £2/10.—19, Wilcox Rd., South Lambeth, London. [1199

I HAVE the largest stock of J.A.P. engine parts in London. 8h.p. J.A.P. engines, £20; 4-5h.p. J.A.P. engines, £20 I have all parts for J.A.P. in stock.—Hawkins, 455, York Rd, Wandsworth. [9752

1914 6h.p. J.A.P. engine, fast and powerful, bargain, £12/10; also brand new 8-10h.p. water-cooled J.A.P. engine, with handle starting shaft for cycle car; £40.—4, Holcroft St., Ettingshall, Wolverhampton. [X1949

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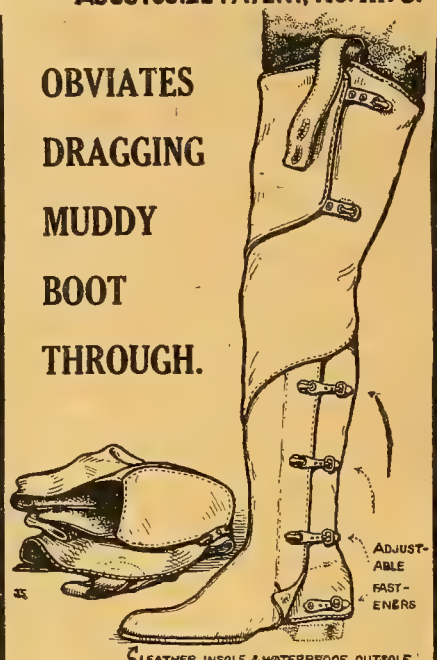

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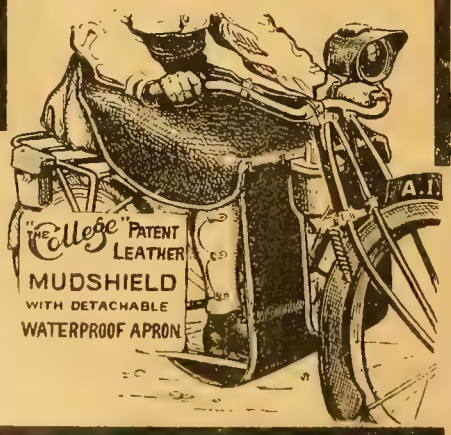

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£30-35 waiting for best machine offered, not ... stroke.—23, Jupiter Terrace, Well Hall, S.E.9. [112

WANTED, pair Druid forks, medium, 8x1in. ste... ⅞in. bars.—Rowe, 89, Well Hall Rd., Elthan... [116

WANTED, magneto, 50° twin, Bosch or E.I.... preferred.—179, Earlsfield Rd., Wandsworth. [958

£10 Offered.—Featherweight sidecar, Henderson pr... ferred.—Brookes, Free St., Brecon, South Wales [968

B.S.A. Countershaft, chain-cum-belt, back stays, a... wheel complete.—Parkinson, Builder, Chatteris. [98

WANTED, sidecar, C.B., fit Triumph, Gloria pr... ferred.—Cause, Southchurch Rd., Southend, Esse... [99

TWIN Countershaft Wanted, cheap; also sidecar... full particulars.—13, Rothesay Rd., Blackpool. [12

WANTED, Triumph-Gloria combination, 1914 ... 1920; particulars.—72, Vallentin Rd., Walthamstow. [96

WANTED, late model, solo or combination; lowe... cash price.—103, Thurlow Park Rd., West Dul... wich. [10

WANTED, 1909 or 1910 Triumph crank case, com... plete; no duds; deposit.—26, Knotts Lane, Colne, Lancs. [X18

FRONT and Back Axles, light, complete wheels, tyre... chain drive.—Rabuett, Soldridge, Medstead, Alton, Hants. [96

3½h.p. Fafnir Engine wanted.—Full particulars a... price to F.H.P., 40, Claremont Rd., Cricklewood, London. [96

ORGAN Wanted, reed, 2-man. and ped.; exchan... No. 7 Chater combination.—153, Howbury S... Redford. [97

MOTOR Cycle or Parts, gears, magnetos, carbu... retters; anything cheap.—Box 9,502, c/o *T... Motor Cycle.* [12

WANTED, 4-cyl. F.N.'s T.A.C.'s T.M.C.'s, Hende... sons.—Wandsworth Motor Exchange, Ebner S... Wandsworth. [61

WANTED, motor cycles, combinations, light car... any condition; cash on sight.—Dunn, 326, Eust... Rd., London. [03

WANTED, 3h.p. spring frame Royal Ruby, ... Beardmore Precision.—Box 9,516, c/o *T... Motor Cycle.* [13

A.C. Sociable wanted, fast and powerful; cheap; ... G.W.K., or other make, 2-seater.—Box 9,471, ... *The Motor Cycle.* [96

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WANTED for cash, an A.C. Sociable or Morg... runabout, must be cheap.—Particulars to ... Riffel Rd., Willesden Green, London, N.W. [75

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WANTED, 10h.p. Singer, A.C., or similar 2-sea... 4-cyl. car, in exchange for 8-10h.p. Warne ... driven motor cycle car and cash.—Symes, 123, Chu... St., Shirley, Southampton. [97

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XCHANGE 4h.p. Douglas for 2-speed lightweight.—Conway, College Rd., Epsom. [1120

ENITH 8h.p. for recent 2¾h.p. Douglas; sell £58. —534, Fulham Rd., Walham Green. [9961

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UMBERETTE 2-seater; exchange for good combination, or sell £150, offers.—A. Manners, Bank , Dane Hill, Sussex. [9993

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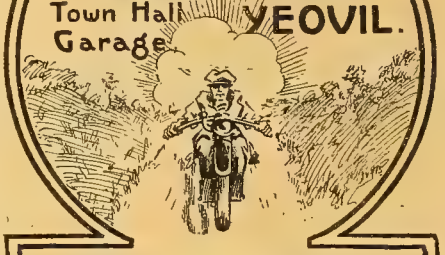

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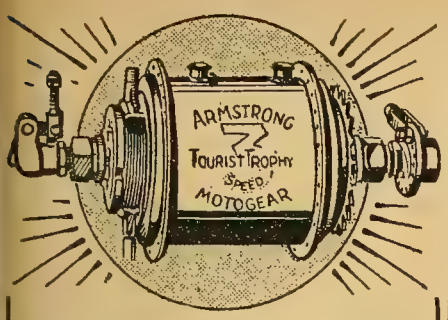

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WIRE Wheels quoted for.—Front M.C. from 27/6; back M.C., from 36/-; sidecar wheels, from 35/-—Gibbons, Chadwell Heath, Essex. [0111

DOUGLAS Pistons, gudgeons, rings, at large reductions for quantities.—Crow Bros., Guildford. [6054

PHILIPSON Pulley, 1920 model, one month's wear, off Triumph; £7.—Rols, Banstead, Surrey. [1247

J.A.P. Spares (genuine) large varied stock; expert J.A.P. overhauls.—Crow Bros., Guildford. [6055

1919 Tank, silencer off 2¾h.p. Douglas, ready new; offers.—Wright, Riverside, Nottingham. [X1942

POLISHED Celluloid Sheets.—Athol Engineering Co., 9, Peru St., Higher Broughton, Manchester. [7962

SADDLE, Brooks B170, as new, 35/-; motor horn, 10/-.—78, Eversleigh Rd., Battersea, London. [1068

MABON Pulley Clutch, 1920, as new, complete, off Triumph; £4/4.—Lincoln, 38, Mere St., Diss. [1067

12 NEW Renolds ⅝×¼ Chains, 100 links, 30/- each Bran, 20, Farlton Rd., Earlsfield, S.W. [9844

GRADO Kick Start, £8/10; Douglas shaft, 35/-; piston, 10/-.—Box 9,504, c/o *The Motor Cycle.* [1266

LATHE, 6½in., S.C.; exchange cheap motor cycle, or sell £12.—31, Capstone Rd., Bournemouth. [9676

CHAIN, Renold, ⅝×¾, 93 links, splendid condition; 26/-.—Wright, Bannerley, Coleshill, Birmingham. [9972

ARMSTRONG and Sturmey-Archer Gears repaired while you wait.—County Engineering Co., Hounslow. [9626

STURMEY-ARCHER Countershaft Gear Box for sale.—Ideal Trading Syndicate, Cromwell House, Holborn. [1630

DOUGLAS Spares: Gear box, engine spares, etc. Write requirements.—62, Southfield Rd., Bedford Park. [9634

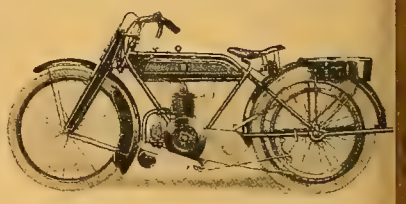
UNIVERSAL Utility Motor Cycle Locks, cheaper than insurance and more handy, 8/9 each.—Below.

MARVULC Vulcaniser, cheaper and better than any other, 8/9 each; extra patches and fuel blocks, 3/- dozen.—I.D.A., Ltd., 3, Central Buildings, Westminster, S.W.1. [0324

RIMS, 28×3 or 28×2½, brand new, ex W.D., drilled 40 hole, also drilled to take belt rim; 7/6 each.—Below.

BRAKE Rims or Belt Rims, diameter 16in., width 2½in., brand new, ex W.D.; 8/6 each.—Marble Arch Motor Exchange, 135, Edgware Rd., W.2. [8555

The Priory



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Olympia in 1920.

IT would indeed be a fastidious motor cyclist who failed to find his ideal at Olympia. Hundreds of machines ranging from miniature motor cycles, a natural development of the scooter, listed at an attractive figure, to the lavishly equipped motor bicycle for solo and sidecar use are staged for inspection. Their resplendent finish calls for general admiration, though possibly the glitter of the Show models possesses less of a glamour to experienced riders than plated parts do for beginners. This week's exhibition at Olympia is supported by British, American, French, Belgian, and Swiss manufacturers. Though international in character, British productions easily predominate, as indeed the British motor cycle industry leads in this the finest and most exhilarating pastime in the world. It can be said, too, that the magnificent display is in every way commensurate with the importance the industry has attained during its twenty years' existence. One should appreciate that the motor cycle industry represents one of our most staple trades. British exports of such machines equal two million pounds annually, besides which we find a market in this country for nearly half a million pounds worth of motor cycles of foreign construction. Thus it will be observed that from small beginnings the motor cycle manufacturing world has grown to big proportions, and finds employment for many thousands of workers.

Definite Improvement.

It has been said that the majority of 1921 models at the Show conform largely to 1920 design. As a general remark this may be true, but novelty and evidence of definite improvement are by no means absent. Where this year's Show differs notably from last year's is in the *proved* examples of machines displayed. Though conforming in outward respects to those exhibited last year, one need not delve deeply into the parts that matter to discover innumerable traces of advance and refinement, which all spell increased pleasure and reliability. Difficult and prolonged road tests have placed their hall mark on many comparatively untried designs which made an initial appearance at the last Olympia Exhibition. Nor should these remarks be confined to motor cycles and sidecars alone, since electrical equipment—notably lighting sets—in particular reveals marked progress. The convenience of being able to switch on a reliable lamp of indefinite life has to be experienced to be believed by those who recall struggles with lamps in the past. Comfort—a subject which has received much attention in these columns—has very noticeably been studied. If spring frames are not so numerous as one would wish, saddle-springing devices are greatly in evidence.

An Attractive Range of Exhibits.

Two and four-stroke lightweights in profusion at very tempting figures, replete motor bicycles and sidecars as well as "permanent" three-wheeled runabouts which nowadays defy wind and weather, combine to render this year's Show unusually attractive. Even sidecar taxis form a feature, though one forms the impression that some of the designs have been over-developed. Nevertheless, the sidecar taxis and the trade sidecarriers form an interesting sidelight upon the many possibilities of the inexpensive motor cycle and sidecar, now developed to a remarkable degree of reliability.

A wave of economy is passing over the whole world, and consequently the cheapest form of motoring is bound to attract—and receive—an increased measure of attention. All interested in the popularisation of economical motoring and the development of the motor cycle for the million should visit Olympia this week and examine for themselves the best machines available in 1921; those who find it impossible to do so will find a fitting substitute in *The Motor Cycle* Show Report, which has been written after a personal inspection of the exhibits.

An Index to the advertisements in this issue will be found on the page facing the back cover.

Occasional Comments

By "Ixion"

First Impressions of the Cedos.

I HAVE just started my winter pottering on a Cedos lightweight, and shall naturally wait to see if it plays me any vicious tricks before recording my mature impressions. But I was delightfully surprised at the outset to find how beautifully it two-strokes down to very low road speeds, and not less so when driven light downhill. I have not previously owned a two-stroke which was its equal in these very vital points.

The Pot-hunter.

A FRESH sidelight is thrown on "colonial" routes for one day trials by a letter to hand from a club secretary. He complains that local riders are swamped in these events by professional pot-hunters, and that the organiser's best plan for ensuring a prize or two to the local men is to include a lot of freak hills which want knowing. This is quite sound sense. But I dissent from overmuch opprobrium being handed out to the so-called "pot-hunters." Most of them are traders of one sort or another, whose business it is to advertise the machines which they handle. The amateur pot-hunter is really rather a rare bird, since the expense—not to mention the nervous strain—of habitual trial riding is too heavy an outlay to be faced for the sake of a few medals.

Carrying the Spare Chain.

AN Aussie film-runner—which I take to be a man who conveys the reels from one cinema to another—sends me a panegyric on the trusty Triumph, in which he mentions that he stores his spare rear chain in a locker specially made and fitted beneath one of the footboards. Incidentally, he congratulates Coventry on the superb quality of its plating, and—what do you think?—on the ease with which British machines in general can be cleaned! This last bouquet is not one I am in the habit of throwing; but the contrast between our opinions is explained by his past use of American twins.

Instrument Lamps.

SEVERAL suggestions are to hand for illuminating speedometers and oil-drips at night. "H.B." uses two small mirrors to reflect a spot of light from his head lamp. I should say this apparatus must be apt to shake adrift, and would entail a certain amount of dazzle. "C.M." has rigged up a special gadget made of dry battery torch parts; he uses it intermittently with the aid of a switch, and finds it highly satisfactory. "R.B." has been using a Siemens satchel light ever since 1914; the outfit is slung round the rider's neck by a strap, and located in front of his tummy by a belt. It comes in handy for many other purposes, including night repairs and adjustments. I am not sure that it is still marketed, but it certainly looks like the goods for all habitual night riders; a switch is, of course, included. "D.D." uses a pre-war "button-hole lamp" of the dry battery type, designed for the cells to be carried in the pocket, but mounts the juicebox on his machine. "G.J." has converted an ordinary tail lamp into an instrument light, and, after substituting a white glass for the original ruby pane, he gets two beams, one being focussed on the oiler and the other on the speedometer. These devices will give interested readers plenty to think about; I must say that the satchel lamp, insulated and convenient, makes the strongest appeal to me.

SIDECAR COMFORT.

Our passengers can no longer now say that their comfort and convenience receive scant consideration. Could any sidecar passenger, male or female, require greater luxury than a sprung frame machine with a spring wheel sidecar, such as the Matchless here shown, and to which is added one of the latest Easting windscreens? The improved facilities for entering and leaving the vehicle, and the comfort and protection of the screen, are displayed.

A Benzole Tip.

I DARE not dogmatise, for the ways of the fuel magnates are past finding out. But I have a certain amount of justification for stating that in localities where a two-gallon can of benzole is scarcer than pre-war whisky, it may yet be possible to order, and to receive delivery of, a fifty-gallon drum. At any rate I wot of riders who have found this lordly solution practicable. One presumes that the can trouble may occasionally worry the benzole distributers, so that the cynics who hold that the Shell and Pratt shareholders reserve the benzole for their own use may be grossly mistaken. Now fifty gallons is obviously an impossible order for an individual motor cyclist to place. But there are such things as motor cycling clubs. 'Nuf sed.

Secret Switches.

A SAD ignorance of practical riding conditions is evinced by the very obvious patterns of switch now incorporated in most electric lighting sets. The ubiquitous small boy regards a lamp switch as far more attractive than any hooter, and loves to turn on the head lamp when a machine is left in the open. It is by no means a difficult matter to devise a switch which will baffle nine urchins out of ten. The "bezel" type, fitted on Smith car sets, is a good example. Hunt used to market a dry battery tail lamp in which the switch was operated by rotating the bulb-holder, and this was sufficiently unusual to baffle an expert; I know a rider who won many small bets by challenging other motor cyclists to discover his tail lamp switch. There are, of course, two principles on which this very real problem may be solved. One is to camouflage the switch lever, a method which will serve provided the camouflage is varied by different makers. The other is to use a key switch, which can only be operated by the owner.

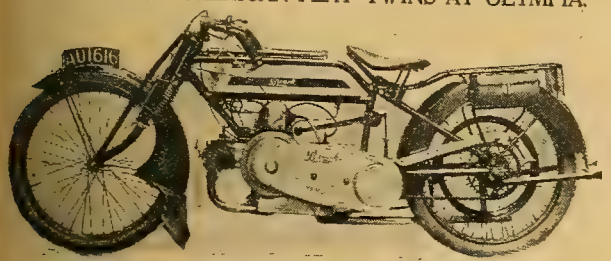
Sixteen Plugs.

I THINK engines on the whole are far less exacting in respect of sparking plugs than they used to be. I have rung the changes this season on four quartettes—sets of Bosch, K.L.G., Heath, and Splitdorf. In 1913-14 I often used to meet engines which always sulked unless a set of genuine Bosch were installed; and when four 1920 Bosch came into my hands, I regarded them as the standard up to which British plugs must come. This year they do not seem to have anything in hand of the K.L.G. or the Heath. All four sets have been freely loaned to people in trouble, and have figured on every conceivable type of engine from racing cars down to baby two-strokes. The Splitdorf is very dear owing to the American exchange, and came into my possession as the official plug for Scotts; once Scott lubrication is mastered, I find that the Heath and the K.L.G. do well in these engines, and the Heath in particular is a fine plug for oily engines generally. During 1920 I have not struck any four-stroke engine which can "incandesce" a Bosch or a Heath or a K.L.G. On the other hand, I fear it is still true that a baby two-stroke which is new and tight can "incandesce" any plug which is made; of course, the phenomenon will only occur if one over-drives a baby on the level, or is forced to put its infant tightness at a hill like Kirkstone or Gunnislake. As soon as the baby has sweetened itself down, it will behave nicely on any good plug, preference being given to an anti-oiler like the Heath. It is gratifying to find that two British plugs, selected almost at random, are at last apparently as good as the Bosch; for I can recall that in 1914 I tested some score of plugs at the request of the trade, and found that one of my engines simply would not run on anything but a genuine Bosch. Further, I notice that few of my neighbours are riding on either Heath or K.L.G., and yet they are experiencing perfect plug joy on other British makes. Hats off to our sparking plug industry, which has certainly made good this year.

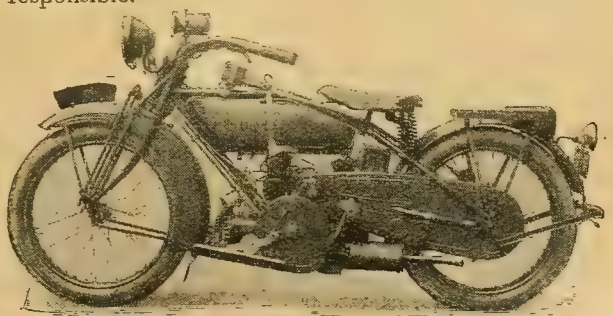
Mr. Brace and Output.

I AM no politician, but I should like to assure Mr. Brace that we could probably sell twenty motor cycles abroad for one which we now sell in England if only we could market them Overseas at a competitive price, and that if we could annex this potential Overseas market, it would keep Coventry, Birmingham, and Wolverhampton busy during those winter months when our home demand usually falls off and leads to short time in the factories. Mr. Brace may possibly be able to prove that certain concessions on the part of capital would assist in securing these markets, which at present are almost wholly lost to us. On the other hand, a great many hold that a larger output per man per hour on the part of labour is an essential factor in the requisite lowering of our export prices. To quote but one example, I have had innumerable letters from Overseas riders since the A.B.C. was first announced at £85; as its price gradually soared to £170 odd, most of these enthusiasts bought American machines instead. In this instance, at least, since the firm went into what is humorously known at law as "voluntary" liquidation, excessive profiteering by the employer cannot be responsible.

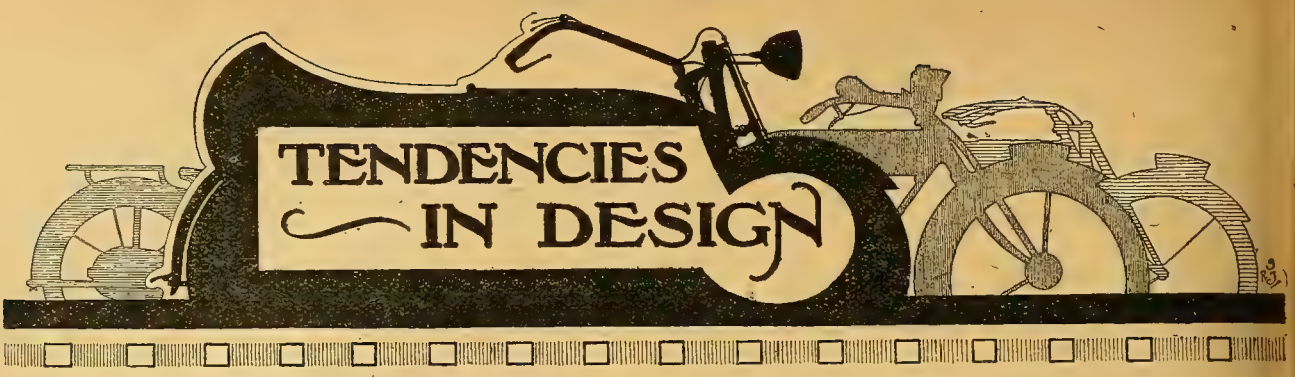
BRITISH AND AMERICAN FLAT TWINS AT OLYMPIA.



Comfort and speed are both provided by this new 3½ h.p. overhead-valved Brough.



Now electrically equipped, the 4 h.p. Harley-Davidson flat twin is a leading example of American solo machine.



A Review of the Most Important Developments in 1921 Models.

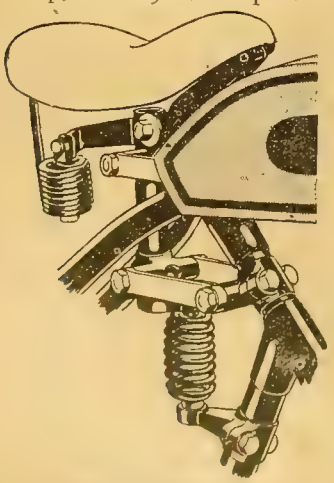
AT the great motor cycle exhibition at Olympia, we have gathered together the world's finest productions in the motor cycle line. A convenient opportunity is thus provided for analysing the progress made during the past year, and a study of the various exhibits provides a vast amount of interest to such as are technically minded.

The earlier months of 1920 were characterised by such a demand for motor cycles, that manufacturers found it difficult to supply the requirements of their customers with standard machines, and few of them found time to experiment with future models. Although the rush fell away considerably at the close of summer, this slackening, which provided more time for investigation and experiment, came too late to permit the results to bear fruit at the present exhibition. As a direct consequence, many of the machines staged on various stands differ little from their forerunners of 1919.

Such differences as exist mostly take the form of improvements from the manufacturing point of view, though not a few will add considerably to the comfort of the rider.

Improvements in Suspension.

It is noticeable, for instance, that larger tyres are fitted, 26in. × 3in. and 28in. × 3in., being not uncommon on machines of 500 c.c. and over. In addition, saddle suspension has received a considerable fillip, and 1920 has produced in a commercial form several devices which are either entirely new or were in experimental forms only during the past year. For example, there is the new Brooks saddle suspension, in which the seat is attached to the carrier by a pair of full cantilever springs on either side, in such a manner as to provide a parallel motion of considerable magnitude, and thus ensure a great increase in comfort. Some months ago there was described in *The Motor Cycle* a seat manufactured by the producers of the popular Tan-Sad pillion attachment, in which the principle of suspension from the carrier was embodied, and this also has borne fruit in the form of a parallel action saddle in which the lower leaf spring on each side is replaced by a link.



One of the several auxiliary systems of saddle suspension,—the Hazlewood.

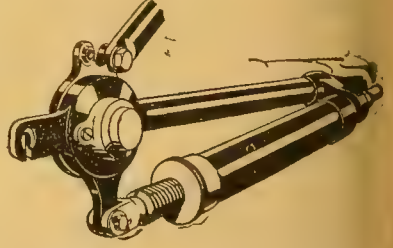
The makers of the Armis are among those who are fitting the Flexa leaf-spring saddle-pillar, while among the machines to which auxiliary saddle suspension now is fitted as standard are the Ariel, B.S.A., Acme, Hazlewood, Rex, and Zenith.

Indeed, this form of suspension appears to be making headway at the expense of the heavier, if more complete, system of rear springing. An intermediate form, in which the footboards are connected to the saddle suspension, is well represented by the Bat, Edmund, and L.M.C., but newcomers to full suspension are conspicuous by their absence, with the exception of the proprietary spring frame introduced by Messrs. Brampton Bros.

Spring Frames.

There are, however, several makers who are not exhibiting at Olympia, and among these are a few who are offering spring frames next year. The Coventry Eagle is one example. Again, there are several spring frame machines only waiting for production facilities to permit their introduction to the public. Such machines as the Indian, Clyno, Royal Ruby, Hobart, Raleigh, Matchless, Coulson, Paragon, and Wooler, of course, retain their well-tried systems, though Messrs. Douglas Motors, Ltd., are no longer showing their rear-sprung "3½."

Many new spring forks have come into existence, which, although not differing largely from accepted practice, are interesting as showing that front suspension is receiving the consideration due to it. Several motor cycle manufacturers have introduced spring forks of their own design, such as the Ariel, and others, including the B.S.A. and A.J.S., have improved or increased the movement of these components.

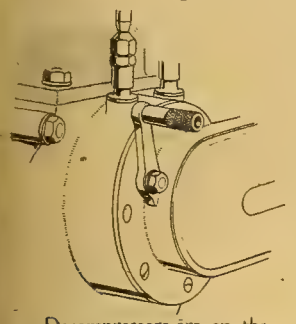


Latest spring frame designs tend to be neater than hitherto. The Coventry Eagle system is extremely inconspicuous.

ENGINES.

While the Show does not include every type of engine in use on motor cycles, the absentees are not important, excepting in two

Tendencies in Design.—



Decompressors are on the increase, and one more make—the Ariel—dispenses with the exhaust valve lifter. Above is shown the decompressor lever of the new B.S.A. single.

cases—the A.B.C. and the Redrup radial. The former, last year, was an excellent example of a carefully thought out design embodying the gear box and placed across the frame. The three-cylinder Redrup would no doubt have created a great deal of attention, and, since it is on the market as a proprietary engine, its absence will be regretted by most who are interested in novel engines of practicable design. At the last Show there were a few examples of freak engines, which have not survived the year.

This year's Show reveals many new engines of almost every type, notably several "big singles," which either take the place of similar machines shown last year or are introduced as additional models.

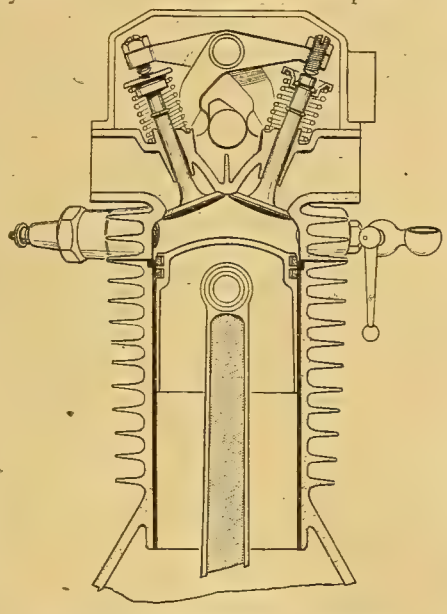
In addition there are at least five new V twins, three opposed twins, and one four-cylinder. In the two-stroke field, the engine of the Scott Sociable and the Villiers with flywheel magneto are the most interesting new propositions.

One feature of the Exhibition is the number of machines embodying the now well-known 500 c.c. Blackburne engine. At the last Show there were only two makes of machines exhibited with this engine; this year there are at least ten. The large number of makers now fitting the 350 c.c. model of the Blackburne swells the lists of outside flywheel machines.

The number of machines fitted with the 5-6 h.p. twin J.A.P. engine, now of slightly larger capacity, is increased by the introduction of such machines as the new Massey Arran, the Armis, and the Omega.

Overhead Valves.

Not everyone will agree that an increase in the number of overhead valve engines constitutes an improvement, but the advanced school who sigh for increased engine efficiency will welcome the advent of the six-valve twin N.U.T., the 500 c.c. sporting model Douglas, the 3½ h.p. Brough, the little Dot-Jap twin, the New Bradshaw engine embodied in a Zenith model, and the Superb four-cylinder engine, with its overhead camshaft. Confirmed believers in overhead valve gear are frankly delighted at this important increase in numbers, which undoubtedly signifies a step in the right direction, and one which will shortly be followed by other well-known firms, some of which have machines of this type on the road even now.



Showing the construction of the Superb four-cylinder engine, which has aluminium cylinders, steel levers, and an overhead camshaft.

Cooling.

The important question of cooling is coming in for a lot of attention. J.A.P., M.A.G., and A.J.S. are amongst the several engines having increased cooling surfaces, and several two-stroke manufacturers have obviously been getting to work on the same subject. Undoubtedly the most interesting developments in this direction are to be found in the Bradshaw and Superb Four engines. The former is based on a principle of heat dissipation from the crank case which was brought into prominence by a series of scientific experiments on air-cooled aero engines during the war. This principle has been inadvertently, unscientifically, and sometimes unwillingly applied in most engines, and now for the first time is to be intentionally carried out on carefully thought out lines.

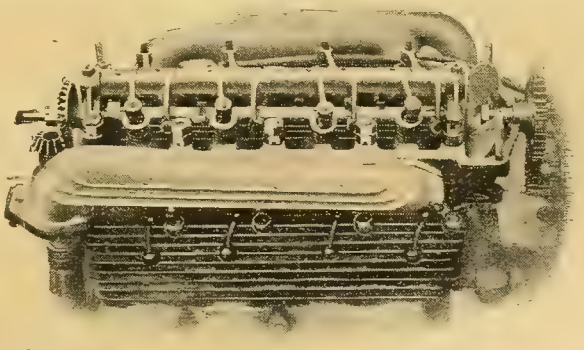
Cooling by Oil.

It is Mr. Bradshaw's idea to cool his engine internally as well as externally, and to dissipate as much heat as possible through the crank case. For this reason he employs forced lubrication and special means of distributing the oil over the whole of the interior of the engine, after which the oil is withdrawn by a second pump and, after being cooled on its passage, is returned to be used again. It is stated that after twenty-two laps of Brooklands "all out," with a new and unused engine, the oil remains green and clear, showing no signs of deterioration.

Metallic contact between the invisible cylinders and the crank case is ensured by the former being slightly "pinched" between the two halves of the latter, and aluminium pistons are used to ensure adequate cooling. This most interesting engine will be watched with the greatest attention by all who have the welfare of the motor cycle at heart, since it involves a method of cooling which is almost revolutionary.

Aluminium Cylinders.

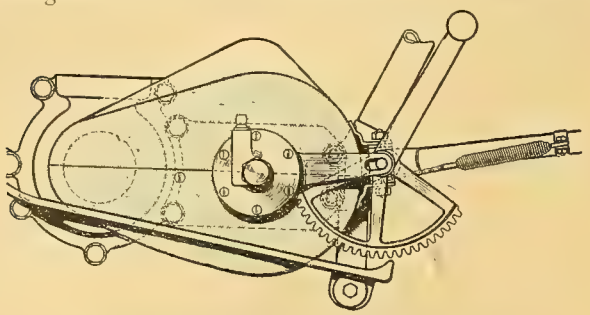
Of almost equal interest is the Superb four-cylinder, not only because it is the only British four-cylinder engine to be staged, but because



Overhead camshaft and valve gear of the British four-cylinder motor cycle at Olympia.

Tendencies in Design.—

of the intrinsic merits of the design. Here we have a four-cylinder-in-line engine, with aluminium cylinders and top half crank case cast in one piece. The cylinder liners are held down by the heads. Inclined overhead valves are operated by a bevel-driven overhead camshaft, and forced lubrication is employed throughout.

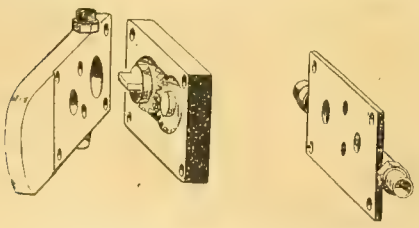


The Enfield kick-starter on the lightweight model.

A three-speed gear box is incorporated with the engine, which is beautifully carried out, and naturally the exhibit attracts an enormous amount of interest. Here, then, we have examples of three different methods of improving heat dissipation, an enlargement and redistribution of cooling surfaces, a new method of heat dissipation *via* a specially designed crank case, and an aluminium cylinder block with forced lubrication.

TWO-STROKES.

The number of small two-strokes does not diminish, and, except for the flywheel magneto Villiers with its unconventional induction system, little radical change has been made in design. There is, however, a tendency to increase engine capacity, and to fit light sidecars to specially strengthened frames. The Ivy, Connaught, Cedos, Armis, Allon, Alecto, Ixion, and Calthorpe may be quoted as good examples of this type of machine, while the 500 c.c. Dunelt, now a commercial proposition, remains the sole example of a single-cylinder air-cooled two-stroke of this capacity. It has, however, proved its capabilities, and has two gold medals in the A.C.U. Six Days Trials to its credit, incidentally the only trial in which it has competed.



Lubricating pump of the Bradshaw engine dissected. A similar pump is fitted to the opposite side to return the oil to the tank.

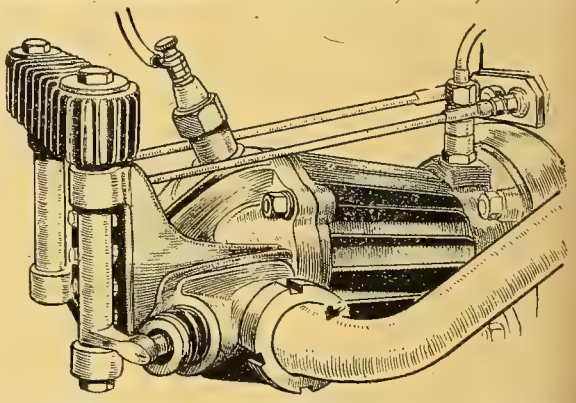
The Scott motor cycle engine remains almost unchanged, and its many successes during the past year lead to little expectation in this direction. The engine of the Scott Sociable is another matter, but this is more properly dealt with under the heading of "Runabouts."

GEARS AND TRANSMISSION.

A new proprietary three-speed gear box is quite an event in these days, and no article dealing with progress can afford to miss the Comery gear exhibited on the Brough stand. It is a notable example of clever but commonsense design, and the workmanship is on a par with its ingenuity. Messrs. Lea and Francis and Rudge-Whitworth have introduced new three-speed gears of their own. The Moss Gear Co. has a new two-speed countershaft box, and the Kingsbury is a fresh example of a two-speed selective clutch mechanism. Further, the Levis firm have a three-speed box of their own design in an experimental stage.

Despite the claims made in favour of unit construction of engine and gear box, there is no decided tendency in this direction. Except for the Superb Four, new designs embodying this feature are conspicuous by their absence.

The demand for clutches and kick-starters on lightweights is apparent by the number of makers who now offer models embodying them, while it is noteworthy that the Enfield lightweight, which has a two-speed selective clutch unit, may now be obtained with a kick-starter. Not a few makers have at long last decided to provide mechanical means for adjusting primary drive chain centres. Chain drive is steadily gaining ground, but there are many who provide an alternative of chain-cum-belt for those who favour this form of transmission. The Wilkin, Ariel, L.M.C., Rudge, Superb Four, Rex, Acme, are newcomers to all chain transmission, but a few remain faithful to plain belt drive for their sporting models.



On the new Douglas, radiating fins are cast on the small aluminium oil reservoirs, from which the overhead valve rocker shafts are lubricated by a wick system.

As regards shaft drive, enthusiasts must still await its coming, for, in respect of motor cycles proper, the F.N. remains the solitary example, though the Unibus is an addition which includes many other advanced features.

LUBRICATION.

For years past *The Motor Cycle* has advocated the use of mechanical lubrication with a view to relieving the rider of trouble in this respect, and of ensuring a regular and adequate supply of oil to every part of the engine. It is satisfactory, therefore, to note that almost every engine of recent design incorporates this very desirable feature. Last year's Show introduced to the public the P. and M., B.S.A., Velocette, Clyno, Corona, and Humber systems, all of which remain; and the number of machines thus equipped has now been swelled by such engines as the Bradshaw, Superb Four, Vickers-engined Enfield, 4½ h.p. Ariel, and Cykelaid.

It was not to be expected that manufacturers whose products remain unchanged in other respects would

Tendencies in Design.—

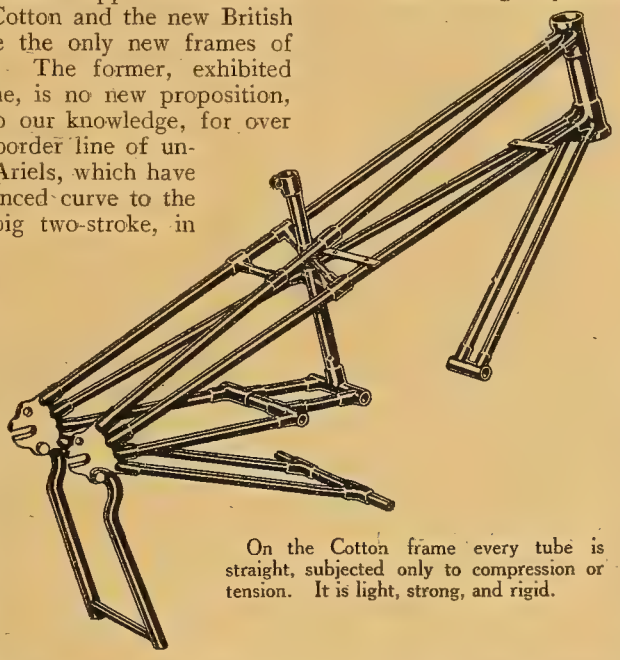
have added mechanical lubrication to their specification, but the demand for conversion sets is amply demonstrated by the number of these which are obtainable. Messrs. Best and Lloyd, Lamplugh, and Showell and Sons, all market such devices, which are likely to become increasingly popular as their merits become more generally known.

Lubrication of machine parts is receiving greater attention, and quite a number of designers have embodied convenient lubricators on the steering heads. An interesting innovation is the hub and fork bearing lubrication of the new Ariels, in which the spindles are drilled so that the bearings may be charged with lubricant by means of an oil gun.

FRAME DESIGN.

There is a steady improvement apparent in frame construction, although the Cotton and the new British Excelsior duplex frames are the only new frames of unconventional appearance. The former, exhibited at Olympia for the first time, is no new proposition, having been on the road, to our knowledge, for over six years. Perhaps on the border line of unconventionality are the new Ariels, which have a high frame with a pronounced curve to the top tube, and the Dunelt big two-stroke, in which both tank rails slope downwards to the rear.

A decided tendency is apparent among frame designers to favour straight top tubes, which, in an increasing number of cases, are covered by saddle tanks. The new Hobart, 8 h.p. Hazlewood, Verus sidecar machine, 5-6 h.p. Omega, Francis-Barnett, and 6 h.p. Quadrant are striking examples. The curved top tube, at one time almost universally adopted, is slowly disappearing, though a few new machines still embody this characteristic.



On the Cotton frame every tube is straight, subjected only to compression or tension. It is light, strong, and rigid.

In some cases lugs are considerably strengthened, and sidecar lugs integral with the frame are general practice on all machines intended for sidecar or dual service; the Hazlewood even goes to the length of fitting an auxiliary stay between the two front attachments.

Another very noticeable feature to those who take the trouble to enquire is the increase in the employment of steel lugs in the more vital parts of the frame. These steel lugs in some instances are castings, in others forgings, and in a few, notably the Rudge, pressings.

The large number of ladies' models now offered with semi-open frames is evidence that makers are contemplating extending their markets. Last year there were but few machines of this type at Olympia.

MUDGUARDING.

Each year has seen some improvement in mudguarding, but until this year the problem has not received the attention due to it. There is scarcely a 1921 model, however, which does not embody mudguards which are a distinct improvement over the types used by their makers last year. Undoubtedly there is strong evidence that every maker has endeavoured to improve his production in this respect. Even machines admitted to be better guarded than the majority of 1920 models have gone a step further by the introduction of wider and better designed guards, some embodying gutters on the inside edges to guide water and liquid mud to a part of the guard where it may drop off without bespattering the machine or its rider. An increase in the fitting of leg guards as standard fitments is another commendable feature, while footboards are improved in design, and are larger and better fitted.

CHAIN CASES.

The growing popularity of chain transmission has brought along improved chain cases which are more accessible, better made, and easier to detach and replace. Flywheel guards, too, are becoming general on engines fitted with outside flywheels, and the dressguards on the ladies' models are better carried out.

CARBURETTERS.

Speaking generally, two-lever carburetters have changed but little during the past twelve months, but there appears to be a tendency on the part of manufacturers of well-tried car carburetters to enter the motor cycle market. The Claudel Hobson, as fitted to the A.B.C., has already made many converts to the single lever type, and a new model made specially for motor cycles is now ready for the market. A motor cycle type Zenith, which has been in use in France for some time, has found its way on to the Bradshaw engine, an event which would not have occurred without good reason. The Capac has already many admirers, and we are likely to hear more of the Degory "no jet" carburetter and the Cox Atmos.

Of the single-lever carburetter generally, it may be said that progress is somewhat slow, probably due to the fact that some makers appear to find it difficult to produce a carburetter which will give equally good results on different makes of engine. Thus we hear both eulogy and condemnation from designers of different engines concerning one or another carburetter, and for the time being several motor cycle manufacturers are reverting to the two-lever type on this account. There seems to be little doubt, however, that the single lever instrument will in time become a standard fitting, though many keen riders prefer to retain a second lever as a means of instant adjustment.

There is still much to be learned about carburation, especially as regards two-strokes, but there is every reason to expect an early development in this direction.

Tendencies in Design.—

Some very remarkable results have been obtained recently on officially observed consumption tests, figures of 320 m.p.g. being recorded with a standard 211 c.c. two-stroke over a distance of fifty-four miles at average touring speed. Such tests at least serve to show that the vital question of economy is exercising the minds of British carburetter experts, and we think that developments are pending which will greatly reduce the fuel consumption of motor cycles in the hands of the public.

WEIGHT.

So far there are few signs of a serious effort at weight reduction, but, perhaps, the new taxation scheme will bear fruit by Show time next year. It is true that heavy machines will not be affected by the taxation, and only those that weigh between 200 and 250 lb. can hope to save their customers 30s. per year. Once improvements are made in this direction they will be welcomed by all.

In larger classes of machines, the new sporting Sunbeam, introduced in the summer, seems to have set a fashion in lighter solo mounts of 500 c.c. In addition to the Wolverhampton production, solo "light fours," as they are termed, are included in the Rex and Verus programmes, and certain other well-known firms are likely to follow suit in the near future.

Last year there were no solo V twins smaller than the 500 c.c. class, but at the present Show at least one sporting lightweight has an overhead valve V twin of 350 c.c. This is the little Dot-Jap, a development of the machine which competed in this year's Junior T.T.

LIGHTING.

The success of the Lucas Magdyno on luxurious outfits has emphasised the need for electric lighting all round, and as is usually the case, demand has produced the necessary genius. The M-L Maglita has materialised, after long and thorough tests, into an exceedingly practical combined ignition and lighting set for use on all sizes of machines, while just before the Show the B.T.H. Co. introduced to the public details of their new and ingenious system of utilising the idle "maximum point" in engine speed magnetos. This brings the two-stroke a lighting set of its own, which will sell at a price proportionate to the class of machine to which it is suited.

Generally, lighting equipment has made big strides, exemplified by the Hawley Morgan generator, and the re-introduction for lighting purposes of dissolved acetylene by Allen-Liversidge, Ltd. Improvements in gas lamps are not strikingly noticeable, although detail alterations, as the outcome of experience, may be observed in some instances.

MINIATURES.

As foreshadowed by *The Motor Cycle*, the scooter is developing into a miniature motor cycle, and at least two manufacturers will, in future, assiduously avoid the use of the term in connection with their products. This development is as it should be, and the genuine open frame seat type miniature will, in due course, come fully into its own. The Whippet retains most of its attractive features, changing only as regards piston material, carburetter, and cam details. The Unibus is a most striking innovation with its spring frame, two-speed gear, worm drive, and complete enclosure. It is designed on ideal lines, but it remains to be seen whether the public will prefer such an "ideal" miniature or a larger motor cycle at the price. The Kenilworth in its latest form is a fascinating little mount, weighing only 70 lb., and has earned a most enviable reputation in the Midlands for its comfort and reliability. Triangulated tubular construction now takes the place of steel side plates for the frame, and an overhead valve engine is retained. Detail improvements only have been found necessary on the Skootamota.

Taken on the whole, it may be said that the scooter is dead, and that from its ashes has arisen a miniature motor cycle of practical value. The number of exhibits of this small type of machine are less this year, and it has been a survival of the fittest. Spring frames appear to be "catching on" with designers of miniatures, which is perhaps hardly surprising in view of the state of the roads. A tandem-seated miniature and a small motor tricycle, too, are new introductions at Olympia this year.

RUNABOUTS.

In number of exhibits, three-wheeled runabouts are comparatively few, but in interest they are prolific. Here, shaft drive appears to have got a firm hold for the T.B., Castle-Three, and Scott Sociable are all three fitted with this form of transmission.

The Scott Sociable, already thoroughly described in these pages, is naturally a centre of attention. Unorthodox in every detail, it is, nevertheless, an engineering proposition from start to finish. Its triangulated frame is perhaps a little astonishing until the underlying principle is mastered, and the twin two-stroke engine, with its rotary inlet valves and double-pole ignition system, is, to say the least of it, unusual.

The "sidecar" layout of the wheels, although necessitating an unusual appearance, has certain advantages in regard to the rider's comfort and the stresses imposed upon the frame. For this reason, it may be considered as a distinct advance. At first sight it may, by many, be classed as a freak, but it is the outcome of more than five years of experiment on the part of one of the cleverest brains in the trade, and road experience will be sufficient to convince most people of the value of its distinctive design.

A newcomer in this class of vehicle is the New Hudson, a name, like the Premier, associated before the war with sidecar outfits.

In so far as genuine progress is concerned, it is a moot point whether any very considerable elaboration has proportionate advantages over the simpler and lighter types of three-wheelers. Excepting for the Scott Sociable, there is little in the three-wheelers at Olympia which is radically new, although the front wheel-driven Stanhope is not of a well-known type.

On the popular Morgan, which is all that is simple and straightforward, detail improvements of some importance have been made, notably a detachable rear wheel and interchangeable chains, but the vital features remain as before.

Perhaps one of the most striking improvements is the fact that the accessibility of rear wheels has, at last, received the attention it merits, and in at least three cases all wheels are interchangeable.

BEHIND the SCENES at OLYMPIA

IMPRESSIONS OF EARLY HOURS AT THE MOTOR CYCLE EXHIBITION.

MORE SOCIAL UNREST

1 FIRST THE MANAGING DIRECTOR SAYS "I WANT THIS STAND TO BE READY AND FINISHED BY SIX O CLOCK" —

2 TEN MINUTES LATER HE BRINGS SOME OF HIS FRIENDS TO SEE THE NEW MODEL; AND AFTER SOME FUNNY STORIES HAVE BEEN TOLD AND THE POLITICAL SITUATION THOROUGHLY DISCUSSED —

3 AND THE SUCCESS OF THE FIRM TOASTED AND OVER AN HOUR WASTED IN WHICH THE WORKMEN HAVE BEEN UNABLE TO DO THEIR WORK —

4 THE MANAGING DIRECTOR SAYS: "LOOK HERE, YOU'LL HAVE TO WORK QUICKER THAN THIS OR YOU'LL NEVER BE READY BY SIX AND IF YOU ARE NOT READY IN TIME THERE IS GOING TO BE TROUBLE — SEE!"

HAS THAT XX?! MODEL LEFT THE Z!X?! WORKS — WHY THE ?XZZ — (CUT OFF)

FRIDAY

"HAVE YE A DROP AV OIL YE CAN SPARE US'?

"SAY OLD BEAN LEND'S A SPANNER"

"GOT A BIT O SPARE FLEX-CHUM"?

THE ETERNAL BORROWERS

SOME CHARMING FEATURES OF THE SHOW

OLYMPIAN JOURNALISM

HOW IT FEELS TO GO UP AND FIX THAT FUSE YOURSELF

READY AT LAST

ONE FOND LAST LOOK AT THE BLIGHTER YOU'VE CURSED OVER FOR WEEKS

THE MAN WHO COMES TO BUY A MOTOR-SCOOTER

THE MAN WHO BUYS AN 8-ID H-P OUTFIT

BELOW!

MIND YER BACK!

OUR ARTIST — TRIES — TO SKETCH — AT —

THAT "NIGHT-BEFORE THE-SHOW" FEELING

"Is there anything I've forgotten?"

HI!

"WAY THERE!"

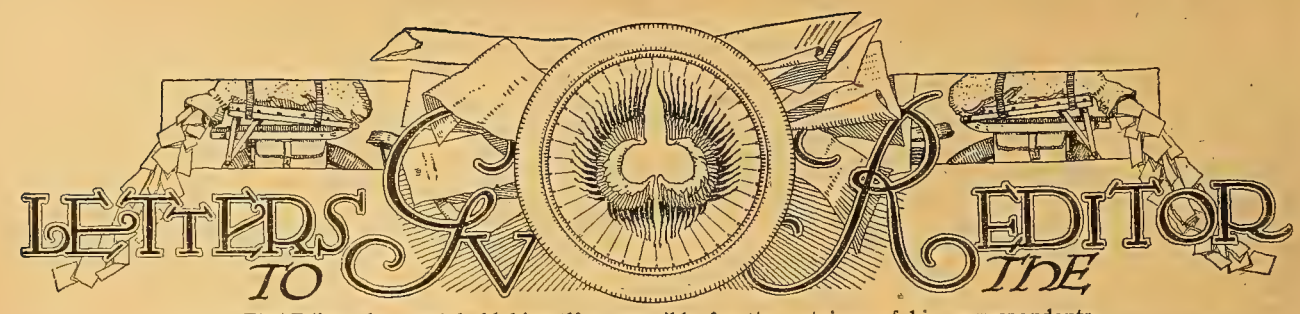
OLYMPIA — BEFORE THE — SHOW IS — READY —

WET PAINT

HE FINDS IT — EXCITING — DANGEROUS — COSTLY — AND DECIDES THAT NEXT YEAR HE WILL DON ARMOR / OR CHARTER A TANK!

Cunningham 1920.

DII



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

THOSE INCREASED SUBSCRIPTIONS.

Sir,—*The Motor Cycle* of November 18th tells me that the A.C.U. and the A.A. have increased their subscriptions by 100%.

May one be permitted to ask these august bodies how they justify this increase; and what they (especially the atter) do for the average motor cyclist in return?

Barnstaple. BLED DRY.

SKIDS.

Sir,—I also was very interested in "Ixion's" remarks in his "Occasional Comments" with regard to traffic signals whilst on greasy roads. I am a weekly rider from Chichester to Ealing, and, like "Duggie," your correspondent, pass through Isleworth, Hounslow, and Brentford, and many of the skids I have had in the latter place. Indeed, at the end of last winter, I came to the conclusion that it was impossible to ride through Brentford on a wet day without skidding, owing to the appalling surface of the road, composed of large uneven stone setts with rounded tops. J. A. PRISMALL.

PILLION RIDING.

Sir,—In many of the modern machines turned out to-day it is the practice to support the carrier with two strong tubes each side, forming a triangle, and no longer carrying stays, or tubes, to the frame under the saddle.

This method is, no doubt, neat and strong; but, as one of thousands of motor cyclists who are very fond of carrying passengers on the carrier, I should like to point out that I find the modern method much more dangerous.

Passengers, for safety, must sit as far forward, towards the driver, as possible, and, with many carriers to-day, this is not possible, because the carriers end a considerable distance away from the saddle. PILLION.

Chester.

CYCLE BEARINGS.

Sir,—I have just read the article in *The Motor Cycle* on the adjustment of cycle bearings which appears in your issue for November 4th. Without the least desire to be critical, I beg to attach a few remarks thereon, which I trust you will find suitable for publication.

The cup and cone type of bearing, as the writer admits, requires adjustment frequently, and this is one of the features which makes a bearing of this type so unsatisfactory for use on machines which are being handled by many who are not skilled mechanics.

The modern bearing for use in the wheel hubs, and also in the crank spindle, is the annular type of ball bearing, which is preferably of double row construction.

With regard to the steering head bearings, we certainly cannot agree that the standard ball thrust bearing is not suitable, since this is one of the most efficient anti-friction bearings possible for dealing with the loads encountered here. Possibly, however, the use of additional radial bearings might be an advantage.

With regard to his remarks on the replacing of balls in a bearing, there is no doubt that the expedient of introducing one or two small balls to replace broken ones might be satisfactory as a temporary arrangement, but in such a case the complete set of balls should be removed and an entirely new set inserted. If such balls have been obtained from reliable manufacturers, then there will be no doubt whatever as to their equality in size, and consequently the best results will be obtained. C. THOMPSON WALKER.

THE SKEFKO BALL BEARING CO., LTD.

PETROL CONSUMPTION.

Sir,—It would interest riders of the 1920 model to know fuller particulars of how this record was established, condition of roads, contour, carburetters, and setting.

I have one of these models fitted with the top feed A.M.A.C. standard as purchased. I have reduced the jet from 32 to 31, and altered the float level as advised by makers, and now cannot average 50 m.p.g. with empty light Millford Olympic sidecar. There is no gear slip on the engine shaft.

Maybe some more intelligent rider of this model, or the makers, will tell us how results even near to 144½ per gallon can be obtained. C. W. BURNS.

OWNER GOING ABROAD.

Sir,—I never miss reading *The Motor Cycle* every week from start to finish, even when abroad.

When reading the advertisements, I notice a large number of advertisers, wishing to dispose of their outfits, offer the excuse "owner going abroad." Having been the possessor of a Triumph outfit in India, and having read the remarks frequently offered in your paper of the pleasures of owners in other Colonies and countries, I fail to see why any owner should dispose of his pet outfit when going abroad, for I am certain in nine out of every ten places abroad motor cycling can be made a pleasure.

I have myself been contemplating taking a Triumph or B.S.A. outfit with we when I return to India in March next, but seeing the excuse "owner going abroad" in so many advertisements has rather damped my spirits. Personally, I should think such was rather hard for British machines, as it first tends to make one think such are useless abroad, when actually, in my opinion, they are the *best* and cannot be compared with foreign makes.

On the other hand, perhaps there are some real and insurmountable difficulties in an owner taking a machine abroad, for I know of one case, when I was in India, where I sent to an English firm to purchase an outfit to be sent to me in India, and the firm, with regret, said it could not comply owing to makers' restrictions.

Sidmouth. OWNER GOING ABROAD.

AN AIRMAN'S PREVENTIVE FOR COLD FINGERS.

Sir,—Now that the cold weather is beginning to force itself upon us, several motor cyclists will be thinking of the best means of keeping their fingers warm, so perhaps a tip which was used largely in the Flying Corps may be useful.

A pair of plain leather *unlined* fingered gauntlets should be procured, about six to eight sizes too large for the wearer. (In my case they were so large that I wore a pair of fur-lined kid, a pair of washleather, a pair of woollen, and a pair of silk gloves underneath.)

Now, if a pair of good quality loose fitting silk gloves are worn inside the gauntlets they will be warm enough for all ordinary winter touring.

In extra cold weather, and when high speed work is necessary, a pair of good camel-hair gloves, worn in conjunction with the above silk and leather ones, will be found to keep the hands exceedingly warm for hours on end. I found that when thus attired my hands never suffered with the cold, even when flying 12,000 to 15,000 feet in the worst weather.

I have discovered that fingered gloves worn in this manner are quite as warm as the fingerless variety, and are much more handy. V. R. BLOW.

FOR ONE PERFORMANCE ONLY.

Sir,—The other day a solo motorist rode up to a shop, jumped off his machine, and walked straight into the shop. The machine, an Indian, remained upright for quite an appreciable time, at least five seconds, and then fell over on its side with a crash, fetching the rider hurriedly back to his mount. The episode, viewed by onlookers, appeared to savour of extreme absentmindedness, or maybe he was used to a sidecar, but I wonder if it could be beaten as a case of what not to do. H. T. ROBERTS.

SIDECAR TROUBLES.

Sir,—As a novice in the motor cycling world, I have had great difficulty in getting a suitable sidecar body with a child's seat at the back.

The cycle and chassis were bought together, and an order given to a firm of sidecar specialists for one of their bodies to suit the chassis, but on taking delivery it could not be fixed to the chassis, and I had eventually to forfeit my deposit.

I then gave an order, accompanied with a full set of measurements, to another firm.

While the body they supplied fitted the chassis, and was very nice, the child's seat was not less than seven inches too small! They are doing the right thing, and making me a new body while I make shift with the other, but I am debarred from any but short runs meanwhile.

Let those who want special bodies built have a clear undertaking in writing from the makers before finally ordering. LABOR.

Kew Gardens.

HAND SIGNALS.

Sir,—With reference to "Garfield's" letter in your issue for November 18th, although there is perhaps a similarity in the signals "Come on" and "I am about to turn right," only a very careless (and callous) driver would give these two signals in such manner as to confuse the one with the other, or to leave any doubt as to which signal is intended. When overtaking traffic at cross-roads or side-turnings, it is surely policy to keep behind until "safe at last, the danger past," one can overtake without fear of accident.

I note "Garfield" asks for suggestions for "more distinct road signals." May I append the following: For "am turning left (or right)" motorist stops machine twenty yards away, runs to corner, and points long and earnestly down the side road, then goes back to the machine, starts up, and turns in the opposite direction at the corner!

Seriously though, I do not think the existing signals can be improved upon if properly given, although a handle-bar worked automatic device would no doubt save us from bruises, or worse, through skids when going, say, from Staines to Kew Bridge, eh, "Duggie"? IMPERATOR.

Grimsby.

BEHAVIOUR OF LIGHT SIDECAR MACHINES.

Sir,—With reference to "July's" remarks on misfiring on two-strokes, may I be allowed to supplement his hints by my own experience?

I have had a 2¾ h.p. T.D.C. two-stroke engine under close observation since last Easter, this little engine pulling a machine with sidecar attached. From experience, I find that two-strokes only four-stroke when the human element (the driver) is at fault—that is, of course, if the engine is timed and lubricated with ordinary care. In starting from cold, even in winter, I can start in four paces (counted), and the engine will fire and two-stroke beautifully. I never flood the carburetter. I advance the air lever gradually, listening to the beat of the engine for signs which tell me in an unmistakable manner the correct position for the best mixture.

This engine *never* four-strokes at high speeds, although it may pop back through the carburetter due to a weak mixture. Two-strokes must be carefully timed, especially where the magneto is coupled direct to the engine-shaft. Time with the piston dead on top, but the connecting rod on the rising side of the crank pin just before passing over the dead point, which can always be seen through the inlet. The points should be just on broken, and the magneto fully retarded. The carburetter *must* be in good tune.

I have found from practice the correct setting of the variable jet, and rarely have to alter it. I have no extra air inlet, and do not require it, having altered the cap of the inlet to suit the needs of the carburetter.

I could say lots more about this particular make of two-stroke engine, and the reason why two-strokes four-stroke when they are being driven by a driver who will not trouble even to listen to his engine, let alone try and correct its inherent weaknesses.

GEO. HAZEL, Lt.; R.N. (retired).

ACCUMULATOR LIGHTING FOR SIDECARS.

Sir,—The wiring diagram in your contributor's article entitled "Accumulator Lighting for Sidecars," which appeared in the issue of *The Motor Cycle* dated November 11th, is incorrect. On the linked switch being operated, one of the four-volt cells will be short-circuited, but no light of any kind obtained.

A correspondent in the same issue states that by using a half-watt lamp he obtains double the candle-power of a one watt lamp. This may be so, but half-watt lamps are not yet on the market, the nearest approach being the gas-filled variety. It may interest him to know that for small lamps the candle-power per watt of vacuum and gas-filled lamps is approximately the same. A comparison of a 200-volt 60 watt vacuum and gas-filled lamps shows that the vacuum lamp gives 8.6 lumens per watt, and the gas-filled one 10.26 lumens per watt. Assuming one watt per candle-power for the former, then the latter gives $\frac{10.26}{8.6}$ c.p. = 1.19 c.p. per watt.

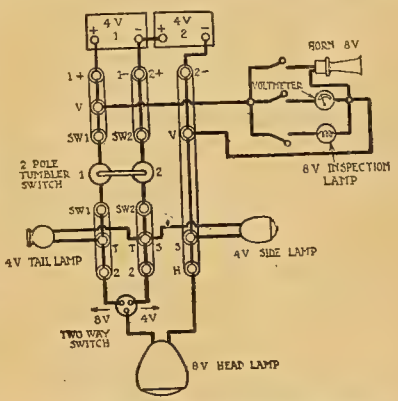
In the small size mentioned by your correspondent, the gain will be even less, and not worth the greater cost and shorter average life. A 1,100 watt 100 volt lamp has a maximum efficiency of .59 watt per c.p. The apparent extra brilliancy of gas-filled lamps is due to the shorter wave length, and in reality does not exist. PIP EMMA.

Sir,—In a recent issue of *The Motor Cycle* you publish an article, "Accumulator Lighting for Sidecars." This will, no doubt, be of great use to motor cyclists who desire to equip their combinations with electric light, but I should like to point out for their benefit one or two errors in the diagram on page 546.

(1.) The double pole switch is wrongly wired, one accumulator being shorted in the on position and the other permanently off.

(2.) Even with this switch correctly wired, the 4 volt sidecar lamp is in an 8 volt circuit.

(3.) The position of the voltmeter switch renders the horn and inspection lamp inoperative unless the voltmeter switch is used at the same time.



A modified lighting diagram on the lines of Mr. Woodfield's, which was incorrectly reproduced by our artist in a recent issue. (See letter from "Amateur.")

Much as I admire the compact neatness of Mr. Woodfield's diagram, I think that the average motor cyclist, or novice, would more readily understand one on the lines of the enclosed, which is a modified layout of the diagram in your paper, and is quite correct as regards the connection.

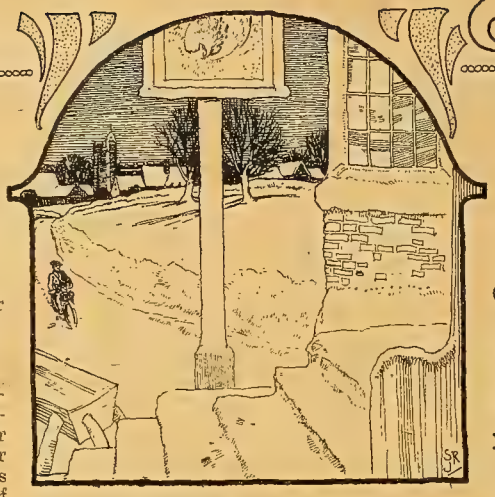
Personally, I do not like the system, as, if for any reason the head lamp was much used on 4 volts, one accumulator would be used more than the other, and, *ipso facto*, the voltmeter being connected across both accumulators, might show the 7.2 volts, specified by Mr. Woodfield, with one accumulator at 3.2 volts and the other at 4 volts.

Wishing your paper was a daily instead of a weekly,

Cheshire. AMATEUR.

[We have received several letters pointing out an artist's error in the wiring diagram accompanying Mr. Woodfield's description of his lighting set. The above was selected as being on the same lines as the original article, but there are obviously many variations possible, especially if different voltage bulbs be used.—ED.]

CURRENT CHAT



Times to Light Lamps.

Dec.	2nd	... ...	4.23 p.m.
,,	4th	... ...	4.22 ,,
,,	6th	... ...	4.21 ,,
,,	8th	... ...	4.20 ,,

Olympia.

The greatest show of motor cycles ever organised.

The London-Exeter Run.

Chatting with Alan Hill, the organising secretary of this year's M.C.C. London-Exeter run, we learned the other day that an unexpectedly large number of entries is being received for this strenuous Christmas trial. Upwards of two hundred competitors are anticipated.

The Research Association.

The secretary of the Department of Scientific and Industrial Research announces that a licence has been issued by the Board of Trade to the British Motor Cycle and Cycle Research Association, which may be approached through Major H. R. Watling, The Towers, Warwick Road, Coventry.

The M.C.C. Annual Dinner.

No speeches but a good musical programme is to be the chief feature of the fourteenth annual dinner of the Motor Cycling Club. This event is to take place on Friday, December 10th, at 6.30 p.m., at the Wharncliffe Rooms, Hotel Great Central. Numerous applications for tickets have already been received. Tickets can be obtained from Mr. Southcomb May, 34, Gower Place, London, W.C.

Over 95 m.p.h. at Brooklands.

The Indian still continues to distinguish itself on the track. One day last week, in bright, cold weather, Le Vack covered the mile flying start in 37⅘s., at a speed of 95.24 m.p.h., beating the previous record by C. R. Collier on a Matchless of 39.40s. = 91.37 m.p.h.

Riding against the wind and in bitter cold he then captured the flying kilometre record, time 23⅗s., speed 94.79 m.p.h., beating the previous record, by S. George on an Indian, of 23.93s. = 93.48 m.p.h.

Following upon these achievements, Le Vack created a mean speed record for the flying mile of 90 m.p.h. Later in the week he attached a sidecar to his record-breaker, and made a clean sweep of the records up to 350 miles and six hours. His speeds and times were as follows :

5 miles, f.s. ..	4m. 14⅘s. ...	70.69 m.p.h.
10 miles, s.s. ..	8m. 50⅘s. ...	67.87 ,,
100 miles	1h. 36m. 48⅘s. ...	61.98 ,,
150 miles	2h. 23m. 48s. ...	62.58 ,,
200 miles	3h. 13m. 3⅘s. ...	62.15 ,,
250 miles	4h. 2m. 15⅘s. ...	61.88 ,,
300 miles	4h. 48m. 13⅘s. ...	62.45 ,,
350 miles	5h. 47m. 56s. ...	60.30 ,,

TIME RECORDS

1 hour	66ml. 171yd.	66.26 m.p.h.
2 hours	125ml. 1,666yd. ...	62.97 ,,
3 hours	186ml. 1,136yd. ...	61.60 ,,
4 hours	247ml. 925yd. ...	61.88 ,,
5 miles	307ml. 1,443yd. ..	61.85 ,,
6 hours	363ml. 638yd. ..	60.56 ,,

Industrial Management.

The Institute of Industrial Administration is holding a meeting at the Central Hall, Westminster, on December 7th, when Mr. Richard Twelvetrees, A.M.I.Mech.E., will read a paper on "Road Transport as an Aid to Industrial Management."

The "Six Days" Report at Last.

At long last the A.C.U. has issued the official report on the Six Days Trial, and we are asked to review it in this week's issue. As there are twenty-eight pages (demy quarto), we reserve the task until after the present pressure on our space on account of the Show. We cannot compliment the A.C.U. on the time taken to compile this report of a trial.

A Paris-Nice Trial?

Dr. A. M. Low writes us with regard to the Paris-Nice Trial, pointing out that the fiasco of last year's trial was due to a misunderstanding which is not likely to occur again. He appeals to British manufacturers not to withhold their entries from a trial in which British machines attract a considerable amount of attention. It should be added that Dr. Low has been appointed as one of the judges for the 1921 event, and his experience should be of value to the organisers.

NEXT THURSDAY'S PASSENGER NUMBER.

THE MOTOR CYCLE

Dec. 9.h,

Will be devoted chiefly to PASSENGER MACHINES and their appurtenances. In addition to detail descriptions of the Sidecar Attachments exhibited at Olympia, the issue will contain a review of all Passenger Motor Cycles which will be offered in 1921.

Other special features will include authoritative information regarding new three-wheelers, an article dealing with sidecar comfort from the passenger's point of view, and further particulars of new accessories

THURSDAY.....4½d.

Special Features.

OLYMPIA SHOW REPORT.

TENDENCIES IN DESIGN.

MODERN NOTIONS IN SIDECARS.

Over 100,000 Circulation!

105,523 represents the circulation of *The Motor Cycle* for November 18th. This journal still enjoys the distinction of being the most widely read motoring journal in the world.

If only it were True.

In a small advertisement in a provincial newspaper an Indian motor cycle is offered for 7s. 9d.

Taxi Sidecars at Olympia.

Almost every sidecar manufacturer is exhibiting a taxi sidecar at Olympia, but it would appear that some of them have yet to be passed by the police authorities.

New Douglas Records.

Last week B. Tudor Thompson, on a 2¾ Sports Model Douglas, beat several Class B records, including the hour mileage, which the Douglas increased to 63.39 miles, and the 50, 100, and 150 miles, and one, two, and three hours with sidecar.

An Ingenious Theft.

A reader recently advertised his 1919 3½ h.p. Sunbeam (engine number 37/5874) in *The Motor Cycle*. In his absence a potential buyer approached the agent who had charge of the machine and expressed a desire for a trial run. Naturally the agent agreed, but at the same time stipulated that he should come along on the carrier. Preparatory to the start the crook (as he turned out to be) had placed his overcoat on the kerb, and now asked his watchful passenger to hand it to him. The agent complied; but in a moment the machine and its "purchaser" had vanished. A very meagre description contains one point that may help to trace this uninsured machine—the thief was young and had red hair.

Danish Successes for British Machines.

The new Copenhagen track was recently opened by the King of Denmark. After the ceremony a motor cycle race took place, the results being as follows :

350 c.c. TWO-STROKE CLASS. Four laps.

		Time.
1.	Hedegaard Schon (Sun)	4m. 22⅘s.
2.	Lillesoe (Connaught)	4m. 26⅘s.

350 c.c. FOUR-STROKE CLASS.

1.	C. Mortensen (Douglas)	3m. 48⅘s.
2.	P. M. Jansen (Omega)	3m. 58⅘s.

650 c.c. CLASS.

1.	F. Hansen (Harley-Davidson)	3m. 41s.
2.	Hellebroe (Indian)	3m. 46⅘s.

650 c.c. SIDECAR CLASS.

1.	P. M. Jansen (Norton)	4m. 10⅘s.
	A. Christensen (Norton)	4m. 21⅘s.

MOTOR CYCLES OVER 650 C.C.

1.	C. Mortensen (Harley-Davidson)	3m. 49⅘s.
	Barnung (Harley-Davidson)	4m. 4⅘s.

THE MAGIC GLIDE.

Being an account of a trip to London on the new Brooks Cantilever Spring Saddle.

FOR months past the writer has seen and heard quite a lot about the new Brooks compensating cantilever spring saddle. This is only natural since it is he who has the pleasure of telling you through the press about the various products of the Brooks factory, in other words, the advertising man.

The first sight of the new model immediately made him enthusiastic, and with the approach of the Motor Show it was thought a good opportunity to sample this new saddle by travelling to London by motor cycle.

Not having yet found a machine speedy enough to reach London from Birmingham as quickly as the train, it was necessary to make an early start in order to put in several hours at the Exhibition. The saddle was therefore fitted to the machine the day before, so that the correct adjustment—and it is a feature of this model that it can be adjusted through a wide range of "tilts," and to suit any weight of rider—might be found before the longer run was undertaken.

Six-o'clock on a cold and frosty morning saw the garage doors open and a gummed-up engine being energetically kicked over in an endeavour to awaken it to the importance of its errand. 6-5—no later, it went over with a machine-gun crackle; lamps were lit, the rider sank into his lounge chair- B.600, and needing but the banded cigar to complete the profiteer-in-Rolls-Royce-illusion, glided towards London.

A merry speed was set to start with and kept up despite road surface, which as Birmingham readers know is not ideal on the Castle Bromwich exit from town, and so my arm-chair trip was severely tried in the earliest stages.

The road was our own save for an occasional milk lorry, which clanged by in the dark, so that speed could be kept fairly interesting. Presently things got lighter and "Jimmy" (the bike) and I were given an inkling of the glorious morning we were going to have for the run. The road, the sward, the trees, and fields were whitening fast, though we needed no such visible reminder of the fact that "Jack Frost" was as busy as ourselves. But we welcomed it, for it added one more to the many phases of that memorable magic-carpet-like-glide to London.

Was it possible that we were really making this trip to London on Post-war roads, or was it another of those dream trips which so many of us have experienced, only to find when next we did actually take to the roads, they were still the same pot-holed, rut-ridden, spine-shakers?

No, this was the real thing, because—well, the London side of Coventry has not been exactly a billiard-table for some time past, and I was reminded of it this trip, by the repeated clattering of my back stand, the fastener being none too secure. This pot-hole tell-tale was somewhat too noisy, and had to be secured, but now we were able to "see" there were pot-holes, and stretches of bad surface; but what a joy not to feel them!

Hereabouts, water trying to pass as benzole was rejected by the engine, and for a time progress was slow, and finally non-existent. After dismantling we enjoyed, yes, enjoyed almost full throttle for mile after mile, no "bounce," no "jockeying," no tortuous detours to avoid pot-holes, setting up violent wrist-aches, and yet without anticipating that "over-the-handlebar feeling" experienced with some saddles when hitting any considerable road irregularity.

Tram lines, granite setts, and accompanying evils again—London is in sight—yet never a care, we have the advantages of a spring frame (but without attendant side-sway, or snatchy chains), and to our mind the road might be a skating rink.

Then, hey, for Olympia, and here we smile to ourselves, knowing that the motor cyclist can at last enjoy car comfort on his more exhilarating two-wheeler. We smile, too, at the thought of the crowds that will welcome this new saddle on its first public appearance, at the Motor Cycle Show.

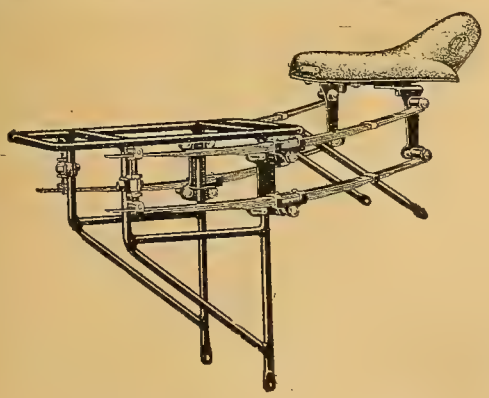
Next morning to the White City for a few hours, then, anxious to rest a while we put on our Brooks "Spring-ons," for "it was murky overhead," and got into the saddle, and away again.

The threatened rain held off, and the sun came out, adding a glow to the Autumn panorama, so that one could scarcely realise the lateness of the season. Despite our hustle, sunset caught us up as we reached Towcester, and at Daventry we must needs light up; but anything for a quiet and comfortable ride.

There is something eerie in being transported through the dark on this magic seat, striking pot-holes and not having to complain.

Not a really long run, but enough to make one want to go further, and we're glad we went by road, for we feel sure that now we can conscientiously tell you of the luxurious ease it affords, and invite you at all costs (shock tactics, gas attacks, or whatever you like), to

Send for some literature, if you can't get to London.



get to Stand No. 263 (Gallery), and see this latest

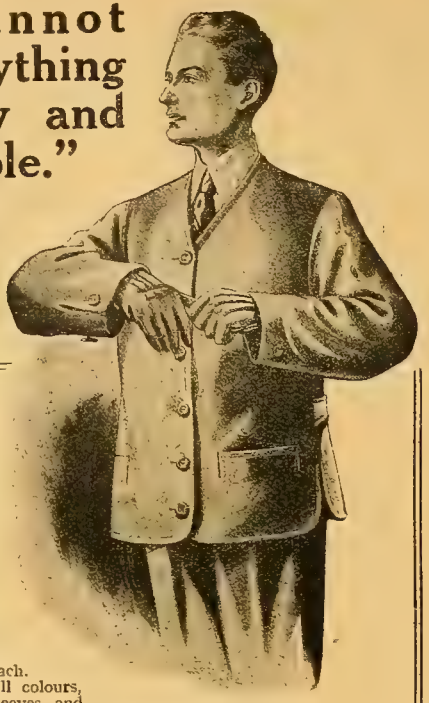
BROOKS
REGISTERED TRADE MARK

SADDLE.

J. B. BROOKS & CO., LTD.,
49, Criterion Works - BIRMINGHAM.

In answering this advertisement it is desirable to mention "The Motor Cycle." D27

"you cannot wear anything more cosy and comfortable."



9306 Tan Leather Waistcoat, as illustrated, single-breasted, two pockets. **£5 5 0** each.
2737/95 Ditto, without sleeves, **£4 4 0** each
2218 Chamois Leather Waistcoat, light and comfortable, single-breasted, cut specially long with windproof sleeves, **£6 6 0** each
9341 Tan Leather Waistcoat, double-breasted, turned fronts four pockets with flaps, lined wool, **£5 15 6** each.
2165 Wool Cardigan, all colours, single-breasted with sleeves and two pockets, delightfully comfortable and warm, from **42/-** each.

2349/95 Strong black Leather Jacket. A thoroughly well-made and serviceable garment and one that we can recommend **£8 8 0**
2350/95 Breeches of the same make and material ... **£5 5 0**
2303/80 Tan Leather Smock, single-breasted with wind flap, lined sateen **£8 8 0**
2343/80 Smock made of fleece **£3 3 0**
2993 Frieze Jacket with fixed tan leather lining ... **£7 7 0**
2993a Detachable leather lining **£8 8 0**
2911a Lined fleece ... **£5 5 0**
From Stock only.

We specialise in equipment for the motor cyclist and are always happy to quote for any garment made to a customer's own ideas.

Waterproof Jackets

2345/60 Double-breasted Jacket, 36" long, made in strong waterproof material, well-cut and smart in appearance, and very durable. In various weights and qualities. Patterns sent on application.

	Without Belt.	With Belt.
A	£3 3 0	£3 5 6
B	£2 15 0	£2 17 6
C	£2 5 0	£2 7 6

2344/60 Double-breasted Jacket with belt and saddle-piece, 42in. long, as illustrated, in various weights and qualities.

A	£3 10 0
B	£3 3 0
C	£2 12 6

There is no extra charge for garments made to individual measure. We can, however, give immediate delivery of stock sizes, while there is bound to be a delay of two or three days in the case of specially made garments.

MACKINTOSH LEGGING OVERALLS

Extremely comfortable and give absolute protection from wet. In various weights and qualities. Either clip or strap fastening as desired.

	2346/60 Trouser Overalls with seat	2347/60 Without seat	2348/60 Single Leg Overalls
A	£2 5 0	£1 17 6	£1 12 0
B	£2 0 0	£1 11 6	£1 8 6
C	£1 15 0	£1 7 0	£1 5 0

Secure a copy of the Dunhill "Motor Cycle Clothing" Catalogue. Simply write your name and address on the margin of this page—tear it out and post to us.

GLOVES & GAUNTLETS

2338/20 Waterproof twill with hide palms, lined with warm fleece ... ... **25s.**
2379/50 Waterproof leather gloves, with strap at wrist, lined warm fleece **18 . 6s.**
602 Cape leather, one button at wrist, unlined ... ... **12s. 6d.**
602b Ditto, lined fleece ... **15s.**
2702/30 Heavy tan suede driving gloves **12s. 6d.**

Dunhills Limited

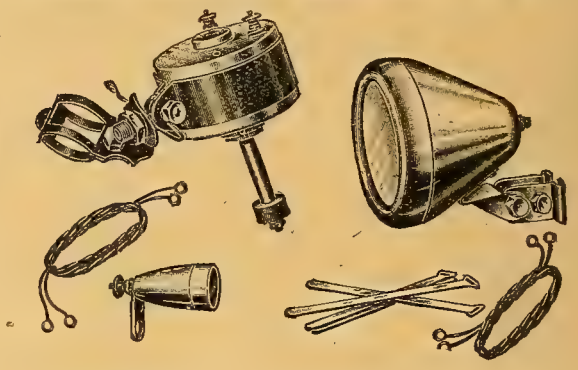
SPECIALISTS IN MOTOR CYCLING EQUIPMENT

359-361, Euston Road, London, N.W.1.
West End Showrooms: 2, Conduit Street, W.1.
GLASGOW - - 72, St. Vincent Street.

REMEMBER

That at Stand 226, Olympia, from Nov. 29th to Dec. 4th, the "ALTERNA" Outfits for cycle and motor cycle will be the only sets sold with a ONE YEAR GUARANTEE.

Descriptive pamphlets and demonstration at the Stand.



The Lighting SET that can be fitted by the OWNER.

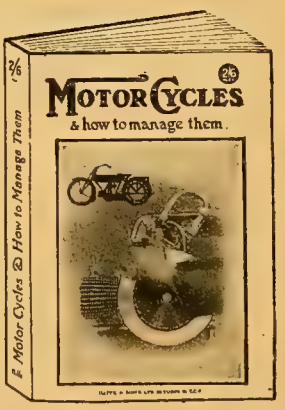
IMMEDIATE DELIVERY

of the "1921" Cycle Outfit: New head lamp with focussing device and parabolic reflector. Improved dynamo. Rear lamp. Sold complete with wiring and fittings, as illustration .. **52/-**

ALTERNACYCLE CO.,
89, FARRINGDON ST., LONDON, E.C.4

EVERY Motor Cyclist

Should possess a copy of this useful book



'Motor Cycles and How to Manage Them" is the standard handbook on the motor cycle; its care and management. It deals with every part of the machine, and with all types of machines, and gives useful information in regard to keeping every part in good order. 286 pages. 400 illustrations.

THE TWENTY-FIRST EDITION—revised and brought up to date—is now on sale.

Price 2/6 net; by post (Home & Abroad) **2/10**

Obtainable from—
ILIFFE & SONS Ltd, 20, Tudor St., London, E.C.4
AND LEADING BOOKSELLERS

British Petrol.

An announcement noticed on the Anglo-American Co.'s petrol lorries is to the effect that that company has purchased from the British Government the output of the new Hardtoft wells in Norfolk.

Death of Well-known Personality.

We regret to record the death of Mr. Walter Phillips, who was well known in the motor trade from its earliest days, and perhaps motor-cyclists will remember his name best in connection with Messrs. Humber, Ltd. Mr. Phillips died at Leamington on November 24th.

A "D.R." Reunion at Olympia.

All old M.C.O., D.R.'s visiting the Motor Cycle Show are arranging, if possible, to meet during the afternoon next Saturday, about 3.30, by the Scott stand. It is hoped that as many as possible will get together once again to discuss past and present events.

Motor Cycle Preferred to Car.

A Coventry motorist, who keeps both a car and a motor cycle, was surprised to find a few days ago that his garage had been forcibly opened, and, although the car remained, the motor cycle had disappeared. Skid marks on the road showed that the machine had been pushed for some 150 yards, apparently before it was discovered that a free engine position was available on the 1920 Triumph!

The London-Exeter Run.

We understand that a certain amount of difficulty is being experienced in arranging for meals *en route* in the London-Exeter run. The proprietor of the Bridge House Hotel, Staines, has undertaken to cater for a limited number of meals before the start and at the finish for those who notify the proprietor of their requirements before December 22nd. Breakfast will be provided at the Rougemont Hotel, which is about half a mile from the garage; the club is endeavouring to arrange transportation. At Salisbury the same accommodation as last year has been arranged.

Speed Trials in Italy.

Some kilometre speed trials have recently been held by the Milan Automobile Club, on the main road from Gallarate to Novara. The roads were muddy and in rather a poor state, nevertheless the performances were good. The results were as follows: 350 c.c. class—1, Garazini (Verus); 2, Fergnani (Clyno). 500 c.c. class—1, Carlo Maffeis (Bianchi); 2, Tettamanti (Norton). 1,000 c.c. class—1, Pietro Bordino (Harley-Davidson); 2, Genevrini (Indian).

Sidecar Taxi and Carrier Service.

A member of the Derby Rotary Club is carrying forward a scheme to employ ex-Service men by instituting a system of motor cycle taxis in the town, for the dual purpose of carrying passengers and parcels. It is proposed to buy twelve 8 h.p. outfits, and to make a popular fare of sixpence anywhere in the town. Theatres and all kinds of meetings would be catered for, and it is thought that the service would be of great advantage to the commercial traveller, who could hire a sidecar taxi to go into the country for about 25s. or 30s. a day.

London-Edinburgh Non-engine Stop Run

In addition to the activity at Brooklands, referred to on another page, demonstrations of roadworthiness were not absent on the eve of the Show. For instance, Rex Mundy last Thursday evening again set out for Edinburgh mounted on a 2¾ h.p. Coulson B sidecar outfit, having an A.C.U. observer as passenger, with the object of completing the trip to the Scottish capital without stopping the engine. In this he was successful, which is remarkable, considering his small Blackburne outside flywheel engine of 71×88 mm. bore and stroke, 348 c.c. The sidecar, complete with driver and passenger, weighed 6 cwt. 2 qrs. 21 lb., and in addition to this a certain amount of reserve petrol, oil and carbide was carried. Mundy arrived back at Olympia at the beginning of the week, and his sidecar outfit was the object of much attention in the environs of the Show.

London-Edinburgh without stopping the engine. R. G. Mundy, at the conclusion of his successful trip, repacking the tool bag of his 2¾ h.p. Coulson B. sidecar outfit.

What NOT to miss at Olympia—

The six-valve N.U.T.-J.A.P.

A ladies' sidecarette—the Cedos.

The Victoria £125 sidecar outfit.

The aero-model Morgan Runabout, and the polished chassis of the same make—a study in simplicity.

One of the best bargains in the Show—the 8 h.p. Vickers engined Enfield sidecar outfit at £182 complete with Lucas Magdyno.

The sidecar taxis or limousine sidecars on the Watsonian, Campion, Canoelet, and Rex stands—and listen to the mixed opinions of Show visitors!

The Cykelaid motor-assisted bicycle.

Bradshaw's oil-cooled engine on the Zenith.

The ingenious metal chain-belt on the Rudge stand, which should give variable gears a new lease of popularity.

The porting overhead valve Douglas.

The "scraper" adjustable footrests on the Royal Ruby.

The Coulson 4 h.p. three-speed spring frame "lightweight"—it weighs 196 lb.

The natty little Levises which weigh a hundredweight or so, and now give remarkable economy in fuel consumption.

The Scott "Squirrel"—a T.T. type of two stroke—later to be followed by the Weazel and the Stoat. N.B.—The "Squirrel" is intended to pick up the "knuts."

Paul Kelecom's latest production, the four cylinder three-speed F.N.

The New Hudson three-wheeled runabout.

The Millford "Rock" chassisless sidecar, which effects a great saving in weight and has withstood extensive tests in Australia.

The exhaust-vacuum lubrication system on the cheap Sheffield-Henderson sidecar outfit.

Mechanical oil pumps in profusion.

The Coventry Premier runabout, one specimen of which has two spare wheels.

The Abbottsford motor pony, a three wheeled scooter, evidently a grand child of the Motor Fric which was once seen at the Agricultural Hall.

The weatherproofing devices on sidecars which are a study in themselves.

The R.W. Scout, a miniature track racer.

The Excelsior Duplex, a new lightweight for either sex, said to be the lowest priced motor cycle at Olympia.

The Tan-Sad and Brooks seat suspension systems, splendid substitutes for spring frames.

A removable h.t. terminal on the Fellows magneto, which renders a machine "partially" thief proof.

The New Hudson red, white, and blue "semi" disc wheels.

The coming of the ratchet brake for sidecars.

The Economic flat-twin two-stroke cycle attachment, with combined ignition and lighting generator in the flywheel.

THE EVE OF THE GREATEST SHOW.

Manufacturers' Views of the Immediate and Future Outlook.

ON the eve of the Show, Friday, the 26th ult., the sixth annual banquet of the British Cycle and Motor Cycle Manufacturers' and Traders' Union, Ltd., was held at Princes Restaurant, Piccadilly, W. Mr. Alick S. Hill, J.P., the president, occupied the chair, and he was supported by a large gathering of trade celebrities. Generally, the tone of the speeches was one of confidence for the future. Proposing the toast of the "Cycle, Motor Cycle, and Allied Industries," the Rt. Hon. C. A. McCurdy, K.C., M.P. (Food Controller), paid a further tribute to the services rendered by the industry during the war. Its national reputation had been enhanced by British motor cycles, which had been proved an essential implement of war. Of the importance of the industry to the country, he instanced the extraordinary increase in British cycle and motor cycle exports compared to 1913. The president, responding, amplified those figures, quoting £8,000,000 as the exports for cycles and motor cycles during the ten months of 1920, a figure over double that of the total American exports of cycles and motor cycles. Thus, he emphasised, was the British cycle and motor cycle industry doing excellent work in endeavouring to redress the adverse trade balance. Remarking that there were signs that labour recognises the dependence of one section upon another and the promise of improved support in this direction, he paid a tribute to the co-operative work of the members of the Union which explained its success, thanks largely to the work of their manager, Major H. R. Watling. He touched upon the new firms who entered the industry subsequent to the war, remarking that it was unreasonable to expect to attain at a bound a leading position, only gained after long years of steady progress. Underproduction was what manufacturers were suffering from, not over-production, he urged.

A Precocious Offspring.

"The Guests" was proposed by Mr. H. Bowden, vice-president, who, in a witty speech, observed that the impending exhibition was to be the biggest ever held, and only exceeded in importance by their precocious offspring, the Society of Motor Manufacturers and Traders. Commander Viscount Curzon, M.P., in replying, mentioned his great interest in motor cycles. As soon as he was able to possess a motor cycle, he purchased many years ago a 1½ h.p. Quadrant, and "had a good run for his money." No country, he contended, could challenge the supremacy of the British motor cycle and cycle. The wonderful ability of despatch riders in France and the way their machines held together formed a constant source of admiration. He had much to say concerning grandmotherly legislation, and was doing his best to further road users' interests in Parliament. They had heard quite enough of what the Ministry of Transport were "going to do," but he asked, What had they actually done?

Speed and Police Traps.

Viscount Curzon denounced police traps, but readily acknowledged that the real danger occurred in travelling at speed in the wrong place at the wrong time. There was no chance of the abolition of the speed limit, he contended, and in that regard considered the Motor Legislation Committee's demands as excessive and unlikely to be acceded to. He further pointed out what has been noted in several quarters, viz., the unfortunate diversion of views between cyclists and motorists, particularly over the rear lamp question, though he personally plumped for the red rear light. Mr. E. S. Mays-Smith, president of the S.M.M.T., also replied, confining his remarks to the irksome and hampering legislation of the new Ministry of Transport. Waxing warm, he declared that many firms could not endure some of the burdens about to be imposed. It would all ultimately be reflected in the price of vehicles, which would have the effect of restricting demand. Thus, instead of encouraging the development of trade and giving factories a reasonable time to recover from the effects of war, the new restrictions would constitute a further serious handicap. Trade number plates he cited as an instance, though he had heard that day that a still further reduction was contemplated, the latest figures being £10 per set of plates for car makers, and 30s. for motor cycle manufacturers. Given a chance, the British cycle and motor industry had nothing to fear, but he insisted that the industry must be given reasonable time to recover.

A vote of thanks to the chairman, ably proposed by Mr. W. G. Bower, a vice-president, brought this highly successful function to a close. An attractive musical programme was interspersed with the toast list.

1920 OLYMPIA in FIGURES.

96 Exhibitors of Motor Cycles and Miniatures.

2-stroke Engines are staged by 48 makers.

4-stroke Engines are staged by 61 makers.

THE BATTLE OF TYPES.

1921 models classified.

V Twins	50
„ „ 4-strokes ..	48
Single-cylinder 2-strokes ..	46
Flat Twins	11
†4-cylinder	3
*2-cylinder 2-strokes ..	2
Water-cooled Motor Cycles ..	1

*Including Scott Sociable.
†Including Castle-Three Runabout.

1	maker uses	5	different sizes of	Engines.
4	makers use	4	„ „	„
8	„	3	„ „	„
33	„	2	„ „	„
40	„	1	„ „	„

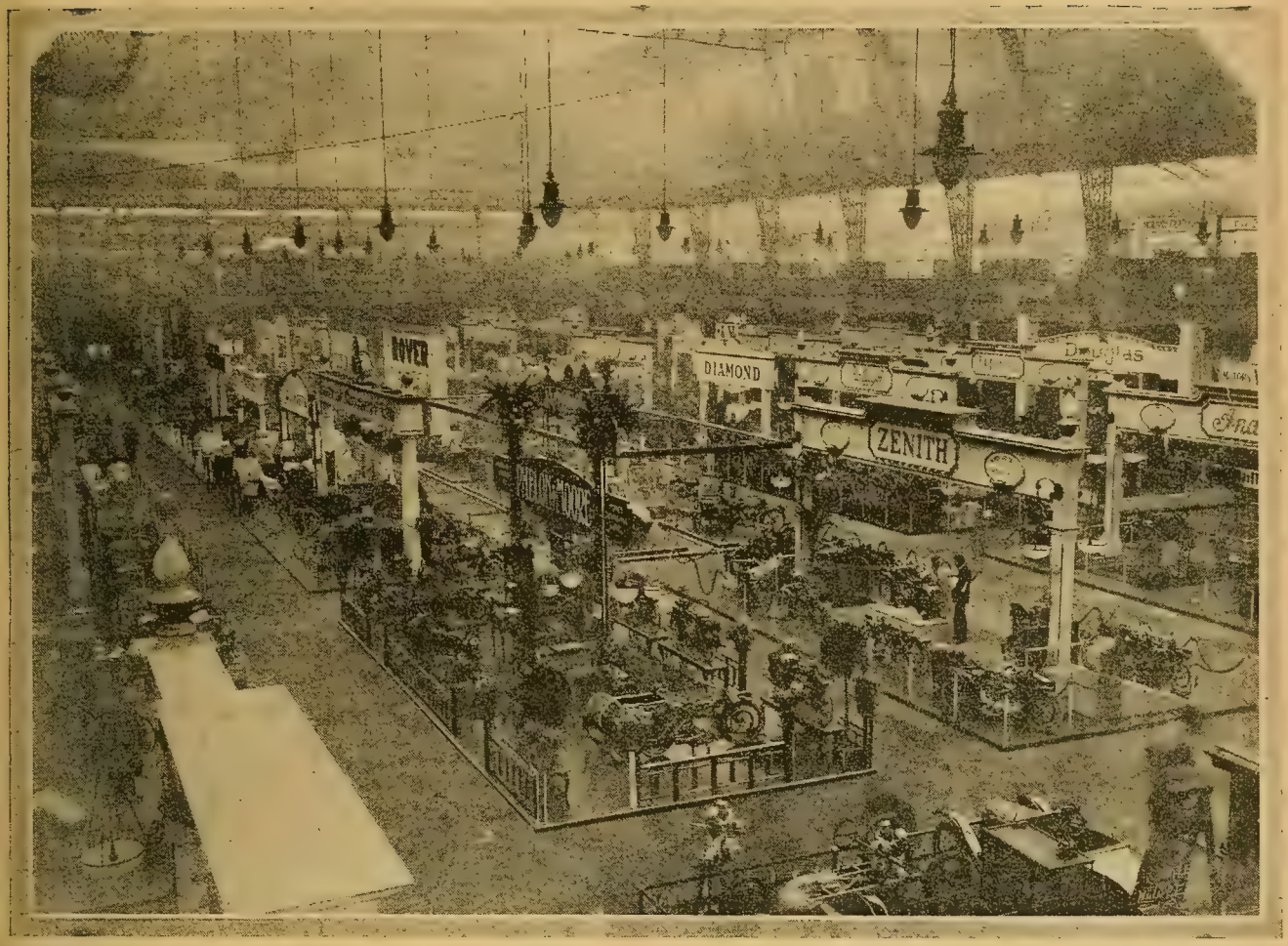
TYRE SIZES

fitted on 162 different models.

*28×1¾	3
16×2½	1
16×2⅜	3
18×2	1
24×2	4
24×2¼	17
550×65	1
26×2	7
26×2¼	32
26×2⅜	3
26×2½	27
26×3	8
650×65	21
700×80	12
28×3	22

*Pedal Cycles with engine units.

OLYMPIA IN 1920.



A general view of the Cycle and Motor Cycle Exhibition at Olympia. It is open daily from 10 a.m. to 10 p.m. until Saturday next, the 4th inst.

OLYMPIAN ACTIVITY AT BROOKLANDS.

THE proximity of the Show brought the customary crop of record aspirants to Brooklands last week. Four machines, including the Indian and sidecar, piloted by Le Vack, whose new figures we gave in detail on page 680, were successful in setting up new figures.

On November 26th D. Davidson, on a 7-9 h.p. Harley-Davidson and sidecar (engine dimensions 84.1 × 88.9 mm. = 988 c.c.), broke the fifty miles Class I. record, reducing the time to 43m. 29⅘s., equalling a speed of 68.97 m.p.h.

It will be noticed from the following tables that J. V. Prestwich, riding a new short-stroke Diamond J.A.P., on his second attempt succeeded in considerably lowering his own figures set up but two days previously for the five and ten miles distances :

November 11th, 1920.—J. V. PRESTWICH (2½ Diamond-Jap), 70 × 64.5 mm. = 249 c.c. Flying kilo. : 35.0s. = 63.91 m.p.h. (Class A). Flying mile : 56.6s. = 63.60 m.p.h. (Class A). Flying 5 miles : 5m. 17⅘s. = 56.67 m.p.h. Standing 10 miles : 10m. 43⅖s. = 55.97 m.p.h.

November 25th, 1920.—J. V. PRESTWICH (2½ Diamond-Jap), 70 × 64.5 mm. = 249 c.c. 5 mile (flying) : 5m. 3s. = 59.40 m.p.h. (Class A). 10 miles (standing) : 10m. 17.1s. = 58.33 m.p.h. (Classes A and A1). 50 miles : 53m. 45s. = 55.81 m.p.h. (Classes A and A1). 1 hour : 55m. 961yd. = 55.55 m.p.h. (Classes A and A1).

A New Hour Record.

Finally, Tudor Thompson performed a very similar feat. His new figures, the better if it be mentioned that his was an entirely unaided performance, are tabulated below. His mount was a new sporting 2¾ h.p. Douglas (60.9 × 60 mm. = 350 c.c.)—solo on the 17th and with sidecar on the 24th.

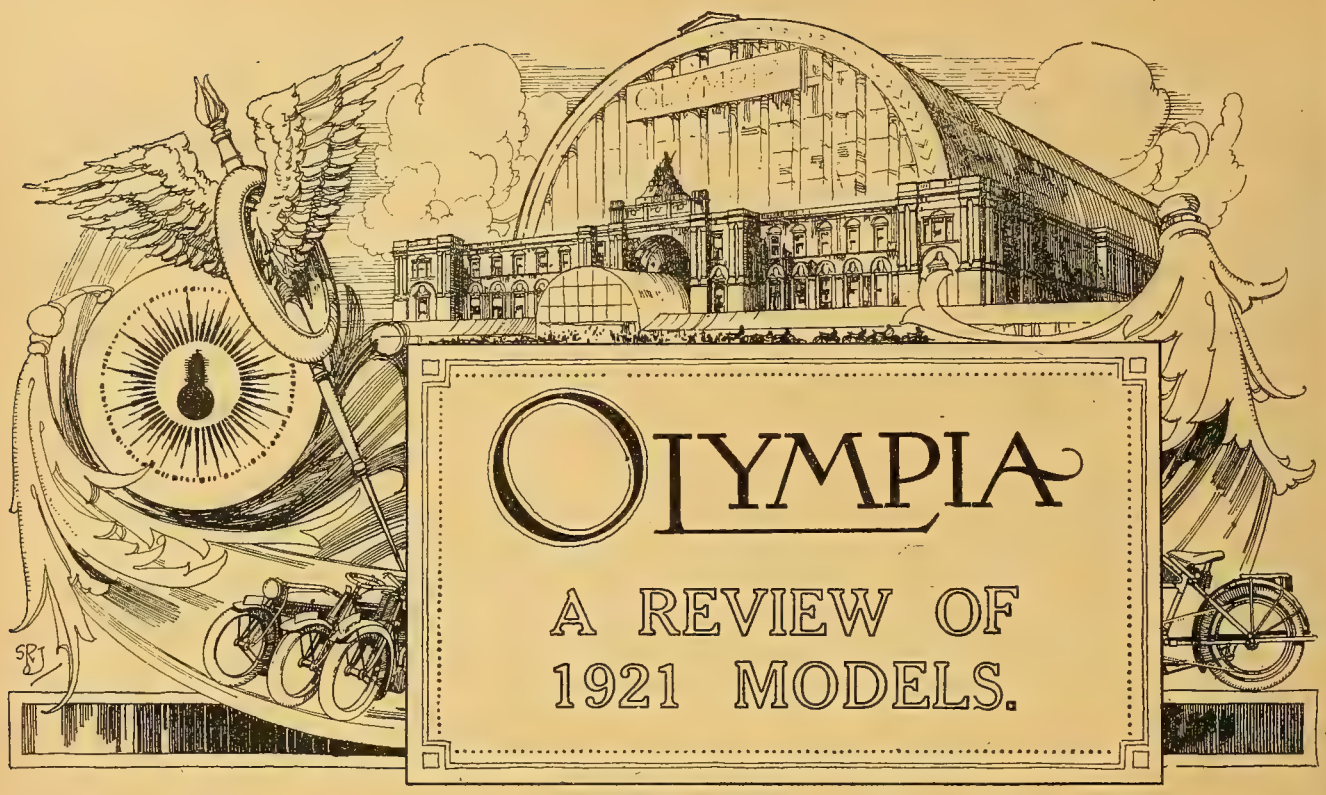
November 17th, 1920.—TUDOR THOMPSON (2¾ Douglas, 60.9 × 60 mm. = 350 c.c.). 1 hour : 63m. 696yd. = 63.39 m.p.h. (Record B).

November 24th, 1920.—TUDOR THOMPSON (2¾ Douglas, 60.9 × 60 mm. = 350 c.c.), with sidecar. 50 miles : 1h. 1m. 1⅘s. = 49.16 m.p.h. (Class F). 100 miles : 2h. 3m. 58⅘s. = 48.38 m.p.h. (Class F). 150 miles : 3h. 28m. 7⅘s. = 43.27 m.p.h. (Class F). 1 hour : 49m. 271yd. = 49.17 m.p.h. (Class F). 2 hours : 96m. 1,230yd. = 48.35 m.p.h. (Class F). 2 hours : 137m. 1,246yd. = 45.90 m.p.h. (Class F).

SIDECAR NOMENCLATURE

A CORRESPONDENT in *The Daily Mail* seeks a brief alternative term for "a motor bicycle and sidecar," suggesting that "motor bicycle and sidecar" is the unwieldy name by which sidecars are known. Evidently our friend is not well acquainted with the motor cycle movement, or he would know that the accepted term is "sidecar combination" or "sidecar outfit." Few, if any, adopt the longest way round. As a matter of fact the mention of "having seen a sidecar" is usually sufficient, as one would hardly expect to find a one-wheel arrangement careering about the streets, so that sidecar signifies motor bicycle and sidecar. One might add, for the benefit of the uninitiated, that "sidecarette" is the term applied to lightweight sidecars. If any better suggestions than these are the outcome of the enquiry, *The Motor Cycle* will be glad to hear of them.

As a matter of fact, the taxi sidecar badly needs a crisp term. We offer some suggestions on another page of this issue.



OLYMPIA

A REVIEW OF 1921 MODELS.

A STAND-TO-STAND DESCRIPTION OF MOTOR CYCLES, SIDECARS, AND THREE-WHEELERS ON VIEW AT OLYMPIA (Nov. 29th to Dec. 4th).

The reports and illustrations have been prepared by the staff of "The Motor Cycle" after personal examination of the exhibits.

A.J.S. (119.)

7 h.p.; 74×93 mm. (800 c.c.); V twin four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; chain-driven magneto; three-speed A.J.S. countershaft gear; all-chain drive; Dunlop 700×80 mm. tyres. Price: With sidecar £215; solo £159 10s.

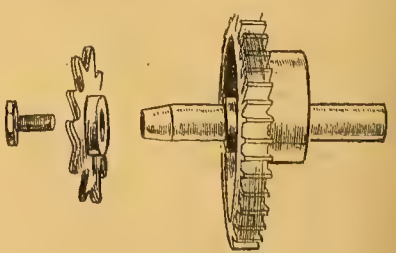
A. J. Stevens and Co. (1914), Ltd., Graiseley House, Wolverhampton.—Long famous as a machine embodying every luxury that care in design can provide, the new A.J.S. will even improve its reputation. For 1921 a larger engine is fitted with roller bearing big ends, a three-ring piston, and larger cooling fins. Also, an internal expanding front brake has been adopted, which is operated by pedal, thus doing away with the inverted handlebar brake levers. Primary chain adjustment has been elaborated, the gear box being moved backwards or forwards by a screw, which provides easy and accurate positioning. It is rather unusual that, although electric equipment is fitted, the makers prefer to keep it entirely distinct from the ignition. Instead, therefore, of fitting a Magdyno or similar instrument, they have installed a separate Lucas dynamo, driven by an enclosed Whittle belt, so that even should the lighting set fail the ignition remains unaffected. The mudguards fitted are so wide as to prevent any mud from reaching the rider, and it is typical of the care taken in detail that the holes where the forks pass through the front mudguard are lined with rubber washers to prevent any leakage of water or possible rattle. The detachable wheels remain, and it is to be observed that they are absolutely interchangeable, as the chain sprockets, brake drums, etc., all remain *in situ* when the wheel is removed.

On the A.J.S. the internal expanding front brake is operated by Bowden control.

What the Show Reveals.

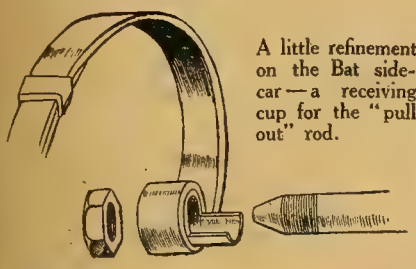
PROGRESS in 1920 is observable in many directions. "Tendencies in Design" (pages 672-676) reviews these improvements in detail. To assist our readers who are visiting the Show to assimilate the main items of interest, the outstanding features are summarised below:

(1) Improvements in cooling.
(2) A new British four-cylinder.
(3) Mechanical lubrication systems.
(4) New electric lighting sets.
(5) Weatherproof passenger machines.
(6) Improved saddle suspension.
(7) Novel two-stroke engines.
(8) More overhead valve engines.
(9) New countershaft gears.
(10) The large number of dual-purpose single-cylinder mounts.
(11) Lightweight sidecar outfits
(12) Novel frame designs.
(13) Increasing adoption of saddle tanks.
(14) Many new spring forks.



The magneto chain sprocket of the Blackburne is now fitted on to a tapered timing wheel shaft and locked by a small set screw.

The Olympia Show.—



A little refinement on the Bat sidecar—a receiving cup for the "pull out" rod.

Some improvements have been made in the sidecar, which will be fully dealt with in our next issue. The net result is to make the A.J.S. the most comfortable of machines, though not at the expense of speed.

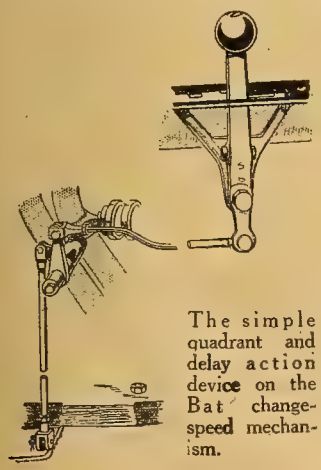
BLACKBURNE. (72.)

4 h.p.; 85×88 mm. (498 c.c); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; chain-driven magneto; three-speed Burman gear; chain drive; 28×3in. tyres.

BURNEY AND BLACKBURNE, LTD., 28, Conduit Street, London, W.1.—A substantially constructed dual-purpose machine is the 4 h.p. Blackburne. It is fitted with 28in. wheels and all-chain drive, protected by a guard over the upper length of the chain. A contracting band foot brake operates on the rear wheel, and the pedal is conveniently situated on the off side. Brampton spring forks are a standard fitting, and the Blackburne engine is, of course, employed. As is well known, this popular power unit has an outside flywheel and a detachable cylinder head held in place by three long studs and nuts. The low riding position, large footboards, and wide handle-bars combine to give the rider a feeling of security, and the black finish is admirably set off by the red panelled tank.

8 h.p.; 85×88 mm. (996 c.c.); twin cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; T.B. chain-driven magneto; three-speed Burman gear; chain drive; 28×3in. tyres. Price £180.

Built essentially as a sidecar machine the 8 h.p. model has a V twin engine



The simple quadrant and delay action device on the Bat change-speed mechanism.

INDEX TO OLYMPIA EXHIBITS.

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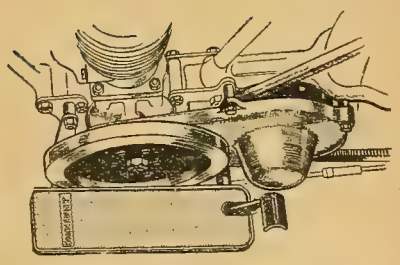


The new Connaught machines are fitted with a sound-proof, cast aluminium cover, enclosing the chain drive from the engine to the countershaft. Observe the heel brake, which is easily "found" by the foot on the footboard.

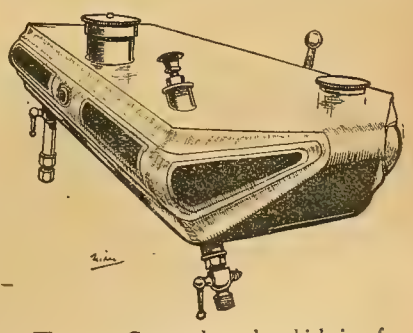
with cylinders set at 60°. In this engine also an outside flywheel and detachable cylinder heads are, of course, incorporated; another machine is built on very similar lines to the single-cylinder Blackburne model, although of sturdier construction with a heavier pattern Brampton spring fork. The final chain drive on this model is, at first sight, totally enclosed, but a closer inspection reveals the fact that the inner side of the chain case is absent. This chain guard, however, should be very effective.

Also on this stand are shown examples of the various Blackburne engines, and in addition to the 4 h.p. and 8 h.p. models, the 2¾ h.p. engine with a bore and stroke of 71×88 mm. is shown. The 5-6 h.p. engine is very suitable for a dual-purpose mount, and has similar cylinder dimensions to the 2¾ h.p. engine, and set at 60°. The 10 h.p. is shown as an air-cooled or water-cooled engine, the dimensions being the same, *i.e.*, 85×97 mm. An example of the air-cooled engine is shown with a skew gear-driven magneto.

BAT. (59.)

6 h.p.; 76×85 mm. (770 c.c.); twin-cylinder four-stroke; side valves; hand pump lubrication; Amac carburetter; chain-driven Magdyno; three-speed Sturmey-Archer gear; all-chain drive; 28×3in. tyres.

THE BAT MOTOR MANUFACTURING CO. (1918), LTD., Penge, S.E.—One of the pioneer firms of the motor cycle industry, the Bat has always had a high reputation, particularly for speed and workmanship. The 6 and 8 h.p. machines shown on the stand do not differ greatly from their predecessors, but all of them are good examples of the modern motor cycle, and



The new Connaught tank, which is of improved design and has a large capacity.

The Olympia Show.—

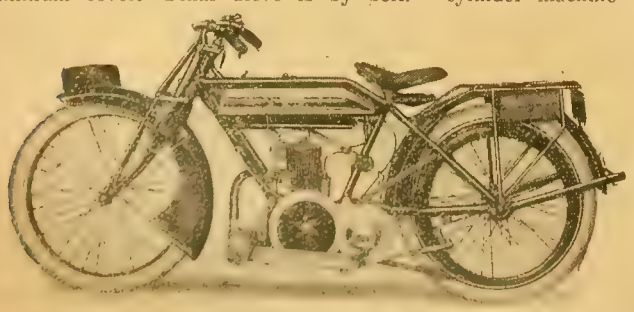
in particular of the method whereby the parts are arranged, so that even the smallest details are accessible. The ordinary model has a twin V engine driving the rear wheel through a countershaft gear box and clutch, transmission being entirely by chain. Both chains are covered in by metal casings of substantial and stiff design. Electric lighting is supplied, when desired, by a Lucas Magdyno placed at the front of the crank case, the wiring being rendered particularly neat by reason of the fact that the switch gear, enclosed in a casing, is bolted to a panel on the side of the petrol tank. Very stiff cast-aluminium footboards are used, and the tool bags on each side of the carrier are supported by steel casings. It is worth while studying the unusual suspension system, in which a powerful coil spring is linked to the seat-pillar, insulating the saddle and footboards from the remainder of the frame. The front forks are of Brampton design, so that the rider is thoroughly well sprung. The speed model is of the same type, even to the foot plates, but has curiously dropped handle-bars, giving an entirely different riding position. One of the chief exhibits on the stand is an extra wide two-seater sidecar frame attached to a touring model. The design is made still more interesting by the fact that the sidecar wheel is carried in a separate frame which is sprung on three-coil springs.

The 8 h.p. engine has a bore of 85.5 mm. and a stroke of 85 mm. Both engines are of J.A.P. manufacture.

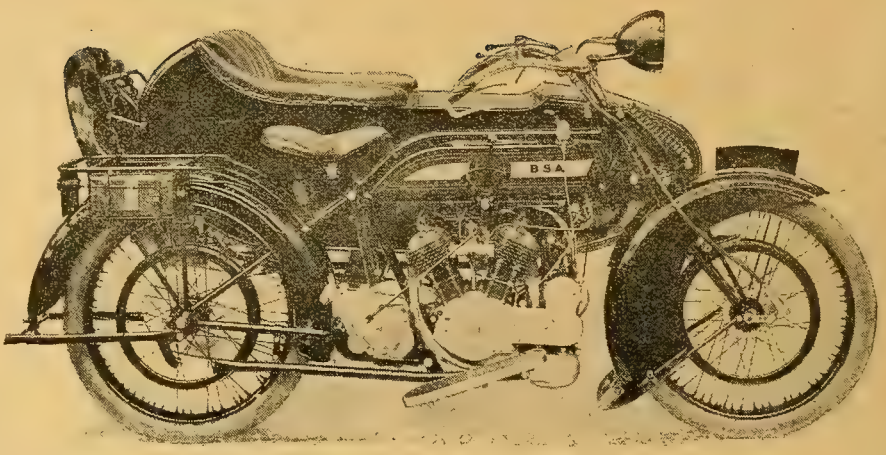
CONNAUGHT. (95.)

2½ h.p.; 73×70 mm. (293 c.c.); single-cylinder two-stroke; petroil lubrication; B. and B. carburetter; E.I.C. chain-driven magneto; two-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×2½in. tyres. Price with sidecar £100.

THE BORDESLEY ENGINEERING CO., LTD., Birmingham.—Quite the most attractive exhibit of the Connaught stand is the fascinating little sidecar outfit, for the performance of which we can vouch after an extended road test. Our readers will remember that the Connaught, which was a pioneer among two-strokes, has always embodied a combined inlet and exhaust manifold so that the incoming charge is well warmed. The engine is well constructed with ample bearing surfaces and drives by chain to a two-speed countershaft gear with handle-bar controlled clutch and kick-starter. This primary chain is protected by a neat cast aluminium cover. Final drive is by belt.



An early two-stroke in its modern form, the 2½ h.p. Connaught, with Sturmey-Archer gear box.



New type mudguards and many detail alterations are noticeable on the 1921 6 h.p. B.S.A.

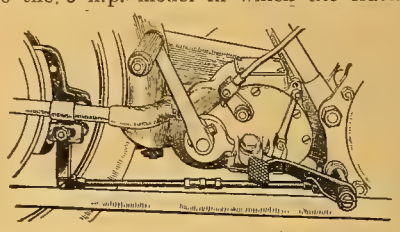
A metal shield prevents oily vapour spreading from the release valve, and the oil measure is now carried in a convenient position on the sidecar chassis. Neat and light is the little sidecar attached to the machine, which provides a wonderful amount of room for the passenger in spite of its apparently small outside dimension. The body is suspended on long leaf springs both fore and aft.

A similar machine can be supplied as a solo mount with or without clutch and kick-starter, while, in addition to this range, is a miniature machine with 24in. wheels and direct belt drive. This little machine is particularly suitable for ladies or young folk, since it is light and the essence of simplicity. A feature of Connaught two-strokes is the wonderfully economical consumption results which can be obtained by the ordinary rider without special tuning.

B.S.A. (69.)

4¼ h.p.; 85×98 mm. (557 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B.S.A. carburetter; M-L chain-driven magneto; three-speed constant mesh gear; chain drive; 26×2½in. tyres.

B.S.A. CYCLES, LTD., Small Heath, Birmingham.—For single-cylinder sidecar work B.S.A. machines have made a reputation for reliability under hard usage. At the last Olympia Show, the company introduced a twin-cylinder model which has firmly established itself during the present year, and the same success is bound to follow the new single-cylinder machine which takes the place of the 4¼ h.p. model previously marketed. This new machine may be said to be a redesigned proposition, using the older model as its nucleus, so externally those familiar with the well-known single will not, at first sight, observe much difference between the old and the new models. There are differences, however, and all are to the good. First, perhaps, should be mentioned the redesigned timing gear which now embodies external cams which materially reduce mechanical noises. There are also several other points which have been improved with a view to obtaining a great degree of silence, a new and larger silencer being one of them. The bore and stroke of the engine remain as before, but a decompressor is now fitted which greatly facilitates starting. Chief among the other improvements is the gear box, which now follows the lines of that fitted to the 6 h.p. model in which the clutch



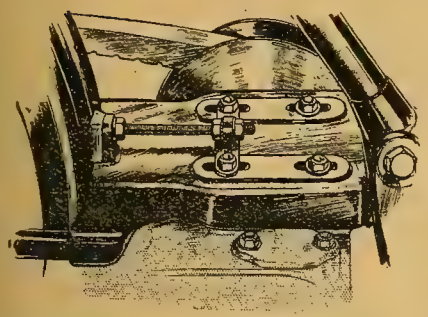
A desirable feature on the new B.S.A.—the straight pull of the rear brake operating lever.

is on the primary shaft and therefore quite inoperative when the gear is in neutral for starting purposes.

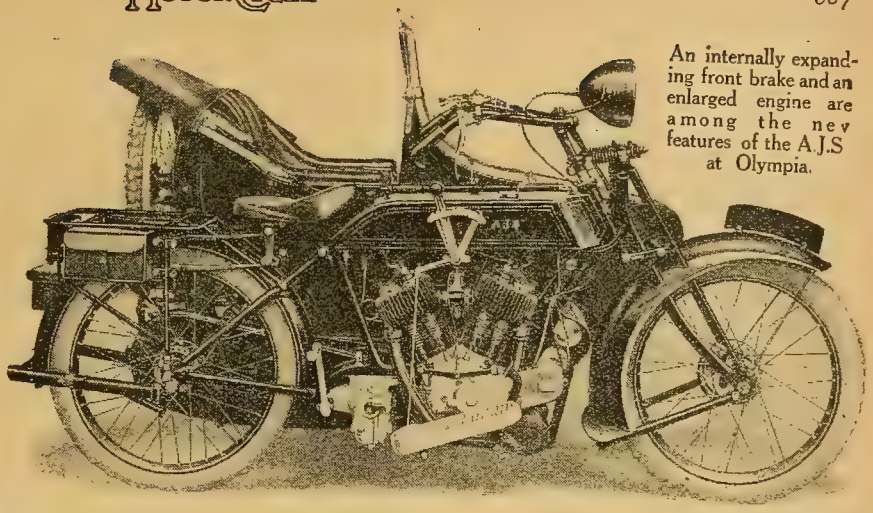
6-7 h.p.; 76×85 mm. (770 c.c.); two-cylinder four-stroke; side-by-side valves; suction feed and mechanical pump lubrication; B.S.A. carburetter; M-L chain-driven magneto; three-speed constant mesh gear; chain drive; 28×3in. tyres. Price £150.

Apart from the power unit there is but little difference in the two types, but larger tyres and wheels are fitted (28×3in.), and very large domed mudguards are a noticeable feature. A refinement on the engine is the mechanical lubrication, and the cast aluminium chain guards will also be observed. These guards are oil-tight, but can be detached for chain inspection quite easily.

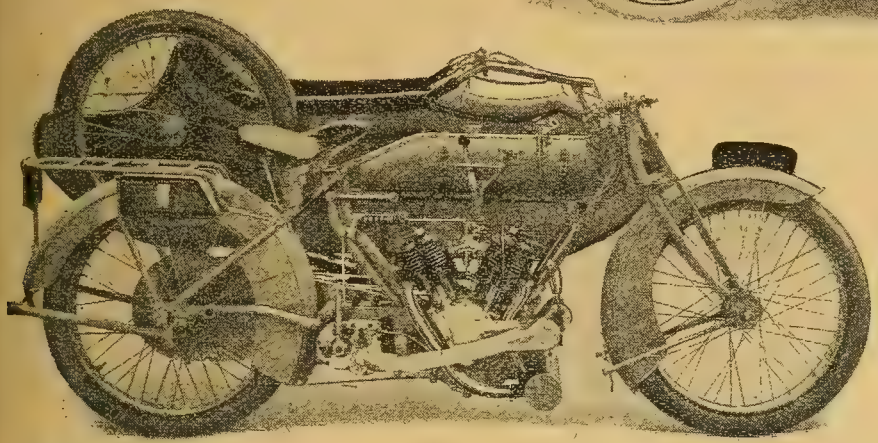
Partly sectioned models of both 4¼ h.p. and 6-7 h.p. engines are shown, and an open gear box makes clear the operation of the sliding dogs and the control mechanism. Improved forks, an almost invisible spring seat post, and superb finish are features of both B.S.A. models. The 3½ h.p. (500 c.c.) machine has temporarily dropped out of the lists.



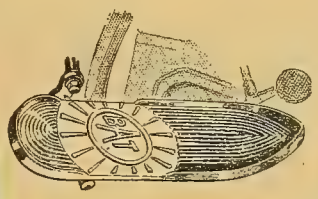
Gear box adjustment on the Armis sidecar mount is effected by a draw bolt.



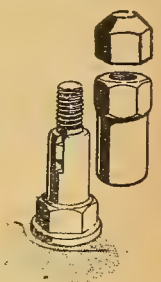
An internally expanding front brake and an enlarged engine are among the new features of the A.J.S at Olympia.



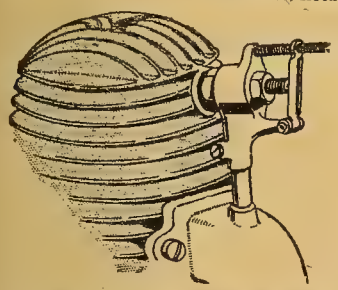
A Show would be incomplete without the Bat. The specimen illustrated is the 8 h.p. sidecar outfit, notable for its spring frame.



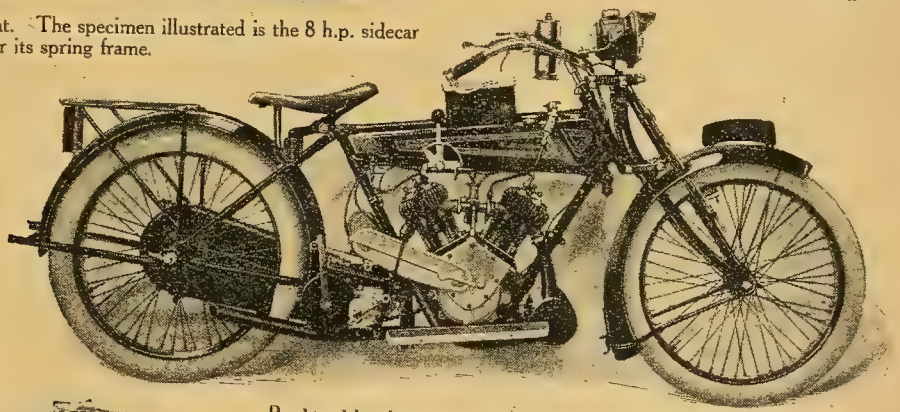
Large aluminium foot-plates are provided on the Bat



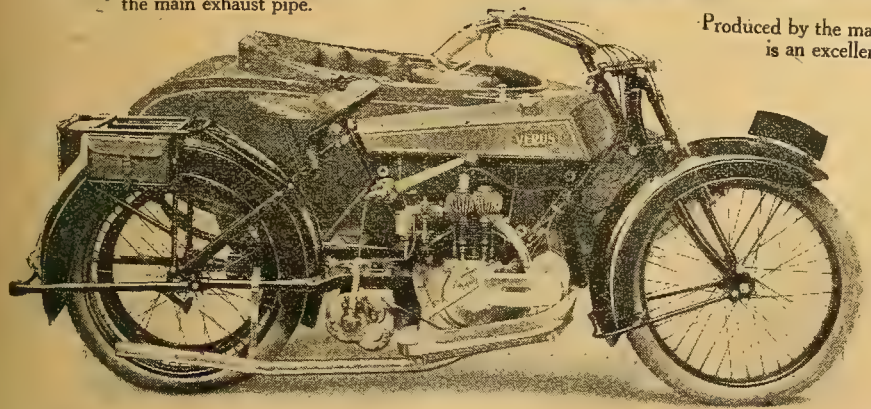
Details of the adjustable tappet fitted to the B S A.



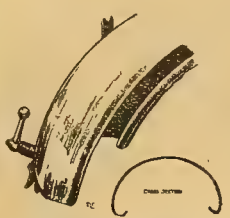
Radcos are fitted with a neat enclosed release valve and passage leading to the main exhaust pipe.



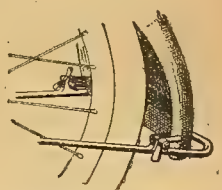
Produced by the makers of the well-known engine, the 8 h.p. Blackburne is an excellent example of clean and symmetrical design.



Wide mudguards and covers for the chain transmission and magneto contribute to the all-weather possibilities of the 4 h.p. Verus outfit, to which a saddle tank has been fitted.

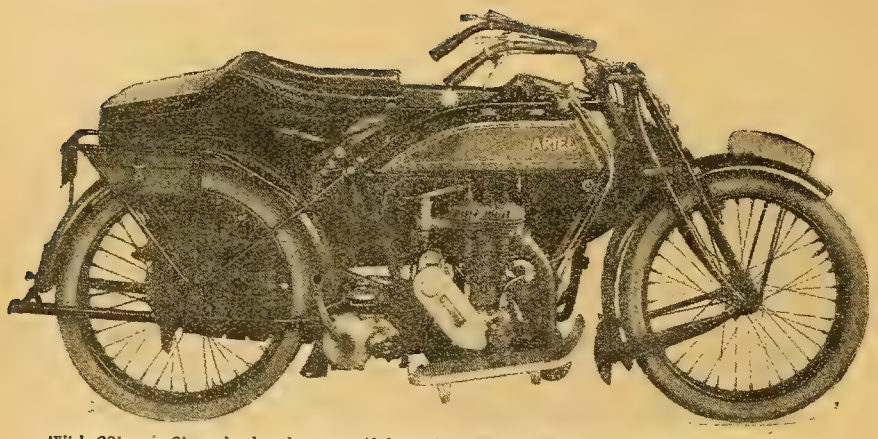


Channels are rolled in the new Triumph rear guard to carry away liquid mud.



The Verus front stand fixing clips on each side of the mudguard hold the stand in position.

The Olympia Show.—



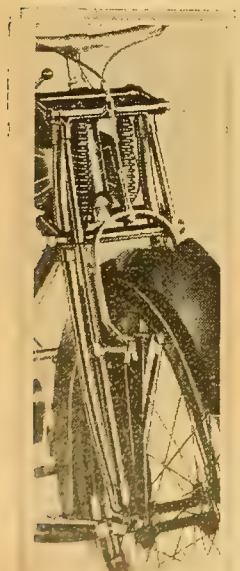
With 28in. × 3in. wheels, the new 4½ h.p. single-cylinder Ariel is a full size touring outfit. Observe the large locker at the rear of the sidecar, taking the place of a luggage grid.

ARIEL. (97.)

4½ h.p.; 86.4×100 mm. (585 c.c.); single-cylinder four-stroke; side-by-side valves; mechanical lubrication; B. and B. carburetter; chain-driven magneto; three-speed sliding pinion gear; chain drive; 28×3in. tyres.

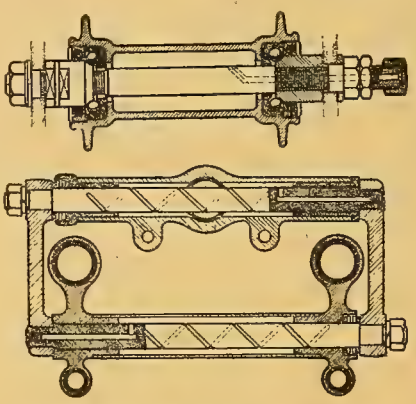
6-7 h.p.; 73×95 mm. (795 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; chain-driven magneto; three-speed sliding pinion gear; chain drive; 28×3in. tyres.

Ariel Works, Ltd., Bournbrook, Birmingham.—Two new models are this year exhibited by this well-known Birmingham firm, and, except for the engines, the machines are identical. The 6-7 h.p. twin engine in one of these is little altered since the last Show, and is one of the few long-stroke twins on the market. The gear boxes, too, are as in the 1920 models, and are good examples of three-speed countershaft gears, in every way conforming to up-to-date practice. The 4½ h.p. single-cylinder engine is entirely new, embodying mechanical lubrication and a decompressor to facilitate starting. For this reason an exhaust valve lifter has been dispensed with. A plain bearing of exceptionally large diameter is used on the driving side main shaft, oil being led to it by ducts cast in the crank case.



Large forks and wide guards are notable features of the new models exhibited by Ariel Works, Ltd.

A massive steering head, particularly large forks, and a strongly-built frame rather higher than usual are the main characteristics of the machine itself, but close examination reveals that careful attention has been paid to lubricating the wheel hubs and fork links, which are drilled to permit a charge of oil being injected through their ends. The large tyres, spring seat-pillar, ample footboards, and wide guards are all points which add to the rider's comfort.



Sections of Ariel new front hub, spring fork, and shackle bearings, showing in each case, lubricating arrangements.

3½ h.p.; 86.4×85 mm. (498 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; E.I.C. chain-driven magneto; three-speed gear; chain and belt transmission; 26×2⅜in. tyres.

A solo machine of considerable attractions, the Ariel is well known for its prowess in trials, and also by reason of the fact that on this machine was introduced the decompressor. Of very compact build, the Ariel provides a low and comfortable riding position. A new design front fork has been evolved, and another feature which adds to the comfort of the driver is the special spring seat-pillar.

ALECTO. (147.)

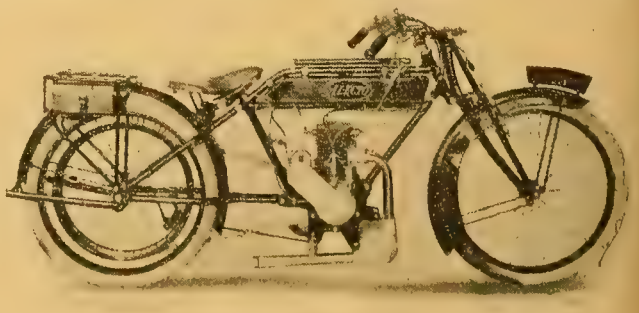
3 h.p.; 76×76 mm. (345 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; chain-driven magneto; two-speed Burman gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price £87 10s.

Cashmore Bros., Grove Road, Balham, London, S.W.12.—Inspired no doubt by the fine performance of their small two-stroke engine at Brooklands, where it captured twenty-one long-distance records in August last, Messrs. Cashmore Bros. have gone very thoroughly into the question of lightweight sidecar work. The result of their investigation forms the chief exhibit on this stand—the specially designed 345 c.c. passenger outfit. This machine has a considerably stronger frame, a larger tank, wider footboards, bigger spring forks and a different type of mudguarding from the solo model, and sells at £125. Another addition to their range is a single-geared T.T. machine, so constructed, however, that it may be converted to a two-speed with Burman gear box, clutch, and kick-starter without any structural alterations. As far as the engine is concerned there are few modifications from last year's design. Oil leakage around the exhaust pipe flanges and compression release valve has been eliminated by an improved type of union. Castellated brass nuts now secure the twin exhaust pipes, while the release valve pipe is brazed into the valve body. Internally the Magnalium piston is retained; also the neat split big end with its white metalled bearing surfaces. Extremely neat is the primary chain cover, which leaves the clutch boss exposed for ready adjustment. The single geared T.T. model sells at £75.

SALTLEY. (175.)

4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; B. and L. drip lubrication; Amac carburetter; chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; 26×2½in. tyres. Price £130.

Saltley Cycle Co., 86, Snow Hill, Birmingham.—The Saltley Cycle Co. stage three neatly designed machines, embodying the 4 h.p. Blackburne, the 2¾ h.p.



In view of its Brooklands performances, this T.T. Alecto should be very popular.

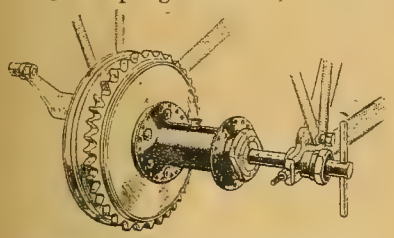
The Olympia Show.—

Vulcanus, and the 2½ h.p. Villiers power units. All three machines are excellent examples of the assembled type, and neatly finished in handsome colouring. The big 4 h.p. is an exceptionally good-looking machine, this in part being due to the use of a two-gallon tank of the "saddle" pattern, finely finished in khaki and black. The colouring of the Villiers model is similar; that of the Vulcanus is royal blue with black panels and gold lines.

CHATER-LEA. (90.)

2¼ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; T.B. chain-driven magneto; two-speed countershaft gear; chain and belt drive; 26×2in. tyres. Price £70.

CHATER-LEA, LTD., 74, Banner Street, London, E.C.1.—A pleasing looking little lightweight of standard design is the 2¼ h.p. Chater-Lea, black and gold finish being employed. Mudguarding has been particularly well carried out, and the sloping top tube provides a low riding position and neat appearance. A lever control for the magneto is fitted to the tank, which also carries a Best and Lloyd drip feed lubricator. Special Chater-Lea spring forks are, of course,



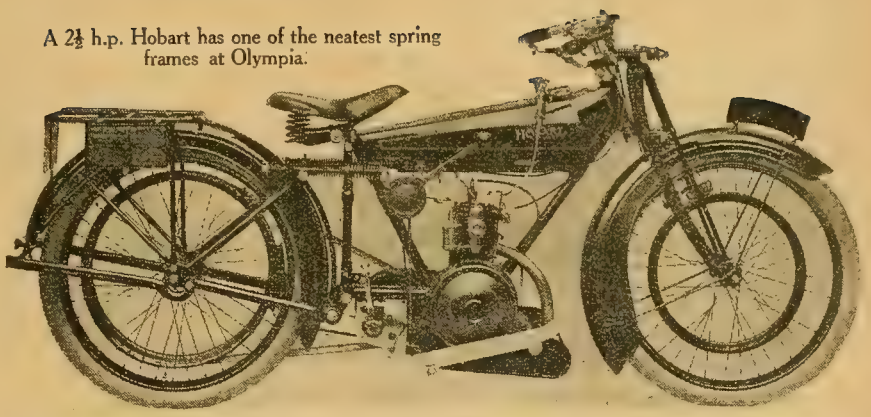
Rear axle assembly of the Chater-Lea, showing the driving pins between the chain wheel and the rear wheel hub.

fitted, and a single toolbag is carried on the near side of the carrier. The countershaft gear box is particularly well carried out, and is controlled by a lever and quadrant on the left side of the tank.

8 h.p.; 85×85 mm. (964 c.c.); two-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; T.B. chain-driven magneto; three-speed sliding gear; chain drive; 700×80 mm. tyres.

A luxurious sidecar machine is seen in the 8 h.p. Chater-Lea twin. It is of

A 2½ h.p. Hobart has one of the neatest spring frames at Olympia.

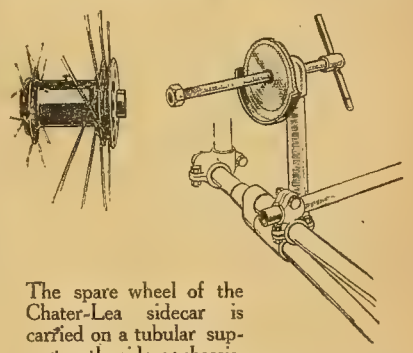


sturdy construction, and a good feature is the fitting of over-sized tyres, all wheels being detachable and interchangeable. A spare wheel is carried at the front of the sidecar chassis by a special lug provided for the purpose. The chain transmission throughout is well guarded, but is not totally enclosed. Features which call for inspection are the special Chater-Lea spring saddle mounting and spring fork. It is claimed that the combination of the two results in an exceptionally comfortable machine. The power unit is on standard lines, as also is the countershaft gear box. The chain sprocket has combined with it a large drum in which is an expanding brake. Finished in black and gold, the tank accommodates 2½ gallons of fuel, but, owing to the rounded corners, it does not appear unduly large. A large cylindrical silencer, with an extension pipe, ensures the quiet running of the machine. If desired, a Lucas Magdyno may be fitted with electric lighting equipment, this being, of course, an extra. A particularly simple method of detaching the interchangeable wheels is used.

HOBART. (102.)

2½ h.p. Villiers; 70×70 mm. (269 c.c.); single-cylinder two-stroke; petroil lubrication; Amac carburetter; flywheel magneto; single-speed gear; belt drive; 26×2½in. Hutchinson tyres.

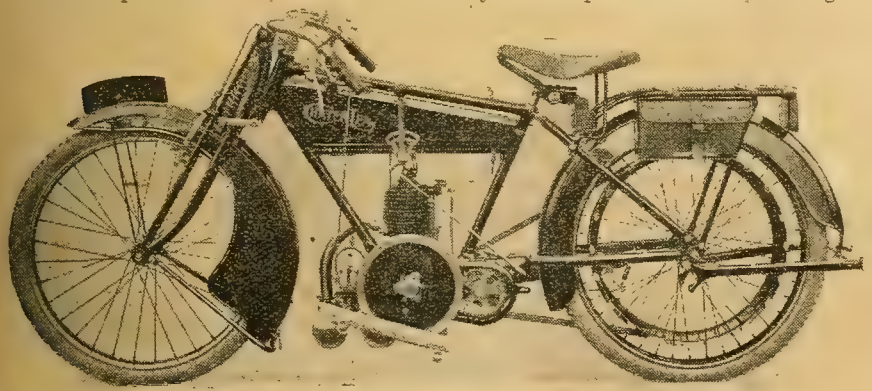
HOBART CYCLE CO., LTD., Coventry.—This machine is the simplest and most inexpensive of the wide range of Hobarts—all lightweights. Petroil lubrication has been adopted only this year, and only for this particular model. Owing to the design of the bottom bracket, which is specially slotted for this purpose, a Chater-Lea two-speed gear box may be fitted without any structural alterations. Should, therefore, the purchaser of a single gear Hobart desire later to go in for serious touring or mountaineering in a small way, he will be able, given the necessary sprocket, etc., to effect a conversion himself in a very short space of time.



The spare wheel of the Chater-Lea sidecar is carried on a tubular support on the sidecar chassis.

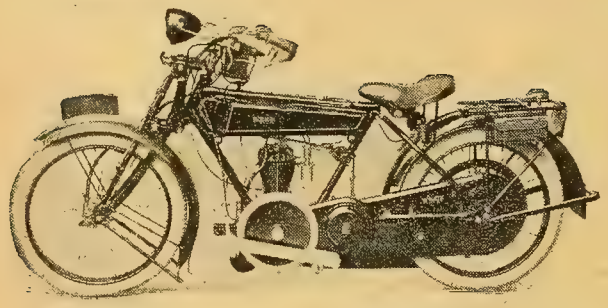
2¾ h.p.; 70×76 mm. (293 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; C.A.V. chain-driven magneto; two-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×2½in. tyres.

Chief model of an old-established Coventry firm, the spring frame Hobart is an excellent little job, both in design and finish. Pivoted immediately behind the gear box, the rear stays form the base of the duplex triangle supporting the back wheel. Carrying on the explanation geometrically, the apex of this triangle slides along two horizontal (loosely linked) rods pivoted underneath the saddle. The motion is controlled by compression and tension coil springs on these rods. In practice, this gives a neat and efficient suspension, which has incidentally been proved on the road for over a year. A similarly sprung machine may be obtained with a 2½ h.p. Villiers engine, and both are shown with rigid frames. Staging lightweight machines of all types from the simple single-geared two-stroke to a *de luxe* model with spring frame, clutch, and kick-starter, the Hobart Cycle Co. are in a position to produce a machine to suit any rider.

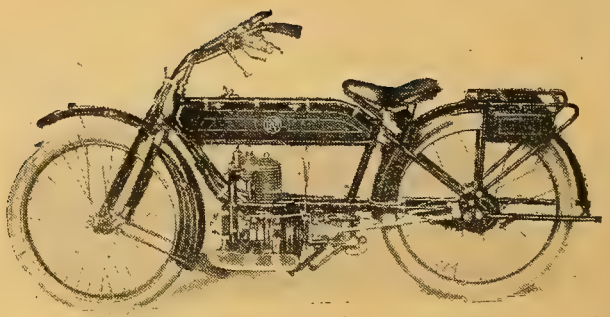


Very fine front mudguarding immediately attracts notice on the Chater-Lea lightweight.

The Olympia Show.—



For all-weather work the 4 h.p. Wilkin-Blackburne makes a strong appeal.



2¾ h.p. F.N. singlecylinder two-speed modele de luxe.

WILKIN. (146.)

4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac, B. and B., or Senspray carburetter; chain-driven Magdyno; three-speed Sturmey-Archer gear; all-chain drive; Wood-Milne or Hutchinson 26in.×3in. tyres. Price £190 with sidecar.

WILKIN MOTORS, LTD., Onslow Road, Sheffield.—The officially observed "Round the Coast" test is still fresh in the minds of the public; and just as surely have the lessons of that test been utilised by Wilkin Motors. Mudguarding has been much improved and strengthened, and the chain cases are designed to be completely mud and waterproof; albeit they detach with little trouble. Specially thoughtful is the provision of a means of clipping the chains in position, and thus avoiding much irritating "fishing" in the lower half of the gear case when shortening the chain. The gear box is adjusted by means of a special plate attached to the holding-down bolts, which plate may be moved forward or backward by screwing a double-flanged nut abutting on a lug cast in the bottom bracket. Magneto chain adjustment is made easy in a somewhat similar manner.

2¾ h.p. Blackburne; 71×88 mm. (349 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac or Senspray carburetter; chain-driven magneto; three-speed Sturmey-Archer gear; enclosed chain drive; 26in.×2¼in. tyres. Price £122.

It may be recalled that the 2¾ h.p. Wilkin distinguished itself in the Scott and Ilkley trials—two abnormally severe events. The chief features of the 4 h.p. model also apply to this machine, which is also shown as a light sidecar outfit. A specially tuned sporting model with T.T. bars and footrests completes a fine range of machines that we expect to see much in evidence in 1921.

F.N. (139.)

7 h.p.; 52×88 mm. (748 c.c.); four-cylinder four-stroke; valves on either side; mechanical lubrication; Amac carburetter; gear-driven magneto; three-speed gear; shaft and bevel drive; Palmer Cord 26in.×3in. tyres.

F.N. (ENGLAND), LTD., Kimberley Road, Willesden Lane, London, N.W.8.—Belgium has always been noted for its engineering products, particularly for the excellence of its foundry work, and it is rather disappointing that only one Belgian motor cycle manufacturer is seriously represented in this country. However, the good points of that one make—the F.N.—probably compensate for lack of variety. From very early days the F.N. four-cylinder has been steadily carving a niche for itself in the heart of the British public, and the latest 7 h.p. model possesses several features as yet unique, but which are considered by many as likely to become almost universal in the future. Modern car practice is followed throughout. Oil level in the sump of the air-cooled four-cylinder engine is kept constant by a mechanical pump possessing a visible indicator. At the end of the massive crankshaft, which is supported on ball bearings, is a proportionally massive flywheel containing a multi-disc clutch. Thence the drive is through a ball-bearing three-speed gear box, by partly enclosed shaft and bevel to the back wheel. Although amply strong and powerful for sidecar work, this model, in view of its specification, is remarkably light, and its even torque and large tyres make it a fascinating and comfortable solo mount.

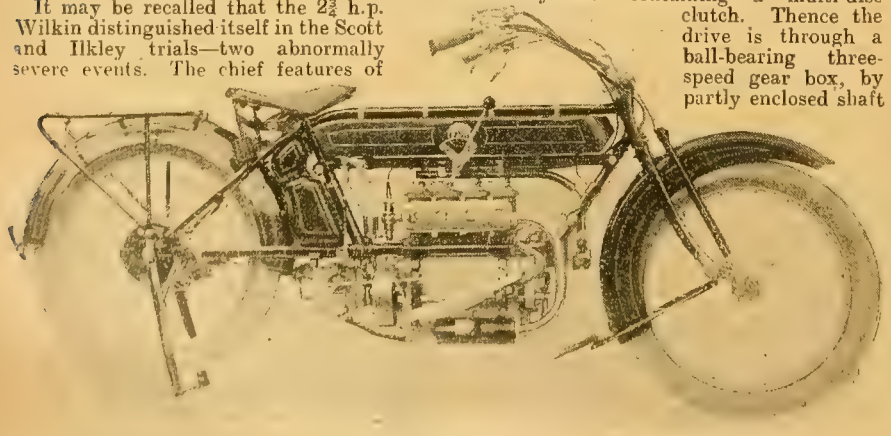
2½ h.p.; 65×86 mm. (275 c.c.); single cylinder four-stroke; side-by-side valves; Amac carburetter; gear-driven magneto; two-speed gear; shaft and bevel drive; Palmer Cord 26in.×2¼in. tyres.

When chain drive is being regarded by some as advanced practice if applied to a lightweight, it is well to remember that the 2½ h.p. F.N. has embodied shaft and bevel drive since its inception. A transversely set engine makes this layout not only possible but very neat. The cylinder and top half of the crank case form one casting, the valves are interchangeable, and the timing gear employs only two pinions, including the magneto drive. All this is illustrative of the great simplicity of the design. As in the "four," an outside flywheel carries a multi-plate clutch (handle-bar controlled); and the two-speed gear box and kick-starter are entirely of F.N. manufacture.

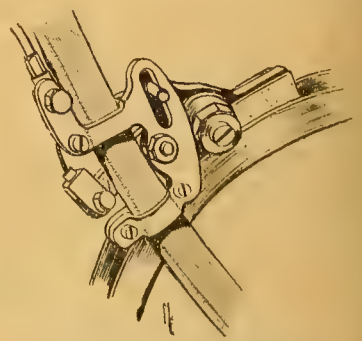
ZENITH. (87.)

3½ h.p. Bradshaw; 68×68 mm. (499 c.c.); horizontal twin-cylinder four-stroke; overhead valves; mechanical lubrication; B. and B. carburetter; gear-driven magneto; Zenith-Gradua gear; belt drive; Avon 26×2¼in. tyres. Price (provisional) £130.

ZENITH MOTORS, LTD., Hampton Court.—Probably the greatest attraction on the Zenith stand is the new Bradshaw-engined sporting machine. The engine

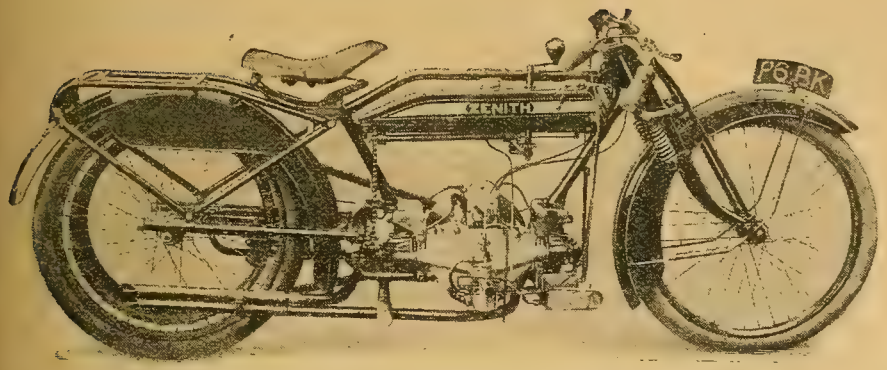


New model 7 h.p. four-cylinder F.N., with three-speed gear and shaft drive—a car on two wheels.

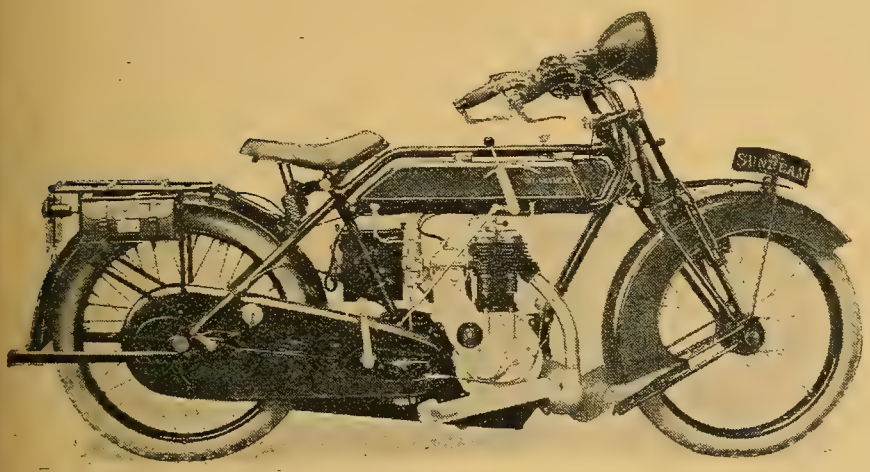


Zeniths now have a cable-operated dummy belt rim front brake

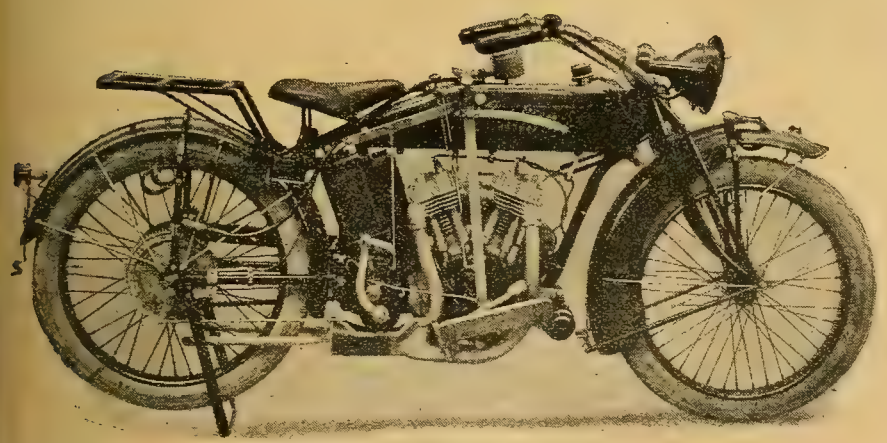
Divergent Types of Solo Mounts.



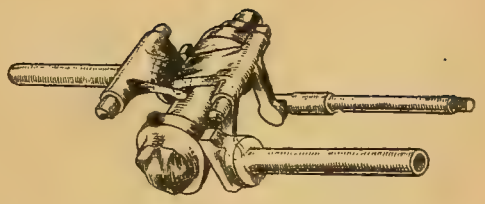
A sporting model Zenith fitted with the Bradshaw flat twin engine is one of the real novelties of the Show. Note the unusual crank-case construction.



1921 model 3½ h.p. three-speed Sunbeam, fitted with Lucas Magdyno, a fine specimen of an all-weather solo mount.

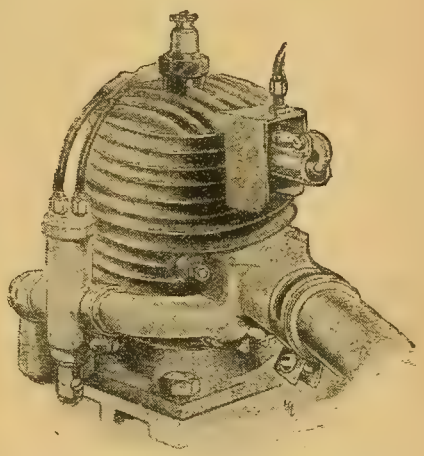


7 h.p. Indian Powerplus, a stripped model of which last week exceeded 95 m.p.h. at Brooklands.

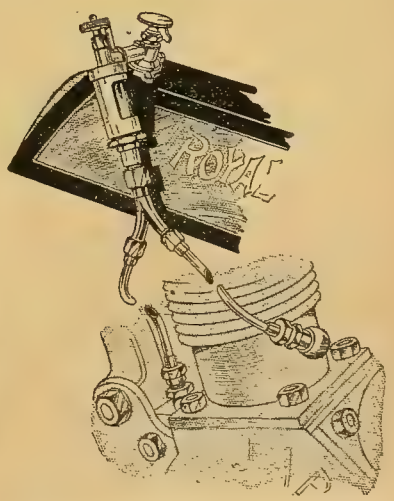


Details of the new 3½ h.p. Douglas cam and valve rocker mechanism.

Troughs to carry water to the rear are provided on the Zenith back mudguard (shown detached)

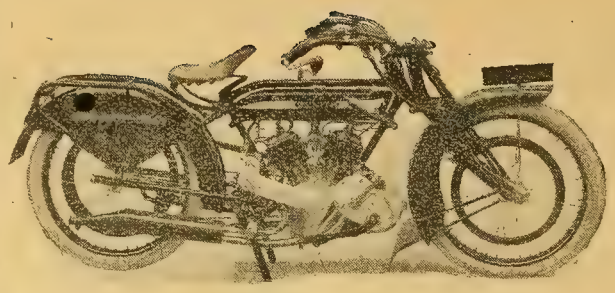


The Connaught cylinder, showing combined exhaust and inlet manifold.



The lubrication system of the Royal Ruby provides a supply of oil to the rear of the front cylinder.

The Olympia Show.—of this may be regarded as the first attempt at really scientific oil-cooling. As has already been described in *The Motor Cycle*, the cylinders are sunk inside the crank case, only the heads being exposed. The forced-feed lubrication pump provides a constant stream of oil from a separate tank in which it is kept cool, and the cylinders and pistons are cooled as well as lubricated by this oil, which is then returned by a second pump from the crank case into the oil tank. The preliminary tests of the model (which will not be in production until February) show it to be possessed of a very good turn of speed as well as pulling power, and it will certainly become immensely popular with those who prefer a sporting solo machine of high performance.



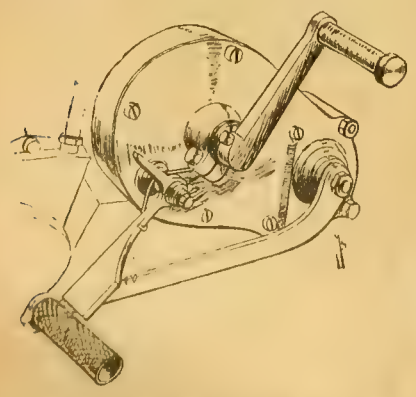
An 8 h.p. Zenith Gradua with Barnes saddle. Observe the dummy belt rim brake for the front wheel.

2¾ h.p.; 58¼×65 mm. (346 c.c.); two-cylinder flat twin four-stroke; side-by-side valves; hand pump lubrication; Amac carburetter; gear-driven magneto; Zenith Gradua gear; chain and belt drive; 26in. ×2¼in. tyres. Price £107.

This light sporting model remains practically as it was, it having been found so fully up to its work that no alteration is needed. It is a fascinating solo mount, and makes a great appeal to those who find that 350 c.c. gives them the performance they require.

5 h.p.; 70×85 mm. (654 c.c.); two-cylinder V twin four-stroke; side-by-side valves; hand pump lubrication; Amac carburetter; chain-driven magneto; Zenith Gradua gear; belt drive; 650×65 mm. tyres. Price £123.

This model, also the heavier sporting models "E" with 6 h.p., and "G" with 8 h.p., engines (both of which are priced at £139), resemble the 2¾ h.p. flat twin, in being practically unaltered; they are too well-known to need further description. It should be added, however, that improvements have been embodied in details, particularly in the direction of mudguarding. The 8 h.p. clutch model with countershaft, which is priced at £162, has a new and excellently arranged clutch pedal of very long leverage, with a ratchet pawl to hold the clutch out if desired.

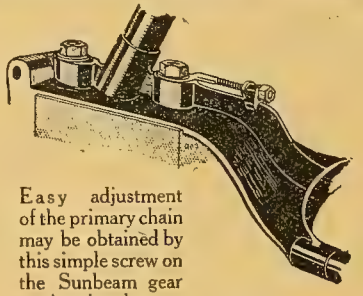


Delicate clutch manipulation is made possible on the Zenith by means of an exceptionally long pedal.

SUNBEAM. (129.)

3½ h.p.; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac or B. and B. carburetter; chain-driven magneto; three-speed constant mesh type gear; enclosed chain drive; Dunlop or Bates 650×65 mm. tyres. Price £155 8s.

JOHN MARSTON, LTD., Sunbeamland, Wolverhampton.—Although the capacity of the Sunbeam single-cylinder engine is only 499 c.c., it has proved capable of the severest sidecar work, and for dual purposes it stands in the highest rank. Famous long ago on Sunbeam pedal cycles, the oil bath gear case forms the most prominent feature, although the three-speed gear box is also a very fine piece of work. Of course, the rear wheel is instantly detachable without disturbing the drive or gear cases in any way. Laminated front springing was first adopted on this model last year, and is retained both in standard and in T.T. version, the latter differing only in the substitution of dropped bars and footrests. This T.T. machine must not be confused with Messrs. John Marston's commendable attempt to provide a really fast and light solo mount, not dissimilar to the machine which won the 1920 Senior T.T. In this machine weight has been sliced off wholesale, leaving only those features which will delight the heart of the speedy soloist. Parallel link forks, a lighter gear box without kick starter, simpler braking on dummy belt rims, all contribute to the good cause of decreased weight; while a special aluminium piston should mean increased efficiency. The transmission system is unaltered, and the sporting Sunbeam is priced at £152 5s.



Easy adjustment of the primary chain may be obtained by this simple screw on the Sunbeam gear box bracket.

The Sunbeam seat pillar lug.

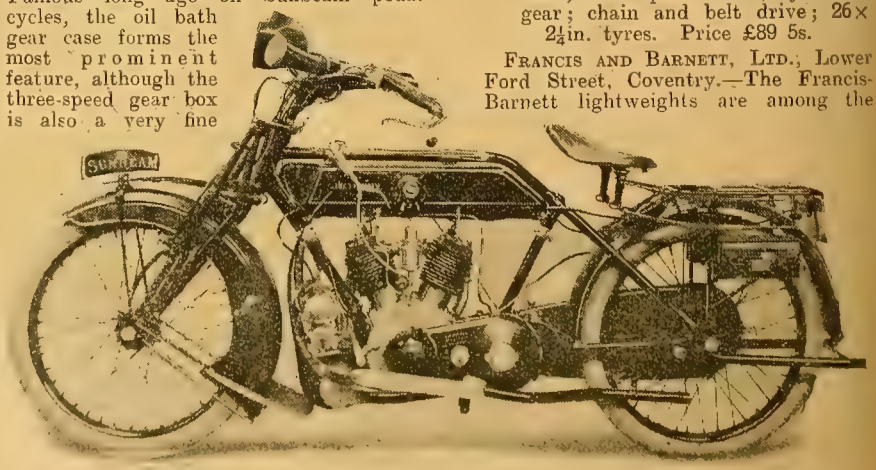
8 h.p. J.A.P.; 85.5×85 mm. (976 c.c.); V twin cylinder four-stroke; side-by-side valves; drip-feed lubrication; Amac or B. and B. carburetter; chain-driven magneto; three-speed constant-mesh type gear; enclosed chain drive; Dunlop 650×65 mm. tyres. Price with sidecar £237 6s.

For those who desire a great reserve of power for really heavy passenger work the well-known J.A.P. engined outfit is still a centre of attraction. Following very closely the general lines of the smaller touring machine, it holds an enviable position in its class, and for 1921 has not been altered. Large mudshields and the new Brooks cantilever saddle are fitted.

FRANCIS-BARNETT. (34.)

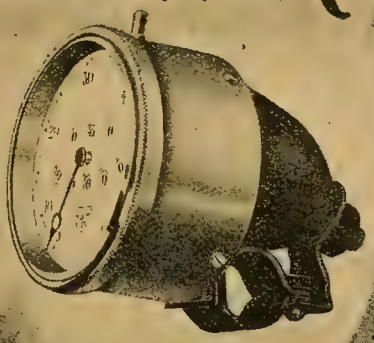
2¾ h.p.; 70×76 mm. (292 c.c.); single-cylinder four-stroke; side-by-side valves; splash lubrication; B. and B. carburetter, chain-driven magneto; two-speed Sturmey-Archer gear; chain and belt drive; 26×2¼in. tyres. Price £89 5s.

FRANCIS AND BARNETT, LTD., Lower Ford Street, Coventry.—The Francis-Barnett lightweights are among the



1921 model Sunbeam-Jap three-speed chain-driven sidecar mount. Observe the Brooks special saddle suspension.

SMITH'S WORLD FAMOUS MOTOR CYCLE EQUIPMENT



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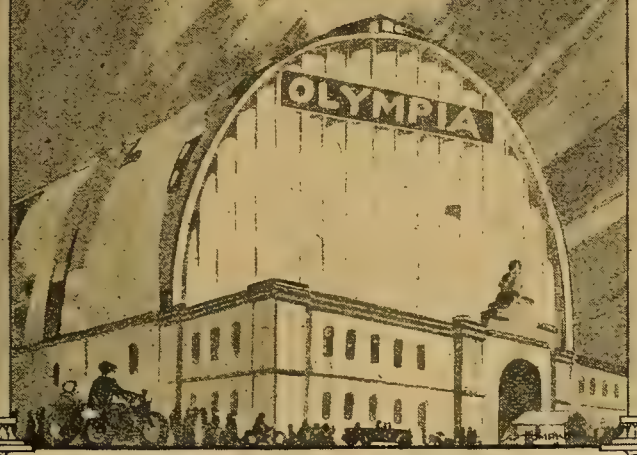

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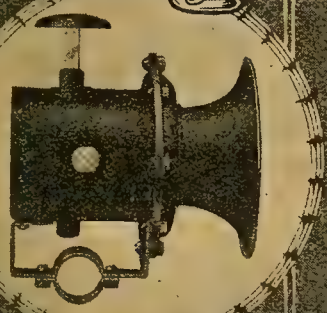

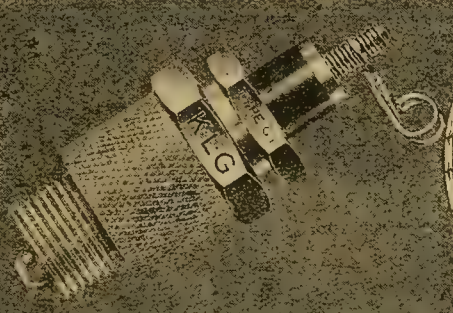

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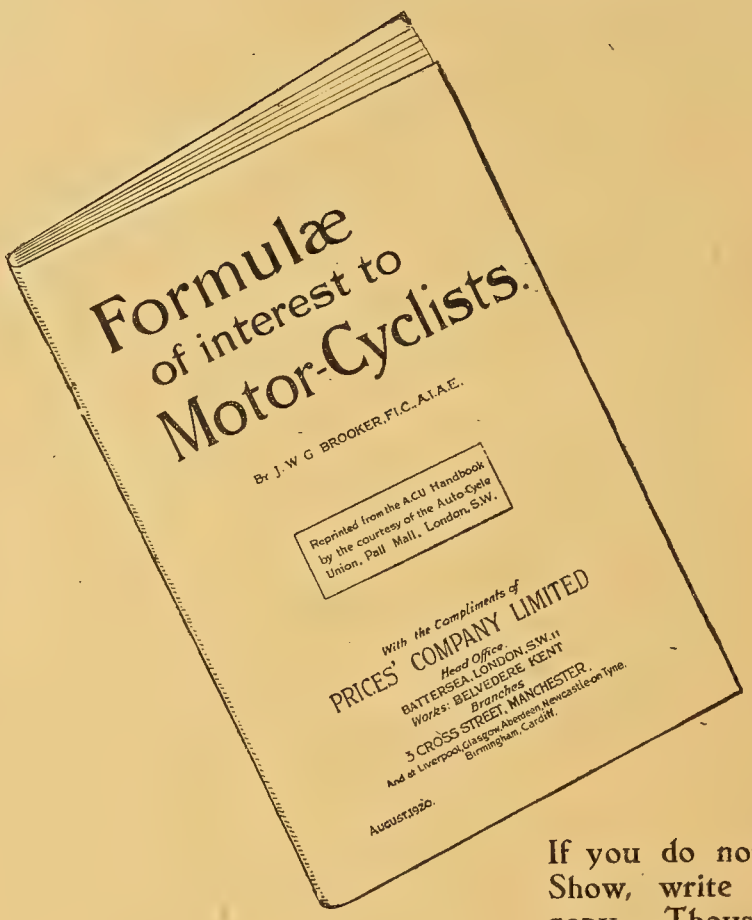
Formulæ
of interest to
Motor-Cyclists.
By J. W. G. BROOKER, F.I.C., A.I.A.E.
Reprinted from the A.C.U. Handbook by the courtesy of the Auto-Cycle Union, Pall Mall, London, S.W.
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If you do not visit the Show, write us for a copy. Thousands have already been applied for and distributed.
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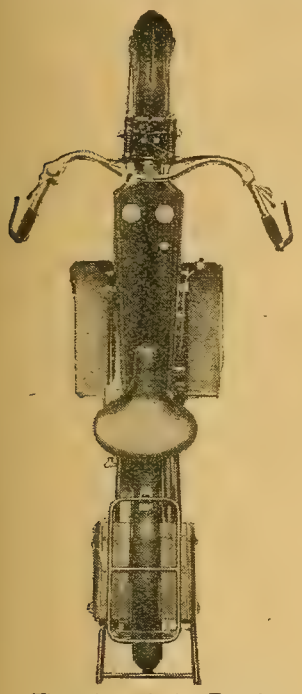
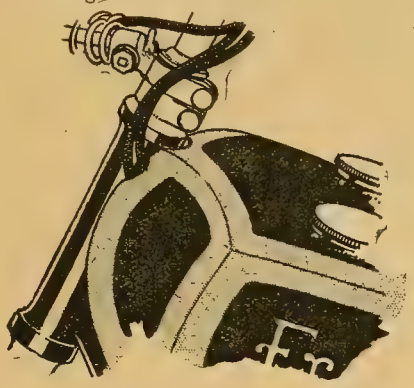
The Olympia Show.—prettiest in the Show, and one interesting result of the 1921 taxation scheme is that the makers are careful to state the exact weight of all their models. With empty tanks and without lamps or tools, the weights range from 152 lb. for the single-speed two-stroke, to 195 lb. for the *de luxe* model, fitted with J.A.P. engine. The handsome aspect of the machines on this stand may be ascribed to an excellent quality of finish and to



This view of the Francis-Barnett is difficult to obtain at Olympia, but serves to show an attraction of its saddle tank.

tasteful colouring, the black tank being heavily lined in scarlet and lettered in gold. Moreover, this tank is of the "saddle" type, giving a flush finish to the top. The designer understands that quite seventy-five per cent. of the people who ride lightweights like to have a clutch and kick starter, which he accordingly fits to all his variably-geared models. Metal-rimmed footboards covered with linoleum are standard, and on the *de luxe* model a pair of efficient legshields is included. With these extras the machine is catalogued at £105.



Clean outline is obtained on the Francis-Barnett by leading the control wires inside the saddle tank.

A similar machine to the four-stroke is the two-stroke model, which is engined with a 2½ h.p. Villiers engine, and sells at £70 7s. single gear, and £80 17s. with two-speed gear.

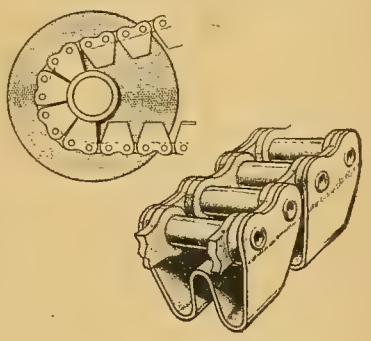
RUDGE. (113.)

3½ h.p.; 85×88 mm. (499 c.c.); single-cylinder four-stroke; inlet over exhaust valves; pump lubrication; Senspray carburetter; gear-driven magneto; variable speed gear; belt drive; 650×65 mm. tyres. Price £110 5s.

RUDGE-WHITWORTH, LTD., Coventry.—It is interesting that the makers of the Rudge, as one of the few remaining exponents of the all-belt drive, have fitted an all-metal chain-belt to some of their latest Multi models. This belt is in effect a wide chain, to the links of which are attached sprung V shaped gun-metal plates, shaped to fit the belt pulley. The weight is roughly twice as great as that of the normal belt, but against this increase must be set the fact that the drive is slip-proof, being unaffected by water. Otherwise both this and the 5-6 h.p. long stroke model remain unaltered. The technical details of the 5-6 h.p. model are exactly similar to those of the 3½ h.p. with the exception of the engine stroke, which is 132 mm.; and the price, which is £120 15s. There is also the 8 h.p. "Multwin," the engine of which is similar to the model described below, while the transmission, etc., is of the well-known Multi variable pulley type. In this, movement of a lever on the tank side opens or closes the variable belt pulley, at the same time actuating a connecting rod, which keeps the belt tension constant by closing or opening the rear wheel belt rim. To adjust the belt tension, the rear belt rim alone is altered, by a small hand lever set on the spindle end. On an extension of the engine-shaft beyond the pulley is placed a multi-plate clutch, operated by a Bowden wire and handlebar lever.

7-9 h.p.; 85×88 mm. (998 c.c.); V twin four-stroke; inlet over exhaust valves; hand pump lubrication; Senspray carburetter; gear-driven magneto; three-speed Rudge sliding gear; all chain drive; Dunlop 650×50 mm. tyres. Price £167.

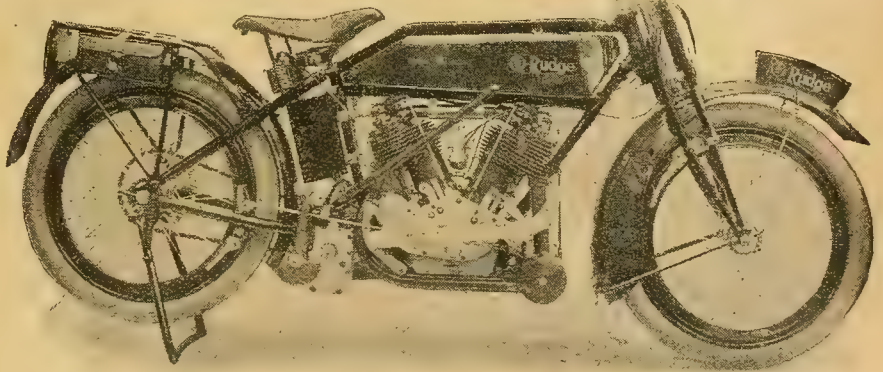
In this new model Messrs. Rudge-Whitworth, Ltd., have broken away



The Rudge experimental all-steel belt is, broadly speaking, a chain with spring bearing faces.

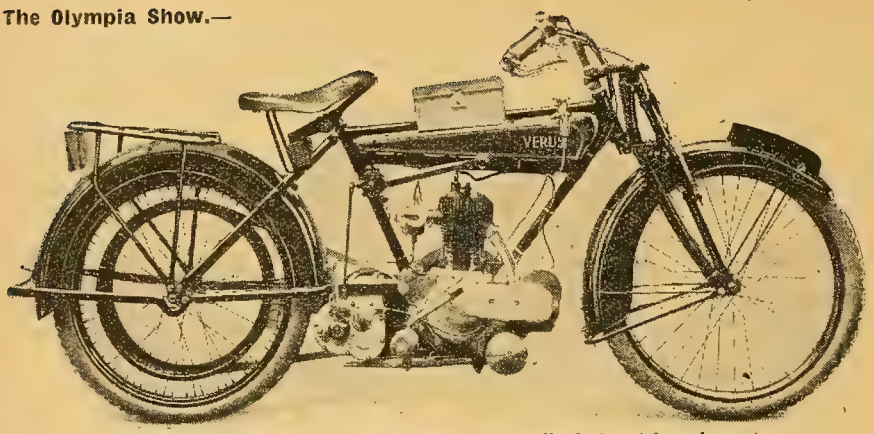
from their old tradition, and have incorporated a three-speed gear box of very neat design. It includes a kick-starter, but no clutch, as the makers have preferred to retain their well-known engine-shaft clutch, with which they have incorporated a cushion drive, consisting of two serrated discs or face

An easy adjustment and a parallel action are provided for the Francis-Barnett rear brake.



7-9 h.p. twin Rudge with three-speed countershaft gear and all-chain drive. Its features were described in detail in our last issue.

The Olympia Show.—



A light and handy 4 h.p. Verus-Blackburne, specially designed for solo work.

cams, held together by a spring. As the drive has to pass from one disc to the other, any "snatch" is taken up by one disc tending to climb the teeth of the other, against the spring pressure.

VERUS. (161.)

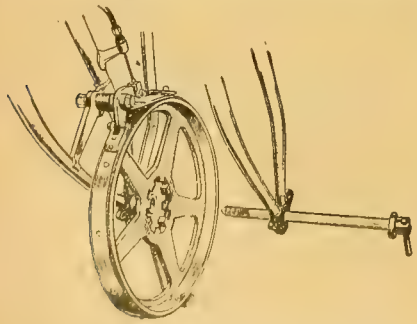
4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Cox-Atmos or Senspray carburetter; chain-driven Maglita; three-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×3in. tyres. Price with sidecar £200.

Alfred Wiseman, Ltd., Glover Street, Birmingham.—Very rapid has been the rise of the Verus. A trust in the value and lessons of reliability trials probably accounts for this in no small degree. Anyhow, whatever the cause, the Verus now ranks among the aristocracy of the pastime, and careful examination proves that the position has been well earned. Their "4" sidecar outfit is built entirely on the lines of the more luxurious twins. The mudguarding is cleanly carried out and exceptionally extensive; the rear carrier has evidently been built for an extra passenger, while the front stand, which possesses the unusual refinements of a stop and spring clips, is a typical example of the attention that has been paid to detail. Upon undoing three bolts the whole engine unit may be removed. Particularly noticeable, also, is the aluminium flywheel and primary chain cover, which possesses an inspection door allowing quick access to the clutch.

4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Senspray carburetter; E.I.C. chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; Avon or Dunlop 26×2¼ tyres. Price £126.

Interesting as one of the few 4 h.p. machines at the Show that may be brought below the 200 lb. taxation limit, this model is, with the exception of the engine, entirely different from the sidecar machine. Footrests, "W.D." bars, a small tank with an aluminium toolbox on top, combine to form a speedy, light and simple go-anywhere machine—with all the attributes of the nominal "lightweight." A 2¾ h.p. Blackburne-engined model differs mainly in the gear box—a two-speed Burman, and sells at £108.

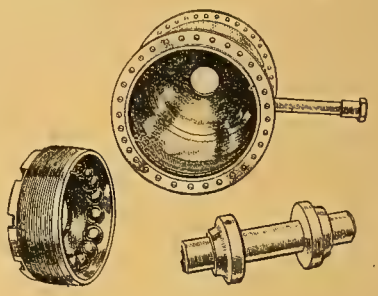
The heavier 2¾ h.p. Blackburne-engined Verus weighs approximately the same as the light "four"—fuller equipment, mudguarding, etc., account for this.



Front wheel removed from the forks to show the new front wheel band brake on the Matchless. When the axle is withdrawn and the wheel slipped out of the forks, the brake band and the brake torque stay retain the brake drum in position. When the front wheel is in position the brake drum is locked by serrations to the wheel hub.

2½ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac or Senspray carburetter; Runbaken chain-driven magneto; two-speed Sturmey-Archer gear; chain and belt drive; Hutchinson 26× 2¼in. tyres. Price £85.

A pair of two-strokes—one engined as above, and the other with a 211 c.c. power unit and direct belt drive, selling at £60—complete the Verus exhibit. The engines in these cases, manufactured by the company, have a very thorough lubricating system. Oil is led to the cylinder wall, runs through a hollow gudgeon pin and finds its way to the big end, a separate lead supplying the crankshaft bearings.



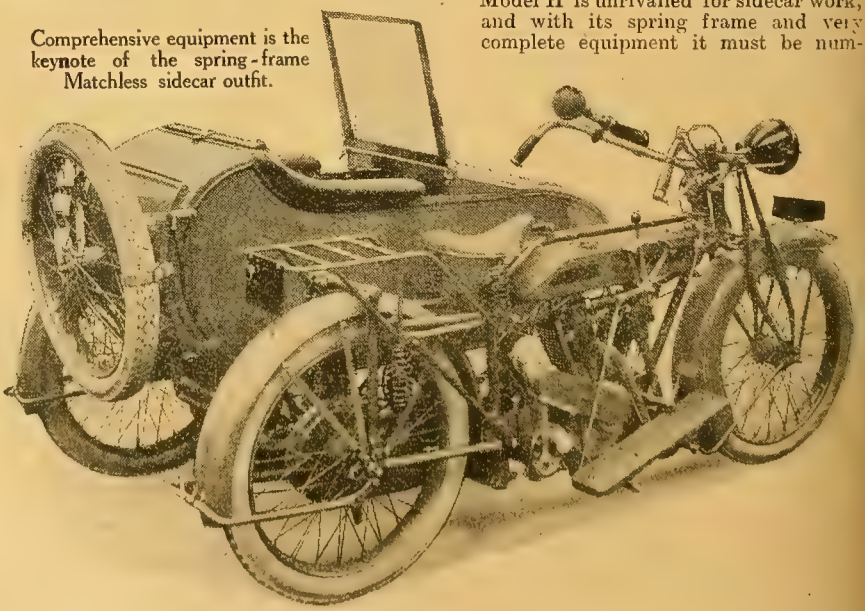
The components of the very large hubs fitted to the wheels of the new Matchless. The balls in the races are now of half-inch diameter.

MATCHLESS. (68.)

8 h.p. M.A.G.; 82×94 mm. (992 c.c.); twin-cylinder four-stroke; overhead inlet valves; drip feed lubrication; B. and B. carburetter; chain-driven Magdyno; three-speed sliding gear; chain drive; spring frame; 28×3in. tyres. Price with sidecar £231 12s. 6d.

H. Collier and Sons, Ltd., 44, Plumstead Road, Plumstead, S.E.—With a reputation second to none, the Matchless Model H is unrivalled for sidecar work, and with its spring frame and very complete equipment it must be num-

Comprehensive equipment is the keynote of the spring-frame Matchless sidecar outfit.

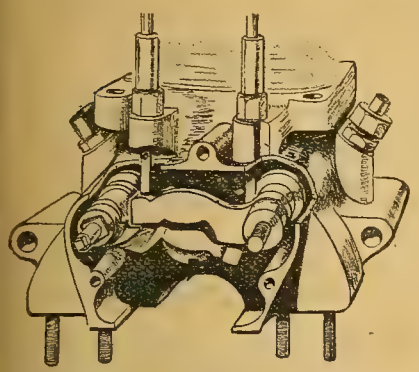


The Olympia Show.—
bered amongst the luxurious sidecar machines. Detachable and interchangeable wheels are provided, and it may be obtained with either the M.A.G. or J.A.P. engine. For the spring frame coil springs are retained, and all joints are provided with oil caps of large size, so that wear in these important bearings should be reduced to a minimum. A sectioned gear box is exhibited, from which the action and operation of the gears may readily be seen, and the operation of the clutch and the combined exhaust lifter and kick starter may also be observed. As regards the two power units, little need be said. Six models are available for inspection, and it will be noticed that the machine may be had with electrical equipment or without, as desired. The new hand front wheel contracting brake is deserving of inspection, and should prove very effective in use.

BEARDMORE-PRECISION (115.)

3 h.p.; 71×84 mm. (350 c.c.); single-cylinder two-stroke; mechanical lubrication; Zenith carburetter; chain-driven magneto; two-speed selective clutch gear; all-chain drive; spring frame; Dunlop 26in.×2¼in. tyres. Price £105 solo; £140 combination.

F. E. Baker, Ltd., King's Norton.—Great interest was aroused at last year's



Valve-operating mechanism of the Whippet Scooter showing new exhaust valve lifter.

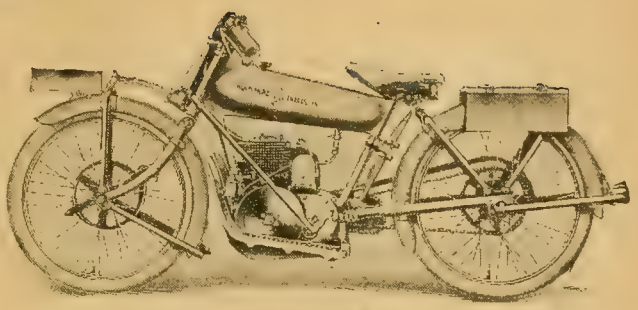
Show in the first models of this machine, and the latest type shown this year is no less noteworthy. In internal design of the engine itself, certain alterations have been made, especially in the shape of the exhaust port and the piston deflection. These improvements, together with slight modifications in the oiling system, have materially increased the power output of the engine, with no increase in the petrol consumption. As a consequence of this, a sidecar outfit is now being offered, with a sidecar specially designed to retain the full advantages of the excellent leaf spring frame on the cycle itself. Generally, the machine attracts much attention by its extreme neatness. The roller brake and release levers, the triple Bowden lever for all engine controls (with the wires neatly encased), and the large handle-bar two-speed lever, continue to produce an exceptionally easy control. As was the case last year, the machine is built of steel throughout, and the steel tank is built integral with the frame. The Beardmore-Precision engine, with its combined selective clutch two-speed gear, is one of the few examples of unit construction to be seen at Olympia. The springing system provides a remarkably large motion, thus ensuring comfort, and the practically minded should not miss the extremely neat tool case in which a space is provided for each unit of the kit. It will be remembered that the mudguards are especially constructed, and act as frame members.

One of the most efficient little engines rests behind the "cage" on the Whippet Miniature.

WHIPPET MINIATURE MOTOR CYCLE. (26a.)

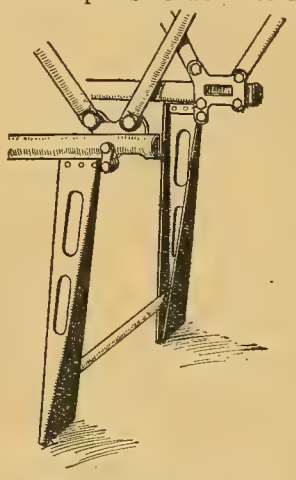
1½ h.p.; 56×61 mm. (150 c.c.); single-cylinder four-stroke; overhead valves; drip feed lubrication; Vici single-lever carburetter; C.A.V. chain-driven magneto; single-speed gear; chain drive; Wood-Milne 18×2in. tyres. Price £58 10s.

W. G. Hayward and Co., Ltd., Twickenham.—Three distinct models are shown on this stand, which differ only in minor details. In every case the motive power is the same; the interesting little Whippet engine is fitted with an aluminium cylinder and a steel liner. The cylinder head is of cast iron, and the valves of the overhead pattern. The Whippet has emerged from the scooter into a miniature motor bicycle, and is now fitted with 18in. wheels. It is thoroughly up-to-date and has a scientifically designed single-lever carburetter. Of the three models exhibited the *de luxe* model has naturally all the latest refinements, including a dressguard, in case the machine should be ridden by a lady, an XL'All saddle, electric lighting, and a luggage carrier. The Sports model has also electric lighting, a racing saddle, and wider handle-bars. The standard model,



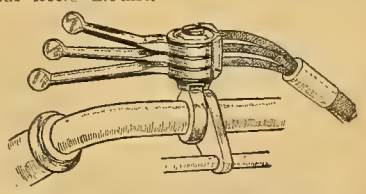
Externally, a lower riding position and extended footboards are Beardmore improvements for 1921.

which is two guineas cheaper, is provided with oil lamps, a simple type of saddle, and narrower handle-bars. No carrier is fitted. The prices of all three models



Pressed-steel construction combines lightness with strength on the Beardmore rear stand.

include a year's free insurance, and the registration fees. Messrs. W. G. Hayward, Ltd., have certainly studied the question of the miniature motor bicycle, and have turned out a thoroughly practical little mount.



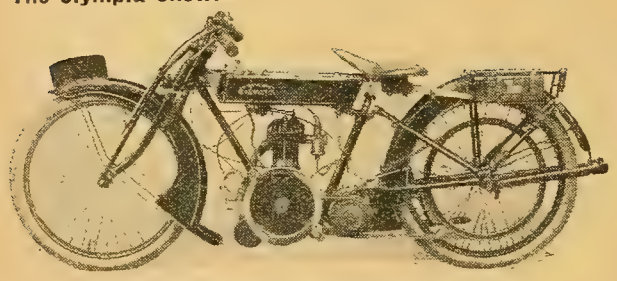
Ignition and the two-lever carburetter are controlled from the same handle-bar mounting on the Beardmore-Precision.

EDMUND. (145.)

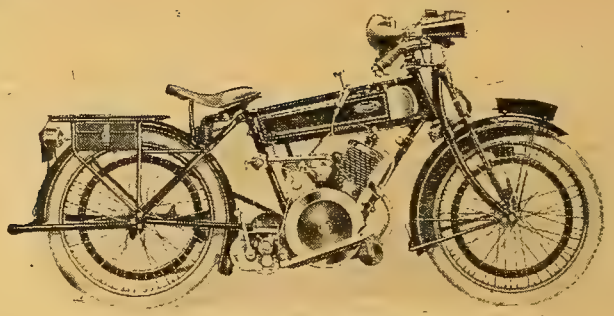
2¾ h.p. Blackburne; 71×88 mm. (349 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; E.I.C. chain-driven magneto; two-speed Burman gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price £105.

C. Edmund and Co. (1920), Ltd., Crane Bank, Chester.—Both front and rear springing on the Edmund is now

The Olympia Show.—



Rear frame suspension that has stood the test of time is again embodied in the Edmund-Blackburne.



By reason of its simplicity the Dunelt big single two-stroke sells at a very moderate figure.

very advanced for a lightweight machine. The rear system of springing is no new untried device; but, for the benefit of those who are newcomers to the pastime, we will recapitulate. Briefly, the top tube, to which is attached the petrol tank, is pivoted at its forward end. Linked to the rear end is the saddle tube, which slides in the outer rear main tube in phosphor bronze bushes, and to which, at its lower end, are fixed the footrests. This movement is controlled by two stiff leaf springs attached to special rear carrier stays. With these stays are incorporated two auxiliary coil springs which are instantly adjustable in tension. Thus, in effect, only the rider and the tank are insulated, and, therefore, belt tension does not vary. The front forks utilise parallel motion links of the usual type, but the spring is a vertical laminated one. The friction generated by this spring against the upper shackle pin effectively damps all rebound.

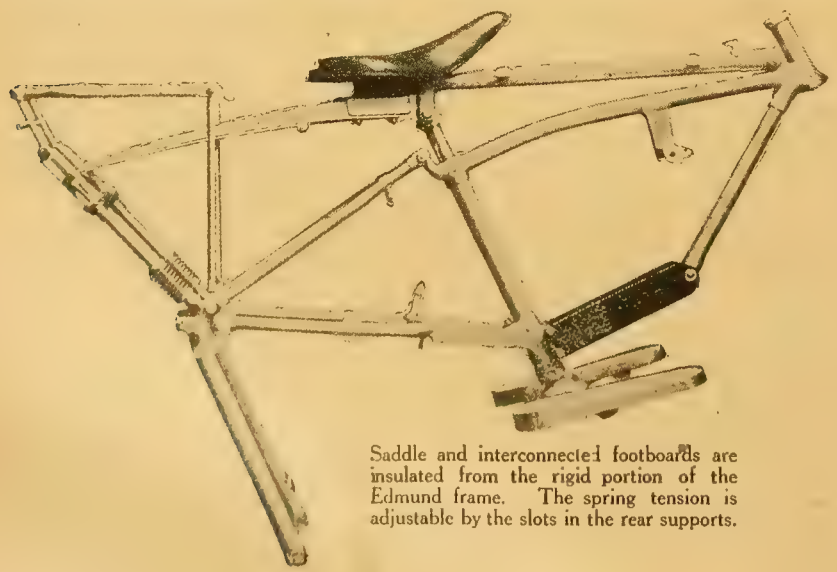
2¾ h.p. J.A.P.; 70×76 mm. (292 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; B.T.H. chain-driven magneto; two-speed Burman gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price £95.

This model is also fitted with the Edmund patent type of rear springing, but, pending the substitution of the new fork at a later date, Druid forks are used. It is also shown as an all-chain drive sporting model with Enfield two-speed.

DUNELT. (138.)

4½ h.p.; 85×88 mm. (499 c.c.); single-cylinder two-stroke; drip feed lubrication; Cox Atmos carburetter; M-L chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; Hutchinson 26in. ×2½in. tyres. Price £115, with sidecar and spare wheel £150.

Dunford and Elliot (Sheffield). Ltd., 96, Bath Street, Birmingham.—It is satisfying to note that the Dunelt is making good, striking out as it does on new and hitherto untried lines, and yet with a definite reason for its divorce from Dame Convention. To combine power for sidecar work with a low initial cost is the *raison d'être* of this machine, and we think that the makers have achieved their aim. Cooling, or perhaps more correctly overheating, the inherent bugbear of the big two-stroke engine as a type, has been overcome by using a two diameter piston, allowing a 50% greater charge than is ordinarily possible, and providing a flow of air round the piston trunk. Numerous little details have been improved since last year. The compression release valve now has a flexible tubing connection to the main exhaust pipe. The adoption of split roller-bearing big ends is the only internal modification of importance. Two thumbscrews allow the primary chain cover to be quickly detached, while all hubs have knock-out spindles. The cylinder, it will be remembered, lies almost diagonally in the frame, which certainly keeps the large, somewhat bare, outline from obtruding in the super æsthetic eye. The machine immediately impresses one as sound and sturdy, yet compact and symmetrical. Evidently the lessons of the last Six Days Trials—where the Dunelt gained two "golds"—have not been lost on the designers.

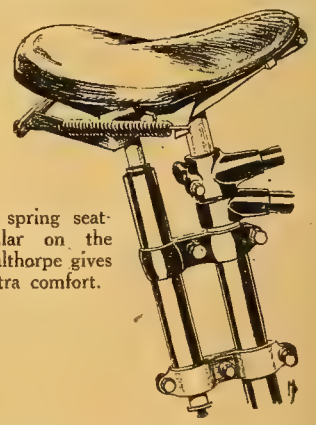


Saddle and interconnected footboards are insulated from the rigid portion of the Edmund frame. The spring tension is adjustable by the slots in the rear supports.

CALTHORPE. (112.)

3 h.p.; 75×79 mm. (350 c.c.); single-cylinder two-stroke; drip feed lubrication; B. and B. carburetter; Sturmey-Archer gear; chain-driven magneto; chain and belt drive; Dunlop 26×2¼in. tyres. Price £115 10s., with sidecar and lighting set.

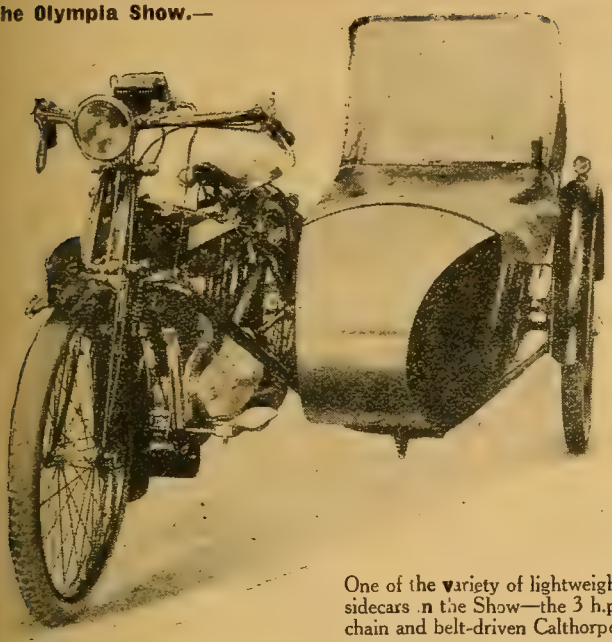
Calthorpe Motor Cycle Co., 16, Barn Street, Birmingham.—One of the most interesting of the new lightweight



A spring seat-pillar on the Calthorpe gives extra comfort.

sidecar machines is the 3 h.p. two-stroke Calthorpe. This model, which is fitted with the Calthorpe 350 c.c. engine, is noteworthy as being a very complete outfit at an extremely moderate price. It is capable of averaging well over 20 m.p.h. on give-and-take roads with a passenger, and will reach a maximum of nearly double this figure. It is to be observed that in an effort to prevent the ruthless overloading to which so many lightweight machines are subject, the makers have built the rear mudguard without any form of carrier. A Maglita set is fitted, but if it is desired to dispense with electric lighting, an allowance of ten guineas is made. Generally, the outfit has a thoroughly workmanlike appearance. For solo use, the machine is fitted with the Enfield two-speed gear instead of the Sturmey-Archer, and it has lighter tyres. Otherwise the specification is

The Olympia Show.—



One of the variety of lightweight sidecars in the Show—the 3 h.p. chain and belt-driven Calthorpe.

similar. The price of the solo machine is £68 5s.

2¾ h.p.; 70×76 mm. (292 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; chain-driven magneto; Enfield two-speed selective clutch gear; chain and belt drive; Dunlop 26 × 2in. tyres. Price £73 10s.

This machine, which embodies the well-known 2¾ h.p. J.A.P. engine, remains practically as it was last year, and should appeal especially to those who have not yet overcome a feeling of uncertainty as regards two-strokes.

The Calthorpe models generally appear especially clean and neat—a point which even now does not receive the attention it should in all makes.

ALLON. (62.)

2½ h.p.; 70×76 mm. (292 c.c.); single-cylinder two-stroke; drip-feed lubrication; Senspray carburetter; Fellows chain-driven magneto; three-speed Allon gear; chain and belt drive; 26in.×2¼in. tyres.

ALLDAYS AND ONIONS, LTD., Matchless Works, Birmingham.—The Allon is here shown for the first time with a three-speed gear box of the firm's own manufacture, the change making the machine more suitable for sidecar work. Accordingly a complete outfit is exhibited and is a small but practical vehicle not too elaborate, yet with all the fittings that the average rider would desire. The engine is quite a normal type two-stroke also made by the firm, and transmission is by chain and belt. Two models are offered—the engine in each case having the cylinder cast integral with the top of the crank case, one having a two-speed gear box of the type used successfully during the present year.

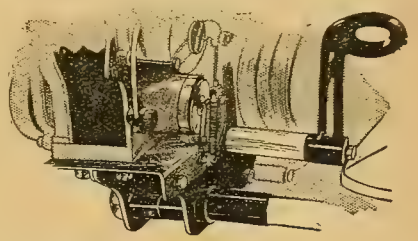
A characteristic feature of the design is the twin tank which bridges the top tube and contains both petrol and oil, the latter in one section of the right-hand tank. To connect together the two petrol reservoirs a bridge pipe of U shape is carried under the tanks.

This is one of the few machines which have a small contracting band brake on both front and rear wheels, the brake surface provided being ample in each case. As regards detail work, leg guards are standard and should be convenient; advantage being taken of the upright shields to carry the tyre pump in clips secured to one of them. Again, the new fork with its leaf spring almost entirely concealed is worth a close inspection as, externally, it is one of the neatest in the Exhibition, and certainly it is easy to clean. Lastly, there is a small but effective belt guard over a portion of the belt rim, and in just the position to catch mud which otherwise would bespatter the belt.

ROYAL RUBY. (125.)

8 h.p.; 85.5×85 mm. (976 c.c.); twin-cylinder four-stroke; side-by-side valves; drip-feed lubrication; Amac or B. and B. carburetter; chain-driven magneto; three-speed Sturmey-Archer gear; all-chain drive; Dunlop 28×3in. tyres. Price £235.

RUBY CYCLE CO., LTD., Royal Ruby Works, Altrincham.—Notable for its excellent system of springing, employing laminated leaves for both front and rear wheels, both the 3 h.p. and 5 h.p. Royal Ruby are again attracting the attention of prospective buyers. A very fine sidecar outfit is the leading feature of the stand, and employs an 8 h.p. J.A.P. engine. Notable points in the construction of the machine are the locking plates on the spring fork shackles. These enable the shackle bolts to have dome-ended nuts on them, thus preventing the ends of the bolts from getting rusty. A strengthened front down tube, which consists of a main central tube with a single tube of smaller section on each side of it, is another distinctive feature, while another good point is the well-designed spring housing below the saddle, and the double down tubes from it; one goes to the rear engine plate and the other to the front end of the chain stays, immediately behind the gear box.

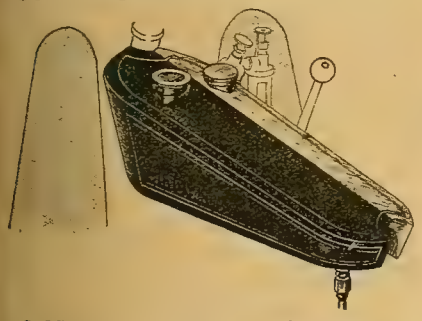


The front sidecar connecting bolt of the Royal Ruby passes through the engine bearer plates, and thus clamps them together.

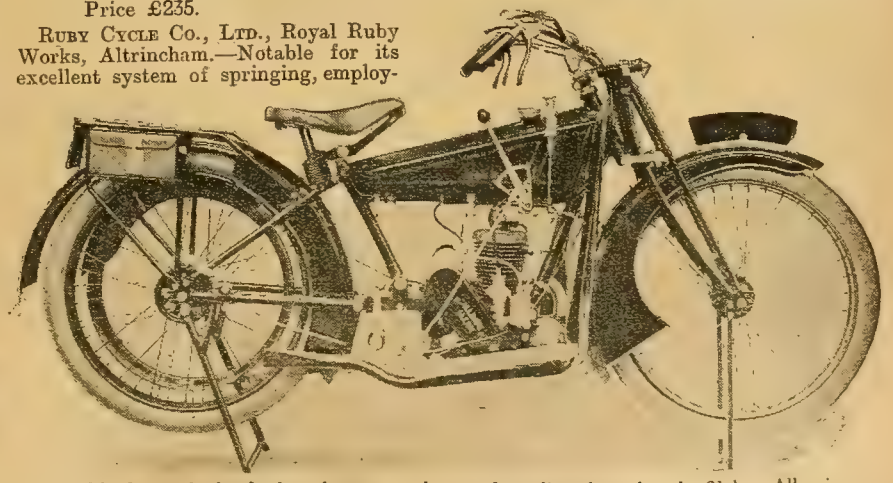
The back stays also are double, and, in fact, the whole frame gives a fine impression of strength without excessive weight. The springing system is adjustable to the weight of the rider, and the sidecar is beautifully sprung.

2¾ h.p.; 74½×80 mm. (349 c.c.); single-cylinder four-stroke; side-by-side valves; drip-feed lubrication; Amac or B. and B. carburetter; chain-driven magneto; two-speed Royal Ruby gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price £89 5s.

The small four-stroke machine, which has been introduced as a sporting solo mount, is designed on similar lines to



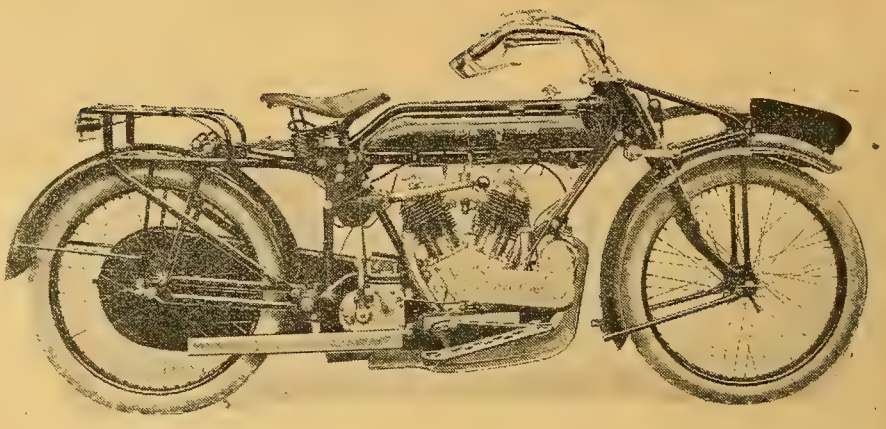
Saddle type tank of Alldays-Allon, also showing the height to which the leg guards extend.



Band brakes on both wheels and very complete mudguarding show that the 2½ h.p. Allon is the product of the engineer who is a practical motor cyclist.

The Olympia Show.—

the sidecar outfit as far as the front part of the frame is concerned, but the spring frame is not embodied in it. The engine appears to conform to all the standards of modern design, and the gear box, which is also made by the firm, is a very good example of the sliding gear type. The weight of the machine is well under the 200 lb. limit, so that the tax will be only 30s. An alternative model provided with the spring frame is also made; this will have a new engine of slightly larger capacity, and will be sold at £120.

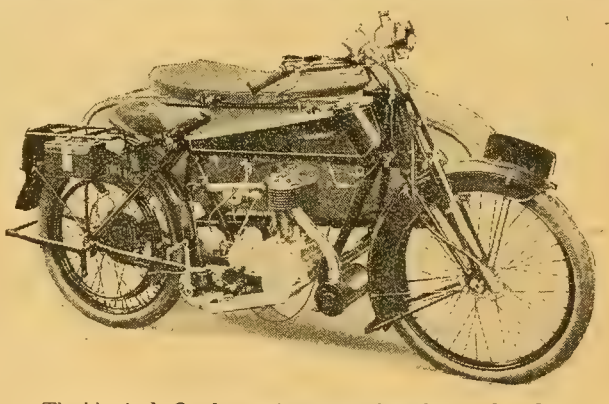


The spring frame 8 h.p. Royal Ruby-Jap. Fitted with a three-speed gear and enclosed chain drive, this mount is specially suited for passenger work.

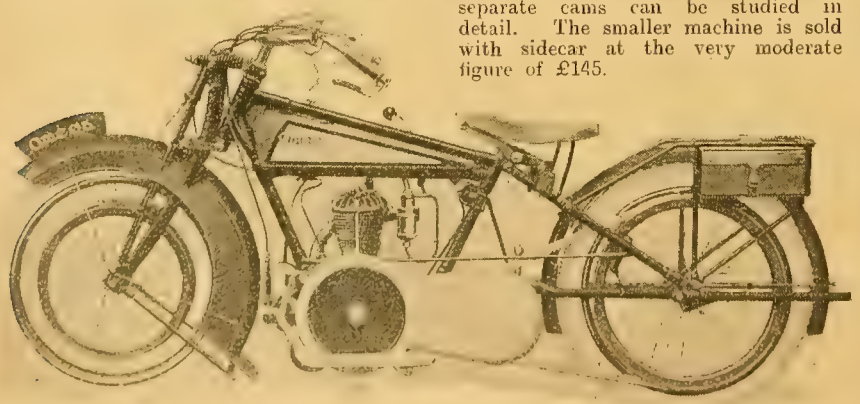
QUADRANT. (41.)

6 h.p.; 87×110 mm. (653 c.c.); single-cylinder four-stroke; side-by-side valves; hand pump lubrication; Amac or Senspray carburetter; gear-driven magneto; three-speed Sturmey-Archer gear; chain drive; 26×2½in. tyres. Price with sidecar £155.

MARCH NEWARK AND CO., LTD., Lawley Street, Birmingham.—The Quadrant is a serviceable and steady mount, suitable for everyday hard work without needing undue care or attention. The principal model is the new 6 h.p., chiefly notable for a very wide and substantial crank case, which is kept smooth on the exterior, and, therefore, is exceptionally easy to clean. This idea has been consistently carried out, in that the number of plated parts on the motor cycle is reduced to a minimum. The riding position, and shape and length of handle-bar are good, and the sidecar chassis appears to be quite substantial enough to stand the exceptionally rough usage which this type of machine is usually accorded. Mechanically, the design differs from the ordinary in that the two valve ports are entirely separate, the inlet valve being behind the cylinder and the exhaust at the side, in a position where it obtains the maximum cooling draught. By this arrangement the valve springs, valve stems, and cotters become quite accessible, and can be cleaned or adjusted without trouble. A second model of 4½ h.p., also a single-cylinder, is shown on the stand, and is designed chiefly for dual-purpose work. To add to the interest, a sectional engine of this type is shown, and prospective customers can see for themselves every part of the mechanism, including the crank case, timing gear, and valve operation, while, as this engine is of the same design as the 6 h.p., the method of actuating the two valves by separate cams can be studied in detail. The smaller machine is sold with sidecar at the very moderate figure of £145.



The big single Quadrant sidecar, a moderately priced outfit.



Well known as a light J.A.P.-engined machine, the Omega has developed into larger sizes. The 4 h.p. Blackburne-engined model illustrated has a low riding position and excellent mudguarding.

OMEGA. (27.)

5-6 h.p. J.A.P.; 70×85 mm. (654 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; B.T.H. chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×3in. tyres. Price £135.

W. J. GREEN, LTD., Omega Works, Coventry.—This is a handsome machine primarily intended for sidecar use and fitted with the latest pattern 5-6 h.p. J.A.P. engine. Among its principal features are a concealed top tube, rendering the tank easy to clean, excellent mudguarding, a large silencer with tail pipe underneath the gear box, comfortable footboards, and generally substantial construction. A similar machine having the 4 h.p. Blackburne engine, and selling at £120, is an alternative model. It is a handy double-purpose mount, which is ideal for solo riding, and yet possesses ample reserve for sidecar work.

2¾ h.p. J.A.P.; 70×76 mm. (293 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; C.A.V. chain-driven magneto; two-speed Sturmey-Archer or Albion gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price £83, with two-speed gear box and kick starter.

There are three 2¾ h.p. J.A.P.-engined models, which are practically the same in every detail except as regards the gear box, one of these being fitted with a Sturmey-Archer lightweight two-speed gear, and another with Albion two-speed without kick starter. One of the Omega two-strokes is shown as a sidecar outfit, and a very practical little outfit at that. It is thoroughly well finished, and is engined with a Villiers two-stroke power unit, and sells at £90 complete. The Gosport forks are a feature of these models. The last model to be mentioned is one similar to the aforementioned as regards the engine, but it is provided with a single-speed gear, Brampton forks, and is sold to the public at £50. The attention attracted by such simple and low-priced machines as this Omega forms quite one of the features of the Show, and the demand should be proportionate.

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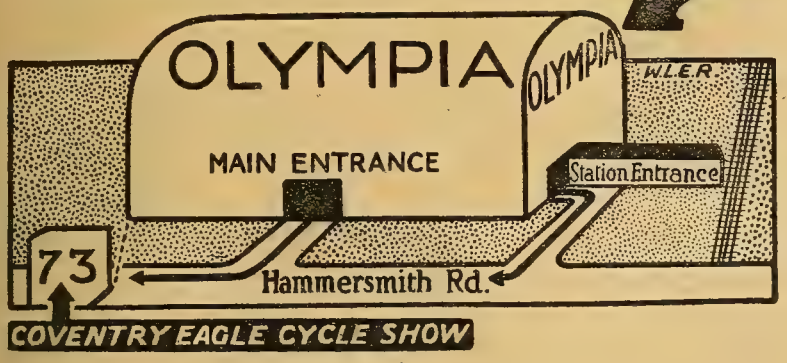

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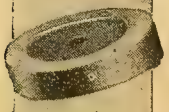

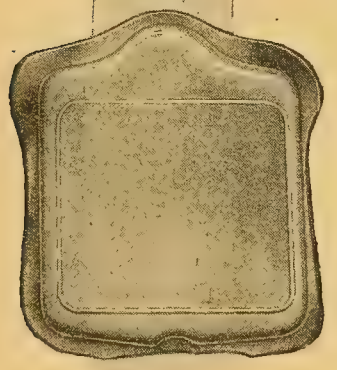

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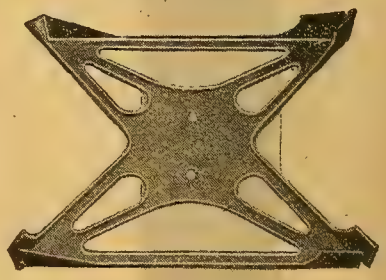

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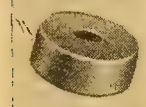
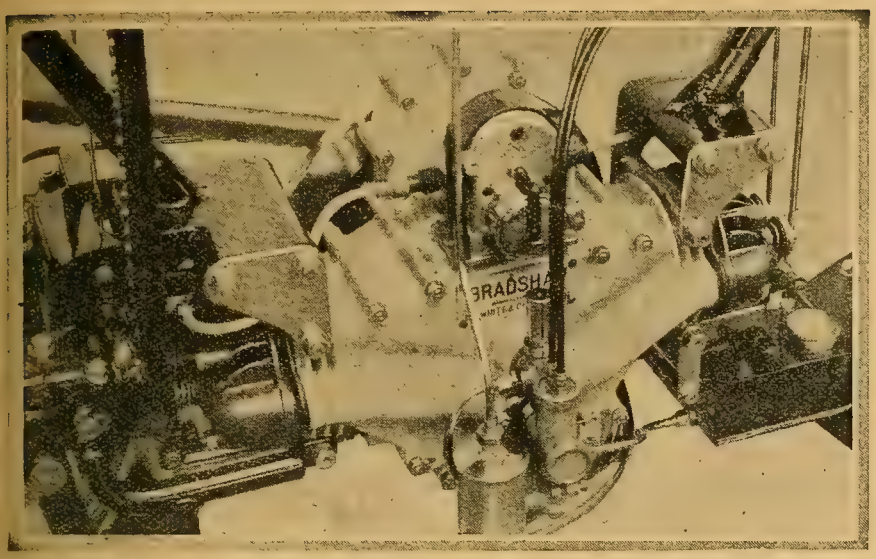


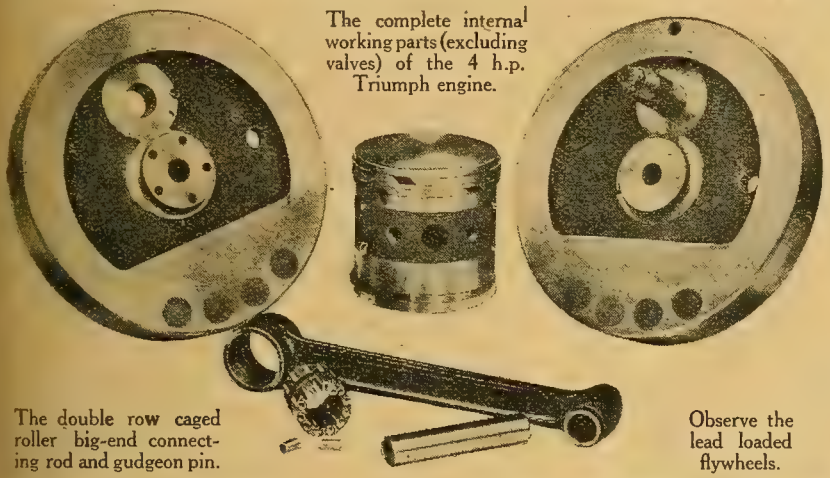
Olympia

Stand 245 Gallery

SOME DETAILS OF 1921 ENGINES.



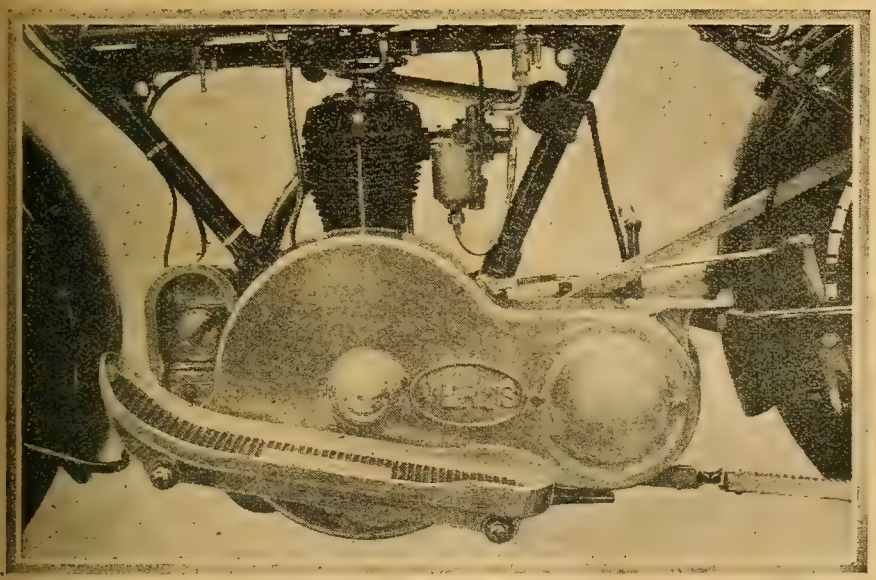
A novel engine is the 3½ h.p. Bradshaw which has all but its cylinder heads buried in the crank case.



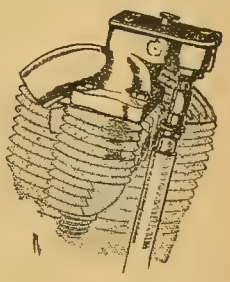
The complete internal working parts (excluding valves) of the 4 h.p. Triumph engine.

The double row caged roller big-end connecting rod and gudgeon pin.

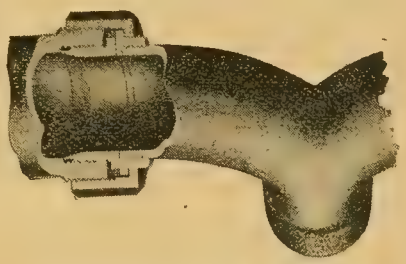
Observe the lead loaded flywheels.



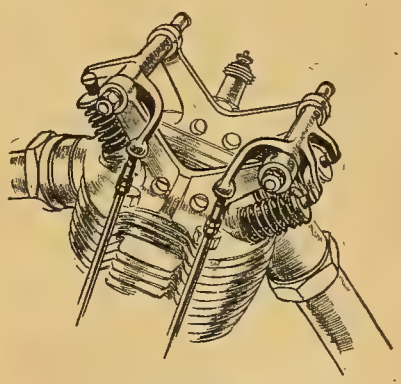
On the Verus sidecar machine, the outside flywheel is enclosed in a handsome aluminium cover.



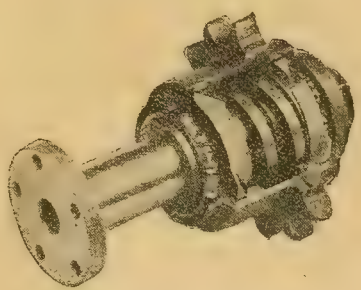
Shown open here, this telescopic sheath protects the inlet valve operating rod on the M.A.G. engine.



A smooth passage for the gas, combined with an airtight joint, is ensured by this method of fixing the 6 h.p. B.S.A. induction pipe.



A cylinder head of the N.U.T. "six valve" sporting model.



Part sectional view of the shock-absorber fitted to the engine shaft of the 4 h.p. Triumph.

The Olympia Show.—

ARMIS. (22.)

5 h.p.; 70×85 mm. (654 c.c.); two-cylinder four-stroke; side-by-side valves; drip feed lubrication; Cox Atmos single-lever carburetter; T.B. chain-driven magneto; three-speed Burman gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price with sidecar, £165; solo, £135.

Armis Cycle Co., Heneage Street, Birmingham.—This is an attractive sidecar outfit of reasonable weight, fitted with the latest 5 h.p. J.A.P. engine. It is driven by a substantial chain, which is adequately protected through a Burman three-speed gear box incorporating a clutch and kick starter. The final drive is by belt. One of the most practical things on the machine is the method of sliding the gear box, to accomplish which the four holding-on bolts are loosened, when the tightening of the adjusting nut has the effect of drawing the gear box to the rear and at the same time preserving the alignment. The mudguarding has also been well studied, and spacious aluminium footboards are provided. There is also an ample sized cover over the magneto. So far as the frame is concerned, this is of strong construction, and the top tube is sloped towards the rear, thus affording the driver a low riding position. A new and efficient Bowden rim brake is fitted to the front wheel. Weight of the machine without sidecar is 250 lb.

3½ h.p.; 74×86 mm. (350 c.c.); single-cylinder two-stroke; mechanical lubrication; Amac carburetter; M-L magneto; two-speed Burman countershaft gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price solo, £85; sidecar, £115.

This is also shown as a sidecar outfit; its power unit is a Precision two-stroke, fitted with mechanical lubrication and detachable head, while a Maglita set supplies current for both ignition and lamps. It should be ideal for the man of moderate means, who requires a machine which can be used satisfactorily for both business and pleasure. Both frame and tank follow the lines of the model described above. This outfit is fitted with a Flexa spring seat-pillar, which carries the saddle on a laminated spring. The saddle is the well-known XL'All. Both models are fitted with celluloid-covered handle-bars, so that the owner of an Armis need not worry about too much plated work to clean. The weight is 180 lb. solo.

2¾ h.p.; 70×76 mm. (293 c.c.); four-stroke; pump and drip feed lubrication; Amac carburetter; Lion magneto; two-speed Burman gear; chain and belt drive; Palmer 26×2¼in. tyres. Price £85.

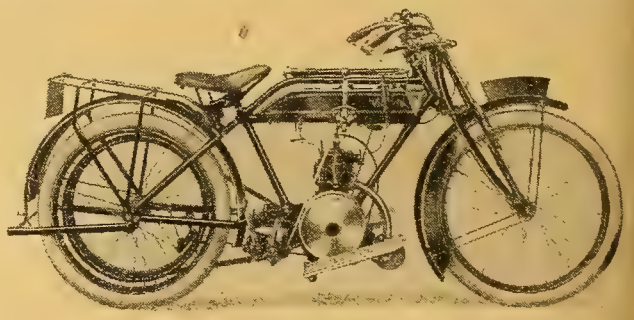
This handy 2¾ h.p. J.A.P.-engined lightweight, like other Armis models, is well mudguarded, is provided with footboards, and wide semi-T.T. handlebars, which are celluloid-covered. It is also fitted similarly to the other models with XL'All saddle and Saxon forks.

Lateral play is entirely absent in the Flexa spring seat-pillar, now a standard fitment on the Armis lightweight.

VICTORIA. (127.)

4 h.p. J.A.P.; 85.5×85 mm. (488 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; Splitdorf chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×2½in. tyres. Price with sidecar £125.

Victoria Works, Dennistoun, Glasgow.—Stands Scotland where she did? However, the absence of quantity is more than balanced by the quality and remarkable value of the only exhibit from across the Border. Most striking is the value of the sidecar outfit offered, as specified above, at the figure of £125 inclusive. For the family man who does not possess an ultra deep pocket, we can imagine no more suitable purchase. Throughout, this machine is a sound, honest, and straightforward effort to provide economical motoring for two—but the specification speaks for itself.

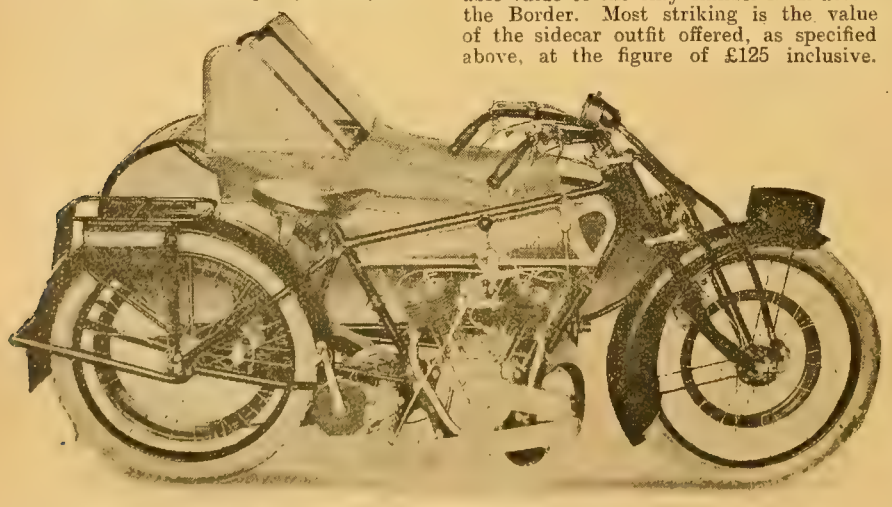


Scotland's only representative at Olympia—the lightweight Victoria model.

5-7 h.p.; 75×78 mm. (688 c.c.); flat twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; gear-driven magneto; three-speed Sturmey gear; chain and belt drive; Dunlop 650×65 mm. tyres. Price with sidecar £170.

For those who prefer something more luxurious than a single-cylinder the 5-7 Coventry Victor engined machine should appeal—also at a competitive price. This model was shown last year for the first time, and remains entirely unaltered. A duplex frame allows of a very neat and easily detachable mounting for the power unit, while a low riding position and well-positioned footboards help towards comfort for the driver. In order to provide a larger clearance and easier running on colonial tracks, the Overseas model is fitted with 28×3in. tyres. In both clearance and extent the mudguarding is excellent. Silencing is carried out by a large streamlined silencer with a short extension pipe to the rear.

Of sturdier build and appearance than the average low-priced lightweight, the 2½ h.p. Victoria Villiers is nevertheless well under the 200 lb. taxation limit. A single-speed model sells at £55, a two-speed at £60, and a clutch and kick-starter model at £65.



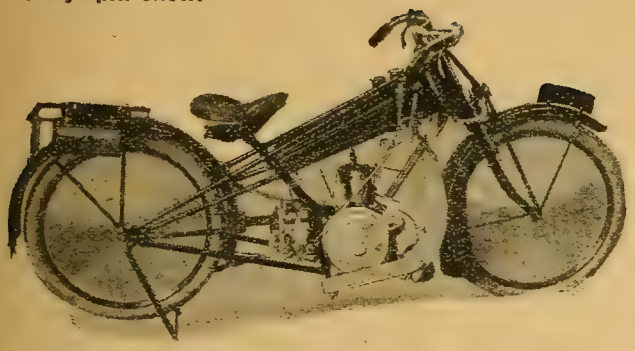
5-6 h.p. Armis-Jap three-speed sidecar outfit.

COTTON. (165.)

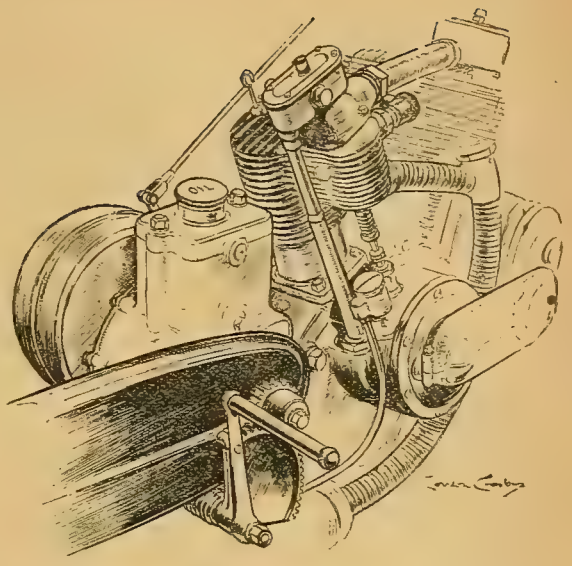
2½ h.p. Villiers; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; flywheel magneto; two-speed Albion gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price £71 8s.

The Cotton Motor Co., Bristol Road, Gloucester.—Triangulated frame construction has been for years the text of the theorist, but in practice pedal cycle ideas and fashions remain very much with us. Eminently satisfactory as the conventional frame proves, it should not be regarded for this reason as *le dernier cri;* and an advanced design, such as the Cotton, which breaks away entirely from convention, deserves every encouragement, for in that direction progress lies. Rigidity combines with lightness in the Cotton duplex triangulated frame, while a long, straight sweep from steering head

The Olympia Show.—



Straight duplex tubes are used in the construction of the Cotton-Villiers.



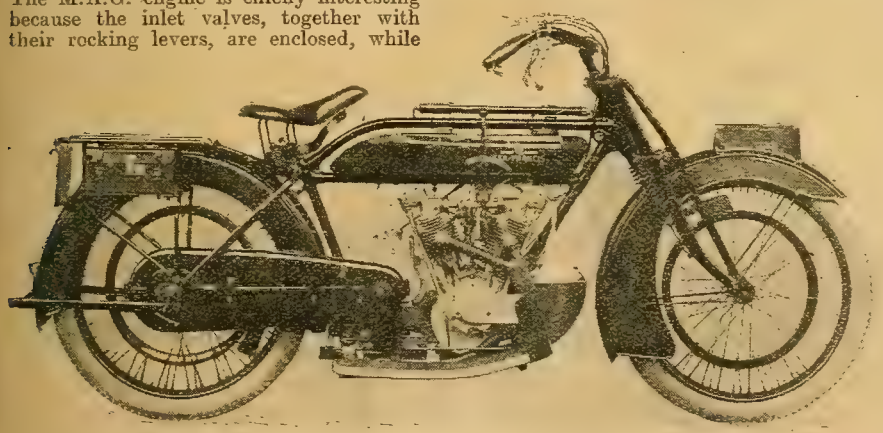
Valve side of new 5 h.p. Lea-Francis power unit, showing the new three-speed gear box with enclosed selector mechanism.

to rear axle permits the rider's centre of gravity to lie well forward and low. As a consequence, it should give a sense of security and a very tangible absence of "skid" on grease. In this case an unconventional appearance does not mean a displeasing appearance. In fact, there is something extremely taking about the lines of the Cotton. It is worthy of note that the makers recommend disc wheels. Owing to its construction the machine is particularly suited for the lady motor cyclist, for whom it may be fitted with a kick-starter and dressguards. Wider mudguards and a larger tank are 1921 improvements, but otherwise the design is basically unaltered.

LEA-FRANCIS. (58.)

5 h.p.; 64×92 mm. (592 c.c.); twin-cylinder four-stroke; overhead inlet valves; hand pump lubrication; Amac carburetter; Lucas chain-driven Magdyno; three-speed constant mesh type gear; chain drive; 26×2½in. tyres.

LEA AND FRANCIS, LTD., Lower Ford Street, Coventry.—The Lea-Francis needs no introduction; for many years it has been regarded by many as one of the highest class machines on the road, albeit one of the most silent. Even at a first glance the machine looks most serviceable and workmanlike—in fact, it in many ways reminds one of car practice, so thoroughly has the detail been studied. The M.A.G. engine is chiefly interesting because the inlet valves, together with their rocking levers, are enclosed, while the exhaust valves have their stems and springs exposed. From the exhaust ports gas is led through flexible pipes to a very substantial silencer rigidly bolted below the frame, and of considerable size. On the 5 h.p. machines power for electric light is supplied by a Magdyno placed in front of the engine, and efficiently guarded from mud by a curiously shaped coverplate, which also acts as an additional protection for the rider's feet. The 3½ h.p. machines are not provided with this fitting, but the magneto is placed behind the engine. As an example of the detail work, it may be mentioned that the high-tension wires are carried through in steel tubes on their way to the plugs. The dry plate clutch of the 5 h.p. model is on the crankshaft and in a substantial aluminium case, which encloses also the chain drive to the countershaft, and an inspection cover, very similar to the one on the contact-maker of the magneto, allows the tension of the chain to be judged. On both models the gear box is of very robust proportions, and the oil filler on the 5 h.p. three-speed model is of exceptional size. On the 3½ h.p. 64×77 mm. model, the clutch is on the countershaft, and the gear box is housed in a circular lug which forms the bottom bracket, but in the new 5 h.p. machine an aluminium box is mounted on extensions of the engine cradles.

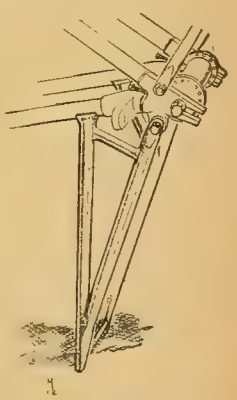


Plated parts have been avoided and every other consideration shown for the all-weather rider on the new 5 h.p. Lea-Francis.

MARTINSYDE. (141a.)

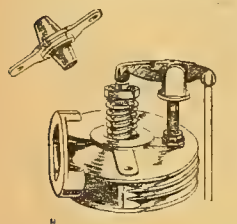
6 h.p.; 70×88 mm. (680 c.c.); V twin four-stroke; overhead exhaust valves; drip feed lubrication; Amac carburetter; M-L chain-driven magneto; three-speed A.J.S. pattern gear; enclosed chain drive; Dunlop 650×65 mm. tyres. Price with sidecar £175.

MARTINSYDE, LTD., Maybury Hill, Woking.—Two sidecar taxis and a light delivery outfit (with an interchangeable "pleasure" body, by the way) will not obscure the public eye to the excellent value offered on this stand in both the standard and *de luxe* sidecar outfits. Of equal interest is the fact that a maximum price has been fixed for the ensuing year. Now celebrating its first birthday, the 6 h.p. Martinsyde has, as was expected, made a distinct hit. Slight modifications ensuring a smoother passage for the gas have been carried out around the overhead exhaust pockets, and improved cooling has been arranged. The inlet valves remain of the more usual "side-by-side" type, but aeroplane engine influence is discernible in the split ring method of holding the gudgeon pin. By slightly in-



Triangulation enters largely into the design of the Martinsyde rear wheel stand.

The Olympia Show.—



Overhead exhaust valves on the Martinsyde permit this ingenious detachable valve guide to be used.

creasing the diameter and width of the rear band brake drum, the retarding effect has been considerably increased. Totally enclosed chain drive takes the power from a gear box of A.J.S. pattern to the rear wheel. Equal to anything at the Show in the completeness (Lucas Magdyno, interchangeable wheels, etc.) of its equipment, if not in price, the *de luxe* model should appeal to the most fastidious.

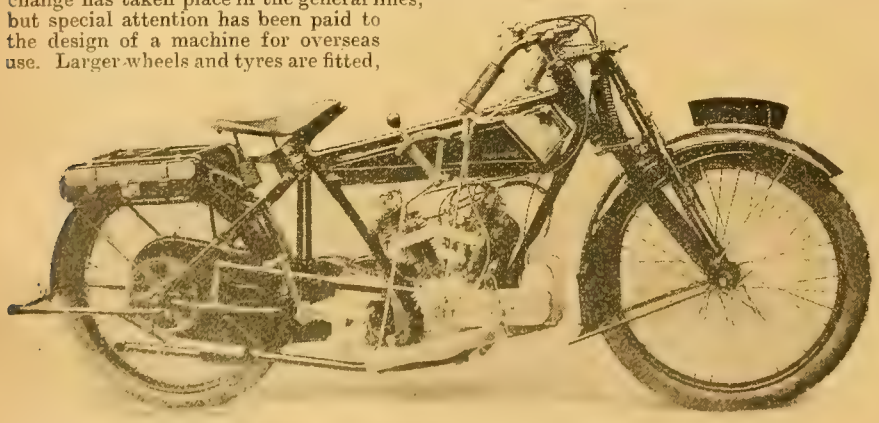
3½ h.p.; 60×88 mm. (497 c.c.); V twin four-stroke; overhead exhaust valves; drip feed lubrication; Amac carburetter; M-L chain-driven magneto; three-speed A.J.S. pattern gear; chain drive; Dunlop 26×2½in. tyres. Price £135.

Making its *début* at this Show, the 3½ h.p. solo mount has evidently been built with one eye on efficiency and the other on speed. Much of the engine is common to the larger model, and in appearance and design it is identical. A gear box of the same type is used, although the frame, of course, is lighter and shorter. Worthy of special attention, both here and on the "six," is a quickly detachable aluminium cover completely enclosing the magneto. Careful provision has been made to ensure that both cylinders receive an equal share of attention from the oil tank.

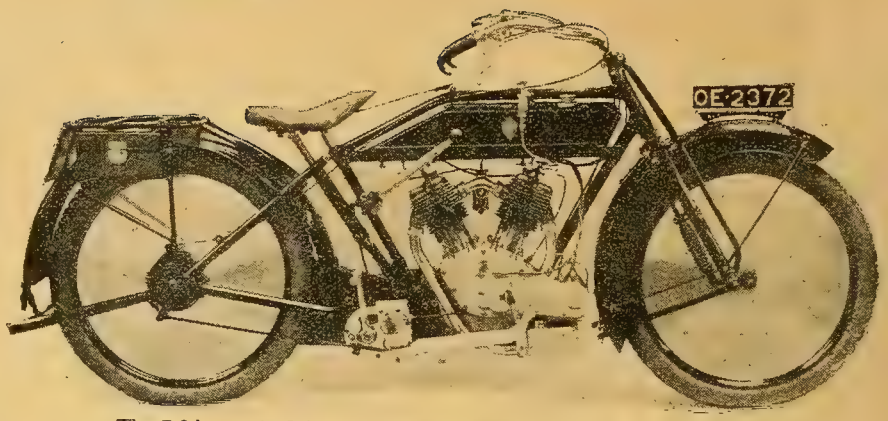
L.M.C. (70.)

6-7 h.p.; 79×86 mm. (842 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; M-L chain-driven magneto; three-speed Sturmey-Archer gear; chain drive; 650×65 mm. tyres. Price £147 10s.

LLOYD MOTOR ENGINEERING CO., LTD., Monument Road, Birmingham.—No great change has taken place in the general lines, but special attention has been paid to the design of a machine for overseas use. Larger wheels and tyres are fitted, all-enclosed chain drive is adopted, and, of course, this model is eminently suitable for home use also. On the standard model a chain guard is fitted to the top portion of the chain only. A special feature is the saddle and footboard suspension system, which gives a very flexible and easy riding motion. As regards engine design in the case of the 8-9 h.p. model, the stroke is lengthened, the bore being the same. Silencing has been well carried out, and a large cast aluminium box silencer is fitted, with an extension pipe. Cast aluminium footboards and mudguards of ample size are good features, and the black finish with gold lines is pleasing, and, at the same time, very serviceable. Accessibility of the various components has been carefully studied, and, altogether, both models are sound reliable jobs. The 6-7 h.p. model may also be had with chain and belt transmission.



As a solo mount, the new 3½ h.p. Martinsyde is an attractive proposition. The overhead exhaust valve and the main features of the large model are retained.

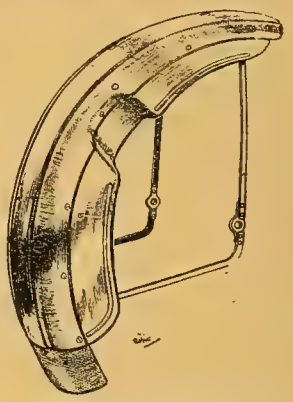


The 7-9 h.p. twin L.M.C. with disc wheels is notable for its clean lines.

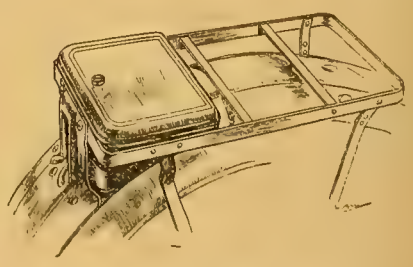
HARLEY-DAVIDSON. (29.)

7-9 h.p.; 84.1×88.9 mm. (998 c.c.); V twin-cylinder four-stroke, overhead inlet valves; mechanical lubrication; Schebler carburetter; Remy chain-driven ignition and lighting generator; three-speed countershaft gear; chain drive; Goodyear or Firestone 28×3in. tyres. Price £196 magneto model.

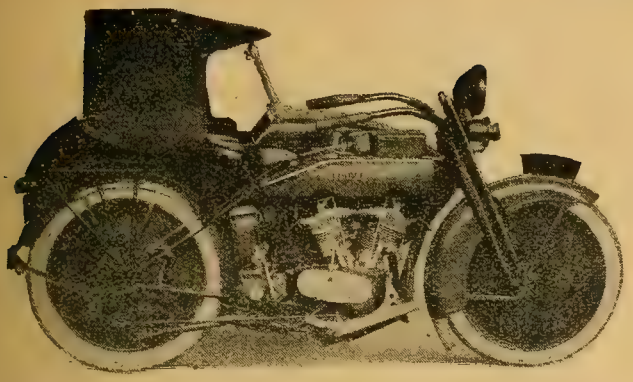
THE HARLEY-DAVIDSON MOTOR CO., Harleyson House, Newman Street, W.1.—To the mechanically minded one of the most attractive features on this stand is the part section of the 7-9 h.p. Harley-Davidson electrically equipped power unit, which reveals the evenness of metal in the cylinders, the regularity of the radiating fins, the ingenious mechanical oil pump, and the timing gear of this engine. The Harley-Davidson was one of the first examples of enclosed exhaust valve springs and tappets, thus protecting these important parts from dust and prolonging their life. So far as the complete machine is concerned, there have been few alterations for 1921. The chief of these lies in the design of the front mudguard, which now affords far better protection for the rider. The principal features of last year's model are retained, such as the excellently made



Improved front mudguard with wider valances on the 1921 Harley-Davidson.



On the 1921 electrically equipped flat twin Harley-Davidson, the tool kit is carried in a pressed steel box between the rear mudguard and the luggage carrier.



7-9 h.p. Harley-Davidson electrically-equipped sidecar outfit with disc wheels. Protection for the passenger is a feature of the sidecar.

The new Excelsior Duplex mount has a two-stroke Villiers engine and is intended for either sex.

countershaft gear box, providing three speeds, kick-starter and clutch, the all-chain drive, and a comfortably sprung saddle. Prices of these machines include all accessories, such as electric lamps for the electric model, and acetylene lamps for the magneto model. One of the most interesting of the exhibits is the racing machine, from which great things are expected at Brooklands during the coming year. This has to all intents and purposes a standard engine to which a Schebler carburetter with a large protector over the air intake is fitted. It is single-geared, but is provided with a hand-controlled clutch. Four sidecar models are shown, including two touring models, one sporting model, and a box carrier, while the Harley-Davidson taxi sidecar is to be seen outside the Show.

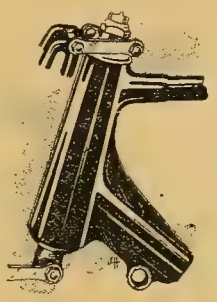
4 h.p.; 70×76 mm. (584 c.c.); twin-cylinder four-stroke; side-by-side staggered valves; mechanical lubrication; Schebler carburetter; Remy combined generator; three-speed in engine unit gear; chain drive; Goodyear 25×3in. tyres. Price £164 10s.

Like the other solo model the 4 h.p. flat twin is shown on a stand provided with a looking-glass so that the underside of the machine may be seen. The engine bristles with ingenious points, such as the heating of the induction pipe from the exhaust manifold, the mechanical lubricator, and the staggered valves. For the first time it is shown fitted with the Remy electrical system, which serves both for the ignition and lighting. This machine has been exceedingly popular during the past year on account of its smooth running and the comfort it affords. It is not yet available for delivery, and it should be noted that the prices mentioned are those of existing stock.

BRITISH EXCELSIOR. (67.)

2¾ h.p. Blackburne; 71×88 mm. (349 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; M-L chain-driven magneto; two-speed Sturmey-Archer gear; chain and belt drive; 26×2¼in. tyres. Price £96.

BAYLISS, THOMAS AND CO., LTD., King's Road, Tyseley, Birmingham.—An extensive range of lightweight machines is provided by this firm, as in addition to the Blackburne-engined model, with two-speed gear, clutch, and kick-starter, a similar model may be obtained with a 2½ h.p. Villiers two-stroke engine. This, again may be equipped with a plain two-speed gear box, or it may be single-geared, thus providing a range of four models on the same general lines. With footboards, curved mud shields and ample mudguards, the Excelsior should be a lightweight suitable for any weather.



Very noticeable is the massive taper construction of the 8 h.p. Excelsior steering head.

2½ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; B. and B. carburetter; flywheel magneto; single-speed gear; belt drive; 24×2¼in. tyres. Price £49 10s.

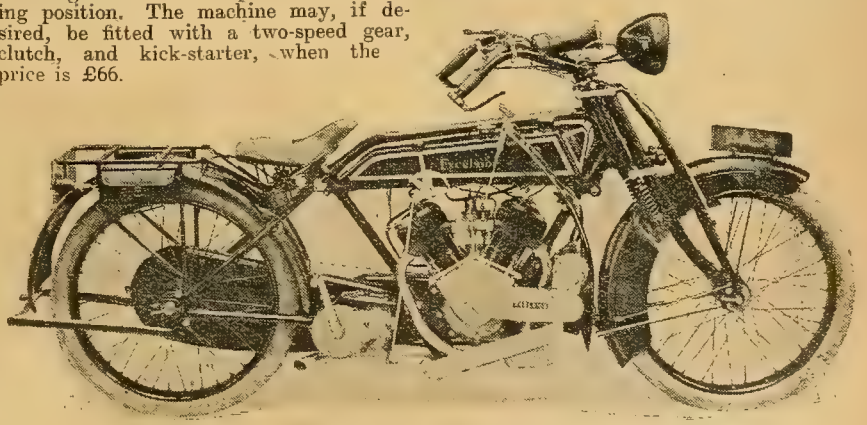
Considerable interest is aroused by the new semi-open frame Excelsior lightweight, as much for its simple and strong construction as for the attractive price at which it is to be marketed. The saddle position is extremely low, but this is not gained at the expense of the riding position. The machine may, if desired, be fitted with a two-speed gear, clutch, and kick-starter, when the price is £66.

4½ h.p.; 86×112 mm. (650 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; C.A.V. chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; 650×65 mm. tyres. Price £125.

The 4½ h.p. big single model is a modification of a pre-war machine that gained an enviable reputation for sidecar work and hill-climbing. It is designed as a sidecar machine at moderate cost which shall be economical to run, and it is of robust construction. In particular, the strength of the steering head should be noticed. Engine lubrication is another point which has received considerable attention.

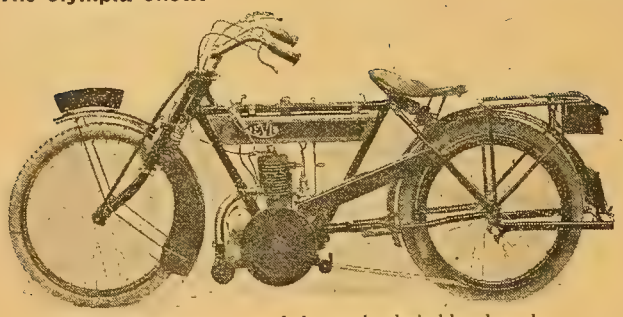
8 h.p.; 85.5×85 mm. (976 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; chain-driven Magdyno; three-speed Sturmey-Archer gear; chain drive; 28×3in. tyres. Price £243 3s.

The 8 h.p. model, a luxurious sidecar outfit, is on the same lines as other Excelsior sidecar models, but all-chain drive is employed with interchangeable and detachable wheels, and among the many refinements should be mentioned the fitting of a Lucas Magdyno. This model may also be obtained with either the 6 h.p. J.A.P. engine or with the 10 h.p. Blackburne engine, and if desired it may be purchased as a cheaper model devoid of the ultra luxurious fittings. A new internal expanding front wheel brake is also shown, and will be added in the near future.

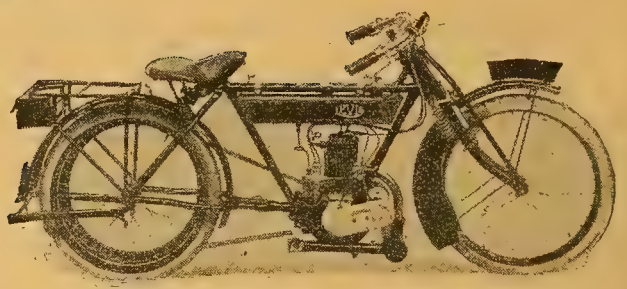


A powerful sidecar mount—the 8 h.p. British Excelsior with Blackburne outside flywheel engine.

The Olympia Show.—



24in. wheels and a neat belt guard, admirably adapt the 2¼ h.p. Levis for ladies' use.

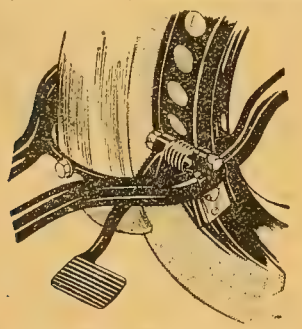


Low, light and speedy—the sports model Levis of 2¼ h.p.

LEVIS. (121.)

2¼ h.p.; 62×70 mm. (211 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac (or other) carburetter; chain-driven magneto; single-speed gear; belt drive; Hutchinson 24×2¼in. tyres. Price £60.

Butterfields, Ltd., Stechford, Birmingham.—Two-strokes as a rule are suspected of being uneconomical—that is to say, their consumption is considered to be high in proportion to their power. Therefore, great interest is being shown in the result of the recent Levis consumption test, when the machine averaged over 20 m.p.h. over a fifty-mile course, with a petrol consumption at the rate of 320 m.p.g. (officially observed by the A.C.U.). In fact, the makers guarantee



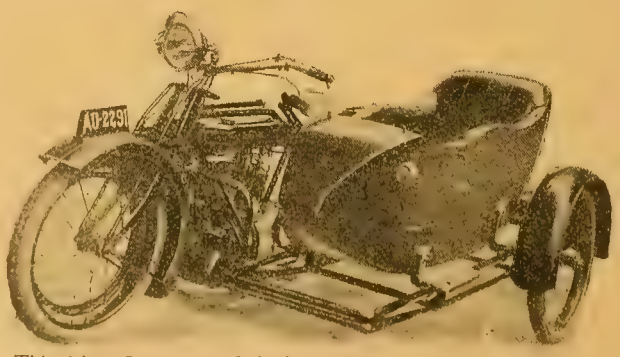
For lightness and simplicity it would be difficult to improve upon the Levis rear brake.

a mileage of 120 to the gallon, and state that the average machine, as it leaves their works, will, with reasonably careful handling, achieve 150 m.p.g. When one realises that, combined with this low consumption, there is the advantage of flexibility (in that the single-gear Levis will two-stroke from 6 up to 35 m.p.h. or more), one begins to appreciate the firm's faithfulness to the single-geared machine. The larger sporting model, of 247 c.c., is also being shown. This is the size of engine which won its class in the 1920 T.T., and is now being marketed at £68. The engine and machine are almost exactly similar to the smaller type, except for the larger bore and stroke and a different silencer. An interesting point is the tank fixing, which is arranged (on rubber buffers) so that the tank and under tube may be removed together by undoing two bolts, thus giving exceedingly easy access to the cylinder. The engine is still lubricated by drip feed, with special pipes to the cylinder and one main bearing, which are a Levis feature. The cylinder feed lubricates the gudgeon pin and the other main bearing, while the direct main bearing feed also oils the big end.

CAMPION. (163a.)

8 h.p. J.A.P.; 85.5×85 mm. (986 c.c.); V twin four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; Lucas Magdyno; three-speed Sturmey-Archer gear; enclosed chain drive; Dunlop 28×3in. tyres. Price without sidecar £140.

Campion Cycle Co., Ltd., Robin Hood Street, Nottingham; and Nottingham Motor Cycle Taxi Co., Byard Lane, Nottingham.—Although these two firms (in conjunction) intend their vehicle primarily to be a sidecar-taxi outfit, there is no doubt that the luxurious two-seater here staged will appeal in addition to the family man. Another standard Campion outfit of last year's specification is shown; but, as this type is being discontinued, we will confine our description to the two-seater. Regarding the motor cycle itself, a Magdyno is standard; and the rear chain runs in an oil bath gear case, which is different from, and probably neater than, any similar fitment on exhibition. This quality of neatness is gained by the central portion being cut away after the manner of several pedal cycle gear cases. Through the rectangular space thus formed, the rear sidecar connection reaches the lower back stay. Of polished aluminium, the chain case appears to be much narrower and smaller than usual; but perhaps this impression is furthered by the very massive rear band brake casing. Two independent bands act on this drum—one operated by a hand lever, very like the Sturmey gear lever, and the other by a large pedal. All three wheels are quickly detachable and interchangeable. The engine is lubricated by a sight drip feed, surplus oil from the crank case finding its way into the primary and rear chain cases. With the hood in position, the sidecar passenger feels as if he were in a large car. All on, this very elaborate outfit sells at about £250.



This 8 h.p. Campion outfit is shown, but will in the near future be discontinued in favour of the new two-seated "taxi" type.

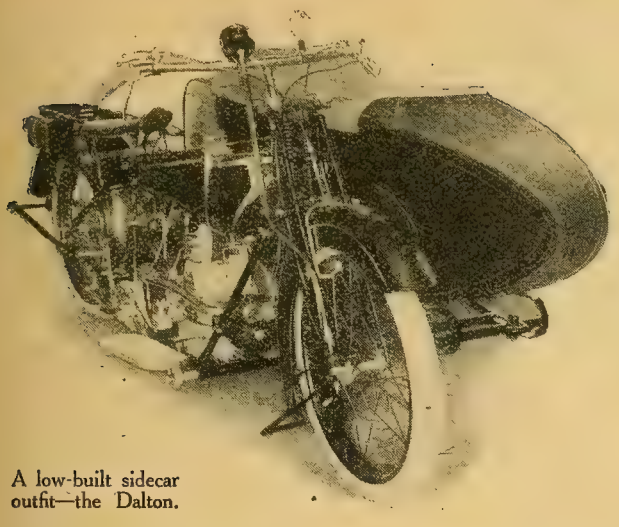
DALTON. (15.)

4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; T.B. chain-driven magneto; three-speed Burman gear; chain and belt drive; Wood-Milne 650×65 mm. tyres. Price £115 10s.

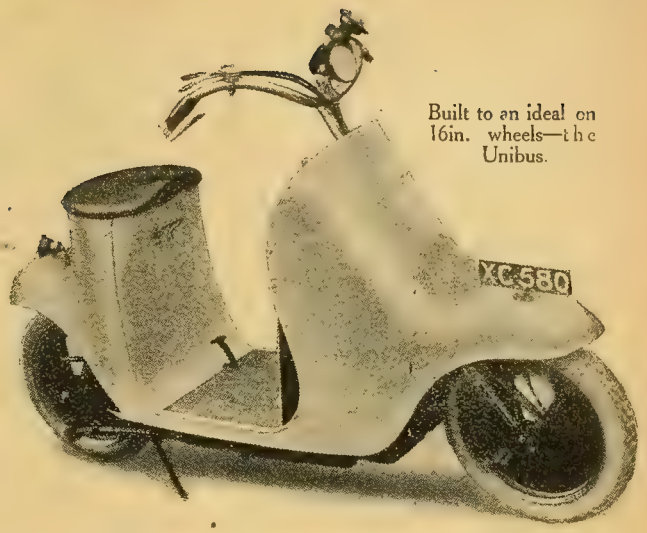
Dalton Motor Co., Ltd., 17-19, John Dalton Street, Manchester.—The 4 h.p. model is an attractive double-purpose mount, suitable for solo riding, and yet sufficiently powerful for a sidecar in all ordinary districts. One of the chief features of this mount is the careful manner in which the mudguarding has been studied. The rear guard extends well over the back wheel, and is provided not only with deep valances, but a special guard over the belt. Footboards sloping to a comfortable angle are provided. As regards the frame, combined lugs are employed where possible, and the toolbag cases are welded on to the carrier, and not held by clips.

2¾ h.p. Blackburne; 71×88 mm. (350 c.c.); single-cylinder four-stroke; side-by-side valves; Best and Lloyd lubrication; Amac carburetter; T.B. chain-driven magneto; two-speed Burman gear; chain and belt drive; 26×2¼in. tyres. Price £99 15s.

The lightweight model is similar in most respects to the 4 h.p. machine, and is a useful solo mount. Its appearance is considerably improved by the fitting of aluminium disc wheels of quite sound design. Both wheels are completely covered in, as the edges of the rims are turned over and allow the discs to fit close up against the rim. The method of fixing is by bolts round the periphery of the discs. In this model, mudguarding



A low-built sidecar outfit—the Dalton.



Built to an ideal on 16in. wheels—the Unibus.

is equally well carried out. Being a lighter machine, footrests are provided instead of footboards.

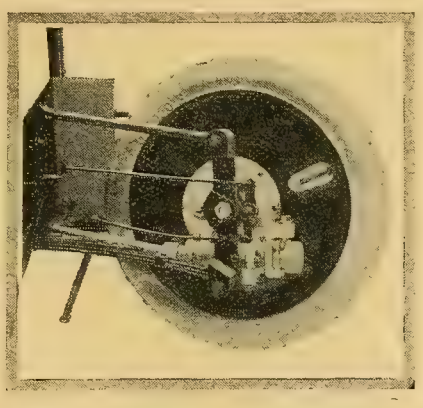
5-7 h.p. Coventry Victor; 75×78 mm. (688 c.c.); twin-cylinder four-stroke; side-by-side valves; Best and Lloyd lubrication; Amac two-lever carburetter; T.B. magneto; three-speed Sturmey-Archer gear; all-chain drive; Dunlop 650×65 mm. tyres.

This handsome sidecar outfit, of medium power and weight, well suited for general touring, is fitted with a smooth-running flat twin engine. Having a three-speed gear box and all-chain transmission, it should be capable of going anywhere. The size of the rear mudguard is worth special comment, while the front guard is well valanced. The frame, being composed almost entirely of straight tubes, is of strong construction, and should stand plenty of rough work.

UNIBUS. (26.)

2½ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; B. and B. carburetter; C.A.V. chain-driven magneto; two-speed constant mesh gear; shaft and worm drive; Dunlop 16×2½in. tyres. Price ninety-five guineas.

GLOUCESTERSHIRE AIRCRAFT CO., LTD., Sunningend Works, Cheltenham.—One of the most interesting exhibits in the miniature line is the Unibus chassis, which shows distinct originality. The motive power is a 2½ h.p. two-stroke engine set across the frame, which drives through a single dry plate clutch to a two-speed gear box built car fashion across a channel steel frame. From gear box to rear wheel the transmission is by propeller-shaft, on the end of which there is an enclosed worm drive. On the inside of the worm are the two internal expanding brakes, one controlled by hand and the other by foot. The rear wheel of the machine is sprung on quarter-elliptic springs, the wheel being carried in a separate frame. The forks are also provided with leaf springs, which extend from the fork crown to the fork links, and both wheels are of the disc variety. The engine is started by means of a free-wheel hand starter mounted on the dashboard and connected to the engine by a chain. Ease of cleaning and weatherproofing are keynotes of the design.

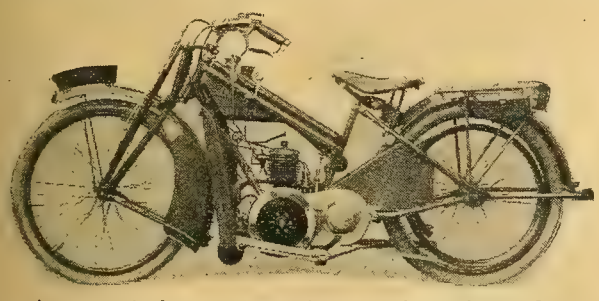


Shaft drive on British machines is found on two extreme types—the miniature and the fully developed three-wheeler. Above is seen the worm-driven rear wheel of the Unibus

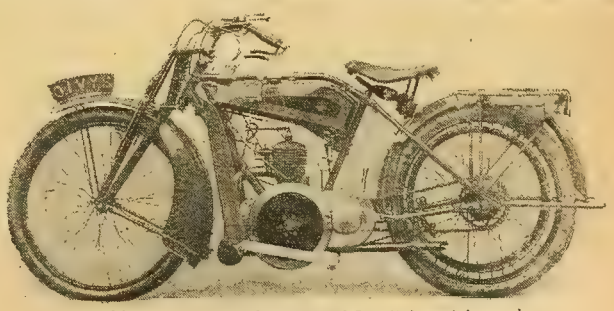
IVY. (124.)

3 h.p.; 75×79 mm. (350 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; chain-driven magneto; two-speed Sturmey-Archer gear; chain and belt or chain drive; Dunlop 26×2¼in. tyres. Price £89 solo, £118 with sidecar.

S. A. NEWMAN, LTD., Lichfield Road, Birmingham.—The Ivy two-stroke makes a speciality of working under heavy loads, and has demonstrated its capabilities publicly on more than one occasion of late. In its general layout, the engine is of the standard three-port type with a release valve opening into the exhaust pipe. From the drip feed lubricator two pipes are taken, one conveying oil to the left-hand side of the cylinder, so that it registers with the gudgeon pin at the bottom of the stroke, the other feeding a trough at the top of the crank case, from which the oil runs down special passages to the main bearings. Chain and belt transmission is fitted for solo work, and all-chain for use with the



A compromise between open and diamond frame, the new Ivy lady's model has most of the advantages of both types.



An addition to the wide range of Ivy lightweights—the 3 h.p. "all-chain" type.

The Olympia Show.—

sidecar. The dropped top tube and sloping tank are distinctive Ivy features.

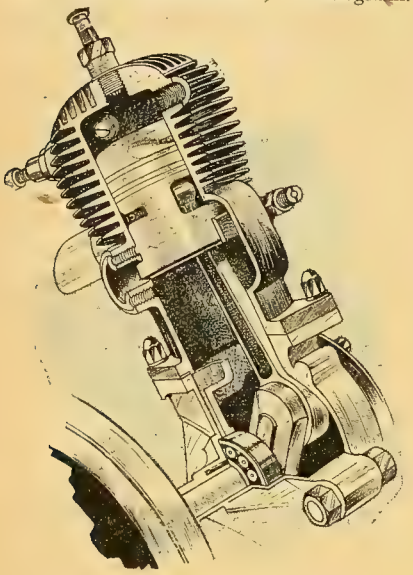
2½ h.p.; 64×70 mm. (224 c.c.); single-cylinder two-stroke; Amac carburetter; chain-driven magneto; two-speed gear; chain-belt drive; Dunlop 26×2¼in. tyres. Price £73.

Except for the smaller engine, this machine is almost exactly similar to the 3 h.p. In both cases the front down tube is double, a tube being taken down on each side of the exhaust pipe. The lady's model is especially neat, and is provided with a semi-dropped frame, one gallon tank, and a carefully protected belt.

SUN. (65.)

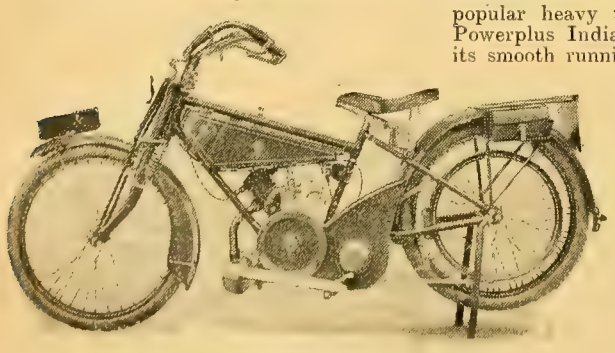
2¾ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; B. and B. carburetter; T.B. chain-driven magneto; two-speed Sturmey-Archer gear; chain and belt drive; 26×2¼in. tyres.

THE SUN CYCLE AND FITTINGS CO., LTD., Aston Brook Street, Birmingham.

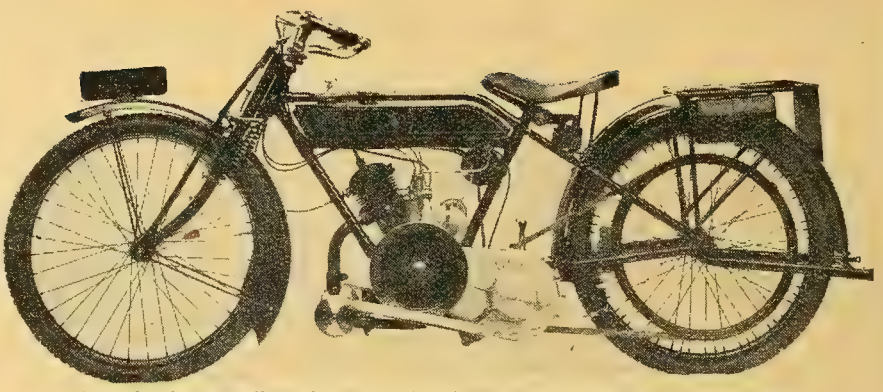


Section of the Sun-Vitesse two-stroke engine. A recess is cut in the crank case to provide lubrication for the roller bearing and main shaft.

—Sun-Vitesse motor cycles are lightweight machines which really are light, and therefore are handy for the hundred



The Sun-Vitesse two-stroke illustrated is one of several lightweights intended for the use of ladies



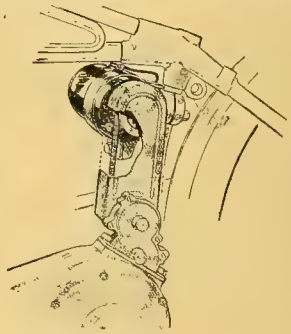
An inclined engine allows the use of a low frame on the Sun two-stroke lightweight.

and one small journeys that are often necessary. The principal changes in the design for this year are the extra roller bearing inside the crank case on the crankshaft, the rollers being caged by chain links, the four-point suspension for the crank case, wider mudguards and forks, a larger tank, and larger toolbags. This list gives some idea of the experimental work undergone during the past season. It will be remembered that the Vitesse engine has a one-piece crank case, whereby joints which may constitute air leaks, a serious matter for crank case compression, are avoided; the additional power and capacity to "rev" being put down largely to this feature. On the stand, beside the ordinary touring models, there is exhibited a neat little ladies' machine in the Show which has a dropped frame to make it a suitable mount, the design requiring little alteration to produce this result. There is also a neat little light sidecar outfit, and one of the models has the new Maglita set. So many, indeed the vast majority of two-strokes, are built-up with proprietary engines that it is refreshing to turn to such a stand as the Sun, where the inclined immediately premises originality.

INDIAN. (100.)

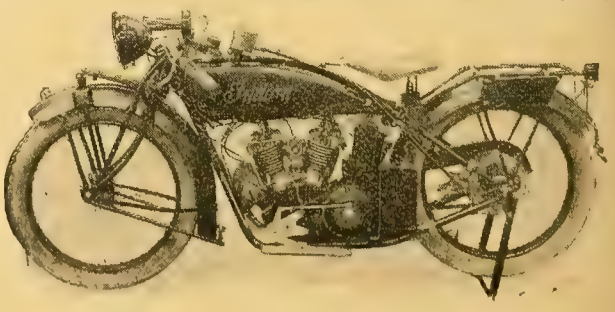
7-9 h.p.; 79×100 mm. (997 c.c.); twin cylinder four-stroke; side-by-side valves; mechanical lubrication; Schebler carburetter; American Bosch gear-driven magneto; three-speed countershaft gear; all-chain drive; 28×3in. Goodyear tyres.

HENDEE MFG. Co., 366, Euston Road, N.W.—There have been few more popular heavy twins than the 7-9 h.p. Powerplus Indian, which, on account of its smooth running, high power, and the comfort afforded by its spring frame, has undergone practically no alteration since its first introduction, but remains particularly suitable for sidecar work on any roads where adhesion is possible. The same careful study which is evident in the design of the engine has been carried on throughout the whole machine. The manner in which the valve springs are



The lighting dynamo on the new Indian Scout is driven from the countershaft through enclosed subsidiary gear wheels and coil *spring* drive to the dynamo pulley. The dynamo is located in a very sheltered position below the saddle mounting, and forward of the seat-pillar tube.

insulated from the hottest part of the engine by means of ventilated distance pieces is an excellent feature, as also is the telescopic arrangement provided for the enclosing of the valve springs and tappets. Not only is the Indian among the pioneer firms as regards satisfactory spring frame, but it was among the first to introduce a reliable system of electric lighting. The Hendee Mfg. Co. employ the Splitdorf generator, which is driven off the crankshaft by means of a spring



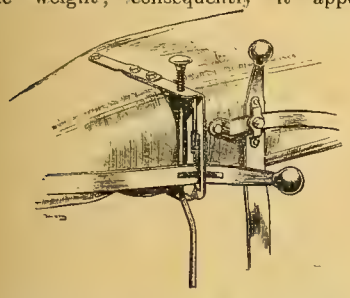
A compact and "nippy" mount is the Indian Scout

The Olympia Show.—

belt, which is totally enclosed. Two of these models are shown fitted with luxurious sidecars, and, handsomely finished in Indian red, make exceedingly striking outfits.

4 h.p.; 70 × 78 mm. (596 c.c.); two-cylinder V twin four-stroke; side-by-side valves; mechanical lubrication; Schebler carburetter; Bosch gear-driven magneto; three-speed countershaft gear; final drive by chain; Goodyear 26×3in. tyres.

The Indian Scout has certainly distinguished itself during 1920, being a solo mount of moderate power and reasonable weight; consequently it appeals



Aluminium knobs are now fitted to the clutch and gear control levers on the Powerplus Indian. Note the new thumb control for raising the exhaust valves when kick-starting the engine.

strongly to the sporting solo rider. One of the most interesting features of this model is the fact that the transmission from engine to gear box is through gear wheels, the final drive being by chain. For the first time this machine is shown fitted with a Splitdorf electrical generator, which is driven by means of an enclosed wire belt from a pulley on the large transmission gear wheel. One solo model is shown, while another machine is fitted with a sidecar of a light and "sporting" build.

RADCO. (61.)

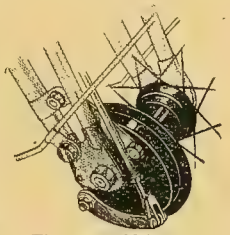
2½ h.p.; 67×70 mm. (247 c.c.); single-cylinder two-stroke; hand pump lubrication; Amac carburetter; Lion chain-driven magneto; two-speed Albion gear; chain and belt drive; 24×2in. tyres.

E. A. Radnall and Co., Dartmouth Street, Birmingham.—On the new Radco sporting model all non-essential parts have been eliminated, yet there is everything that could assist the rider to attain the required end. Footrests, naturally, have superseded foot plates in this type; the engine is standard, as also the transmission, but the equipment includes knee grips; the bars are dropped and aluminium discs give a distinctive air to the 24in. wheels. A long pipe conducts the exhaust gases well away from the aluminium silencer, and this pipe is substantially stayed fore and aft to prevent rattle. An improvement this year, in addition to the enlarged engine, is that the decompressor discharges into the main silencer pipe instead of into the atmosphere. It is possible to drop the engine from the frame when three bolts have been withdrawn and the engine controls disconnected. The touring models range from a simple single gear mount to a machine equipped with two-speed clutch and kick starter, and a Maglita lighting and ignition set arranged in lieu of the magneto. A Flexa saddle suspension pillar is fitted to one of the standard models.

VELOCETTE. (123.)

2¼ h.p.; 62×73 mm. (220 c.c.); single-cylinder two-stroke; mechanical lubrication; Amac or B. and B. carburetter; gear-driven magneto; two-speed constant mesh gear; all-chain drive; Dunlop 24×2¼in. tyres. Price £75.

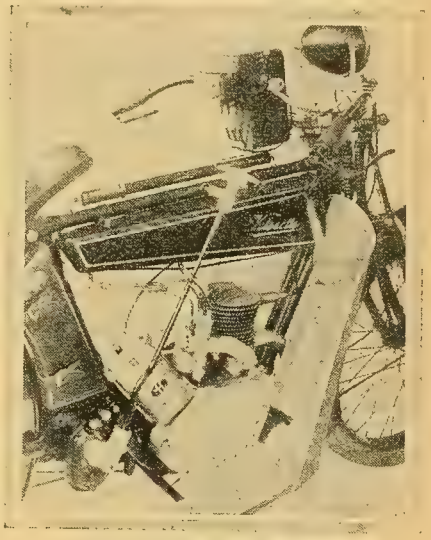
Veloce, Ltd., Victoria Road, Aston, Birmingham.—As the Velocette was recently described in *The Motor Cycle*, only a short *résumé* of its most prominent points will be given here. One of its chief attractions is the complete mechanical lubrication, which relieves the rider of all responsibility beyond refilling the sump every 500 miles or so. On one of the models exhibited, the M-L magneto lighting set is fitted, making an admirably complete machine. The sectioned engine and gear box, which show the action of all working parts, also create considerable interest.



The 1921 Velocette has an internal expanding front wheel brake.

A lady's machine, selling at £88, is also shown. It has a three-speed gear, and is of similar specification to the other model except for its frame. The 24in. wheels provide an extraordinarily low saddle position, the top of the saddle being only 26½in. from the ground. Unlike many ladies' models, the petrol tank is of full capacity, holding over two gallons.

A competition model, with three-speed gear and expanding front brake, should be specially noted on account of the excellent show which the firm's team put up in the A.C.U. Six Days Trials, in which they took third place for the team prize against much more powerful machines.



An example of the 2¼ h.p. Velocette with M-L Maglita lighting and ignition set.

The price of the three-speed model is £85. All-chain drive is an unusual feature on so small a machine, and the Velocette gives the impression of having been "designed" throughout. The detail work is well carried out throughout, and its all-black finish, relieved by gold lines, is specially good.

CLYNO. (141.)

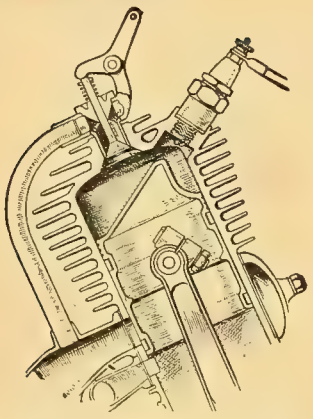
8 h.p.; 76×102 mm. (925 c.c.); V twin four-stroke; side-by-side valves; mechanical lubrication; Amac carburetter; T.B. chain-driven magneto; three-speed constant mesh type gear; enclosed chain drive; spring frame; Dunlop 28×3in. tyres.

Clyno Eng. Co., Ltd., Pelham Street, Wolverhampton.—Nature decrees that we desire most earnestly the unattainable. For this reason close interest in the 8 h.p. Clyno has been and is intense, and now that deliveries are definitely commencing, that interest, by reason of the sheer completeness of the design, will not flag Of Clyno manufacture

A two-stroke, two-speed Radco fitted with polished wheel discs

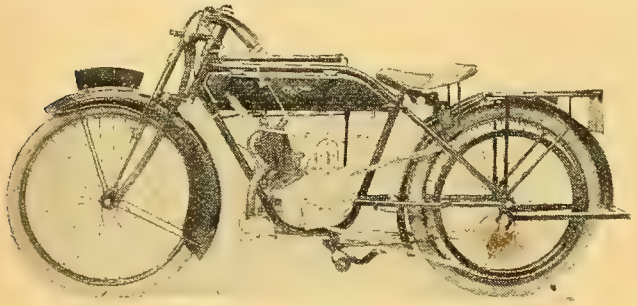
Compactness has been gained without sacrificing accessibility on the Velocette ladies' machine

The Olympia Show.—



Section of the Clyno two-stroke engine showing port arrangement.

and design, the engine has detachable cylinder heads and a carefully planned system of mechanical lubrication. In addition a hand pump may be used at will to supply extra oil either to the crank case or to the constant mesh type gear box. The spring frame is simplicity itself, and includes the carrier in its total of sprung weight. Detachable and interchangeable wheels naturally find a place in the standard specification; removal of the rear wheel leaves the internal expanding rear brake *in situ*, also, of course, the transmission. Mudguarding is literally on car lines, *and* to car dimensions. The *modèle de luxe* has full electrical equipment; but even the standard machine is exceptionally complete. War and peace have provided experience and testing grounds for the Clyno designers, of which they have not been slow to take advantage.



Competition work has proved the Clyno lightweight to have reached an advanced stage of design.

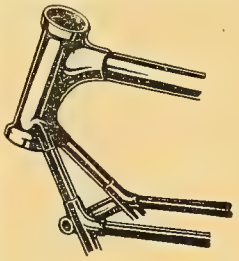
$2\frac{1}{2}$ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; gear-driven magneto; two-speed gear integral with crank case; belt drive; 26×2in. tyres.

Right at the other end of the scale the Clyno lightweight is as complete and clever in its design as is the big passenger outfit. The integral gear box and inclined two-stroke engine are well-known features, but the fact that, including the magneto pinion, only five gear wheels are used in the primary drive and gear box is worthy of especial note, and is indeed significant of the simplicity that is maintained throughout the whole machine.

RALEIGH. (99.)

5 h.p.; 77×75 mm. (700 c.c.); flat twin four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; gear-driven magneto; three-speed Sturmey-Archer gear; all-chain drive; Dunlop 650×65 mm. tyres. Price £162 15s. solo; £204 15s. with sidecar.

Raleigh Cycle Co., Ltd., Nottingham. —Although it was exhibited at last year's Show, the flat twin Raleigh has only lately been put into production. In fact, the Show exhibits are the first production samples, so that the machine has not yet been seen much on the road, and is probably not familiar to readers. Perhaps the most noticeable point about it is its neatness, when one considers that the engine is a flat twin of 700 c.c. This is partly due to the fact that the engine is of larger bore than stroke, and partly to the extremely neat arrangements of the special Sturmey-Archer gear box, the casings and controls of which have been modified to suit the machine. Detail work is especially good: the wheels have knock-out spindles; the front brake has a compensating shoe which cannot possibly drag on the dummy belt pulley when the brake is off; the duplex frame is most thoughtfully laid out, and has been strengthened in the saddle tube. The arrangement of the saddle, sliding on a horizontal extension of the top tube, gives an exceptionally low and comfortable saddle position, which, in combination with the sprung rear frame, should make the machine most pleasant to ride. One specially good point about the arrangement of the spring frame is the fact that the rear mudguard is made in two pieces, of which the hinder is rigid with the wheel, while the front part pivots with the sprung part of the frame. The result is that no amount of spring movement can cause any fouling of the mudguard.



The sidecar lug forms a cross support of the Raleigh duplex frame.

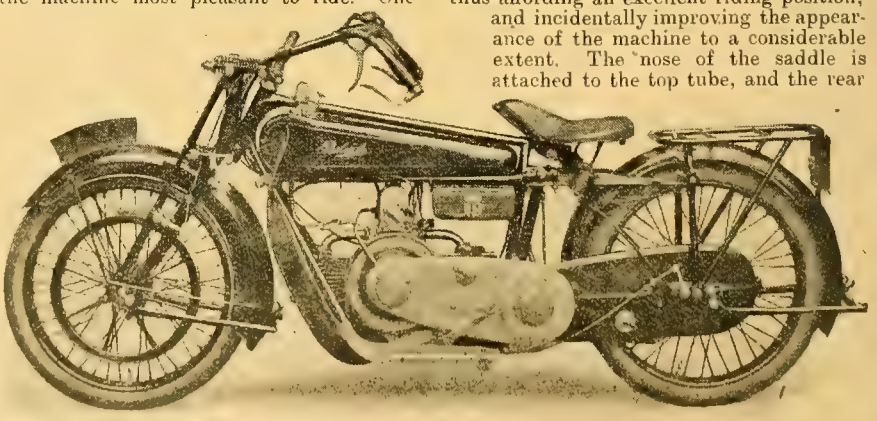
COULSON B. (162.)

4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; drip-feed lubrication; Flixi carburetter; chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; spring frame; Avon 26in.×2½in. tyres.

$2\frac{3}{4}$ h.p. Blackburne; 71×88 mm. (349 c.c.); single-cylinder; in other respects as 4 h.p. model.

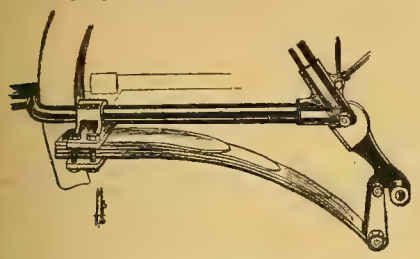
F. Aslitt Coulson Engineering Co., Ltd., Albion Street, King's Cross, N.W.1.—Although a comparative newcomer, the Coulson B is already a well-established favourite. This quick rise to popularity may be accounted for by the fact that the company make their machines, and do not merely assemble them. The engine and gear box, however, are proprietary units—the former, the well-known 4 h.p. Blackburne with outside flywheel, and the latter the equally familiar Sturmey-Archer. By entirely redesigning the frame the saddle position has been lowered as much as six inches, thus affording an excellent riding position, and incidentally improving the appearance of the machine to a considerable extent. The nose of the saddle is attached to the top tube, and the rear

Quarter-elliptic springs are used at the Coulson sidecar wheel, following the same lines as the suspension of the motor cycle.



Large flat twins generally appear unsymmetrical. Not so this 5 h.p. Raleigh—even the spring frame is the essence of neatness.

The Olympia Show.—



Details of Coulson-B spring frame.

coil springs to a special bracket. In conjunction with a spring rear frame, the comfort of the rider receives great attention. Made throughout at the company's works, the tank is a good example of modern reinforced design. Internally it possesses a double division between the oil and petrol compartments, and the external finish and outline are most pleasing. This model has sidecar lugs cast integrally with the frame; the 2¾ model lacks these, but otherwise is very similar. Adjustable handle-bars are standard fittings on both models. The 4 h.p. model is perhaps the only 500 c.c. machine which, complete with spring frame, three-speed gear, and clutch, weighs less than 200 lb., and therefore will be subject only to a 30s. tax. The smaller machine may be obtained with two or three-speed gears.

CEDOS. (36.)

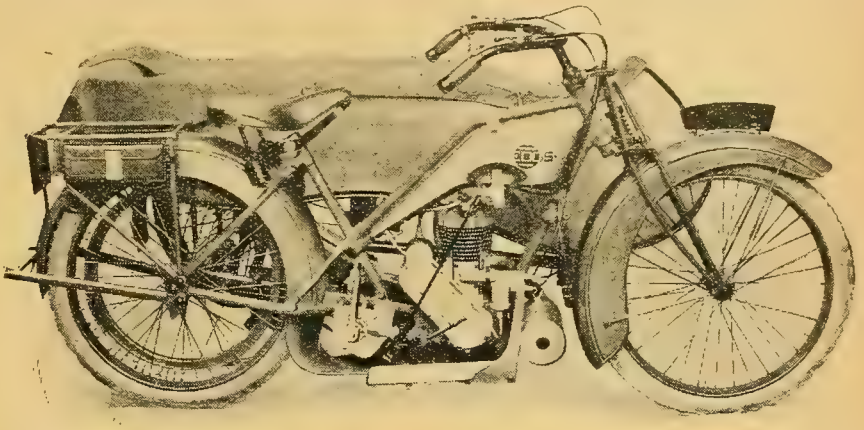
2¼ h.p.; 62×70 mm. (211 c.c.); single-cylinder two-stroke; drip feed lubrication; Cedos carburetter; Runbaken chain-driven magneto; two-speed countershaft gear; chain and belt drive; Denton or Hutchinson 24×2¼in. tyres. Price, lady's model, £75 12s.; standard, £73 10s.

HANWELL AND SON (COMPONENTS), Northampton.—The Cedos motor cycle is full of interesting points. It has not been greatly altered since last year, but one of the modifications lies in the exhaust pipe, which is now carried underneath the engine-shield. This shield is a remarkably good feature, as it protects the engine, gear box, belt, and chain from mud thrown up by the front wheel. The manufacturers of the Cedos are also among those who specialise in a lady's machine. It is well designed, strongly constructed, and every detail is carefully thought out. The gear box is carried eccentrically in a circular bracket, so that to tighten the chain it is only necessary to alter the centre of the gear box merely by means of the adjusting screw, while there is no danger of interfering with the chain alignment. Petroil lubrication, where the lady's model is concerned, has been regarded as undesirable owing to the chances of its fair passenger soiling her attire; the makers are using a drip feed in conjunction with a hand pump.

A new model, having a bore of 67 mm. and a stroke of 70 mm. (247 c.c.), is fitted with an entirely new engine, which possesses several interesting features. Unlike most two-strokes, it has a detachable head, which has exceptionally large radiating surface. The lugs through which the holding-down bolts pass are in themselves radiating fins. The cylinder is a very fine piece of work, in which the ports are not cast, but machined. By this process greater accuracy can be obtained. The piston is the Cedos registered design, in which ports are cut for the purpose of transferring the gas to the underside of the piston. The transfer port is covered by a special aluminium cover.

The engine is most carefully thought out in every detail. The roller bearing big end is a particularly fine piece of design, while bronze bushes are employed fitting up against the Skefko journal main shaft bearings for the purpose of retaining the compression. These bushes cannot wear unless the ball bearings wear. They are provided with grooves specially cut so as to direct the oil into the engine.

The machines are now enamelled in black, and their finish is greatly improved. A lady's model is also shown fitted with a 247 c.c. engine, a gear box and kick-starter, handle-bar controlled clutch, and a lightweight sidecar.

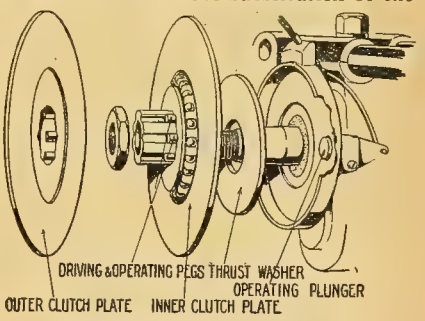


Ladies will be particularly attracted by the Cedos open-framed lightweight fitted with a light sidecar.

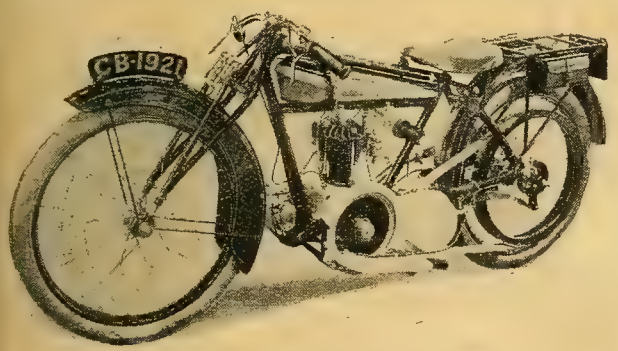
SPARKBROOK. (122.)

2½ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; B. and B. carburetter; flywheel magneto; two-speed Sparkbrook sliding gear; chain-belt drive; Dunlop 26×2in. tyres. Price £70.

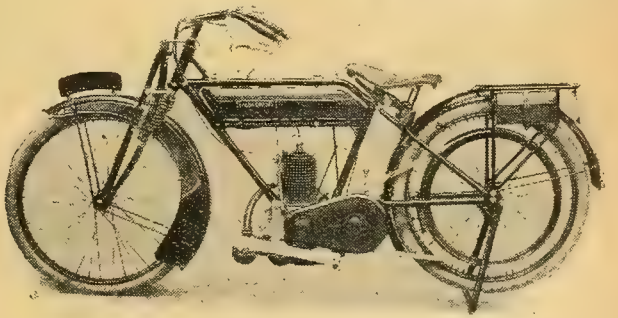
SPARKBROOK CYCLE CO., Coventry.—It is remarkable how the substitution of the flywheel magneto on the Villiers engine helps to produce a clean appearance on this machine. This, of course, is in addition to the other advantages of excellent low speed sparking and low weight. The combined result of the flywheel magneto and the excellent design of the



Details of the Sparkbrook clutch control



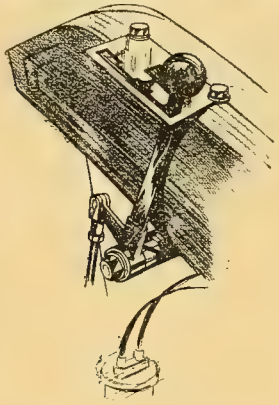
A Coulson-B 4 h.p. three-speed spring frame mount



The Sparkbrook-Villiers two-stroke lightweight

The Olympia Show.—

Villiers piston and ports is to produce a two-stroke machine with the slow running qualities of the four-stroke as well as very good speed capabilities. One excellent point about the Sparkbrook machine is the extra sized countershaft belt pulley which has been fitted to prevent belt slip, even under the worst conditions. A simple countershaft clutch has just been introduced. It is to be noted



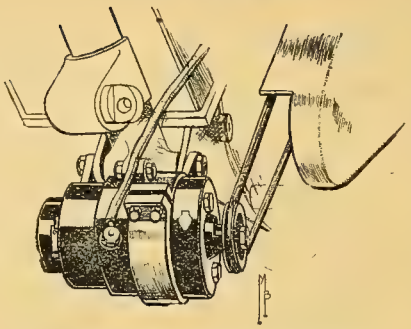
Neat change-speed lever of the lightweight Sparkbrook.

that even the single-speed machine (priced at £64) is not directly driven, but has a simple countershaft with the same 7in. belt pulley.

READING STANDARD. (37.)

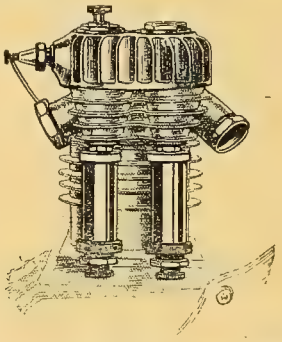
10 h.p.; 85.8×95.4 mm. (1,170 c.c.); twin-cylinder four-stroke; side-by-side valves; mechanical lubrication; Schebler carburetter; Splitdorf gear-driven magneto; three-speed countershaft gear; chain drive; Firestone 28×3in. tyres.

STANLEY J. WATSON, 37, Sheen Road, Richmond, Surrey. — The Reading Standard was one of the first American-made motor cycles that conformed in design to British ideas as to valve disposition. It is, however, rather more up-to-date than many British machines in that mechanical lubrication is fitted. Like all American big twins it is strongly constructed, made to withstand rough roads, and is provided with a comfortable saddle. The current for the electric lighting is supplied from a Splitdorf generator. Following American practice the clutch can be actuated either by the foot or by hand, and unless the clutch is withdrawn the gear



On the Reading Standard the dynamo is mounted in front of the engine and driven from a pulley on the crankshaft.

lever cannot be moved owing to the interlocking device provided. The models shown are all fitted with sidecars with the exception of one.



The new cylinder head of the Reading Standard. The valve springs are enclosed in cases with a locking ring beneath.

Although the engine is rather larger than is fitted to British motor cycles the complete machine is compactly arranged, and is not clumsy in appearance.

PRIORY. (6.)

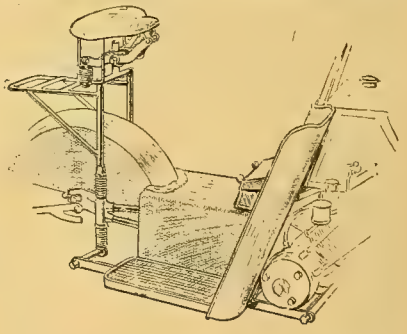
2½ h.p. Arden; 70×70 mm. (269 c.c.); single-cylinder two-stroke; hand pump lubrication; B. and B. carburetter; C.A.V. chain-driven magneto; two-speed Albion gear; chain and belt drive; Hutchinson 26×2½in. tyres.

DERRY AND EDWARDS, 1, Great Eastern Street, London, E.C.1.—The 2½ h.p. two-stroke Priory is an attractive little mount of handsome appearance, with Ace disc wheels, which are particularly well finished. With wide and well valanced mudguards, it appears to be a thoroughly practical little mount. A casting forms a Y shaped branch for the twin exhaust pipes, which lead to an expansion chamber of generous dimensions. The exit for the gases is amply large, and a long tail pipe is fitted. The two-speed Albion gear incorporates a handle-bar controlled clutch. Points of convenience have been well studied; comfortable aluminium footboards are provided and a neatly finished aluminium chain cover. The Arden front forks, which are built of welded sheet steel, are quite a noteworthy feature of the machine.

KENILWORTH. (144.)

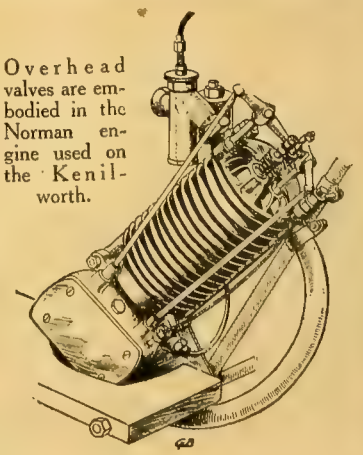
1¼ h.p. Norman; 55×60 mm. (142.5 c.c.); single-cylinder four-stroke; overhead valves; drip feed lubrication; single-lever carburetter; Runbaken direct-driven magneto; single-speed gear; belt and chain drive; Kenilworth 18×2in. tyres. Price £52 10s.

BOOTH BROS., Much Park Street, Coventry.—Although originally a scooter, the fact that it possesses a seat, and that the steering head is triangularly supported by duplex tubes from the main frame, makes the Kenilworth actually a miniature motor cycle. The diminutive Nor-

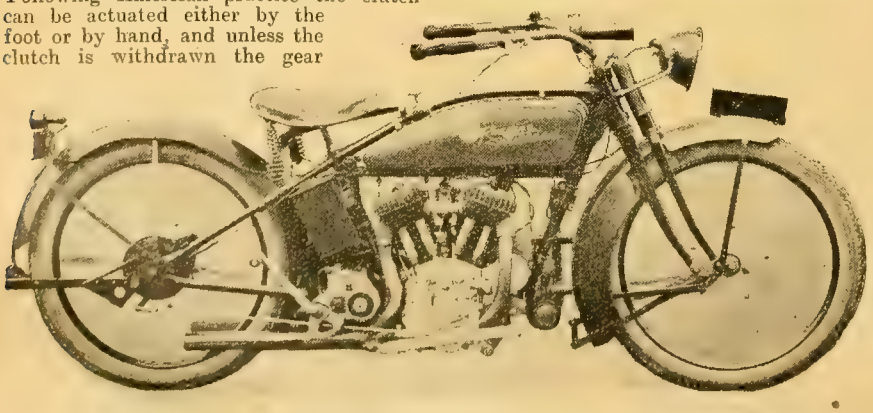


On the Kenilworth scooter (which is propelled by a Norman engine) the seat and footboards are sprung in unison.

man engine is remarkably efficient for its size, and a simple saddle suspension connected with the footboards allows quite long journeys to be undertaken in comfort. Legshields and a carrier are now fitted, as is a capable-looking band brake on the

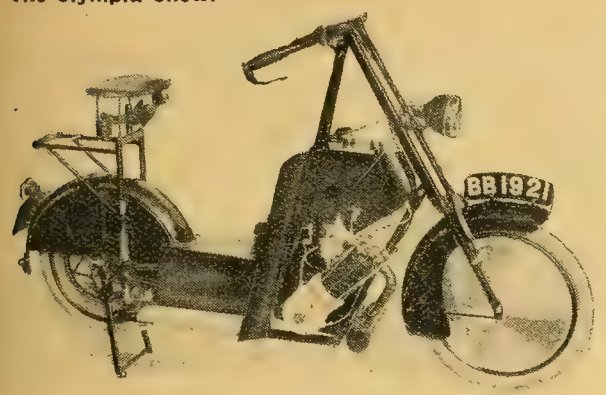


Overhead valves are embodied in the Norman engine used on the Kenilworth.



Among the interesting points of the Reading Standard is the fact that it has the largest engine of any motor cycle in the Show.

The Olympia Show.—



The Kenilworth Scooter has straight triangulated tubes.

rear wheel. Altogether, the Kenilworth strikes one as being a thoroughly practical little machine that will stand much hard use and abuse, and which, by reason of its 80 lb. total weight, possesses exemplary docility and convenience. Its mudguarding might well be studied by some designers of more ambitious machines costing three times as much. A neat electric lighting set is supplied at £4 4s. extra.

ENFIELD. (118.)

8 h.p.; 85.5×85 mm. (976 c.c.); two-cylinder V twin four-stroke; side-by-side valves; mechanical lubrication; Amac carburetter; chain-driven magneto; two-speed Enfield selective clutch gear; all chain drive; Palmer cord 700×80 mm. tyres Price with sidecar £160.

ENFIELD CYCLE CO., Redditch.—Vickers, Ltd., who are manufacturing the new engine for the Royal Enfield combination, have already such a well-deserved reputation that one cannot doubt the quality of their product. The engine itself, which was described in the last issue of *The Motor Cycle*, is of the standard V twin type, but has fully forced lubrication by a very accessible pump outside the timing case. An auxiliary hand pump is also provided. The Enfield two-chain drive to the countershaft, with selective clutch gear change, is retained, as also the handle starter: in fact, apart from the new engine, there is but little change in the outfit, except that a very neat removable rear mudguard and stand is now fitted. Probably the most remarkable point about the outfit is that a machine of such splendid quality and performance should be offered at a price which is smaller than is asked for many single-cylinder sidecar machines of half the power. Both large and small models are fitted with Enfield spring drive to absorb any chain snatch.

2¼ h.p.; 64×70 mm. (225 c.c.); single-cylinder two-stroke; petroil lubrication; Amac carburetter; chain-driven magneto; two-speed selective clutch gear; all-chain drive; Palmer 24 × 2in. tyres. Price £65.

The most novel point of the Enfield lightweight is the optional incorporation of a kick-starter, adapted to the Enfield two-speed gear. The countershaft has a gear wheel on its extreme end, and a gear sector is fitted to an extension of the front chain stay lug. The magneto drive is also noteworthy as an example of simplicity in design: it is driven by the low speed chain from engine to countershaft, which forms, as it were, a triangular drive, including engine sprocket, magneto sprocket, and countershaft sprocket.

NEW IMPERIAL. (91.)

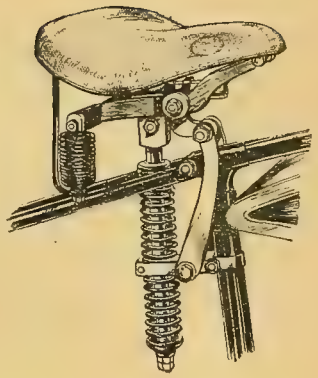
2¾ h.p.; 70×76 mm. (292 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; E.I.C. chain-driven magneto; two-speed sliding dog gear; chain and belt drive; 26×2¼in. tyres. Price £89 5s.

NEW IMPERIAL CYCLES, LTD., Birmingham.—A light machine, which should be capable of going anywhere, and which has, in fact, proved its prowess in many competitions, is the 2¾ h.p. New Imperial. Little alteration has been made, but the New Imperial gear box is now standardised, the gears being constantly in mesh, and the different ratios obtained by sliding dog clutches.

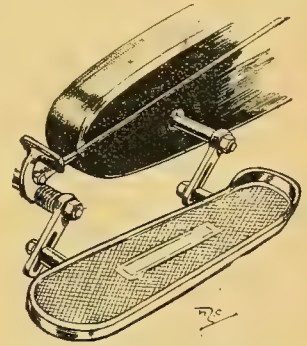
Chain and belt transmission is employed, with a handle-bar-controlled clutch, and an enclosed kick-starter. Saxon spring forks are now fitted, and the front guard is of particularly wide section for so small a machine. As previously, the J.A.P. engine is relied upon, and is efficiently silenced by a cylindrical exhaust box carried under the timing gear, and fitted with a long extension pipe. If desired, this model may be obtained with M-L Maglita electrical equipment, and also with a plain two-speed gear box, the price being £80 17s.

8 h.p.; 85.5×85 mm. (976 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; E.I.C. chain-driven magneto; three-speed sliding dog gear; chain drive; 28×3in. tyres. Price £147.

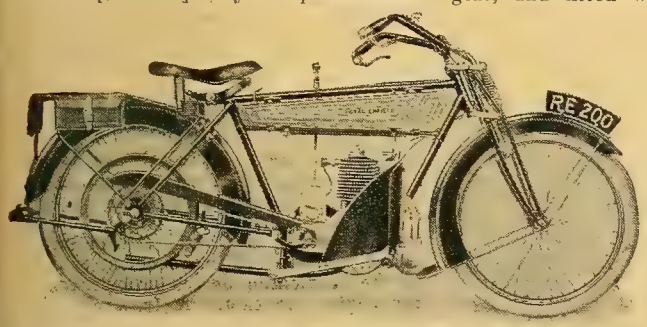
As a substantial and powerful machine for sidecar work, the 8 h.p. twin J.A.P.-engined New Imperial is a good example. Brampton forks are fitted to this model, with 28in. wheels, and completely enclosed all-chain drive. An introduction this year is the use of curved knee-guards, which enhance rather than detract from the appearance of the machine.



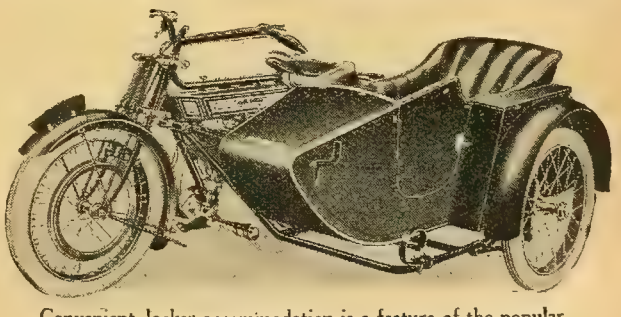
For easy riding a supplementary spring is fitted to the seat-pillar on the big twin New Imperial.



On the New Imperial the foot plates are adjustable horizontally and vertically.

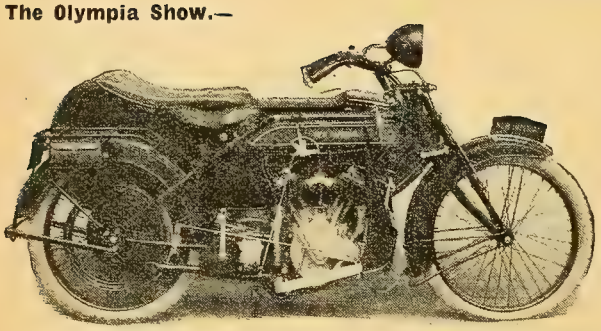


Straight tube framework on the Enfield lightweight gives a quite pleasing outline.

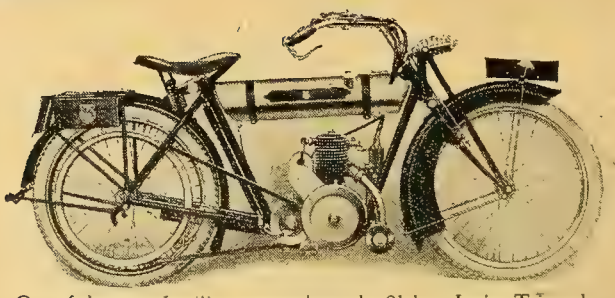


Convenient locker accommodation is a feature of the popular Enfield outfit, now fitted with an 8 h.p. twin engine made by Vickers, Ltd.

The Olympia Show.—



A sturdy sidecar machine is the 8 h.p. J.A.P. engined New Imperial.



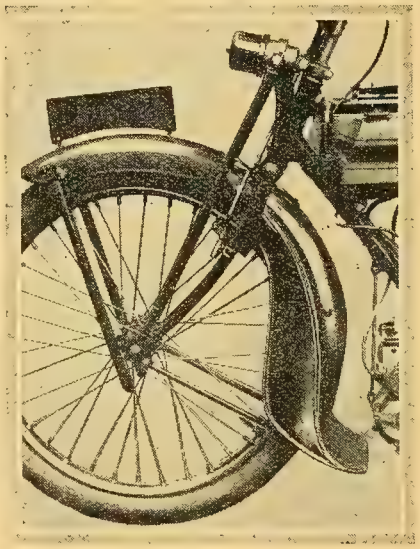
One of the most familiar two-strokes—the 2¼ h.p. Junior Triumph.

The rear brake is now lined with Ferodo, and is most efficient, the shoe operating in a dummy belt rim. A point which makes for the comfort of the driver is that the footboards may be adjusted, and a refinement is a coil spring saddle mounting. Substantial chain cases are fitted, which would, nevertheless, be readily removable in case of necessity. This model may be fitted with Lucas Magdyno electrical equipment, this, of course, being an extra. The price with sidecar is £186 18s.

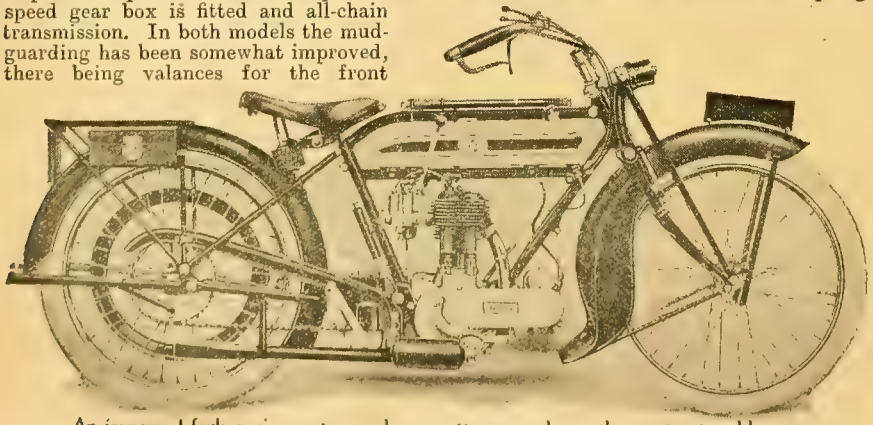
TRIUMPH. (114.)

4 h.p.; 85×97 mm. (550 c.c.); single-cylinder four-stroke; side-by-side valves; hand pump lubrication; Triumph carburetter; M-L chain-driven magneto; three-speed Sturmey-Archer gear; chain-belt drive; 26×2½in. tyres.

Triumph Cycle Co., Coventry.—Though the modifications in the 4 h.p. Triumph for 1921 have been in the shape of detail improvements only, there is little doubt that the Triumph stand will be, as usual, a centre of attraction. One point which will be much appreciated is the provision on the sidecar models of footboards instead of footrests. These are of all metal with aluminium edgings. Another ingenious improvement consists in the provision of vertical troughs, which form the front mudguard stays, which are designed to catch the liquid mud thrown up by the front wheel, allowing it to trickle on the ground, and preventing it from flying over the driver or the sidecar passenger. The chain-driven model is similar in practically every respect except that the Triumph three-speed gear box is fitted and all-chain transmission. In both models the mudguarding has been somewhat improved, there being valances for the front guard, while the rear guard is wider. Four sidecar models are shown, and one of these is equipped with the Triumph gear box, all-chain transmission is provided, and the Lucas Magdyno. A transmission shock absorber is now fitted to both chain and belt-driven models. Among the interesting parts shown on the stand is an example of the spring for the Gloria sidecar. It is of the enclosed coil spring variety, and is provided with a check spring of volute pattern, which should do much to increase the comfort of the passenger in the sidecar, and relieve the chassis from strain.



Little or no mud should be able to get past the new Triumph guard. Note also the enclosed fork springs.



An improved fork spring system and new pattern guards are the most noticeable alterations in the chain-drive 4 h.p. Triumph.

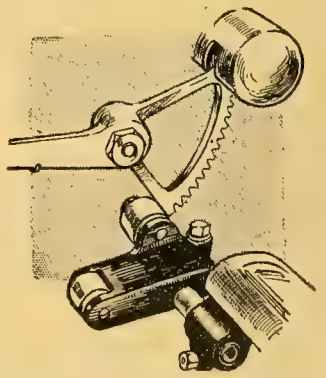
2½ h.p.; 64×70 mm. (225 c.c.); single-cylinder two-stroke; petroil lubrication; Triumph carburetter; chain-driven Maglita; two-speed countershaft gear; chain and belt drive; Dunlop 24×2¼in. tyres.

This has long been a popular and economical solo mount for both sexes. Fitted with the Maglita lighting and ignition set, it is altogether a thoroughly attractive little proposition, possessing excellent features of design and the wonderful Triumph finish. Noteworthy points are the size of the rear brake shoe and the peculiar method of actuating the change-speed, which is through a Bowden pattern lever on the handle-bars.

P. and M. (74.)

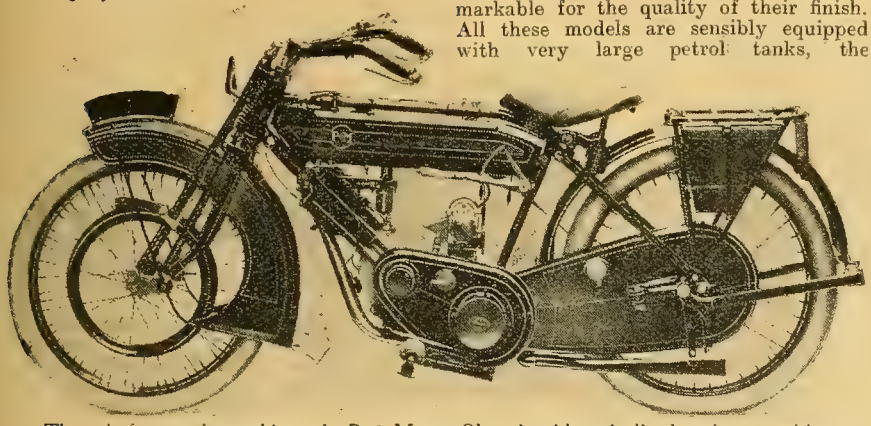
3½ h.p.; 83×89 mm. (498 c.c.); single-cylinder four-stroke; side-by-side valves; mechanical lubrication; B. and B. carburetter; E.I.C. chain-driven magneto; two-speed expanding clutch gear; chain drive; 26×2½in. tyres. Price £125.

Phelon and Moore, Ltd., 4, Berners Street, London, W.1.—Minor alterations only have been effected in the popular 3½ h.p. P. and M. The front brake is now a shoe of compressed Ferodo operating in a dummy belt rim on the wheel, and another improvement is found in the cushioning device incorporated in the engine sprocket. A feature of this machine is, of course, the mechanical lubrication, which consists of a pump positively driven by a worm formed on the exhaust cam wheel. This pump



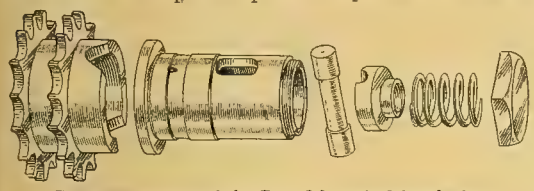
Rubber buffers on the P. and M. kick-starter which act as stops at either end of the stroke.

The Olympia Show.—



The only four-stroke machine—the P. & M.—at Olympia with an inclined engine, a position adhered to by its designers since its inception well over a decade ago.

forces oil alternately to the cylinder and to the big end, and not the least of the advantages attained is the gain in oil economy. Another interesting feature is the hand brake ratchet in connection with the brake pedal, by means of which the contracting band rear brake may be left on without the driver having to keep a continual pressure upon the pedal. For sidecar use in hilly country, this is a refinement which proves particularly useful. If it is so desired, Lucas dynamo lighting may be provided as an extra, and the small cylindrical dynamo is housed over the crank case immediately behind the cylinder and driven by an enclosed chain from the magneto drive. Two sectioned engines are also exhibited, and the operation of the mechanical lubricator is demonstrated by an electrically-driven model causing considerable interest and attracting a crowd of spectators. Another interesting small point is that the tank is now finished in a benzole resisting enamel, a curious fact being that only a green finish can be obtained in this special material. A subsidiary hand pump is also housed in the tank, to supplement the mechanical lubricator should occasion arise.



Component parts of the P. & M. cush drive device.

BOWN. (174.)

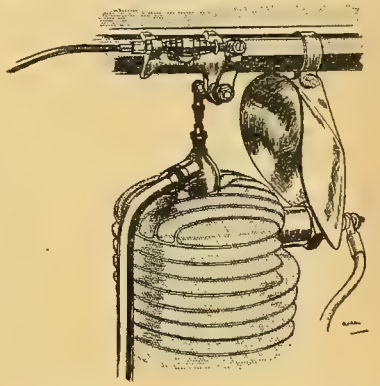
2½ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; flywheel magneto; two-speed Sturmey-Archer gear, with clutch and kick starter; chain and belt drive; 26×2¼in. tyres. Price £68.

Bowns, Ltd., 301, Sumner Lane, Birmingham.—The Bown, which has enjoyed a distinct vogue in the past, has been supplemented for this season by two larger models, equipped with 2¾ h.p. and 4 h.p. Blackburne engines respectively. They are good-looking and workmanlike machines, well fitted together, and remarkable for the quality of their finish. All these models are sensibly equipped with very large petrol tanks, the "saddle" tank of the 4 h.p. holding no less than two and a half gallons. The mudguards are also noticeable for their width. Tanks in both cases are enamelled biscuit, the colouring picked out in chocolate and gold. A careful examination discloses several very clever little fittings on these machines. For example, the foot brake is one of the very few belt rim brakes in the Show which possesses an absolutely direct pull. There is a loop in the middle tube of the Bown frame, which enables the Villiers engine to use any size of sparking plug. The petrol filter at the rear of the tank on the 4 h.p. model is equipped with an ingenious automatic valve, enabling the rider to detach and clean his filter when the tank is full without losing a drop of petrol. Altogether, the new Bown four-stroke models bid fair to surpass the reputation which the little two-stroke has already earned.

NEW HUDSON. (75.)

2¼ h.p.; 60×72 mm. (211 c.c.); single-cylinder two-stroke; drip feed lubrication; B. and B. carburetter; chain-driven magneto; two-speed New Hudson gear; chain and belt drive; 24×2in. tyres. Price: Tourist and sports £75; racing £85.

New Hudson, Ltd., St. George's Works, Icknield Street, Birmingham.—This firm's popular machines are offered in three separate patterns for 1921, of which the special racing model is quite a new divergence. It has a specially balanced flywheel and crankshaft, an aluminium piston, and is guaranteed to be capable of fifty miles per hour. Visitors will notice that the discs fitted to the wheels of this model are several inches less in diameter than the wheel rim; the designer asserts that these "three-quarter discs" entirely prevent side winds from affecting the steering. No silencer is fitted to the racing model. There are not many alterations in the layout of the tourist and sports models. A small petrol injector is combined with the release valve, and an aluminium wind scoop is hinged to the top tube immediately above the sparking plug; it is easily swung out of the way should the plug require attention, and considerably assists in cooling it. The angle of the footboards has been altered on the touring model in the interests of comfort, and stops are now fitted to keep the feet in place. Leg shields are standard. The sports model has a semi-T.T. bar and footrests instead of footboards. Some of the racing models have their discs, flywheel, and tank finished in red, white, and blue.

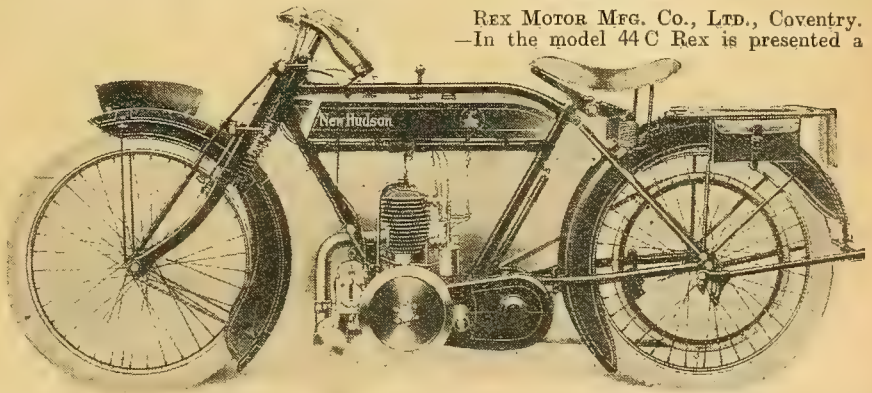


Cooling of the sparking plug is provided for on the New Hudson two-stroke by an air deflector under the tank.

REX. (84.)

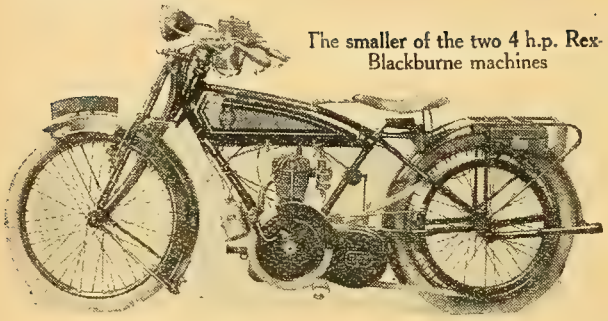
4 h.p.; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; hand pump lubrication; B. and B. carburetter; M-L chain-driven magneto; three-speed Sturmey-Archer gear box; chain and belt drive; 28×3in. tyres. Price £133 13s.

Rex Motor Mfg. Co., Ltd., Coventry.—In the model 44 C Rex is presented a

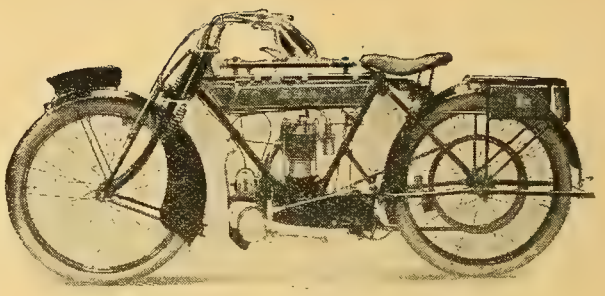


A sporting model New Hudson with semi-T.T. bars and footrests.

The Olympia Show.—

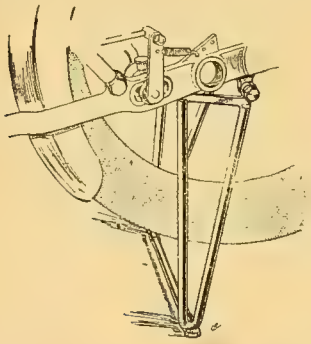


The smaller of the two 4 h.p. Rex-Blackburne machines



Chain and belt driven 2¾ h.p. single-cylinder Bradbury

dual-purpose mount of attractive appearance. With a view to its employment with a sidecar, the lugs for attachment are built into the frame, which is specially designed to give a low saddle position. The large diameter and length of the steering head is a good feature, which should be noted. Brampton spring forks are adopted as standard, and particularly good features are the strong construction of the hubs and the large size of the lubricators. Each hexagon screwed plug is plainly marked "fill with grease," so that the novice need be under no misapprehension as to the method of lubrication. Similar to this model is a lighter machine known as the model 44 L, the same engine and transmission being employed, but 26in. wheels are fitted, shod with 2½in. tyres. The tank on this model is not quite so large.

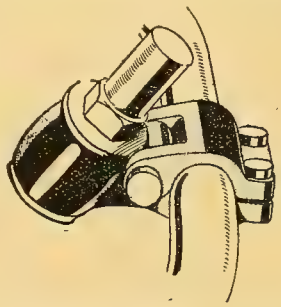


A new, light, but strong rear stand is fitted to the all-chain Rex outfit.

These two machines are very similar in appearance.

8 h.p.; 85×88 mm. (998 c.c.); twin-cylinder four-stroke; side-by-side valves; hand pump and drip feed lubrication; B. and B. carburetter; M-L chain-driven magneto; three-speed Sturmey-Archer gear; chain drive; 28×3in. tyres. Price £185 18s.

There is also an 8 h.p. machine known as model 55 CD, and constructed purely for sidecar use. Again the Blackburne engine is employed. Transmission is by roller chain throughout, the final drive being semi-enclosed, with a cushioning device incorporated in the rear sprocket. On this model a Ferodo-lined contracting band brake of large diameter is incorporated in the rear wheel, and interchangeable and detachable wheels are fitted as standard. Engine lubrication is by hand pump and suction feed, so that the regular supply can be supplemented when desired. This model may also be obtained with chain and belt transmission, when it is known as model 55 BD.

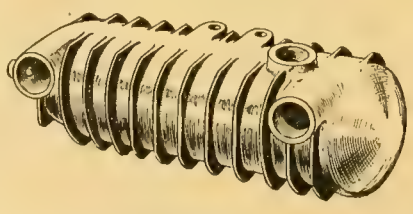


Details of the Rex adjustable handle-bar.

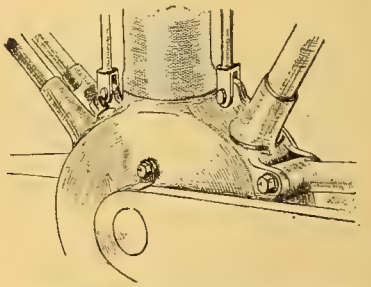
BRADBURY. (60.)

6 h.p.; 74.5×86 mm. (750 c.c.); twin-cylinder four-stroke; side-by-side valves; hand pump lubrication; B. and B. carburetter; C.A.V. chain-driven magneto; three-speed Bradbury gear; chain and belt drive; 650×65 mm. tyres.

BRADBURY AND CO., LTD., Wellington Works, Oldham.—Bradbury machines have for many years attained a name in the world of motor cycle manufacture, especially where a mount having at once great strength and proved reliability is required. Naturally, the 6 h.p. sidecar machine is the principal feature on the stand, because it represents sound and well-tried practice in sidecar outfits, and is essentially made to stand up to the exigencies of everyday hard work. Great strength is apparent, not at the expense of accessibility nor by the introduction of numerous additional tubes or stays, but by sheer merit of sound design and ample proportion. The engine has detachable heads, each held down by a single bridge and two long bolts, so that decarbonising is easy and takes little time. Both valves are at the side, and operated by disc-ended tappets offset to avoid pits being formed by the hammer of the valve stems, while a sturdy cast aluminium silencer is bolted beneath the frame and heavily ribbed to provide additional cooling surface. Light chain guards protect the drive to the driven sprocket, within which the expanding brake is housed. It is the sidecar suspension, however, that is one of the principal features, for beside the twin semi-elliptics for the third wheel, inverted semi-elliptics are interposed between the body and the frame, while coil springs are used at the front.



Radiating fins are provided on the large cast aluminium silencer of the 6 h.p. Bradbury.



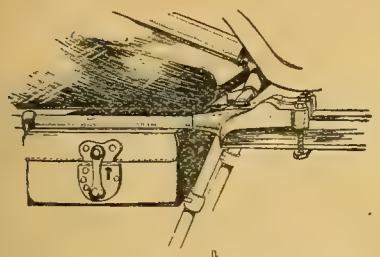
On the Bradbury the frame lugs are cast in one with the crank-case.

2¾ h.p.; 74.5×80 mm. (349 c.c.); single-cylinder four-stroke; side-by-side valves; hand pump lubrication; B. and B. carburetter; chain-driven magneto; three-speed Bradbury gear; chain and belt drive; 26×2¼in. tyres.

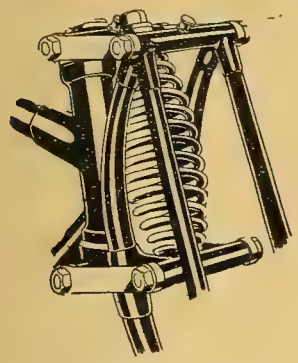
4 h.p.; 89×89 mm. (554 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; chain-driven magneto; three-speed gear; chain drive; 26×2½in. tyres.

Beside the twin a 4 h.p. single-cylinder engined sidecar model on similar lines is shown, the exception being that the head of the cylinder is not detachable. A 2¾ h.p. model also is a single-cylinder, but the design is similar to the twin, to the cylinders of which the single-cylinder of this model bears a close resemblance. Apart from the cylinder, however, the fact that the crank case is an integral part of the frame, and bears lugs for the two down tubes as well as the single seat-pillar, provides sufficient distinction. Both sidecar machines are chain-driven, but the solo model has chain and belt.

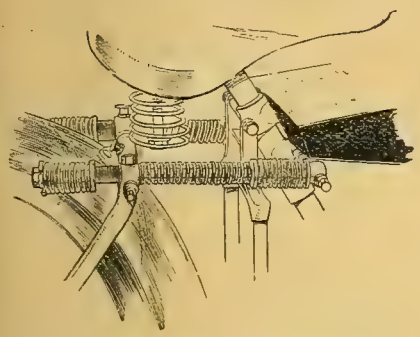
Typical Twin Sidecar Outfits.



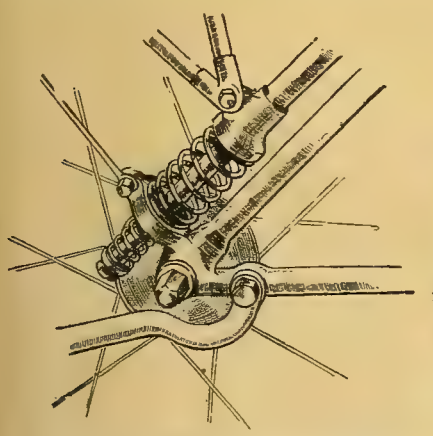
An ideal position for a tool bag—in the centre of a spring frame, as on the Raleigh.



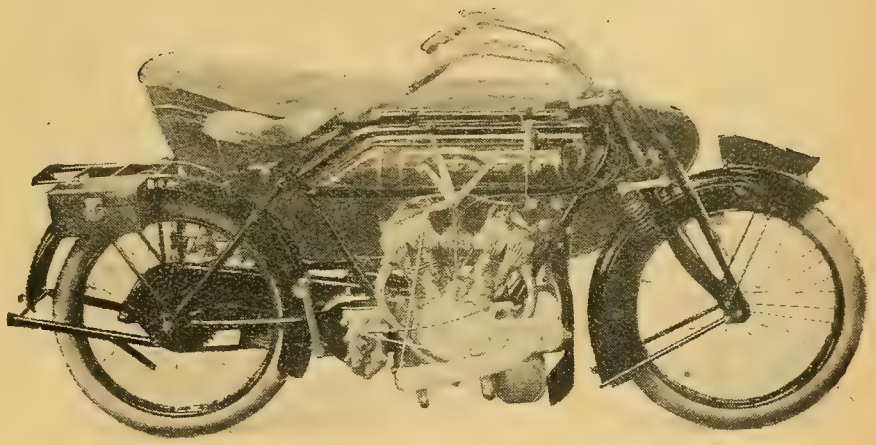
A single large spring now takes the load on the B.S.A. fork.



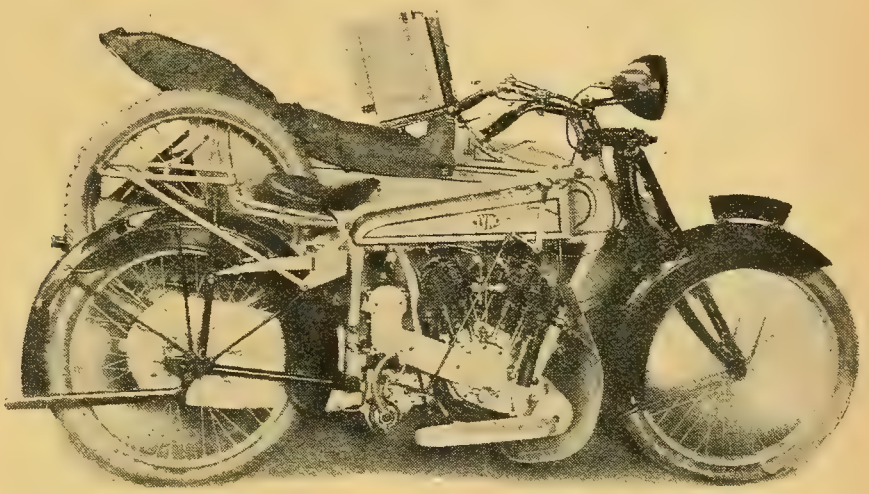
Very simple, but most efficient, is the Hobart spring frame, a detail of which is shown above.



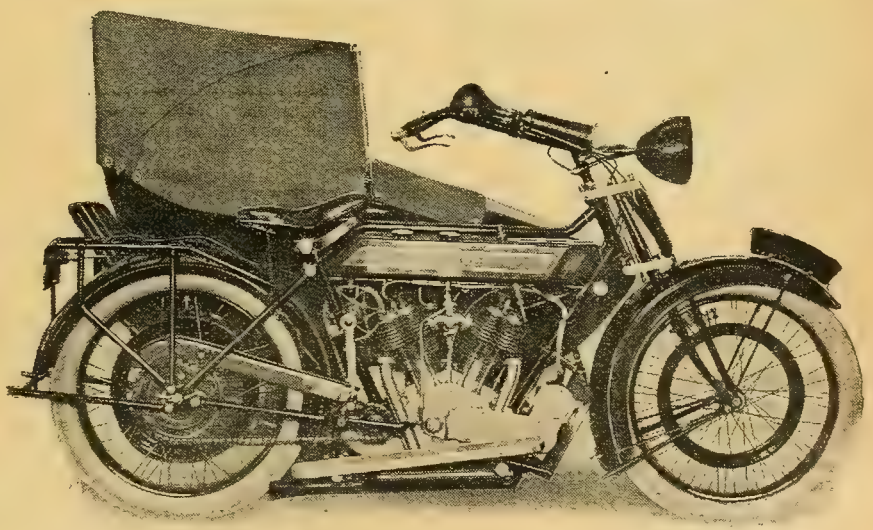
Showing the system of springing the rider and carrier on the new 4 h.p. Sheffield-Henderson.



Large radiating fins and an improved silencer are the most obvious detail alterations on the 6 h.p. Bradbury; a Grindlay sidecar is fitted.

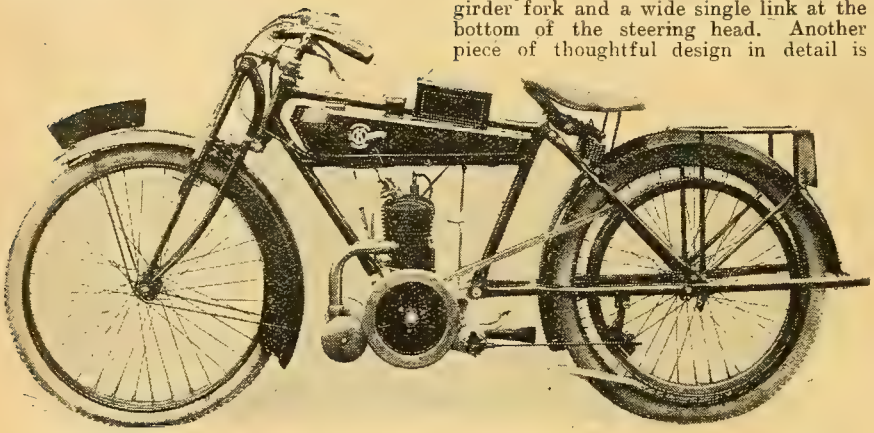


8 h.p. engine, spring frame, including spring sidecar wheel, interchangeable wheels and Magdyno, are included in the specification of the Clyno.



Valve side of the 8 h.p. Royal Enfield sidecar outfit. The side-by-side valve engine is manufactured by Vickers, Ltd.

The Olympia Show.—

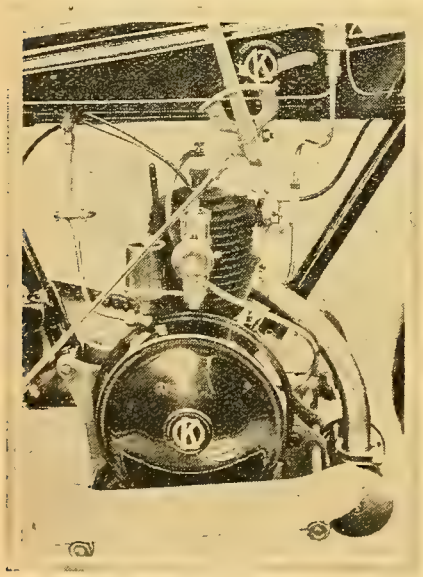


The lowest-priced lightweight at last year's Show, the O.K. Junior, improved in minor details, again attracts attention on account of its price and quality.

O.K. JUNIOR. (101.)

2¼ h.p.; 67×70 mm. (246 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; chain-driven magneto; single-speed gear; belt drive; Hutchinson 25×2in. tyres. Price £50 8s.

HUMPHRIES AND DAWES, LTD., Hall Green Works, Birmingham.—As an example of a simple machine at a really popular price, the O.K. Junior merits



The handsome flywheel cover of the O.K.-Villiers two-speed model is indicative of the general refinement of this moderately-priced mount.

close attention. The engine, which is manufactured by the O.K. people, is a very clean-looking and simple piece of work, and has such refinements as a release valve with a duct leading to the exhaust pipe and a carefully-arranged system of drip feed lubrication. Although it is offered at a very low price, the motor cycle shows evidence of careful thought in the design. The O.K. spring forks are fitted, and are very neat and simple. They are arranged with a coiled leaf spring controlling the upper end of the girder fork and a wide single link at the bottom of the steering head. Another piece of thoughtful design in detail is the petrol tank filler cap, which is raised upon the top of the tank in the form of a short tube 2in. in diameter and 2in. high, thus enabling the tank to be filled brimful without splashing. Under these conditions the tank holds 1 gallon 3 pints, which is sufficient for 140 miles or more.

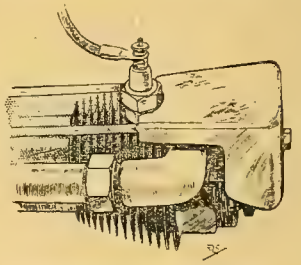
Brake pedal and front support for the foot-rests of the O.K.

Other models are made, having the well-known Villiers engine with flywheel magneto. With a plain two-speed gear the price is £59 17s.; and with Albion two-speed gear, clutch, and kick-starter, £67 4s., all of which prices are considerably below the average.

BROUGH. (64.)

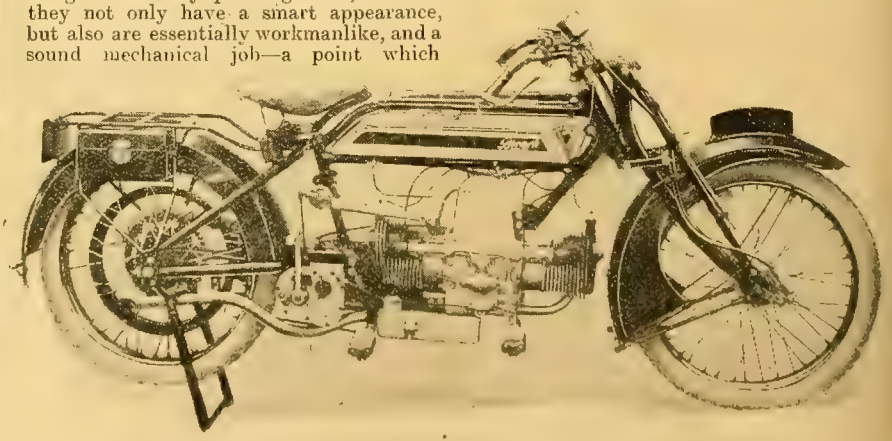
5 h.p.; 70×90 mm. (690 c.c.); twin-cylinder four-stroke; side-by-side valves; hand pump lubrication; Amac carburetter; Thomson-Bennett gear-driven magneto; three-speed Sturmey-Archer gear; chain drive; 650×65 mm. tyres.

W. E. BROUGH AND CO., Basford, Nottingham.—On the Brough stand there is the overhead valve 3½ h.p. and the large 5 h.p. model G. Both machines are designed on very pleasing lines, so that they not only have a smart appearance, but also are essentially workmanlike, and a sound mechanical job—a point which is not without considerable value in the eyes of the possible purchaser. The 5 h.p. flat twin engine has the two cylinders considerably staggered, and carried rather higher than is usual. On the 5 h.p. model there are a number of fairly thick fins, especially around the valve ports, which are placed on the upper side of the engine. The valves are above and horizontal, in which position they are accessible—the adjustment and tappet gear particularly so. From the ports short pipes are cast with the cylinders, and curve away to the main exhaust pipe below the engine. Either aluminium or steel pistons are optional, according to the work to which the purchaser desires to put the machine, but both are fitted with two piston rings at the top and a single keeper ring to secure the gudgeon pin from endwise movement. An interesting point in the design is the aluminium inlet pipe, which is secured by a C spanner nut to the valve port at the outer end, but is socketed in a special packing washer at the crank case end, allowing for differences in expansion. The second model is a modification of the well-known 3½ h.p., which differs from its larger brother, in that there are fewer fins on the cylinder head, and that the valves are in the head itself, and are operated by rocking levers and long push rods, a small aluminium cover-plate protecting the mechanism for each.



The overhead valve mechanism of the Brough is protected by a neat cover.

A part of the inlet pipe is cast in the crank case, but the mixture is conducted to the ports by a pipe constructed on the same lines as that on the 5 h.p. The engine has a bore of 70 mm. and a stroke of 64½ mm., giving a cubical capacity of 496 c.c. The remainder of the specification follows that of the 5 h.p.



The latest model 5 h.p. flat twin three-speed Brough with all-chain drive.

The Olympia Show.—

A Simplex motor attachment applied to a Wolf bicycle.

WULFRUNA. (76.)

2¾ h.p. Blackburne; 71×88 mm. (349 c.c); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; C.A.V. chain-driven magneto; two-speed constant mesh gear; chain and belt drive; 26×2¼in. tyres. Price £99 15s.

Wulfruna Engineering Co. (1920), Ltd., Great Brickkiln Street, Wolverhampton. —Finished in black and gold the Wulfruna range of lightweights is attractive both in appearance and in specification. Of sound and orthodox design, the list of fittings includes Brampton forks, Blackburne engine, and Sturmey-Archer gear box. Large rubber-covered aluminium footboards are provided, and the low riding position with wide handle-bars proves very comfortable on the road. Three lightweight models are available, but the chief difference lies in the power units employed, model A having a Blackburne engine, model B a two-stroke Villiers engine (price £75), and model C the 2¾ h.p. J.A.P. engine (price £80).

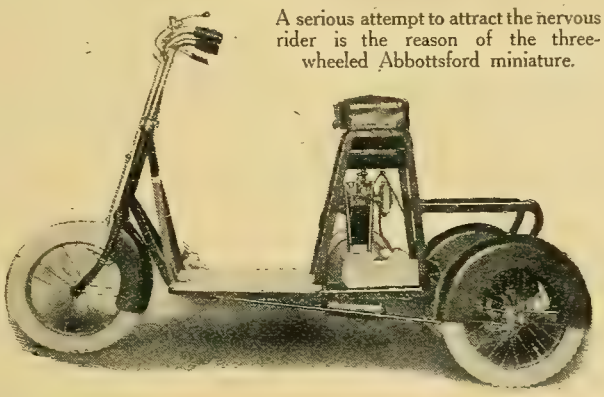
4 h.p.; 85 × 88 mm. (498 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; E.I.C. chain-driven magneto; three-speed sliding gear; chain and belt drive; 26×2½in. tyres. Price £110.

A larger model designed as a dual-purpose machine is fitted with a 4 h.p. Blackburne engine, and Sturmey-Archer three-speed gear box, although in other respects it is very similar to the lightweight models. This also may be obtained if preferred, with the 4 h.p. J.A.P. engine, in which case the price is £100.

ABBOTTSFORD. (162a.)

1½ h.p.; single-cylinder four-stroke; overhead valves; drip lubrication; single-lever carburetter; chain-driven magneto; single-speed gear; chain drive; 16×2⅜in. tyres. Price £35.

A serious attempt to attract the nervous rider is the reason of the three-wheeled Abbottsford miniature.



Abbottsford Motor Scooter and Engineering Co., Ltd., 5, Surbiton Road, Kingston-on-Thames.—This is distinctly the smallest mechanically-propelled three-wheeler in the building. Just as there is a small but steady demand for the tricycle in the pedal cycle world, so will the Abbottsford make its appeal. But beyond the question of its suitability for the nervous or elderly rider, there lies the wide field of light delivery purposes. Goods to a weight of 168 lb. may be taken on the specially constructed carrier; and we should imagine that, intelligently used, it is an ideal substitute for the boy and tradesman's carrier cycle. A cone clutch and handle starter are provided, the drive from the tiny four-stroke engine being by chain *via* a countershaft to give the necessary gear reduction. On account of a tendency to sway on corners, the laminated rear springs have been shortened. However, they are still ample for comfort at any speeds the vehicle is likely to attain.

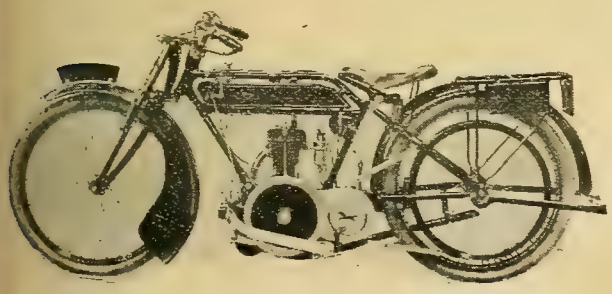
The engine is the John scooter power unit, which has a bore and stroke of 55 mm. and 60 mm. respectively, the capacity being 142.5 c.c. It has overhead valves and an outside flywheel.

DOUGLAS. (126.)

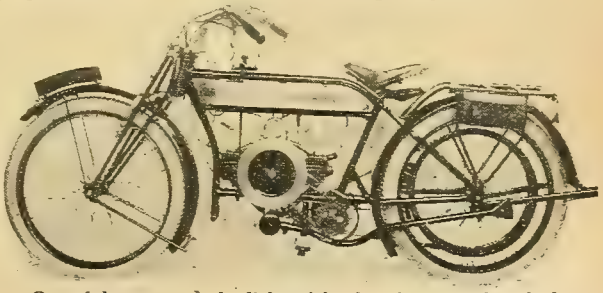
3½ h.p.; 68×68 mm. (494 c.c.); flat twin four-stroke; overhead valves; mechanical lubrication; Degory carburetter; gear-driven magneto; three-speed countershaft gear; all-chain drive; Hutchinson 650×65 mm. tyres.

Douglas Motors, Ltd., Kingswood, Bristol. — The new Douglas sporting engine has already been described in our columns. Only in its main lines does it follow existing Douglas practice. The valve gear is quite new. Both cylinder heads are detachable, and, above the valve rocker bearings (which form part of the casting), there is a small ribbed aluminium chamber, which is filled with oil about every thousand miles, and lubricates the valve rockers by a wick feed. Engine lubrication is also new: a worm-driven pump on the top of the crank case draws oil from the tank and forces it through a sight feed to two pipes which lead into the base of each cylinder. In addition to this, a hand pump is provided by which charges of fresh cool oil can be applied just above the moving cranks in case of necessity. A new front brake is also fitted, which takes the form of a bevel edge disc of about 6in. diameter on the hub, with a parallel motion V grooved shoe embracing about one-third of its circumference. Altogether, it is a most interesting machine.

Another model, with the same innovations, has an engine of 350 c.c. capacity, the bore and stroke being the same as the standard 2¾ h.p. engine.

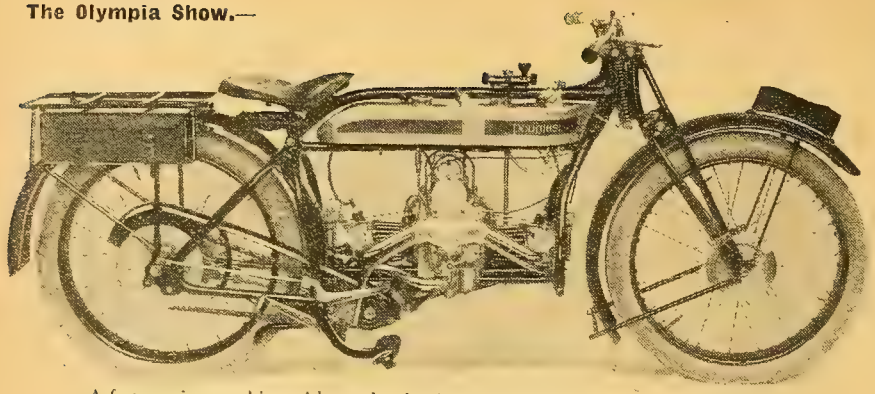


The Blackburne engined 2¾ h.p. Wolf chain and belt-driven model.



One of the most popular lightweights in existence. A revised model of the 2¾ h.p. W.D. Douglas is exhibited and sells at a moderate price.

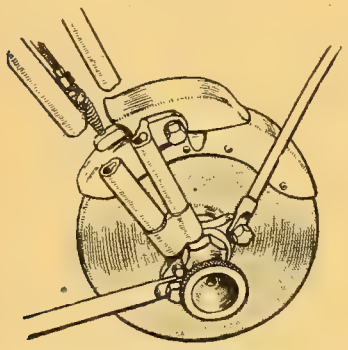
The Olympia Show.—



A fast touring machine with overhead valves and all-chain drive. Much interest centres round the new 3½ h.p. Douglas.

4 h.p.; 74.5×68 mm. (595 c.c.); flat twin; side-by-side valves; chain and belt drive. Price £130; with sidecar £170.

The 4 h.p. Douglas remains practically unaltered, for the experience gained



An unusual brake block is a feature of the Douglas front wheel brake.

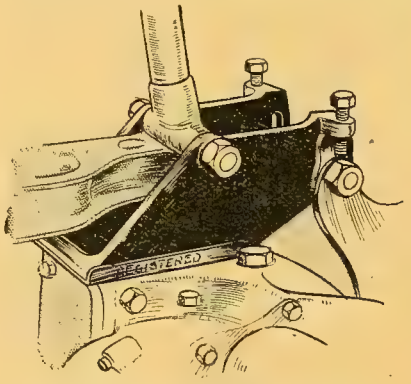
during the war under extremely unfavourable conditions has made the machine entirely satisfactory in its present form. Details of the 2¾ h.p. Douglas are so well known that they need not be repeated here. Besides supplying the three-speed kick-starter model, which is priced at £105, the makers are listing an improved W.D. model with plain two-speed gear at £85.

OLYMPIC. (32.)

2¾ h.p. Orbit; 68×72 mm. (264.5 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; chain-driven magneto; single-speed gear; belt drive; 26×2½in. tyres. Price £65.

2¾ h.p.; 68×72 mm. (264.5 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; chain-driven magneto; three and reverse, or four-speed Jukes constant mesh gear; chain and belt drive; 26×2½in. tyres. Price £84.

Olympic Cycle and Motor Co., Ltd., Granville Street, Wolverhampton.—This exhibit comprises single gear and multi-speed lightweights fitted with the Orbit engine. The most interesting item of the specification is the swinging bracket on which the gear box is mounted in the multi-speed models. The bracket swings on a pivot pin; its arc of travel is adjusted by two set screws locked by four nuts, so that the chain tension can be set to very fine limits without any possibility of disturbing the alignment. Any make of gear box can be fitted to this bracket, and the requisite variations of chain or belt line are easily made with the aid of an adapter boss for the flywheel. Actually the gear box fitted to the Show machine



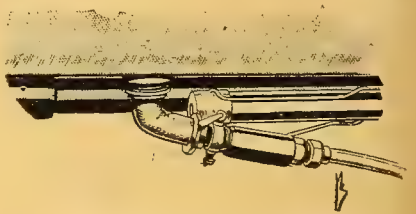
The gear box on the Olympic may be swung to the rear by unscrewing the two set screws on the right, thus easily tightening the primary drive.

is a Jukes four-speed with gate change; the gears are in constant mesh; the lever is self-centring, and is made of two parts bolted together so that the position of the lever can be adapted to suit the rider's taste. It is intended to fit a three-speed and reverse box to a new model with four-stroke engine for sidecar work, which is in course of preparation. The multi-speed model weighs 195 lb. fully equipped for the road, and inclusive of a kick-starter and clutch. The single gear model weighs only 146 lb. All the frame tubes are straight; every nut and pin on the machine is spring-washered; the mudguards are very wide, and the flywheel is enclosed in an aluminium casing. A Swan spring fork is fitted, which is worth examination, as its suspension is obtained by two helical springs enclosed in a telescopic case which is filled with grease and is air-tight, so that a certain pneumatic action is obtained.

WOOLER. (33.)

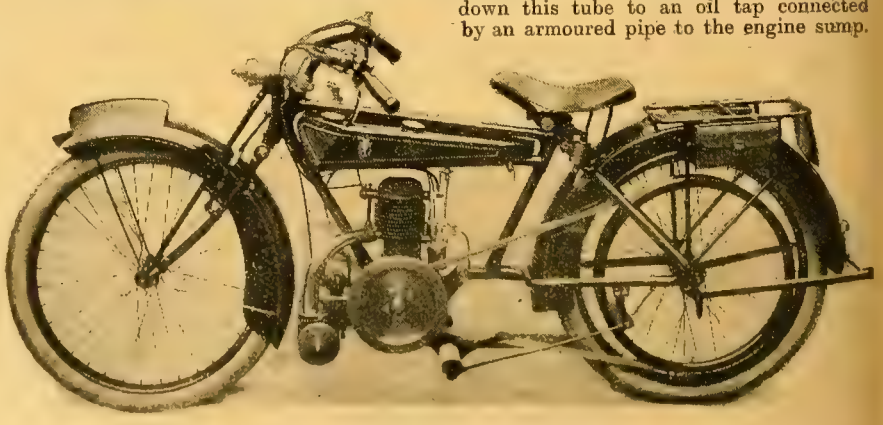
2¾ h.p.; 60.5×60 mm. (349 c.c.); twin-cylinder four-stroke; side exhaust, overhead inlet valves; mechanical lubrication; Amac carburetter, B. and B. (touring); gear-driven magneto; variable speed expanding pulley gear; belt drive; 26×2½in. tyres. Price £102 semi-T.T.; £107 10s. touring; £112 Brooklands.

Wooler Motor Cycle Co. (1919), Ltd., Alfreton.—The Wooler exhibit comprises



Just below the petrol tap on the Wooler there is a simple filter,

four models, namely, the standard touring model, which is practically identical with the successful machines of 1920, semi-T.T. (belt-driven), a Brooklands model (belt-driven), and the completely new Colonial model described below, which has a three-speed gear box and single chain drive. The main improvements in the three belt-driven models include a slight alteration in the inlet valve domes, which makes it easier to get at the valve cotters. An ingenious crank case release is provided through a hole drilled in the magneto driving gears. The outlet is connected by a rubber pipe to a hole in the middle tube of the middle saddle tube. Released vapour travels down this tube to an oil tap connected by an armoured pipe to the engine sump.



A simple single-speed lightweight—the Olympic.

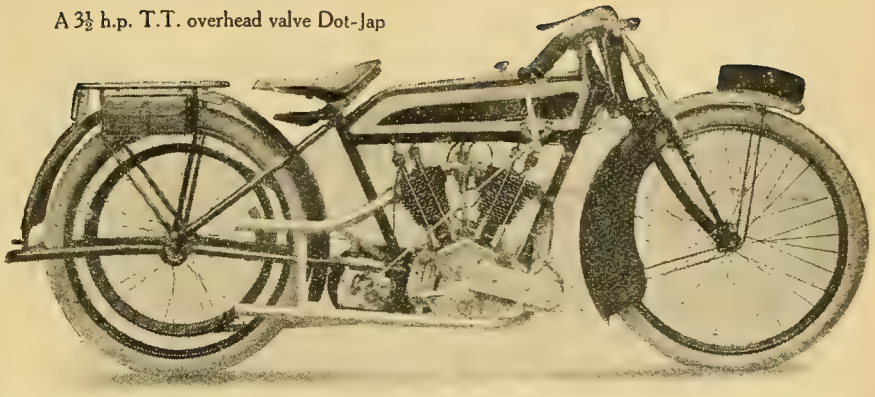
The Olympia Show.—

The lamp and generator are mounted on a neat fitting which raises them a little, and the rays from the air vents in the base of the head lamp illuminate the speedometer, which is mounted in a circular clip on the left-hand side of the fork crown. The horizontally-opposed twin-cylinder engine and variable pulley gear remain as before, a drop of 100% in the ratio being available. The special Brooklands model is supplied under a speed certificate of not less than fifty-five miles per hour. The belt-driven models weigh 168 lb. The machine is designed with a special eye to economy and accessibility, the makers claiming that the average cost of oil, petrol, tyres, and belt for the first year does not exceed ¾d. per mile.

A new Colonial model has a three-speed gear box housed in the sump and running in oil. A disc clutch is combined with the gear box, and is hand-controlled. On this model a thrower disc on the engine-shaft is substituted for the chain lubrication employed on the belt-driven models. The single chain to the rear wheel is adjusted by sliding the power unit bodily on the two tubes composing the engine cradle. This adjustment is locked by two bolts, and the exhaust pipe and box slide with the engine. A spare chain is carried in a light aluminium drum attached by a single control bolt to the base of the sump. The weight of this machine is 190 lb., and gear ratios provided are 4¾, 7½, and 15½ to 1 respectively.

Adjustable handle-bars are standard on the Woolers at Olympia.

A 3½ h.p. T.T. overhead valve Dot-Jap



DOT. (28.)

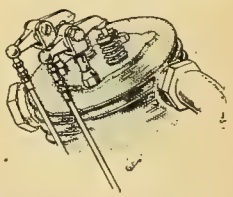
3½ h.p.; 70×64 mm. (492 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; E.I.C. chain-driven magneto; two-speed Albion gear; chain and belt drive; Hutchinson 26×2¼in. tyres. Price £120.

DOT MOTORS, Ellesmere Street, Hulme, Manchester.—This is an entirely new model, clearly designed for the sporting solo rider. In bringing down the weight to 196 lb., Mr. Harry Reed deserves to be very warmly congratulated. Although the machine is of low build, and possesses ample crank case clearance, the cylinders may easily be removed without dismounting the engine, and, although light in weight, it is equipped with all refinements, including a two-speed gear box incorporating a clutch and kick-starter. Consequently it is suitable not only for use in this country but for the Overseas soloist as well.

An even more sporting model than that just described is provided with footrests instead of footboards, and the attractive overhead valve 348 c.c. J.A.P. engine, which is dear to the heart of the speed man. Curiously enough, it weighs just 1 lb. more than the model just described. A similar machine is shown equipped in exactly the same way as the 196 lb. model, except for the fitting of a 2¾ h.p. single-cylinder J.A.P. engine.

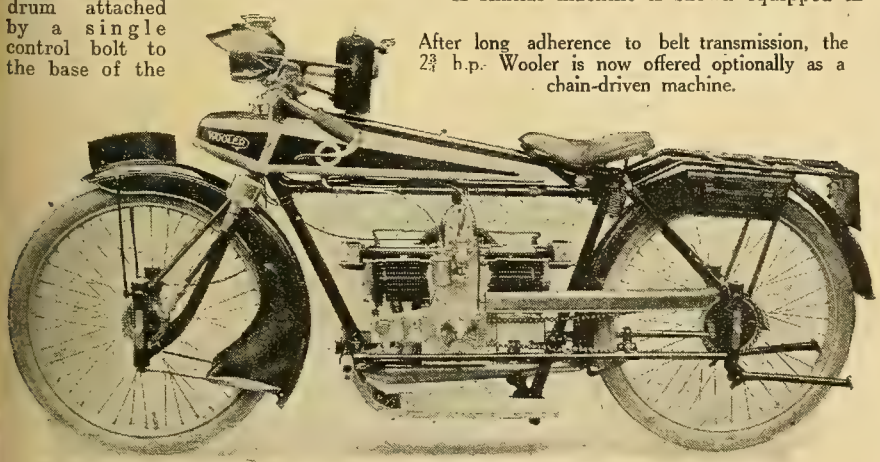
8 h.p.; 85.5×85 mm. (976 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; E.I.C. chain-driven magneto; three-speed Sturmey-Archer gear; all-chain drive; Hutchinson 28×3in. tyres. Price £200 with sidecar.

This well-known sidecar model is fitted with the best components, such as the 8 h.p. J.A.P. engine, Sturmey-Archer gear box, including clutch and kick-starter. It is an attractive proposition. The gear box is provided with an adjusting screw, which is an indispensable feature, greatly facilitating the tensioning of the front chain. The back wheel is provided with a knock-out spindle, and is consequently easily adjustable, but the wheels are not interchangeable. Mr Reed is a man who has thoroughly studied Continental requirements. Not only is the new lightweight twin specially suitable for Continental work, but the sidecar shown is fitted with interchangeable connections, so that it can be fitted on either side of the machine.



Overhead valve gear of the 3½ h.p. twin J.A.P. engine of the Dot

After long adherence to belt transmission, the 2¾ h.p. Wooler is now offered optionally as a chain-driven machine.



MOHAWK. (131.)

4 h.p. King Dick; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; hand pump lubrication; B. and B. carburetter; chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×2½in. tyres.

MOHAWK CYCLE CO., LTD., Alexandra Road, Hornsey, N.8.—Each year sees the number of purely pedal cycle firms at Olympia dwindling away—not because they are going out of business, but because they recognise that all their cycle customers are also potential motor cyclists, and that, when the satisfied owner of a pedal cycle contemplates donning goggles, his first thoughts will turn

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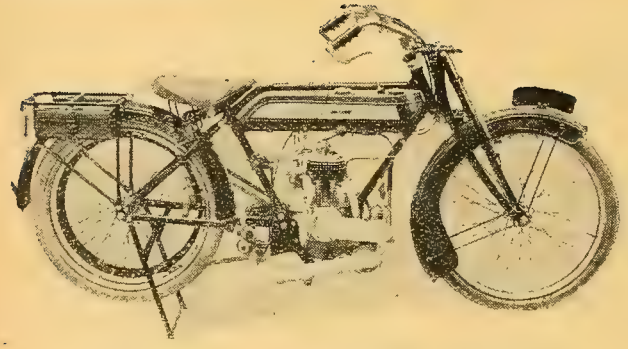
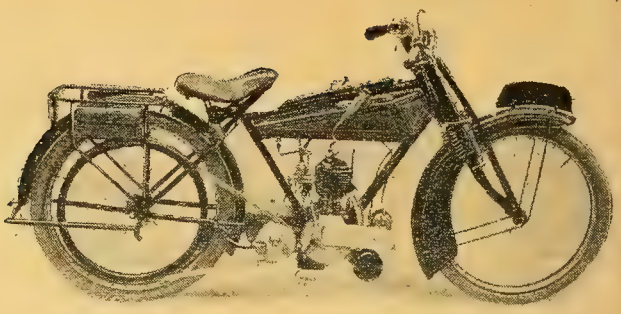


The Mohawk is an attractive mediumweight with a 2¾ h.p. J.A.P. engine.



A neatly designed solo mount is the 2¾ h.p. two-speed Diamond-Jap.

to the makers of his present cycle. Last year the makers of the Mohawk cycle exhibited one lightweight, but production difficulties prevented anything in the nature of a serious output. This year, however, they are entering wholeheartedly into the mechanically-propelled side of the industry, and already they have plant going on with the production of their new range of models. The machine specified above is intended for dual-purpose work, and, beyond the excellence of the specification and an unusually strong frame, there is little to comment upon.

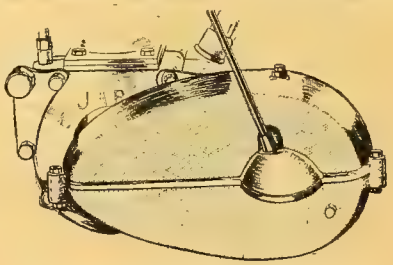
2½ h.p. Villiers; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; flywheel magneto; two-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×2¼in. tyres.

There are three conventional lightweights on this stand: (1) As above; (2) as above, but single-geared; and (3) with a 2¾ h.p. J.A.P. engine—but possibly greatest interest centres round the Economic cycle attachment. This is of American origin, but is shown attached to a specially strengthened British-built Mohawk cycle. The engine is an air-cooled flat twin two-stroke of 154 c.c., which carries its ignition *and lighting* generator in the flywheel. A chain takes the drive to the rear wheel through a most ingenious and simple cush drive. Coil springs form a triangle with apexes attached to the cycle rim. The chain sprocket drives to the centre of these springs.

DIAMOND. (98.)

2½ h.p.; 70×76 mm. (293 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; C.A.V. chain-driven magneto; two-speed Enfield gear; chain and belt drive; Dunlop 26×2½in. tyres. Price £84.

D.F. AND M. ENGINEERING CO., LTD., Diamond Works, Wolverhampton.—Amongst the firms who distinguished themselves just prior to the Show by setting up new records at Brooklands are the D.F. and M. Engineering Co., whose beautifully finished little J.A.P.-engined lightweight forms a centre of attraction. Model E embodies a J.A.P. engine and Enfield two-speed gear, yet, though the specification appears ordinary, there are many little details which distinguish the Diamond range from the average machine. A simple frame construction with straight sloping top tube gives a pleasing appearance, and duplex front down tubes are a well-known Diamond feature. These tubes are detachable, as also is the lower tank rail on which the tank is supported. A most ingenious feature is the method of fixing the Enfield countershaft gear. The gear is carried in an aluminium casting, which bolts up to a bracket suitable also for a standard countershaft gear. Both primary chains and the selective clutches are entirely enclosed in an aluminium



A neat casing encloses the Enfield two-speed gear and driving chains on the Diamond.

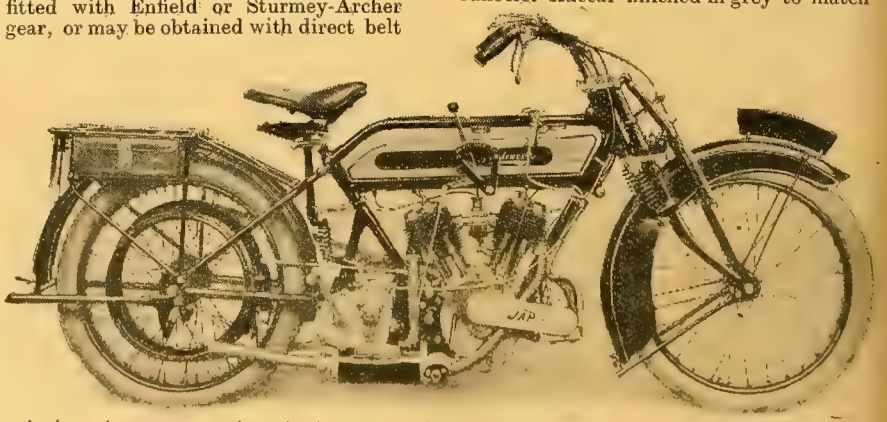
case, the top half of which is easily detachable, though great care has been taken to render the joint oil-tight. A simple heel brake and excellent mudguards complete the specification. The same machine can be obtained with Sturmey-Archer two-speed gear. Price so fitted is £89 10s. Three other similar mounts are staged, fitted with Villiers flywheel magneto engine; these are also fitted with Enfield or Sturmey-Archer gear, or may be obtained with direct belt drive at the figure of £61 19s. 168 lb. is the weight of the heaviest machine made by the firm.

HAZLEWOOD. (96.)

8 h.p. J.A.P.; 85.5×85 mm. (976 c.c.); V twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; M-L chain-driven magneto; three-speed countershaft gear; all-chain drive; Dunlop 28×3in. tyres. Price with sidecar £210.

HAZLEWOOD, LTD., West Orchard, Coventry.—A reputation for sturdy construction has been a Hazlewood characteristic for some years past, and the new 8 h.p. machine will do nothing to detract from this. A newcomer to the ranks of the 8 h.p. sidecar outfits is always a matter of interest, and the latest Hazlewood is a fine example of British construction.

The 8 h.p. J.A.P. engine which provides the power is coupled to a three-speed countershaft gear of the company's own construction, the multiple-plate dry clutch being operated by a pedal. A cast aluminium cover protects the primary chain, and the top run of the rear chain is covered by a well valanced guard. Outstanding features of the machine are the straight top tube concealed by a neat saddle tank, a large diameter drum brake on the rear wheel, a large cast aluminium silencer, and a simple but effective form of auxiliary saddle suspension. Mudguarding is well carried out, and the Druid type forks are of the latest pattern, including the compensated spring action. This machine is attached to a handsome Canoelet sidecar finished in grey to match



An imposing appearance is noticeable on the 6 h.p. Hazlewood. Observe the saddle suspension.

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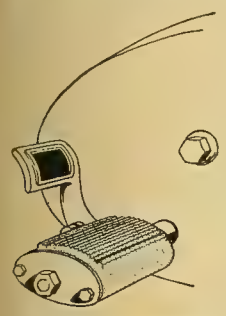
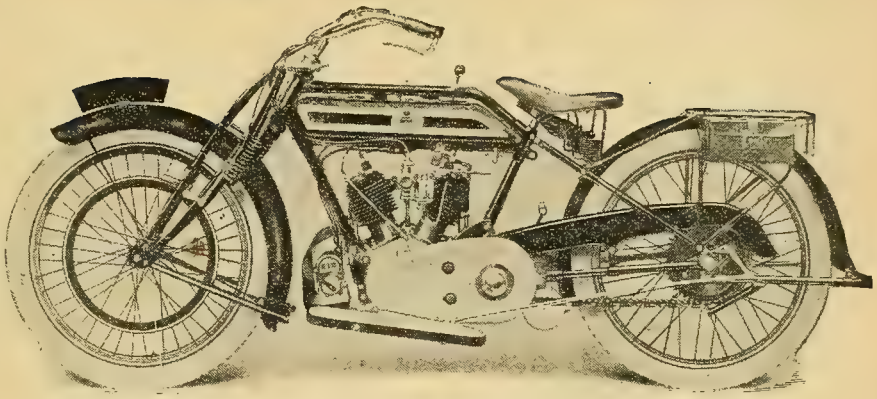
the tank, and the Hazlewood speciality of front lug reinforcement is, of course, included. The same machine may be obtained with final belt drive.

A 6 h.p. model is shown also fitted with a J.A.P. engine; it is similar to the machine described above, but has a dropped top tube and chain and belt drive. The price, complete with a rather lighter sidecar, is £186. The 6 h.p. machine is also shown as a solo mount with handle-bar controlled clutch and footrests instead of footboards; price £160. A gear box is shown in section, from which the spring tooth construction of the kick-starter is clearly visible.



Sturdy and conveniently placed brake-pedal on the solo Hazlewood.

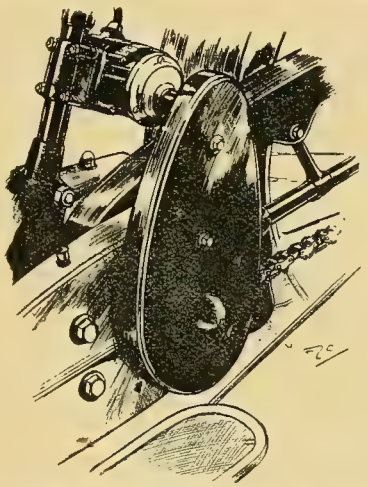


A mediumweight twin which is popular for solo as well as sidecar work. Note the rear brake of the internal expanding variety.

ROVER. (89.)

3½ h.p.; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; hand pump lubrication; B. and B. carburetter; E.I.C. chain-driven magneto; three-speed countershaft gear; chain drive; 650×65 mm. tyres.

THE NEW ROVER CYCLE CO., LTD., Coventry.—The Rover has always been immensely popular, and has gained a name for quiet and smooth running equalled by few single-cylinder machines. Minor alterations and detail improvements have been carried out, and all-chain drive is now standardised. A neat aluminium case encloses the first step, while the final drive has a guard on the upper portion only. A point about the Rover has always been the compact build; and a particularly comfortable riding position, including a low saddle, is an excellent feature. Large domed guards are fitted, and the foot brake is an internal expanding mechanism in a drum incorporated with the rear sprocket. It is operated by a pedal conveniently placed on the left side of the machine, the pedal on the right side operating the clutch. The front brake is notable for its simplicity, and consists of a fibre shoe operating in a dummy belt rim. This model may also be obtained single-geared with belt drive, or fitted with a Philipson pulley. A specially fast sporting machine is made.



On the 5-6 h.p. Rover a Lucas dynamo (fitted on the down tube) is driven by an enclosed chain from the countershaft. Cast aluminium footplates are fitted to the new model.

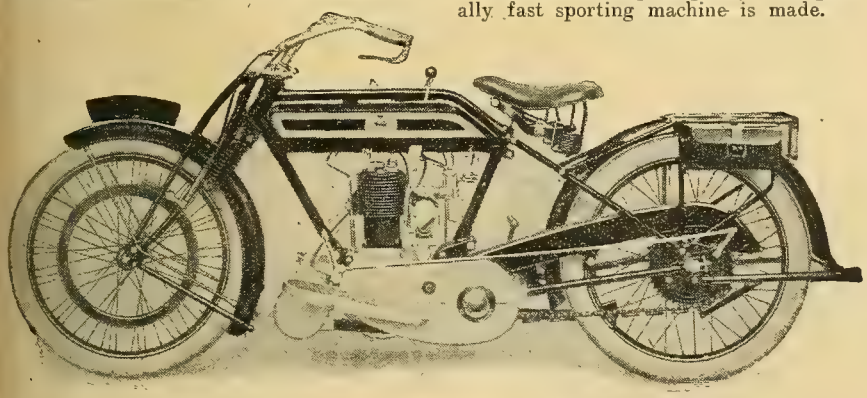
5-6 h.p.; 70×85 mm. (654 c.c.); twin-cylinder four-stroke; side-by-side valves; hand pump lubrication; Amac carburetter; E.I.C. chain-driven magneto; three-speed countershaft gear; chain drive; 28×3in. tyres.

A dual-purpose mount, which is popular with both solo riders and sidecarists alike, is the 5-6 h.p. Rover, fitted with a J.A.P. engine. In the general layout this machine is, however, similar to the single-cylindered Rover, though rather longer in the wheelbase. Transmission and brake are identical with those of the single-cylindered model, and large comfortable footboards are provided. An excellent finish characterises the Rover products, and the provision of larger wheels on this model is a feature which commends itself to many riders, and should result in enhanced comfort on the road.

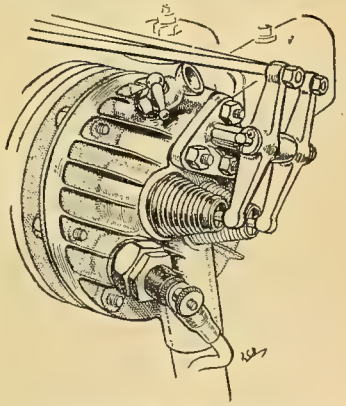
SKOOTAMOTA. (142.)

1½ h.p.; 60×44 mm. (125 c.c.); single-cylinder four-stroke; overhead valves; hand pump lubrication; single lever carburetter; C.A.V. gear-driven magneto; single-speed; enclosed chain drive; Wood-Milne 16×2⅜in. tyres.

GILBERT CAMPLING, LTD., 1, Albemarle Street, Piccadilly, W.1. — A plated machine reposing on a mirror forms a



With clean lines and sturdy appearance, the 3½ h.p. Rover is a typical example of a British dual-purpose mount.



Detachable cylinder head and overhead valves operated by push rods on the 1½ h.p. Skootamota engine.

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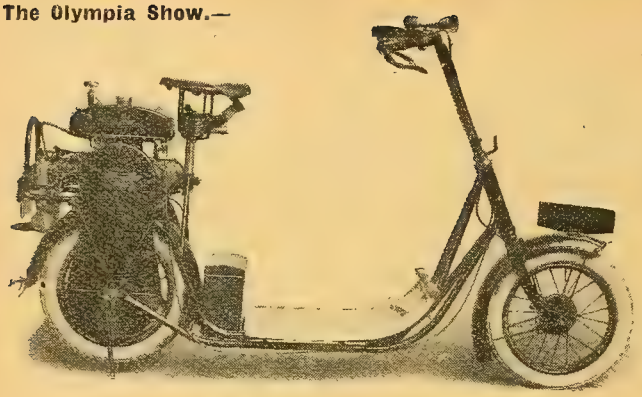
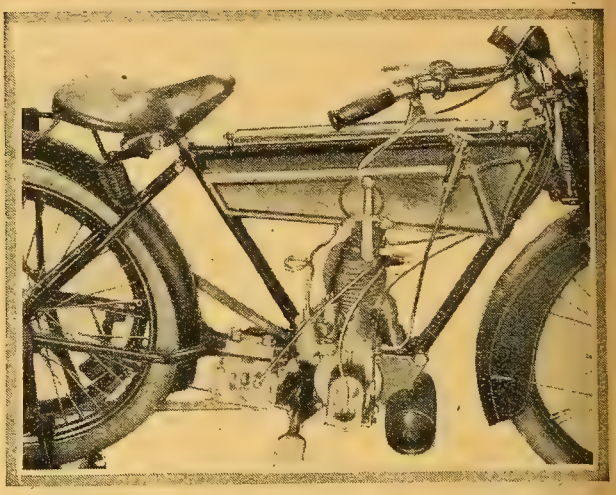


Small wheels, an entirely open frame, and a high efficiency engine, are features which attract so many to the Skootamota exhibit.



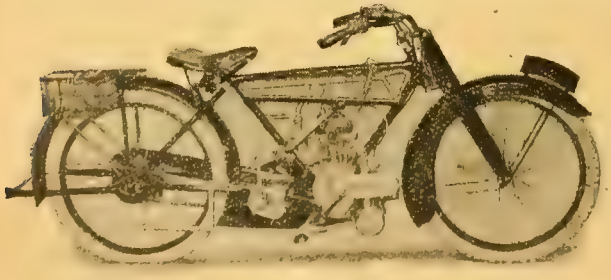
The simple two-stroke Beaumont two-speed mount A Wall engine is fitted in this case.

dazzling centre of attraction here. All the models shown have open frames and seats, and are provided with large size footboards which should assist greatly in shielding off dirt and dust. Even the scooter has been developed in divers ways in accordance with modern dictates. For instance, one model has plated disc wheel covers, whilst another specimen, which will appeal to ladies, is provided with a wicker basket on the handle-bars; another has a case neatly mounted on the three-ply wood footboards, whilst a further type is intended for express parcels delivery. The scooter sidecar alone remains as a possibility of the future! With a single-cylinder air-cooled engine disposed horizontally, and the petrol and oil tank mounted over it, the whole of the mechanism is actually astern of the rider. A guard is provided as protection for the roller chain—adjustable for tension—which transmits the drive from a sprocket on the camshaft to the rear wheel.

BEAUMONT. (163.)

2¾ h.p. Blackburne; 71×88 mm. (348 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; Ranbaken chain-driven magneto; two-speed Sturmey-Archer gear; chain drive; Kempshall 26×2¼in. tyres. Price £99 10s.

BEAUMONT MOTORS (LEEDS), LTD., Cleopatra Works, Harehills, Leeds.—There is a clean neatness about this all-chain drive lightweight that is very commendable. Detail, both in design and finish, is of a high standard, and, although the power-unit and gear box are proprietary units, the machine is in many ways distinctive. Both the handle-bar and pedal brakes actuate bands respectively internally expanding and externally contracting on a drum on the rear hub. The foot brake rod is of the (literally) straight pull type; and the pedal portion is long enough to afford great leverage. Arden spring forks and a wide flat tank, shallowing to the rear, are two noticeable features; while the width and more especially the extent around the circumference of the wheel of both front and rear mudguards are unusually great.



The lightweight 2¾ h.p. Beaumont is chain-driven. Observe the girder type spring forks.

2¾ h.p. Wall; 70×70 mm. (269 c.c.); single-cylinder two-stroke; Amac carburetter; direct-driven magneto; two-speed Roc gear; chain and belt drive; Kempshall 26×2¼in. tyres. Price £68 5s.

This model has been produced on simpler and cheaper lines, but at the same time it compares very favourably with any other exhibit of its type. In appearance rather similar to the other model, it lacks that touch of "luxury" that lies in the specification of its stable companion. No clutch or kick-starter is fitted, the final drive being by belt from a Roc two-speed gear box.

NEW SCALE. (130.)

4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; B.T.H. chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; Avon 26×2½in. tyres. Price £126.

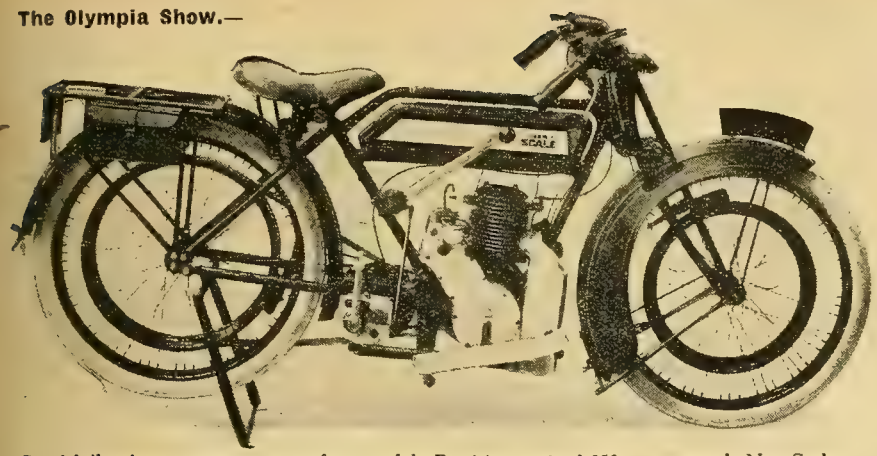
ROBERTS AND HIBBS, LTD., Bank Street, Droylsden, Manchester.—Manchester appears to have a distinct leaning towards startling colours for its motor cycle products. The recently introduced New Scale follows the lead of other factories in the same locality by adopting a vivid crimson colour scheme—with, however, a silver-grey panel on the tank which tones down the general effect very nicely. There is, however, a noticeable absence of unnecessary plating, and, combined with a simple, smooth outline, this machine should be very easy to keep in its original state of pristine brightness. Mudguarding, too, is very adequate. Although the New Scale embodies a very common combination of component parts—Blackburne engine, Sturmey-Archer gear box, etc.—it is quite a distinctive little machine. The amply proportioned dummy belt rim front brake, the neat clip-up front stand, and the inclusion of Brampton Biflex forks in the specification are indicative of the thoroughness of the design. With sidecar, the outfit sells at £160.

How a large silencer may be inconspicuously carried on a two-stroke is shown by this vertical expansion box on the New Scale.

3 h.p. Precision; 74×81 mm. (350 c.c.); single-cylinder two-stroke; sump lubrication; Amac carburetter; B.T.H. chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; Avon 26×2¼in. tyres. Price £94 10s.

The 350 c.c. Precision two-stroke power unit is an engine that possesses quite a considerable reserve of power when used in a solo lightweight. The natural sequence, therefore, is—attach a sidecar! This probability has been anticipated by Messrs. Roberts and Hibbs. They turn out their lightweight either suitable for sidecar work or actually as a sidecar outfit. Chances of strained frames and similar mishaps are obviously reduced by

The Olympia Show.—



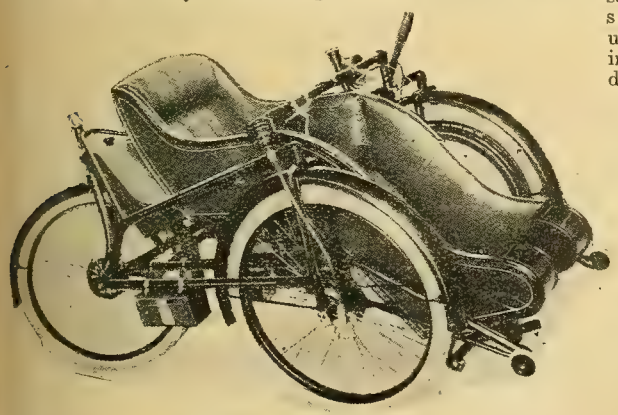
Special silencing arrangements are a feature of the Precision-engined 350 c.c. two-stroke New Scale.

this plan; and, in this case—a very important point—the usefulness of the machine for purely solo work is entirely unaffected. It remains light, low, and economical. Regarding details, there is little to note that has not been said before about the various well-known components utilised. A point, however, about the Precision sump system of lubrication is that, carrying oil in the engine, it allows a large capacity petrol tank to contain fuel only. On this machine an extremely large vertical silencer runs parallel with the cylinder.

DAYTON. (48.)

1½ h.p.; 57×63.5 mm. (161 c.c.); single-cylinder two-stroke; hand pump lubrication; Amac carburetter; Fellowes chain-driven magneto; single-speed gear; chain and belt drive; 25×2in. tyres.

THE CHARLES DAYTON MFG. CO., 221, High Street, Shoreditch, London.—In view of the number of men who are permanent invalids as a result of the war, it is interesting to see that the Dayton motor bath chair is now on the market as a production model after its initial essay last year. A small two-stroke engine is placed at the rear of the frame and drives a countershaft by a chain, the countershaft containing a clutch. From the countershaft the belt is taken to a rim on the near side front wheel, which is the only one through which power is transmitted. There is a free-wheel sprocket connected by a chain to a long lever on the left of the driver who can, by this means, easily start the engine. The single rear wheel steers, being connected to a tiller, on which also is the single throttle lever, the decompressor control, and the clutch control. One brake acts on a front wheel, the other on the rear wheel, both being contracting bands. On the all-weather model the footboards are closed in, and a Cape hood can be fitted, but on the second model separate small footplates are used, and can be set in one of several different positions.

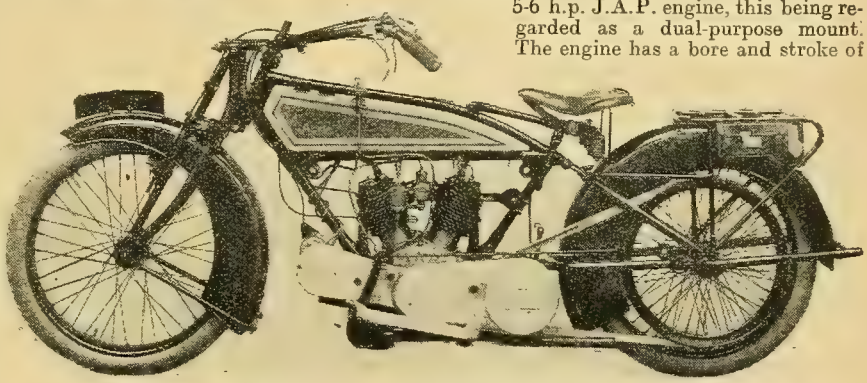


The Dayton invalid's motor tricycle has tiller steering and is driven by belt to the near side front wheel.

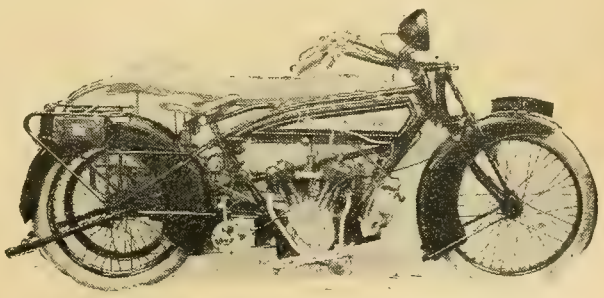
COVENTRY ACME. (85.)

8 h.p.; 85.5×85 mm. (976 c.c.); twin-cylinder four-stroke; side-by-side valves; pump and drip feed lubrication; B. and B. carburetter; M-L chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; 28×3in. tyres. Price with sidecar £213 15s.

COVENTRY ACME MOTOR CO., LTD., Earlsdon, Coventry.—Designed for use with a sidecar, the Acme is fitted with an 8 h.p. J.A.P. engine, Sturmey-Archer gear box, and chain and belt transmission. The sidecar lugs are built integral with the frame, and the steering head and lugs are steel stampings. Lubrication is carried out by suction through a sight feed lubricator, which is supplemented by a hand pump carried on the off side of the tank in a position convenient to the driver's hand. Brampton spring forks are fitted as standard, and wide mudguards with deep valances give ample protection to the driver and machine. The tank is of large capacity, accommodating 2⅓ gallons of fuel and 3⅓ pints of oil, so that on tour there is no necessity to be constantly filling up. So successful has this model proved during the past season that it has been decided to supplement it by a similar machine with a 5-6 h.p. J.A.P. engine, this being regarded as a dual-purpose mount. The engine has a bore and stroke of 70×85 mm., giving a cubic capacity of 654 c.c. In other respects the specification is identical with that of the more powerful model, and the same finish of black with a grey-panelled tank lined with gold is adopted. The two machines are known respectively as Model A and Model B, the price of the latter, complete with sidecar, spare wheel, and carrier, being £210 18s. An exceptionally long wheelbase is a feature of both Acmes that is not without advantages.



An imposing big twin, the 8 h.p. J.A.P.-engined Acme has a long wheelbase and spring saddle-pillar, both of which add to the rider's comfort.



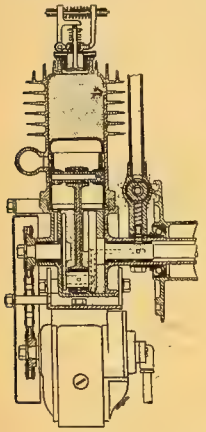
5-6 h.p. Acme J.A.P. three-speed chain and belt-driven sidecar.

The Olympia Show.—

CYKELAID. (49.)

1¼ h.p.; 51×51 mm. (105 c.c.); two-stroke; mechanical lubrication; Amac carburetter; Runbaken chain-driven magneto; single-speed gear; chain drive; 28×1¾in. tyres.

THE SHEPPEE MOTOR CO., LTD., York.—The Cykelaid is one of the most interesting small machines in the Show. It is designed to be attached quite easily to the ordinary pedal bicycle, and, when attached, it forms a vehicle which can be used for shopping or even for comparatively long spins. And it should be useful in the country, where the market town or shopping centre is some short distance from the owner's house. The whole of the mechanism is carried on a pair of forks with a special head tube fitting into the head of the cycle. On the left-hand side is a two-stroke engine, having below it, and inverted, a magneto driven by a chain from the crankshaft. The crankshaft is extended right through the front hub, and on the right-hand side is a flywheel with a sprocket, the latter taking the short chain which drives a countershaft, on which is a cork-insert clutch, and power is transmitted back to the front hub through a second chain. It is possible to vary the pressure on the clutch, but it is not intended that this should be a normal part of the control, since simplicity of action is a great claim. One of the most ingenious details of the design is the lubrication, for oil is carried in a vertical tube in front of the bicycle head, and feeds down to a small rotating cylinder, so contrived that it acts as an oil pump. The cylinder is driven by a small gear wheel meshing with a cam path, and the whole device is automatic, oil being supplied to the engine bearings in definite quantities at regular intervals. The makers claim that the device is practically self-steering, and are demonstrating this fact during the Show. Oil and petrol sufficient for a hundred miles are of small dimensions clamped above the mudguard.

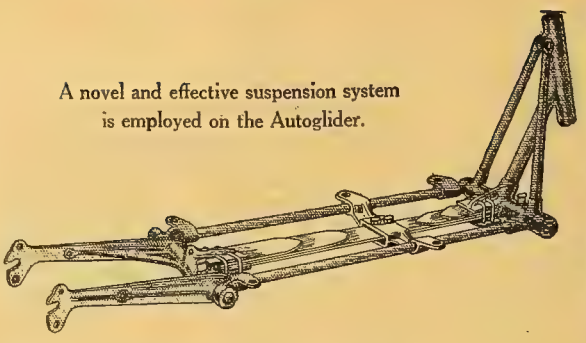


Cykelaid power unit in section, showing the "taximeter" drive for the lubricating pump. The main shaft is extended through the spindle of the wheel hub.

AUTOGLIDER. (21.)

2½ h.p.; 70×70 mm. (269 c.c.); single-cylinder two stroke; petroil lubrication; Amac or Senspray carburetter; Villiers flywheel magneto; single-speed gear; chain drive; spring frame; Palmer 16×2⅜in. tyres. Price £57 15s.

AUTOGLIDER, LTD., Caxton House, Great Charles Street, Birmingham.—



A novel and effective suspension system is employed on the Autoglider.

There are numerous interesting features in the Autoglider, and not the least of these is the spring frame. The frame is rectangular, and between the front and rear portions are two laminated springs in line. Each spring is anchored to a bridge in the centre of the frame, while the two ends are attached to a front member embodying the steering head and forks, engine, tank, etc., and the rear forks respectively, thus insulating the rider from road shocks. A single plate clutch is provided, which may be controlled from the handle-bars, as is the case with one of the models. This clutch, which is particularly sweet in action, and is quite devoid of end thrust, will be placed on the market next year, and will be suitable for any single-speed motor bicycle fitted with the latest pattern Villiers engine.

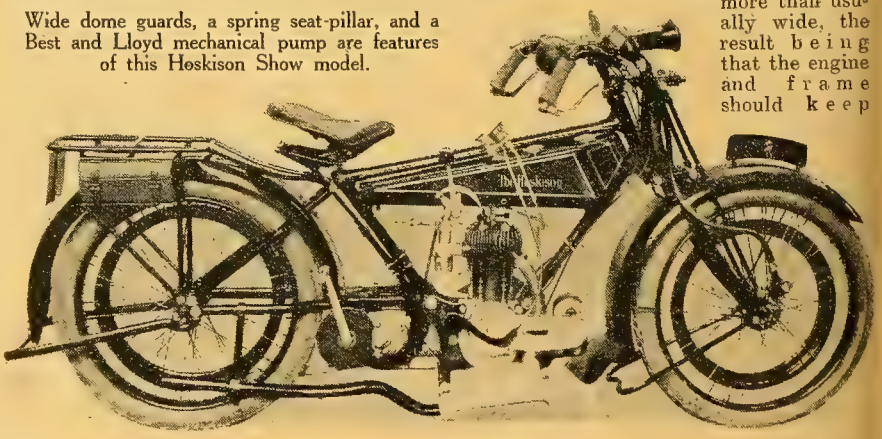
Of the two principal models shown, one is not provided with a seat, but on the platform there is plenty of room for two persons. The transmission is by single chain from the engine-shaft to the front wheel sprocket. Both wheels are almost entirely enclosed; they are of pressed steel, built up in two halves, and consequently easy to clean. Of the models provided with seats, one is slightly lighter than the other, and has a specially tuned engine and a higher gear. There is a spacious locker under the seat. Two box carrier models are also exhibited.

Owing to the careful mudguarding and the fact that a large splashboard is fitted at the front, the rider should have no difficulty in keeping perfectly clean. A single leg is provided on the side of each model, allowing the machine to be propped up. There are two brakes, both of the contracting type, which act on the rear wheel.

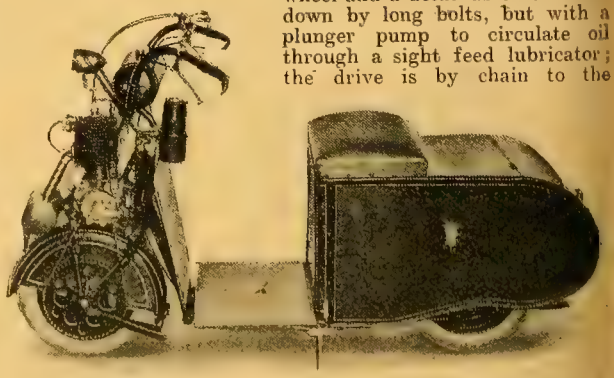
HOSKISON. (51.)

4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; mechanical lubrication; B. and B. carburetter; chain-driven magneto; three-speed sliding dog gear; chain and belt drive; 26×2¼in. tyres.

THE HOSKISON MOTORS, LTD., 72, Lozells Road, Birmingham.—Particular attention has been paid by this firm to the subject of mudguards, as all three types are provided with guards which are more than usually wide, the result being that the engine and frame should keep remarkably clean if the machine is used in winter or during bad weather. A wedge-shaped tank, viewed from the side, gives this machine an unusually rakish outline. One model has a 4 h.p. Blackburne engine with the usual outside flywheel and a detachable head held down by long bolts, but with a plunger pump to circulate oil through a sight feed lubricator; the drive is by chain to the

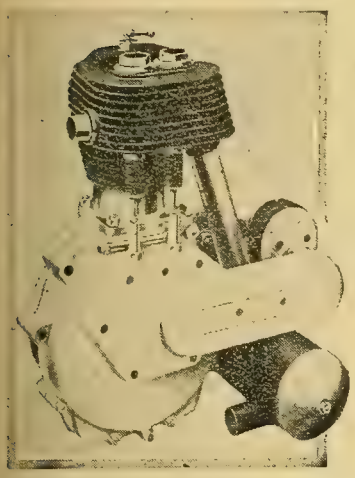


Wide dome guards, a spring seat-pillar, and a Best and Lloyd mechanical pump are features of this Hoskison Show model.

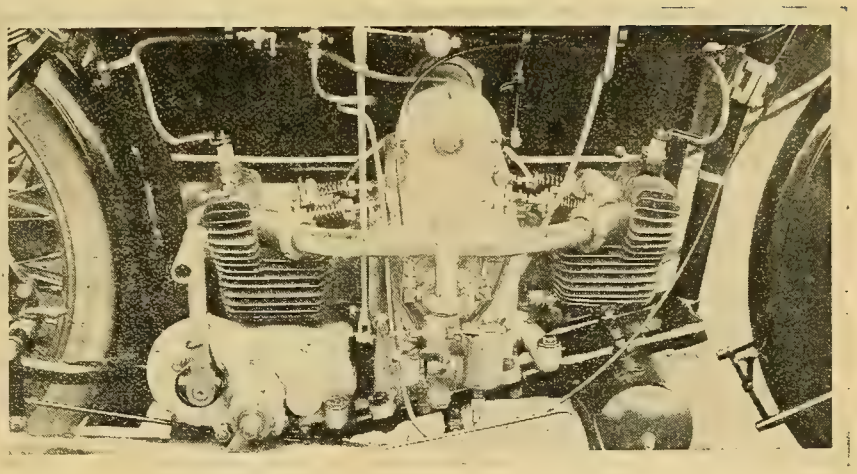


Though the "stand up" type miniature has almost disappeared, the seated variety is exhibited in various forms at the Show. The Autoglider, with parcels compartment, is the subject of our illustration.

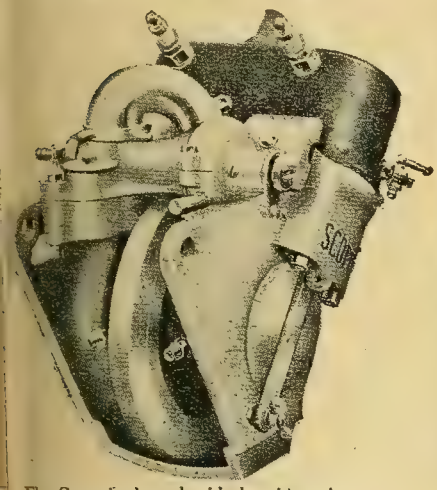
SIX TYPES OF ENGINES AT OLYMPIA.



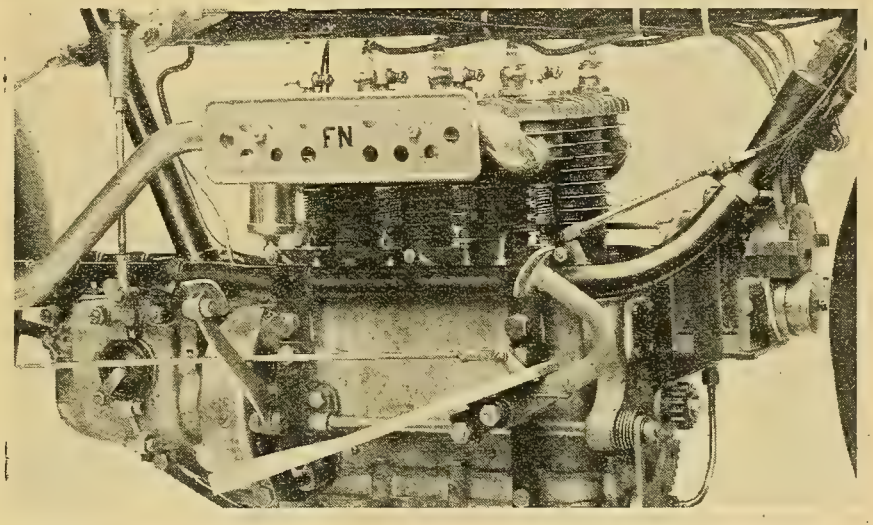
Single-cylinder four-stroke; the Norton is representative of many similar engines



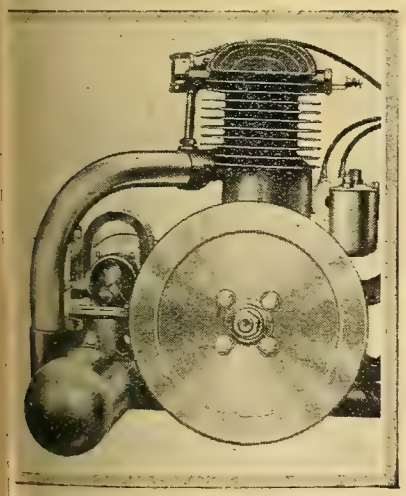
Humber flat twin with gear box under the rear cylinder



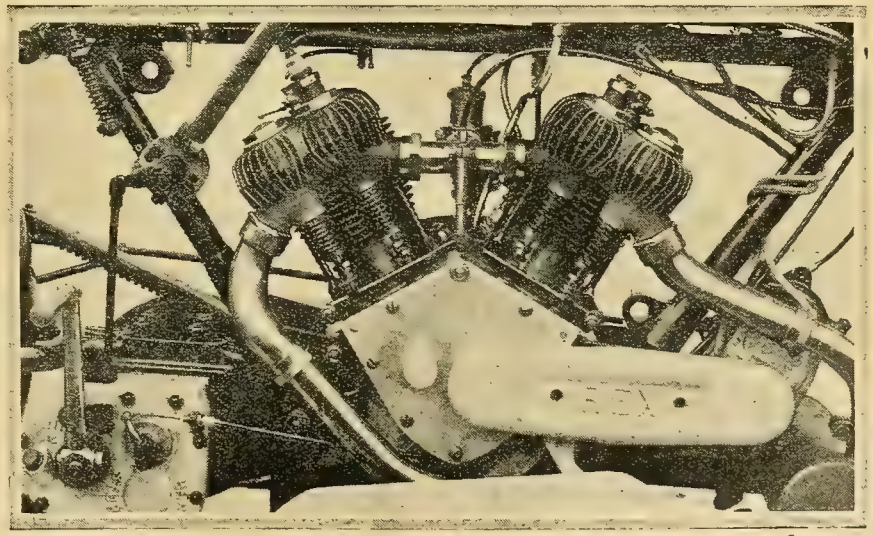
The Scott is the only side-by-side twin two-stroke among the motor cycle exhibits



F.N. four-cylinder, having the gear box built close up to the exposed flywheel and clutch



A simple single-cylinder two-stroke—the Kingsbury.



Rex-Blackburne big twin with Sturmey-Archer gear.

The Olympia Show.—

gear box, and by belt to the rear wheel. The tank is of a new shape and larger than hitherto. On a 2¾ h.p. model, also with a Blackburne engine, disc wheels are fitted, and advantage has been taken of this fact to arrange a V rim for the front wheel brake, so that the shoes for the front and rear wheel brakes are practically the same in size, and therefore the retarding effect is uniform. For the better comfort of the rider, the seat is held, not on the usual pillar, but on a Flexa vertical leaf spring, additional coil springs being introduced between the side of the frame to which this leaf spring is attached. A second 2¾ h.p. model is of sporting type as regards general design, and is shown with footrests instead of the footboards of the previous machine. A Union engined two-stroke also forms a part of the exhibit and is on conventional lines, except for the seat-pillar and mudguard, which are of the same pattern as those used for the larger model. Sectioned gear boxes are shown on the stand, so that the operation of the clutch, the dogs which alter the gear ratio, and the kick starter may be studied.

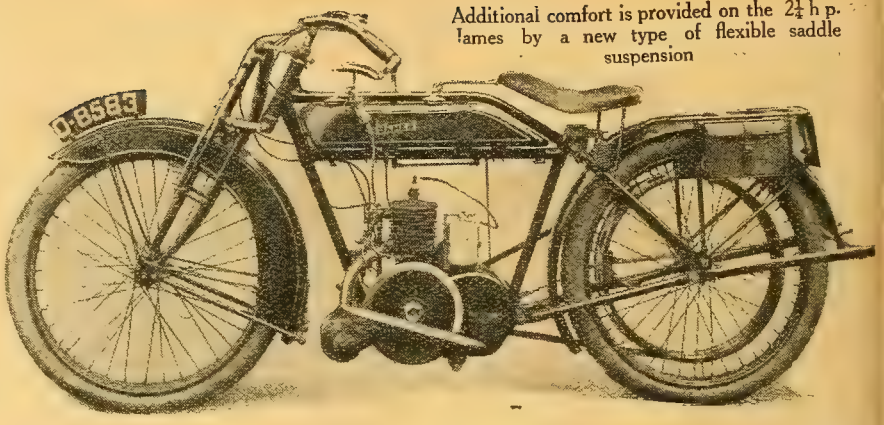
JAMES. (88.)

2¼ h.p.; 66×70 mm. (239.5 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; Thomson-Bennett chain-driven magneto; two-speed dogs and chain gear; chain and belt drive; 26×2¼in. tyres. Price £75.

JAMES CYCLE CO., LTD., Greet, Birmingham. — A machine of high-class specification which possesses many refinements is the James 2¼ h.p. two-stroke. It is a true lightweight with 26in. wheels and tyres, and a riding position which is as low as it is comfortable, a specially adapted Lycett saddle with spring peak being fitted. Minor improvements have been carried out, and the engine has been slightly increased in size, as formerly it had a cubic capacity of 226 c.c.

3½ h.p.; 64×77 mm. (500 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; Thomson-Bennett chain-driven magneto; three-speed sliding gears; chain drive; 26×2½in. tyres. Price £135.

Twin engines of 500 c.c. are nowadays rare, but the popularity of the 3½ h.p. twin James is little likely to suffer for that reason. As a solo machine it has the merit of lightness combined with power, and with large footboards and a comfortable riding position it is a mount which can be ridden a considerable distance in the day without causing a feeling of fatigue to the rider. The position of the magneto high up behind the rear cylinder ensures that it is protected from wet, and it is at the same time accessible.



Additional comfort is provided on the 2¼ h.p. James by a new type of flexible saddle suspension

4¼ h.p.; 86×103 mm. (600 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; Eclipse gear-driven magneto; three-speed sliding type gear; chain drive; 28×3in. tyres.

The big single-cylinder James has been refined and brought up to date, so that it should continue to be a very popular sidecar machine. Apart from minor alterations, 28in. wheels and large domed mudguards are fitted. The latest gear control is a long lever pivoted to the crank case, working in a cast aluminium rack secured to the frame just underneath the tank. The clutch is controlled by a conveniently arranged heel pedal, although, if preferred, hand control or both may be fitted. The return spring of the kick-starter is enclosed and protected from mud and dust, a flat ribbon spring, similar to the main spring of a clock, being utilised. The half compression device has been improved in operation, the cable being abolished and replaced by a neat lever which can be brought into operation by the toe.

7 h.p.; 73×89.3 mm. (749 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; Thomson-Bennett chain-driven magneto; three-speed sliding gear; chain drive; 28×3in. tyres.

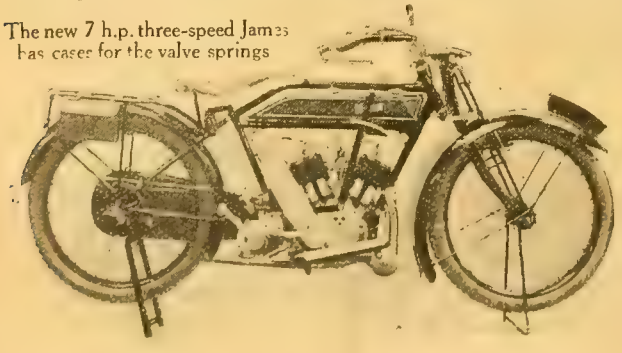
Considerable interest centres in the big twin James, as it is an entirely new model for 1921. A feature of the engine is the off-setting of the exhaust valves in relation to the inlet valves, a clear passage being left between the valve ports and the cylinders, resulting in very efficient cooling. Another advantage of this construction is that the valve rocker levers may be kept straight instead of being cranked. The valve springs and tappets are encased by quickly detachable covers. A large roller bearing big end is employed, and the gudgeon pin is secured in the little end of the connecting rod, taking its bearings direct in the piston in bosses of ample dimension.

Apart from the usual oil lead to the crank case a separate lead is taken to each cylinder. The gear box has been redesigned and consists of a die casting with short rigid shafts and gears carried in Hoffmann bearings of large size. The rear wheel is quickly detachable, leaving the chain sprocket *in situ*. An expanding brake on car lines is fitted in a drum on the rear wheel. The sidecar connections have universal movement so that alignment is easily carried out.

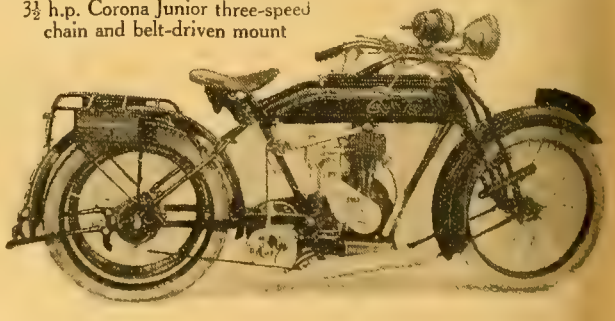
CORONA. (47.)

3½ h.p.; 72×100 mm. (448 c.c.); single-cylinder four-stroke; side-by-side valves; forced lubrication; Amac carburetter; E.I.C. magneto; two-speed Sturmey-Archer gear; chain and belt drive; 26×2½in. tyres. Price £105.

METEOR MANUFACTURING CO., LTD., 98, Tollington Park, London, N.4.—It is obvious that the designers of the Corona Junior had in mind motor car practice when their machine first was evolved, many of the features of the engine being those with which the car driver is familiar. For example, the crank case, of cast iron, contains a very substantial sump to hold a reserve of oil. From the timing gear is driven a small pump, which sucks oil from the sump and delivers it to the bearings of the engine,



The new 7 h.p. three-speed James has cases for the valve springs



3½ h.p. Corona Junior three-speed chain and belt-driven mount

The Olympia Show.—

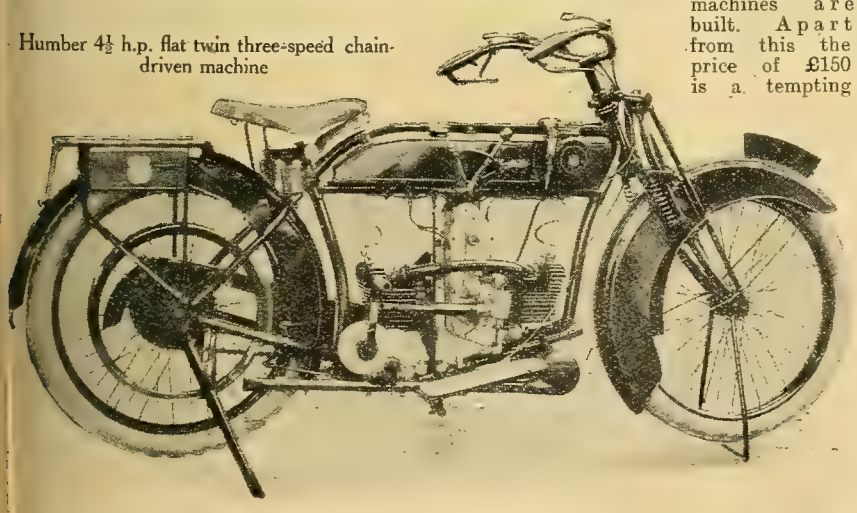
the pump case having on it a sight feed, so that the flow can be seen while the machine is running. There is a detachable head, and the rest of the cylinder is cast with the crank case. The cams are side by side and in a different plane from which we are accustomed, the two valves being one behind the other in a fore and aft direction, and inclined as a V. There is an outside flywheel of considerable size, which is concealed from view by a casing. Another feature of the design is the very large and efficient looking brakes, one expanding, the other contracting on a drum bolted to the rear wheel hub. It is claimed that no castings whatsoever are employed throughout the frame, and it may be mentioned that the wheels are carried on Skefko ball bearings of considerable size. One model has a direct belt drive, but otherwise is the same as its predecessors. Another detail of interest is the front suspension, the spindle being held in a bell crank lever, the vertical arm of which is placed between a pair of strong coil springs. To the rocking arm of this suspension car type grease cups are fitted.

HUMBER. (86.)

4½ h.p.; 75×68 mm. (600 c.c.); flat twin-cylinder four-stroke; side-by-side valves; mechanical lubrication; Claudel carburetter; E.I.C. gear-driven magneto; three-speed countershaft gear; chain drive; 26×2½ tyres. Price £140.

HUMBER, LTD., Coventry.—Whether it be as a solo touring machine, a sporting model with dropped handle-bars and footrests in lieu of footboards, or a sidecar machine, the horizontally-opposed twin Humber is an attractive mount with a considerable reputation which has been lately enhanced by its fine performance in the Six Days Trial. Tractability and silence are, perhaps, its chief characteristics, and they are backed up by sound design and considerable experience of manufacture. Points of interest are found in the detachable valve ports and the shock absorbing device in the rear hub, all-chain drive being employed. Examples of the sporting model and the all-black finish solo model are shown, in addition to the standard mount, the price of all three solo machines being the same. As a sidecar outfit the price is £173 12s. 6d., and the sidecar is both roomy and comfortable. A feature of considerable interest is the mechanical pump lubrication system, supplemented by a drip feed from the oil tank. The disposition of the engine and gear box in the frame is neatly and strongly carried out. The chain-drive is protected by a stout guard, but is not completely enclosed. The rear brake is remarkable for the size of the shoe and the ease of operation, while the kick-starter mechanism is encased in the main gear box casting and thus protected from mud and dust.

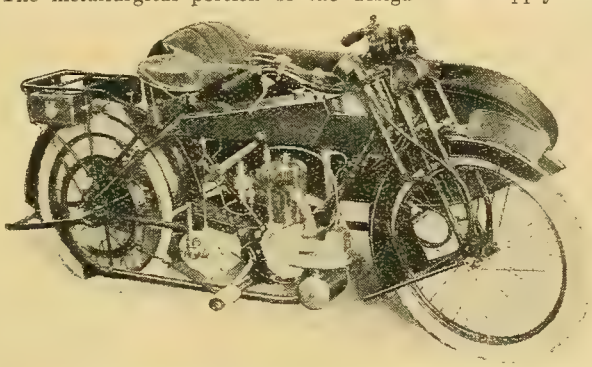
Humber 4½ h.p. flat twin three-speed chain-driven machine



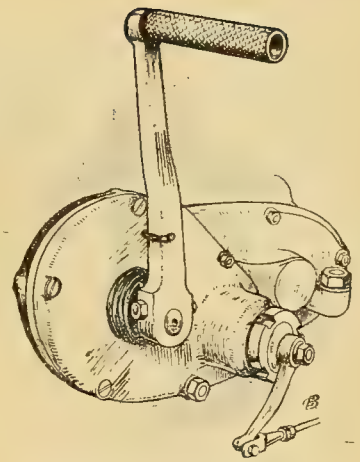
SHEFFIELD HENDERSON. (44.)

4 h.p. Blackburne; 85×88 mm. (499 c.c.); single-cylinder four-stroke; side-by-side valves; vacuum lubrication; Amac carburetter; Runbaken chain-driven magneto; three-speed Sturmey-Archer gear; chain drive; 26×2½in. tyres.

HENDERSON SIDECARS, Aero Works, Fitzwilliam Street, Sheffield.—One of the most interesting machines in the Show is the new 4 h.p. Sheffield Henderson and sidecar. It has many unusual features. The metallurgical portion of the design has been considered with more than usual care, and its makers are one of the few firms who know in actual fact what the nature of the material is of which their machines are built. Apart from this the price of £150 is a tempting enough bargain for a good motor cycle and sidecar. The machine itself is fitted with a 4 h.p. Blackburne. It is in the lubrication of the engine, however, that a great change has been made, as the supply of oil to the cylinder automatically increases with the opening of the throttle. This is effected by shaping the end of the exhaust pipe from the cylinder as a nozzle, and inserting it in the mouth of a second pipe leading to the silencer proper, there being a gap between the two. Exhaust gas rushing down the pipe would cause air to be drawn in through the gap exactly after the fashion of the ejector. In this case both nozzle and gap are surrounded by a ball-shaped chamber, which is connected by a pipe with a cylindrical container below the oil tank in such a manner that all the air is sucked out of this cylinder by the ejector action of the exhaust gases, which, of course, varies with the loads on the engine. By creating a vacuum, oil is sucked from the tank through a Best and Lloyd adjustable lubricator. From the oil container a pipe leads to the crank case, and is fitted with a non-return valve, so that lubricant which enters the container is sucked into the crank case every time the piston rises. As a result of this arrangement, the greater the engine loading the greater the amount of oil delivered to the crank case. As regards the frame of the machine, the construction of the forks and head is interesting, because very large steel balls are used for all the bearings, while the recoil of the front wheel is taken on C shaped leaf springs, which are bolted very rigidly to the forks. At the rear the saddle is fixed upon a cantilever bracket which can be adjusted to give increased or decreased leverage, the load being taken through springs to the frame, so that the

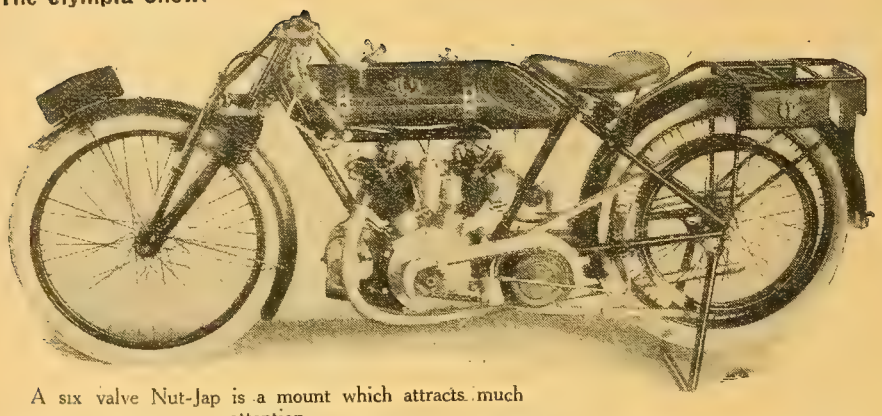


A 4 h.p. Henderson sidecar outfit, the engine of which has an ingenious system of lubrication by exhaust vacuum.



The new kick-starter and clutch-actuating lever on the Humber flat twin.

The Olympia Show.—



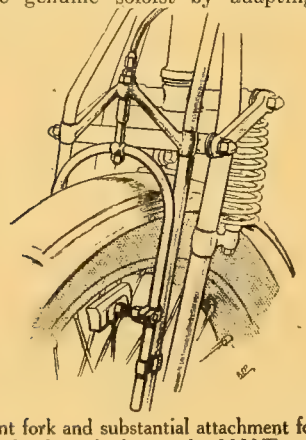
A six valve Nut-Jap is a mount which attracts much attention.

rider's weight is entirely sprung. The remainder of the machine is normal, chain drive from the crankshaft to a Sturmey-Archer gear box, thence to the rear wheel through another chain; both brakes act on a rear wheel dummy belt rim.

N.U.T. (140.)

5 h.p.; 70×88 mm. (680 c.c.); V twin four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; chain-driven Magdyno; three-speed Sturmey-Archer gear; chain and belt drive; 26×2½in. tyres.

NEWCASTLE-UPON-TYNE MOTOR CO., LTD., St. Thomas Street, Newcastle-upon-Tyne.—Last year the 3½ h.p. N.U.T. was introduced as a model designed expressly for solo work. However, in practice it was found that the average owner did not honour this stipulation, and thus the makers were faced with the common problem of either spoiling their machine for the genuine soloist by adapting it



Front fork and substantial attachment for the front brake on the N.U.T.

for sidecar work, or of providing a new model more on dual-purpose lines. Wisely, we think, they chose the latter course, and the new 5-6 h.p. N.U.T. is the result. With the exception of an increase in cylinder dimensions, it is similar in appearance to the standard 3½ h.p. model, which is also shown. Equipment includes a Lucas Magdyno lighting set. Although the 3½ h.p. machine is retained (with lower gear ratios) as the purely solo mount, the larger twin, by reason of its light weight and final belt drive, is eminently suited for that purpose as well.

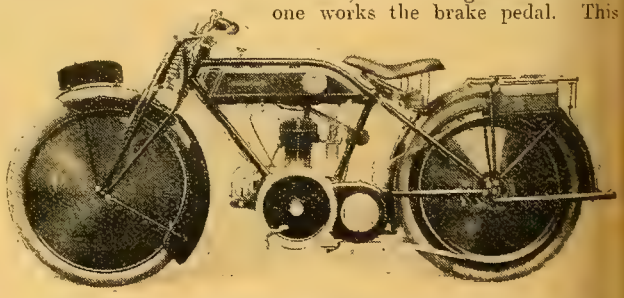
3½ h.p.; 64.5×76 mm. (500 c.c.); V twin four-stroke; two inlet and one exhaust overhead valves; drip feed lubrication; special Amac carburetter; T.B. chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; 26×2½in. tyres.

Throughout the Show there is evidence of a widespread desire to cater for the sporting rider, and the new overhead-valved N.U.T. is a striking example. Possessing one inlet and two exhaust valves per cylinder, the engine is of a special racing type, has aluminium pistons, and gives, it is claimed, 15 b.h.p. at 4,000 r.p.m. Roller bearings are used for the connecting rods, and very neat detachable cylinder heads carry the overhead valve gear. The lowest ratio provided by the three-speed Sturmey-Archer gear box is 8 to 1. Spring forks, mudguarding, and silencing arrangements (according to the makers, "within the law but giving that deep note"!) are on genuine T.T. lines; but the types are amply large for comfort, and the equipment is unusually complete.

MASSEY-ARRAN. (24.)

5-6 h.p.; 70×85 mm. (654 c.c.); twin-cylinder four-stroke; side-by-side valves; drip feed lubrication; Amac carburetter; E.I.C. chain-driven magneto; three-speed Sturmey-Archer gear; chain and belt drive; Dunlop Magnum 700×80 mm. tyres. Price £145 sports model; £185 touring model.

MASSEY-ARRAN MOTORS, Delbarn Road, Birmingham.—The sports model Massey-Arran is quite a handsome machine, well-finished in black and gold, and fitted with wide and well valanced mudguards, that at the rear being of specially generous dimensions. Among the features of this machine may be mentioned the symmetrically designed expansion chamber at the base of the crank case, the final exit for the exhaust gases being through a long tail pipe with flattened and slotted end. The clutch is controlled not only by the usual type of lever on the handle-bars, but there is a heel-operated pedal attached directly to the clutch-operating mechanism on the gear box. A spacious tool box is provided at the rear, with an aluminium lid covered with corrugated rubber matting and eyelets for strap. The footrests are of registered design, and are fitted with detachable rubber pads so that they can be easily replaced when worn. For future models there will be two concentric internal expanding brakes, foot-operated, and working on a drum with two frictional surfaces, while a further expanding brake is fitted to the front wheel. The touring model is similar in every respect, except that Massey-Arran footboards of registered design are fitted. These are of aluminium, containing a certain percentage of copper, which does away with the risk of this metal breaking, owing to its brittleness when used pure. A similar material is employed for the chain cover and the silencer. The footboards are turned up in front, and through the left-hand one works the brake pedal. This pedal may be fitted to the other side of the machine merely by changing over the footboards. A 2in. horizontal adjustment is provided for each of these.

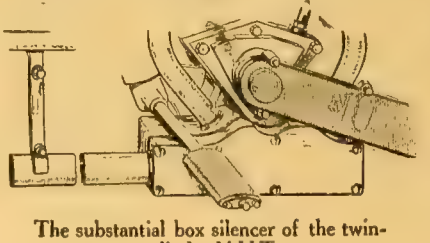


Disc wheels are frequently encountered at the Show. The 2¾ h.p. Massey-Arran.

2⅜ h.p.; 71×88 mm. (348 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; Boulton magneto; two-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×2¼in. tyres.

The sports model, fitted with 2⅜ h.p. Blackburne engine, is a very attractive little mount. Like all Massey-Arran productions, it is fitted with celluloid-covered handle-bars, and, similar to the other sports model, it has patent footrests.

The particular model under review is equipped with Maplestone spring forks, which are extremely flexible, and, so we are informed, have very satisfactorily withstood the tests to which they have been put. The black and gold finish, which in this as in all other models is the standard, looks extremely well. One feature, which is common to all models, is the type of petrol tank filter, which, when unscrewed, allows a valve



The substantial box silencer of the twin-cylinder N.U.T.

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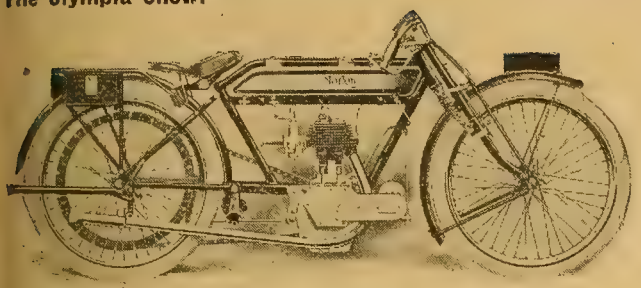
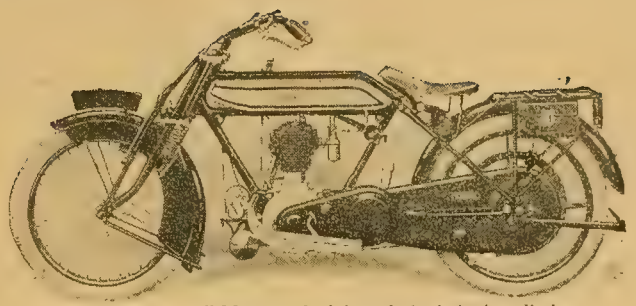


A speedman's "simple single"—the 3½ h.p. single-geared Norton.



The "Big Four" Norton which popularised single-cylinder machines for passenger work.

to drop on to its seating, thus allowing the gauze to be cleaned without any loss of petrol. All steel parts are rendered rust-proof. A similar sports model is shown fitted with a 2¾ h.p. J.A.P. engine.

Another model is fitted with the 2¾ h.p. J.A.P. engine, and is equipped with the latest pattern Sturmey-Archer gear box with circular quadrant. All models are fitted with a gear box adjusting screw.

NORTON. (71.)

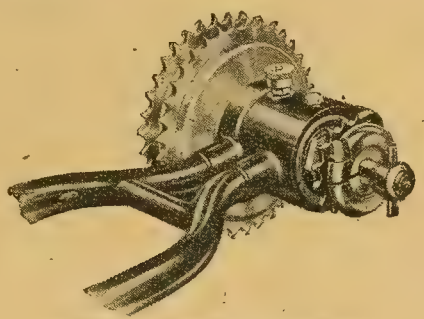
3½ h.p.; 79×100 mm. (490 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; C.A.V. chain-driven magneto; three-speed Sturmey-Archer gear; all chain drive; 26in.×2¼in. tyres. Price £132.

Norton Motors, Ltd., Bracebridge Street, Birmingham.—Of the Norton range the 3½ h.p. model is well-known by its successes on the track. As a three-speed roadster it is perhaps one of the fastest touring machines existing, while it is also a very attractive sidecar mount when fitted with a light attachment such as the new Norton sidecar to which it is seen affixed. The low riding position is remarkably comfortable, and it is safe to say that the Norton reputation could not be obtained merely by the excellence of the engine alone, for riding position and road worthiness play an important part in speed work on the track. This model may also be obtained single-geared as a speed machine with an engine which is guaranteed to lap Brooklands at 70 m.p.h., or to cover the kilometre at 75 m.p.h.

4 h.p.; 82×120 mm. (635 c.c.); single-cylinder four-stroke; side-by-side valves; drip feed lubrication; B. and B. carburetter; C.A.V. chain-driven magneto; three-speed Sturmey-Archer gear; all chain drive; 650×65 mm. tyres. Price £135.

As a sidecar machine the "Big Four" has a reputation second to none, and, like its 3½ h.p. relative, it is also one of the fastest machines of its type on the road. The same general lines are followed in the design, but the chain drive is totally enclosed as distinct from the 3½ h.p. model, which has a chainguard on the upper portion of the drive only. Larger tyres are also fitted to the "Big Four," and if desired 700×80 mm. tyres may be obtained as an extra.

Wide domed guards are provided, and with its enclosed drive and large rubber covered aluminium footboards, it is an all-weather mount in every respect. A model is also shown fitted with the Lucas Magdyno.



Countershaft portion of the Kingsbury expanding clutch gear.

KINGSBURY. (43.)

2¾ h.p.; 75×79 mm. (349 c.c.); single-cylinder two-stroke; hand pump lubrication; Senspray carburetter; C.A.V. chain-driven magneto; two-speed selective clutch gear; chain drive; 26×2¼in. tyres.

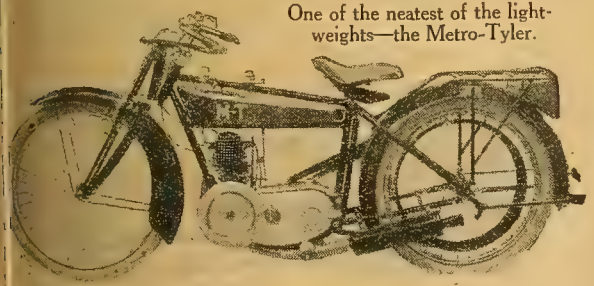
Kingsbury Engineering Co., Ltd., Kingsbury Engineering Works, Kingsbury.—Originally interested in aviation, the above company are the manufacturers of a small and popular two-cylinder car as well as of the new two-stroke motor cycle shown on the stand. The cycle is of medium weight and of straightforward design, and is fitted with a substantial carrier and toolbags enclosed and reinforced by steel casings. Footrests are fitted instead of footboards, and the drive is by chain throughout, protected by light casings, only the upper portion of the final drive chain being covered. Care has been taken to provide ample clearance between the tank and the frame, and the fillers are of such size that it is possible to replenish both tanks without spilling. The coil spring against which the front forks rock is enclosed in a metal cover of neat design. Besides the brake on the front wheel rim, there is a second large and powerful contracting band, which operates on a drum on the rear wheel hub, close beside the driven sprocket. This band is contracted by a pedal placed on the rear footrest, with its plate close to the actuating rod for the change-speed gear. This latter is of the selective clutch type, of very neat design, and slightly modified this year.

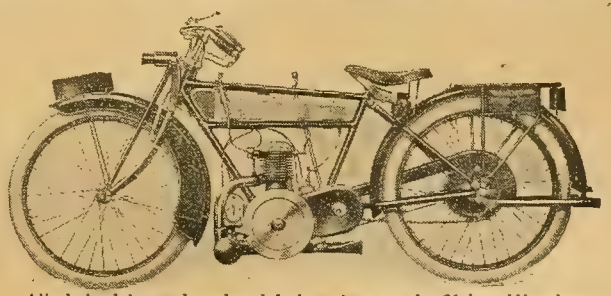
METRO-TYLER. (57.)

2½ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; hand pump lubrication; Amac carburetter; C.A.V. chain-driven magneto; two-speed constant mesh gear; chain and belt drive; 26×2in. tyres.

Tyler Apparatus Co., Ltd., Bannister Road, North Kensington.—The Metro-Tyler is a small two-stroke which has acquired already a considerable reputation and has not increased too greatly in weight during the past few years, with the result that it still is a small and handy machine suitable for almost every class of work. The two-stroke engine is well forward in the frame, and has a decompressor facing forwards and just above the main exhaust pipe, which latter is carried back to a flexible pipe leading to the silencer clipped to the rear stays. There is a two-speed gear box bolted to

One of the neatest of the lightweights—the Metro-Tyler.





All-chain drive and enclosed fork springs on the 2½ h.p. Kingsbury are unusual refinements on a lightweight.

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extensions of the engine plates and driven by a chain enclosed in a casing, but the engine is made to look more than usually neat; in fact, in appearance to resemble a unit, by adding aluminium cover plates which extend from the crank case to the gear box on each side and render the exterior of the mechanism quite smooth. Beneath these cover plates is the magneto, which thus is effectively protected, in addition to the fact that the field magnets themselves are closed by end plates, and the magneto is, therefore, rendered waterproof. The Metro-Tyler also is one of few machines which have only footrests, these being preferred to the now popular footplates. One model was shown with disc wheels and one of a special chocolate colour, very prettily finished and altogether a most handsome small mount on distinctly speedy lines.

Oil vapour emitted from the Metro-Tyler release valve serves the useful purpose of lubricating the magneto chain.

IXION. (160.)

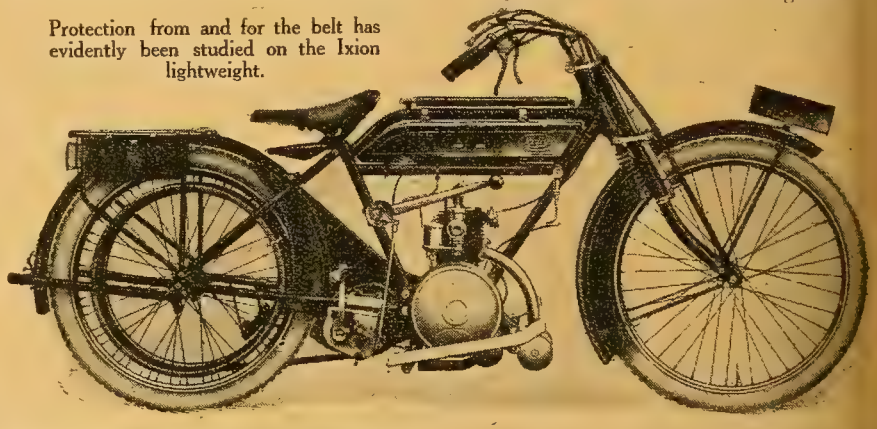
2½ h.p. Villiers; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; Amac carburetter; flywheel magneto; two-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price £75; lady's model £78.

IXION MOTOR MANUFACTURING CO., LTD., Great Tindal Street, Birmingham.—Although embodying standard components there are many little points about the Ixion that appeal to the practical motor cyclist. The belt guard, for example, first applied only to the lady's machine, is now fitted to both types. This should be appreciated by the business man and others who ride in ordinary long overcoats. Removal of four set-screws detaches this guard, which is integral with the primary chain cover. Another noticeable little point is the arrangement of the mudshields, which fail to strike the usual jarring note and positively blend with the machine. Nor does efficiency appear to be lacking. Again only a practical rider could have designed the compression release handlebar control. Situated right *above* the clutch lever, it may be operated by the same hand and at the same time, thus allowing the engine to be readily stopped when the clutch is withdrawn. The lubrication is carried out by a cleverly devised combination of Best and Lloyd drip feed and Enots pump.

3 h.p. Precision; 74×81 mm. (350 c.c.); single-cylinder two-stroke; mechanical lubrication; Amac carburetter; M-L chain-driven magneto; two-speed Sturmey-Archer gear; chain and belt drive; Dunlop 26×2¼in. tyres. Price £110 with sidecar.

Special attention has been given to the sidecar connections of this little machine, which sells only as a lightweight outfit. It is claimed that correct alignment once gained cannot be lost, and also that there are fewer loose pins, etc., in the couplings than on any other sidecar on the market. Undoubtedly the connections are very simple, and at the same time amply

Protection from and for the belt has evidently been studied on the Ixion lightweight.



secure. The machine itself follows orthodox lines, and is finished in the customary Ixion shade of khaki green.

R. W. SCOUT. (56.)

2¾ h.p.; 73×76 mm. (318 c.c.); single-cylinder two-stroke; hand pump lubrication; B. and B. carburetter; E.I.C. chain-driven magneto; single speed gear; belt drive; 26×2¼in. tyres.

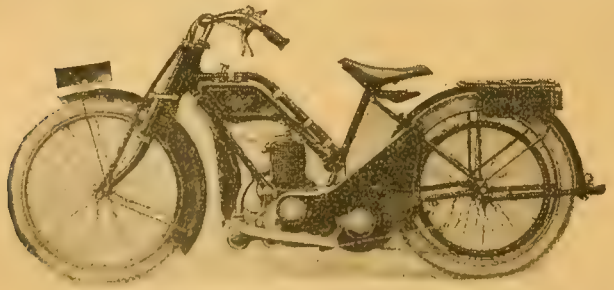
R. WEATHERELL, Southgreen, Billericay, Essex.—The "R. W. Scout" is a quite simple and straightforward little two-stroke, having a Dalm engine, unconventional because of the twin exhaust pipes which project from the forward side of the cylinder, and carried downwards to a cast aluminium silencer. The drive is direct by belt. Behind the engine, and chain-driven, is the magneto, and on the right-hand side the carburetter. On the same stand is a sporting machine, not in any way "show finished," which, if anything, adds to its business-like and sporting character. Outwardly, at all events, the design is similar to the standard machine, but footrests instead of footboards are fitted and, of course, the mudguards have been detached and the handle-bars are dropped.

P. AND S. (38.)

3 h.p. Dalm; 73×76 mm. (318 c.c.); single-cylinder two-stroke; hand and drip lubrication; Amac two-lever carburetter; E.I.C. chain-driven magneto; two-speed Burman gear; chain and belt drive; Hutchinson 26×2¼in. tyres. Price £83 10s.

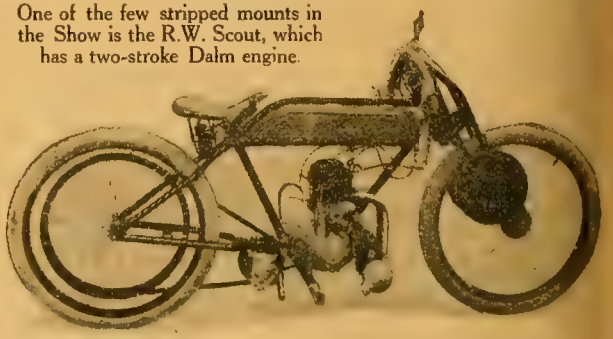
2¾ h.p. J.A.P. (292 c.c.); single-cylinder four-stroke; other details as above. Price £90.

PEARSON AND SOPWITH, 89, Long Acre, W.C.2.—The two-stroke Dalm engined P. and S., equipped with Burman two-speed gear, which incorporates a clutch and kick-starter, is a handy little runabout. Mudguarding is well studied, the guards being of generous dimensions for a lightweight. The comfort of the rider has been looked after, and aluminium-covered footboards form part of the equipment. For those who prefer a four-stroke engine, the lightweight P. and S. fitted with a J.A.P. engine should have a special attraction for solo riders. Except for the engine and magneto, it resembles the other model, and is certainly a thoroughly practical little mount. One of the claims of the firm is that, with the Dalm engine model with sidecar attached, the cost of

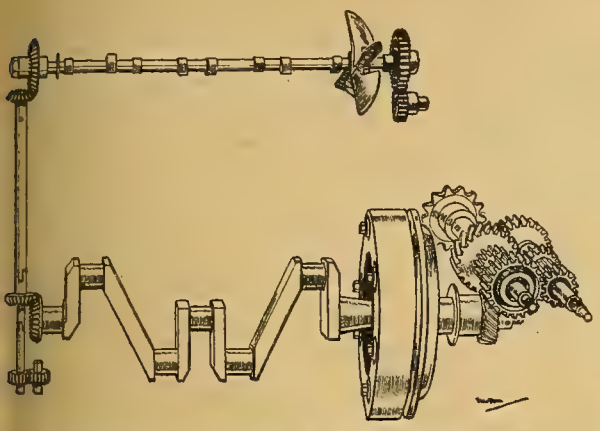


A lady's two-stroke embodying most of the features demanded by the fair sex. The Ixion with ample dress and splash guards, two-speed gear, kick-starter and hand-controlled clutch.

One of the few stripped mounts in the Show is the R.W. Scout, which has a two-stroke Dalm engine.



The Olympia Show.—



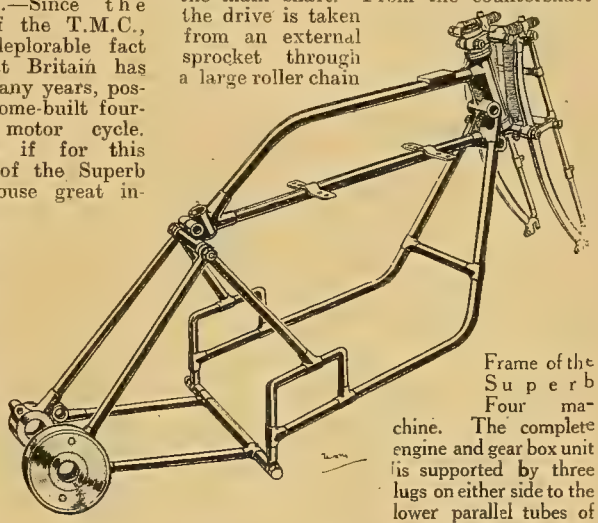
Showing how the crankshaft of the Superb Four drives the overhead camshaft through bevel gears and a vertical shaft at the front of the engine. At the bottom of the vertical shaft will be seen the two gear wheels of the oil pressure pump. Behind the flywheel and the double cone clutch is the skew gear, driving the countershaft three-speed gear.

unning does not exceed 1d. a mile. Quite a feature is the 2¾ h.p. Dalm- ngined sidecar outfit. It is sold com- plete with two bodies, one for business urposes, for use as a trade carrier, and he other for use as a lightweight tour- ng body, forming a treble-purpose achine—as the outfit naturally can be sed solo, and, as a sidecar outfit, it can e used either for pleasure or business urposes. Its price is £127. Among the lo machines exhibited may be men- oned a two-speed model fitted with lain Albion gear box without clutch nd kick-starter, which will be sold to the ublic at £76 10s.

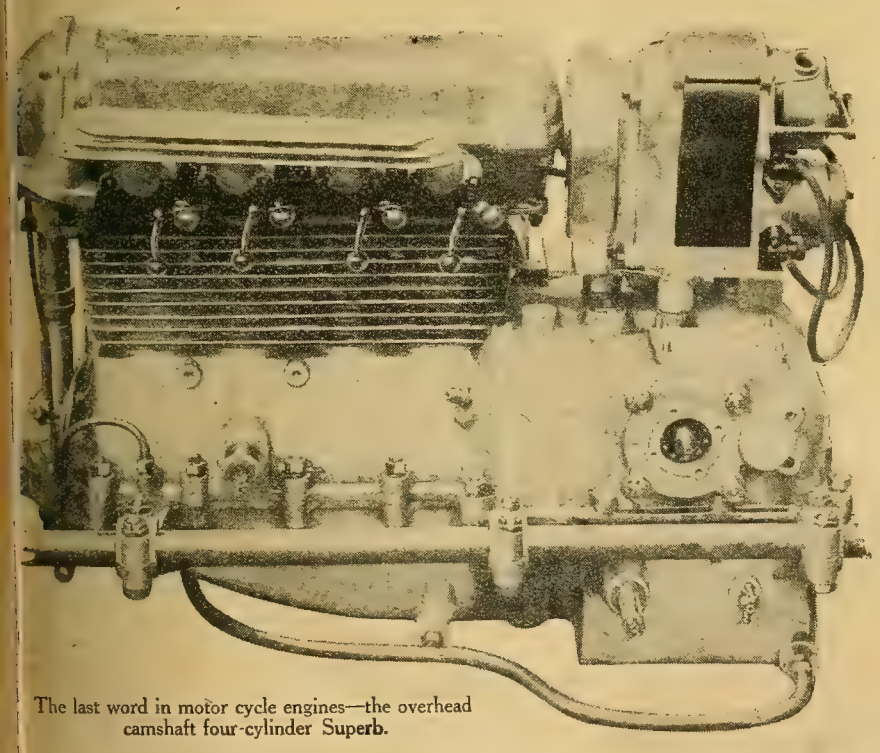
SUPERB FOUR. (37a.)

10 h.p.; 63.3×78.7 mm. (998 c.c.); four-cylinder four-stroke; overhead valves; forced feed lubrication; Zenith carburetter; Lucas chain-driven Magdyno; three-speed gear, integral with engine unit; final chain drive; Dunlop 700×80 mm. tyres.

COPPEN, ALLAN, AND Co., 89, Great Portland Street, W. (sole concessionnaires).—Since the passing of the T.M.C., it is a deplorable fact that Great Britain has not, for many years, possessed a home-built four-cylinder motor cycle. Therefore, if for this reason alone, the advent of the Superb Four is calculated to arouse great interest. But, apart from this, the high efficiency design is unique when applied to a motor cycle, and actually advanced when compared with average car practice. Aluminium is used for the *monobloc* cylinder casting, which includes the upper half of the crank case; and an aluminium casing completely encloses the overhead camshaft, and valve gear. Steel liners are pressed into the cylinder barrels. By withdrawing a series of nuts, the entire cylinder head (including the valves and valve mechanism) may be removed for decarbonising. Longitudinal fins are cast above the valve pockets, and, for additional cooling, a continuous draught of air is induced along the interior of the camshaft casing from a pipe connected to the carburetter air intake by a small fan on the rear end of the camshaft. Lubrication is by forced feed to the cylinder walls and to every important bearing in the power unit. In the flywheel is incorporated a double cone clutch, which drives the transverse countershaft in the gear box through a pair of helical gear wheels. Three speeds are provided by the gear set, which has constant mesh gear wheels and sliding dogs, the layshaft being just at the rear of the main shaft. From the countershaft the drive is taken from an external sprocket through a large roller chain to the rear wheel. A new form of detachable wheel, simply designed and of very strong construction, is being incorporated in this machine, while there are many other novelties, such as a miniature instrument board between the handle-bars for all the lighting instruments, etc., a water trap in the main petrol tank, special sidecar connections, twist grip controls, and a four-gallon petrol tank.



Frame of the Superb Four machine. The complete engine and gear box unit is supported by three lugs on either side to the lower parallel tubes of the frame.



The last word in motor cycle engines—the overhead camshaft four-cylinder Superb.

MOTORPED. (18.)

1¼ h.p.; 51×51 mm. (105 c.c.); single-cylinder two-stroke; petroil lubrication; Amac carburetter; Runbaken magneto; single-speed gear; chain drive; 28×1½in. tyres.

PATRICK ENGINEERING CO., LTD., Brierley Street, Birmingham. — The Motorped is new in name only—this being the title the makers of the Simplex cycle attachment give to the complete cycle built by them, and equipped with their power unit. One of the earliest units made for this purpose, the Simplex is a "flat" two-stroke single of fairly conventional design. A tiny plate clutch is optional this year, and a means is provided of holding the plates permanently apart should the need arise on any occasion for pedalling home. Merely an ordinary pedal machine of strong build, the cycle itself may readily be re-converted to a "one rider power" mount. With clutch the Motorped sells at £42, without at £37 16s.

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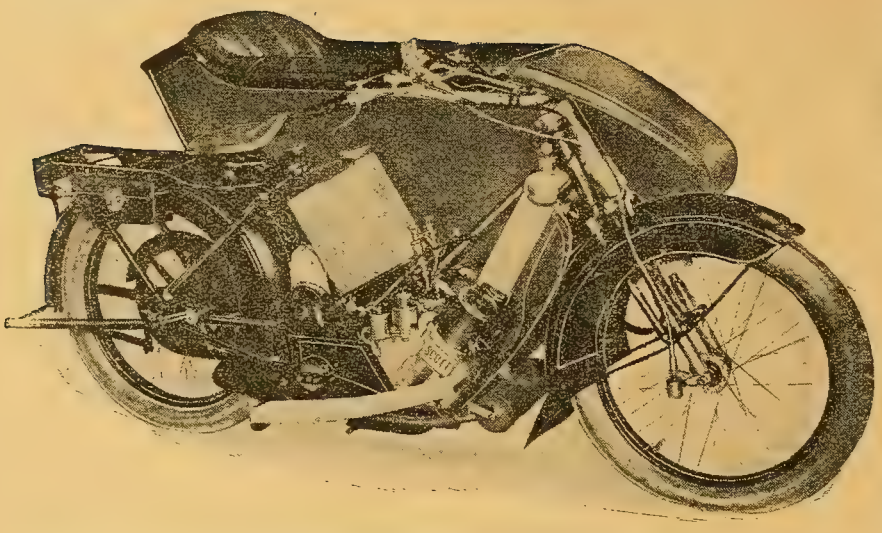
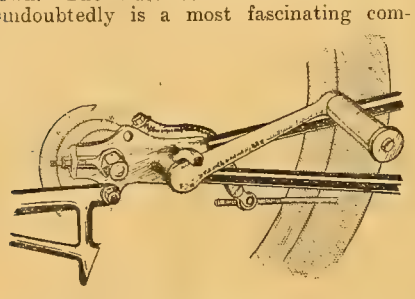


A moderate-powered sidecar outfit is the 3¾ h.p. two-stroke two-speed Scott. 26in. × 3in. Palmer light car tyres are fitted all round.

SCOTT. (148.)

3¾ h.p.; 71×69 mm. (532 c.c.); twin-cylinder two-stroke; automatic lubrication; Amac carburetter; T.B. chain-driven magneto; two-speed expanding clutch gear; chain drive; Palmer 26×2½in. tyres.

Scott Motor Cycle Co., Ltd., Saltaire, Yorkshire.—Scotts are becoming quite a cult, and it is very noticeable that Scott riders are generally very exclusively Scott enthusiasts. And each year this circle of admirers so widens that it is extraordinary that so many of the Bradford firm's features remain exclusively their own. The water-cooled twin two-stroke undoubtedly is a most fascinating combination to own and to drive; and, although outwardly little change is apparent, each year it takes a step nearer a very advanced ideal of perfection. During the past year, for instance, the kick-starter stop and the release valve lever stop on the handle-bar have been made integral with their respective frame members, thus eliminating two loose lugs. Attention has also been directed to strengthening the frame at various points to make it more fitted for hard sidecar work. Not only on account of it being something different, but because it has more than held its own in open competition with the aristocracy of the industry, the whole design is worthy of careful study. The open frame has been designed on scientific lines; the spring fork is one of the most comfortable in existence, while the footboards, now rubber-padded, and mudguarding are excellent. In addition to a standard and T.T. machine, a sidecar outfit with the well-known Scott sidecar and Lucas Magdyno lighting is shown, also a sectionised and complete engine, gear box, and various component parts. Although shown, deliveries of the very latest Squirrel model will not commence until May. The Squirrel is a T.T. Scott with shorter and lower frame, footrests, no carrier, and usual racing equipment (such as ultra-narrow mudguards and dropped handle-bars). In this machine, as on all Scotts, the gear box is now lubricated from the drip feed pump.

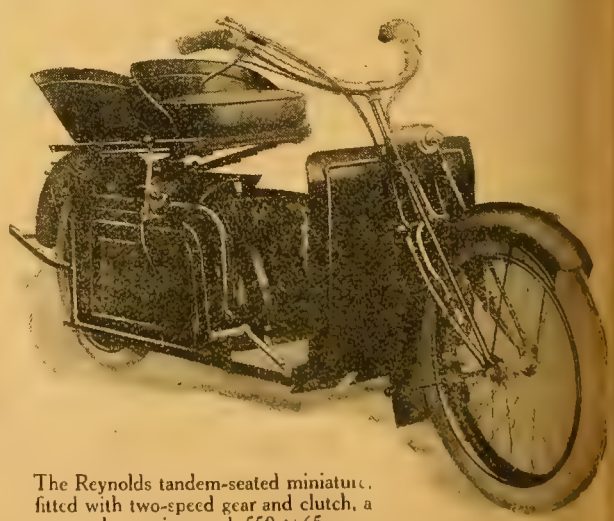


On the Scott the fork-end lug has incorporated with it a stop for the kick-starter. The underside serves as a rest for the stand.

REYNOLDS. (17.)

2½ h.p.; 70×70 mm. (269 c.c.); single-cylinder two-stroke; drip feed lubrication; Senspray carburetter, flywheel magneto; two-speed Albion gear; chain and belt drive; 550×65 mm. tyres. Price £94 10s.

Jackson Car Manufacturing Co., Pangbourne, Berks. — The Reynolds Runabout deserves a much better location than its little niche under the gallery. This machine is rather difficult to describe, but might be termed a "utility tandem lightweight," appealing to people who want something as handy as a scooter but altogether faster and roomier. The front portion of the machine is reminiscent of the cockpit of a car, consisting of a broad dash and floor some sixteen inches wide, which enables the rider to keep perfectly clean whilst wearing his ordinary clothes. The main horizontal frame members are of ten-gauge tube. The rear half of the frame is carried upward by means of two vertical struts and upper cross pieces. In the compartment so formed, the two-stroke engine and gear box are carried, being demountable by the removal of four bolts. The petrol tank is located above the engine, supported by means of laminated and coiled springs. On the top of this compartment is a platform carrying a small bucket seat for the driver. The platform is long enough to take another bucket seat for the pillion rider or a parcel box as required. The sides of this rear compartment of the frame are cowled in with sheet metal panels secured by spring clips. In front of the engine is a wire dressguard. Cooling ought to be satisfactory, as the rear cowls are splayed out to catch the draught. An oil tank and tool box are carried on the metal dash. Clutch and brake pedals are in the floor of the cockpit, and the kick starter is also mounted here, and connected to the engine by a long horizontal rod. The machine scales about 190 lb. As this is somewhat heavy for an elderly woman to raise on to the stand, the designer has incorporated a lever some eighteen inches long; the ease with which the machine can be put on the stand by means of this lever is simply astonishing. A child could operate it.



The Reynolds tandem-seated miniature, fitted with two-speed gear and clutch, a two-stroke engine, and 550 × 65 mm. tyres.

COVENTRY VICTOR. (247, Gallery.)

5-7 h.p.; 75×78 mm. (688 c.c.); flat twin-cylinder four-stroke; side-by-side valves; semi-automatic sump lubrication; B. and B. or Amac carburetter; chain-driven magneto; three-speed Sturmey-Archer gear; chain drive; 650×65 mm. tyres.

Coventry Victor Motor Co., Ltd. Coventry.—In addition to a full range of its well-known engines, this company stages a complete motor cycle constructed of its special fittings. Any cynic who holds that a full-sized flat twin cannot be accessibly housed in a motor cycle frame should study this machine. The magneto, carburetter, and valves are all instantly get-at-able. Each cylinder can be de

Rely on C.A.V.

FOR IGNITION

C.A.V. Magnetos
BRITISH THROUGHOUT

have established a record second to none. You may absolutely depend upon

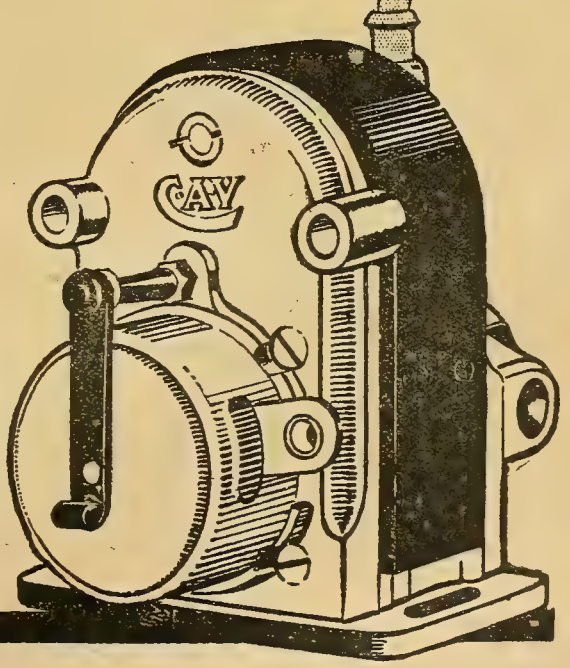
C.A.V. SPARKING PLUGS

to maintain that reputation

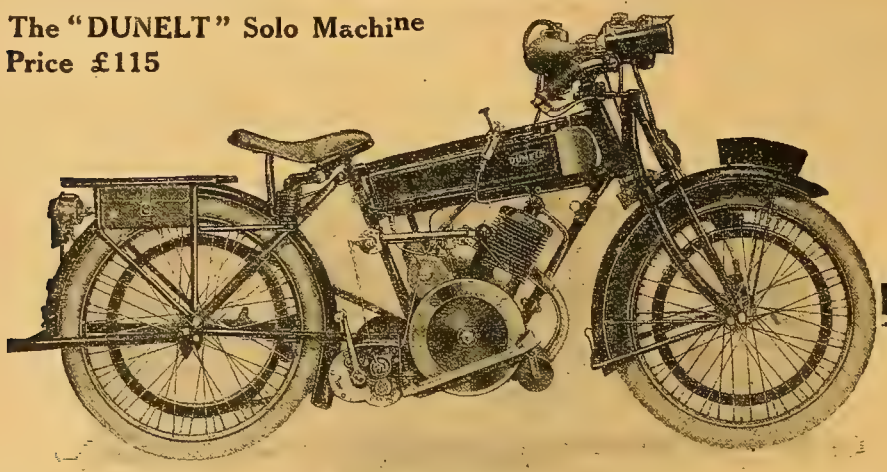
Model K.U.1 Magneto for Single Cylinder Machines and
Model K.U.2 Magneto for Horizontally Opposed Machines

C.A.V. Mica Plug, specially suited for hot, oily engines. Guaranteed to stand up to the highest speeds obtainable on road or track

See them at the Show



The "DUNELT" Solo Machine Price £115



AGENTS: We are now arranging agencies for 1921—write us for particulars.

DUNELT
TWO-STROKE

The only 500 c.c. Air-cooled Two-stroke on the Market!

If visiting the OLYMPIA SHOW, don't fail to see the "DUNELT"—it has many original features that will interest you, many superior points that merit your consideration—and is altogether a machine of outstanding quality and efficiency.

The ENGINE is quite original and for simplicity, accessibility, and power, stands supreme. An inclusive and important feature is the Truncated Piston, whereby a larger charge of gas is drawn into the Crank Case, and transferred to the Combustion Chamber, thus improving the scavenging.

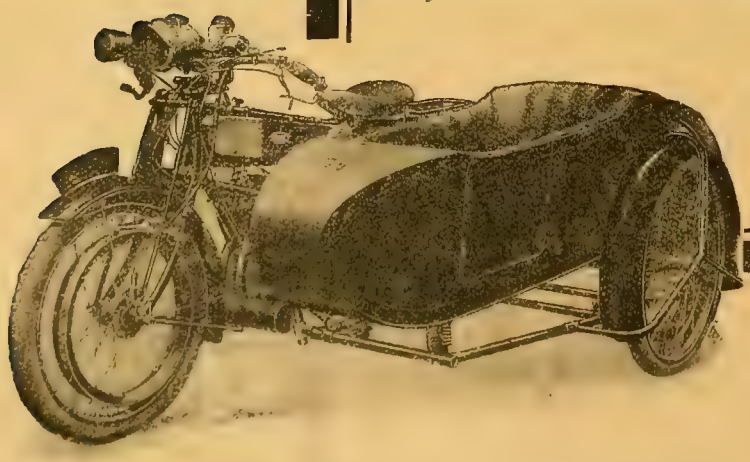
It is most flexible, will two-stroke perfectly at all speeds, develops 10 to 12 h.p., and will keep cool under the most trying conditions.

Make a note of the Stand "No. 138," and let it be one of your first calls—or failing a visit, write us for Catalogue.

AT OLYMPIA STAND No. 138

"DUNELT" machines gained TWO GOLD MEDALS in the A.C.U: SIX DAYS TRIALS.

DUNFORD & ELLIOTT (Sheffield) Ltd. Bath Street, BIRMINGHAM



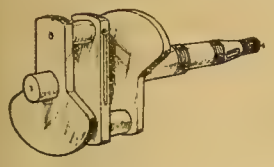
F. W. Wall.

The "DUNELT" Combination, Price, complete, £150

In answering this advertisement it is desirable to mention "The Motor Cycle."

The Olympia Show.—

tached if necessary, leaving the rest of the engine in position. If the exhaust unions are unscrewed, and the clamp plate beneath the engine is removed, the entire engine can be lifted out on the right-hand side of the machine. There is no more accessible job in the Show. Another unusual item is the provision made for removing the back wheel. The slots in the rear fork-ends are unusually



The balanced crankshaft of the Coventry Victor horizontally opposed twin.

long, and, by running up the draw bolts with the fingers, the back wheel can be brought so close up towards the engine that the chain can be slipped off the sprocket, after which the wheel can, of course, easily be withdrawn from the fork-ends.

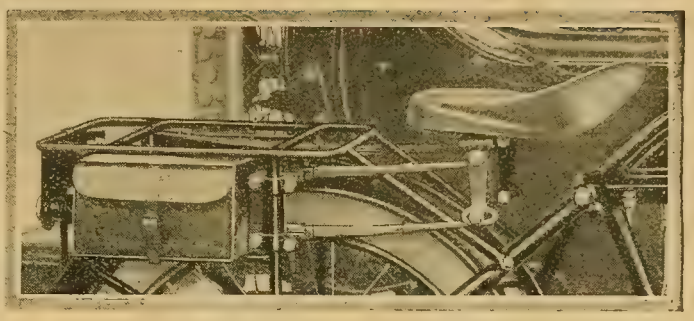
J.E.S. (111.)

1 h.p.; 56.6×60.3 mm. (146 c.c.); single-cylinder four-stroke; inlet overhead exhaust valves; mechanical lubrication; J.E.S. carburetter; gear-driven magneto; single-speed gear; belt drive; Dunlop 26×1¾in. tyres.

J.E.S. Motor Works, Gloucester.—Originally designed as an attachment to

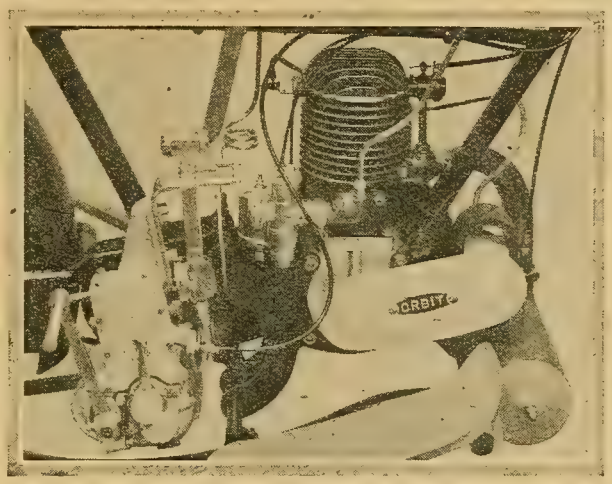
A sectioned Show exhibit of the Simplex bicycle attachment, showing the two-stroke engine clutch and magneto drive.

a pedal cycle, and still obtainable for this purpose, the J.E.S. engine is shown fitted to a specially built machine with spring forks. The power unit, although so small, is extremely interesting. A very neat automatic carburetter of small size is fitted, and the rocker gear for the overhead inlet valve is contained within the induction pipe. The valve chamber is separated from the cylinder by a large air space to assist in cooling, and mechanical pump lubrication with a large oil sump is provided. An "overhung" crankshaft is used, with a light return crank on the timing side to drive the valve gear. By undoing a few screws on the flywheel side of the crank case, the crankshaft can be removed bodily. A magneto is supported behind the cylinder and gear-driven, and the whole engine is slung within the frame by aluminium clamps. Transmission is by belt with a jockey pulley; and an XL'All saddle and Druid spring forks are fitted. As the machine is nominally an assisted pedal cycle, pedalling gear is provided, but we are informed that the excellent design of the engine makes the pedalling gear almost unnecessary.



The Brooks cantilever spring saddle is used on the A.J.S. The rear halves of the springs are concealed by the tool bags.

Besides the machine just named, the J.E.S. Motor Works are also exhibiting a 2 h.p. two-stroke of normal motor cycle build. The two-stroke engine is of their own manufacture, and is provided, like the four-stroke machine, with the new J.E.S. carburetter. The Runbaken magneto is gear-driven.

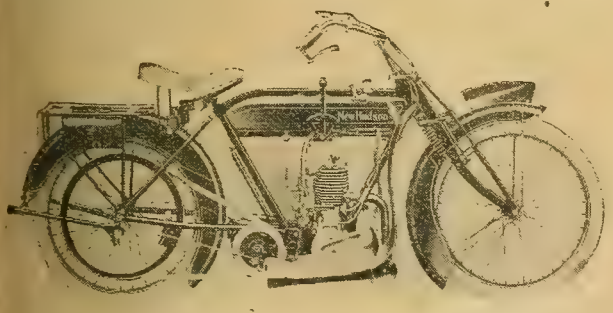


The only four-speed gear box in the Show. The Olympic lightweight fitted with a Jukes gear.

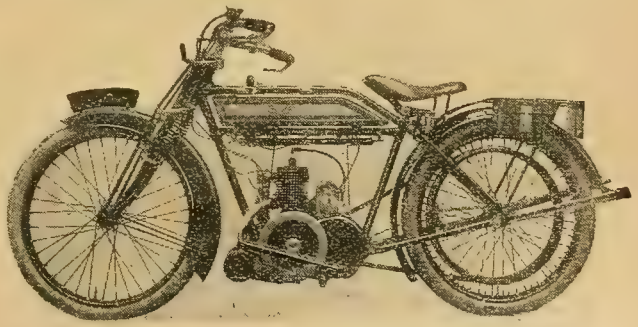
VINDEC. (191.)

2½ h.p.; 64×70 mm. (226 c.c.); single-cylinder two-stroke; hand pump lubrication; chain-driven magneto; two-speed dog clutch gear; chain and belt drive; 26×2¼in. tyres.

Brown Bros., Ltd., Great Eastern Street, London, S.E.—A thoroughly practical little mount with very pleasing outlines, the Vindec lightweight is the only 1921 model bearing this historic name. The detail finish is very good, and plated parts have been reduced to a minimum. The engine is of the conventional three-port type, but the gear box differs from general practice by reason of the fact that no spur gear wheels are used. A chain from each side of the engine drives sprockets on a shaft, and either may be dogged to the member upon which is carried the pulley for the final drive.



Equipped with neat leg guards and large footrests, this little New Hudson is attracting much attention from business men.

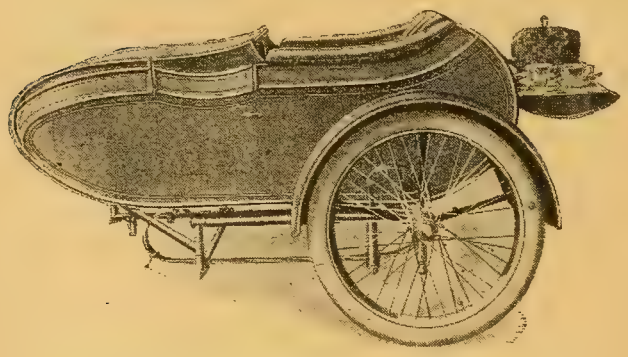


An old name and a well-known firm are associated with the 2½ h.p. Vindec.

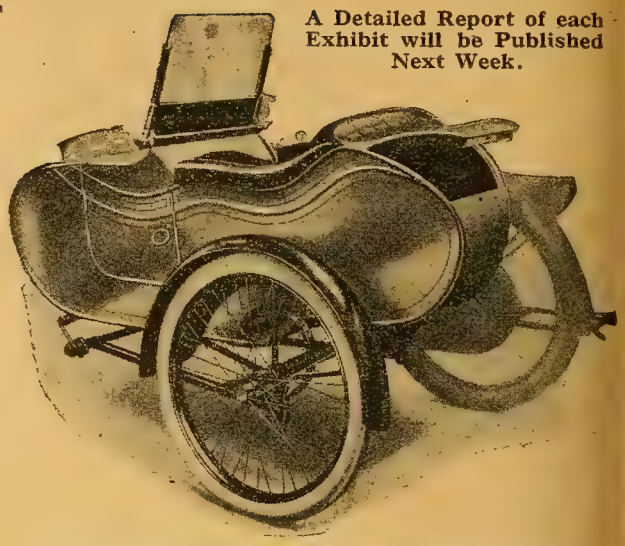
SIDECAR DESIGNS AT THE SHOW.

Passing Impressions of Latest Sidecar Practice.

A Detailed Report of each Exhibit will be Published Next Week.



A hinged dash and bulbous back are features of this Rideasy sidecar; incidentally the lid of the locker serves as an admirable picnic table.



Lightness of chassis construction is not sacrificed in the Montgomery-de-Luxe touring sidecar, despite the full equipment.

SIDECAR construction has progressed along steady lines for a number of years, and with one or two exceptions no startling constructional innovations have been introduced this year.

Perhaps one of the most noticeable features is that the fixing of mudguards to a rigid part of the chassis is rapidly going out of fashion, attachment to the body being in greater favour. This system has been used largely by the makers of the Sheffield Henderson sidecars, who adopt it on all models, and the same may be said of the touring Canoelet. The New Scale, the 3½ h.p. Sunbeam, the 7-9 h.p. Rudge, the Millford Rock, and the spring wheel Grindlay sidecars are all equipped in the same way. This is a feature which eliminates one of the most troublesome items connected with the attachment.

Extra Seating Accommodation.

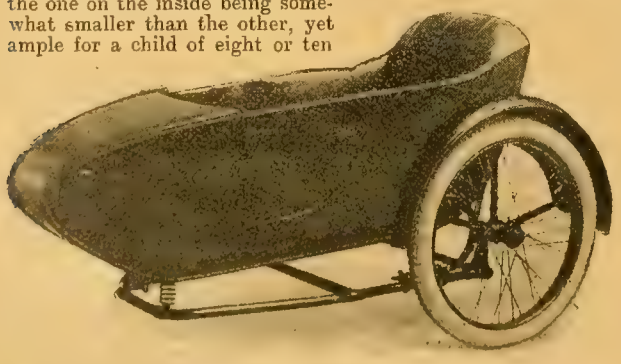
Many sidecar manufacturers are apparently realising that there is a great demand for bodies which will accommodate more than one passenger; indeed, there has always been a steady and largely unsatisfied market for a passenger attachment which would seat a child in addition to an adult passenger. Now that the power of the A.J.S. machine, for instance, has been increased, we find that a detachable dickey seat is exhibited which can be secured on a slightly lengthened luggage grid of the standard pattern; this appears a very sound means of providing for a child passenger. Dunhills, Ltd., approach the problem in another way, since one of their bodies is widened so that it makes use of the space usually wasted between the sidecar and the machine. This widened part of the body has two seats slightly staggered, the one on the inside being somewhat smaller than the other, yet ample for a child of eight or ten years. The Canoelet, Grindlay, Watsonian, and Rex sidecars also have folding seats at the rear, while the Millford family model has a body of sufficient length to take a small seat in the front part, this being supplied with the sidecar.

Spare Wheel and Luggage Carriers.

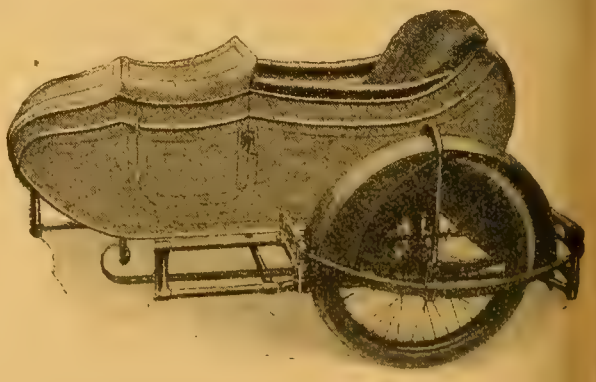
Last year the feature of the Show was the number of sidecar luggage grids which were sprung with the body, and these, of course, have become the accepted practice during the last twelve months. A slight variation of this arrangement is seen on the Triumph Gloria chassis, on which the luggage grid is separately sprung. Various arrangements are used for supporting spare wheels, which are now part of the equipment of the majority of the high-powered outfits, but it is rather disappointing to notice in many cases that no provision is made for keeping the wheel itself stationary upon its bracket; amongst those which may be excepted from this criticism is the Royal Ruby, the spare wheel carrier of which has a dog engaging with the driving dogs of the wheel, and so preventing it idly rotating when it is not in use.

The Springing of Sidecars.

It might have been hoped that more development in the direction of complete chassis springing would have been observable, but with the outstanding exception of the Millford Rock there are no new systems of wheel springing to be seen. The attachment just mentioned is, of course, unique, in that it has no chassis properly so called, but merely consists of a swinging cranked axle mounted in bearings beneath the specially strengthened floorboards of the

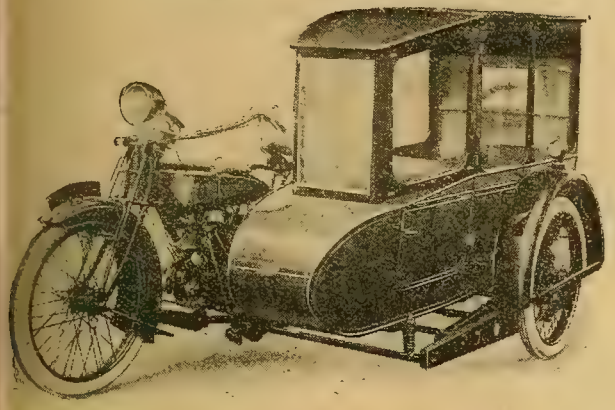


Though suitable for low-powered machines, the Royal Leicester lightweight model has a comfortably upholstered body.

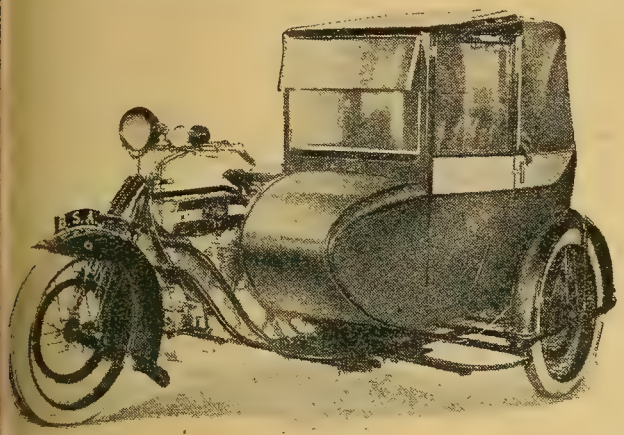


Laminated semi-elliptic springs support the wheel of this luxurious Sandum model.

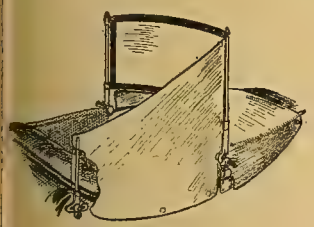
TAXI SIDECARS ARE A FEATURE.



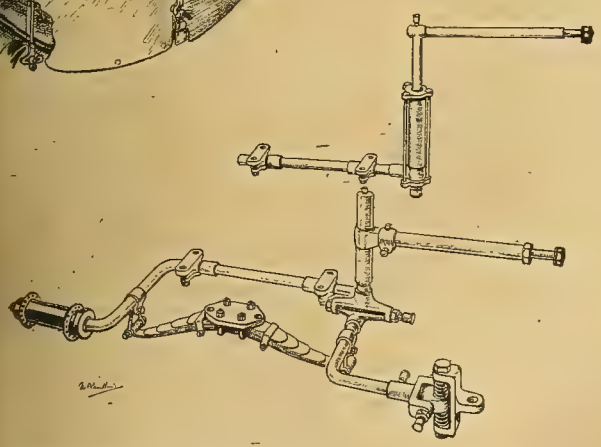
Staggered seats with a space for luggage are features of the Rex taxi sidecar. The engine is an 8 h.p. Blackburne.



The possibilities of the sidecar are amply demonstrated at this year's Show. The example illustrated is the double-seated Canoelet fitted to a twin-cylinder, three-speed B.S.A.

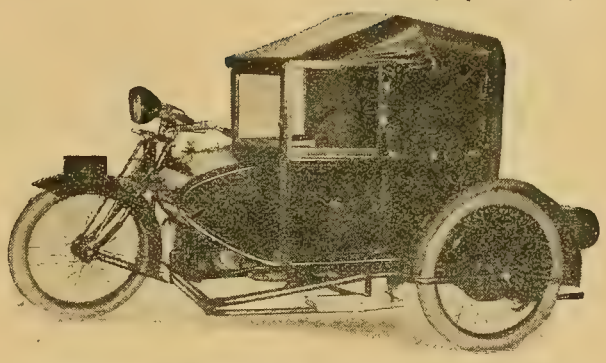


For sidecars the Cameo curved windscreen, apron, and side curtains afford excellent protection.

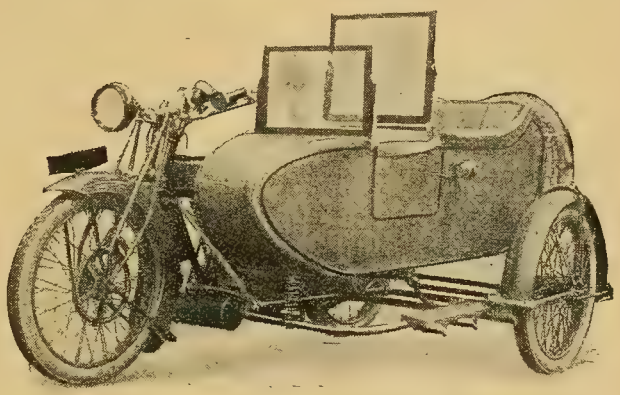


Shock absorbers, special joints and a transverse spring are features of the Millford Rock "chassisless" sidecar.

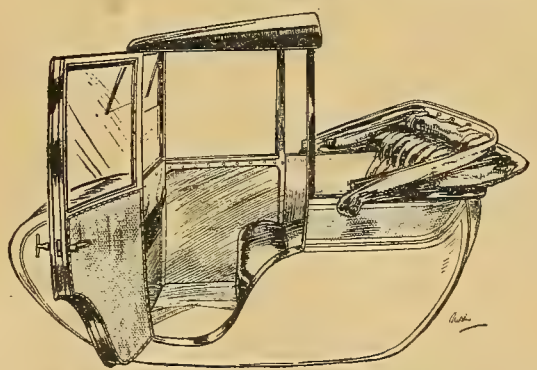
The Olympia Show.—



Nottinghamshire readers will be familiar with the 8 h.p. Campion taxi sidecar, as it has appeared on the streets of the Notts capital for months past.

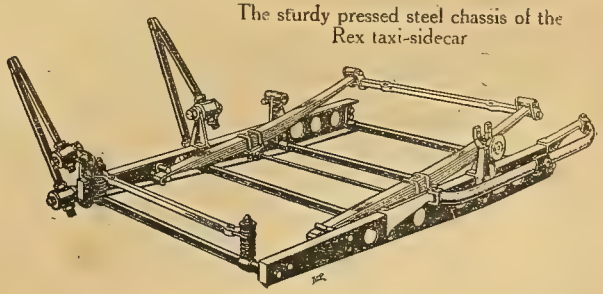


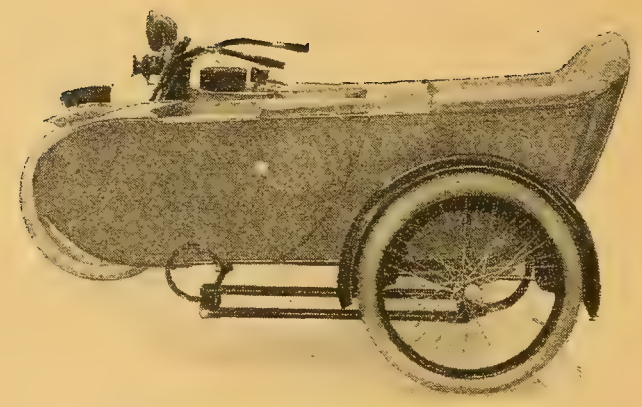
Threequarter view of an 8 h.p. Matchless, fitted with a double seated sidecar. The new front wheel band brake will be observed.



This cabriolet Canoelet sidecar taxi is designed to defy the weather

The sturdy pressed steel chassis of the Rex taxi-sidecar





Millford tandem-seated sidecar, one of a variety of sidecar models exhibited by Mills-Fulford.

body, and a front connection which is capable of vertical movement and a slight amount of radial action. Special claims for this construction are that the comfort is greatly increased, and that shocks are not transmitted from the sidecar axle to the motor cycle itself. While dealing with spring-wheeled sidecars, of course, we must not forget such satisfactory and well-tried examples as the Grindlay, Sheffield Henderson, Bat, Matchless, Clyno, Royal Ruby, and Triumph Gloria; incidentally, the latter has been somewhat simplified.

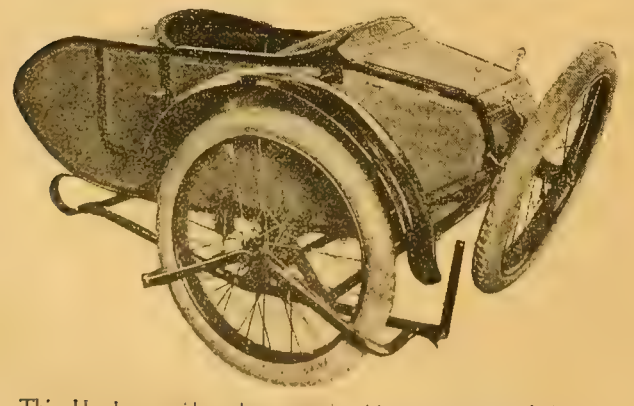
Special Models.

Apart from the touring patterns, there are, of course, the usual examples of special construction, such as ultra light sporting attachments and highly elaborated exhibition bodies; the latter, of course, sometimes appear overdeveloped, and possibly are not made for serious use under all sorts of weather conditions, nevertheless they are satisfactory examples of the coachbuilder's art. Amongst the sporting models may be mentioned the Royal Leicester in polished aluminium; also the Montgomery, Grindlay, and Canoelet. The last named, which is more than well known, is shown equipped with a torpedo apron and celluloid screen, in addition to the detachable backrest, which all contribute to the comfort of the passenger.

An unusual method of chassis construction is seen in the U.A.C. sidecar attached to a Blackburne machine. Its appearance is very reminiscent of the tubular construction used in certain aircraft work, and a very complete system of triangulation is followed.

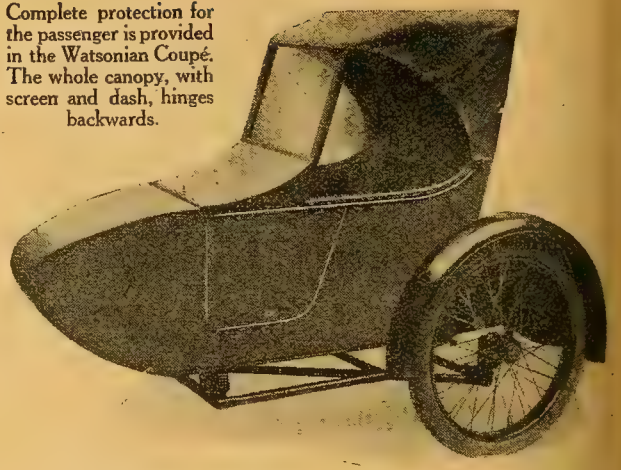
Sidecar Taxicabs.

As an example of the way in which the sidecar outfit has established its position as a perfectly reliable vehicle, we may point to the many efforts which are being made to produce a satisfactory sidecar-taxicab. Many designers are endeavouring to comply with the legal requirements involved, and two examples are shown on the stands of



This Henderson sidecar has exceptional luggage accommodation. The lid of the compartment serves as a luggage platform.

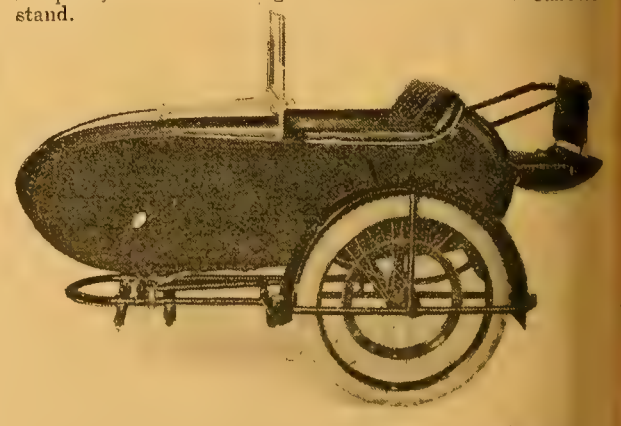
Complete protection for the passenger is provided in the Watsonian Coupé. The whole canopy, with screen and dash, hinges backwards.



prominent sidecar manufacturers. These are the Canoelet and Watsonian, and both of them would appear to answer all requirements; in addition, the Rex, Martinsyde, and Campion all stage complete taxi outfits. An ordinary two-seater touring sidecar is shown by Mills-Fulford. This is mounted on a standard chassis, and is not unduly long, since only one door is fitted, and access to the rear seat is gained by swinging aside the front seat and backrest.

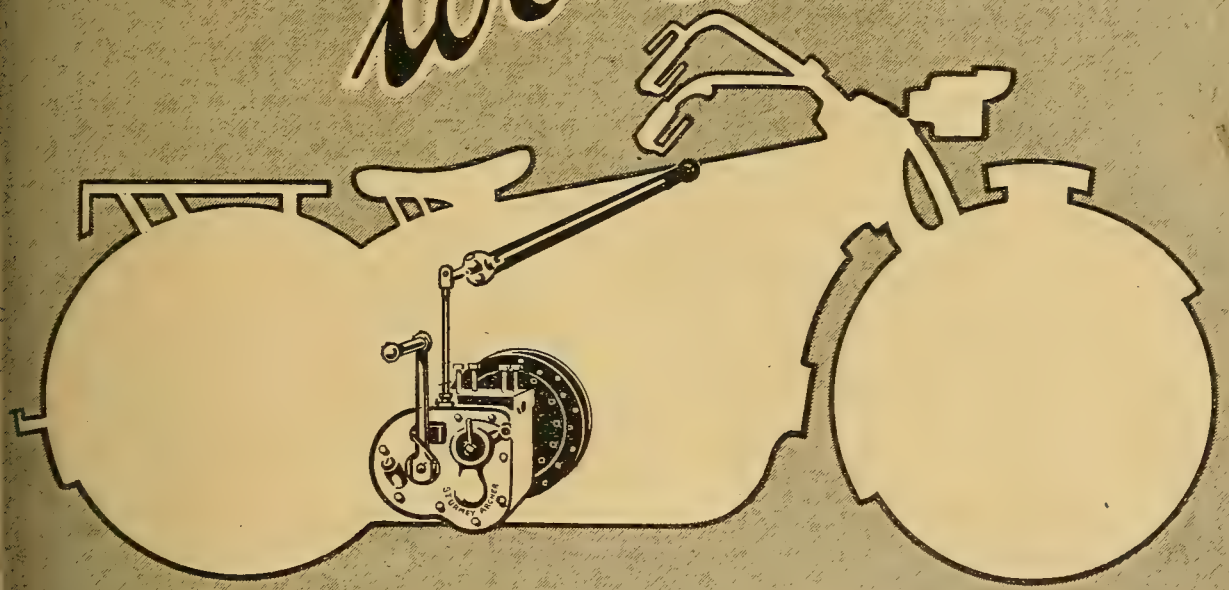
Accessories and Fittings.

There is a growing tendency on the part of sidecar manufacturers to incorporate their own fittings, such as hoods and windscreens, despite the fact that many excellent devices of this nature are already on the market. Worthy of special comment in this direction are the V-shaped screens shown on the C and M sporting model, and also that on the British Excelsior. A novel type of windscreen is also shown on the Canoelet Model T. This has a celluloid sheet held in a leather frame curved to correspond with the fore part of the sidecar. At the outset it is carried on a vertical swivelling rod attached to the door, so that the opening of the latter swings the screen aside, thus permitting of ready access. Another small refinement which is found on a great many sidecars is a step which adds greatly to the passenger's convenience. Examples of these are seen on the Beardmore-Precision, which has a spring chassis, the Harley-Davidson, the Ariel, and the C. and M. On the luxurious Grindlay spring wheel sidecar the step is secured to the body; this is rather unusual. Amongst manufacturers of proprietary sidecars there does not appear to be much effort to produce an attachment which may be readily used with any of the more powerful machines equipped with detachable and interchangeable wheels, and at the same time allowing for interchangeability of the sidecar wheel. This, however, has been done in the case of the Sheffield Henderson (special Elite model), which can be adapted to take any of the standard types of interchangeable wheels, and a special bracket is provided for the spare; a similar arrangement is shown on the Canoelet stand.



A dickey seat and streamline dash, with screen, are features of this Canoelet.

If its a Good Motor Cycle look for



STURMEY ARCHER

COUNTERSHAFT GEAR

AT STAND No. 190, OLYMPIA.

AUTOGLIDER

The name to conjure with.

DO NOT FAIL TO SEE OUR EXHIBIT AT OLYMPIA

STAND No. 21

LOOK FOR THE MOST CROWDED STAND
and be sure you see
THE MOST INTERESTING EXHIBIT.

We are showing 6 models which cater for all classes of solo riders. Do not fail to see the type "A" Autoglider, the only make of standing machine which has survived the test of time, and the only machine designed for two.

The Autoglider has an unassailable record during 1920

It was the first practical machine of its class and is now the acknowledged leader.

TYPE D
(as illustrated)
55 gns.
D/d B'HAM.

PATENT HANDLE-BAR CONTROLLED CLUTCH,
5 gns.
EXTRA.

The finest lightweight proposition for 1921. See the wonderful Autoglider springing, and the new patent Autoglider handlebar controlled clutch, which can be fitted to all our 1919 and 1920 models.

Specify the Autoglider clutch if you are buying a motor cycle fitted with Villiers engine.

Our representatives at the show are practical men, and have an intimate knowledge of the subjects they are there to explain.

If you cannot get to the show, send for full particulars of the best 2½ h.p. machine on the road.

AUTOGLIDER, LIMITED,
BIRMINGHAM.

In answering this advertisement it is desirable to mention "The Motor Cycle."

RUNABOUTS AT OLYMPIA.

Latest Examples of Three-wheeled Passenger Machines available in 1921.

CASTLE-THREE (42.)

10 h.p.; 62×100 mm. (1,207 c.c.); four-cylinder water-cooled four-stroke; side-by-side valves; pump and trough lubrication; Solex carburetter; Watford silent chain-driven magneto; two-speed and reverse epicyclic gear; shaft drive; 710×85 mm. tyres. Price £295, including dynamo and spare wheel.

CASTLE MOTOR CO., LTD., Kidderminster.—The Castle-Three runabout is one of the most elaborate and refined three-wheelers ever built, and, except for the single rear wheel, its specification is almost identical with that of a small car. The exhibit comprises a stripped chassis and a very handsome model with primrose coachwork and black wings. It weighs 10 cwt. complete. The man who contemplates purchasing a vehicle of this type will desire to satisfy himself that it is comfortable, substantial, and accessible. These three points appear to have been admirably safeguarded. The front springs are quarter-elliptics, rigidly bolted to the axle and the frame, while the rear springs are semi-elliptics, 40in. long, and practically flat when under load. The pressed steel frame is an index to the general sturdiness of the design. Accessibility is most carefully attained. The four-cylinder engine, which is bolted to a sub-frame, can be lifted out after four bolts have been removed. The gear box is rapidly detachable, the lower half of the casing remaining permanently in position so that alignment cannot be lost. The rear wheel can be withdrawn through the lid of the tail box in less than a minute, and all three wheels are interchangeable.

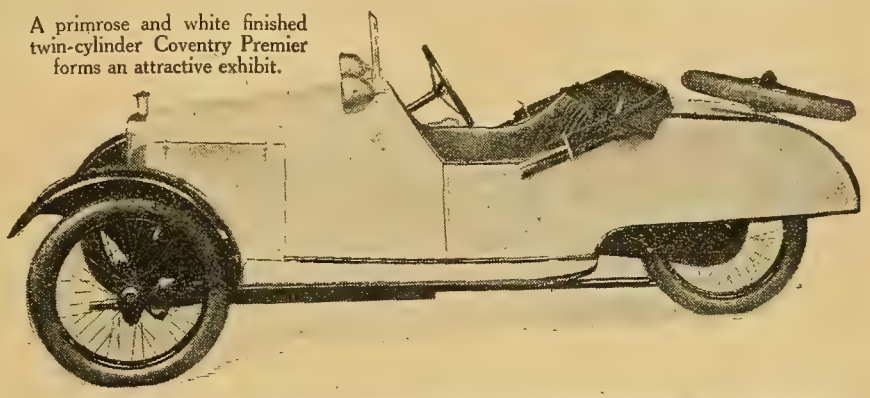
Details of special interest are the Ford-type steering gear, with a simple adjustment for rake on the column. The gear box is epicyclic, two forward speeds being operated by a combination of the gear lever and a pedal. The petrol tank can be removed by unscrewing two bolts. Lubrication is by pump and trough, a level tap being provided on the crank case and a pressure gauge on the instrument board. A consumption of forty-four miles to the gallon is claimed.

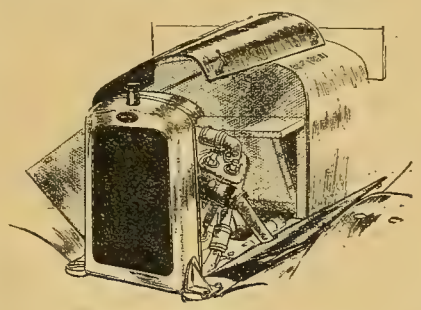
COVENTRY PREMIER. (94.)

8-10 h.p.; 80×105 mm. (1,055 c.c.); twin-cylinder four-stroke; side-by-side valves; pump and splash lubrication; Cox-Atmos carburetter; bevel-driven magneto; three-speed and reverse gear; shaft and chain drive; 700×80 mm. tyres; dynamo lighting. Price £288 15s.

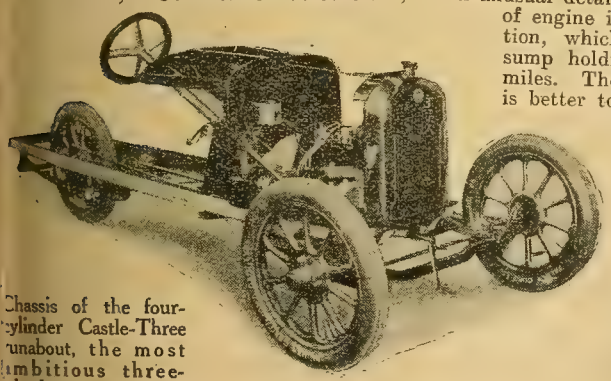
COVENTRY PREMIER CO., Coventry.—The Coventry Premier super-runabout occupies a position intermediate between the Morgan and the Castle Three in respect of elaboration. For example, it combines a three-speed and reverse gear box with a twin-cylinder V engine. The exhibit comprises a stripped chassis and two handsome touring models finished in primrose and grey respectively. The substantial construction of the frame is worthy of notice, channel steel side members being diagonally trussed by steel tubes welded into the shape of an X. An unusual detail for a motor cycle type of engine is the automatic lubrication, which is by pump from a sump holding enough oil for 175 miles. The designer holds that it is better to guard against lubrication failures by first-class workmanship than to fit a messy indicator on the dash. The machine weighs about 7 cwt., and does 55 m.p.g. The rear springing is unusually sensitive, the rear frame being hinged at the axis of the sprocket, and damped by quarter-elliptic springs built up of many thin leaves. Chain adjustment is performed by eccentrics at the front pivot of the rear frame. In considering the price it is necessary to remember that a spare wheel and dynamo lighting are included. On the other hand, the front and back wheels are not interchangeable. The back wheel has a knock-out spindle, the off side end of which is reached through a sliding panel in the chain case. The brake adjusters are of the perforated yoke type, which is becoming almost universal on cycle cars, the link pin being fitted in one of several pairs of holes drilled in the yoke.

A primrose and white finished twin-cylinder Coventry Premier forms an attractive exhibit.





Three pieces are used in the Coventry-Premier bonnet, the sides being hinged from the chassis, while the top is held on by spring clips.

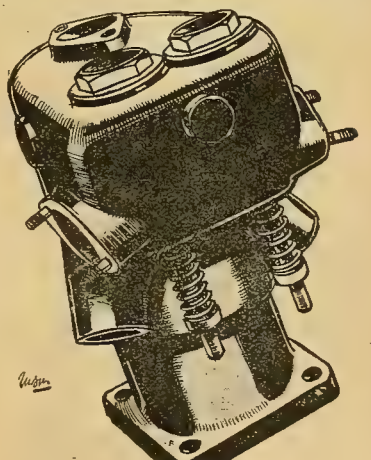


Chassis of the four-cylinder Castle-Three runabout, the most ambitious three-wheeler at Olympia.

L.S.D. (40.)

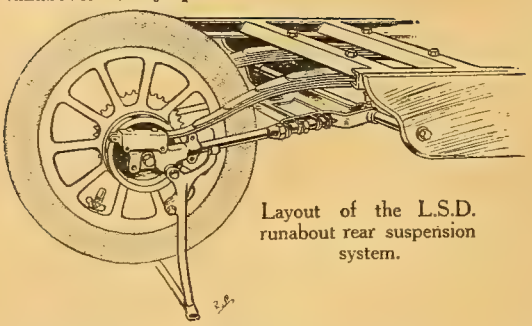
8 h.p.; 85.5×85 mm. (976 c.c.); V twin-cylinder four-stroke; side-by-side valves; splash lubrication; Amac carburetter; gear-driven magneto; two speeds forward and reverse; shaft and chain drive; 700×80 mm. tyres. Price £235.

SYKES AND SUGDEN, LTD., Linthwaite, Huddersfield.—The L.S.D. exhibit comprises a bare chassis, a touring model, and a light delivery van, both touring and van bodies being finished in a pleasing shade of dark green. Huddersfield



Careful disposition of ports and connections on the Coventry Premier V twin engine allows interchangeability of the cylinders

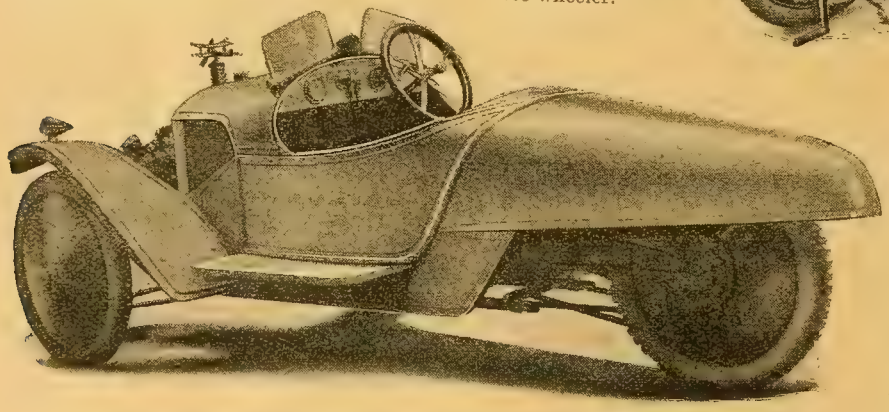
Runabouts at Olympia.



Layout of the L.S.D. runabout rear suspension system.

is the birthplace of this machine, and competitors in the 1920 Six Days will recognise that a three-wheeler which does not fall to pieces in the Huddersfield district will stand up anywhere. It is claimed by the makers that they have been unable to damage their chassis by any ill-usage to which the roads round its home can subject it. At the rear the springs are long quarter-elliptics sliding in grease boxes at the ends; the front springs are of the enclosed helical type, packing being used to give a certain additional pneumatic effect.

The method of detaching the rear wheel is ingenious. On the spindle nuts being removed a small plate, machined with one flat side, is withdrawn from each end of the axle, and allows the wheel to drop out; the brake connections must previously be released, but this is a simple matter, as the link pin is secured by a spring clip. A motor cycle type of stand is used for raising the rear wheel so that no jack need be carried. Gear control is unusual and quite foolproof; reverse is operated by a separate lever. Good provision is made for the various adjustments which may be necessary, the rear chain being set by means of substantial radius rods. The touring body is roomy and comfortable; entry is easy and convenient, a point overlooked on not a few three-wheeled designs. The weight of the complete touring model is given as 7 cwt., and up to sixty miles per gallon has been attained on test. Sankey steel artillery wheels are used, and are shod with 700 × 80 mm. tyres, and a J.A.P. 8 h.p. engine is installed to provide the motive power of this ruggedly constructed three-wheeler.



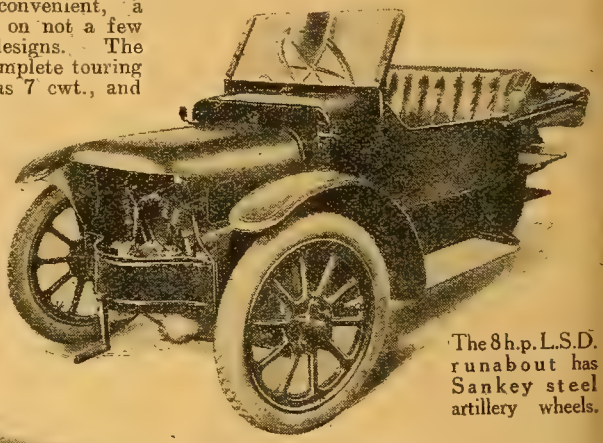
Aero model Morgan Runabout having a polished dashboard with flush fitted instruments and twin windscreens.

MORGAN. (93.)

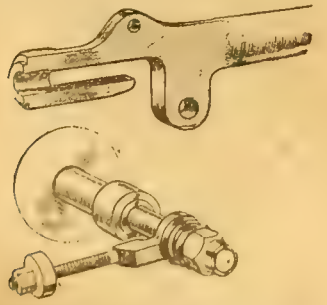
8 h.p. J.A.P., 10 h.p. M.A.G.; 82× 102½ mm. (1,100 c.c.); two-cylinder four-stroke; J.A.P. side-by-side valves, M.A.G. overhead inlet valves; splash lubrication; Amac and B. and B. carburetters; gear-driven magneto; two-speed Morgan gear; shaft and chain drive; 700× 80 mm. tyres. Price sports model £206; family model £235.

Morgan Motor Co., Ltd., Malvern.—The Morgan comes to the Show with an extraordinary run of post-war competition successes to its credit, gained by over thirty different drivers, which shows that private owners as well as trade drivers, can win medals on Morgans. The exhibit comprises a water-cooled chassis and six different examples of the complete models, of which special interest is evinced in the grey sporting model and the royal blue four-seated family machine.

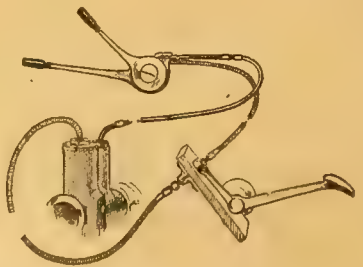
The merest glance at the chassis will indicate what a high value the designer places upon simplicity and light weight as compared with other designers of three-wheelers; the chassis still scales less than 3 cwt. As the machine has been practically invincible in its class for several years, few alterations have been found necessary. The most important consists of facilities for removing the rear wheel. Mr. Morgan prefers to rely on a vertical slot in the rear fork ends through which the rear spindle can always be freed from the draw-bolt slides. Both chains now contain the same number of links, so that they can be changed over to equalise wear. The pivot spindle of the rear forks is mounted on cones which are rapidly adjustable if any shake should develop in the rear frame. Provision is made for mounting a dynamo with adjustment for the Whittle belt. A four-speed gear is now listed as an option, at a price of £20. Either J.A.P. or M.A.G. engines may be fitted, and in future the driving chains will be interchangeable to equalise wear. Many variations of the popular Morgan are obtainable, but all follow the same clean and simple lines indicated above.



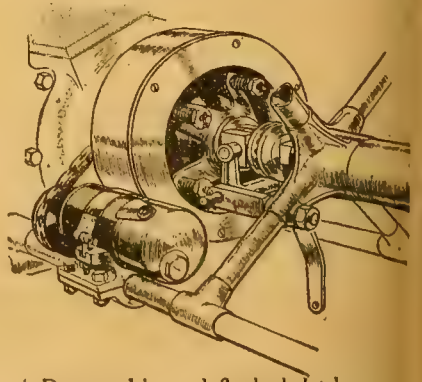
The 8 h.p. L.S.D. runabout has Sankey steel artillery wheels.



A modification of the Morgan rear-fork end permits the wheel to be removed without uncoupling the chains.



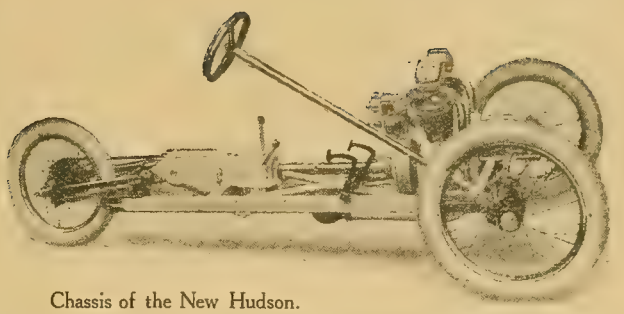
Foot and hand control provided for the throttle of the Binks carburetter on the Morgan Runabout.



Dynamo drive and flywheel clutch on the latest Morgan Runabout.

Runabouts at Olympia.

The clean broadside of the new 10-12 h.p New Hudson runabout.

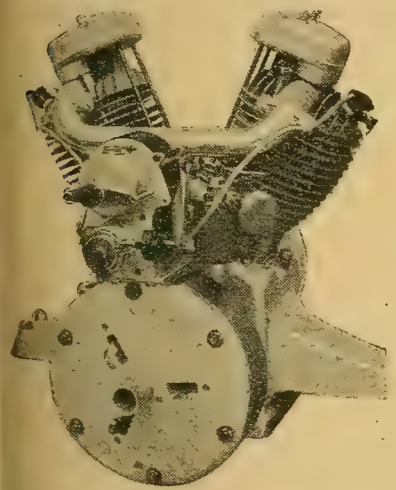


Chassis of the New Hudson.

NEW HUDSON.

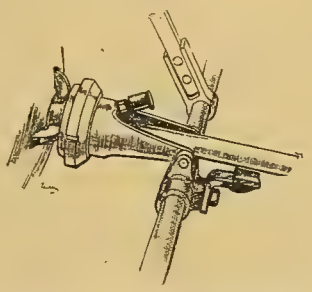
10-12 h.p.; 85×110 mm. (1,250 c.c.); twin-cylinder four-stroke; overhead valves; Benton and Stone lubrication; B. and B. carburetter; chain-driven magneto; three-speed and reverse New Hudson gear; shaft and chain drive; 700×80 mm. tyres. Price £250.

New Hudson, Ltd., St. George's Works, Icknield Street, Birmingham.—The three-wheelers on the New Hudson stand are one of the chief attractions of the Show, several complete vehicles being staged, together with two stripped chassis, engine, and a rear frame. The



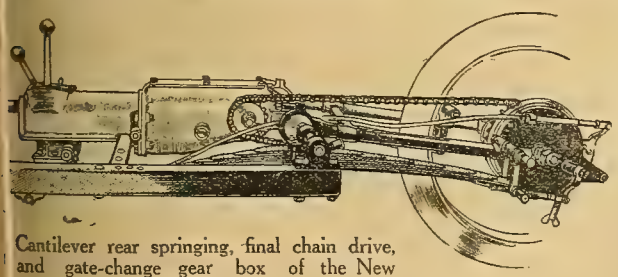
The engine has overhead valves, and is rated as 10-12 h.p.

nachine is a notable addition to its class, ombining obvious strength with a high legree of refinement and surprisingly low rice. The chassis is on rugged and imple lines, consisting primarily of two erfectly straight channel steel side iembers connected by a channel steel ross member in front of the engine, and nother channel cross member under the gear box. These cross members are braced by two steel tubes welded at their points of intersection. Mounted in brackets at the rear end of the main frame is the tubular member on which the rear forks are located. The front springing is by quarter-elliptics rigidly bolted to the axle and frame, and rear springing is carried out by extremely long cantilevers. The 1,250 c.c. engine, which is New Hudson manufacture throughout, is a 50° twin mounted on the chassis by brackets cast integral with the crank case. Radiating fins on the cylinders are of exceptional depth; detachable heads are secured by three bolts apiece. All valves are overhead, the rocker gear being encased in aluminium oil boxes. Between the angle of the cylinders lies the camshaft, and a Lucas Magdyno is driven directly off the rear end. Driven by silent chain with idler adjustment, the starting handle engages the front end of the camshaft.



A clutch stop operates on the underside of propeller-shaft of the New Hudson three-wheeler.

A single-plate Ferodo-faced clutch is used, from which the drive is taken by a shaft to a three-speed and reverse gear box and bevel gear. The final drive is by chain, tension being readily maintained by means of double eccentrics. Steering is by rack and pinion neatly mounted inside the channel of the front cross member of the frame. Both brakes are on a single drum on the rear wheel, the foot brake being internal, while the hand brake is of the calliper contracting pattern. The rear wheel is detachable, a distance piece being integral with the knock-out spindle under a special New Hudson patent. The top and middle gears engage by dog clutches, the first and reverse gears being operated by sliding pinions. A flexible steel universal joint is mounted on the rear end of the clutchshaft. Brake and gear levers are centrally disposed. The complete cars are of very taking appearance, with capacious bodywork finished in dark blue, electric grey, and stone colour respectively. A dummy radiator of perforated metal fills up a nickel-plated shell of pleasing aspect. A low single panel windscreen is mounted on the top of the shallow facia board. The instrument board carries the ignition, Magdyno switches, and the lubricator. Engine control levers are mounted beneath the steering wheel. A roomy tool-box is provided in the tail, and there are two lockers under the seat, one of which is occupied by the accumulators.

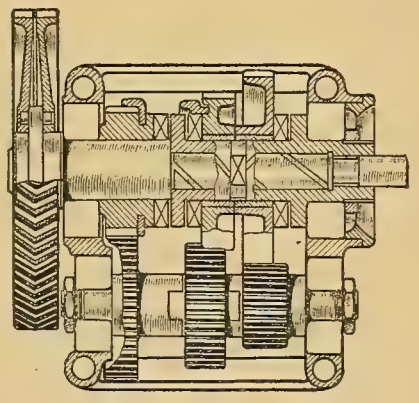


Cantilever rear springing, final chain drive, and gate-change gear box of the New Hudson.

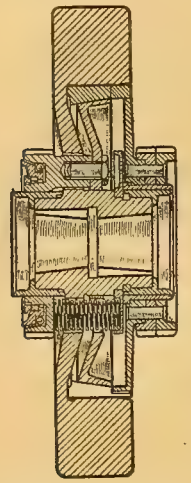
SCOTT SOCIABLE. (19.)

5 h.p.; 76.2×63.5 mm. (578 c.c.); twin-cylinder two-stroke; petroil lubrication; Zenith carburetter; gear-driven magneto; three-speed Scott gear; shaft and bevel drive; 700×80 mm. tyres. Price 260 guineas.

Scott Autocar Co., Ltd., Bradford.—The immense interest shown in the Scott Sociable is enhanced by the fact that it is known to have had several years' testing on the road. Its most interesting feature is the complete protection which it offers the driver from bad weather, whilst those who have driven in it assert that it is more comfortable than many cars. It certainly took some of the rough climbs in this year's Six Days Trials more convincingly than most of the passenger



Part sectional diagram of the Scott Sociable gear box.



Sectional view of the flywheel and clutch of the Scott Sociable.

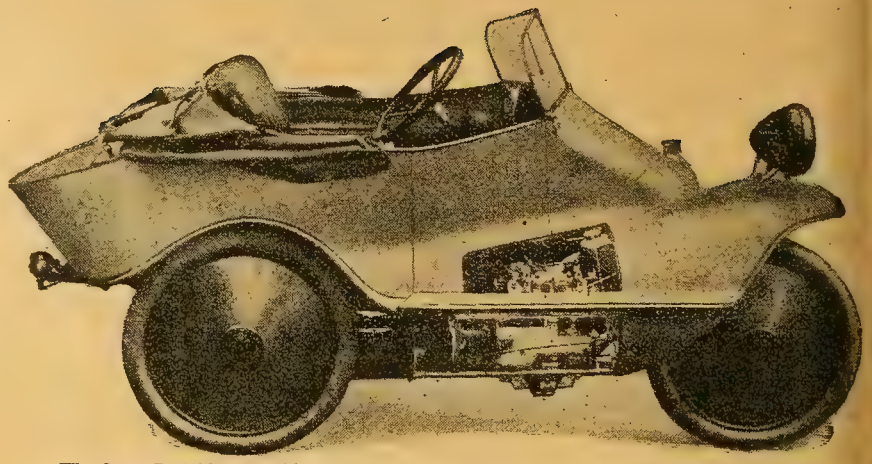
entries. The technical details of the machine have recently been fully illustrated in *The Motor Cycle* (October 20th), and visitors to the Show spend most of their time examining the details from an owner-driver's point of view with an eye to maintenance.

The engine is invisible, but can be completely uncovered by pulling down the slide above it and removing the lower cover. There are only three greasers on the chassis. The gear box is lubricated by engine oil at long intervals, and the bevel casing by grease. The brake adjustments are simple, and the brake bands, being of the internal pattern, can be renewed in a few minutes after the wheels have been detached. The entire power unit is attached by four nuts. Complicated as the chassis may appear at first sight, it presents no job which the average owner-driver cannot perform with ease. Many of the detail fittings of the chassis deserve close attention—for example, the clear vision windscreen, the method of storing the spare wheel, the door catches, the hood attachment, and the dickey seat. A speedometer is fitted as standard, and driven off the near side wheel Accumulators are used for lighting, no dynamo being fitted to the present model. The side lamps are very neatly sunk in the dash.

STANHOPE. (144a.)

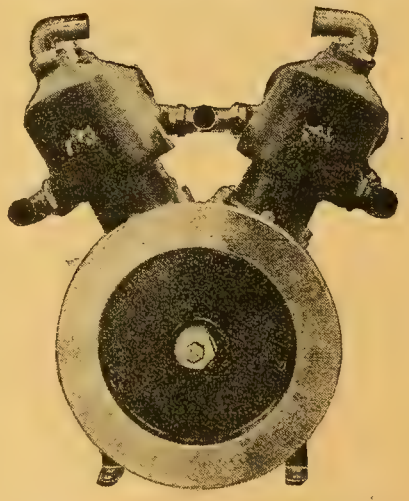
8 h.p.; 85.5×85 mm. (976 c.c); two-cylinder four-stroke; side-by-side valves; splash lubrication; B. and B. carburetter; gear-driven magneto; two-speed gear; belt drive; 700×80 mm. tyres.

Stanhope Motors (Leeds), Ltd., Dixon Lane, Lower Wortley, Leeds.—The Stanhope three-wheeler is unique in its class as being the only survivor with one combined driving and steering wheel in front and two trailing wheels behind. The details of the front wheel mounting



The Scott Sociable in its Show guise attracts much attention, notwithstanding the fact that it is located under the Gallery.

deserve close attention. Its bearing is pivoted in the middle of a long fixed axle, and the wheel is steadied by guides on rollers which are carried in a fork on a sleeve fixed to the axle. The entire layout is extremely ingenious, and the steering appears to be light. The front



10 h.p. water-cooled Blackburne engine used on one of the T.B. three-wheelers.

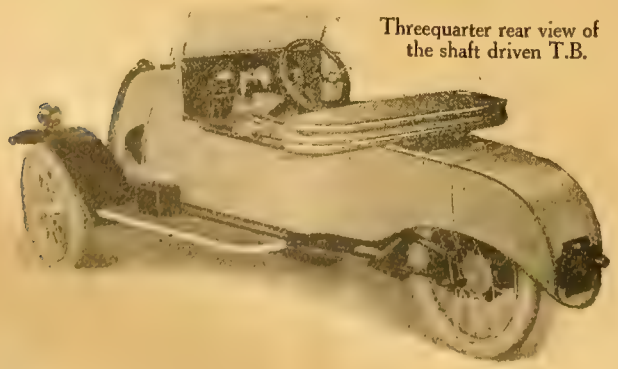
springs are quarter-elliptics bolted into slots in the end of the fixed axle. The rear axle is solid, carried on cantilever springs. One advantage of having two wheels at the stern of the chassis is that it is easier to fit a broad or heavy body without suffering from roll, and a really imposing light delivery van body is shown mounted on one of the chassis. There does not appear to be any very striking reason why the drive should not be taken to the rear axle, beyond that of saving weight. Two Whittle belts on variable pulleys provides a good range of gear ratios. The exhibit comprises a stripped chassis, a two-seater touring model, and the large delivery van already mentioned.

T.B. (31.)

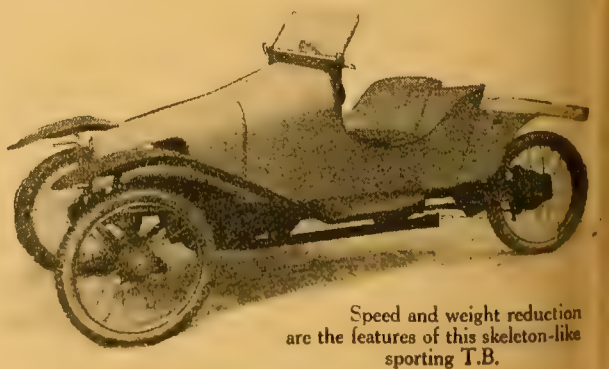
8 h.p. J.A.P.; 85.5×85 mm. (976 c.c.); twin-cylinder four-stroke; side valves; splash lubrication; Amac two-lever carburetter; chain-driven magneto; three speeds and reverse; sliding gear; shaft drive; 700×80 mm. tyres. Price £240.

Thompson Bros. (Bilston), Ltd., Bradley Engineering Works, Bilston.—Here is staged one standard chassis, together with complete samples of the three models in which the T.B. cycle car is manufactured, viz., the 10 h.p. air-cooled touring, 10 h.p. water-cooled touring, and a very racy little 8 h.p. vermilion sports model.

Cycle car enthusiasts should devote close attention to the constructional details of this vehicle, which has been painstakingly elaborated to stand up on the abominable roads round Bilston, and should prove as near fracture-proof under hard service as is possible. The manufacturers' experience in aeroplane work is suggested by the layout of the



Threequarter rear view of the shaft driven T.B.



Speed and weight reduction are the features of this skeleton-like sporting T.B.

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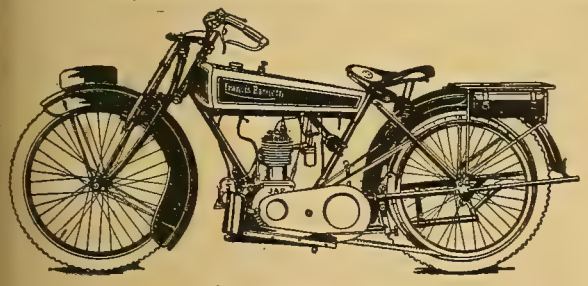

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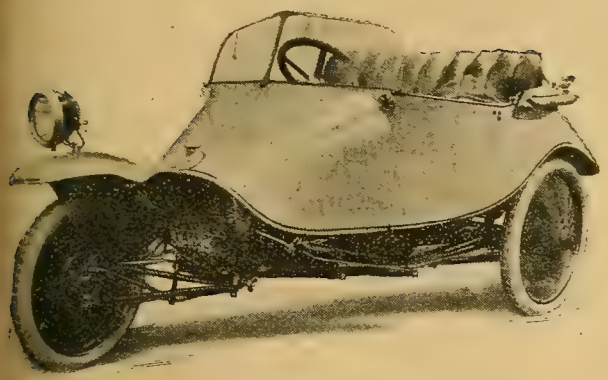


Threeequarter front view of the Scott Sociable, a double-seated sidecar type of vehicle bristling with novel features.

This model of the T.B. runabout has a 10 h.p. water-cooled engine and a roomy and weatherproof body.

chassis, which consists wholly of straight tubes with welded joints. The engine and gear box unit can be slid out from the front with remarkable ease. Points of special interest are the weights of the different models, the sports model scaling 6 cwt., while the water-cooled touring model comes out at 7¼ cwt.

The starting handle works on the same principle as a kick-starter, being geared up 2 to 1, so that a girl should be able to start the engine. The provision of a reverse gear is noticeable. There are no shackles or greasers on the front springs, which are rigidly bolted at both ends, a safety leaf being fitted. The rear springs are of the full cantilever type. The back wheel can be taken out in five seconds, and the load is not taken by the spindle but by the distance pieces. All three wheels are interchangeable. The steering column is telescopic to permit of adjustment for tall or short drivers. Should any purchaser of an air-cooled model develop a preference for water-cooling, the conversion can easily be made, since a water-cooled core can be fitted inside the dummy radiator of the air-cooled models. Provision is made for fitting a Lucas lighting dynamo.

CLUB NEWS.

Surbiton and District M.C.C.

The active Surbiton and District M.C.C. is holding its annual dinner at the Holborn Restaurant on December 15th at 6.30 p.m., morning dress to be worn. Tickets for the dinner will be available at Olympia from Mr. J. A. Masters, Harley-Davidson Stand; or Mr. Kaye Don on the Avon Stand; Mr. F. W. Barnes or Mr. W. B. Reeve on Zenith Motors Stand; or from Mr. W. Pratt, Maudes' Motor Mart, 100, Great Portland Street, London, W.1.

Redditch and District M.C.C

The autumn reliability trial for members for the Wicliffe challenge cup and medals took place on Saturday, November 20th, over a course of about sixty-five miles. The results are as follows:

WICLIFFE CHALLENGE CUP AND GOLD MEDAL.—L. Sealey (3½ B.S.A. sc.).

SOLO CLASS (Silver Medal).—W. Swiffen (4 Blackburne).

PASSENGER CLASS (Silver Medal).—H. Poole (4¼ B.S.A. sc.).

BEST PERFORMANCE by member who had not won a premier award during the season in any trial (Gold Medal).—T. Hackett (6-7 B.S.A. sc.).

Sutton Coldfield and North Birmingham A.C.

Briefly described in our issue of November 25th, the results of the trial held on November 20th are now to hand and are as follows:

BEST PERFORMANCE OF DAY (Sutton Cup and Gold Medal).—J. Roberts (3 A.B.C.).

BEST PASSENGER MACHINE (Shell Cup and Gold Medal).—H. Morgan (8 Morgan).

BEST AMATEUR.—J. Roberts (3 A.B.C.).

NON-STOP PERFORMANCES AND FULL MARKS (Silver Medals).—B. Kershaw (2¾ Verus), A. W. Thrush (4 Triumph), W. H. Riley (6 A.J.S. sc.), L. Paynter (3½ Norton), F. Giles (6 A.J.S. sc.), J. New (6 Ariel), T. F. Blumfield (6 Ariel sc.), L. J. Brown (8 Acme sc.), F. A. Watson (3½ Sunbeam sc.), G. Kuhn (2¾ Verus), and B. L. Bird (2¾ Matloe).

Wolverhampton M.C.C.

A paperchase was held on Saturday, November 20th, for the Rudge Cup and other awards, including a gold medal presented by Mr. H. R. Davis. The results are as follows: 1, Rudge Cup and gold medal, W. H. Bishop (6 A.J.S. sc.); 2, Howard Davis gold medal, Miss K. Smith (8 Sunbeam sc.); 3, club gold medal, Cyril Greenwood (3½ Sunbeam sc.).

Harrogate and District M.C.C.

The annual general meeting of the above club was held recently at the Imperial Café, when a good number of members were present. The reading of the report and balance-sheet proved the club to be in a satisfactory position, with a balance in hand of nearly £30. Mr. T. Haley was elected president, Mr. H. E. Ellis captain, and Mr. J. Baxter takes up the position of hon. secretary in place of Mr. Fortune.

It is intended to organise a reliability trial for Boxing Day, and to hold a dance, etc., early in the New Year.

North Wales M.C.C.

The North Wales Motor Cycling Club held its first half-day reliability trial on November 18th. For a few miles between Cerrig and Corwen the road was like a ploughed field. The results are as follows: Special lady's prize, Miss Mildred M. Hughes (2½ Clyno); 1st, club gold medal, S. W. Smith (6 A.J.S. sc.); 2nd, club silver medal, Owen Edwards (3½ 1908 Triumph); 3rd, club bronze medal, Frank Jones (4 Verus).

For next season an attractive programme is being prepared. Full particulars are obtainable from the hon. secretary, Mr. J. Howard Davies, 1, Ruthin Road, Denbigh.

A Club for Beckenham.

It is proposed to form a motor cycling club at Beckenham, Kent. Motor cyclists in the neighbourhood who are interested should communicate with Mr. H. W. Turner, 47, Hampden Road, Beckenham.

Belfast and District M.C.

The Belfast and District Motor Club held its smoker and prize distribution on Thursday, November 25th, in the Café Royal. The club was reorganised this season after lying dormant during the war, and, although events only commenced in June, it can be said that a successful season has been experienced. The three cups, of which the B. and D. Cup is the only one for a hill-climb—the Jaffe and Premier Cups being for reliability trials—proved a good draw, and some interesting racing was witnessed at Carnmoney and elsewhere. A handsome exclusive design has been secured for the club medals, and they formed very attractive prizes. The following is a list of the principal events and winners:

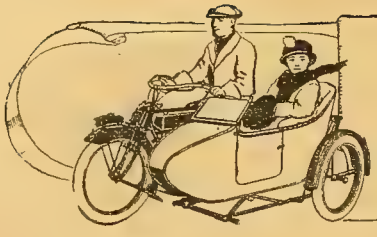
HILL-CLIMB, CARNMONEY (for B. and D. Cup), July 7th.—1 and cup, E. Thompson (3½ Rudge); 2, P. Bell (3½ Norton); 3, J. Boston (4 Triumph). Special prize for fastest time: J. W. Shaw (3½ Norton). Knock-out race: E. Thompson (3¼ Rudge).

JAFFE CUP TRIAL, July 14th.—1 and Cup, S. Wallace (8 Rex sc.); 2, E. Thompson (4 Douglas); 3, J. M'Bride (3½ Sunbeam).

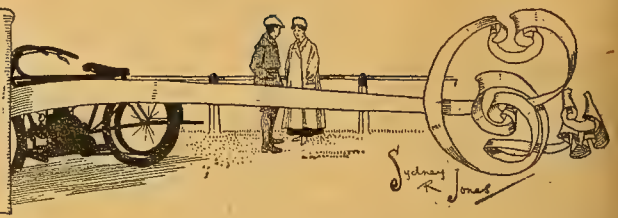
PREMIER CUP TRIAL, August 21st.—1 and cup, S. Wallace (8 Rex sc.), 2, J. Branagh (4¼ Quadrant sc.).

Bristol M.C.C.

The annual dinner of the Bristol Motor Cycle Club was held at headquarters, the Full Moon Hotel, North Street, Stokes Croft, on Saturday evening, November 20th, and proved an unqualified success. About eighty guests paraded, including several members of the Bath and West of England Motor Club.



Show Jottings.



SOME RANDOM NOTES IN LIGHTER VEIN.

IT is extraordinary that in these enlightened days some stand attendants should not know the bore and stroke of the engines fitted to their machines.

There's money in the Show! Those who talk of trade depression should go and see the Diamonds, Rubies, and L.S.D. at Olympia. Oh, there are Bradburys, too!

Which is the lighter? The heaviest lightweight or the lightest heavyweight?

One enterprising firm had its machines unpacked gratis by various pressmen.

Sidecar taxi regulations are having a considerable effect in improving front wheel brakes.

Many of the exhibits which arrived by train bore traces of the journey in the shape of damaged handle-bars and mudguards.

Some of the domed mudguards on big sidecar outfits are large enough for small cars.

A placard with the legend "Pity the poor driver" would not be out of place on some of the luxurious coupé sidecar outfits. Inside the essence of luxury; outside—well, if it rains, one gets wet.

The Olympic would naturally find a place in Olympia.

With the Red Indian and the Mohawk at the Show, all that is missing is Douglas Fairbanks as Two Gun Joe.

Olympia has quite a zoological flavour with the Bat, Wolf, Squirrel, and Whippet.

One three-wheeler actually has five wheels; for confirmation inspect the Coventry Premier exhibit.

Is it true that the miniature J.E.S. was delayed in the post? It was certainly a late arrival.

There was nearly a catastrophe on Tuesday when two healthy adults got into one of the sidecar taxis and omitted to breathe alternately!

Is it true that an ash tray is given away with every Corona?

Among motor cycles we have the Sun (including the beam); in cars the Star and the Moon, but the cycle car "Crescent" has set.

After dilating upon the remarkable power of the brakes on a certain machine, the designer was asked the advantage of fitting more than one brake to a wheel, if that brake would lock the wheel. He later sportingly admitted that the second brake was in the wrong place.

There are cigars (Coronas), as well as the usual Nuts, at the Show this year.

In view of the taxi sidecar vogue it will be necessary to quote body space in c.c. in preference to parading its loading capacity.

What with the A.J.S., F.N., C.A.V., BAT-J.A.P., B.S.A., M-L, B. and B., NUT, J.E.S., AMAC, L.S.D., L.M.C., M.A.G., P. and S., P. and M., T.B.—not forgetting the 100,000 circulation of the "M.C.," there are few letters of the alphabet left for newcomers.

What is the Kenil worth? and where has the Para gon?

During the rush on the opening days one of our staff retired for what he termed a "snack," and got little change out of a semi-Bradbury.

On going to press the following queries reach us: Who made the Tan Sad, the Sun beam, the Mag lita, and the Clay rite?

A reader asks: Since you praise the big twin James, do you consider Jimmy the lightweight champion?

Extremes meet at Olympia, there is the All-on and the Nort-on.

Really motor cycles are precious things! Some arrived at the Show wearing felt body belts, others had waterproof paper coverings, whilst those of the Elite had fancy striped flannel pyjamas.

Wanted, a name for the motor bicycle and sidecar taxi. Here are a few suggestions—others are invited: Taxicle, Tricab, Taxibus, Omnicycle, Bicab, Taxiette, and Sidecab.

A departure from the Corinthian architecture of the average stand contractor is seen at the Alecto exhibit, for the stand is surrounded by lengths of roller chain—supported in graceful festoons, between pedestals topped by two-stroke cylinders. Evidently there is no chain shortage now!

In these days of coachbuilt bodies, on even the lightest of sidecar chassis, we are apt to forget the one-time popular cane arrangements, but recollections are jogged by a single example on the Willowbrook Co.'s stand.

A rough survey shows that there is £20 difference between the cheapest and most expensive of the single-geared two-strokes.

Only one representative of the four-speed gear box remains and that is on the lightweight Olympic.

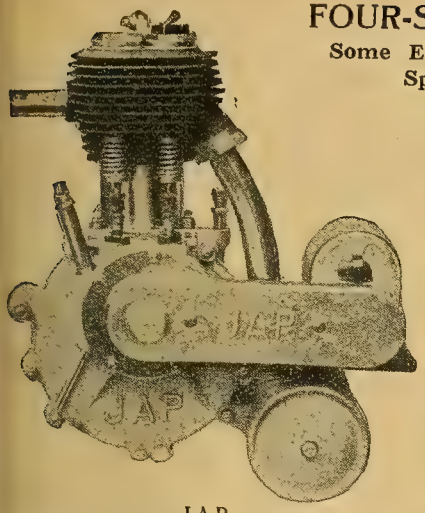
One merchant kindly promised a member of our staff to talk *for hours* on the morrow, to demonstrate the advantages of the inflator connection.

As a "wind up," a fancy dress parade is proposed for Saturday evening at the Show in aid of St. Dunstan's. Arrangements were in hand at the time this issue went to press.

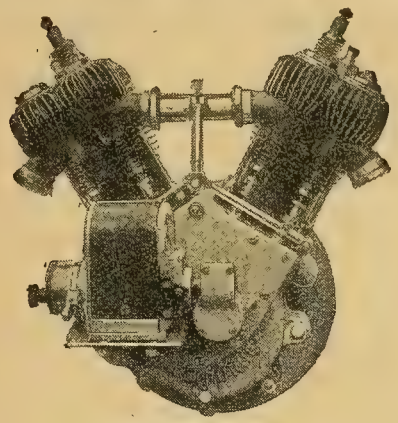
The Cowey speedometer calibrated to 60 m.p.h. seems rather a luxury on the Dayton tricycle—which has a maximum speed of 11 m.p.h.

FOUR-STROKE ENGINES AT OLYMPIA.

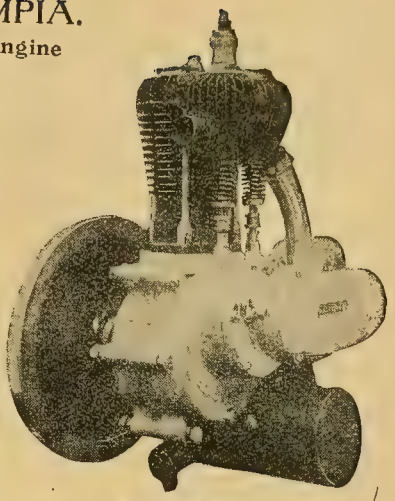
Some Examples of Power Units produced by Engine Specialists, and fitted to Many Machines.



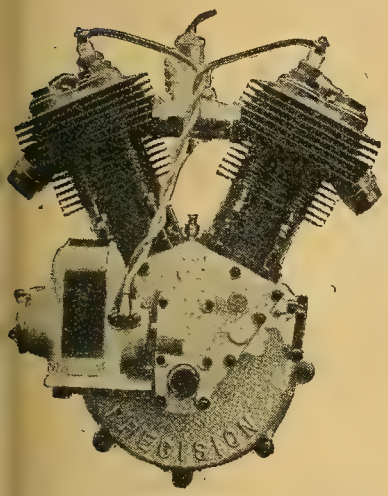
J.A.P.
2¾ h.p., 70 mm. × 76 mm., 292 c.c.
4 h.p., 85.5 mm. × 85 mm., 488 c.c.



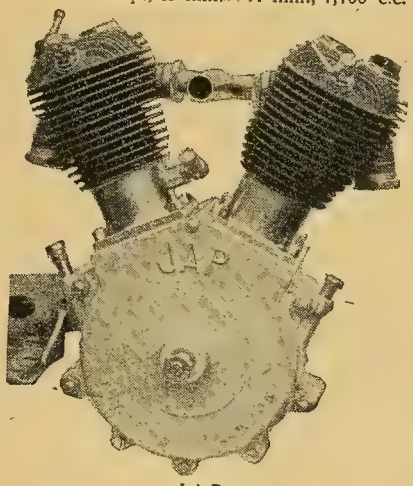
BLACKBURNE.
5-6 h.p., 71 mm. × 88 mm., 696 cc.
8 h.p., 85 mm. × 88 mm., 998 c.c.
10 h.p., 85 mm. × 97 mm., 1,100 c.c.



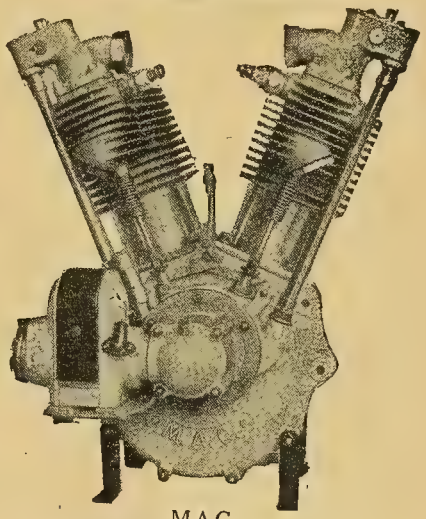
BLACKBURNE.
2¾ h.p., 71 mm. × 88 mm., 348 c.c,
4 h.p., 85 mm. × 88 mm., 499 c.c.



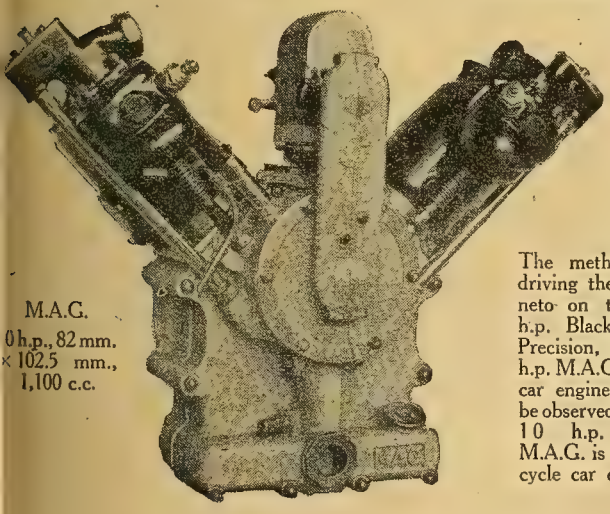
PRECISION.
10 h.p., 85 mm. × 96 mm., 1,096 c.c.



J.A.P.
3½ h.p., 64.5 mm. × 76 mm., 499 c.c.
5.6 h.p., 70 mm. × 85 mm., 654 c.c.
6 h.p., 76 mm. × 85 mm., 770 c.c.
8 h.p., 85.5 mm. × 88 mm., 976 c.c.

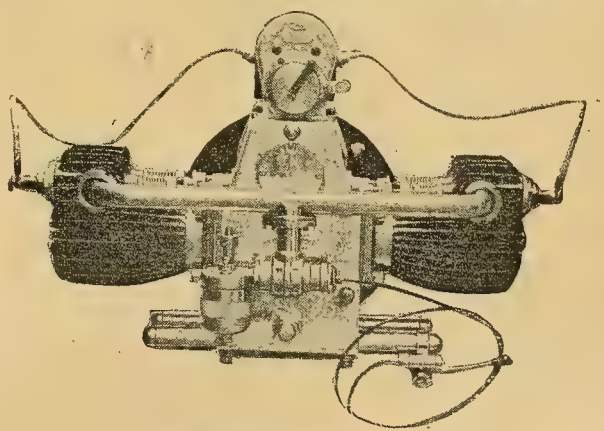


M.A.G.
3½ h.p., 64 mm. × 77 m.m., 496 c.c.
5 h.p., 64 mm. × 92 mm., 592 c.c.
8 h.p., 82 mm. × 94 mm., 1,000 c.c.



M.A.G.
10 h.p., 82 mm. × 102.5 mm., 1,100 c.c.

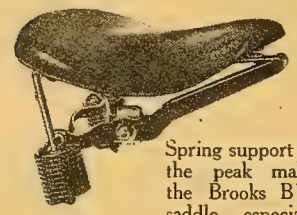
The method of driving the magneto on the 10 h.p. Blackburne, Precision, and 8 h.p. M.A.G. cycle car engines will be observed. The 10 h.p. 90° M.A.G. is also a cycle car engine.



COVENTRY VICTOR.
5-7 h.p., 75 mm. × 78 mm., 688 c.c.

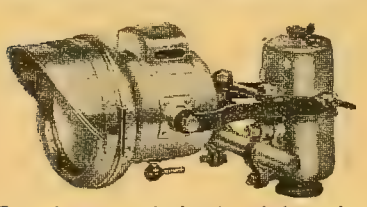
Accessories at Olympia.

In this and subsequent pages many of the useful accessories displayed at Olympia are reviewed. A further instalment will be published in next Thursday's issue of "The Motor Cycle."



Spring support for the peak makes the Brooks B175 saddle especially comfortable.

One of the several combinations of Tan-Sad Units—the cantilever spring saddle used in conjunction with the well-known pillion seat, with a tool bag at the extreme rear.



Exceptional value is the aim of the makers in introducing this well-made Millers light-weight lamp.

The Oleo plug-testing device.

The new Bowden straight-pull pedal. Behind it may be seen the Bowden master control, which allows either hand or foot operation for the clutch.

CLAYTON-WRIGHT, LTD., Birmingham (2, ground floor).—An exhibit of horns and handle-bar mirrors of exceedingly good finish. A special feature of the former is that the twists are concealed within the bell of the horn, while the latter are distinctive on account of the positive locking arrangements which secure the mirror in various positions.

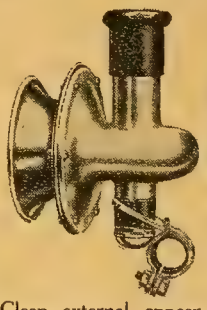
E. SHOWELL AND SONS, LTD., Birmingham (8, ground floor).—These specialists in motor cycle lubrication apparatus show examples of the Best semi-automatic drip feed oil pump and the Lamplugh mechanical lubricator, which may be driven from the timing gear of the engine; it has a variable throw for the plunger, which is controlled in conjunction with the throttle.

RUBBERINE, LTD., London, N.W. (12, ground floor).—As a means of protecting the valve stems and guides from the effects of dust and grit, and also as a guard against air leaks which will interfere with starting, some form of cover is desirable. The F.E.W. valve spring protector is an admirable device of this nature, and it entirely encloses the valve springs.

JENSON AND NICHOLSON, LTD., London, E. (14, ground floor).—Robbialac enamels are well-known to every motor cyclist who attempts to renovate his own machine. Many examples of work done, in every colour used on motor cycles, are shown. The transparent enamels for protecting plating during the winter months should also be borne in mind.

HOWARD C. COOKE, LTD., Birmingham (16, ground floor).—The Cooke plug, with its efficient Steatite insulator, is one which is so well-known that it is unnecessary to do more than mention that it is on view.

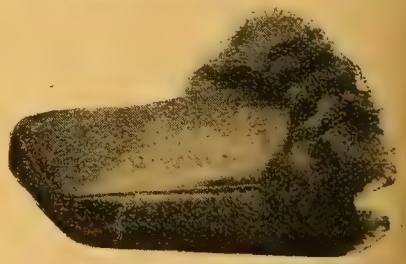
EASTING WINDSCREENS, LTD., Brimingham (154, ground floor).—As one travels the roads of this country it is impossible to ignore the fact that almost every other touring sidecar met is equipped with an Easting windscreen. This device has been further improved (in the Royal model) by the telescopic arms which carry it being hinged in a position near the dash, thus permitting the whole screen and apron to be raised, allowing the passenger to enter without the necessity of disturbing the adjustments in any way. The screen may be raised or lowered to almost any extent, so that it is either below the passenger's view or is erected to form an absolutely weather-proof canopy. A lightweight model is also being made.



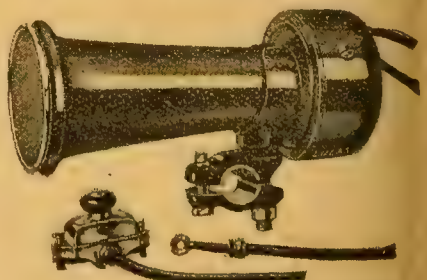
Clean external appearance of the Cowey horn does not belie the efficiency of its mechanism.

Supplied in either nickel or all-black finish, this Cowey handle-bar watch has a special movement to withstand vibration.

A foot-warmer by Messrs. Dunhill, Ltd., a useful accessory for the sidecar.



Another foot-muff marketed by Messrs. Dunhills, Ltd., which will be highly appreciated by fair passengers during the cold weather.



An optional addition to the Magdyno or dynamo lighting set, the Lucas electric horn which may be used also in conjunction with accumulator equipment.

Accessories at Olympia.—

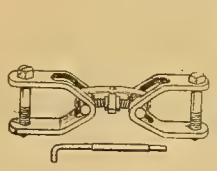
OLLARD, WESTCOMBE AND Co., Birmingham (156, ground floor).—Amongst the pioneer makers of protecting devices for sidecar passengers, the Cameo windscreen must not be overlooked; its neat appearance commends it, while the detachable apron and side curtain guard against the ingress of rain at the front and deflect currents of air at the side.

HANS RENOLD, LTD., Manchester (221).—As pioneers of chain drive, the house of Hans Renold has attained an unassailable position. Despite the satisfactory service which has been obtained in the past, efforts towards improvement have not been neglected, and it is noteworthy that the ultimate braking load of the ½in. pitch chains has been increased from 2,500 lb. to 5,000 lb. A new type of spring clip connection is being introduced for the roller chain, but it will not come into universal use until early in next year. Advantages claimed for it are that it cannot be thrown off or broken at high speeds, and it is, therefore, admirably suited for racing machines. A very instructive exhibit on the Renold stand is a running chain, arranged for observation by means of the rotoscope. This permits the engagement of the chain and sprocket to be observed at high speed, as if it were stationary, and is a practical demonstration of the accuracy of workmanship in both chain and sprocket. A new type of chain rivet extracting tool is also shown, and it eliminates all the disadvantages of previous types. It is, moreover, practically unbreakable, and may be used on both old and new pattern roller chains.

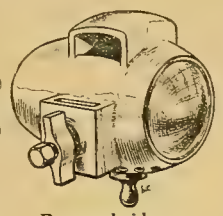
LUCAS ELECTRICAL CO., LTD., Birmingham (217).—This stand is devoted to a very complete display of the Lucas Magdyno outfit, as well as examples of the Thomson-Bennett magnetos, and the Lucas six volt dynamo. As is generally known, the Magdyno is a mechanical combination of these two units, hence the absolute independence of the lighting and ignition circuits in its construction. Motor cyclists will note that the magnetos which have hitherto been known as Thomson-Bennett will, in future, bear the Lucas name, since the former company is controlled by Messrs. Joseph Lucas, Ltd. Those who are not familiar with the internal construction of the Magdyno apparatus will be able to satisfy their curiosity by examining the carefully sectioned models which are shown. These are fitted with a small hand wheel in place of the driving sprocket, so that the armatures of the magneto and dynamo, with their interconnecting train of gearing, may be rotated. No great alteration has been found necessary in the general construction of the outfits, but there are detail improvements in the lamps and fittings. An electric horn also has been introduced to work in connection with the set, and a special terminal is provided in the switch box.

J. A. RYLEY,—Birmingham (220).—Single-cylinder two-stroke enthusiasts who sigh for dynamo lighting on their machines should not fail to visit this stand, where may be seen the B.T.H. magneto lighting set which was recently described in *The Motor Cycle*. This device makes use of the extra maximum

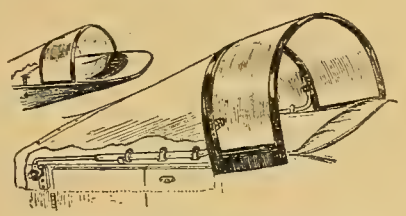
Great shock-absorbing capabilities are claimed for the Brampton spring link chain.



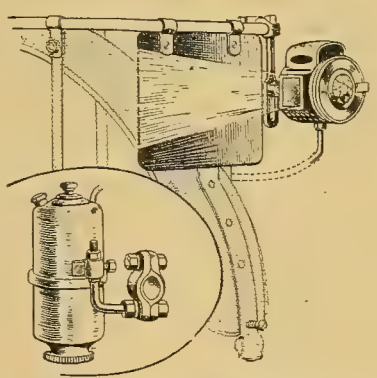
Roberts and Hibbs adjustable belt fastener used on the New Scale machines.



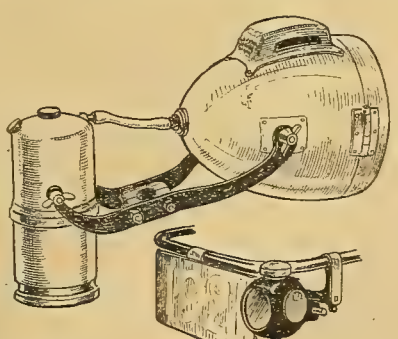
Rear and sidecar Holdtite lamp.



Two types of Easting windscreens—the Royal, which is carried on telescopic arms hinged in front of the sidecar door; and a lightweight model.



Attachment of the Miller rear light does not necessitate drilling the number plate



Almost the neatness of an electric lamp is attained in the acetylene set made by the Mechanical Products Co.

position of the armature which, of course, is not used for ignition on single-cylinder two-stroke engines. The excess primary current is distributed by a centrifugally-operated brush to an insulated segment on an extension of the contact breaker. This segment is connected to a battery carried on the handle-bar head lamp bracket from which the current for head and tail lamps is drawn. The battery is of special construction to avoid splashing of the acid. A complete set is shown working. In addition to this there is a complete battery lighting set for sidecar outfits which will be known as the J.A.R., and a new type of the well-known French Vita sparking plug is there. This is of very small overall dimensions, but it nevertheless has a detachable insulator, and is specially recommended for two-stroke engines. A series of spring clips for attaching acetylene lamp tubing to motor cycle frame and carrier tubes is also a speciality of the exhibitors.

HERBERT TERRY AND SONS, LTD., Redditch (213).—Although the private motor cyclist may be inclined to pass the display of Terry springs, if he pauses a moment to look amidst the resplendent display, he will recognise many familiar components. In fact almost every special type of spring suitable for no matter what machine is on exhibition; indeed, looking into the glittering cases it is impossible to imagine any wizardry in the manipulation of spring steel which this specialist firm would fail to accomplish.

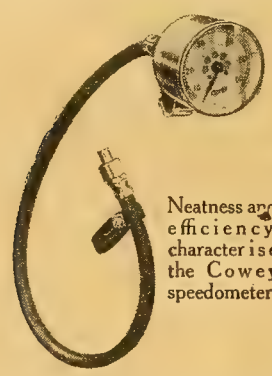
LODGE PLUGS LTD., Rugby (219).—The high standard of finish and reliability associated with the Lodge name is, of course, maintained, and one or two innovations have been introduced. Perhaps the most interesting is the new two-stroke plug, which is of the single point variety having a detachable central electrode and insulator. Another model, which has proved to be highly satisfactory under most strenuous conditions, is the model K racing plug which was used by the winners of both senior and junior T.T. races in the Isle of Man this year. The well known Lodge sign which consists of 150 plugs sparking merrily cannot fail to be noticed.

POWELL AND HANMER, LTD., Birmingham (215).—The high standard of lighting equipment in which this firm has specialised is well maintained by every item in its show cases, while to those interested in electric installations the P. and H. dynamo set will have special attractions. It is shown not only in its component parts but also mounted upon two machines, one a well-known single-cylinder and the other an equally famous flat twin. The pulley of the dynamo contains a spring clutch device which disconnects the drive when the speed tends to become excessive; the transmission is by means of a leather link belt. Amongst the electric head lamps is one of a new type having a very deeply cowled front. This is a feature which hitherto appears to have been neglected on electric lamps which, especially in foggy weather, tend to throw an excessive glare upwards; a cowl, of course, should prevent this. Incidentally, it is curious to note that one example of this lamp is carefully fitted up on the same bracket as an acetylene generator—possibly an oversight in the rush of show preparation.

This Dekla horn presents an admirably clean exterior.

PATCHQUICKS, LTD., Tiverton (209).—In equipment for tyre repair the name Patchquick has become a household word. To endeavour to add any comments or eulogy to the excellence of these well-known products would be fruitless.

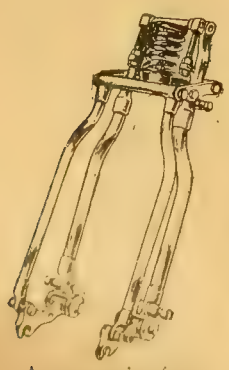
DUNHILLS, LTD., London (214).—A general display of accessories and motor clothing justifies the slogan of this house which indicates that everything for the motorist is obtainable but the machine. A splendid collection of lighting equipment, both electric and acetylene, is to be seen, and some specially neat lamps of the former variety are sold



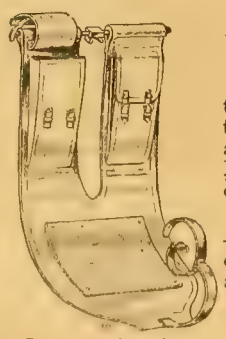
Neatness and efficiency characterise the Cowey speedometer.

as complete sets for sidecar outfits. Noticeable also are the small separate deflectors for motor cycle acetylene rear lamps.

APOLLO PLUG MFG. CO., London (199).—A new type of plug is being made by this firm, which has already earned an enviable reputation with its manufacturers. This new plug is of the detachable variety, and has a mica insulation. A heavy central electrode with a nickel firing point is used, and this is designed to dissipate as rapidly as possible the heat to which it is subjected. In addition to this, standard types of plugs are shown, while to be mentioned as a suitable Christmas present for a motor cyclist is a plush case of four plugs. A range of Apollo electric horns are also to be seen; they are remarkable for purity and penetration of tone and low current consumption.



A rear spring-frame attachment for existing machines — the Warner — exhibited by the East London Rubber Co.

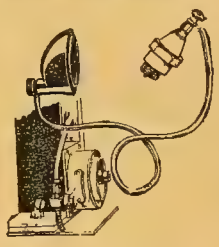


Conveniently placed pockets are an additional advantage on the College mud shield.

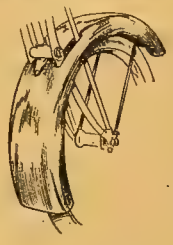
Special requirements demand special fitments, hence the sturdy construction of this Brooks trunk for the sidecar luggage grid.

MOHAWK CYCLE CO., LTD., London (172).—Innumerable accessories, but one which will appeal especially to motor cyclists is the Cearns spare tube carrier. This is a simple case of spun aluminium which is clipped to any convenient frame tube of the machine; a single central bolt with wing nut around which the tube is wound holds the two parts together.

C. BINKS, LTD., Eccles, Manchester (169).—Amongst the exhibits special attention must be drawn to the new Binks sparking plugs. This has been produced with the intention of providing a plug comparable with the best at about half the price usually charged. The plug is of very small dimensions with a non-detachable insulator. The single point is of pure nickel, and the design is one which is likely to obviate any trouble from shorting due to over lubrication. The well-known three-jet carburetter remains unaltered in principle, but slight constructional improvements have been introduced, and very careful efforts have been made to render it suitable for fitting to all types of machines; a large variety of special induction pipes and hot air intakes are also shown for use on every type of machine. An entirely new arrangement, which will appeal to Morgan owners especially, is an interconnected foot and hand control.



By removing the high-tension terminal and contact-breaker cover of the Fellows magneto the depredations of the thief are hindered.



Large domed guards are a speciality of the Coventry Plating and Presswork Company.

MIDDLEMORES (COVENTRY), LTD. (166).—A display of leather goods for motor cycle use. Standard types of toolbags and saddles are prominent.

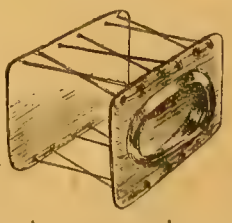
STONEHOUSE WORKS CO., West Bromwich (177).—Motor cyclists who require footboards or footrests for the conversion of old type machines may see many suitable patterns made by this firm. They can be obtained through all agents.

An example of Hoffmann "Big End" roller bearings (left) dissected, and (right) in its complete form.

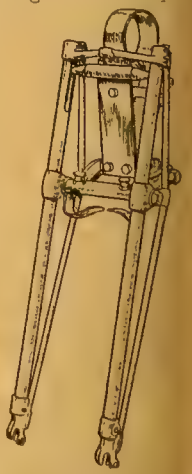
SPHINX MANUFACTURING CO., LTD., Birmingham (179).—The name Sphinx and high-class sparking plugs are synonymous. A large variety of patterns are made, including the bar type with both mica or ceramic insulators. These plugs have been proved to be satisfactory on practically all types of engine, but a special two-stroke model is also shown. This has a detachable steatite insulator.

Few parts are used in the Lamplugh mechanical pump; the throw of the plunger is varied by an eccentric working on the reduced part and controlled with the throttle.

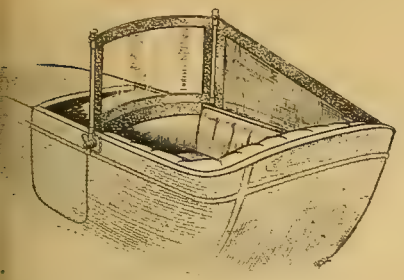
AMAC, LTD., Birmingham (179).—In view of the many suggestions which arise from time to time that controls should be standardised, it is interesting to note that the new Amac carburetter levers are completely interchangeable, may be used on either side of the handle-bars, and arranged to open either inwards or outwards. The complete control itself may also be altered relative to the handle-bar, in order that it may be brought to the most convenient position. Of the carburetters themselves, there is little to say, since they are well known and justly popular with a great number of motor cyclists. Single-lever and two-lever models are shown, also a number of variations, vertical and horizontal, etc., to suit different types of engines. There is also a miniature carburetter.



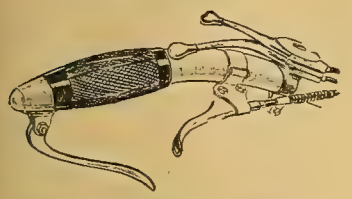
A new concave knee-grip introduced by Alfred Roberts & Co. Ltd. The rim is of soft rubber.



The Flexifork, a new component shown on the East London Rubber Co.'s stand.

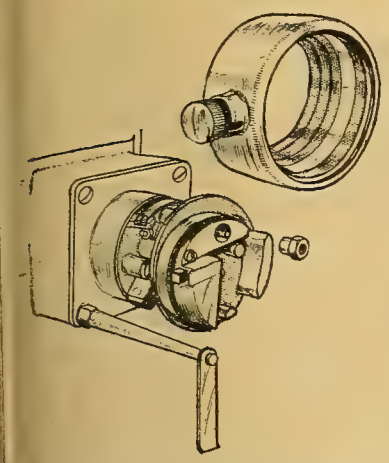


The Cameo windscreen is fitted with a side curtain.

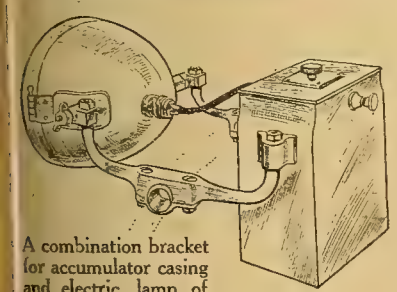


A special short lever for the operation of compression release valves, made by Bowden Wire, Ltd.

Clayrite horns have the turns concealed inside the bell.



The centrifugally-operated distributer brush for the lighting circuit on the ingenious B.T.H. lighting and ignition set.



A combination bracket for accumulator casing and electric lamp of Hunt manufacture.

CHAS. H. PUGH, LTD., Birmingham (181).—The chief feature of interest is, of course, the Senspray carburetter, which, however, has not been modified for 1921. The float chamber and body consist of aluminium die castings of very clean appearances, and the damping device on the vaporiser which allows the carburetters to be made sensitive or automatic at will has been retained.

BRITISH HUB CO., LTD., Birmingham (186).—Any motor cyclist who contemplates building up a cycle car from components will find all he requires in the way of hubs. The sidecar hubs especially are characterised by the large diameter of the spindles and bearing cups. There are two types of axle, one intended to be brazed in and the other having a cone and nut fixing.

SURRIDGE'S PATENTS, LTD., London, S.E. (187).—The principle underlying the Holdtite patch is clearly shown by diagrams and actual examples. This repair patch, when properly applied to a punctured or torn inner tube, is claimed to hold the damaged part in such a way as to prevent any further spreading of the trouble. Another special feature shown is a range of cast aluminium sidecar and tail lamps of pleasing appearance and moderate price. In addition to these are shown the Surridge gas-bag connections for acetylene lamps.

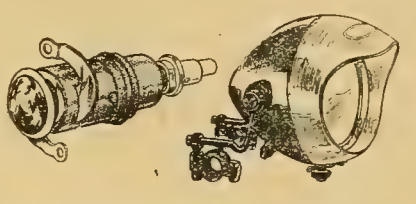
STURMEY-ARCHER GEARS, LTD., Nottingham (190).—The general familiarity of motor cyclists with this well-known component gear box in both its light and heavy forms renders comment almost unnecessary. The enquiring rider, however, who has never dismantled his gear box, will be interested to study the cases of internal parts which are displayed. The high class of workmanship and simple construction of both the two and three-speed boxes are at once apparent.

BLUEMEL BROS., LTD., Coventry (188).—The chief item of interest is the celluloid windscreen for sidecars. This screen is not of the adjustable type, but remains as a semi-permanent fixture on the upper part of the sidecar. In conjunction with a dash over the door it provides very complete protection for the passenger, both front and side draughts being guarded against. Other items shown are inflators and similar accessories, in which celluloid plays an important part.

ERNEST H. HILL, LTD., Sheffield (210).—A very full range of bulb horns and foot inflators.

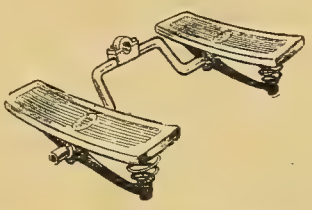
TIMSON BROS., Birmingham (206).—Several items which will appeal to motor cyclists. The most prominent are two tyre inflators; these break away from conventional lines in an accessory which one would have imagined to be almost incapable of further improvement. The first is the Burn Easy Fix, which has an integral push-on connection secured at the end of the barrel. The plunger is of the solid steel rod in place of the more usual tube, and, owing to the non-leaking quality of the connection, a very high pressure can be attained in a few strokes. In fact, it is claimed that the efficiency of the hand pump is as great as that of the average foot pump. The other inflator is known as the D.A. Its connection is of the ordinary type, but, owing to an ingenious one-way valve, it

An inflator connection, always ready for use, is carried in the D.A. pump—it is ejected by the air pressure of the pump itself. Exhibited by Timson Bros.

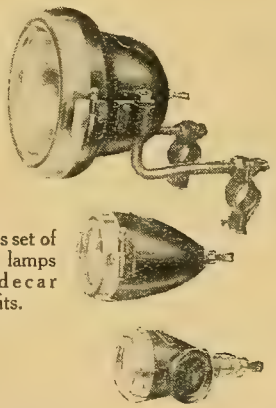


A neat and substantial Lucas electric tail lamp.

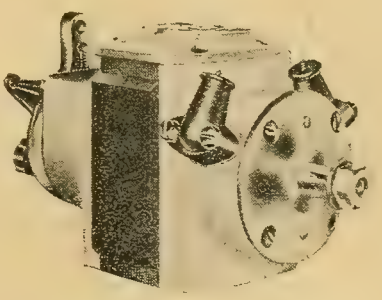
A neat Powell and Hanmer electric head lamp with a deflecting cowl.



Stonehouse aluminium spring footboards.



Dunhill s set of electric lamps for sidecar outfits.



Compactness is the keynote of design in the new M-L magneto for large V and flat twin engines.

Accessories at the Show.—

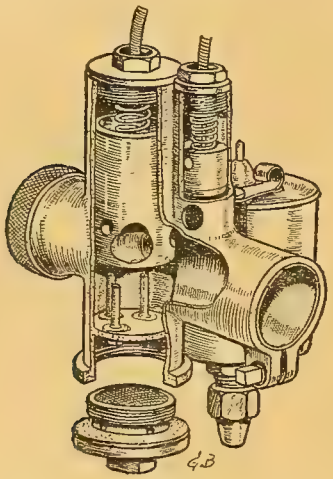
is permanently carried in the "business end" of the pump, and is ejected for use by a stroke of the handle. It does not leak in whatever position it is used. Fitments to be noted here are the M.A.P. detachable mica sparking plug, which is guaranteed for an indefinite period, and the Shaler five minutes vulcaniser, which makes use of combined patch and heat units in an extremely simple manner.

BROWN BROS., LTD., London (191).—The exhibit of these well-known factors is a show in itself, as almost all kinds of accessories and tools are to be seen, in addition to a number of component parts, such as gear boxes, footrests, footboards, and saddles. Fittings of every description, and almost every type of lighting set are exhibited. Accessories such as aluminium wheel discs, leg guards, and windscreens are also prominent, while there is a complete range of motorists' clothing. Those who are interested in motor repair work will find much that will appeal to them in the tool section of this stand; an item of special interest to the enthusiastic mechanic being one of the latest 3½in. Drummond lathes, which is replete with all manner of accessories and conveniences, such as integral electric motor drive, an overhead milling attachment and dividing arrangement.

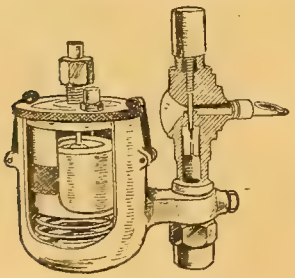
THE COVENTRY CHAIN CO., LTD., Coventry (192).—Various applications of inverted tooth and roller chains, together with a large number of photographs showing machines equipped with the products of this company. Of interest, also, are a number of milling cutters, which are used for the production of standardised chain sprockets.

TAN-SAD WORKS, Birmingham (194).—Probably one of the most talked of fittings in the Show is the new Tan-Sad No Hurts motor cycle saddle. This is attached to the carrier of a motor cycle by the left and right-hand thread locking attachment which has been familiarised on the Tan-Sad pillion. The seat portion of the saddle is carried on the forward extremity of two laminated leaf springs, the action of which is controlled by a long swinging link. Movement of the saddle, therefore, is in an almost vertical plane, and provides a remarkable degree of comfort, so much so that the necessity for a spring frame (as far as the rider is concerned) is eliminated. Various arrangements of the saddle are shown, the chief differences being in the method of carrying the tool bags and the addition of a pillion seat. Particulars of the Tan-Sad pillion riding insurance policy may be obtained, and another exhibit, although not of immediate motor cycle interest, is the Tan-Sad all-metal seat for workers. This is suitable for office or works, and is indestructible and extremely comfortable. It has an adjustable back rest.

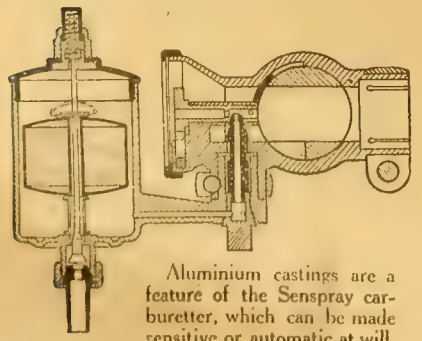
SOME TYPES OF CARBURETTERS AT THE SHOW.



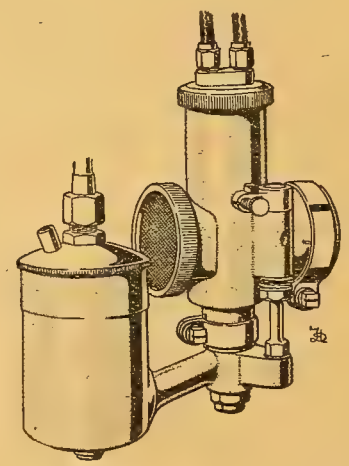
Part sectional view of the popular Binks three-jet carburetter.



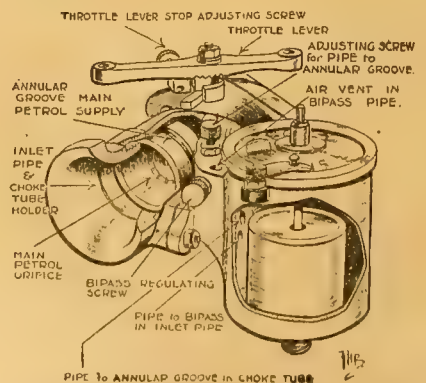
A section of the new Cox-Atmos float chamber with integral filter.



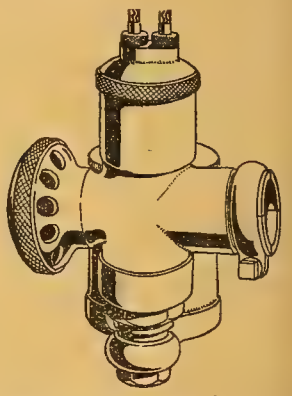
Aluminium castings are a feature of the Senspray carburetter, which can be made sensitive or automatic at will



External view of the well-known Brown and Barlow pilot jet carburetter.

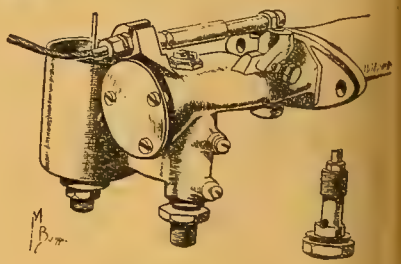

THROTTLE LEVER STOP ADJUSTING SCREW
THROTTLE LEVER
ADJUSTING SCREW for PIPE to ANNULAR GROOVE.
ANNULAR GROOVE MAIN PETROL SUPPLY
AIR VENT IN BIPASS PIPE.
INLET PIPE & CHOKE TUBE HOLDER
MAIN PETROL ORIFICE
BIPASS REGULATING SCREW
PIPE to BIPASS IN INLET PIPE
PIPE to ANNULAR GROOVE in CHOKE TUBE

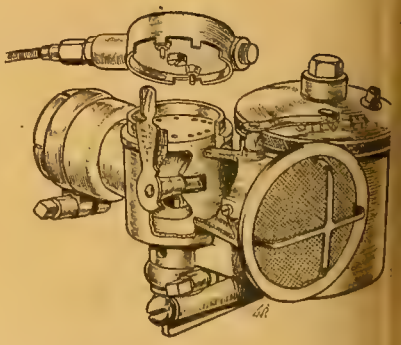
A carburetter of simple construction—the special claim of the Degory is its extreme economy.



Standard type two-lever Amac carburetter adopted on many makes of motor cycles at the Show.

A new French carburetter—the single-lever Vici.





One lever control is used on the Claudel-Hobson carburetter, in conjunction with an air compensating device for starting.

QUESTIONS AND REPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d. stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Electric Lighting for Lightweights.

Will you let me know if you recommend electric lighting for a lightweight motor cycle? At present I am using acetylene lamps, which are very unsatisfactory. Would you suggest that the vibration upsets the bulbs of electric lamps?—J.C.H.

An accumulator or dry battery lighting set should answer all reasonable requirements, provided you do not undertake long journeys which involve continuous use of the lamps for five or six hours, or more. Good quality metal filament bulbs will not suffer unduly from the effects of vibration.

Converting a Magneto for Lighting.

Is it possible to convert an old magneto into a low voltage dynamo? If so, will you please tell me how it could be done?—A.R.

The best way of using an old magneto for lighting purposes is to remove the contact breaker and the winding. Then wind as much 22 g. insulated wire on to the armature as you can get on, and replace the contact breaker with a simple two-part commutator. By using two collector brushes on this, you will be able to use the dynamo for accumulator charging as well as direct lighting. It would be advisable to buy some simple handbook on dynamo construction before undertaking any work of this kind.

Freshening Accumulators.

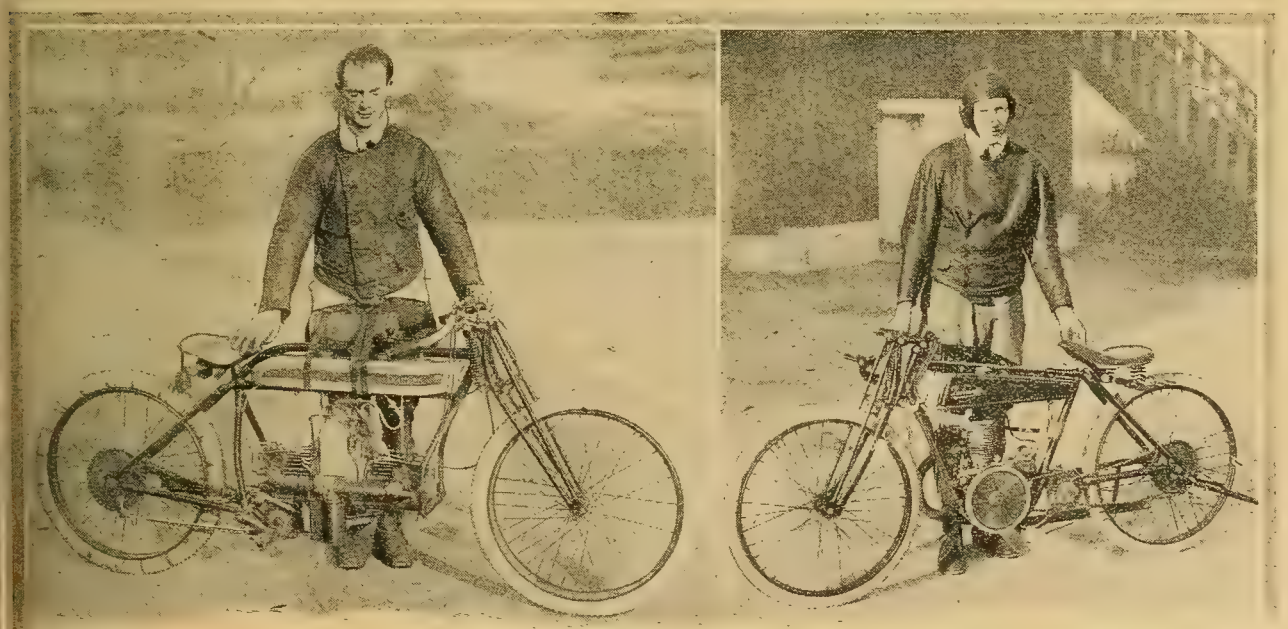
(1.) I wish to give my accumulator a freshening charge periodically during the winter. The electrical supply here (Morpeth) is 240 volts (d.c.), and the charging rate must not exceed 1 ampère; a little less will not matter. What arrangement of lamps or resistance would you advise? (2.) My battery has apparently been filled with the usual English solution, 1.22 s.g.; the stronger American solution, 1.3, is what is recommended. What difference does the stronger solution make?—F.L.J.

(1.) You should use two 32 c.p. carbon bulbs in parallel as a resistance when charging the accumulator from a 240 volt supply (direct current). (2.) The slight difference in the specific gravity of the two solutions is negligible.

Converting Hub Geared Machine.

I have a 1914 4 h.p. Triumph with hub gear, which is not in good order, and have been thinking seriously of having a countershaft gear box fitted. I know that I shall require a new rear wheel, but will the top and bottom countershaft stays fit the other part of the 1914 frame? What about the belt and chain line when I order the new parts, also will the engine sprocket fit where the belt pulley is now? The rest of the machine is in fine order, and I think it would be worth while having a countershaft gear fitted.—R.J.N.

You would be able to fit the new pattern top and bottom stays to the 1914 frame, and we do not think there would be any difficulty in fitting the sprocket to the engine shaft; but you would probably find it better to sell the present machine, and get a countershaft model, as you will find many little details will require slight alteration—such as alteration in the brakework and making provision for the primary chain cover, and the expense will probably be as great as the increased outlay which will be incurred.



Show-time is usually a period of activity at Brooklands, and many are the records attempted at this period. On the left is seen B. Tudor Thompson with a stripped overhead valve Douglas, while on the right is D. R. O'Donovan with a Velocette in racing trim.

When to Decarbonise.

My 7-9 h.p. Harley-Davidson was new this year, and I have run about 2,800 miles, and want to run a similar distance next season without any loss in efficiency. Should I take the engine down and decarbonise? I have not noticed any falling off in the running of the engine. I understand that large capacity engines with low compression do not require very frequent attention in this respect.—F.L.J.

If the engine does not show any signs of falling off in power, there is no need for you to dismantle it.

Sidecars for Travellers' Use.

We have endeavoured as far as possible to go into the question of supplying our representatives with up-to-date sidecar outfits. Would you be good enough to give your views as to whether there is a great saving in time and cost over railway travelling?—M.S. AND CO.

You do not state the nature of the journeys which your representatives have to undertake. If, for instance, they do long distances to places which are served by main line trains, the motor cycle will show to disadvantage in the matter of time. Generally speaking, however, the motor cycle is much better than the railway, since there is no time wasted in getting to and from the railway stations or in finding transport between calls. A good working estimate of cost is about 3d. per mile for a sidecar outfit; this, of course, covers all charges, such as garage, insurance, depreciation, etc. Needless to say, a considerable amount of luggage can be carried.

Extraordinary Plug Trouble.

I ride a 1919 3½ h.p. Rudge-Multi with Swan sidecar, and have covered nearly 10,000 miles. I admit that I ride consistently fast, averaging regularly very fairly high speeds on long runs, but do not drive unreasonably. My engine gets fairly hot—far beyond the "hand on crank case" stage, though for the most part I over-oil. Last season I broke four exhaust valves, but found this due to weak spring and a sloppy guide. I am now experiencing a lot of plug trouble; the points of a new plug burn to a useless stage after about 800 miles, whereas I rode my first 5,000 miles on one plug. My engine has just been most thoroughly overhauled, new valves, guides, springs, and piston rings, and I have since ridden about 400 miles. I found great difficulty in starting to-day, and on removal of the plug (a standard three-point pattern) I found the centre point non-existent, and the distance between other points absurd. Perhaps you can enlighten me as to why I have burnt out five plugs in about 4,000 miles?—E.M.

The sparking plug trouble which you have experienced is most unusual, and we do not recollect having met with any similar case. It seems most unlikely that you would have obtained several defective plugs one after the other, but at the same time this appears to be the only explanation.

Carbon in Piston Ring Grooves.

I have a 1913 6 h.p. Clyno sidecar outfit, and since being decarbonised the front cylinder refuses to fire evenly at any speed, and ceases altogether when the throttle is opened beyond half-way. Everything has been carefully tested. Valve and ignition timing checked on both cylinders, no air leaks, new plugs fitted, new valve springs, and the petrol system appears perfect. The carburetter is variable B. and B. The carbon deposit was very thick behind the rings on both pistons and was removed, but while the front cylinder will not fire, the back runs well. It has been suggested that the piston rings are at fault. When the engine was taken down it was running perfectly, and the timing and carburetter setting are precisely the same as then. The utmost care was taken in every way.—R.G.H.

If you are quite sure that there are no air leaks either at the joints of the induction pipe or at the inlet valve stems, it would appear that the faulty running is due to the removal of the carbon from the piston ring grooves. This trouble is often experienced in the case of fairly old machines, and we think the best thing to do would be to have the piston ring grooves trued up, and to have special oversize rings made to fit them.

IMPORTANT DATES.

Nov. 29th.-Dec. 4th—
Olympia Motor Cycle Show.

Dec. 10th - 19th—
Brussels Show.

Dec 27th 28th—
M.C.C. London-Exeter Run.

Jan. 28th to Feb. 5th, 1921—
Scottish Motor Exhibition, Kelvin Hall, Glasgow.

RECOMMENDED ROUTE.

BIRMINGHAM TO SCARBOROUGH.—H.S.H.

Birmingham, Sutton Coldfield, Tamworth, Ashby-de-la-Zouch, Breedon, Castle Donington, Long Eaton, Nottingham, Daybrook, Mansfield, Worksop, Blyth, Bawtry, Ansterfield, Finningley, Thorne, Goole, Howden, Holme, Market Weighton, Middleton, North Dalton, Driffield, Langtoft, Scarborough.

HERNE HILL TO EDINBURGH.—R.L.J.

Herne Hill, Denmark Hill, Kennington Road, Westminster Bridge, Bird Cage Walk, Hyde Park Corner, Park Lane, Edgware Road, Baker Street, Park Road, Kentish Town, Highgate Road, Hatfield, Welwyn, Stevenage, Baldock, Biggleswade, Tempsford, Eaton Socon, Buckden, Alconbury, Stilton, Wansford, Stamford, Grantham, Newark, Tuxford, Retford, Bawtry, Doncaster, Wentbridge, Ferrybridge, Micklefield, Aberford, Wetherby, Boroughbridge, Leeming Bar, Catterick, Scotch Corner, Piercebridge, Bishop Auckland, Durham, Chester-le-Street, Newcastle, Ponteland, Kirkwhelpington, Otterburn, Byrness, Carter Bar, Jedburgh, Melrose, Stow, Gorebridge, Edinburgh.

SPARKLETS

A Meritorious Performance.

The special prize for the most meritorious performance in the Ballard's Cup trial, which took place on October 30th, was awarded to H. Guy, who rode a 2¾ h.p. Coulson B.

An Effort towards Stability.

Complaints of late have been frequent regarding the difficulty of giving firm quotations, owing to the rapid and unforeseen increases in the cost of raw materials, but as an endeavour to cut out this difficulty as far as it concerns users of weldless steel tubing and tubular parts, Messrs. Accles and Pollock, Ltd., of Oldbury, Birmingham, propose that no orders booked by them shall be subject to fluctuation in price in respect of all deliveries up to July 31st, 1921.

An Amalgamation in the Acetylene World.

The two chief firms in the dissolved acetylene industry have now amalgamated, and in future Messrs. Allen-Liversidge, Ltd., and the Dissolved Acetylene Co., Ltd., will continue their business under the general title of Allan-Liversidge, Ltd. Also included in this amalgamation is the company of Imperial Light, Ltd.

Calibrating Jet Sizes.

Some very interesting remarks concerning jet sizes appear in a new booklet describing the Senspray carburetter. The makers, Messrs. Charles H. Pugh, Ltd., Whitworth Works, Tilton Road, Birmingham, announce that in future all Senspray jets will be calibrated in an up-to-date manner. The figures will represent the number of cubic centimetres of petrol passing per minute under a pressure due to a convenient standardised head of petrol. As an example, the old No. 24 jet will now be marked 45 c.c. The equivalent from Nos. 24 to 26 are given in cubic centimetres opposite page 18 of the booklet.

Running a Cycle Car.

The following are extracts from the log of a Blériot-Whippet cycle car owner, and are interesting as showing the economy of this type of vehicle: Total mileage, 7,000 miles. Average miles per day, 56 miles. Petrol consumption, 52 m.p.g. Petrol consumption after special tuning, 66 m.p.g. Oil consumption, average 550 m.p.g. Oil consumption in hilly and hard country, 430 m.p.g. Total weight, 19 cwt. Maximum speed all on for one mile, 50.4 m.p.h. Maximum speed with favourable wind, no passenger, half mile, 56 m.p.h. Average m.p.h. with luggage, under favourable conditions, 25.9. No mechanical stop for 7,000 miles. Original tyres are still on the car, and unpunctured—an excellent record for tyres and car.

The Biggest Dealers in the South.

Not only are we the biggest dealers in the South, but also probably the oldest. We entered the motor cycle business in 1898. Our long experience and reputation has enabled us to procure a selection of agencies that probably no other firm can offer you. Here are some of them—

A.J.S.	LEVIS
NORTON	TRIUMPH
ZENITH	MORGAN
MATCHLESS	ENFIELD
NEW IMPERIAL	HUMBER
MARTINSYDE	FRANCIS-BARNETT

We can give delivery of 1921 models of most of the above, and shall be pleased to send full particulars on receipt of a postcard from you.

Our Reputation

You have been to the Show and found great difficulty in selecting your 1921 mount. The next great difficulty is to find a reliable agent. We pride ourselves on being able to fill that gap, probably better than any other firm in England. We have a whole host of testimonials from satisfied customers and nobody has ever regretted a deal with

"Julians"

Motor Cyclists who have dealt with us are more than pleased with the treatment received, not only when buying the machine, but also afterwards. Our aim is to please our customers, and this we always do at all costs.

After visiting the Olympia Buy it at

Lamb's

You'll get promptest delivery.

387, Euston Rd, London. N.W.1.
'PHONE: Museum, 4978 'GRAMS, "Lamocy Eusroad, London"

151, High St Walthamstow E.17.
'PHONE: Walthamstow 169. 'GRAMS: "Cyclotomo Phone London"

50, High Rd, Wood Green N22
PHONE Hornsey 1956. 'GRAMS, "Doulamocy Phone London.

NEW HUDSON
Lightweight

A·J·S
Luxurious Combination

The Morgan Runabout

ZENITH
The Powerful Solo

HARLEY-DAVIDSON
Powerful Combination

Ask for our Representative at these Stands at
OLYMPIA.

MOTOR CYCLES FOR SALE.

Diamond

1920 Diamond-Jap, Enfield 2-speed gear, shop-soiled; £65.—Below.

1920 Diamond, Villiers engine, shop-soiled; £50.—The James Garages, Ltd., Shrewsbury. [X1885

DIAMOND 2-stroke, new; £56.—Clark, 7, Exhibition Rd., S.W.7. [1501

DIAMOND-VILLIERS, new, 2-speed, Albion gear; £62, bargain.—Nelson's, Rhyl. [1639

DIAMOND-J.A.P., new, 2-speed, S.A. gear, kick starter; £85.—Nelson's, Rhyl. [1640

Dot.

DOT-J.A.P. 8h.p., T.T. clutch model, Binks, adjustable pulley, new cover, newly stove enamelled and plated, like new; offers.—Ralph, Kilham. Driffield. [X2523

Douglas.

DOUGLAS, Douglas, Douglas.

1921 Models in Stock; 4h.p. combination, £170; 4h.p. solo, £130; 2¾h.p. clutch model, £105; 2¾ h.p. without clutch, £100.—Douglas Specialists, Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0315

DOUGLAS.—At Gourlay's, Fallowfield. [1615

1920 4h.p. Douglas Solo, brand new; £118.—Below.

1920 4 h.p. Combination, lamp sets, D.A. cyl., mirror, Cowey horn, speedometer, Easting, perfect condition; £134.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [2205

4h.p. Douglas Combination, as new; £120.—26, Tulse Hill, Brixton. [1543

DOUGLAS 4h.p. New Combination, 1921 model; £170.—Nelson's, Rhyl. [1637

DOUGLAS 2¾h.p., new, 3-speed, clutch model; £170.—Nelson's, Rhyl. [1636

DOUGLAS 2¾h.p., 3-speed, clutch, in stock; £105.+ Clark, 7, Exhibition Rd., S.W.7. [1507

1919 2¾h.p. Douglas, in fine order, complete lamps; £65.—Cross, Agent, Rotherham. [X2414

DOUGLAS.—A fine assortment in stock at prices to suit all.—Ross, 86, High St., Lee. [3848

h.p. Douglas Combination, perfect order, lamps, etc.; £90.—8, Syon Row, Twickenham. [1902

HASTINGS, Bexhill, and District—The Douglas agents, Ray, 29, Havelock Rd., Hastings. [2041

RECONSTRUCTED Douglas 2¾h.p. Motor Cycle; £55.—Autoveyors, 84, Victoria St., S.W.1. [1444

BRIGHTON, Hove and District Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

1915 2¾h.p. Douglas, 2 speeds, perfect order; £50.—Hardcope Motors, 90, Old Kent Rd., S.E.1. [X2375

1917 4h.p. Douglas Combination, perfect throughout; £70.—81, Hornsey Park Rd., Hornsey. [2020

1915 Douglas 2¾h.p., capital machine, economical; 50 gns.—Ede, Norman's Stores, High St., Epsom. [2106

1919 2¾h.p. 2-speed Douglas, perfect, well equipped; £58.—60, Wallingford Av., N. Kensington. [2068

DOUGLAS 1919 4h.p. C.B. Combination; £86.—Walker, 769, Romford Rd., Manor Park, London. [9653

DOUGLAS 1916 2¾h.p., buffer forks, splendid condition; £45.—Hutton, Red Lion Hill, East Finch- [X2382

DOUGLAS 1918 4h.p. C.B. Combination, electric, nicely fitted, perfect; £80.—54, Coval Rd., Mort- e. [X2352

1916 2¾h.p. Douglas, not W.D., just overhauled, lamps, etc.; what offers?—Low, 3, Iffley Rd., ford. [1470

h.p. Douglas Combination, new, only run 500 miles, complete; sacrifice £135.—23a, Crescent Grove, pham. [1833

3h.p. 2-speed Douglas, complete, cost over £80 last 4 March; cheap; offers.—Loke, The Square, Winster. [1483

1920 Douglas 2¾h.p., 3-speed, kick starter, practically new, electric lighting; £90.—Bryan, King , Rye. [1844

DOUGLAS 2¾h.p., 1920, 3 speeds, clutch, kick start, accessories; nearest £85.—Alderson, 25, Albert , S.W.8. [1775

DOUGLAS 2¾h.p., 1915, very fast, splendid condition, all accessories; £60.—62, The Chase, Clap- n, S.W. [2095

DOUGLAS, 2¾h.p., 1913, new cylinder, piston, and sprockets recently fitted; £45. — Groom, ecester. [1919

35.—4h.p. Douglas, requires magneto and sundries to complete; no offers. — 91, Mapledene Rd., ston. [1835

EASTERN GARAGE

We still have a number of unused

1920 MODELS

to offer at

END OF SEASON PRICES.

May we send you a list?

We shall also be pleased to post particulars of

OVERHAULED and GUARANTEED

SECOND-HAND MACHINES.

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7½% Interest.
One quarter down.
Twelve monthly payments.
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Telephone: 490, East Ham.
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MOTOR CYCLES FOR SALE.

Douglas.

INCOMPLETE 4h.p. Douglases, late models; £15 to £30 each.—Banister and Botten, 341, Upper St., London, N.1. [2155

1915 Douglas 2¾h.p., perfect condition, tyres like new; £42 10.—Dunn, 326, Euston Rd., London. Museum 5391 [855

1917 4h.p. Douglas Combination, 3-speed, kick start, new condition; £85; part exchange.—1, Grosvenor Rd., Rugby. [X2468

DOUGLAS New 1921 Solo and Combination in stock; cash, exchange, or easy payments.—Motories, 25 Horton St., Halifax. [1705

4h.p. Douglas, 1916, 3 speeds, K.S., lamps, horn etc., good condition; £65, offers.—143, Ravensbury Rd. Earlsfield, S.W. [2211

DOUGLAS 1919 2¾h.p., condition as new, fast and powerful; £65.—Dentist, 216, Portobello Rd., North Kensington, W. [2039

1918 2¾h.p. Douglas, 2 speeds, in perfect condition, original tyres, any trial and inspection; £58.—Holdway, Cople, Bedford. [1128

1919 4h.p. Douglas Combination, mileage 1,000, equipped regardless, perfect; £110.—60, Wallingford Av., N Kensington. [2069

2¾h.p. Douglas (Sept., 1919), condition guaranteed perfect, fully equipped, very smart; trial; £68.—60, Wellington Rd., Enfield. [1785

DOUGLAS 2¾h.p., 1920, 3-speed, hand clutch, kick start model, soiled only; 90 gns.—H. J. Marston, 50, Argyle St., Birkenhead. [1622

DOUGLAS, 1918, little used, electric lighting; £70, or near offer.—Hodgson, c/o Harvey, 85, Lauriston Rd., South Hackney. [2288

1921 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Douglas Agent, Yeovil. Tel.: 50. [5043

SPEED Douglases.—Each machine prepared to individual requirements.—Robert Bamford (see under Consulting Engineers). [6693

DOUGLAS 2¾h.p., 1911, lately overhauled, several new parts, good running condition.—Wright, 28, Dock Rd., Tilbury Docks, Essex. [1837

1916 2¾h.p. Douglas, uncrated 1919, small mileage, new saddle, pump, tools, etc.; £56.—1, Melrose Rd., Merton Park, S.W. [1990

£46/10.—1916 2¾h.p. Douglas, excellent running order and condition; first £46/10.—436, Whitehorse Rd., Thornton Heath, S.E. [1934

DOUGLAS 4h.p. Combination, perfect condition, fully equipped, for lightweight and cash; sell £92.—117, East Rd., London, N.1. [9370

DOUGLAS, 1915, 2¾h.p., 2 speeds, C.A.V., Pedley grips, lamps, etc., splendid condition; £45.—G., 63, Solon Rd., Brixton, S.W.2. [1950

DOUGLAS 2¾h.p., just overhauled, 2-speed, 1915 model, speedometer, lamps, perfect condition; £50.—Clark, 7, Exhibition Rd., S.W.7. [1503

2¾h.p. Douglas. Makers' colours. Ridden twice. Practically as new. £68. Daylight preferred.—62, The Chase, Clapham Common. [1875

1919½ 4h.p. Douglas Combination, speedometer, 3 lamps, generators, horn, tools, good as new; £130.—Adam, 168, Sutherland Av., Maida Vale. [1659

2¾h.p. Douglas. Oct., 1919, perfect order, undershield, mudshields, ace discs, chain case, spare chains, tube, belt.—Turner, Oakhurst, East Grinstead. [1558

DOUGLAS, 2¾h.p., 1915, 2-speed, lamps, horn, accessories, new Amac carburetter, reliable; £55.—84, Stanhope Av., Finchley, N.3. After 6. [1745

1920 Douglas Combination, 3 lamps, mechanical horn, registered Sept., as new, expert examination invited, room wanted; £155.—Gibb, Motors, Gloucester. [6340

4h.p. Douglas, 1916-17, electric lighting, new tyres, tubes, aluminium footboards, etc.; nearest £80.—Woodward, Loxwood Cottage, Sundridge Av., Bromley, Kent. [1941

DOUGLAS, 1919, 2¾h.p., 2 speeds, electric lighting, legshields, mechanical hooter, brand new condition; first 60 gns. secures.—G., 63, Solon Rd., Brixton, S.W.2. [1948

DOUGLAS, 1914, 2¾h.p., 2 speeds, buffer forks, Pedley grips, footboards, enamel and plating excellent; real bargain, £40.—G., 63, Solon Rd., Brixton, S.W.2. [1951

1914 Douglas, 2¾h.p., 2-speed, new tyres, copper exhausts, all accessories, perfect condition; £44, or part exchange Triumph and sidecar. — Harris, Mortimer, Berks. [1906

DOUGLAS, 1916-17, 2¾h.p., 2 speeds, new 1920 C.A.V., new belt, enamel and plating unscratched, thoroughly overhauled; £53.—G., 63, Solon Rd., Brixton, S.W.2. [1949

1920 Douglas 2¾h.p., 3 speeds, all lamps, horn, knee-grips, soiled only; £85; exchanges or third down and 9 payments.—Homac's, 243, Lower Clapton Rd., E.5. Dalston 2408. [2171

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. D43

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 1913 2¾h.p., 2-speed, just thoroughly overhauled, Binks, Bosch, Brooks, Xl'All, new tyres, tubes, belt, P. and H. lamp, pump, etc.; £40.—Hutchinson, Boroughbridge. [2001

DOUGLAS, 1916, W.D., brand new July, 1919 (not renovated), all accessories, perfect condition, insurance; £65, near offer; appointment.—Woodman, 226, Queen's Rd., New Cross, S.E.14. [1609

DOUGLAS 1916 2¾h.p., in splendid condition throughout, new tyre, lighting set, knee-grips, long exhaust, mechanical horn, full kit tools and spares; £60.—24, Plymouth St., Swindon. [1673

DOUGLAS 2¾h.p. W.D. Model, new tyres, long copper exhaust, buffer springs, exceptionally fast machine; owner going abroad, must sell; £49, or near offer.—Lake, 73, Cranbrook Rd., Chiswick. [1770

NEW Douglas 1921 2¾h.p. 3-speed gear, £100; latest improvement as exhibited at Olympia; in stock, delivered passenger any part of the country.—Herbert Robinson, Ltd., below.

NEW Douglas 1921 3-speed gear, hand-controlled clutch and kick starter, £105; latest improvement as exhibited at Olympia; in stock, delivered passenger any part of country.—Herbert Robinson, Ltd., below.

NEW Douglas 1921 4h.p., 3-speed, £130, latest improvement as exhibited at Olympia; or with fine finish coachbuilt Douglas sidecar, including wind screen, painted saxe blue, £174; in stock, delivered passenger any part of country.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [1548

1920 Douglas Combination, 4h.p., 3-speed, clutch, kick start, Watford speedometer, Klaxon, complete lighting, mirror, pillion, wind screen, tools, insurance; £180.—Banes, Rhosmore, Potton, Beds. [1983

1915 Model 2¾h.p. Douglas, in good running order, new tyres, disc wheels, painted Douglas colours; no reasonable offer refused.—To be seen at 28, Brook St., London, W. (Messrs. Lawton Goodman, Ltd.). [2252

F.O.C.H. have a late 1919 Douglas combination, many accessories, as new; cheap.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1710

DOUGLAS 1921 2¾h.p. 3-speed models in stock, with all latest improvements, £105; cash exchange or extended terms.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

1920 Douglas 4h.p. Combination, practically new, not ridden 500 miles, P. and H. lighting set, horn, spare tube, belt, and all accessories, complete; £160; to give up riding, doctor's orders.—Smith, Old Coghurst Farm, Guestling, Sussex. [1409

1920 2¾h.p. Douglas, 3-speed, P. and H. lamps, Klaxon, Stewart trip speedometer, knee-grips, Pedley H. grips, new spare belt, tools, mileage 1,200, mechanically perfect, appearance new; trial; £85.—Cooper, 28, Trinity St., Cambridge. [1462

DOUGLAS, 2¾h.p., 1921 model, new improved type motor cycle, fitted with 2-speed gear box, footrests, large tank, wide forks and mudguards; price £85; rotational deliveries.—Apply, authorised London agents, Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0352

DOUGLAS, 2¾h.p., 1919, 2-speed, purchased new from makers, in perfect condition, extra large P. and H. lamp set, electric rear lamp, new oversize tyres, aluminium chain cover, tool roll complete, insured till June next, spares; £75.—Moore, 61, Highbury New Park, London, N. [2225

DOUGLAS Motor Cycles, on easy terms of payment. 4h.p. combination, £170; 2-speed, solo model, £100; 3-speed, clutch, and kick starter model, £105; plus a small charge for delivery from works to London. The above are makers' list prices; for easy payments 4% extra is charged, only one fifth deposit, balance payable by 12 monthly instalments; write for latest lists of other machines in stock, etc.—Harrods, Ltd., 118, Brompton Rd., London. [1819

Edmund.

EDMUND'S.—At Goulay's, Fallowfield. [1616

1920 Spring Frame Edmund-Jap, Burman gear box and kick-starter, delivery from stock; £98.—The James Garages, Ltd., Shrewsbury. [X1884

EDMUND-J.A.P. Spring Frame Lightweight, 2-speed, hand clutch, kick start, 1920, soiled only; £85. H. J. Marston, 50, Argyle St., Birkenhead. [1623

1920 Edmund, spring frame, 2¾h.p. J.A.P., 2 speeds, kick starter, electric lamps, horn, insurance, mileage 350, perfect and very comfortable; £75.—34, Park Rd., Chiswick. [1773

Enfield.

1920 Magdyno Enfield Combination in stock; list price given below.

1920 8h.p. Enfield Combination, brand new; £165.—Edwards, 59, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [2208

1918 Enfield Combination, like new; £135.—Grimes, 13, Bruton Place, Bond St., W.1. [1231

"GRADO" GEARS

make your machine climb anything but a staircase. Fitted in two hours. No alteration to machine.

PRICE: £12-0-0.

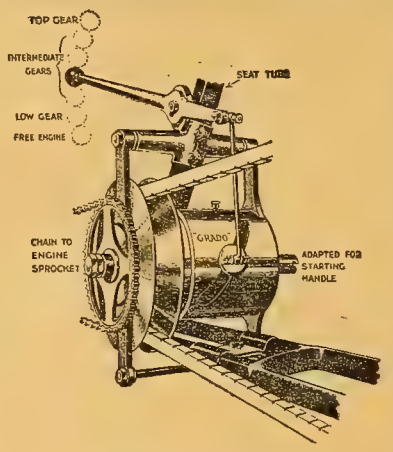
For TRIUMPHS, BRADBURY'S, PRECISIONS, etc.

Sit on your saddle and start engine.

Variable gear, free engine, kick-start. There is our world-famous kick-start model for all machines from 3 to 10 h.p.

DELIVERY FROM STOCK.

TWO-STROKE RIDERS — This gives you a gear for every gradient



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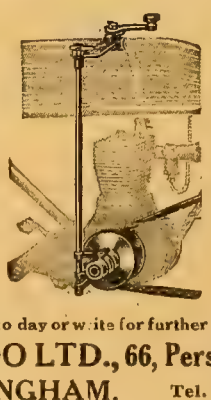
Variable gear, free engine, and handle-start.

£12 complete with chain, two sprockets, and adapter. Post 4/-

DELIVERY THREE WEEKS.

This gives variable gear and free engine.



Prices:
LIGHT-WEIGHT **£7-0-0**
HEAVY-WEIGHT **£8-10-0**
Postage 3/-

Order to day or write for further details

GRADO LTD., 66, Pershore St., BIRMINGHAM. **Tel. Mid. 1187.**

MOTOR CYCLES FOR SALE.

Enfield.

1918 Enfield Combination, Colonial Model, like new; £115.—Ross, 86, High Rd., Lee, S.E. [1597

£30; Enfield 3h.p. 1915 twin, 2-speed, little used.—Shaw, Park St., Wellington, Salop. [X2469

NEW Enfield Combination and lightweight in stock; exchanges.—Martin Mitchell, Ltd., Stafford. [1691

ROYAL ENFIELD Lightweight, 2¼h.p.; a bargain, £38.—McPherson, Clynnog, Llanwnda, N. Wales. [9840

ENFIELD Combination, in stock; immediate delivery.—C.A.E. Co., 21, Hobson St., Cambridge. [2255

ENFIELD Combination, late model, Easting, perfect order; £120.—Clark, 7, Exhibition Rd., S.W.7. [1502

ROYAL ENFIELD Combination, 1915, engine perfect; £90, near offer.—219, Grove Rd., London, E. [1524

ENFIELD Combination, 6h.p.; exceptional offer at £97, any trial.—63, Walm Lane, Cricklewood, N.W.2. [X2465

1914 Royal Enfield C.B. Combination, splendid condition; £95.—Britnell, 19, Hestercombe Av., S.W.6. [2159

ENFIELD 1916 6h.p. C.B. Combination; £110; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [2280

ENFIELD 1915 Twin, 3h.p. M.A.G. engine, lamps, etc., 2-speed, kick start; £38.—54, Coval Rd., Mortlake. [X2356

1920 Magdyno Enfield Combination, new condition, speedometer, Easting, etc.—Brough, 11, Evesham St., Redditch. [1653

3h.p. Enfield Twin, 2-speed, perfect condition, lamps, horn, speedometer; £47.—2, Millais Rd., Bush Hill Park, N. [1878

ENFIELD Combination, 6h.p., 1916, little used, perfect, and lamps; 130 gns.—Slade, 290, Brixton Hill, S.W.2. [2290

ENFIELD 1920 2¼h.p. Model, Miller's head and rear lamps, Lucas horn, as new; £70.—Parker's, Bradshawgate, Bolton. [X2453

ENFIELD 1919 2¼h.p., 2-speed, like new, lamps and accessories; £50, or exchange.—18, Marlborough Rd., Old Kent Rd., S.E. [1961

NEW 1920 8h.p. Enfield Combination in Stock, maker's price.—Shepherd and Co., Enfield, Highway. Tel.: Waltham X31. [0340

ENFIELD, brand new, 2¼h.p., 2-speed, not unpacked; cost £73/10, will accept £66.—Wallis, 23, Hartington Grove, Cambridge. [1803

£45.—Enfield 3h.p. twin, 2 speeds, kick start (believe 1915-16), fine tyres and condition, guaranteed; bargain, must sell.—89, East Hill, Wandsworth. [2181

ENFIELD Combination, 1917, accessories, speedometer, spare cover, tube, Macintoshes, perfect, guaranteed; 115 gns.—19, Streatley Rd., Kilburn. [1977

ENFIELD Combination, 1919, 6h.p. Colonial model, engine No. L63995, 3 lamps, Cameo; £150.—Hawkes, 125, Kyrwicks Lane, Sparkhill, Birmingham. [X2431

8h.p. Royal Enfield Combination, condition as new, electric lighting, speedometer, Easting wind screen, Tan-Sad, etc.; £175.—85, Algernon Rd., Lewisham. [1477

ENFIELD Combination, brand new, just delivered, not used, dynamo lighting; cost £200, will accept £185.—Wallis, 23, Hartington Grove, Cambridge. [1803

ENFIELD 6h.p. Combination, fully equipped, hood, screen, speedometer, etc., only been 3,000 miles; £110; a bargain.—Wallis, 23, Hartington Grove, Cambridge. [1803

1916 Enfield Combination, 6h.p., hood, wind screen, mirror, lamps, etc., perfect condition throughout, trial and examination willingly; £100.—Mars, 5 Victoria Terrace, Sandgate. [2041

1920 Enfield 2¼h.p., lamps, horn, tools, Cowey speed meter, little used, first-rate condition; £60, near offer; owner going abroad.—Webster, 32, Lindfield Gardens, Notting Hill Gate, W.2. [1577

1920 Royal Enfield 2-stroke, 2 speeds, new for intermediate delivery; £73/10; exchanges or one-third down and 9 payments.—Homac's, 243, Lower Clapton Rd., E.5. Dalston 2408. [2121

ROYAL ENFIELD 1915 6h.p. C.B. Combination, perfect condition, fully equipped, thoroughly overhauled; seen any time; best over £95.—Day, 3, Beckley Place, Askew Rd., Shepherd's Bush, W.12. [1877

100 GNS.—Owner sacrificing 1916 6h.p. Enfield Combination, dynamo lighting, hood, screen, Tan-Sad, handle-bar muffs, all on and in perfect condition.—7, St. Mark's Mansions, N.4. 14 'buses. [1877

1920 Enfield Combination, done 726 miles, electric lighting, speedometer, horn, mascot, Easting, etc., numerous spares; 100 miles trial pleasure; £1 or reasonable offer.—Hall, 54, Maygrove Rd., Bromley, N.W. [2211

1919 Enfield Combination, 6h.p., in excellent condition, just overhauled, not done 5,000 miles, Brooks saddle, P.R.S. head light, selling to make way for light car; £140—Thompson, The Elms, Turdebigge, nr. Bromsgrove. [1877

MOTOR CYCLES FOR SALE.

Velocette.

HORSMAN can do Velocettes from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0328

1921 Velocettes, latest models, prompt delivery; lists free.—Phipp, Sherston, Malmesbury, Wilts. [2029

VELOCETTE.—Immediate delivery of new 1921 Model D2 Velocette, £75.—Sole Midland Agents, e Premier Motor Co., Aston Rd., Birmingham. [1652

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate livery.—O'Donovan Motors, 76a, Gt. Portland St., l. [4708

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain ve; £75.—Agents: W. Sparrow, Ltd., Osborne Garage, ovil. [1632

VELOCETTE, the lightweight with a big heart, in stock for immediate delivery, shop-soiled; at greatly luced price; now is the time to buy.—Mebes, 154-156, . Portland St., W1. 'Phone: 3426 Mayfair. [7196

Verus.

1920 Verus, 2¾h.p. Blackburne engine, mileage 100, Lucas accessories; £75.—102, Westwood Rd., Coventry. [X2520

1920 Verus, 2-speed 2-stroke, clutch, K.S., acetylene adapted electric lighting, mileage under 000, perfect condition, all accessories; £75, or cash justment for Morgan.—Wortham, Dunsmore, Lion t., Bexley Heath. [2261

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 4-156, Gt. Portland St., W.1. 'Phone 3426 Mayfair. [7197

Williamson.

1920 6h.p. Williamson Combination, brand new, shop-soiled; list price £200, for quick sale £165.—xanders', 115, Lothian Rd., Edinburgh. [8763

Witall.

WITALL 1920 2½h.p. 2-stroke, 2 speeds, Brampton forks, electric lighting; cost £75, accept 0.—G., 63, Solon Rd., Brixton, S.W.2. [1952

Wooler.

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—ses. 154-156, Gt. Portland St., W.1. 'Phone: 3426 yfair. [7192

Wolf.

WE are Sole London and Home Counties agents for the Wolf motor cycles. 1921 models in k. Trade enquiries invited.—Tel.: Museum 6626.—C., 60, Mortimer St., W.1. [2248

Zenith.

1920 8h.p. Zenith, in stock.—C.A.E. Co., 21, Hobson St., Cambridge. [2258

1921 Zeniths, in stock.—Agents, Hewett Bros., 94, Western Rd., Hove, Sussex. [0344

ZENITH.—Orders now being booked for 1921 models. —C.A.E. Co., 21, Hobson St., Cambridge. [2257

05; 5-6h.p. Zenith, 1920, no reduction; exchanges; perfect machine.—Wood, London Hospital. [1849

1921 Zenith 2¾h.p. Flat Twin, brand new; £110.—S.A.S., Sawkinge Farm, Stodmarsh, Canterbury, t. [8839

ZENITH 8h.p., 90 bore o.h.v. engine, thoroughly overhauled, fast; £80, bargain.—Barker, 12, Bridge Cambridge. [1461

ZENITH 4h.p. 1914 C.B. Combination, splendid condition; 55 gns., or solo £48.—62b, Highgate Rd., tish Town, N.W. [2102

1920 July) 8h.p. Zenith H. Combination, run 700 only; £180.—Letters only, 23, Stedham Cham-. Coptic St., W.C.1. [1447

p. Zenith-Gradua, splendid condition, lamps, horn, etc.; room wanted; £55; ride away.—17, Wilcox South Lambeth, London, S.W.8. [2300

1919 Zenith 5-6h.p. Countershaft Combination, guaranteed perfect everywhere, mileage 4,000; £110.—5, Norwich Rd., Ipswich. [1743

1920 6h.p. Zenith Countershaft, brand new; cost £162, accept £130.—Edwards, 50, Harrington South Kensington. 'Phone: Kens. 3709. [2209

1920 Zenith, 6h.p., magnificent condition, absolutely indistinguishable from new; 110 gns.—n, 84, Broad St., Reading. 'Phone: 1024. [1795

ZENITH, 1916, J.A.P. engine, Bosch, B. and B., Gradua gear, leg shields, £65; also Triumph, 1913, h, clutch, £45.—A. Hunt, Appleton Lodge, Widnes. [1404

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—s, 154-156, Gt. Portland St., W.1. 'Phone: 3426 hit. [7193

p. Zenith, perfect order, Canoelet sidecar, wind screen, new belt, lamps, and accessories, enamelled genuine bargain, £55.—Dunkley, Brackley, nants. [1764

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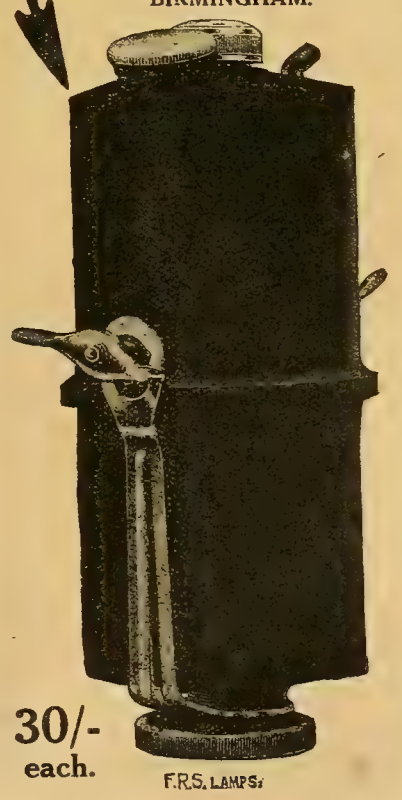

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ZENITH 8h.p. Sporting Model in stock; £139.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0319

F.O.C.H. for 1921 Zeniths; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1714

ZENITH 1920 8h.p. Countershaft Combination, Henderson Elite sidecar, discs, Klaxon horn, mirror, spare chain, hardly ridden, like new; £180, or offers; photo.—Scott, 433, Brixton Rd., S.W.9. [1676

5-6h.p. Twin Zenith Combination, indistinguishable from new, Lucas lamps, clutch, and kick starter, coachbuilt sidecar, or solo if desired; bargain for quick sale, £135.—38, Park Rd., Coventry. [X2517

ZENITH 1920 5h.p. Sporting Model, tuned, and only slightly used, P. and H. electric head lamp and rear lamp, tyres unpunctured, everything as new; £120, or near offer.—G., 89, Wigmore St., W. [2321

ZENITH-GRADUA 5h.p., 1917, K.S., countershaft, Binks, P. and H. large set, spare fittings for converting into sporting model, good tyres, new belt, excellent condition; bargain, 85 gns.—Felton, Malton, Yorks. [2082

F.O.C.H. have a 1919 6h.p. Zenith, T.T. bars, accessories, grand condition; cheap.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [1711

SPORTING Zenith, 8-10h.p., overhead valve J.A.P., T.T. bars, very fast, done 500 miles, new appearance; sacrifice, £105, no offers; exchange 3½h.p. Norton or similar and cash.—Rees, 15, Castle St., Swansea. [1728

ZENITH 6h.p. Sports, believed 1916, accessories, insurance, tyres, belt, excellent condition, engine recently overhauled; owner buying new machine; ride 60 miles to purchaser; £70.—62, Northview, Westbury Park, Bristol. [2091

ZENITH! Zenith!—1921 models in stock for immediate delivery; 5h.p. sporting model, 8h.p. countershaft model combination, 8h.p. sports model.—Motorists' Advisory Agency, Ltd., 89, Wigmore St., W.1. Mayfair 5598. [2216

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments; one-fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [1818

1920 8h.p. Sports Zenith and Cancelet sidecar, electric lighting, 3 lamps, Klaxon, speedometer, kneegrips, polished discs, tools, luggage grid, only 1,500 miles, tyres unpunctured, carefully looked after, perfect throughout, as new; £170.—Williams, Uplands, London Rd., Harrow. [1493

ZENITH, 8-10h.p., o.h.v., special competition machine, late model, perfect order throughout, new belt and back tyre, special cams and pistons, 3in. streamline exhaust, a chance for a speed merchant to win prizes; sacrifice, £100; for quick sale.—R.V., Imperial Hotel, Cheltenham. [1727

8h.p. (late 1920) Zenith Clutch Model H, with M. and D. coachbuilt sidecar, bulbous body, khaki cover, Easting wind screen, P. and H. lamps, horn, speedometer, mirror, Tan-Sad pillion seat, insurance policy, practically new, the finest combination on the road; best offer over £180.—Box 9,622, c/o *The Motor Cycle*. [1798

1920 8h.p. Sports Zenith, 4 months old, refinished as new by makers, in crate, Hunt electric lighting, Best and Lloyd auxiliary lubrication, aluminium discs, Tan-Sad, Binks, Bonniksen trip, horn, 68 m.p.h., 80 m.p.g.; cost £163, accept £148, near offer, or exchange o.h.v. Morgan, or 8h.p. A.V., with £20.—C. Roiss, 28, Manor Rd., Bournemouth. [2214

ZENITH 1920 8h.p. Countershaft, clutch and kick starter model, fitted with Zenith standard coachbuilt sidecar, Easting wind screen, P. and H. head lamp, electric side and tail, with new 6-volt accumulator, only used a few times since end of August, in new condition throughout; any trial or examination; £195, or near offer.—93, Foxley Lane, Purley, Surrey. [2220

ZENITH 6h.p. Combination, cancelet sidecar, 3 electric and 3 acetylene lights, Easting wind screen, mechanical horn, Brampton biflex forks (new), Tan-Sad, thoroughly overhauled, 1921 pistons, connecting rods, and crankshaft, disc wheels, racing Sensspray carburetter, measured mile Brooklands, 63 m.p.h.; take £130, for immediate sale.—Mauleverer, Mount Grace, Lilliput, Dorset. [2013

Ladies' Motor Cycles.

LADY'S Douglas, 2-speed, kick-starter, about 1914, good order; £50.—Alves, Whithorn, Wigtownshire. [1552

Miscellaneous

MOTOR Cycle, 5-6h.p. twin, running order, drip and pump feed, tyres good; seen by appointment; £45, or close offer.—Woodward, Ardmay Hotel, Surbiton. [1486

MOTOR CYCLES.—Generally few good second-hand bargains from £15 up; magnetos, engines, spares; Douglas 2¾h.p. frame, £6/10.—M. Flanagan, 86, Copenhagen St., Islington, London. [1666

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Miscellaneous.

WANDSWORTH Motor Exchange.—Great show of nearly new motor cycles and combinations.—Below.

WANDSWORTH.—Easy terms, easy terms, easy terms on any motor cycle.—Below.

WANDSWORTH.—1920 Triumph T.T. 4h.p., Lucas lighting, mostly soiled, unscratched; 76 gns.—Below.

WANDSWORTH.—1920 T.D.C. de Luxe, 2½h.p., mag., 2 speeds, almost gilt; 49 gns.—Below.

WANDSWORTH.—1920 Clyno 2½h.p., 2 speeds, clutch, shop-soiled only; 65 gns.—Below.

WANDSWORTH.—1920 Radco sporting 2½h.p., 2 speeds, disc wheels, special; 59 gns.—Below.

WANDSWORTH.—1920 Indian combination, dynamo lighting, magnificent turnout, as new; 175 gns.—Below.

WANDSWORTH.—1919 (October) beautiful Indian, dynamo lighting, 7-9h.p. Powerplus; sacrifice 118 gns.—Below.

WANDSWORTH.—1915 Red Indian T.T. 7h.p. twin, clutch, very fast; 65 gns.—Below.

WANDSWORTH.—Indian coachbuilt combination, 7h.p., 2 speeds, clutch, spring frame; 68 gns.—Below.

WANDSWORTH.—Red Indian 5h.p. twin, magneto, clutch, nice condition; 49 gns.—Below.

WANDSWORTH.—P. and M. with coachbuilt sidecar, 3½h.p., mag., 2 speeds; cheap, 49 gns.—Below.

WANDSWORTH.—Triumph with sidecar, 3½h.p., Bosch, plate clutch, nice order; 49 gns.—Below.

WANDSWORTH.—Bradbury with fine coachbuilt sidecar, 3½h.p., Bosch, 2 speeds; 55 gns.—Below.

WANDSWORTH.—Rex coachbuilt combination, 5 h.p. twin, Bosch, 2 speeds; only 45 gns.—Below.

WANDSWORTH.—Humber beautiful coachbuilt combination, 3½h.p., mag., 2 speeds, beauty; 58 gns.—Below.

WANDSWORTH.—Williamson splendid coachbuilt combination, 6-8h.p. twin, water-cooled, all complete; 96 gns.—Below.

WANDSWORTH.—N.U.T., famous T.T. overhead-valve twin J.A.P., very fast; 78 gns.—Below.

WANDSWORTH.—Kerry-Abingdon 3½h.p., magneto, ready drive away; bargain, 28 gns.—Below.

WANDSWORTH Exchanges.—Wandsworth Motor Exchange, Ebner St., Wandsworth Town Station). 'Phone: Battersea 327. [2077

IF you want a good privately owned motor cycle or car, apply Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. [0138

BOOTH'S Motories, Halifax.—1914 Enfield combination, £89/15; 1916 3½h.p. Brough, opposed cyls., 3-speed countershaft, and sporting sidecar, £81/10.

BOOTH'S Motories, Halifax.—1919 P. and M., with new sidecar, £110/10; 7-9h.p. Indian, with torpedo sidecar, £60/10.

BOOTH'S Motories, Halifax.—Six 1915 Douglases, £49/10; two 1918 4h.p. Douglases, £85/10.

BOOTH'S Motories, Halifax.—1920 5-6h.p. Rudge Multi, with Rudge sidecar and accessories, cost £170; price £127/10.

BOOTH'S Motories, Halifax.—3½h.p. N.S.U., mag., Grado gear, £15/15; 3½h.p. Ariel, £25/10.

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DOUGLAS S. COX, the A.S.M.M., West Norwood, has several real bargains in motor cycles and combinations in his long advertisement under Cars. [7727

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Little used Douglas combination, £120; Indian 2-stroke, £32; Campion-Villiers, 2-speed, £45; Enfield 2-speed 2-stroke, leg shields, electric lighting, new A.B.C., N.U.T., Lea-Francis, Ivy, Cedos; also

COVENTRY Premier Super Runabout—See our man on any of the leading manufacturers' stands. [X1881

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1920 Shop-soiled Models, £198; twin Ariel combination, £145; lightweight Enfield, £68; Matchless combination, £175; Quadrant combination, £128, etc. —Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. [1345

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ENFIELD 6 h.p. 2-speed Combination	£85 0
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SCOTT Motor Cycle, thoroughly overhauled, in new condition, with brand new sidecar, apron and wind screen, £60; 1919 electric model Harley-Davidson combination, £130; 1919 Harley with 2-seater sidecar, hood and screen, £180; Amac carburetter with controls, good order, 20/-; several makes of second-hand motor cycle pulleys, cheap.—Collett Bros., opposite Norwood Junction Station. [142

F.O.C.H. the car, light car, and motor cycle specialists.—A good new and second-hand selection always on view; prices to suit everybody; fair cash price paid for your 'bus; exchanges a speciality. We supply Triumph, Zenith, B.S.A., A.J.S., etc., also the famous Kingsbury Junior, Bleriot Whippet, Grahame White, G.N., etc.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [171

MOTOR ATTACHMENTS.

AUTO-WHEEL, brand new, not used; cost £25, accept £15.—300, Marylebone Rd., N.W.1. [158

SIMPLEX Cycle Attachments, in stock; price 2 gns.—Welford, St. James' St., Brighton. [186

1920 J.E.S. Motorcyclette, 24in. frame; £38; accessories.—369, Brockley Rd., London, S.E. [158

WALL De Luxe Auto-Wheel, 1917, never used £16; appointment.—9, Spencer Rd., South Croydon. [214

J.E.S. Auxiliary Set, 1916, magneto model, complete perfect; 9 gns.—Park House, Church Rd., Hanwell, W.7. [212

YOUNG Motor Attachment, 1920, 1¾h.p., 1 m.p.h., 125 m.p.g.; £16.—Box 9,646, c/o *The Motor Cycle.* [224

AUTO-WHEEL, 1920, Model VI., as new; £17/10.—Lamb's, 50, High Rd., Wood Green, 151 High St., Walthamstow, and 387, Euston Rd., London, N.W.1. [81

MOTOR TRICYCLES.

ARGSON Hand and Motor Propelled Tricycles for invalid and disabled.—Particulars, Argson Engineering Co., Ltd., 3, Kendall's Mews, W.1. [78

MOTOR SCOOTERS.

WHIPPET Scooter, new, bought car, private owner 47 gns.—164, New St., Horsham. [21

AUTOGLIDER, carry 2; 45 gns.; exchange motor cycle.—57, Kenbury St., Camberwell, London. [20

EGERTON'S Northgate, Ipswich, can delivery from stock A.B.C. Skootamotas and mobile pups. [14

DYSON'S Motor Scooter, cost £40; offer at £3 new.—Redgate, Ltd., Traffic St., Nottingham. [17

HARMOOR Auto Scooter, brand new, never used £30, listed £45.—Moore, 109, Talgarth Rd., Kensington. [14

A.B.C. Scooter, 1920, running order, excellent condition; what offers——Miss N. Lepper, Walton St., Aylesbury. [21

A.B.C. Skootamota for sale, only done 100 miles, practically new condition; £45.—King and Harper, 6, Bridge St., Cambridge. [14

1920 A.B.C. Skootamota, not ridden 200 miles, genuine bargain, 48 gns.—Miss Wood, Manor House, Weston, nr. Honiton. [14

SCOOTER-AUTOGLIDER, as new, cost 50 gns., used once; accept £35.—Holywell Motor Co., Ltd., 5, Buckingham Palace Rd., S.W.1. Tel.: Vic. 3537. [14

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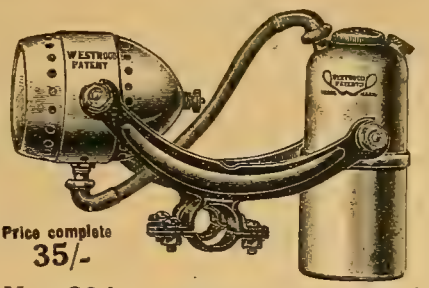

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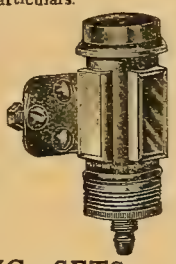

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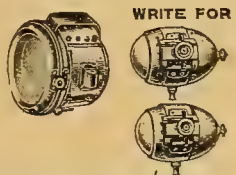

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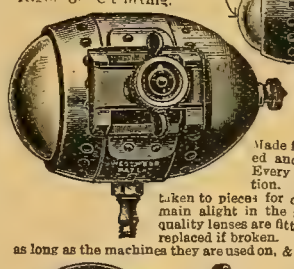

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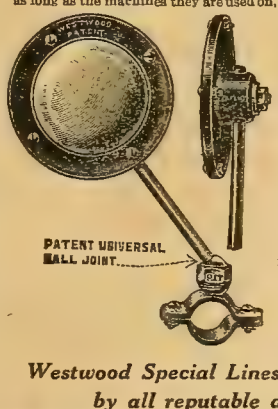

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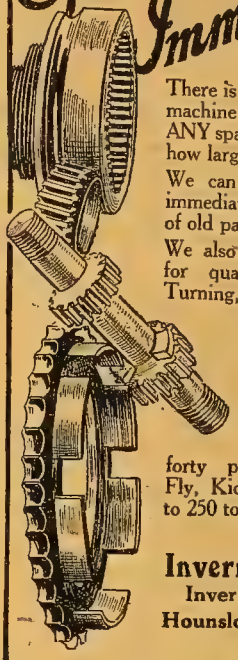

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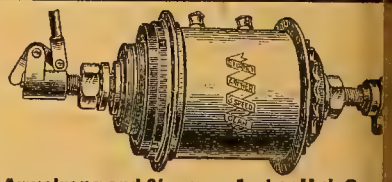

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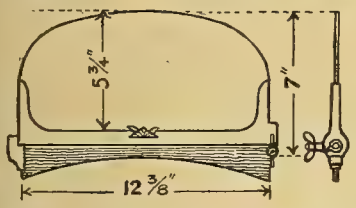

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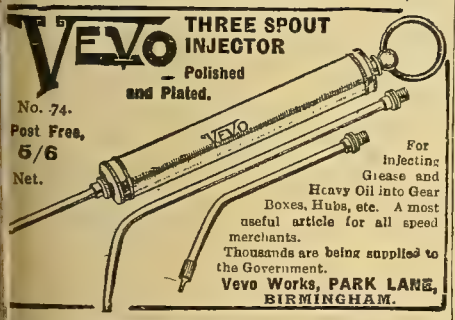

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GOVERNMENT Surplus.—New army serge breeches, 30/-; nearly new, 15/-; motor cyclists' fawn waterproof Gaberdine overall suits with hood, 25/-; new brown and black field boots, 50/-; ladies' high-legged field boots, black 30/-, brown 38/-; new Australian boots, 30/-; postage extra. Send for list of other goods.—M.C., Letheridge and Son, 75, George St., Devonport. [8659

ENFIELD Parts, quite new and faultless, for 6h.p. 2-speed gear, 1916, onward, 36 tooth chain wheel with brake drum, their reference No. 102, 19/-, spindle only, reference No. R106, 18/-; expanding band only, reference No. R110, 9/-; high gear centre drum, reference No. 115, 15/-; spring roller, reference No. 124, 2/9.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X598

8h.p. Royal Ruby Spares.—Chain covers, front and back, 15/- each; centre portions of frame, £5; forks, complete, £4; rims, 3/6; tanks, complete with fittings, £3; T.T. handlebars, 12/6; rear carriers, 15/-; footboards, complete, £1/15; 8h.p. J.A.P. cam wheels, 15/-. The above is only a selection of our stock. We hold a huge stock of most parts for Royal Ruby's.—Below.

B.S.A. Spares.—Centre portions of frames, £3/15; chain stays, £1/12; back stays, 18/-; petrol pipes, 2/6; rims, 3/6; silencers, complete with magneto platform, 16/6; handle-bars, 12/6; fork blades, £1/10; magneto chain covers, complete, 8/-; magneto sprockets, 2/6. The above is only a fraction of our stock. Let us have your enquiries.—Below.

TOOLBOXES, 32×18×12, fitted tray and compartments, £1/10. All goods sent on approval against cash plus carriage. Stamp please.—Holliday Bros., 20, Queen St., Hammersmith Broadway. [2078

DISCS.—We are makers of discs for any type of motor cycle, polished aluminium 25/- and 30/- per wheel, enamelled steel 20/- per wheel, Rudge Multi discs 5/- per wheel extra; discs for Douglas, Triumph, Indian, Harley-Davidson, and Rudge Multi motor cycles always in stock; prompt deliveries.—Hill and Co., Discs Specialists, 1 and 3, Walmersley Rd., Bury, Lancs. [0351

EVERY Part in Stock for 1915 5h.p. Indian motor cycle, all sizes of motor cycle chains in stock, any pattern of piston made within 12 hours, huge stock of J.A.P. (all sizes), Triumph, Humber, Indian, etc., engines overhauled at short notice, parts duplicated, special prices for tanks, mudguards, etc.; cheapest house in the trade.—Walter Matthews, 114, Suffolk St., Birmingham. [4951

NEW 1920 8h.p. J.A.P. Engine, £34; Sthenos cycle-car carburetter, new, £2/10; 100 amp. 6 volt Exide accumulator, £4/10; 40 amp. 6 volt charged ditto, £1/5; pair of H.B. electric side lights, new, £3; Amac, 27/-; single Bosch, watertight, £5; useful exchange or offer considered; wanted, 50° twin Bosch magneto; Berko dynamo, 50/-.—A. Knight, Police Station, Woodford Bridge, Essex. [1872

ROBBIALAC STAND No. 14
OLYMPIA CYCLE AND MOTOR CYCLE SHOW

ACTUAL specimens of work carried out with Robbialac Enamel and Robbialac Transparent Finish, and showing the beautiful results obtainable, will be on view at the Robbialac Stand. Practical demonstrators will be in attendance, and will be pleased to give advice on cycle enamelling. You should in any case ask for the free leaflet "INSTRUCTIONS FOR AMATEURS TO ENAMEL A CYCLE" and colour card. If you cannot visit the exhibition, write for the leaflet direct to the Sole Manufacturers of Robbialac:—Jenson and Nicholson, Ltd. (Publicity Dept.), Robbialac Works, Stratford, London, E.15.

ROBBIALAC
Sold by all Cycle Agents
W.C.

"MARRYATT"
LEGSHIELDS

The "real" mud stoppers
18/6
per pair. Special type for Douglas. Extra bracket supplied in place of straps, if preferred.
Astounding offer of
DISCS
in sheet steel, stoved black, swivel doors to valve apertures, fixing screws complete. 30/- per set. For belt-driven machines only. Engine Undershields for 2¾ or 4 h.p. Douglas. 12/6 each. Footboards handsomely covered pyramid aluminium or linoleum, for Douglas, etc. 12/6 per pair. Tanks, Mudguards, Chain Cases, Tool Boxes, in fact everything in the sheet metal line repaired or replaced at rock-bottom prices.
THE MARRYATT ENGINEERING CO.
Lurgan St., Great Church Lane, Hammersmith, London, W. AGENTS—Write for Terms

COVER YOUR CYLINDERS WITH
RAINES' CYLINDER PAINT
UNAFFECTED BY OIL OR HEAT.
Tins 1/2 & 2/3 Post Free — 1 Gall. Tins 25/- Carr. Paid.
RAINES & PORTER LTD - HULL.

THREE HATS IN ONE.

Real suede leather tammy hats in Lemon, Orange, Buff, Grey, Brown, and Plum, with rosette as illustrated.

21/-.

To each purchaser we now give, without extra charge, one chain and fringe, and one bow, both in real suede leather to match the hat. You can then fit either of the ornaments to suit your taste or alter them at any time in a few minutes.

POCKET SLIPPERS.

in Grey or Brown suede leather, fleece lined and with bag as illustrated

6/6 a pair.

Post Paid. To be seen on our STAND 247a GALLERY.

College Leather Co., Northampton.

TRADE MARK

STONE-HOUSE

Look for that name and trade mark on foot-rests, belt-rim brakes, celluloid-covered metal pumps, and other accessories. It is only used on our specialities, which have All-British excellence.

Stonehouse Works Co. 53, Spon Lane Mills, West Bromwich.

Motor Car & Cycle Houses Portable Buildings

of every description

Illustrated List Free.

SOUTH-WESTERN APPLIANCE CO.
HIGH ST., FULHAM, LONDON, S.W.

THE

Royal Leicester SAFETY Pillion Seat.

Made in Adults and Children's Sizes.

Write for Catalogue.

The Willowbrook Co., Belgrave Gate, LEICESTER.

Makers of "ROYAL LEICESTER" Sidecars

MISCELLANEOUS.

BARGAINS.—Lamp set, £1; B. and B. carburetter, £1; horn, 10/-; foot brake, 7/6; Dunlop belt, perfect, with fastener, 7/6; light sidecar chassis, good tyre, £2; touring bars, with grips, 7/6; contact breaker, 10/-; 2 new Lodge plugs, 7/6; 2 Douglas valves, complete, 7/6; Bosch single, anti, £2/10; coachbuilt sidecar, good tyre, £3; 180° magneto, as new, £4.—Ashby, 18, Hertford Place, Coventry. [1963

TWO Dozen.—I have for sale some brand new Powell and Hanmer motor cycle head lamps (acetylene) and Miller generators. The above were purchased cheap under the hammer (ex W.D.). I will send full size (5½in. glass) P. and H. head lamp and full size Miller generator, all brand new, to applicants for 30/-, postage 1/6. Money gladly returned if not satisfied. No callers, please.—43, Brailsford Rd., Tulse Hill, Brixton. [1655

DISCS for Any Make of Light Car, cycle car, runabout, or motor cycle wheels: solo sets for motor cycle, in polished aluminium, 55/- per set, in light steel, stove enamelled black or finished in any colour, 42/-; provision made for belt rims, brake rims, security bolts, speedometer, oiling, and our nickel neat fitting valve covers; all fittings are nickel plated; packing and postage free; trade supplied.—Mersey Disc Co., 34, Sutton St., Warrington. [1269

TRIUMPH Countershaft Wheels, as new, 90/- per pair; rear 60/-, front 30/-; complete countershaft frames, £14; complete front forks, £4/10; top back stays, 25/-; fork blades, £2 per pair; tanks with fittings, 50/-; gear cam wheels, new, 10/-; centre frames, 70/-. I have the largest assortment of Triumph parts in England, including 1921 countershaft engines, crank cases, etc.—H. Richardson, 2, Kelton Villas, Hawks Rd., Kingston-on-Thames. [2197

TIME Sheets, for immediate use, supplied from stock, 1/3 per 100; 12/6 per 1,000. Copyright forms ruled and printed for daily, weekly, and foreman's time sheets; also workmen's time sheets and pay sheets, showing where employed on outdoor work, travelling and other expenses; variations of work forms; material sheets, contractor's record of carting. Specimens free of charge and post free. J. C. King, Ltd., 42, Goswell Rd., London, E.C. [8972

CARDIGAN Jackets, grey, knitted, English manufacture, cheapest line in U.K. since war, all sizes, 10/9; rubber waterproof suits, double texture, d.b. jacket wind cuffs, overall leggings, 57/6, state size; long rubber thigh boots, 18/6, worth double; grey wool socks, extra heavy, 3 pairs for 8/6; hand knitted wool helmets, 1/9; all goods new and carriage paid; approval willingly.—Wilks and Son, Woollen Merchants, Uttoxeter. Established 52 years. [1200

EAGLES-N.S.U. Type 2-speed Engine-shaft Gears, with free engine and adjustable pulley, specially made to suit Triumph, Rover, B.S.A., Bradbury, Precision, Norton, Premier, Singer, Rudge, J.A.P., Ariel, Humber, Peugeot, Fafnir, Minerva, and other makes; price £12; easy to fit, no alteration to motor cycle necessary. Trade enquiries invited.—Eagles and Co., Acton Hill Works. Showrooms and Spares Dept., 275, High St., Acton, W.3. 'Phone: Chiswick 556. [0161

LATE Countershaft Triumph Tank, enamelled, all fittings, £3; front wheels, 25/-; Triumph forks, complete, spring, all ball races, £5; front brake, less shoes, rubbers, 15/-; centre timing cam wheels, countershaft, new, 15/-; 180° Thomson-Bennett magneto, new, 90/-; Senspray carburetter, complete, 30/-; sidecar lamp brackets, new, 1/6; new anti contact breakers (Bosch), 15/-; Bradbury tank, all fittings, 30/-; Bradbury adjustable pulley, 10/-.—Manser, 20, Valnay St., Tooting. [1563

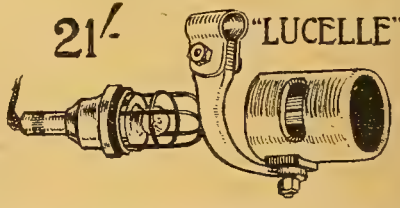
GOVERNMENT Waterproofs, quite new, best possible quality oilskin jackets, lined, 13/6, 17/-; trousers, lined, 12/6; Sou'-westers, 2/6; Pegamoid rubber trousers, 15/6; officers' rubber Poncho capes, 22/6; oilskin capes, lined, 13/9; many worth double. Second-hand jackets 8/-, trousers 8/-, coats (lined) 18/6; new fawn cap covers, with neck shields, 1/11; all carriage paid; approval or money back. Obtain our prices for all kinds of waterproofs.—Hawthorn, Ltd., Dept M., Shrewsbury. Established 32 years. [0110

HEPPELTHWAITE'S Snips.—How is it done? Following new goods: 50 sets 6in. P. and H. lamps and generators, 35/-; 20 sets Model 31H. Millers, 5in., 32/6; and 10 sets 5in. P. and H., for Douglas, at 30/- per set; 30 Best and Lloyd drip feeds, 15/-; 10 gravity drip feeds, 7/6 each; 500 detachable plugs, at 2/6 each; 60 Bosch plugs, 4/6 each; Cameo wind screen, £2/10. We cannot repeat any of above stocks. S.H. Druid spring forks, 8in. stem, £3/15; 3-speed Armstrong wheel, good order, £6; horn, 5/6; touring bars, 8/6; Amac, £1; new Capac, £2/15; stamp, please.—The Red House, 19, Wilcox Rd., South Lambeth, London, S.W.8. [2017

EXTRAORDINARY Value Here.—All light sizes new Reynolds chain, 3/6 foot; Walbro' wind screen, with fittings, as new, 28/-; 6-volt horn, perfect, 30/-; Druids, complete, 6in. head, new, 90/-; twenty 2-volt accumulators, used, but perfect, 5/- each; three pairs bars, 4/-, 9/-, 12/6; new C.A.V. electric head lamps, 38/6; Matchless 6-speed pulley, 90/-; channel steel cycle car side members, 70/- pair; live axle, with differential and brakes fitted, £8/10; front axle, with stubs, £3/10; springs to suit, £3/10 the set; new C.A.V. 180, £4/18/6; open Bosch single, magnificent spark, 50/-; Bonniksen, as new, 65/-; new P. and H. lamp sets, 29/6 and 39/6; 3½h.p. frame forks, tank, mudguards, brakes, etc., excellent condition, £9 the lot. See L.M.C. and Engines. Anything on approval. Lambert's Garage, 343a, Finchley Rd., Hamp'stead, behind Langfiers. [2272

EXCEPTIONAL OPPORTUNITY!

21/- "LUCELLE"



TAIL LIGHT AND INSPECTION LAMP. Complete with bulb, switch, and three feet of wire, strongly made of aluminium and machine turned throughout.

IN ORDER TO ADVERTISE THE ABOVE LAMP. A 2 volt. C.A.V. accumulator, capable of 25 hours light, and worth 10/-, will be given away with every lamp ordered within the week, providing 4/- extra is sent to cover postage and packing charges etc.

LUCELLE & COMPANY, Manufacturers, 27, Brearton St, BRADFORD, Yorks.

SITEEZI (REGD.)

New SIX Spring.

19/6
24/-
30/-

Easily attached. Fits all carriers. Made entirely of metal. Nothing to break. A superior cushion is now fitted to our Six Spring Model.
Prices—Carriage Paid—Six Spring with cushion, **30/-**; Four Spring with cushion, **24/-**; Four Spring with felt cover, **19/6.**
Send for illustrated list of fittings.

Motor Fittings Supply Co., 39, Queen Street, MANCHESTER.

The Book that pleases the motor cyclist. :: And it's ::

YOURS FOR A CARD.

IRVINE SMITH, BUTTERSHAW, Nr. BRADFORD.

WRITE

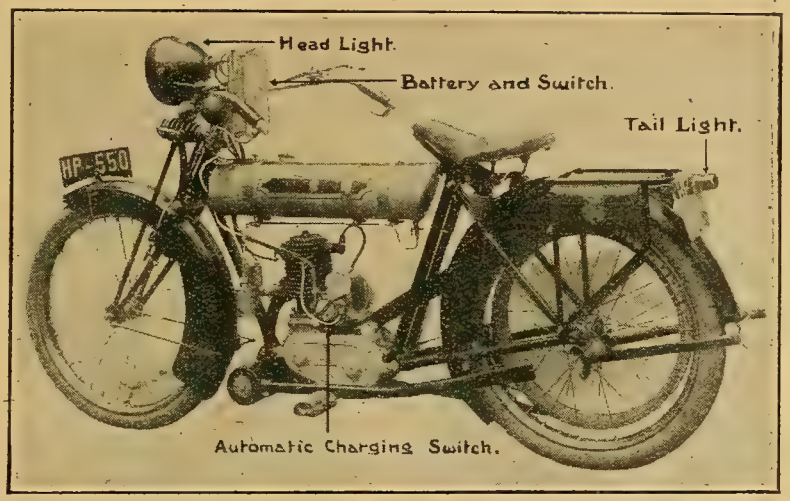
WRITE FOR LIST

Price 50/- including packing.
IMMEDIATE DELIVERIES.
Walbro Windscreen Co, ELY, CAMBS

B.T.H. "Sparklight"

combined ignition and lighting system.

The B.T.H. "Sparklight" combined ignition and lighting system for single cylinder two-stroke engines, consists of a standard B.T.H. single cylinder magneto, with an attachment to enable the idle half of the voltage wave, generated in the low tension winding (which with every single cylinder magneto is wasted), to be utilised for either charging a battery or supplying lights.



Advantages:

Lighting system does not increase the power required to drive the magneto.
Light always available whether engine is running or not.
Light can be obtained with or without battery when engine is running.
Absolutely no attention required. Charging switch is automatic in operation.
Battery cannot discharge through the magneto when engine is not running.
Lighting does not in the slightest degree affect the efficiency of the spark.
Non-spillable battery. Inexpensive.

Write for description CM. 212 on B.T.H. "Sparklight."

The British Thomson-Houston Co., Ltd.,
Lower Ford Street, Coventry.

QUADRANT

45, LAWLEY STREET, BIRMINGHAM.

SOLO £115. COMBINATION £145.

A Combination of Power with Economy

Depends on workmanship which tolerates no deviation from standardised excellence.

This factor shows the cumulative effect of 20 years experience; it constitutes one of the most important advances in increasing the dependability of Quadrant Motor Cycles.

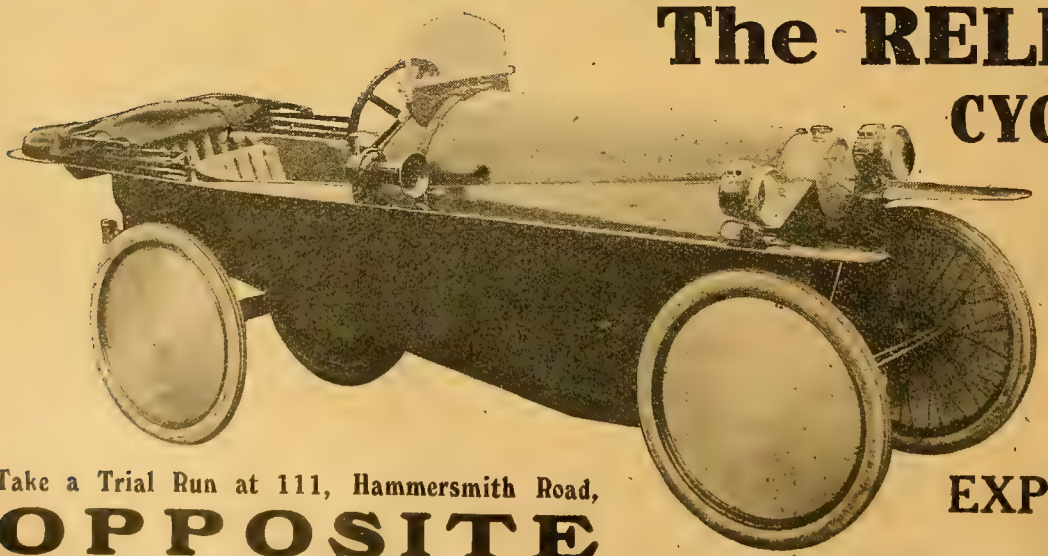
The same factor which makes it good at the start, keeps it good through an exceptional length of time.

SEE THE MACHINES AT STAND 41, OLYMPIA.

TAMPLIN

The RELIABLE CYCLE CAR

£165



NOT AN EXPERIMENT.

Take a Trial Run at 111, Hammersmith Road,

OPPOSITE OLYMPIA SHOW,

NOVEMBER 29th to DECEMBER 4th.

TAMPLIN ENG. WORKS, STAINES.

'Phone: 139 STAINES.

BB6

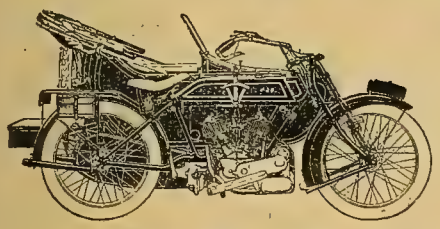
In answering these advertisements it is desirable to mention "The Motor Cycle."

SHOWROOMS:
81, 91, JOHN BRIGHT ST.
'Phone—MID. 2910.

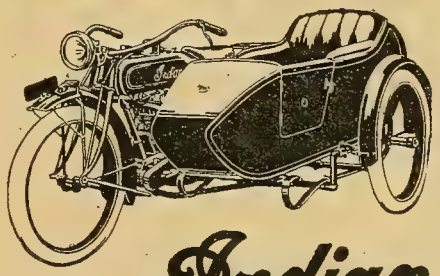
SERVICE DEPOT:
14-22, SEVERN STREET
Telegrams—LYTCAR, B'HAM.

The Birmingham House for Motorists.

OLYMPIA SHOW



ASK FOR MY REPRESENTATIVE at STANDS Nos. 71, 91, 100, 119, and 118.



A.J.S

ONE WEEK ONLY

Indian

In which to gather the details of the highly attractive motor cycles, which the best brains in the industry have put forward for your approbation.

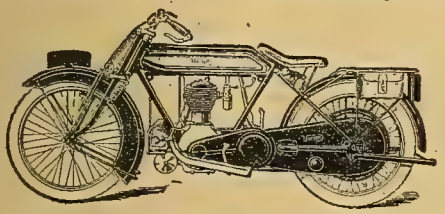
'Midst a galaxy of models, business rush and dazzling lights you pass from one machine to another, each making an appeal to you on some particular detail.

On the way home you recall various machines, and endeavour to fix on your new mount—one more look and you feel you could decide—but you are travelling fast from Olympia, and, for you, the Show is over.

At my Showrooms, which are now being extended, I have a selection of the best and finest motor cycles on the market, comprising:

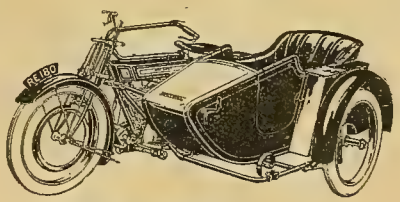
A.J.S. ENFIELD INDIAN NORTON TRIUMPH ROVER JAMES BLACKBURNE NEW IMPERIAL HUMBER CALTHORPE MASSEY-ARRAN EDMUND ETC.

MAKE YOUR FINAL SELECTION HERE AT LEISURE AND IN COMFORT



Norton

SEND FOR LIST OF SPECIAL CLEARANCE BARGAINS.



ROYAL ENFIELD

P. J. EVANS

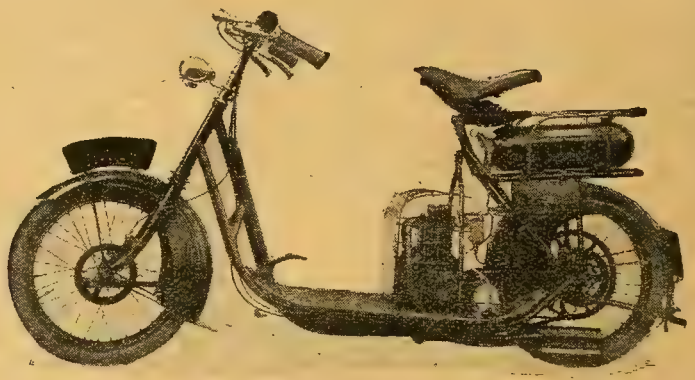
In answering this advertisement it is desirable to mention "The Motor Cycle."

BB7

THE WHIPPET

The Super Miniature Motor Bicycle.

Olympia Stand
—26A.—



Special Sporting Model.

We are showing 3 Models:

Standard Model
Sporting Model
De Luxe Model

Sole Concessionnaires:—

SUMNER, VAUGHAN & CO.,

28, Victoria Street, WESTMINSTER, S.W.1.

Early Deliveries.

STAND 98. **STAND 98.**

DIAMOND MOTOR CYCLES

7 RECORDS CUT UP AT BROOKLANDS, Nov. 23rd, 1920

By Mr. Vivian Prestwich on Diamond Machine fitted with 250 c.c. STANDARD JAP ENGINE, who

BROKE 5 WORLD RECORDS 2 BRITISH RECORDS

The smashing of these Records terminates another brilliant year in competitions for Diamond Motor Cycles, in addition to numerous cups won by riders of Diamonds. 110 first-class awards have been netted. For best service it is impossible to obtain a

SUPERIOR LIGHTWEIGHT.

See Models at Olympia on

STAND No. 98 London and District—ROBERTSON'S MOTORS, Ltd., Great Portland Street.

The D.F. & M. ENGINEERING Co., Ltd. DIAMOND WORKS, WOLVERHAMPTON.

STAND No. 98

A.B.C Code 5th Edition. Telephone: 651. Telegrams: Diamond.

BB8

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

Advertising and Publishing Offices: 20, Tudor St., London, E.C.4. *Editorial Offices:* Hertford St., Coventry.
Telegrams: "Cyclist, Fleet, London" *Telephone:* 2808 City 11 lines. *Telegrams:* "Motocycle, Coventry," *Telephone:* 10 Coventry (5 lines).
Northern Offices: 199, Deansgate, Manchester. *Midland Branch Offices:* Guildhall Bldgs., Navigation St., B'ham.
Telegrams: "Iliffe, Manchester." *Telephone:* 8970 and 8971 City. *Telegrams:* "Autopress, Birmingham." *Telephone:* 2970 and 2971 Midland.

Subscription Rates: Home, 26s.; Canada, 26s.; other countries abroad, 30s. 4d. per annum.

The Foreign rates quoted above apply also to men in the Services abroad.

COLONIAL AND FOREIGN AGENTS

UNITED STATES—The International News Agency, New York. CANADA—Toronto News Co., Ltd., Toronto; Montreal News Co., Ltd., Montreal; Winnipeg News Co., Winnipeg; British Columbia News Co., Vancouver; Gordon & Gotch, Ltd., 132, Bay Street, Toronto.
AUSTRALIA—Gordon & Gotch, Ltd., Melbourne (Victoria), Sydney (N.S.W.), Brisbane (Queensland), Adelaide (S.A.), Perth (W.A.), and Launceston (Tasmania).
NEW ZEALAND—Gordon & Gotch, Ltd., Wellington, Auckland Christchurch, and Dunedin. INDIA—A. H. Wheeler & Co., Bombay, Allahabad, and Calcutta.
SOUTH AFRICA—Central News Agency, Ltd. PARIS—Smith's English Library, 248 Rue Rivoli.

Licences in 1921.

ELSEWHERE in this issue we are able to give further particulars of the new licensing regulations, which come into force with the New Year. The Roads Bill to authorise the revised system was only introduced in the House of Commons on November 26th, and, as everything has to be in full working order by January 1st, county and county borough councils may find the time all too short.

Further, since the regulations concerning the licence card holders are available only three weeks before they have to be used, and also as owners of motor vehicles have to provide these themselves, it seems a little unreasonable to expect private enterprise to produce a quarter of a million of these holders in the short time available. Thus it will be seen that even if the local councils are ready in time, a situation may arise which will compel the authorities to grant a certain amount of grace.

The delay in bringing the matter before Parliament is not due to the Ministry of Transport, but rather to the many more urgent matters which have occupied the attention of the House since the passing of the Finance Bill, and any inconvenience caused by the delay must be borne with patience as being part of the difficult period through which we are now passing.

As regards the regulations themselves, unwelcome as they are to the majority of motor cyclists, they are not entirely without advantages. For example, in future it will be impossible for the age or history of a second-hand machine to be misrepresented, as the logbook, which will be issued to each owner, will give the history of the vehicle in a manner similar to the deeds connected with real estate. Again, the disposal of stolen machines will be rendered difficult.

No doubt the licence card, in full view on the near side of the machine, will offend many who have an artistic eye. Each year the colour will be changed—for 1921 the cards are to be blue.

Passenger Motor Cycles.

THIS week's issue of *The Motor Cycle* deals chiefly with passenger attachments and three-wheeled runabouts. The interest in these types is immense, and without doubt they are the cheapest possible form of long distance locomotion. Added to this, the motor cycle and sidecar provides a greater seating capacity than any vehicle short of a five-seated car, yet its upkeep is less than half. There has been a steady improvement in passenger machines throughout the past year, and there is a serious effort on foot to produce a sidecar outfit at a price to suit the purse of the man of very moderate means. Such efforts are to be highly commended, and it is to be hoped that they will meet with the success they deserve.

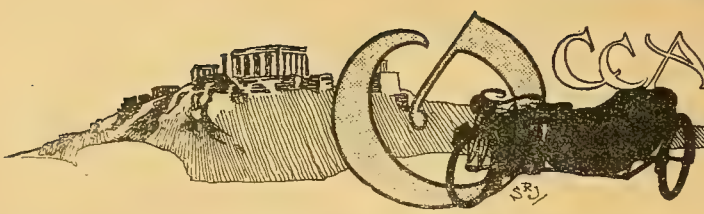
Lightweight Records.

SHOW week and the week preceding it are usually times of great activity at Brooklands, and 1920 has been no exception to the rule. Records have been broken all along the line by engines of 250 c.c., 350 c.c., and 1,000 c.c. Particular interest attaches to the performances of the miniature class, for there are still many who fail to realise that these tiny engines are a serious proposition, and are capable not only of high speeds over short distances, but also of long distance endurance records. Six hours at an average speed of 47.24 m.p.h., accomplished recently by a small four-stroke, calls for a high degree of accuracy in manufacture, as well as good design.

Once again the two-stroke has distinguished itself: this time the flying kilometre was covered at the rate of practically 67 m.p.h. by a 250 c.c. engine. Such a performance is wonderful for any type of engine of such small capacity, though we fancy it will be improved upon before long.

Earlier in the year we were able to chronicle a series of long distance records which were the first to fall to the simpler type.

An index to the advertisements in this issue will be found on the page facing the back cover



OCCASIONAL COMMENTS

BY 'IXION'

Another "Clean" Overall.

THE College Leather Co., of Northampton, has brought out yet another leg overall which does not soil the trousers during removal. A "half sole" protects the boot in conjunction with the usual integral spat, whilst the calf and thigh are covered by an ultra-wide waterproof puttee, wound spirally round the leg in two turns, and clipped at the top of the thigh. This overall should be considered in selecting one of the "clean" pattern.

An Awkward Question.

THE persistent heckler suspected that the new 'bus at the Show had never smelt the road, and was trying to nail the salesman down to a confession of the fact. At last the latter had a brain-wave. "Never been on the road, my dear sir! But this is simply absurd. She came up to the Show by road yesterday afternoon!" The salesman wiped his brow as the heckler departed. Then he caught my eye and grinned foolishly. Had I not helped him to unload the 'bus from a motor lorry?

The Best Machine in the Show.

KNUTS forward, please? Not at all. I met a rider who is something of a judge; and the average clubman might not guess his choice in fifty attempts. He was falling off the deep end about the Reynolds Runabout (did you miss it, gentle reader?) Not because it could win the Team Prize in the Six Days. But because when the motor cycle follows the push-bicycle and becomes frankly utilitarian, he thinks the machine of the day will closely follow the Reynolds lines.

Weights.

I TOOK a great interest in the weights of 1921 machines at the Show, an interest shared only by those manufacturers who had managed to get inside the 200 lb. taxation line: the remainder seldom knew or cared what their machines weighed. If my researches were complete, the 4 h.p. Coulson showed the minimum figure (196 lb.) in the 500 c.c. class, with the solo Sunbeam (236 lb.) second. I asked the Coulson works manager in which parts he had effected his saving. He instanced the front fork (20 lb.), the gear box platform (12 lb.), and the saddle unit (3 lb.).

Chivalry Up to Date.

IN the old days the gallant male got himself well and truly perforated in the jousts because another male had commented adversely on the shape of his fair lady's nose. To-day the gallant male bores into a hailstorm on Dartmoor exposed like a weather-cock on a church spire, whilst his lady love snuggles down into a capacious sidecar, fortified by an all-weather top, which prohibits alike any exchange of conversation or passing of chocolates.

LG

In the Grill Room.

A CERTAIN machine is notorious amongst owners for its unusual oil thirst—a thirst which is stoutly denied by the designer, who ascribes his customers' lamentable consumption to foolish handling. Some of the riders were trying to pull the designer's leg. Said one: "This talk of heavy oil consumption is all guff. I never got less than 1,000 m.p.g." Another went one better with 1,200 m.p.g. A third stretched the facts very taut by claiming 1,500 m.p.g. Finally a fourth clinched the controversy. "*My* engine positively *dislikes* oil. I find it prefers a thin smear of vaseline on the outside of the crank case!"

Those Trade Riders.

HOW I envy the dexterity and aplomb of certain factory testers. Myself, I am a clumsy driver, and you can guarantee that a combination of tramlines and grease will unsaddle me seven times out of ten with a thunderous wop! So I dare not have ridden two or three machines at the Show which have their carburetters protruding far outwards to act as buffers in the event of a fall towards the left. Years ago I drove an American cycle car, which shivered its inlet pipe into flinders. I was able to get home by dint of some 1in. rubber hose-pipe and copper wire; but a concertinaed carburetter would defy even my ingenuity in improvised repairs.

Overheard at the Scott Stand.

SHOW Visitor (with a grudge against the Scott demonstrator): "Hello! Same old 'bus? Looks as well and goes as badly as ever, I suppose?"

Scott Demonstrator (who had almost sold a Squirrel to a sporting rustic): "——! ——!! ——!!!"

Show Visitor (incautiously): "Why do you call your new 'bus a 'squirrel,' anyhow?"

Scott Demonstrator (triumphantly ticking off the points on his fingers): "First, she can climb trees; secondly, she's the 'bus for the (k)nuts; thirdly, she *never* sheds a nut."

(Exit Show Visitor, somewhat quelled.)

Overheard at the X—— Stand.

EMINENT technician is seen haughtily approaching a machine of novel design at the Press View. Its designer, an earnest, unknown, but promising engineer, temporarily disguised in dirt and overalls, recognises the eminent technician, and steals furtively up behind his coat tails, hoping to overhear a few laudatory comments. Eminent technician inspects the machine closely, with disguised designer breathlessly stooping at his left rear. After ten minutes eminent technician straightens himself and remarks wearily to his friend:

"Any more tripe around?"

(Earnest and promising engineer swoons in the arms of the stand charwoman.)

"Our Saloonette."

SUB-TITLE, "Two minds with but a single thought." The scene was a sidecar stand at the Show. The salesman had got a husband and wife seriously interested in his latest limousine model. It was the fifth day of the Show, and he was talking automatically like a parrot, or a guide to one of our cathedrals. Finally he reached his peroration—"I am sure if madam will kindly get inside and try the seating . . ." He bit his lip. He had caught madam's eye. Madam was eyeing the narrow door rather severely. The salesman's eye travelled from madam's eye to madam's waist. He broke off resolutely, "Now, immediately behind you, madam, is our heavy touring model . . ." Anyway, there were sidecars for all sizes at the Show.

Other Times, Other Manners.

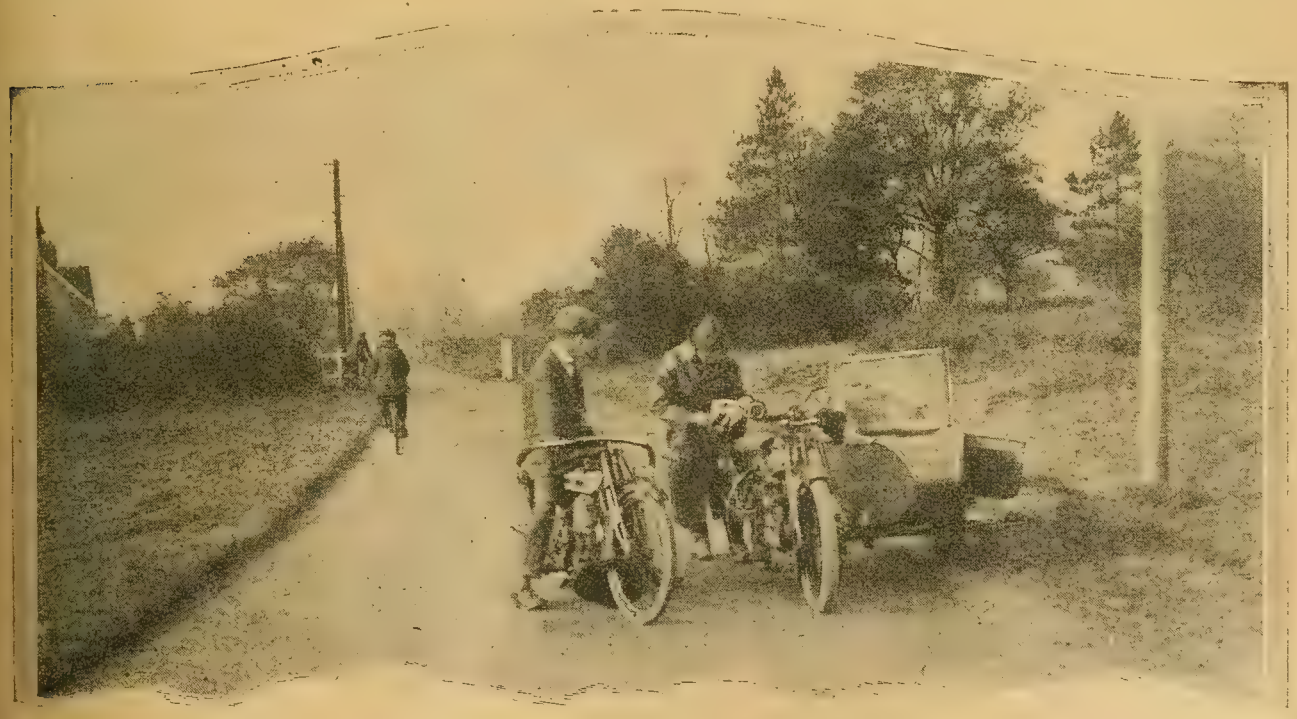
ON Show Sunday I read Lord Rothermere's weekly effervescence against squandermania with a novel respect. Somebody really ought to bring home to Mr. Austen Chamberlain the parlous state to which he is reducing the finances of the country. In the halcyon pre-war days if I met a managing director at the Show he usually shouted: "Hello, 'Ixion'; what's yours?" I never ordered bubbly in response to such invitations; in fact, I am a semi-Pussyfoot; but it was comforting to know one had a wide and costly choice. This year when I bumped into any trade magnate I could see his eye flickering. He was asking himself: "Let's see, have I stood this fellow a drink to-day or not?" Then, having answered his own question in the negative, he would remark cautiously: "Come and have *a small beer* with me, old man!" Cheerless times, my masters, eh, what?

No More Studs?

IN the golden days of yore the super-knut was wont to keep so many motor cycles that impertinent and envious friends used to accuse him of trying to breed them. You cross a Morgan Runabout with a W.D. Triumph, and get a Baby Levis free gratis, or something of that sort. At any rate we used to send our staff panoramic camera down to some moated grange, and come back with a view of the machines owned by J. Dorée, Esq., of Ch. Ch., Oxford—the resultant block would stretch across a double page of *The Motor Cycle*. Never again. These new licences, which you pass on when you sell a machine, have stopped all that. One of our staff, who mingles motor cycles with small car work, calculates that his 1920 mounts would have cost him about £75 in licences at the 1921 rate.

Taxable Weights.

AT the opening of the Show the question of weight was not quite so much to the front as the facts would have justified. The general public are as yet hardly awake to the facts. They have not realised that whether a bicycle weighs 200 lb. or 201 lb. makes a difference of 30s. to its 1921 tax; nor yet that a three-wheeler or sidecar weighing 894 lb. pays £4 tax, whereas one scaling 896 lb. pays the h.p. tax, which may amount to a cool tenner. Nevertheless, those salesmen whose machines were near either of the border lines had fully tumbled to the situation, and it looked as though a lot of new show cards might be rushed out during the week. Most of the light and mediumweights had been on the scales just before this Show. I am not sure that they were not afraid to weigh some of the bulkier passenger machines.

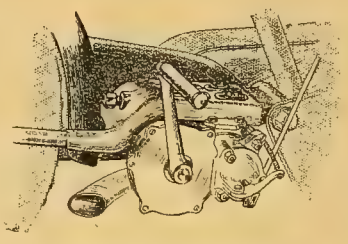


ARE YOU ALL RIGHT? It is safe to say that every motor cyclist who, some time or another, has stopped to effect a repair or adjustment, has heard this familiar question from a fellow rider. It is a courtesy which has done much to build up the great brotherhood of the highway.

LESSONS FROM OLYMPIA.

Tendencies of Modern Motor Cycle Design as exemplified at this Year's Show.

A FEATURE of the 1920 Olympia Show was the fact that almost every machine exhibited has either had a thorough trying out, or else is constructed on such sound and orthodox lines that mistakes are hardly possible. There were, it is true, certain striking innovations, but amongst motor cycles proper these were rarities and could generally show excellent reasons for their departure from standard practice.



On the big Excelsior chain adjustment is carried out by a simple bolt which slides the gear box along its platform.

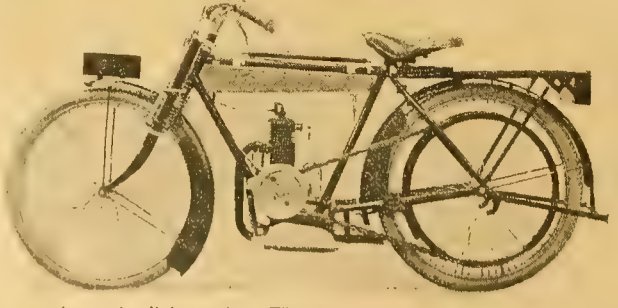
Naturally, the engineer is first attracted to novelties in engine design, and it is noticeable that almost every new or redesigned engine is fitted with mechanical lubrication; the 8 h.p. Enfield, 3½ h.p. Martinsyde, 3½ h.p. and 2¾ h.p. Douglas, 4¼ h.p. Ariel, Superb Four, Corona, and Bradshaw may be mentioned as sufficient examples which may be added to last year's list, while many other manufacturers are contemplating the use of some proprietary pump.

An advantage of the Best mechanical pump is that it is designed to work in conjunction with existing semi-automatic drip feeds.

Lubrication.

Amongst those systems which may be classed as mechanical, though they do not actually employ a pump, is the very interesting scheme carried out on the little two-stroke J.E.S. In this case oil is fed to the main crank bearing by gravity, and passes to the big end bearing through drilled oilways. The connecting rod and gudgeon pin are also drilled, and at the point of maximum piston speed, *i.e.*, about half-way down the stroke, all these oilways are in communication, so that oil is flung by centrifugal force up the connecting rod, into the hollow gudgeon pin and on to the cylinder walls.

Undoubtedly, one of the features which attracted most attention was the new Bradshaw flat twin. Here lubrication is carried to such an extent that it intentionally forms the most important part of the cooling system.

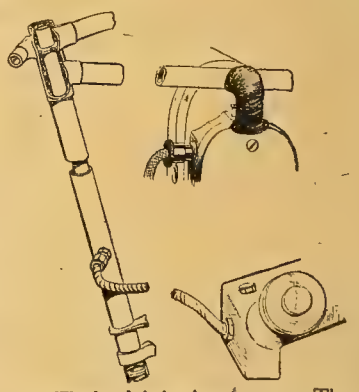


A genuine lightweight. The two-stroke J.E.S. is the 1921 development of the motorised bicycle.

War-time research on aircraft engines demonstrated the fact that nearly fifty per cent. of the heat dissipated by a so-called air-cooled engine took place through the crank case and oil, and this without any special precautions for crank case cooling. It is, therefore, fairly obvious that if the design is specially laid out for the purpose, better cooling can be obtained.

Oil Cooling.

For this reason the cylinders are sunk into a special crank case, and are liberally lubricated by surplus oil forced to the big ends. Special precautions are taken in order to distribute this oil over the whole of the crank case and timing gear so as to make the best possible use of the large aluminium radiating surfaces, and finally the hot oil is withdrawn from the base by another pump and returned to the tank, being cooled in the process of circulation.



The Wooler lubrication system. The oil contained in the air release from the timing case is forced against a baffle at the top of the saddle tube, and, falling to the lower end of the tube, rises to the level of a pipe which returns it to the sump.

Several other lubrication systems of considerable interest were exhibited. Amongst these the Best pump deserves special credit, since, though it cannot be classed as a pressure lubricator, it relieves the rider of responsibility, and is applicable to most present-day motor cycles. The Cyke-laid attachment also comprises an interesting mechanical lubrication system.

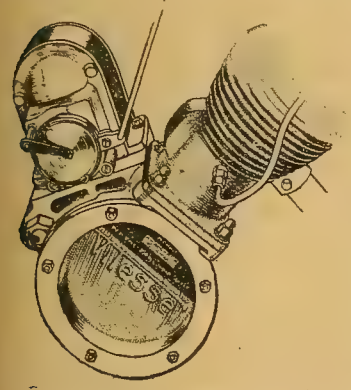
Two-stroke lubrication shows a tendency to depart from the simple petroil system in favour of various methods of drip feed. The Velocette remains the sole example of mechanical pump lubrication in this class, but the Levis

Lessons from Olympia.—

naturally retain its well-known system of separate leads to each vital point. An ingenious system, utilising the exhaust gas as an injector, proportions oil feed to engine load on the Sheffield-Henderson.

Cooling.

We are often told that existing cooling methods are adequate for present-day engines. Be this as it may, our manufacturers have apparently discovered that, as detail improvements raise the power output and efficiency of their engines, better cooling arrangements become necessary. There is ample evidence of larger cooling areas and redistributed surfaces, and these evidences are likely to increase in the future, since better cooling permits of greater power output, and greater power output requires better cooling. There is no doubt that the limit of cooling and power output is not yet in sight, though the Bradshaw engine opens up a new and very promising field.



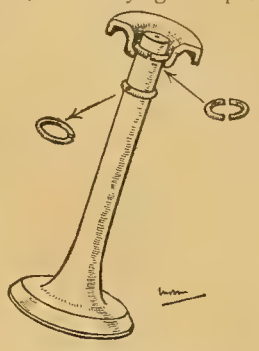
Possessing only one main crankshaft bearing, the Sun has a large detachable cover to the off side crank case.

A most interesting engine, the Superb Four, employs a *monobloc* aluminium casting with steel liners. This method should be excellent, provided distortion does not make its unwelcome presence felt.

With the exception of the little Whippet scooter, the Superb is the only example of aluminium construction, though there are one or two instances of detachable aluminium fins. Speaking broadly, the use of aluminium pistons does not appear to have caught on, possibly because they have in many cases been designed for weight reduction rather than for cooling purposes.

The ultra-light aluminium piston is apt to demand big clearances, and thus produces an objectionable "slap" until it warms up, and until it is more generally realised that a certain amount of metal is necessary to distribute the heat, no very great progress in this direction is likely.

One or two firms who specialise in sporting engines offer a choice of aluminium or cast iron, and several other large concerns are making serious experiments with pistons constructed of the lighter metal.



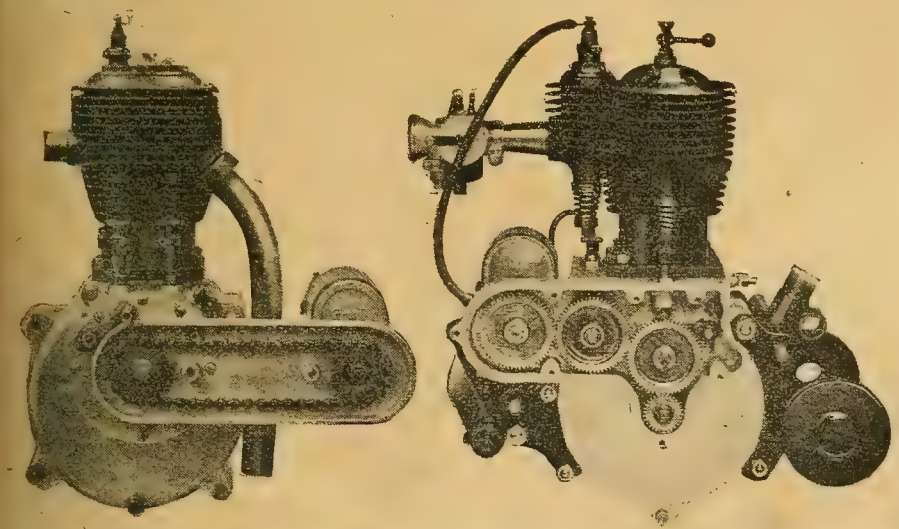
One of the valves of the Superb Four engine showing the split ring at the top for keeping the valve spring cup in position, and the subsidiary split ring below, for preventing the valve falling into the cylinder should a breakage occur.

Two-strokes.

Two-strokes are undoubtedly advancing steadily, and the wonderful speed record of 66.97 m.p.h. over the flying kilometre, established during Show week by a 250 c.c. Velocette, will do much to encourage two-stroke designers. Certainly the average two-stroke is a far superior article to its pre-war prototype, though there is still comparatively little reliable data to help the two-stroke designer. Rotary inlet valves, such as are employed on the Scott Sociable, are likely to gain ground, since, by their use, it is possible to diminish losses in the crank case charge, and thus increase power and improve consumption.

Lubrication and cooling are both capable of improvement from the public's point of view, though both have definitely progressed during the past year. Deflector shapes and piston cooling have made advances, and will continue to do so, though at the present moment there are no two deflectors alike.

The new and enlarged edition of the Cedos is a fascinating little engine, and with its machined ports should standardise performance to a considerable degree.



Two examples of magneto drive on single cylinder engines at Olympia. (Left) On the B.S.A., where a chain is used. (Right) The gear transmission (embodying timing gear) of the Quadrant.

Another feature which requires attention is the ignition range provided on the average two-stroke. By reason of its inherent features, the two-stroke requires a very large ignition range if the best results are to be obtained; yet, since the magneto is driven at engine speed instead of half-speed, the normal range is decreased to just half that of the four-stroke.

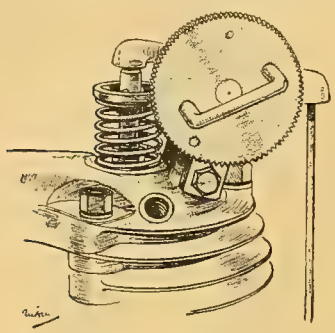
The Villiers flywheel magneto is a distinct step in the right direction, and the popularity of this unit amongst motor-cycle assemblers is sufficient proof of its all-round merit. The Villiers Co. have had such an enormous experience with the small two-strokes that they have naturally developed many little points which might well be studied.

Lessons from Olympia.

It is impossible to leave the subject of two-strokes without mention of the 500 c.c. Dunelt. This engine utilises a double diameter piston so as to increase the crank case charge, and its wonderful performance in the A.C.U. Six Days Trials is proof of its capabilities.

Transmission.

There has been so little change in transmission that the subject may be dismissed in a few words. Messrs. Rudge Whitworth provide two of the only novelties, one a solidly constructed countershaft gear fitted to the biggest twin-cylinder machine entirely produced by any one British firm, and secondly, an all-metal belt, which is said to be "slip-proof" even in water. If this belt proves to be a success, it will add considerably to the popularity of belt-driven machines, and the results of its tests will be watched with some interest. A new gear box is shown on the 5 h.p. Lea-Francis, the Jukes four-speed gear is fitted to the Olympic, and the Comery three-speed proprietary gear is likely to make a splash, since it is very neat and beautifully made, and will be turned out in considerable numbers in the near future.



Instantaneous adjustment device for overhead valve rocker on the Rudge.

Worm drive on the Unibus is a novelty in two-wheeler construction, and the Superb Four and new Wooler chain-driven models are newcomers to unit engine and gear box systems.

Frames.

Few novelties in frame construction made their appearance. The Cotton is already a well-tried proposition, and the only real advance in construction is the general use of steel lugs. New spring frames are few and far between, but the number of auxiliary suspensions is legion: in fact, it is clear that, for the immediate future, manufacturers as a whole are content to look after the comfort of the rider rather than the well-being of the machine. Certain difficulties crop up in designing a satisfactory spring frame, and it would appear that these are being evaded, for the present at any rate. There is, however, a laudable tendency to fit larger tyres, which will help both rider and machine to some extent.

Weight.

Among manufacturers of the smaller class of machine, many are prepared to certify the weight of their products at under 200 lb. This is as it should be, but there are still too few of the 3½ h.p. class who have managed to turn out a fully equipped machine at under the 30s. taxation limit. The 3½ h.p. twin Dot-Jap is a good example, but perhaps the best instance in the Show was the 4 h.p. Coulson. Here we find a machine fitted with a standard 4 h.p. Blackburne engine, Sturmey Archer three-speed gear and spring frame, weighing only 196 lb., and yet the weight reduction has not affected the strength of any vital part. An examination of this machine proved most interesting, and close inspection was required in order to discover the ingenious methods by which unnecessary poundage had been avoided.

On the other hand, at least one 3½ h.p. single-geared machine tips the beam at over 200 lb., though there is no apparent reason for this discrepancy in weight. Unsatisfactory as the new taxation appears, from the motor cyclists' point of view, it may at least have the advantage of inducing manufacturers to discard excess weight, and once improvement is started in the smaller classes it is bound to spread to the heavier types.

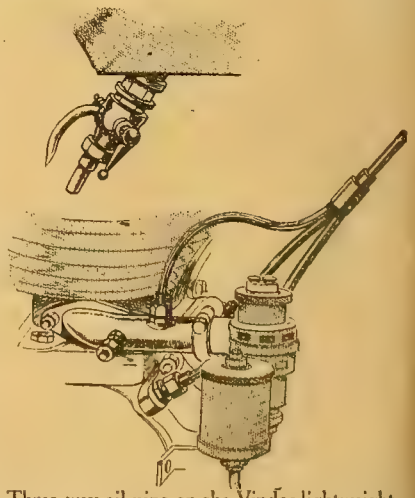
Gadgets.

There are perhaps fewer of those neat little fittings to assist the rider in maintaining the tune of his engine than usual, but Messrs. Rudge-Whitworth, who have already introduced the neatest and quickest belt tensioning device in existence, showed this year an instantaneous adjustment for their overhead inlet rocker. Briefly, this consists of an eccentric rocker pivot pin, which can be rotated by the rider while the machine is in motion, thus compensating for any expansion when the cylinder warms up. A very fine adjustment is provided, and the device locks itself by means of serrations which engage with a deeply milled wheel on the end of the rocker pin.

Another very handy device is the arrangement by which the carburetter of the Bradshaw engine may be moved laterally to correct uneven distribution. This also may be done whilst the machine is in motion; in fact, I am informed that J. L. Emerson has performed the operation at speeds in excess of a mile a minute on Brooklands.

Lighting.

No observer, however casual, can have failed to notice the extraordinary increase in electric lighting for motor cycles. Following on the success of the Lucas Magdyno, the M-L Maglita has got a firm hold on the less luxurious machines, while the new B.T.H. lighting set for two-strokes would undoubtedly have graced many of these little mounts had it been in production a week or two earlier. Besides this, such firms as Messrs. A. H. Hunt have introduced accumulator and battery sets for those who do not care to go to the extent of utilising a generator. Other first-class systems were to be found in the Gallery, notably the Rotax; and most American machines are supplied with self-contained lighting plants.

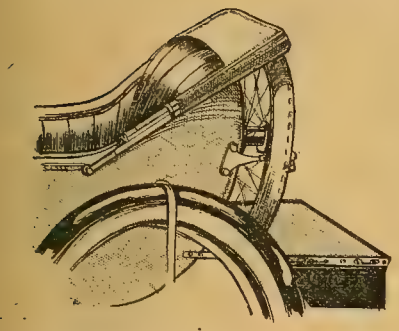


Three-way oil pipe on the Vindec lightweight. (Inset) Combined petrol and drain pipe.

UBIQUE.

COMFORT AND CONVENIENCE.

1921 Sidecars from the Passenger's Point of View.



A convenient place for a tool locker is under the luggage platform, as on the A.J.S.

AT last week's Exhibition it was not only the mechanics of a motor cycle which interested prospective purchasers of sidecar outfits. It was apparent that motor cyclists have learned to consider their passengers' comfort.

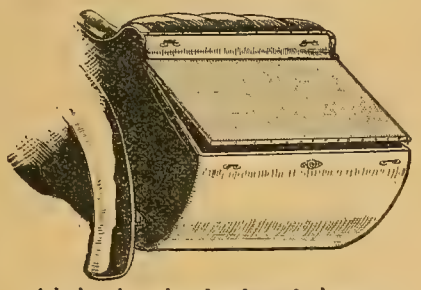
Among the visitors there were buyers who were accompanied by their wives or *fiancées*, and many were passengers of experience. This fact was obvious by the questions they asked, and the points they examined for themselves.

This interest in the sidecar portion of an outfit on the part of the passenger no doubt resulted in many a debate until a compromise was found to satisfy both mechanical driver and meticulous passenger. At the present moment probably there are men who have dreamed during the summer of a light sporting outfit, who are reconciling themselves to a larger machine in order that the demands of their passengers are fully met.

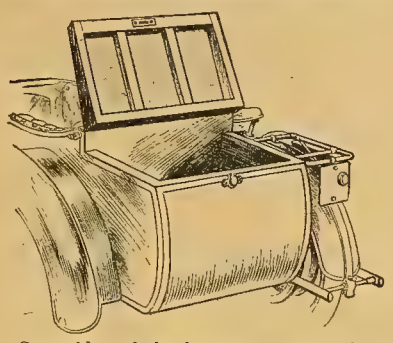
Many Improvements.

"Much" almost invariably "wants more"—it is a perfectly natural sequence in most things. No one wants to take a retrograde step, and there are few who motored this year who cannot suggest some little improvement for 1921.

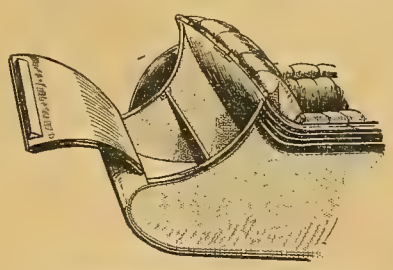
A visit to Olympia made at least one thing certain. There are many improvements in sidecars to give their occupants greater comfort. That many designers now ride in their productions is obvious to all who are passengers, just as it is clear that some of the sidecars have not been produced with full consideration of the passengers' convenience.



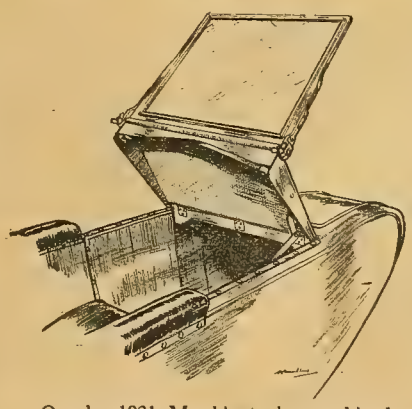
A locker that takes the place of a luggage grid is a feature of the new Ariel sidecars.



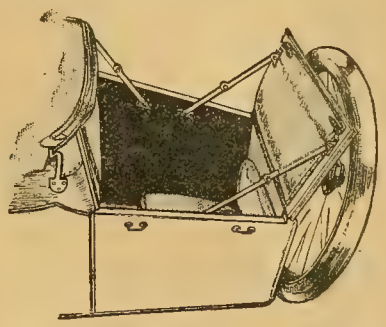
Some idea of the large luggage capacity on the B.S.A. sidecar may be gathered from this drawing of the opened locker.



In the Sandum touring model, the rear locker has partitions, conveniently dividing the space.



On the 1921 Matchless, the combined windscreen and dash hinges forward when the passenger desires to enter or leave the sidecar. This hinged flap eliminates the necessity for the passenger's apron.



The Rex dickey is contained in a boot, after the fashion of the car.

We refer to the several comparatively high-sided bodies without doors which were not equipped with a step. One wonders what would happen if our laws were as they are in China, where a lady was recently imprisoned for revealing her ankles. Even with fashions and the standards of decorum as they are to-day in this country, it is difficult to imagine a member of the fair sex entering or leaving such a sidecar gracefully.

That it is quite easy to give the passenger the convenience of a step in this type of sidecar is well illustrated by the Sheffield Henderson and several others. Even on a touring sidecar with a door a step is a convenience still overlooked by a large number of makers, although the number so fitted have considerably increased.

The Seat Locker.

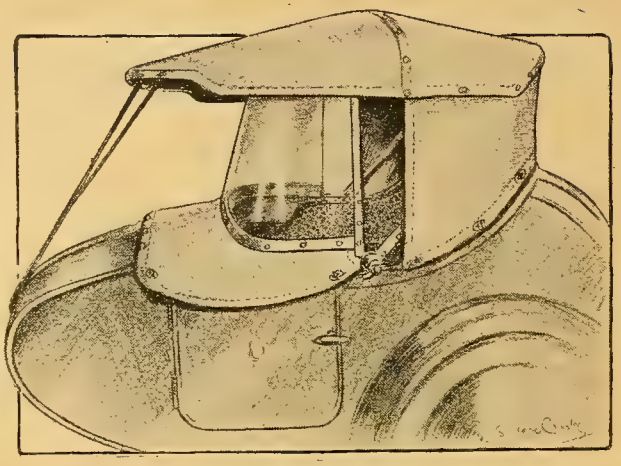
An outstanding feature of the new sidecars is the amount of locker space available in the touring models, and some of the small sporting attachments have commodious lockers in the rear part of the body. The sporting models of the Montgomery and Grindlay are good examples of the latter type.

That abomination of most passengers, the seat locker, is still almost general practice, and while one must agree that such lockers utilise space that otherwise would be wasted, in use they cause a great deal of inconvenience through lack of consideration on the part of the driver who sometimes stores therein many things he should carry in his tool bag.

Seat lockers should only be used for such things as accumulators, and items which should not have to be disturbed in the course of a run.

Comfort and Convenience.—

Glove lockers in the after end of the nose panel are a convenience when they are not so far forward under an apron as to be rendered almost unreachable. The increasing popularity of the hinged dash may bring about a change in position of the glove locker, which has happened in the case of one of the Dunhill models.



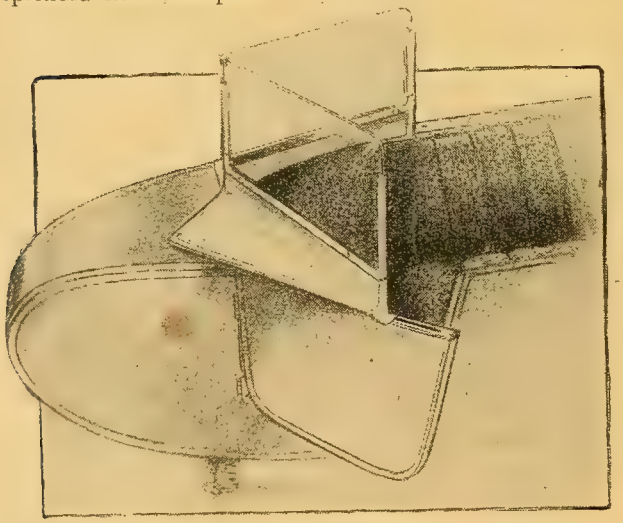
A Millford hood and screen.

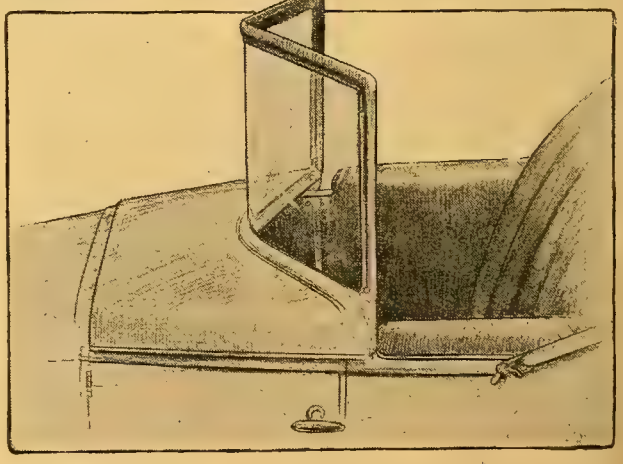
Luggage Lockers.

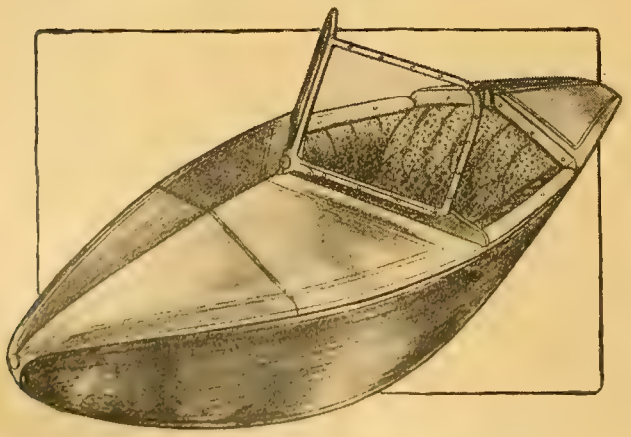
No touring sidecar is now regarded as complete unless it has a rear locker. At Olympia rear lockers varied in size and shape from those sufficient for a few spares and a kit of tools to others so large that the need for a luggage grid is eliminated. The latter type represents one of the chief improvements in 1921 sidecars, of which the Ariel and B.S.A. outfits are splendid new examples.

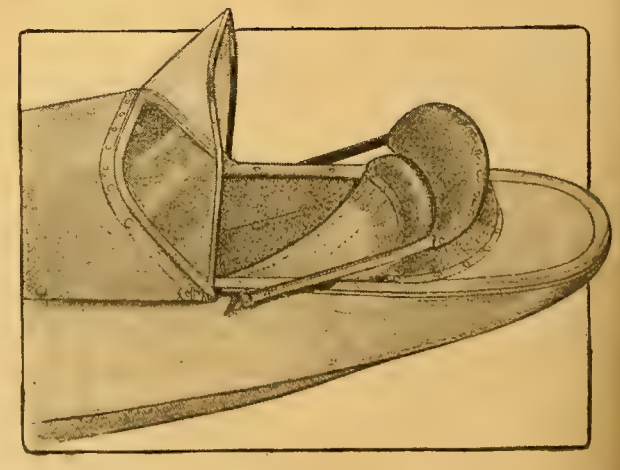
Probably half the sidecars offered for 1921 have what is erroneously termed the bulbous back. These models have curved backs and provide space for large lockers which, in the Matchless and several others, have been subdivided to take petrol can, tool kit, etc. In one of the Rideezi models, the locker lid may be utilised to serve as a picnic table.

One could write much more of the various types and positions of lockers than space permits, but to those interested in this subject, attention is drawn to the small tool box (which might easily be a little larger) on the luggage platform of the A.J.S.; the compartment between the mudguard and body of the Enfield and the capacious lockers in the rear panels of the Rudge, Norton, Millford, Watsonian, Sheffield-Henderson, and B.S.A. sidecars.







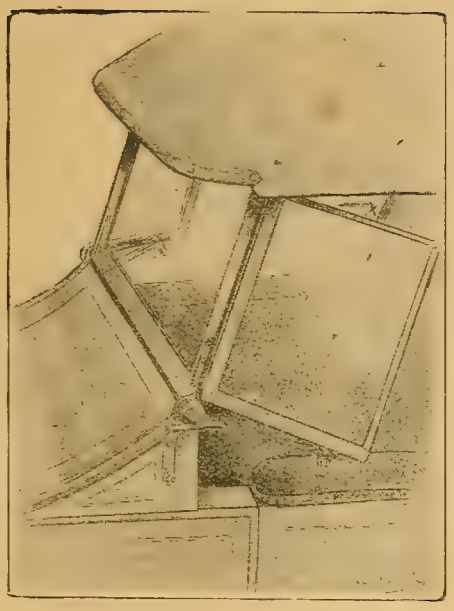


1921 FASHIONS IN WINDSCREENS. Top (left): Watsonian folding V screen opening automatically with the door. (Right) The Excelsior V screen. Bottom (left): The C. and M., which has a hinged dash and V screen. (Right) The Canoelet with hinged back rest.

Comfort and Convenience.—

In the case of the Canoelet and Grindlay, the rear locker is fitted up with a juvenile's dickey seat—another feature of this year's Olympia sidecars. The interest of the family man in such sidecars was very evident, and the Rex *de luxe* outfit came in for quite a lot of attention in this respect. (We are not now referring to the two-seater taxi sidecar exhibited by this firm, but to the special long chassis model with car type dickey seat inside the boot.)

The demand for extra accommodation for the youngster of eight to twelve years of age is now well recognised, and several makers, including the Excelsior and the Millford, staged machines with tandem bodies suitable for an adult and a child, while an A.J.S. was shown with a special additional seat made to take the place of the luggage grid.



Side screens are a feature on the Clyno.

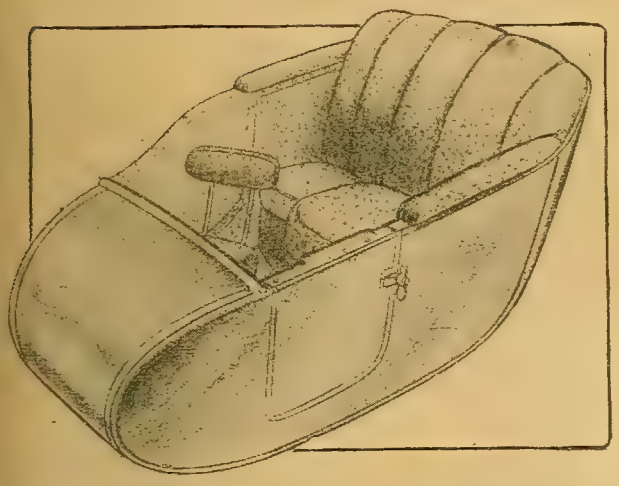
Not every maker has attempted to improve his hoods, which suggests that they have yet to undertake a journey under one of them on a rainy day. Many designs still show those gaps which set up such unpleasant draughts when the hood is used. There are exceptions, of course—several of them in fact, and in this direction the Watsonian models are of interest.

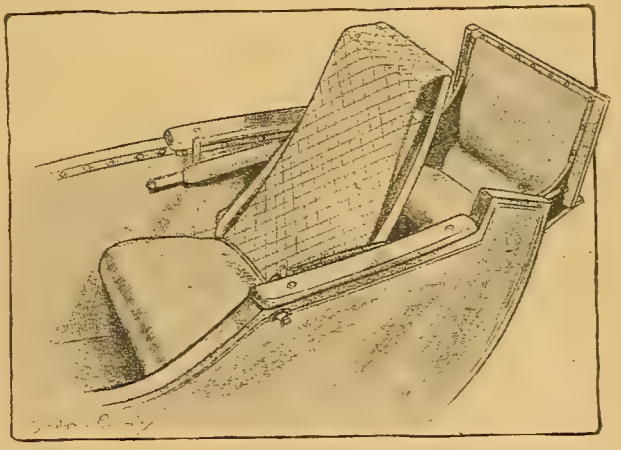
In one of these, there is a combined dash, screen, side windows, and hood, which is hinged at the rear to allow ingress of passenger. In fine weather the hood portion may be removed.

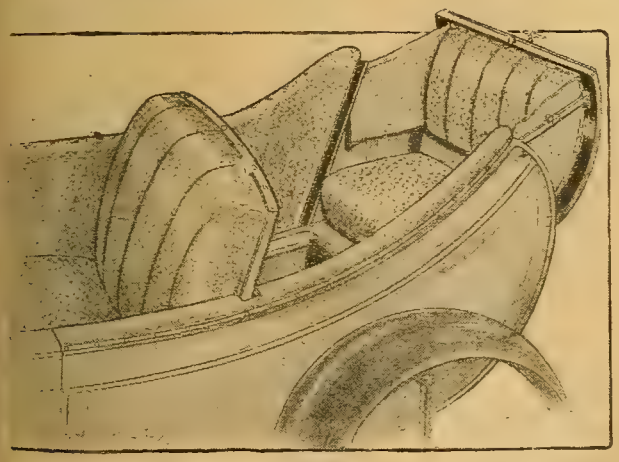
Screens.

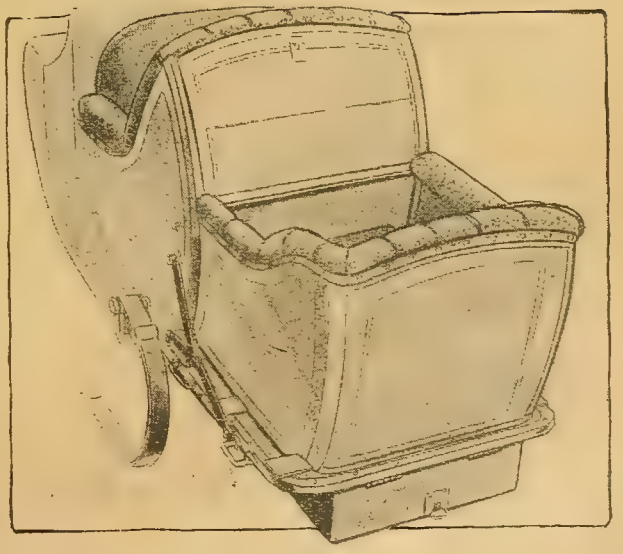
Screens are much improved. Very few are now offered fitted forward of the door, in which position they set up a decided draught unless a long *and high* side screen is fitted. On the new A.J.S. the hinged dash and screen is raised

EXTRA SEATING ACCOMMODATION.









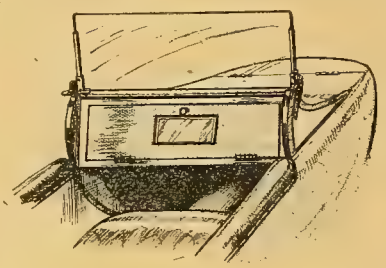
(Top) Dunhill and Plus-one models. (Bottom) Sandum "Convertible" and A.J.S. "dickey."

Comfort and Convenience.—

several inches, an improvement from the passengers' point of view, but one which motor cyclists may not consider an improvement to the appearance of the machine. In addition, one of the A.J.S. machines had a high side screen of talc which most passengers will appreciate.

On one of the Montgomery models also the screen is mounted well back and high, but in lieu of the hinges the dash has an apron serving the same purpose.

Those who appreciate the comfort of the Easting screen will be interested to know that in future it will provide a convenience not available with the older types. We refer to the new model which is mounted on long arms pivoted at a point forward of the door. Quite a large number of motor cycle makers, including the Royal Ruby and B.S.A., are standardising these screens.



A glove locker in the hinged dash of the Dunhill touring sidecar.

Upholstery.

The "padding" and upholstery generally is much better than it was a few years ago, but on the whole the quality of 1920 has not been improved vastly.

Spring seats and backs are now almost general, but some back cushions—squabs they are usually termed—appear to be somewhat hard. Most makers retain ribbed back cushions, and unless these are well sprung, they are not nearly so comfortable as the flat surface; in addition to which, they collect the dust and are less easy to clean.

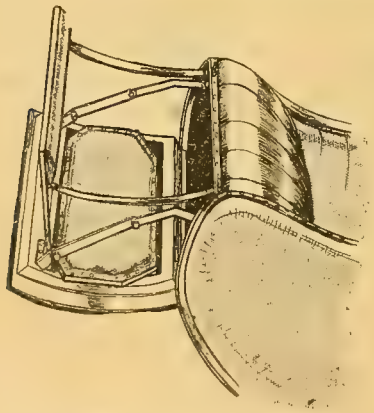
Width of Body.

All makers have not yet appreciated the extra comfort provided by a body which is a little wider than the average. The B.S.A. sidecar is excellent in this respect, but quite a number are still so narrow that it is impossible for a person of average build to sit in them with both elbows inside the body. Some of the largest looking sidecars lack this extra inch or so. Also there are many passengers who may consider that the seats are a little too high to obtain full benefit of the screen. This latter point, of course, hinges upon that of width, as, with a narrow body, the passenger would be uncomfortable on a low seat if the arms still had to rest on the sidepads.

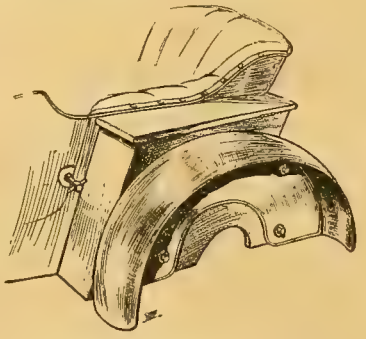
In these connections, it would be well if makers forgot the hackneyed phrase "as comfortable as an armchair," as sidecar passengers require more than a chair to sit *on*. Far better is it to provide them with a body to sit *in*.

One other criticism may be levelled at the makers of 1921 sidecars by those who used their machines throughout the past wet summer. Few makers have taken measures to prevent water draining on to the passenger's knees through the joint of the hinged dash. The hinged dashes are the worst offenders in this respect, but some makers fitted a double apron at the front end of the well, one fastening on the top and the other underneath.

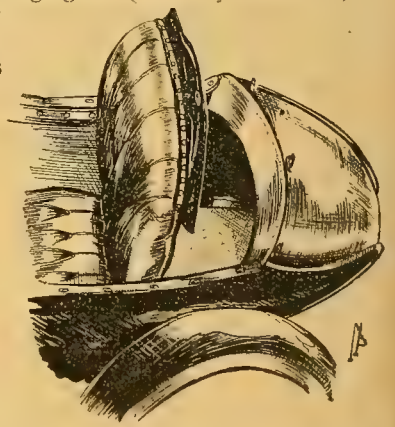
To summarise, one may say that quite a number of sidecar designers would obtain valuable first hand information regarding the comfort and convenience of their productions if they acted as passengers in a wet London-Exeter run; but taking them all round, in the 1921 attachments the passengers' comfort and convenience has been carefully studied and, as in the machines that propel them, there is ample evidence of real progress. Springing has certainly advanced, and real comfort may now be expected from most sidecars offered.



Several 1921 models have a juvenile's dickey seat in the rear panel; the Grindlay shown above is one of them.



The Enfield locker that utilises otherwise waste space between the mudguard and the body.



Even on the smallest sidecars there is generally good locker space at the rear of the body. This is the Sporting Montgomery.

THE VALUE OF SERVICE.

EVERY day our mail bag brings us appreciative eulogies from our readers regarding the excellent treatment meted out to them by various manufacturers and dealers. Only a small percentage can be published, but the expressions form rather a striking but none the less pleasing contrast to the state of affairs existing a year or two ago. The letters vary greatly in stating the character of the treatment accorded, and these differences could not be fairly indicated in a *précis*.

We therefore suggest that satisfied owners should not fail to express satisfaction to those enterprising firms who are ready to extend "service" to their clients.

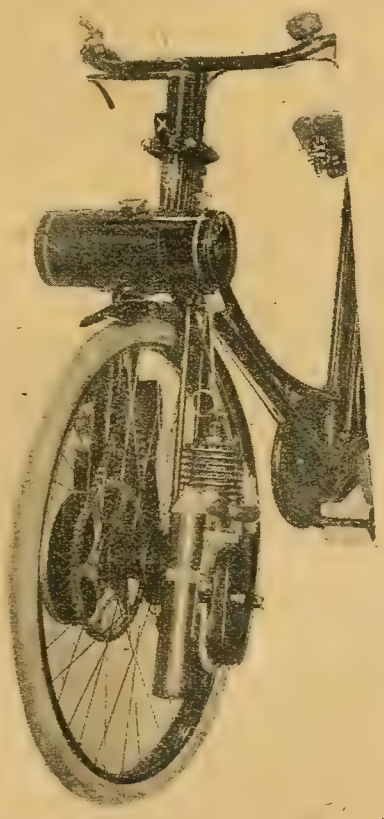
Impressions of the 1921 Models exhibited at Last Week's Show.

I REALLY do not know why the press forecasts suggested that the emphasis of the Show was going to be "safe" rather than Winston Churchilly—which term I interpret to mean a foundation of great soundness, illumined by occasional flashes of brilliance and spasmodic lapses into excitement. There has never been any show which housed so many stolid and reliable machines, capable of giving a duffer 364 days' hard service in the year; and their staunch British respectability was pleasantly diversified by a few outrageous freaks and by a few audacious newcomers, which may or may not settle down into humdrum sobriety later on.

Far too much plating everywhere, if I except the all-black Humber and the Superb Four. One veteran with a tear-stained face led me into Addison Road and showed me a £250 outfit with a colour scheme reminiscent of an Orangeman's beanfeast. "How long have I had her?" he demanded. I scanned the rust observantly and hazarded "Three years?" "One month!" he blubbered. "It's their blanky plating and this blinking climate that does it!"

Gears, Lights, and Brakes.

Honest efforts are discernible to make gear changing easier on the Comery, Rudge, and other new gear boxes. Electric lighting is boosting busily; the Magdyno, Maglita, and B.T.H. outfits sound the knell of gas. The front stirrup brake is moribund, though a front wheel brake which cannot possibly rattle is still a rarity. We want a brake which, like the internal expanding pattern, is held positively "off" as well as positively "on." Dozens of machines are unnecessarily heavy, as the 4 h.p. Coulson with three-speed gear and spring frame at 196 lb. clearly indicates. But if those three minor accusations are written off, there is no comprehensive criticism to be made; and it must be admitted that lots of riders adore plating, prefer gas lamps, do not see red when they are given a stirrup brake, and make standard machines far heavier than they are designed to be by adding uncountable gadgets and an extra passenger.



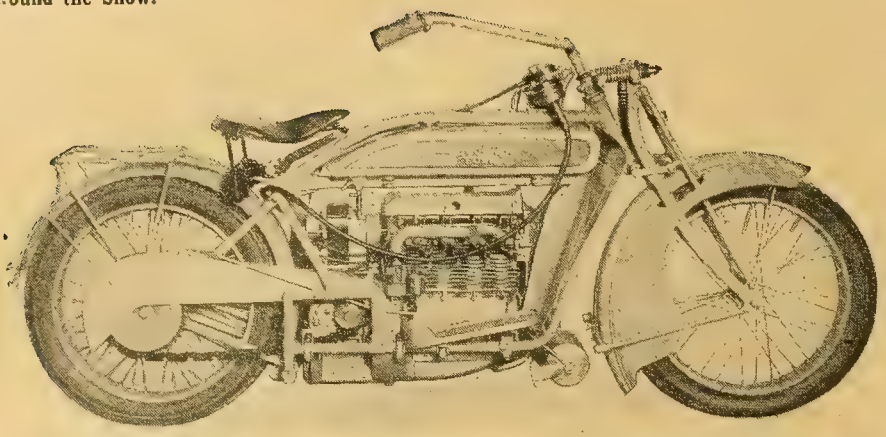
Cykelaid front wheel driven motorised bicycle.

The bulk of next year's touring and medal-winning will, as usual, be done by the staid familiar 'buses which we all know so well, and which are a little better than they ever were. We all know that, but, like the Athenians, we are fond of gassing about the new stuff at Show time.

The Chain-belt.

The Rudge belt? Opinions differ. It is either a desperate or a brilliant endeavour to prevent the decease of belt drive on heavy touring machines. It is twice as heavy as a rubber belt; it is twice as dear (10s. a foot); it looks as if it might be noisy; it conjures up visions of steel gaiters in my neurotic mind. On the other hand, if its working life is 5,000 miles, the all-weather rider need not despair of that most lovable of all gears—the variable pulley. Should it prove all it is said to be, it will see a great future on cars for driving dynamos and fans.

Round the Show.—



Britain's challenge to American and Belgian designers of four-cylinder motor cycles—the Superb Four.

Bradshaw's new engine? This obviously cannot be judged in connection with the hasty installation which had been rigged up against time for the Show. Move its oil tank—the heart of the design—to a less vulnerable position. Shield its carburetter from mud. Improve access to the tappets. Let it do a London-Exeter, or do a Brooklands record or two, and we shall all be falling over ourselves to get hold of one.

The new sports Douglas? Here at least, there is nothing experimental. A light hog 'bus, with "light" and "hog" heavily underlined. Just what so many of us have been wanting. An obvious flier, on sound lines, with one of the biggest motor cycling names on the earth behind it.

The big Rudge twin? Will somebody please pen a motor cycling parody of the song "Sailor, beware!" substituting the words "Injun" and "Harley" for "sailor" in verses one and two? Sung by Harry Dearth at an M.C.C. dinner, this number would bring the house down, and put W. H. Wells into his most defiant mood.

A British Four.

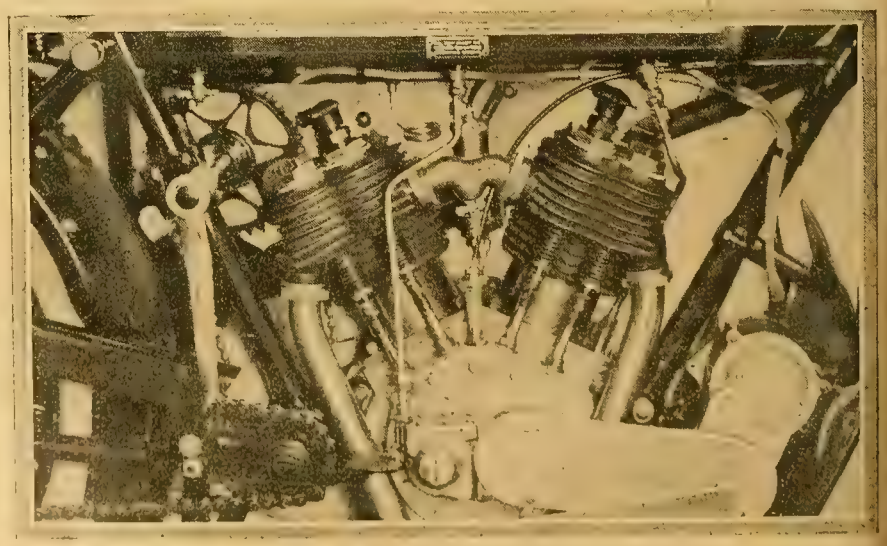
The Superb Four? Sceptical to the core, I cannot accept Mr. Hooper's estimate of 250 lb. for its weight: why, that is only 14 lb. more than the solo Sunbeam. Still, weight doesn't matter so very much for sidecar work. I deplore the magneto position. £220 is a *de luxe* price for a *de luxe* machine. But the technical design is just what anybody who is keen on aero engines had hoped to see. There are plenty of men ready to pay for the best; let this dazzling specification once make good on the road, and a large *clientèle* awaits it. In the meantime hearty plaudits to Mr. Hooper (and no less to Mr. Bradshaw) for offering us a motor cycle lubrication which is as automatic as the action of the liver, *i.e.*, you never need think of it until it clogs. Let us commend to other designers Mr. Hooper's notion of a motor cycle instrument board—a little fan-shaped aluminium plate just beneath or behind the steering head: it is a million times neater than the usual cross tube between the handle-bars, on which the gadgets are hung out like the week's wash.

The New Hudson was the sole genuine *débutante* in three-wheelers, and it got enough attention to turn its chassis a bright Indian red. I saw and heard many a leading engineer utter his verdict on it; and very few of them could find a "crab." One or two challenged the shape of the inlet manifold (which I guess to have been deliberately designed for "distribution" purposes). Otherwise the general judgment was "A sound job: but how on earth can they do it at the price?"

There was great joy among the fair sex: for are not all the baby two-strokes coming out with clutches and kick-starters? A girl may wear breeches without relishing the jump mount. The New Hudson "Ace," with its 50 m.p.h., is going to remove the reproach of "pottering" from this class; but there will be much trouble with the police if no silencer is fitted. Are the makers not aware that the two-stroke enthusiast who arrives home at 2 a.m. is already classed by his neighbours in the same category as hawkers and barrel organs? Two-strokes want more silencing, not less, the Scott alone excepted.

Genuine Sports Mounts.

New sports models are plentiful. The Brough hadn't materialised at the time of my visit, but the knuts were already feverishly oscillating between the Zenith, N.U.T., Rover, Douglas, and Norton stands. One sportsman was heard to remark that if only the Brough sports model had been 7 h.p. instead of 3½ h.p.—! The Dunelt people seemed to be doing good business, for the average two-stroke enthusiast wants more power, and this 500 c.c. single offers power at a rock-bottom price. Alternatively, the Velocette and Levis people propose to extend the road



"Made like a gun"—the Vickers engine in the 1921 Royal Enfield.

Round the Shows.—

range of their smaller engines by fitting three-speed gears. The Velocette was a regular cynosure for hard-riding light-weight men, and the delay in producing the three-speed Levis was a bitter disappointment to many visitors—I can assure the makers that it is eagerly awaited.

I understand that the new works consecrated to the production of the big Raleigh flat twin are almost ready. Flat twins are now almost as numerous as bureaucrats, but a special welcome is ready for this excellently designed and beautifully made machine. I marked it down last year as one of the very best machines in the Show, and when deliveries begin, I prophesy that it will take a very high place among the elect.

3½ h.p. Scott Squirrel—a T.T. type of solo mount.

The sidecar taxicabs excited equal interest and derision. Few of us can afford to patronise the four-wheeled pirates of the streets at all lavishly, and these machines ought to do well. Design is not yet stabilised. One of them had no accommodation for luggage, for example, and any ordinarily stout matron would unquestionably jam in its narrow slit of a doorway. Near by stood another which could certainly take two average passengers, plus 2 cwt. of luggage on the tailboard. I have not the least wish to earn my bread as a sidecar taxi-driver during a British winter; but such a machine will form a happy mean between the motor omnibus and the taxicab when it gets on the streets. Many manufacturers are dreaming of a lucrative and steady trade in these new models. The innovation of large fleets of sidecar taxis will do a world of good to the trade—your big commercial user is dead nuts on running costs, reliability, and ease of repair: he would ginger up design faster than hundreds of private users could ever do.

I feel rather like a married man does when he returns to the bosom of his family after an evening at a variety show, and reflects that he winked twice at the prettiest chorus girl. For have I not devoted nearly the whole of my limited space to new machines, which we may or may not see again: and ungratefully neglected those well-tried companions who have made our lives run more smoothly for many a year past. Still, a couple of winks don't matter very much, do they?

CIRCUIT DE PARIS TRIAL.

A Successful Continental Event near the French Capital.

A RING around Paris at an average speed of eighteen miles an hour for a distance of 108 miles, with a couple of test hills thrown in so as to determine the best of the clean score men, constituted the Circuit de Paris motor cycle and cycle car trials. This event, which was run for the first time last year, and will be made annual, brings the competitors in contact with all kinds of roads from almost impossible *pavé* to perfect macadam, and, although not of international importance, it attracts a lot of local attention.

Of the forty-two entrants, thirty-two faced the starter, and twenty-seven finished within the time limits and took part in the two speed tests on the Flins and Marly hills. Included in the above were two miniatures, which went through the trials without a hitch, and were not the slowest on the hills. The machines were a Skootamota ridden by Antony (an amateur who seems to divide his time between this little machine and a 90 h.p. racing Fiat) and a C.D.R. Motopatinette ridden by Dieudonné.

The machine to head the list, irrespective of classes, was an Indian ridden by Coquildi, with Cletch on a Motosolo in second place, and Rabot on a Harley-Davidson third. These times, however, were not of very great importance, for they only served to give a merit list after the essential part of the programme had been fulfilled.

Only English machines, or rather machines of English design, took part in the cycle car section. They were three Morgans and six G.N.'s. Both these makes are now manufactured in France, the G.N. having been taken up by the Salmson Co., a firm which specialised in aviation engines during the war. Fastest time on the hills was made by Darmont on a J.A.P.-engined Morgan, with his team mate, Franquebalme, second on a similar machine. The M.A.G. Morgan was fifth in this class, and the G.N.'s took third, fourth, sixth, seventh, eighth, and ninth places. Speed contests are a feature of most Continental trials.

Sidecars re-starting after the luncheon stop in the Circuit de Paris Trial.

FURTHER DETAILS OF THE NEW LICENCES.

The Form and Position of Licence Card to be Displayed. Three-wheelers over 8 cwt. to Pay Car Taxes.

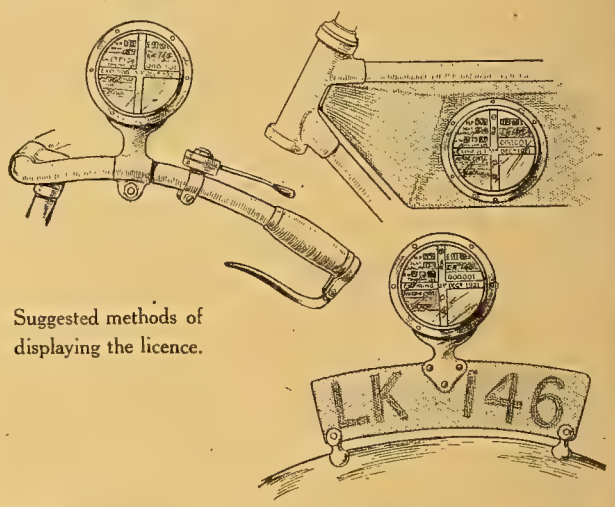
IN *The Motor Cycle* of November 25th we were enabled accurately to forecast the new taxation scheme, and now, thanks to the Ministry of Transport, we are able to give our readers some further details concerning the new licences, which come into force on January 1st next. The whole scheme was explained to members of the press by two experts of the Ministry of Transport one day last week, and those attending were invited to ask questions. It was interesting to observe that the majority of those present were quite incapable of asking for intelligent information concerning the new taxes, as they were clearly not practical motorists.

Every possible facility was given to the press, and questions were answered as clearly as possible, but naturally in a somewhat indefinite manner, as nearly all Government regulations are somewhat indefinite, the attitude being that the Government makes the law, but it is not its business to interpret it.

What is Unladen Weight?

We first naturally asked for information concerning the weights of motor cycles. Would machines have to be weighed before being registered? Would a maker's certificate be accepted, or would the owner's word be taken? The official then courteously explained that a maker's statement would be accepted, and in most cases the owner's word. The officials would have a fair idea of what certain machines weighed, but in the case of any doubt the applicant for the licence would be asked to prove his statement.

We next interrogated the official on the question of accessories. Were they or were they not included? The answer was, as forecasted in the issue of November 25th, that the weights will be less fuel and oil and loose accessories, such as horns, lamps, dynamos, speedometers, watches, clocks, badges, and tools. It was also stated that the exact definition of "weight unladen" has not yet been decided.



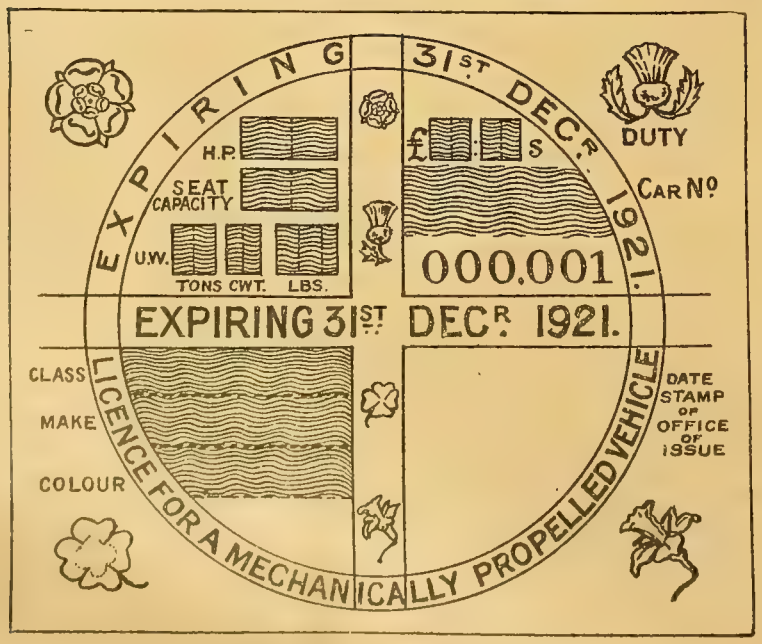
Suggested methods of displaying the licence.

Regarding the position of the licence card and holder, a reply was given to the effect that it might be placed conspicuously anywhere on the machine where it would be clearly visible from the near side.

It would appear that the following positions on the motor bicycle would have the approval of the authorities: *(a)* Carried like an A.C.U. or other badge on the handle-bars (near side); *(b)* like a club badge over the front number plate; *(c)* the case might be fitted to the front portion of the near side of the petrol tank by the manufacturer.

In the case of sidecars a good position would be: Screwed on to the bodywork forward of the door.

The first part of the meeting was devoted to the explanation of the Bill, and most of this explanation is covered by our previous article on the subject.



A reproduction of the new licence card.

How to obtain the New Licences.

As is now the case with the local taxation licence, the new licences (which, of course, include the registration) will be obtainable at any Post Office issuing money orders, and the declaration form will ask for all particulars necessary for registration. The first time a licence is supplied, however, though the forms may be issued by the Post Office and the money paid there, the forms must be sent on to the local licensing authority. When a renewal is required after a year's use the procedure will be much more simple, and the whole business may then be transacted by a Post Office.

After the forms have been filled up two documents are issued, which are the licence

Further Details of the New Licences.—

card and the licence registration book. This latter is to be kept at home, and contains a history of the vehicle from January 1st, 1921, and onwards. It was especially emphasised at the meeting that, whereas the present local taxation licence entitled a man to keep one motor vehicle and is of the same nature as a dog licence, not being transferable, the new licence belongs to the vehicle and goes with it. Change of ownership and particulars of sale must be entered in the log book and sent to the local authority.

Definition of Taxes on Weight Basis.

In this book, which is devoted to motor cycles (including scooters and cycles with auto-wheel or other motor attachments), it is mentioned that motor cycles exceeding 8 cwt. in weight unladen are chargeable with duty as cars. The taxes are thus defined:

Weight unladen not exceeding 200 lb., £1 10s.

Weight unladen not exceeding 200 lb., with right to draw trailer or sidecar, £2 10s.

Weight unladen exceeding 200 lb., but not exceeding 8 cwt., £3.

Weight unladen exceeding 200 lb., but not exceeding 8 cwt., with right to draw trailer or sidecar, £4.

Tricycles not exceeding 8 cwt., weight unladen £4.

Part year licences of one-half the full rates are granted in respect of motor bicycles and tricycles first used on or after October 1st of any year.

If the motor cycle is already registered a second part of the form must be filled in, on which must be stated the registered number, the nature of the vehicle, if used for a sidecar, the manufacturer's name, type or model of vehicle, manufacturers' horse-power, and the weight unladen.

Now, as regards the licence-holder and licence card; these are issued in two patterns—rectangular, intended chiefly for industrial vehicles, and a circular pattern for touring vehicles, such as motor cars and motor cycles, the size to be the same in both cases. The card when supplied is rectangular in shape, but may be cut round the outer of the two circular lines so as to fit neatly into a sheet metal tray of suitable thickness, having a turned-up edge of sufficient depth to hold the card and a stout cover glass. There will also be an outer cover consisting of a ring of sheet metal shaped to fit closely on to the tray, and adapted for fixing by screws, bolts, or otherwise in a position in which it may be clearly seen from the near side of the vehicle. A rubber packing ring should be arranged to fit between the ring cover and the cover glass and tray so as to render the whole carrier waterproof. The aperture within the ring cover should clearly exhibit the whole of the licence card, lying within the inner circle of the licence card, and should have a diameter of $2\frac{11}{16}$in. The actual dimensions of the card issued in its rectangular shape are $3\frac{9}{32} \times 3\frac{27}{32}$in.

In the course of the proceedings it was mentioned that the money collected from the duties, together with the existing horse carriage licences, would be collected by county councils, county boroughs, or borough councils under the supervision of the Ministry of Transport, and will be devoted to the maintenance and improvement of the roads. Licences need only be taken out in respect of vehicles which are actually in use.

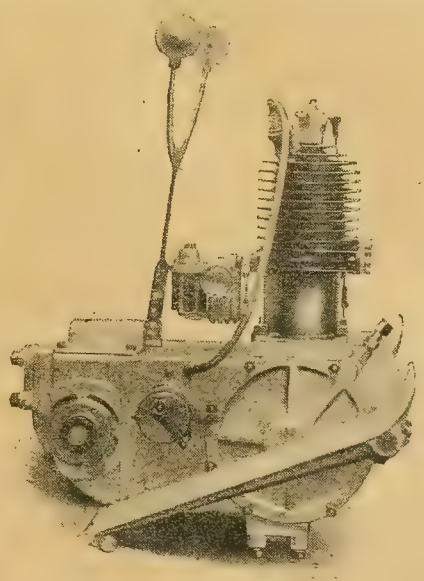
French Engine Design.

A Two-stroke Engine Unit with no Exposed Working Parts.

A VERY neat type of unit constructed engine and gear box for motor cycle use has been produced by the Ballot Cie., of Paris. This firm has specialised for a number of years in engines for car use, and supplies these for a large number of manufacturers both in France and abroad. The adoption of a power plant for motor cycles is, however, of recent date. It is understood that the whole of the present production has been secured by one of the leading French firms for their new types of machines; other firms, however, will adopt the Ballot engine as soon as production increases.

The engine is a single-cylinder air-cooled two-stroke, mounted on an aluminium crank case. A valve is mounted in the cylinder head, but this is only used to relieve the compression, and allows the machine to be ridden without interfering with the carburetter and ignition controls. Crank case compression is employed, and the aluminium piston is fitted with a deflector. Ball bearings are fitted for both the crankshaft and the connecting rod big end. The crankshaft is of the built-up type, consisting of two full discs united by the crank pin, which has conical ends fitting into the discs.

One of the features of this engine is the enclosed magneto, only the distributer of which is outside. Magneto drive is by means of a roller chain, naturally enclosed. A metal disc clutch, working in oil, is used, and there are two speeds operated by lever with forked arms, so as to encircle the tank and horizontal tube of the machine. With the exception of the pulley or sprocket for the final drive, there is not a single exposed working part on the Ballot engine. Even the kick starter is enclosed, and is operated by means of the right-hand footboard.



The Ballot two-stroke engine and gear unit, embodying an enclosed magneto. The gear change is effected by the knees of the rider by means of a double lever.

This engine was exhibited at the 1919 Paris Salon in an earlier form. Since then, however, it has undergone detail modifications only. It is interesting to note that the majority of French motor cycles are fitted with engine and gears constructed on the unit system, and the Ballot product adds another example to the list. The Blériot and Louis Clément machines may be cited as excellent examples of unit construction, especially the latter, in which case a clutch and three-speed gear box are combined with an original design of twin-cylinder V type engine, having shaft operated overhead valve gear. Many capable engineers consider that unit construction will be adopted eventually in this country, though at the present moment British examples could easily be counted on the fingers of one hand.

SIDECAR PROGRESS.

A Review of Sidecars for 1921, compiled from our Stand-to-stand Inspection at the Olympia Show.

A.J.S.

A. J. Stevens and Co., (1914), Ltd., Graisley House, Penn Road, Wolverhampton.—A new design of chassis has been under consideration by the makers of the A.J.S. combination, but the testing of it is not yet completed, so that it has not been shown. Consequently, there is little alteration in the chassis of the present A.J.S. The chassis is of very simple type, sprung on luxurious C springs and having support on both sides of the sidecar wheel. The body also has been found too satisfactory to need any extensive alteration, but one or two detail improvements have been made. The windscreen has been raised two inches, although the glass itself is less deep; the increase in height has been obtained by adding a considerable lift to the scuttle. This at the same time enables the makers to allow more knee room, so that a child can easily be carried as well as an adult. The hinged joint between the windscreen and body has been made completely watertight, and care has been taken to adopt a hood to which the front edge comes well over the windscreen, so as to make a raintight joint there also. A large luggage grid and tool box are fitted, on the top of which a dickey seat can be added.

ALECTO.

Cashmore Bros., Grove Road, Balham, S.W.12.—The sidecar fitted to the 345 c.c. Alecto two-stroke is of the light coachbuilt variety, aluminium panels being used for the sake of lightness. It is mounted upon a conventional type of underslung chassis, with double-ended C springs.

Switches and accumulator in an Alecto sidecar.

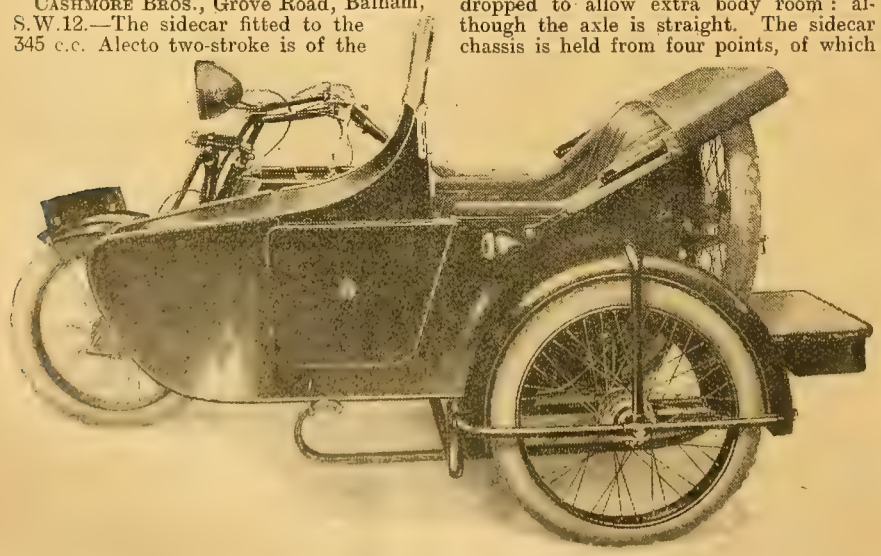
ARIEL.

Ariel Works, Ltd., Bournbrook, Birmingham.—As in several other well known machines the Ariel frame is dropped to allow extra body room: although the axle is straight. The sidecar chassis is held from four points, of which two are at the steering head. Extra care has been taken to provide those luxuries which add so enormously not only to the comfort, but also to the convenience of the sidecar as a vehicle, and the rear locker is large enough to take a good-sized suit case; the mudguard is of the car type and fixed to the body; the springing is soft and luxurious; and a large and well placed step is provided; there are also map pockets arranged in the upholstery on each side of the body, and other little conveniences.

ARMIS.

Armis Cycle Co., 290-291, Heneage Street, Birmingham.—Surprising roominess with light weight is the most prominent characteristic of the lightweight sidecar fitted to the Armis-Precision 350 c.c. two-stroke. Although the lightweight outfit has undoubtedly come to stay, it cannot be denied that in certain cases the body used is hardly adequate for a full-sized passenger; however, this certainly does not apply to this model. Another point is that the back squab of the seat is high enough to give proper support to the back—a matter of more importance than is usually realised. C springing is used, and the connections are of the three-point variety.

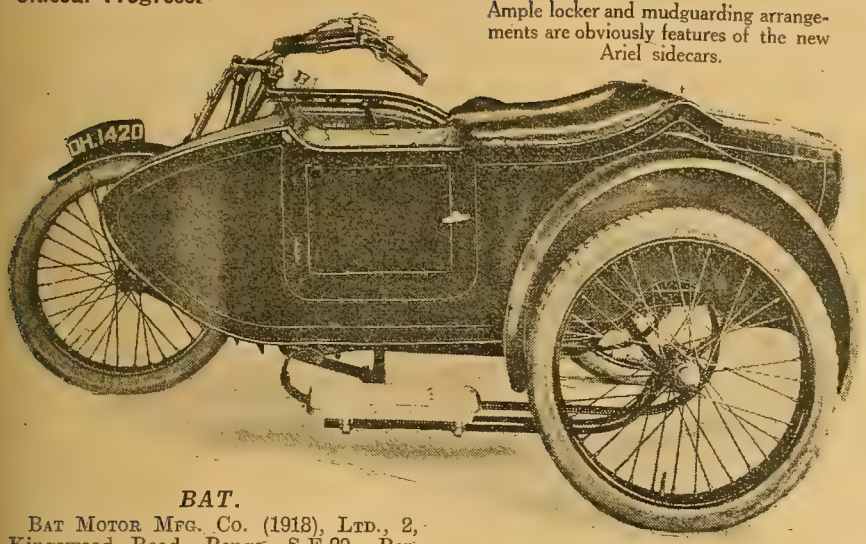
In the heavier model, which is fitted to a 5-6 h.p. J.A.P.-engined machine, four-point suspension is used, the fourth support being taken from a point about halfway down the saddle tube. The body is supported by long links from the C springs, which insulate it from shocks, and is of the normal mediumweight type, most excellently upholstered and very roomy.



Complete with spare wheel, grid, screen, and hood, the A.J.S. was one of the most attractive sidecars at Olympia

A cutter type sidecarette—the Alldays Allon

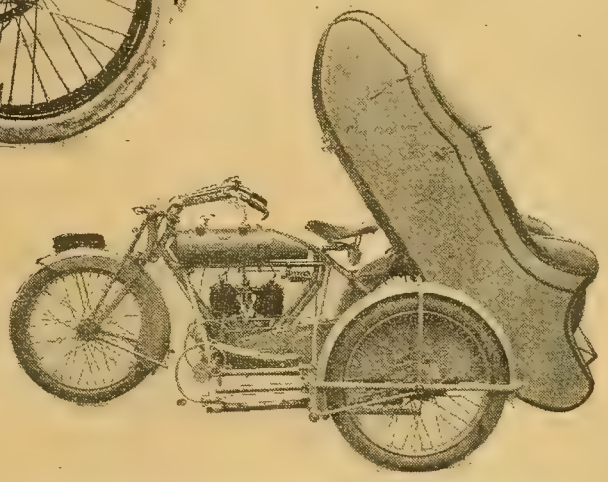
Sidecar Progress.—



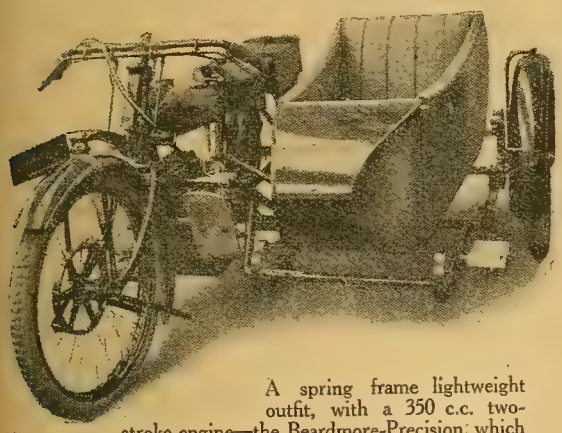
Ample locker and mudguarding arrangements are obviously features of the new Ariel sidecars.

BAT.

BAT MOTOR MFG. CO. (1918), LTD., 2, Kingswood Road, Penge, S.E.20.—Perhaps the best sprung sidecar in the Show is that fitted to the 8 h.p. Bat machines.



Showing how the body may be swung out of the way when adjustments are necessary on the Bat motor cycle.



A spring frame lightweight outfit, with a 350 c.c. two-stroke engine—the Beardmore-Precision, which has a sprung sidecar axle.

The front of the body is slung on C springs of the usual type, but the rear is supported on two independent quarter-elliptic springs of great length, and the clearances are designed so as to allow for a spring deflection of six or seven inches. Not content with this, the makers use a spring-supported sidecar wheel. The wheel spindle (it is not a stub axle) is suspended in forks which pivot freely about their connection to the sidecar chassis, and are held by two large helical springs. The result of this system is that one sinks into the sidecar seat as one does into a well-built armchair.

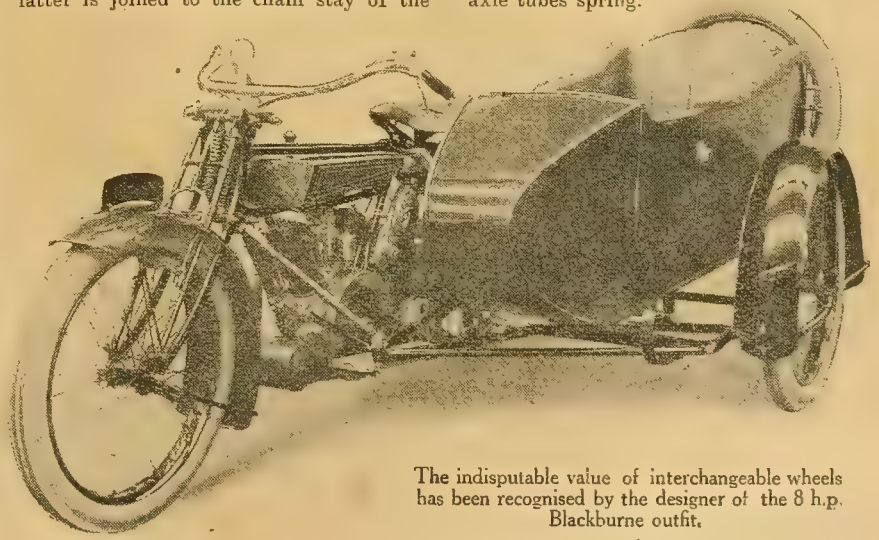
Provision is made for carrying a spare wheel on the right-hand side of the body, and in both the two models shown there is accommodation for a large amount of luggage, either on a car type luggage grid at the rear or in an extra large boot.

BEARDMORE-PRECISION.

F. E. BAKER, LTD., King's Norton, Birmingham.—In designing a lightweight sidecar to be attached to the Beardmore-Precision spring frame two-stroke machine, several interesting problems had to be surmounted. It was essential that the advantage of the sprung motor cycle frame should not be lost, and at the same time it was necessary to keep down the weight to a minimum. The main frame of the chassis is rectangular, and of quite short length, and is not rigidly connected to the rear axle. This latter is joined to the chain stay of the cycle by a short but flexible leaf spring, and the rear of the body is suspended from this sprung axle. There is no direct connection from the front of the chassis to the head of the motor cycle, but a diagonal stay from the junction of saddle tube support and the chassis is carried up to the head, and joined about two-thirds along its length by the front chassis support. The body, while following standard practice, is larger and more comfortable than the majority of those fitted to lightweight chassis.

BLACKBURNE.

BURNEY AND BLACKBURNE, LTD., 28, Conduit Street, W.1.—As an example of robust construction, the U.A.C. sidecar fitted to the 8 h.p. Blackburne is fully worthy of the machine to which it is attached. All the tubes by which it is fixed to the motor cycle are attached to a long triangulated girder member which forms the backbone of the chassis construction. The hinder end of this member is made up of two open steel pressings, from which the two axle tubes spring.



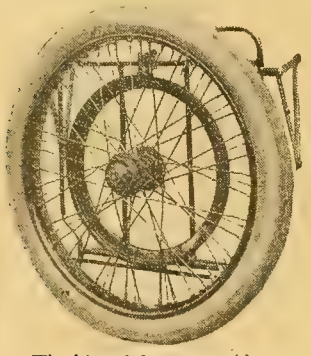
The indisputable value of interchangeable wheels has been recognised by the designer of the 8 h.p. Blackburne outfit.

Sidecar Progress.—

The sidecar wheel is supported from both sides by two loop tubes, which also form two extremely rigid mudguard supports integral with the chassis. The body itself is roomy and is provided with a fair sized boot for luggage: the spare wheel is supported under a grid, which allows of additional luggage accommodation. The body is supported on C springs and an increasced clearance has been provided.

B.S.A.

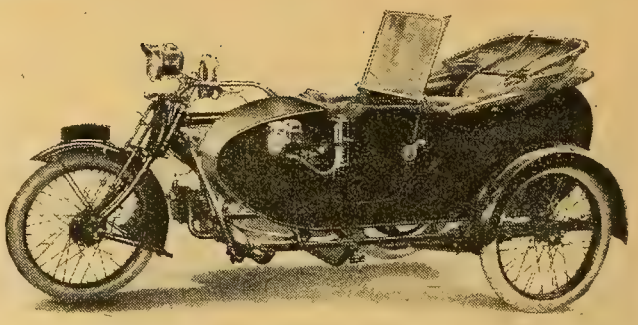
B.S.A. CYCLES, LTD., Small Heath, Birmingham.—A new design of sidecar fitted to the 4¼ h.p. B.S.A. has a most interesting type of chassis, in which weight and complication are reduced to a minimum. The main frame consists of an open triangle, of which the rear member is a double tube. At the front the two points of attachment on the machine are connected by tubes to the apex of a triangle, so that only six tubes in all are used for the chassis, including the stay from the saddle.



The hinged luggage grid on the B.S.A. sidecar provides a safe and unobtrusive anchorage for the spare wheel.

The body is suspended at the rear on a single transverse inverted semi-elliptic spring, and it is noteworthy that this spring, following the latest car practice, has been enclosed in a gaiter. In front the body is supported at a single point by a coil spring, thus giving the coachwork a true three-point suspension, while the mudguard is fixed on the body and not to the wheel axle.

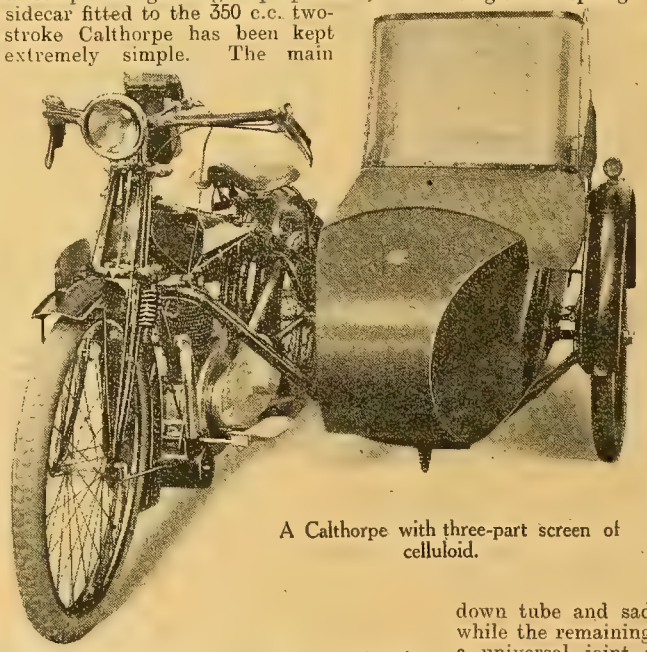
On the twin B.S.A. the sidecar is of a more conventional type, with a frame all round the wheel instead of a stub axle, and a spare wheel attached to the luggage grid.



On the Brough the lamp and generator for the sidecar is fitted to the body.

CALTHORPE.

CALTHORPE MOTOR CYCLE CO., Barn Street, Birmingham.—Being designed as a complete lightweight proposition, the sidecar fitted to the 350 c.c. two-stroke Calthorpe has been kept extremely simple. The main frame of the chassis is simply a triangle with rounded front end. Four attachment tubes are carried to the usual points on the motor cycle frame. It is noteworthy that suspension by cantilever springs has been adopted at the rear, while the front of the body is held on a single coil spring at the apex, thus providing a three-point suspension.

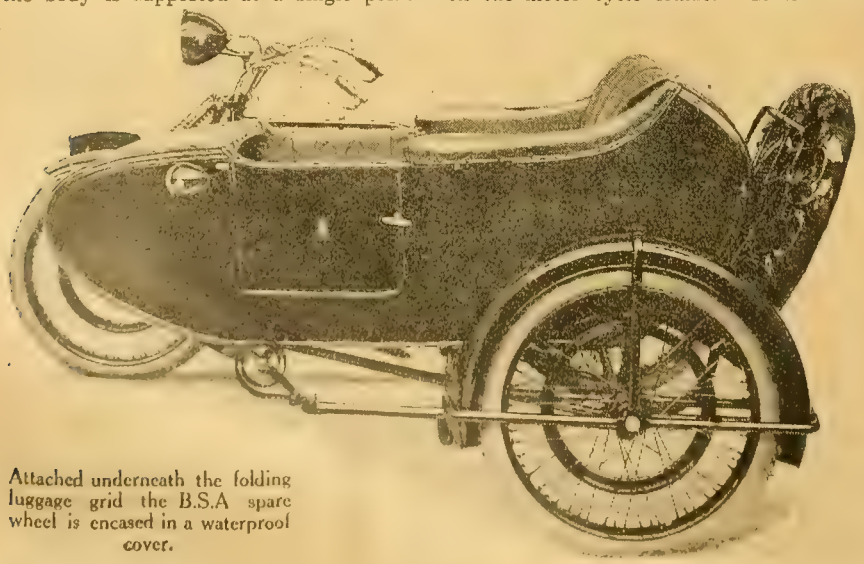


A Calthorpe with three-part screen of celluloid.

A large locker and a long and comfortable seat of extra width are points which it is unusual to find in a sidecar of such extremely light weight.

CAMPION.

CAMPION CYCLE CO., LTD., Robin Hood Street, Nottingham.—With this firm rests the honour of producing the first sidecar taxicab outfit to be licensed to ply for public hire. The chassis, which is attached to an 8 h.p. Campion machine, is of the underslung variety on straightforward lines. Five attachments are used, two each to the front down tube and saddle tube respectively, while the remaining one is in the form of a universal joint attached to the chain stay near the fork end. The large double-seated cabriolet body is mounted upon a pressed steel sub-frame, which is insulated from the chassis by means of two underslung half-elliptic springs fixed at the front, pivoted at the axle, and shackled at the rear. Two upturned quarter-elliptics with scroll ends carry the front of the sub-frame. This method of carrying a large body is claimed to be ideal, since it eliminates most of the stresses from the bottom boards. A standard Campion single-seated touring sidecar is also made with an underslung chassis.

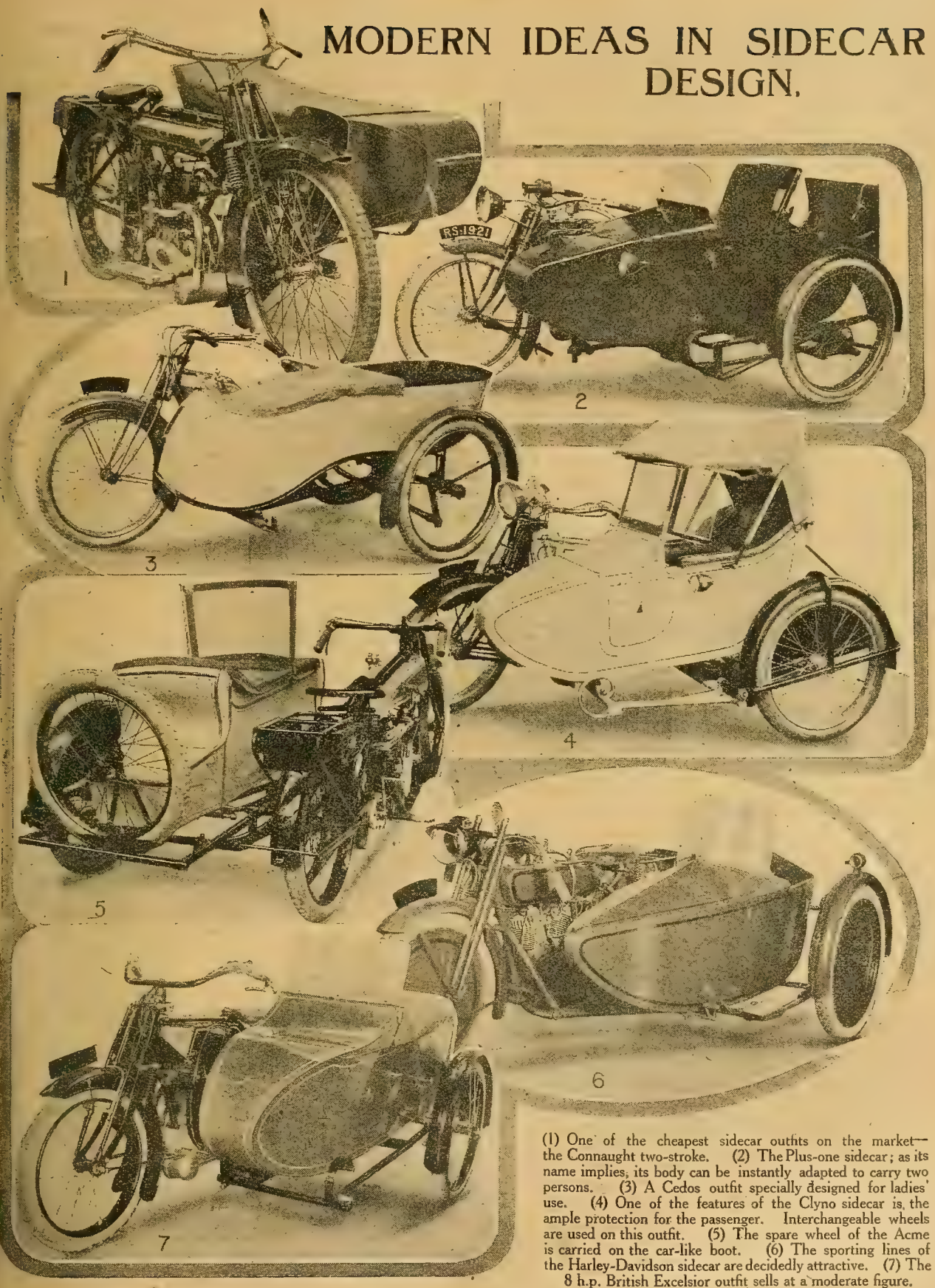


Attached underneath the folding luggage grid the B.S.A spare wheel is encased in a waterproof cover.

CANOELET.

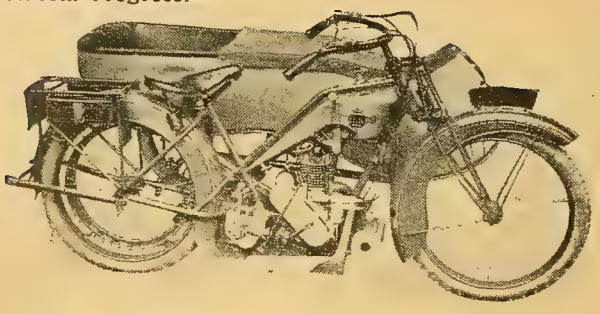
MEAD AND DEAKIN, Birmingham.—Probably the Canoelet models best known to the general public—by reason of their very distinctive lines—are the Minor and Sporting types, which have become justly famous for use in connection with light machines, or even with heavy mounts, where a light attachment of the racing type was required. An innovation just introduced is the model T4. The chassis of this has a very slightly dropped axle, and is simply constructed of three main tubes converging towards the front, where they run parallel for some few

MODERN IDEAS IN SIDECAR DESIGN.

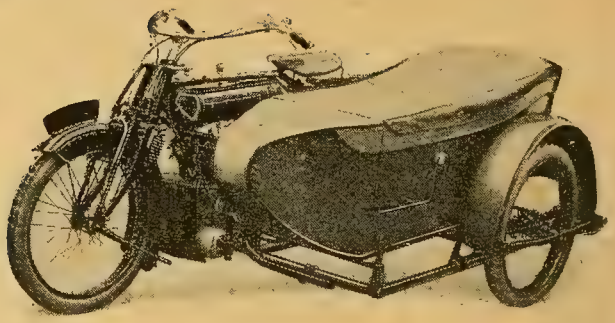


(1) One of the cheapest sidecar outfits on the market—the Connaught two-stroke. (2) The Plus-one sidecar; as its name implies, its body can be instantly adapted to carry two persons. (3) A Cedos outfit specially designed for ladies' use. (4) One of the features of the Clyno sidecar is the ample protection for the passenger. Interchangeable wheels are used on this outfit. (5) The spare wheel of the Acme is carried on the car-like boot. (6) The sporting lines of the Harley-Davidson sidecar are decidedly attractive. (7) The 8 h.p. British Excelsior outfit sells at a moderate figure.

Sidecar Progress.—



To the lady sidecarist this little Cedos lightweight outfit will make a special appeal.



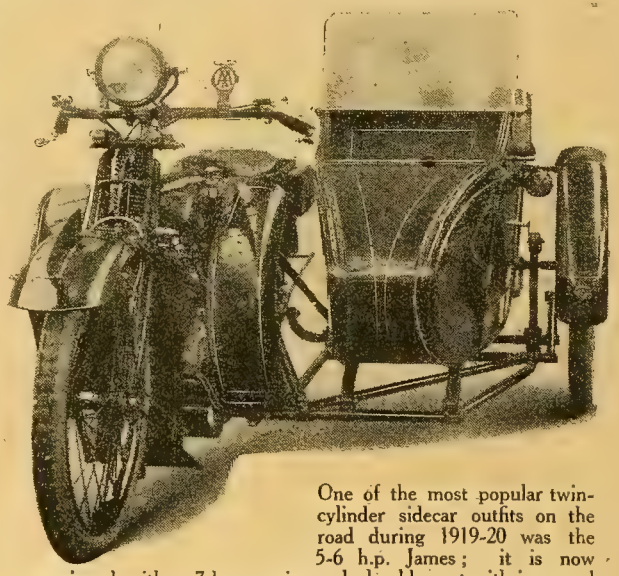
A Grindlay sidecar is used as standard on the 6 h.p. Bradbury

inches, forming a platform on which the front quarter-elliptic springs and the front attachments are clipped. The body, which is carried at the back on C springs, is of very graceful shape, and provides ample room for the passenger. A special feature is the celluloid windscreen, which is curved to follow the circular opening of the dash. The near side end of the screen is carried on a swivelling vertical rod attached to the door, so that the screen opens with the latter, and is thus out of the way when the passenger is entering, or alighting from, the car. Four-point attachments are used; the mudguard is carried on the side of the body, and a large bulbous locker is provided.

The other touring Canoelet sidecars remain as they were, no alterations being found necessary. It should be borne in mind that this firm probably did more to popularise the coachbuilt sidecar than any other in the earlier days of motor cycling. The Canoelet taxicab is a new departure, which will be dealt with in the near future.

CHATER-LEA.

Chater-Lea, Ltd., 74, Banner Street, London, E.C.1. — In chassis design, the Chater-Lea sidecar (as fitted to their 8 h.p. machine) follows the generally accepted practice for heavy sidecars of using triangulated longitudinal members. They offer, however, a two-seater body of considerable interest. In this, both the seats, which are arranged in tandem, are of full size and suitable for adults. In order to afford extra leg room in the front seat, there is a well in the extreme toe of the chassis which can be dropped, or if desired can be clipped up flush with the remainder of the body. If it is not desired to carry two persons the back of the rear seat can be folded forward, and the back and seat of the front seat can be shifted to an alternative position further back, giving an extremely large, roomy, and luxurious body for one. The spare wheel is carried on the front of the body.



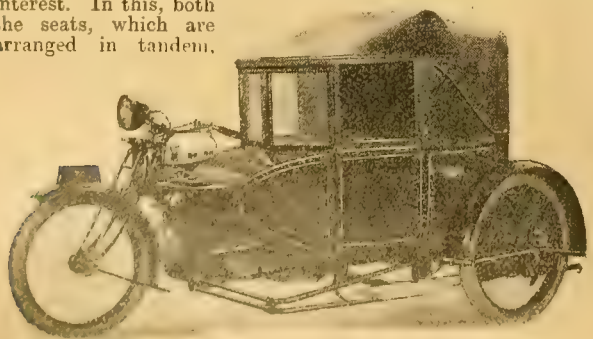
One of the most popular twin-cylinder sidecar outfits on the road during 1919-20 was the 5-6 h.p. James; it is now equipped with a 7 h.p. engine and should meet with increased success.

CLYNO.

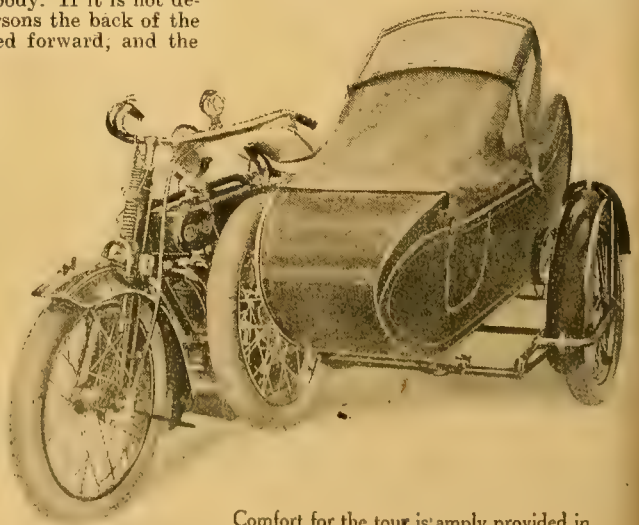
Clyno Engineering Co., Ltd., Pelham Street, Wolverhampton. —As usual with sidecars for sprung frames, the Clyno chassis is cut off short at its rear end, the hindermost attachment being a double connection running to the saddle pin and to a point near the bottom of the saddle-pillar. The upper of these two tubes is carried right across to form a triangular rear cross member, on the outside end of which is the spring box, which holds the outer body C spring, and also the leaf spring, which insulates the chassis from the wheel.

The forward end of the chassis is attached to the front down tube of the cycle, and another connection goes right to the top frame tube. The design of the spring wheel is particularly good, as also is the construction throughout.

The glass windscreen with celluloid side lights, the excellent hood, and the luggage carrier faced with aluminium matting, combine to give great luxury.

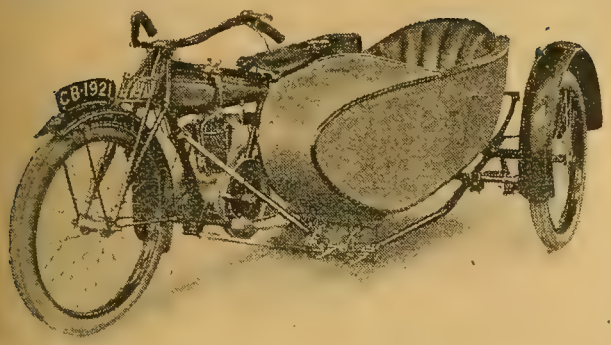


A taxi-sidecar which does not look cumbersome—the handsome Campion vehicle with taximeter mechanism on the front of the body.



Comfort for the tour is amply provided in the 8 h.p. Chater-Lea outfit.

Sidecar Progress.—



The Coulson sidecar has a spring wheel utilising quarter-elliptic springs, as on the machine itself.

COPPEN ALLAN.

COPPEN ALLAN AND CO., 89, Great Portland Street, W.1.—Remarkable ingenuity is shown in the design of the Plus One sidecar. While the chassis is of more or less normal design, the body is very novel. When in use in the ordinary way, the passenger sits in what is practically an extra luxurious deck chair, with a padded front edge to the seat and an elastic back, the whole being adjustable. If no passenger be carried the seat may be swung down into the body, and the whole protected by the apron. When accommodation for two is required the dickey seat is opened, and this gives ample room for a full-sized passenger.

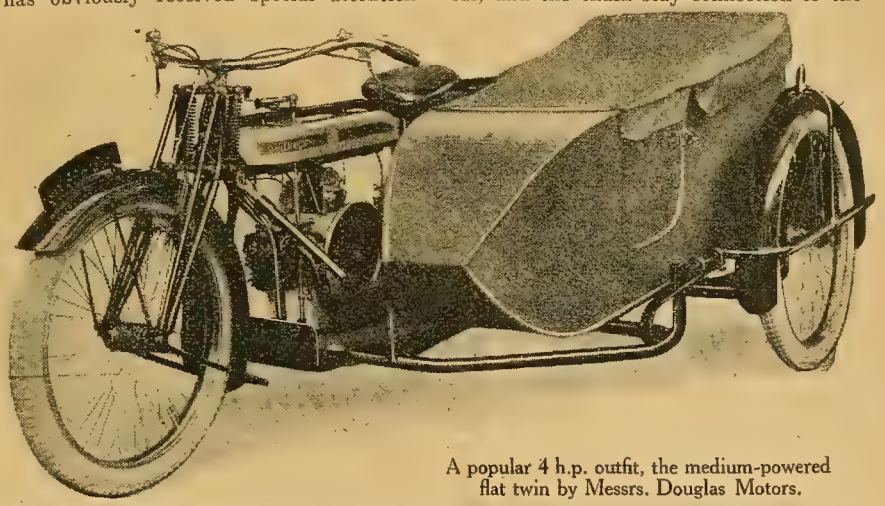
For the carrying of luggage or parcels alone, both seats may be removed completely, thus giving the luggage capacity of a trades' delivery car. The sidecar as sold is complete with apron, lamp bracket, and aluminium step, and altogether seems to represent a real advance in design.

COULSON-B.

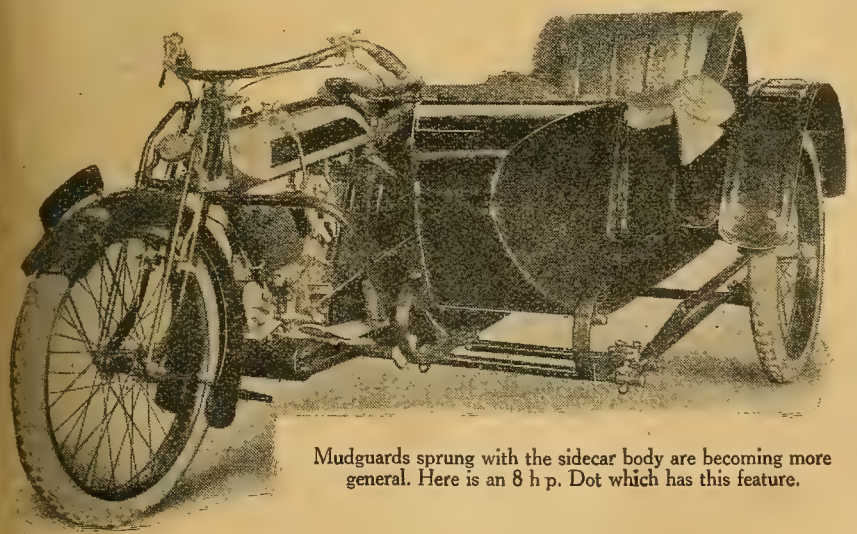
F. ASLETT COULSON ENG. CO., Albion Street, London, N.1. — Spring frame machines, such as the Coulson-B, necessarily demand that sidecars attached to them shall also have spring wheels if the overall comfort of the outfit is to be assured. In this respect the Coulson sidecar has been very effectively designed with a form of spring axle support very similar to that employed on the motor cycle rear wheel. All the five connections are made to rigid parts of the frame, and the body is carried on quarter-elliptic springs at the rear and a central C spring in front, the latter being secured to the apex formed by the converging tubes of the chassis. Rearwardly, these tubes are extended so that they may be used as a luggage grid. A very attractive body is used, having a pointed tail, in which is a convenient locker covered with a lid held by a spring catch.

DALTON.

DALTON MOTOR CO., LTD., 17, John Dalton Street, Manchester. — Springing has obviously received special attention in the sidecar fitted to the 5-7 h.p. flat twin Dalton. The main frame of the chassis is roughly triangular in plan, but has two cross members at the rear. These cross members support the two ends of a pair of inverted semi-elliptic springs of car type, spiral spring shock absorbers intervening between the two. The centre trunnions of these semi-elliptic springs support the sidecar body. The result is an extremely flexible suspension, resembling that of an expensive car. The stress is distributed from the chain stay support and the sidecar wheel stub axle by a pair of very solid steel stampings, which spread the load. Another good point is that the chain stay tube has a universally jointed attachment, which is only locked up when the sidecar is actually aligned. The sidecar body is long and very roomy, having a large locker at the back and ample leg room in front.



A popular 4 h.p. outfit, the medium-powered flat twin by Messrs. Douglas Motors.



Mudguards sprung with the sidecar body are becoming more general. Here is an 8 h.p. Dot which has this feature.

DOT.

DOT MOTORS, Ellesmere Street, Hulme, Manchester.—On the 8 h.p. Dot-Jap, the sidecar has a new type of chassis of considerable interest, mainly for the fact that it is designed to be readily fitted either on the right or left of the machine. For this purpose, the main rectangular frame of the chassis is entirely symmetrical, and the chain stay connection to the cycle frame can be interchanged with the stub axle carrying the sidecar wheel. The front cross member of this frame is not brazed to the remainder, but clipped in lugs, and the two attachment tubes can be fitted to either end of it. Similarly, the saddle pin connection can be affixed at its lower end to either side of the sidecar chassis.

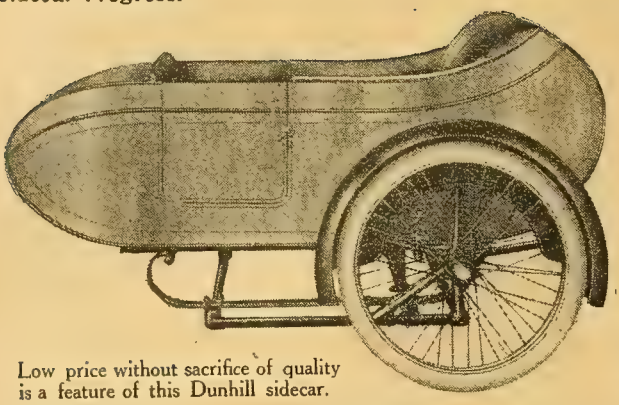
In addition to the convenience of being able to use the sidecar, either as right or left-hand, the sliding front tube makes it exceedingly easy to obtain correct alignment. The mudguard over the sidecar wheel is very wide—in fact it is of car shape, and is suspended from the body instead of the axle, which is by far the most satisfactory arrangement.

The body, while not showing any deviation from standard practice, is well designed for comfort, and is most luxuriously upholstered.

DOUGLAS.

DOUGLAS MOTORS, LTD., Kingswood, Bristol.—Very few changes have been made in the chassis of the Douglas sidecar: it remains as it was—a fine example of robust yet light construction. Its main point of divergence from the usual is in the square girder-built

Sidecar Progress.—



Low price without sacrifice of quality is a feature of this Dunhill sidecar.

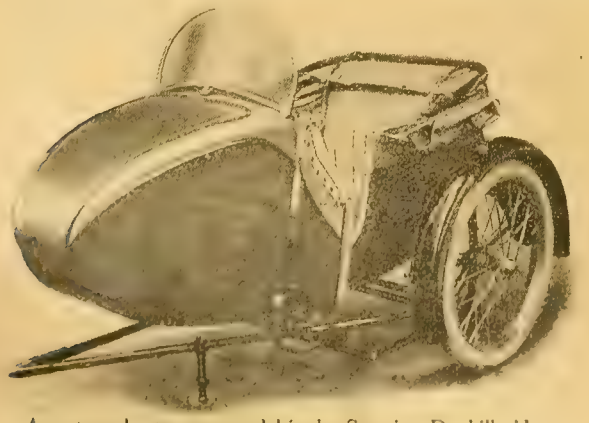
longitudinal member on the cycle side of the chassis. This has a triangulated attachment to the chain stay, and also two tubes running to the head and the saddle-pillar. The fourth attachment (to the footrest) is by a tube which forms the front cross member of the frame. Both this and the rear cross member are dropped to allow body room, and the body itself is suspended on the rear member by a transverse semi-elliptic spring. The frame extends all round the sidecar wheel, which is on an ordinary spindle instead of a stub axle; the surrounding frame also gives a very rigid support to the mudguard.

DUNELT.

Dunford and Elliott (Sheffield), Ltd., 95-99, Bath Street, Birmingham.—For this machine (the 500 c.c. two-stroke, which we have already described in these columns) the Watsonian Company has built a specially designed sidecar. This is chiefly notable for the very low dropped frame, which allows room for an exceptionally deep and roomy body. This frame is carried right round the sidecar wheel, for which it forms the spindle support (the sidecar wheel is interchangeable with the others). Three bent members which cross round the wheel also support the mudguard, giving great rigidity.

The body is sprung on C springs at the rear and coil springs in front. Behind the seat is fitted a large luggage locker and the spare wheel.

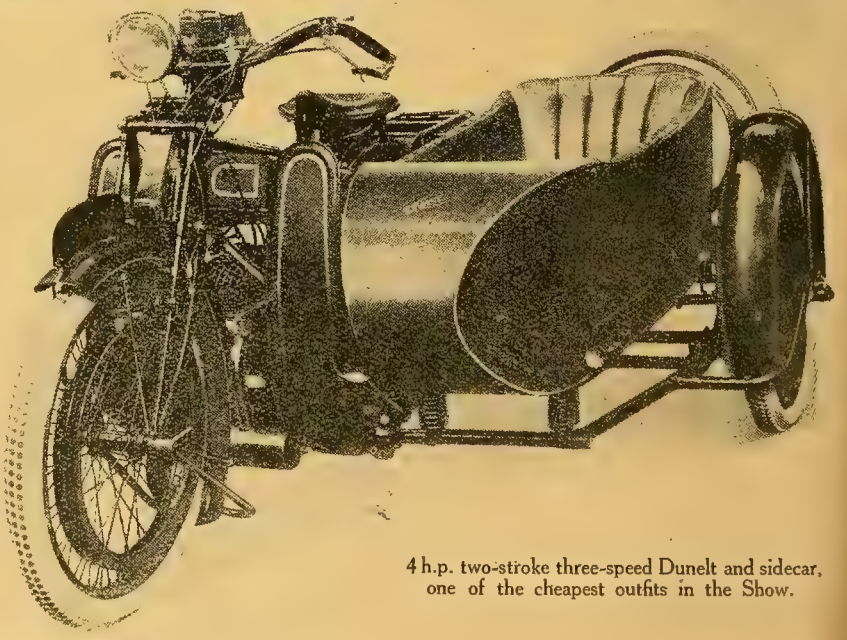
Convenient map or glove pockets are fitted in the sides of the body.



An extremely attractive model is the Sporting Dunhill sidecar. Observe the triangulated front members of the chassis.

DUNHILL.

Dunhills, Ltd., 359-361, Euston Road, N.W.—In the type of chassis which follows in plan view the lines of a right-angle triangle, the above firm may be regarded as pioneers, since they have made this method of construction their own. It is used with various modifications in the majority of their sidecars, and permits a strong structure to be made without sacrifice of lightness. They are varied by extra cross bracing members, but the general plan remains the same. Particularly luxurious bodywork is one of Dunhills specialities, and various types of body are shown, including a special two-seater model, which is convertible to a single-seater by a slight alteration, as required. The springing of all the bodies is on conventional lines by means of separate C springs at the front and rear. On the Limousette model a very neat V fronted celluloid windscreen is carried on a high hinged dash, while on another model a bevelled mirror is inserted beneath the dash. This is a point which should appeal particularly to lady passengers. A new model of the cabriolet type, known as the Jasmine, is also introduced. This is most luxuriously upholstered in Bedford cord and fitted with Triplex safety glass in all the panels. For those who require a sidecar of the family variety, a specially wide model, tapering to the front, is provided. This has slightly staggered seats which will accommodate an adult and child, sitting side by side. In preference to mounting a luggage grid on the back of the body, the firm evidently favour a separately sprung arrangement secured by means of long quarter-elliptic springs to the back of the chassis.



4 h.p. two-stroke three-speed Dunelt and sidecar, one of the cheapest outfits in the Show.

F.N.

F.N. (England), Ltd., Kimberley Road, Willesden Lane, N.W.6.—Bevel-driven machines do not lend themselves very easily to the attachment of an ordinary sidecar, but the special chassis designed by F.N. gets over all difficulties. The backbone of the frame is a long double member attached to the chain stay just clear of the bevel casing. It also has a triangulated tube fixed to the saddle-pillar, and the two members joined at the front just before reaching the steering head. From this girder construction is built out the rectangular frame which supports the body, and also passes round the wheel to support the latter on both sides.

The body is chiefly notable for the great depth of the back of the seat, which affords the rider most excellent protection in conjunction with the solid windscreen and Cape hood which are fitted.

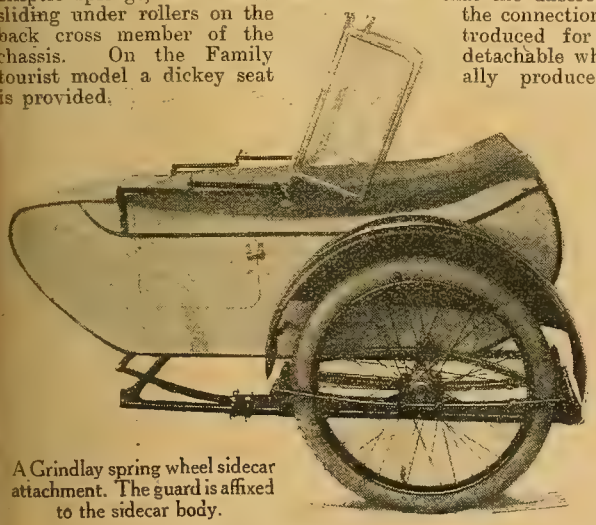
GRINDLAY.

Grindlay (Coventry), Ltd., Melbourne Works, Coventry.—A slight improvement has been effected in the suspension of the body on the well-known Grindlay spring wheel chassis; this lies in the substitution of quarter-elliptic springs for the coil springs which formerly supported the front portion. The main part of the spring wheel system, however, remains unaltered, since it has been found to be perfectly satisfactory in practice. The mudguards also, which are attached to the bodies, are now of domed section in place of the flat wings

Sidecar Progress.—

The spare tin of petrol almost holds itself on the sloping tail of the Club model Grindlay sidecar.

which have hitherto been used. Various styles of coachwork are obtainable, and adequate provision is made for luggage carrying on the touring bodies. A new sporting type, known as the Club, is now introduced, and, having no door, access to the interior is facilitated by means of a cast aluminium step bolted to the side of the body. A neat curved celluloid windscreen is secured in front of the seat, which is very low and allows a comfortable reclining position for the passenger. In addition to the spring wheel models, there are also two types mounted upon fixed wheel chassis. One of these is the Popular, which is suitable for general touring work when attached to machines of medium power; while the sporting type is of particularly light construction, and follows the general lines of similar attachments, the seat being of the hammock variety. The body springing of this particular model is especially interesting; the front is supported on two upturned quarter-elliptics, while the rear is also carried on two other quarter-elliptic springs, the free ends of these sliding under rollers on the back cross member of the chassis. On the Family tourist model a dickey seat is provided.



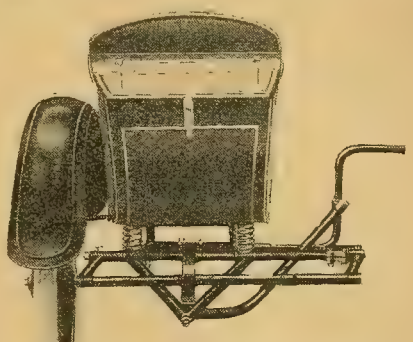
A Grindlay spring wheel sidecar attachment. The guard is affixed to the sidecar body.

HARLEY-DAVIDSON.

Harley-Davidson Motor Co., Ltd., 74, Newman Street, London, W.1.—The great power of the Harley-Davidson big twin lends itself naturally to the fitting of luxurious sidecars, and full advantage has been taken of this fact by the makers. In fact, their standard sidecar body would be listed by many makers as a *de luxe* type. The chassis is interesting, being of a fully triangulated girder type. It is supported not only by the chain stays themselves, but also by the back stays, thus getting double strength at this important point; and it is noteworthy that, instead of being built up on brazed lugs, the joints between the tubes are all acetylene welded. The chassis is lined up with great care at the works, and no adjustment is provided for this, as it is considered that the work cannot be done sufficiently accurately without the makers' special facilities. The body has an integral windscreen and hood, map lockers in the doors, a glove locker in the scuttle, and two large cupboards behind the seat. For sporting purposes a much lighter sidecar of the canoe type is shown, which shows the same interesting points in design as the heavier type. There is also a trade delivery sidecar of extremely high cubic capacity, on a chassis of slightly different design.

HENDERSON.

Henderson Sidecars, Aero Works, Fitzwilliam Street, Sheffield.—The designer of the Henderson sidecars has made very serious efforts to eliminate all doubtful materials or methods of construction from his productions, and the tubes and other metal parts used in the chassis are all selected with regard to their suitability for the particular part in which they are used. Thus the connections from the chassis to the frame of the machine are of a special kind of steel tubing, which has a higher elastic limit than the tubing used in the chassis itself, while the axles and connections are of high tensile steel, which is heat-treated. Any bolts which would be liable to rust into the connections in which they are used are made of rustless steel. The actual frame connections are of the taper socket variety, and are provided with a special form of self-withdrawing joint, so that the unscrewing of the nut separates the connection itself. A new model introduced for 1921 is the Elite with detachable wheel. This has been specially produced in order to suit the various high-powered machines now on the market, which are fitted with detachable and interchangeable wheels, and it is sold without a wheel, so that it can be arranged to take any maker's standard wheel. Provision for carrying the spare wheel is made at the back. The springing system of this sidecar is particularly good, consisting, as it does, of a combination of semi-elliptic laminated springs working in conjunction with coil spring shock absorbers. The semi-elliptic springs are pivoted at their centres, the rearmost ends carrying the bearer bar for the body, while the forward ends are anchored to the chassis by the coil tension-spring adjustable shock absorbers. Special features of these sidecars are the ample luggage-carrying capacity and the flat lid to the locker, which forms an additional platform on which petrol cans or suitcases may be carried. For very light machines there is a special Featherweight model, which weighs but 65 lb. complete, while there is also a spring wheel sidecar, which has a wonderfully efficient system of insulation, by means of a single laminated C spring, the only unsprung weight being the wheel and the floating axle. In this case, the front of the body is carried on C springs, while the rear is supported on two large diameter coil springs in compression. In all cases, the mudguards on the Henderson sidecars are securely attached to the body, a method long standardised by this firm.



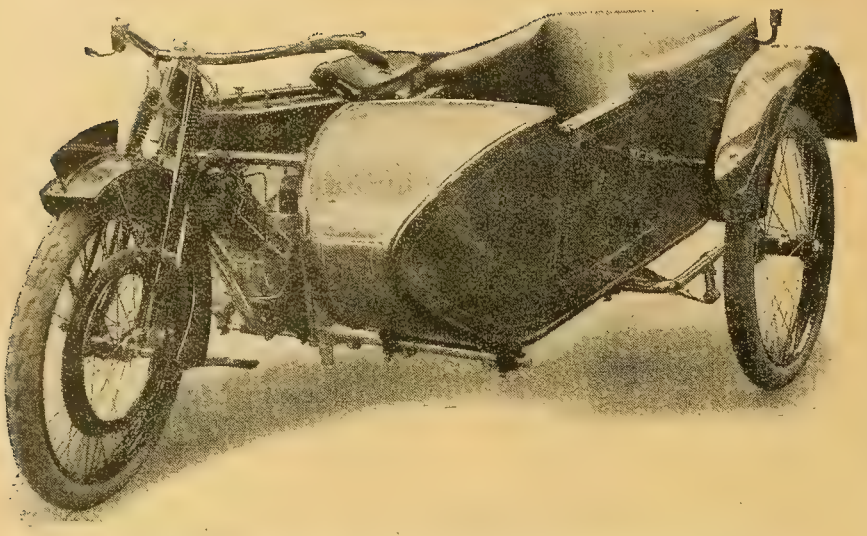
Simple and adjustable suspension is provided on the Sheffield Henderson spring-wheel model.

INDIAN.

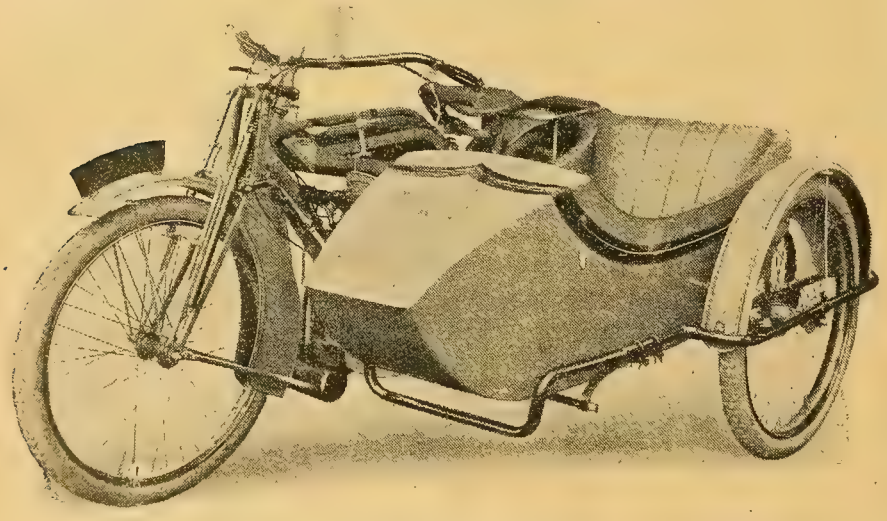
Hendee Manufacturing Co., 366, Euston Road, N.W.1.—Sidecars for use with the Indian machines must, of course, be specially designed to be capable of attachment to the spring frame which is used on this machine. With the object in view, the main frame of the sidecar is kept very short from front to rear, and the hindermost attachments take the form of two struts which are fixed respectively just behind the saddle pin and just above the gear box. Since there is such ample power available, the sidecar is of extraordinarily robust construction, and the body is large and luxurious, with ample lockers for carrying a considerable amount of personal luggage.

IVY.

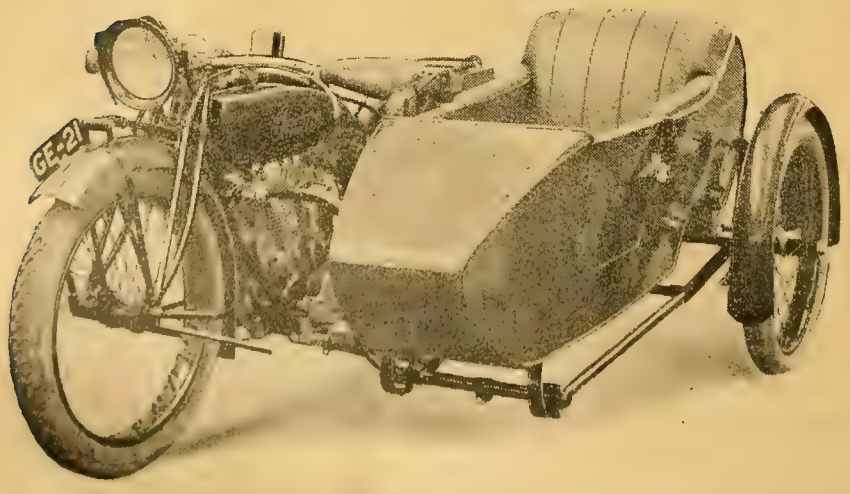
S. A. Newman, Ltd., Lichfield Road, Birmingham.—After the recent performance of an Ivy in climbing the Wyche cutting (1 in 2.9) fifteen consecutive times with a passenger, and several times with two passengers, one expected to find that the sidecar used was of the featherweight type; but this is far from being the case, for although the chassis is very light it is exceptionally solid in its design and construction. For one thing, the chassis takes the form of a rectangle completely enclosing the body. For another, the suspension is of the four-point type; and for a third the wheel is mounted in an all-round fork and not on



This Millford Rock "chassisless" sidecar attached to a P. and M. has many special points of interest in its design.



The graceful little sidecar attached to the Ivy two-stroke helps to render this lightweight outfit a very attractive proposition.



Roomy sidecars of practical design are attached to the Indian machines.

a stub axle; in fact, the general design of the sidecar is of the type usually associated with heavyweight outfits. Although the body is not bulky, yet room has been found to provide for a large locker for luggage.

IXION.

Ixion Motor Mfg. Co., Ladywood, Birmingham. — Experience gained in pioneering the miniature sidecar outfit is reflected in the light chassis attached to the Ixion 2½ h.p. two-stroke. Lightness is not only retained by simple design, but strength is in no way sacrificed. The chief feature is that the front attachment tube has its origin at the rear axle and runs parallel with the cycle frame, rising slightly, until it curves to the connection on the front down tube. For its small size the body is convenient, and the grey finish to match the machine is excellent.

MATCHLESS.

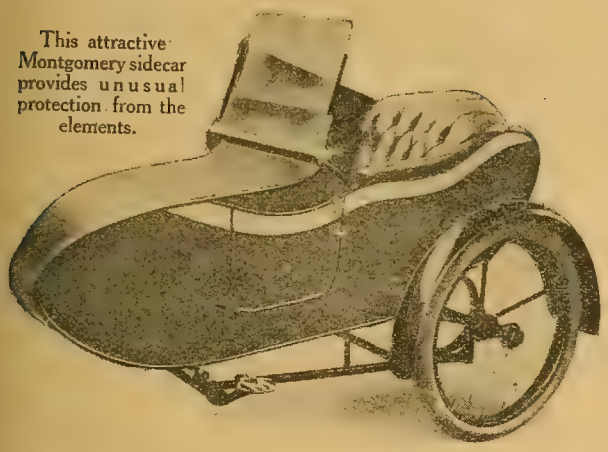
H. Collier and Sons, Ltd., 44, Plumstead Road, Plumstead, S.E.18.—In designing a sidecar for the Matchless machine, the makers were confronted with the necessity of specially arranging the rear springing to get the fullest advantage from the sprung rear wheel of the motor cycle. They have successfully done this by arranging an axle which carries the sidecar wheel, and is attached at two points to the unsprung portion of the motor cycle rear wheel fork. The rear suspension for the chassis itself is through helical springs from the sidecar wheel end of this unsprung axle and from the sprung part of the motor cycle frame. Here also the sidecar is attached to the cycle at two points. As there is also a two-point suspension at the front of the chassis, the total connections are no fewer than six, giving enormous strength. In addition to the rear coil springing, the front of the sidecar body is sprung on quarter-elliptic springs. There is a large boot, also a luggage grid on which the spare wheel is suspended. A windscreen is a standard part of the sidecar.

MILLFORD.

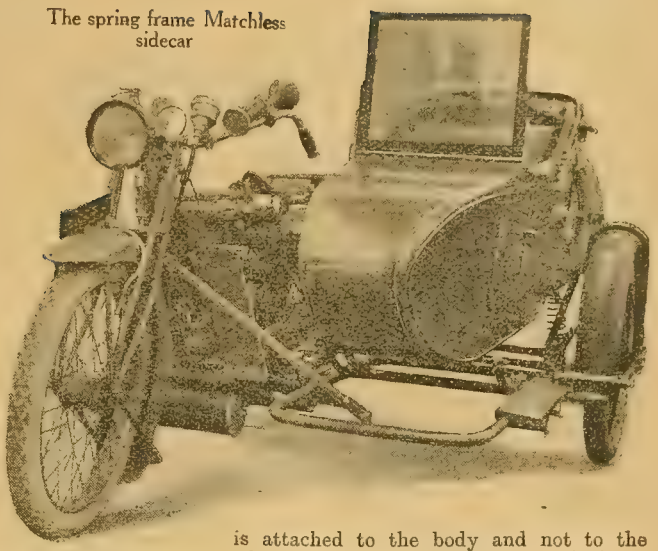
Mills-Fulford, Ltd., Crown Works, Coventry.—In view of the fact that the members of this firm may be counted amongst the pioneers of sidecar manufacture, it is significant to observe that they are now departing from all hitherto accepted principles of chassis construction. This refers, of course, to the Millford-Rock chassisless sidecar, which was one of the attractions of the Show. Briefly, the method of construction of this sidecar is as follows: a double cranked axle is secured to the back fork of the motor cycle by a spring joint, allowing a certain amount of flexibility in all directions. The forward part of the crank swings in bearings attached to the specially strong floorboards of the body, to which it is also adjustably attached through a single transverse half-elliptic spring and shackles. The fore part of the body is carried on a swivelling crossbar, capable of vertical movement and controlled by enclosed coil springs; it will, therefore, be seen that the only connection between the front and back attachment is the body itself. The flexibility of the sidecar is such that no direct shocks from the

Sidecar Progress.—

This attractive Montgomery sidecar provides unusual protection from the elements.



The spring frame Matchless sidecar



side wheel are transmitted to the frame of the motor cycle. Almost any type of body can be fitted to this chassis, provided that the bottom boards are of suitable strength. The standard Millford models remain unchanged, and the very simple chassis construction, which permits the use of a low body without the necessity of underslinging the axle, is retained. On the De Luxe sidecar, a heavy chassis with duplex side members and axle tubes (the latter being slightly underslung) is used. In addition to the normal single-seater bodies, there are two specially large ones; the Family, which is slightly longer than normal, with provision in the front part for a small additional seat, and the double-seater, which will accommodate two full grown passengers without overcrowding. The latter is specially suitable for high-powered machines. During the Show substantial reductions in price were made to all Millford models.

MONTGOMERY.

W. Montgomery and Co., Leicester Causeway, Coventry.—Montgomery sidecars reflect nineteen years' experience in sidecar construction, and great simplification of the chassis has been attained. In all patterns, whether light or heavy, the same type of framework is used, and the plan of the chassis takes the form of a truncated triangle. The axles are straight, thus avoiding weakness or the necessity of using exceptionally heavy fittings, as must be done when underslung construction is employed. The bodies, which vary from the light sporting type to the fully-equipped two-seater tandem, are specially well finished, and even in the lightest form the comfort of the passenger has not been neglected. Springing is by means of C springs at the rear and adjustable coil springs at the front. The sporting model will appeal particularly to those riders who prefer an outfit which generally follows graceful lines, and, if desired, as an extra, it may be fitted with a very handsome, curved celluloid windscreen, which affords very complete protection for the passenger—a point which is sometimes omitted on attachments of an ultra-sporting nature.

NEW IMPERIAL.

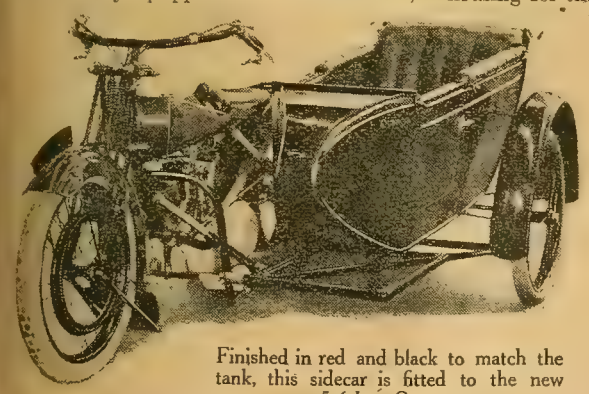
New Imperial Cycles, Ltd., Princip Street, Birmingham.—There are two neat points of constructional design on the New Imperial sidecar. The first of these is the rear axle, which is made of comparatively light tubing, but is provided with a king-post tension truss which relieves it of much of its load, thus getting great strength with a reduction in weight. There is also a heavy tie-tube between the chain stay attachment and the saddle pin. The body is sprung on C springs at the rear and quarter-elliptic leaf springs in front, and clearances are allowed for a large deflection, thus making the body most comfortable on the bad roads of the present day. It is interesting to note that the makers are following a practice now being extensively adopted, and are using steel pressings to form the chain stay connections and also the housing for the stub axle. The mudguard is attached to the body and not to the wheel, and is therefore relieved of vibrational stresses.

NORTON.

Norton Motors, Ltd., Bracebridge Street, Birmingham.—All the Norton sidecars, including the sporting or racing type, are mounted on similar chassis. This chassis has a trapezoidal rear portion, to which the chain stay and saddle tubes are attached, and a triangular front, which takes the two front fixings. A windscreen is fitted as standard to the body, which latter also carries the mudguard. Two types are shown, in one of which there is a large rear luggage compartment, while the rear portion of the other opens to form a small dickey seat suitable for a child. The racing model has, of course, no luggage accommodation, and is cut down to the minimum weight and head resistance, so as to cause a minimum loss of speed.

P. and M.

Phelon and Moore, Ltd., 4, Berners Street, W.1.—During the war about one-half of the P. and M. machines supplied to the R.F.C. were fitted with sidecars, and the experience gained has been very useful in making possible a reduction of weight without loss of strength. The chassis of the sidecar at present fitted is suspended from four points, having a double support from the steering head. The rear axle has a deep truss, to which the saddle support is taken. The body is supported on C springs, which are very flexible and easy, and good clearance is



Finished in red and black to match the tank, this sidecar is fitted to the new 5-6 h.p. Omega.

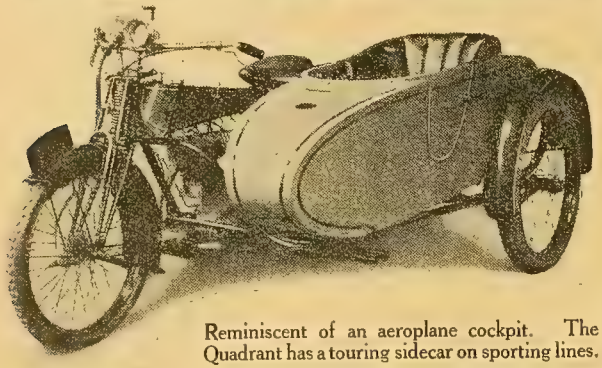
The Martinsyde de luxe model.

Sidecar Progress.—

provided to take up heavy road shocks without any possibility of bumping. The upholstery and bodywork generally, although not provided with any fancy fittings, are extremely comfortable and of very high quality.

QUADRANT.

QUADRANT MOTOR CYCLES, Lawley Street, Birmingham.—Quadrant machines are in many cases provided with sidecars of proprietary makes, but the Quadrant makers themselves also provide a sidecar of moderate price. The chassis is devoid of any startling innovations, but is a very sound piece of work. Extra care has been taken in the support for the mudguard, the longitudinal member of the sidecar chassis being extended behind the axle and bent up to reach the mudguard, to which it is solidly fixed. Another short tube is taken directly from the chassis frame and supports the front of the guard; the usual stays from the axle are also provided. The body itself, while not being extremely luxurious, is comfortable; and it is notable for the height of the back, which affords splendid support for the shoulders of the passenger.



Reminiscent of an aeroplane cockpit. The Quadrant has a touring sidecar on sporting lines.

RALEIGH.

RALEIGH CYCLE CO., LTD., Lenton, Nottingham.—Another example of a sidecar chassis specially designed to fit a spring frame machine, the Raleigh, had to face the additional difficulty that the machine to which it was to be fitted is exceedingly fast and powerful. The two main members of the frame are inclined towards one another at the front, in the form of a truncated triangle; the support from the saddle pillar is inclined backwards, and runs right through to the wheel axle. Four points of suspension are to the saddle-pillar, the bottom bracket, the footrest, and the steering head. It is satisfactory to note that extra width has been provided in the seat itself, a matter which should receive more attention than is often the case.

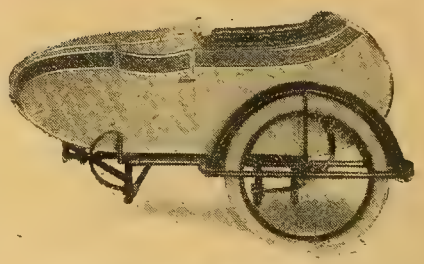
REX.

REX MOTOR MANUFACTURING CO., LTD., Earlsdon, Coventry.—The Rex exhibit is chiefly notable for the large two-seater saloon sidecar. The chassis of this is very interesting, being almost entirely made from steel pressings, more on motor car lines than after the usual style of sidecar construction. It is suspended from the motor cycle frame at four points; but, as double struts are taken to two of these points, it is really a six-point suspension. The body itself has a fixed top with detachable celluloid windows, and the seats are arranged in staggered form, so as to allow ample seating width for two adults without making the body unduly wide.

There are certain points common both to this sidecar and to the other ones exhibited, especially as regards the springing. In all cases the body is sprung on two coil springs at the front and on two long cantilever springs at the rear. Also in every case a heavy strut is taken from the chain stay attachment along the motor cycle frame to the steering head point.

RIDEEZI.

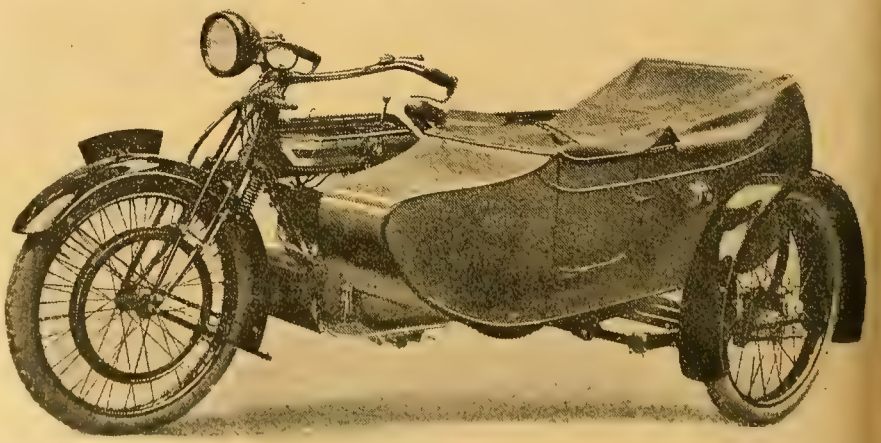
THE SIDECAR BODY CO., 25, Upper Clapton Road, E.5.—A number of highly-finished bodies to suit all tastes and requirements are produced. One of the most attractive is a double-seated sidecar, which, despite its provision for two passengers, is not cumbersome in appearance. This effect is achieved by extending the body backwards behind the front seat in the form of a long bulbous compartment, the lid of which, when raised, forms the back of the additional seat. The chassis on which this body is carried is of particularly robust construction, having duplex longitudinal members on the side nearest the machine. The wheel axle is supported at both ends, being surrounded by a continuous tubular framework. In addition to this particular model, there are several varieties of standard touring mediumweight and light machines. Another very interesting development in sidecar construction is the Roy body, which is manufactured by Messrs. Roy, Tripp, Strawford, and Co., of Bristol, and for whom the Sidecar Body Co. act as sole concessionnaires. The special feature of this sidecar is the method of providing weather protection for the passenger by means of a sheet metal hood, which follows the lines of the body itself. This hood, with its side shields, is pivoted at a point a little distance behind the hinged dash, and when it is out of use it is unnoticeable, since its shape is exactly the same as that of the body. The hood can be raised by the passenger until, at the top, it meets the upper frame of the windscreen, to which it is clipped. This converts the body into one of the completely enclosed variety on much the same lines as a *coupé*. Special provision is made for eliminating rattle in the metal hood by means of small rubber rollers mounted on its edge, which bear against the side panels of the body itself. This prevents any objectionable vibrations. The finish is decidedly handsome, being carried out in rich purple with black edgings and white lining.



A production of the Sidecar Body Co., notable for its clean lines.

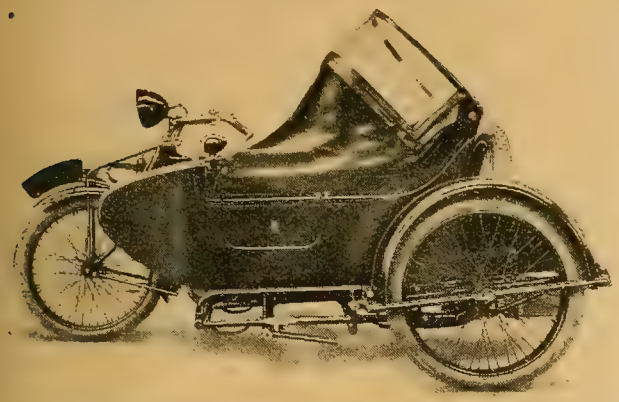
ROVER.

NEW ROVER CYCLE CO., LTD., Coventry.—Only minor improvements have been made in the Rover sidecar. Already well known, and having stood the test of many years' work, practically the only alteration is the dropping of the frame to allow for a larger body. As before, the main rear cross piece, supported from the chain stay, has a distinct slant backwards towards the outer end, and all that portion which forms part of the main sidecar chassis is made of a double tube. Three-point suspension has been retained, and is found completely satisfactory. The body itself is alike longer, wider, and deeper, and has at the rear sufficient locker room for a tin of petrol as well as other stores. The C springs for front and rear, on each side, are in one piece. Mudguarding is on very efficient lines without detracting from the handsome appearance of the complete outfit.



Ample bearings for the sidecar wheel and efficient mudguarding are noticeable features of the Rover sidecar.

Sidecar Progress.—



An Easting windscreen and sidecar stand are two refinements on this elaborate Royal Ruby sidecar.

ROYAL ENFIELD.

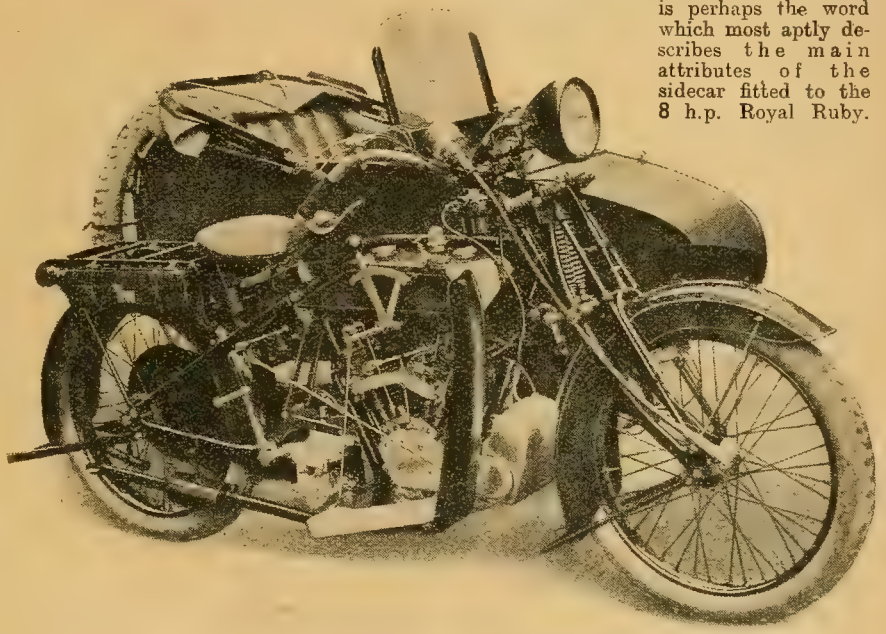
ENFIELD CYCLE CO., LTD., Redditch.—Although the Enfield outfit is offered at such an extremely moderate price, the chassis and body follow the Enfield company's standard practice as to quality and comfort. The chassis, which is specially built to suit the Enfield motor cycle frame, is of a very light and simple type, but it is notable for the heavy tie-bar which is taken from the chain stay attachment right along the motor cycle to the steering head sidecar support. The sidecar wheel mudguard is fixed on the body, and between it and the body itself a handy locker is provided. A well-designed folding luggage grid is fitted, and the body is extremely comfortable. It might, however, be made rather larger with advantage. A two-seater body may be obtained at small extra cost.

ROYAL LEICESTER.

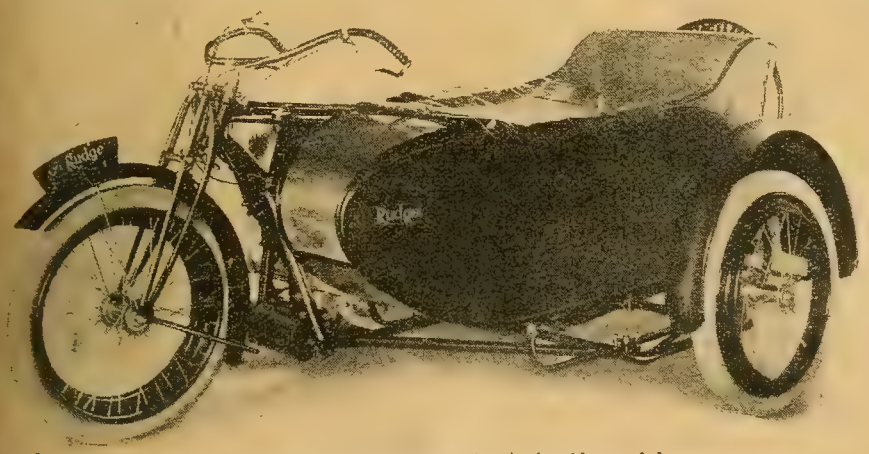
THE WILLOWBROOK CO., Leicester.—Six varieties of Royal Leicester sidecars are being manufactured, and these cover a full range, from the light sporting models to the fully equipped touring machine. Dealing with the former, the racer may be specially mentioned for its neat lines. It is constructed of polished aluminium, with beadings of the same material, and the front portion tapers sharply to a point. It may be had with or without side door, and a small locker is provided behind the high back-rest. The chassis of this model is of conventional pattern, with a straight back axle, only the front cross member being underslung. As opposed to this, we may turn to the full touring model. The chassis is fully underslung, and the body is carried on laminated C springs. It is specially noticeable for the high back—a feature often in great demand, and sometimes neglected. The construction is not unduly heavy, and the body itself is sufficiently roomy without being exceptional in size. It is fully equipped with hood, a side curtain, and a windscreen mounted on the hinged dash. Midway between these models is a light coachbuilt sidecar with underslung axle. The body is carried at the rear on C springs, with two coil springs at the front. It is a model well suited for use with medium-powered machines. A new model introduced for 1921 has coil springing for the body, which is supported on a system of cantilevers, the controlling springs being enclosed in telescopic sheaths. The front cross bearer bar is suspended upon two coil springs, which are also enclosed in telescopic sheaths. All the springs are adjustable. The mudguard is carried on the body, and an aluminium step is attached to the side member of the chassis.

ROYAL RUBY.

THE ROYAL RUBY CYCLE CO., LTD., Royal Ruby Works, Altrincham.—Solidity is perhaps the word which most aptly describes the main attributes of the sidecar fitted to the 8 h.p. Royal Ruby.



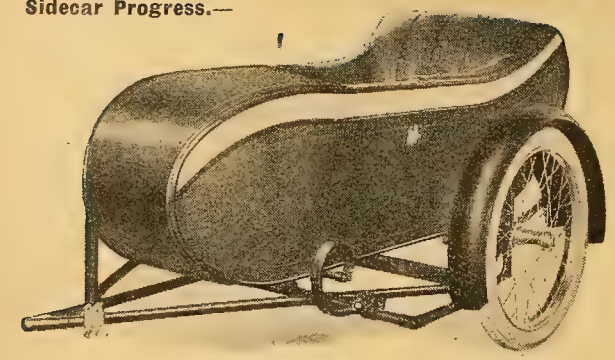
With a moderate selling price, the Martinsyde outfit is unusually distinctive and refined.



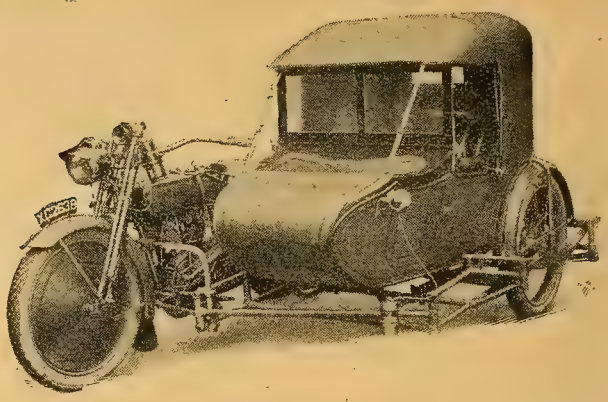
In keeping with the imposing build of the machine is the sidecar of the new countershaft Rudge. Features are the mudguard mounted on the body, and an aluminium panel on the nose.

The wheel is sprung on a short leaf spring more or less similar to those used for springing the cycle frame. The chassis to which the wheel is attached through this spring is of very robust construction; practically all the members are duplicated. The luggage grid, which also carries a spare petrol tin, is built of the same heavy tubes, and is not an afterthought, but is built integral with the chassis itself. The spare wheel is carried behind the body. The sidecar as a whole is supported from four points of the bicycle, but one of these supports is double, making five supports in all. A pivoted fork carries the wheel axle, and the shackle at the end of the spring is secured to an extension of the axle. Side roll of the wheel is prevented by guiding the shackle in a special housing at the rear extremity of the chassis. The body is large and exceedingly wide, and by means of a simple arrangement it can be removed from the chassis by the withdrawal of four accessible nuts.

Sidecar Progress.—



A light touring body on the Dunhill triangulated chassis.



A roomy Sandum taxi sidecar attached to a Harley-Davidson machine.

RUDGE.

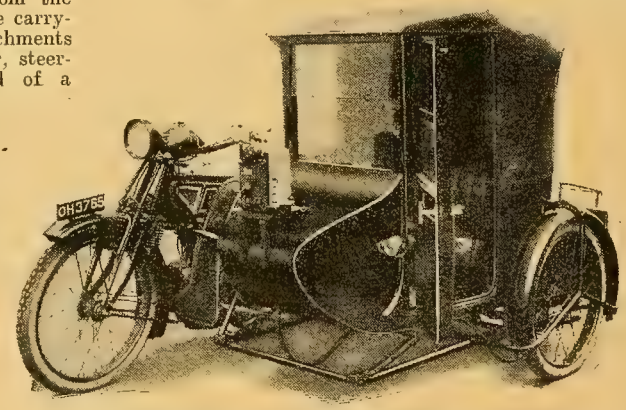
RUDGE-WHITWORTH, LTD., Coventry.—Two types of sidecar are now offered by the makers of the Rudge. The smaller one is chiefly remarkable for the extreme lightness and simplicity of the chassis, which consists simply of a rear axle, a longitudinal member on the motor cycle side, and a diagonal member from the front of the latter to the stub axle carrying the sidecar wheel. The attachments are at the chain stay, saddle-pillar, steering head, and also on the end of a specially strengthened footrest.

In the heavier type, the chassis takes the form of a rectangle with an extended side and a diagonal member forming a triangle in front of the main chassis.

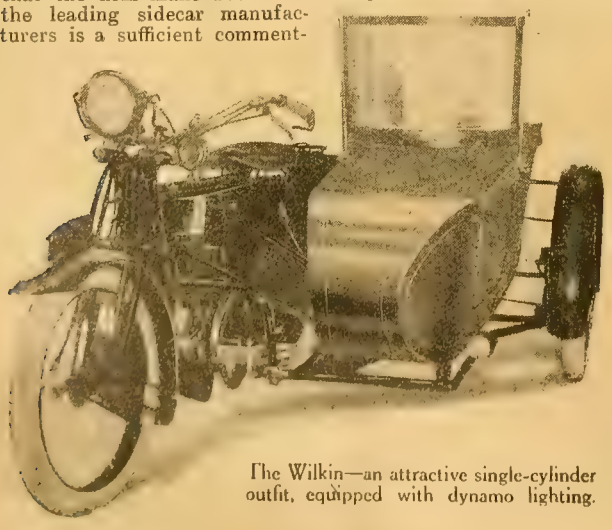
A large luggage grid has been provided, and the excellent expedient has been retained of suspending it from long angle-iron runners, which are attached to the body and not to the chassis, so that the luggage grid itself is sprung.

SANDUM.

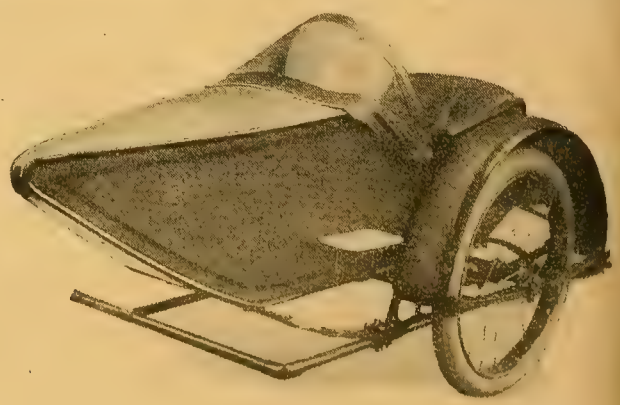
SANDHAM ENGINEERING CO., LTD., 336, Gray's Inn Road, W.C.1.—Although the Sandham Engineering Co. produce all their own chassis, luxurious bodywork is their speciality, and the models they are offering are specially commendable from this point of view. The fact also that the firm make bodies for many of the leading sidecar manufacturers is a sufficient commentary on their quality. Probably the most luxurious sidecar they manufacture is the full touring model, which is designed on very graceful lines. The chassis is underslung and the wheel is encircled by a tubular member, so that the axle is supported at both ends. This is a form of construction which the makers very strongly recommend to all sidecar users. The body is carried upon double-ended C springs, and is remarkable for its exceptionally fine upholstery. A hinged dash extends backwards over the door, and a large locker is provided behind the seat. On the top of this is a steel luggage grid. Other bodies which call for special attention are the Dual-purpose sidecar and the Sports model; the former is readily convertible from a single to a two-seater, this being done by moving the back rest of the seat forward and dropping the back of the body to some extent so as to give room for an additional adult passenger at the back. In order to provide sufficient leg room, there is a well in the centre of the body immediately behind the position of the front seats, and also a drop-down compartment in the floorboards at the front of the sidecar. Two normal adult passengers can be accommodated in this sidecar without difficulty. The second sidecar mentioned (the Sports model) is somewhat different from the class of machine usually so named, in so far that it provides much more comfortable seating capacity, while the back rest is brought up to a high position to support the shoulders of the passenger. Generally the lines of this body are very graceful, and it



One of the greatest attractions of the Olympia Show was the number of taxi sidecars exhibited. Here is a Watsonian with the taximeter mounted on the nose of the body.



The Wilkin—an attractive single-cylinder outfit, equipped with dynamo lighting.



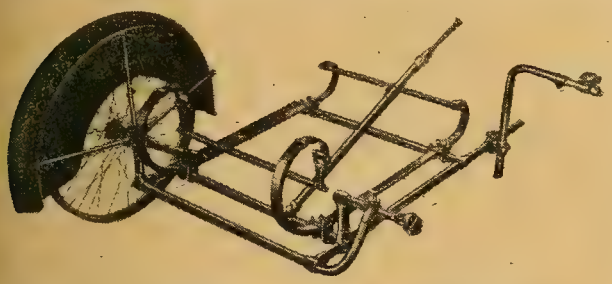
Sporting model sidecars are showing no sign of waning popularity, and the faults of the earlier models are being eliminated. Comfort is now provided, without sacrifice of speedy appearance, as exemplified in this particular Grindlay model

Sidecar Progress.—

tapers to a point at the rear. The portion behind the seat is utilised as a locker, which is covered by a hinged lid having a spring catch which prevents rattle. In addition to these standard models, there is also the Imperial, which has a fully sprung wheel. The bodywork of this is very similar to that already described on the touring model, but the wheel is carried between two half-elliptic springs, rigidly secured in front and attached to shackles at the rear. In order to preserve the wheel in a truly vertical plane when cornering, another shackle is provided between the side member of the chassis and a vertical fork which springs from the axle lugs.

SCOTT.

SCOTT MOTOR CYCLE CO., LTD., Shipley, Yorks.—No change has been made in the Scott sidecar chassis, which is essentially a continuation of the frame of the machine to which it is fitted, since the triangulation is not only complete in itself, but also in its relation to the cycle frame members. The bodywork and springing are also unchanged, but the springs are now made in the Scott works in order to ensure absolute uniformity of material and temper.



A Dunhill chassis offered as a substitute for the more expensive triangulated pattern.

SCOUT.

R. WEATHERELL, South Green, Billericay, Essex.—One of the R.W. Scout two-stroke lightweights (of 318 c.c.) is provided with a very nicely finished lightweight sidecar specially made for the firm. The body is finished in polished aluminium, and is placed on a chassis which is triangular in front, with a rectangular frame at the rear. As in the case of many of the lightweight outfits, a three-point attachment has been found amply sufficient, but special care has been taken to strengthen up the chain stay support. Since it is likely that a lightweight machine of this kind will often be used for solo riding, it is important that the sidecar should be made easily detachable, which has accordingly been done in this case. The body is deeper than is usual for this class of sidecar, and is very comfortable to sit in.

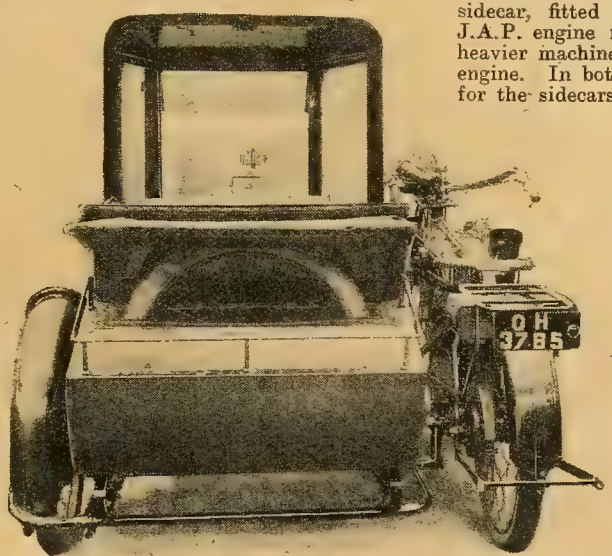
SUNBEAM.

JOHN MARSTON, LTD., Sunbeamland, Wolverhampton.—Sunbeam sidecars are chiefly remarkable for the particular excellence of the workmanship employed in their construction and for the durability of the materials, not only those used for the chassis, but also the upholstery. They are particularly firmly attached at the front end, having a double tube to the steering head as well as an attachment to a specially strengthened footrest. The wheel has a tube all round it, and runs on a spindle instead of a stub axle. In all the types of bodies offered, a particularly long and comfortable seat is fitted with a well squabbed back. In one case this back is extraordinarily deep, so that the whole body of the passenger is under protection: in another type the top of the sidecar is cut flush, giving a very sporting appearance but not quite so much protection.

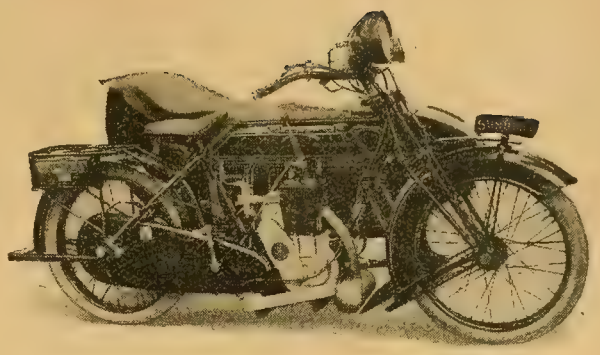
TRIUMPH.

TRIUMPH CYCLE CO., LTD., Coventry.—In the Gloria sidecar, as fitted to Triumph machines, an effort has been made to provide the comfort usually associated with heavyweight sidecars with the lightness necessary for use with a 4 h.p. machine. Perhaps the most noticeable point on first inspection is the way in which all the cross members of the frame are sunk three or four inches to allow for an extra deep, and, therefore, extra comfortable, body.

Incorporated in the connections from the chain stay to the chassis is a petrol tin carrier, which forms part of the construction, and a large luggage grid, separately sprung, is provided at the rear.

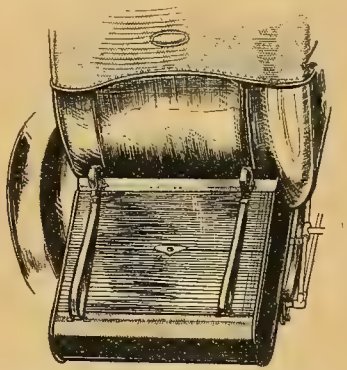


Partially concealed, the spare wheel on the Watsonian taxi-sidecar is carried immediately in front of the large locker.



Interchangeable wheels on 3½ h.p. sidecar outfits are a rarity. This smart Sunbeam is so equipped.

The sprung sidecar wheel is still provided, the stub axle being slung on a swinging bar, while shocks are absorbed by an enclosed coil spring immediately above the hub.



At the rear of the Campion sidecar taxi there is a large locker with an additional luggage platform on top.

VICTORIA.

VICTORIA MOTOR AND CYCLE CO., LTD., Victoria Works, Dennistoun, Glasgow.—On the Victoria stand were two types of sidecar, fitted respectively to a 4 h.p. J.A.P. engine machine and to a rather heavier machine with a Coventry Victor engine. In both cases the prices quoted for the sidecars were extremely low, the former type being £25 and the heavier £35. In each instance also the frame of the chassis takes the form of a large rectangle entirely surrounding the body, and in the heavier type the motor cycle side is made of girder construction to stand the additional load. A good point in both cases is that the bent tube going to the steering head has a cross tie on it. The bodywork is not extremely luxurious, but quite comfortable, and, taken as a whole, both the sidecars are excellent value. Their finish is very serviceable.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

PLEASURE IN POLISH.

Sir,—Having read the interesting "Open Letter to the Trade," by B. H. Davies, I have come to the conclusion that he, like many others, dislikes cleaning his machine. *Re* his remarks about the eighteen-year-old "dude," as he terms him, I happen to be nineteen, and, as far as my machine goes, I suppose I am a "dude." I find no greater pleasure than keeping my machine spotlessly clean, the same as my father did with all his own. It may be strange, but I feel positively uncomfortable when out and my machine has become dirty. I feel sure that there are many others who will agree with me when I say that a bicycle worth having is worth keeping clean. Let the manufacturers put on as much plating as they like. I may also add that I am an all-weather rider. DUDE.

New Barnet.

IS THE LONG EXHAUST A SILENCER?

Sir,—In your issue of November 25th "W.G." makes enquiry concerning long exhaust pipes.

I ride a 3½ h.p. Sports Norton motor cycle. Lately I received a summons for inefficient silencer. The machine is fitted with the Norton standard exhaust pipe, with no silencer box, and only the fish-tail baffle at the end. The pipe itself comes under the heading of an expansion chamber, because its cubic capacity is two and a half times the cubic capacity of the cylinder, and also the fish-tail at the end is larger than the rest of the pipe, upon which it slides.

Probably other readers have been summoned for the same alleged offence. In my case the summons was dismissed as being no case. C. R. BIRD.

[Although our correspondent has evidently been able to prove that a long exhaust constituted a silencer, other local authorities may hold different views. We therefore warn our readers that the safest way to keep within the law on this point is to ensure that their machines are reasonably silent.—ED.]

OLYMPIA IN FIGURES.

Sir,—As the correspondence columns of *The Motor Cycle* represents the motor cyclists' forum, I take the liberty of criticising certain makers who still produce motor cycles woefully under tyred. The interesting statistics you gave last week show that among the exhibitors at Olympia no fewer than seven makers have lightweights equipped with 26×2in. tyres, while no fewer than thirty-two used the 26×2¼in. size. With such a large majority in favour of the latter size it must be obvious to the minority of makers that they are out of date. Why do they do it? Is it price? I think not, for some of the machines fitted with the smaller tyre are not among the cheapest.

The same applies to the 24×2in., and 24×2¼in. size; only four makers favour the former as against seventeen who fit the latter.

It is interesting to see that the once favourite size of 26×2⅜in. is practically moribund, and that the 26×3in. size is coming into favour.

No doubt there is an explanation why some makers prefer 28×3in. to the 700×80 size, which is a "fatter" tyre, and is no more costly. Probably the former size is favoured on account of the possibility that replacements can be obtained readily overseas.

The analysis of engines used by makers is most interesting. It is, I think, the first time such figures have appeared, and although thirteen makers use more than two engines, it is shown that no fewer than forty makes use one size of engine only, while thirty-three use two.

Often British manufacturers are criticised for not standardising, and their American contemporaries are cited as examples to be followed. May I remind these critics that both the Harley-Davidson and the Indian factories produce more than one size of engine. STATISTICIAN.

London.

AN ENTHUSIAST'S MINIATURE.

Sir,—I was much interested in "Mac's" description of this little machine, and would be glad of more particulars, gear ratios, and especially regarding performance on hills, which abound in this neighbourhood. High speeds I detest, but ability to ride everything that comes in one's way I appreciate very much—meaning roads on which any sane motorist would care to travel. I think the little machine, with a two or three-speed gear, would about fill the bill for a great many besides. SAFETY FIRST.

Barrow-in-Furness.

DIFFERENCES OF DESIGN.

Sir,—I read with interest the description in *The Motor Cycle* of the flat twin engine, designed by Mr. Bradshaw, and was particularly struck by the fact he has reverted to cast iron cylinder with aluminium alloy piston.

What do A.B.C. owners think of this? It would be very interesting if Mr. Bradshaw could give us his reasons for the sudden change, as when the A.B.C. machine was first marketed (in its present form), one of the claims for the title of the "World's best motor cycle" was steel cylinders and aluminium pistons.

If the two different designs were the separate idea of engineers of different views, one could understand it better, but coming as they do from the same source, one can easily be pardoned for being puzzled over a point which on the face of it seems absolutely contradictory. PUZZLED.

Guildford.

FRONT BRAKE POINTERS.

Sir,—I have been wondering if some of your recent correspondents have ever used an efficient front brake such as one acting on a dummy belt rim. I notice this type was fitted to several T.T. machines this year.

I have been using a brake of this type constantly since May this year, and I can assure them that it is a pleasant thought to be able to brake on a hill and yet have the whole retarding power of the rear brake to fall back on in emergency (and which can then be applied without danger). Of course, I do not suggest a front brake designed or adjusted to permit of locking the wheel.

There is another argument for a good front brake (perhaps not a very good one), and that is that, by using the front brake mostly, the rear brake is more likely to be in efficient condition.

The chief need is on a heavy solo on greasy hills where retarding effect is not enough, in which case the argument for two good rear brakes falls rather flat.

I should like to know if any of your readers have had any experience of the effect on belt slip of drilling holes in the pulleys of direct belt-driven machines, particularly variably geared ones. It appears to be done in the case of chain-cum-belt, but not with belt alone. Can anyone tell me why?

Devonport. W.F.B.

EVERYDAY RIDERS' WANTS.

Sir,—As a reader of your valuable paper for seven and a half years, I cannot let "Fed Up and Disgusted's" letter go past without criticising some of his opinions. Probably he owns a cycle made in the year "one," when the tanks were made in proportion to the reliability of the engine, as the latter was not expected to last without breaking down as long as the petrol. He should buy a modern machine that holds two gallons. I should also like to know what he means by freak gears. I have yet to find the British-made motor cycle with a gear box or gears that were not substantial if treated with a little bit of "savvy." Also what better front brake and spring frame does he want than those on a Beardmore-Precision?

It is easily seen that he is not an engineer, as he prefers plain bearings to roller or ball bearings. Commonsense would tell anyone that, from an engineering point of view, ball races and roller bearings are far superior to plain ones. They are less liable to wear, will not seize from lack of lubrication, they are sweeter running, and easier to fit. What engineer would prefer to turn and fit bronze bushes when ball races can be obtained in standard sizes, and will tap on and off as required, if the correct size? Nevertheless, I agree with him regarding agents' stocks of spares.

Glasgow. EASILY SATISFIED.

"OLD CHALKEY" OR CHALK PIT HILL?

Sir,—Having read Mr. E. M. Wright's letter in your issue of November 18th, in which he runs down the performances of riders on Chalk Pit Hill in the M.C.C. sporting trial, I should like to make the following observations.

I believe I am right in stating that this hill was not Chalk Pit Hill at all, but one known as "Old Chalkey," a disused coach road. One thing is certain, that the sharp right-angle turn which caused Mr. Wright's failure never existed at all on the hill we had to climb. From what I can now recollect, the hill started with a watersplash, then yards of miry ruts, a fairly sharp left and then a stiff climb, the surface consisting of two deep and slimy ruts.

Had the surface been dry, there would have been little excuse for stopping, but with the surface as it was, continual wheel slip was inevitable, and walking without floundering practically impossible.

I think it is a great slur on the modern machines and all those sporting riders who were unlucky enough to stop their road wheels on this hill, for Mr. Wright glibly to infer that he could have climbed it without stopping or putting a foot to the ground on a fixed geared 3½ h.p. machine under the same conditions as we had to climb it.

I should like to see him traverse some of the unmade road sections on the level, or even down hill, without stopping his road wheels.

As to soldiers marching up Old Chalkey at "120 feet r.p.m.," I ask my fellow competitors what they would have looked like that Saturday morning?

Finally, I would advise Mr. Wright that, before he runs down our efforts and those of our machines, he should find the right hill, and tackle it on any fixed gear 3½ h.p. single under similar conditions, and then let us all know of his experiences. A. C. RHODES.

TESTIMONIALS.

Sir,—I have watched with interest and admiration the advertisement columns of your admirable journal: and should like to give voice to my keen appreciation of the marvels of modern machines and accessories as there recorded. More particularly, the undermentioned:

(1.) The enamel that won the T.T. and innumerable other races, trials, etc.

(2.) The spanner that won, etc.

(3.) The filler-cap that nearly won, etc. (Perhaps you could complete this list for me, and perhaps it would take too long!)

(4.) The more-than-two-wheeler that entered for a (speed) hill-climb, and "successfully completed the test!"

(5.) A passenger conveying apparatus sold complete, "no irritating extras"—but "without tyre!"

(6.) A well-known machine advertised by means of a quotation from a correspondent's letter to you, so arranged as to appear to be an expression of opinion—editorial opinion.

Perhaps I have said enough: I could go on for hours.

Might I suggest to the sales managers, etc., concerned that this sort of stuff does not deceive the people whose good opinions are worth having, but merely disgusts them?

In conclusion, sir, may I venture to hope that for 1921 the advertisers' motto will be, "Honest advertisements of honest goods"? SWALLOW ALL.

Grimsby.

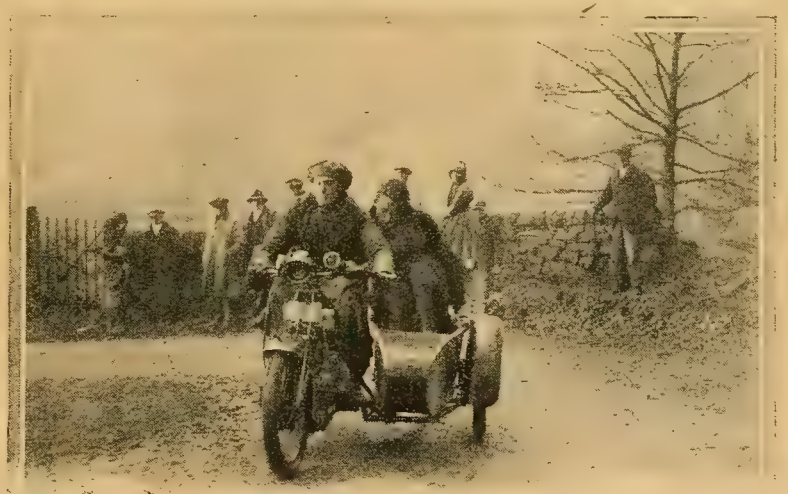
DAZZLING HEAD LIGHTS.

Sir,—I should very much like to have the comments of yourself and your readers on the following experience. The other evening—a clear moonlight night—I was riding solo along a country road when I met a sidecar outfit with an extremely efficient head light. My own head lamp is the middle size of a well-known make, and on ordinary occasions gives me sufficient light for comfortable travelling at night up to the legal limit of speed; but in the glare of the approaching searchlight it was but as a candle in sunshine. Outside the oncoming light I could see absolutely nothing ahead; but, as the sidecar outfit whizzed past my shoulder, there, clearly picked out by my own lamp, was the back of an unwitting pedestrian a few feet right in front of my wheel. I had no time to avoid a collision altogether; but, fortunately, the results were not so serious as they might have been. My fellow-sufferer had not heard my approach owing to the noise of the other machine, nor had he seen the light from my lamp, because, as he stated, of the glare of the other light.

What I should like information about is how to avoid such accidents in future. Should I invest in a new lamp of such high brilliancy as to hold its own with any competitor that may come against it? This might be satisfactory for me, but I have an uneasy feeling that some other less brightly lit motorist I met might have the same experience I had, for which I would reckon myself responsible. Should I, then, stick to my medium-powered lamp, and, on meeting again a travelling searchlight, stop and modestly wait till it has passed me? It hardly seems right that I should simply sound my horn and drive blindly on.

I think it preferable to have questions like these settled by friendly agreement among motorists rather than by outside legislation; but, failing the agreement, I should certainly welcome legislation. C. R. GIBSON.

[We believe that the question of dazzling head lights is already engaging the attention of the legislative authorities; but whether their findings will give satisfaction to the average motor cyclist is a very moot point. Considerate drivers nowadays usually set their glaring lamps at "dim" when passing other vehicles. But our correspondent appears to have met an acetylene-equipped outfit, in which case this courtesy would not be possible.—ED.]



ROWSLEY BANK IN NOVEMBER.
A scene during the Sheffield and Hallamshire M.C.C. run for the Club Trophy. A. May (4 Norton sc.) is seen on the hairpin.

THREE-INCH TYRES ON LIGHTWEIGHTS.

Sir,—I note in your issue for November 18th that "Ixion" asks for experiences of riders who have tried large tyres on lightweights.

Personally, I own two machines—an 8 h.p. New Imperial and a Beardmore-Precision. I found that the big 'bus with its 28in. × 3in. tyres got nearer to the comfort of the spring frame Beardmore than other machine I have ridden, and I have tried most things, from the little 2 h.p. Precision Pup upwards. This led me to wonder if I could improve on the comfort of my small machine; so as I had a couple of 28in. × 3in. covers which had done duty on the back wheel of the New Imperial, but still were good for a good many miles, I fitted them on to the Beardmore. They fitted the 26in. × 2¼in. rims perfectly. I covered about 700 miles in the first week after they had been fitted, and must say that the improvement in comfort was most noticeable. In 1915 I used to run a 2½ Sun-Villiers as a private 'bus when I was despatch riding, and always fitted 26in. × 2⅜in. heavy tyres, which made a tremendous improvement in comfort over the 26in. × 2¼in. "light" covers fitted to the machine when I bought it.

Also, with big oversize tyres the puncture fiend is "mafeesh," as they say in Egypt. O.P.C.

Holsworthy.

Sir,—*Apropos* "Ixion's" remarks *re* 3in. tyres on lightweights, during the early part of this year I was riding a 2½ h.p. Cleveland two-stroke, and would like to testify as to its extreme comfort. There seems to be an absence of that rebound which occurred on several spring-framed machines I have ridden, due to the fact that the rear tyre can be inflated to suit one's weight. The Cleveland engine is beautifully balanced, and runs very sweetly indeed when not four-stroking; but, in my opinion, is marred by having fixed ignition and no compression release.

I am running a 1920 Velocette now, and a more delightful little machine I do not wish to own; being fast, powerful, economical, and the acme of reliability, it compares excellently with the fifteen machines of all weights and powers that I have previously owned.

The makers have wisely chosen 2¼in. tyres instead of 2in., and these, in conjunction with a saddle spring to suit one's weight, make the machine very comfortable indeed.

Bristol. U 5429.

Sir,—It seems "Ixion" has discovered that the Cleveland has 26in. × 3in. tyres, as it has had for over a year. On a sturdy lightweight they are ideal. When I must have a new tyre I will take a 27in. × 3½in., fitting the same rim.

The Hague, Holland. A. VAN DER MEE.

Sir,—Having read with interest "Ixion's" remarks on this subject, I venture to give my experiences. My first machine was a 4 h.p. single, fitted with 2⅜in. tyres. This machine—fast, powerful, and absolutely reliable—was extremely uncomfortable to ride for any length of time, and this, in conjunction with poor mudguarding, was the only fault.

My next mount was a 2¼ h.p. two-stroke, which only boasted 2in. tyres. This machine, with a well-sprung saddle and efficient front forks, was fairly comfortable except on roads with large pot-holes where the small diameter of the wheels (24in.) caused a lot of bumping. Considering the rate of wear, more especially of the back cover, the tyres were much too light for the work. I may mention also that one has to exercise considerable caution in the region of tramlines with such small tyres.

My present machine is an American lightweight with 26 × 3in. tyres. It is far more comfortable than the other machines, and the large treads render it very stable in grease. In spite of the fact that I have ridden this cycle a considerable distance, mostly with a pillion passenger, the tyre wear is negligible. These tyres call for far better guarding than do small sizes, and that on my 'bus is useless on a wet day. Considering mechanical efficiency and attention to finish and detail, the English machines are infinitely superior, but the Americans have a better idea of tyre fitting. WALTER B. PENNY.

Sir,—"Ixion," in the issue of November 18th, treads on some corns which have been awaiting his attention a very long time. I mean the size of tyres on a lightweight. I think it is an absolute scandal for any maker of a motor cycle weighing upwards of a hundredweight to put it out with anything under a 2¼in. tyre, and a heavy one at that.

My personal choice is a two-stroke Enfield; and the first week or two I rode it I was on the point of selling it several times, simply because if the tyres were not pumped up hard enough, they pinched on the rim and cut both cover and tube.

I went to the local Palmer Tyre people and got the 2in. tyres replaced with 2¼in., and from that day to this the machine has been a perfect treasure to ride, and I have not had a single puncture. J. STUART-WHITE.

ELECTRIC LIGHTING FOR SOLO LIGHTWEIGHTS.

Sir,—I have been exceedingly interested in the Correspondence columns of *The Motor Cycle* dealing with electric lighting for motor cycles; but, after reading all the letters on the subject, I have turned away disappointed, for they deal with electric lighting for a sidecar, and leave the lightweight severely alone. There must be many riders like myself who require an electric lighting outfit which is cheap and efficient. I know there are several sets marketed by well-known firms, but these sets usually top the £6 mark, and make use of dry batteries, which are expensive to replace.

I will try and explain a set which, I think, might appeal to many riders who do not go in for long night rides, but who are often caught ten miles or so from home at lighting up time, have to dismount, and spend perhaps a quarter of an hour lighting and regulating their acetylene lighting outfit.

I have (probably like many other riders with slender purses) formed vague ideas of an ideal, cheap, and efficient electric lighting set, and I will try and give them below. If I name a certain make of lamp or accumulator, it is not because I am interested in it, but because I had it in mind when my ideas were forming.

Head lamp. Hunt's model 870, price 23s. Small, I admit; but, I think, large enough for the purpose.

Accumulator. Four-volt Bipol, giving fourteen to sixteen hours' light. Price 16s. (recharging, 6d.).

I think that the accumulator should be carried in a case attached to the handle-bars in the same position as an acetylene generator. It should be divided into two compartments, so that two accumulators could be carried (one spare).

Bulb. A four-volt half-watt.

Now we come to the rear light. I intend that this shall be entirely separate from the head lamp, thus doing away with yards of wiring.

An electric cycle rear lamp, cost about 10s. 6d., used in conjunction with a Bipol pocket accumulator. Price, about 4s. 9d. (recharging, 3d.); whilst a spare accumulator should always be carried. These accumulators give, I believe, about eight hours' light. The total cost of the outfit is under £4.

Hampstead. D.H.D.

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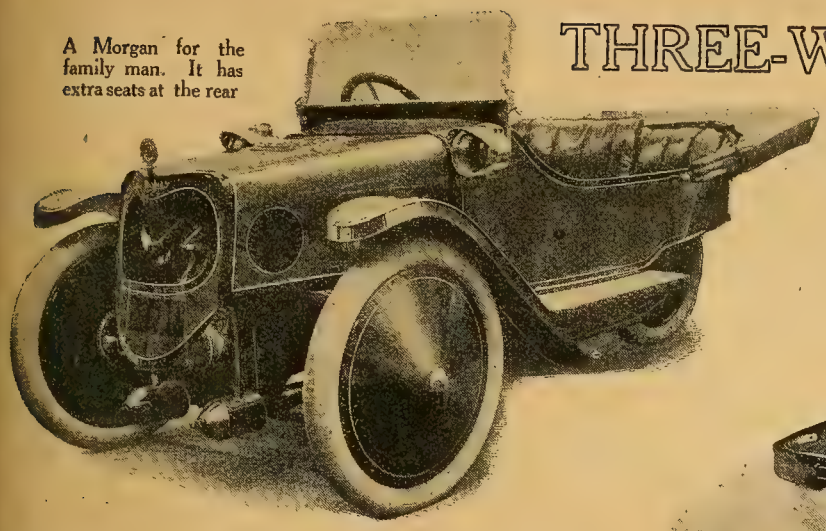
THREE-WHEELERS AT OLYMPIA.

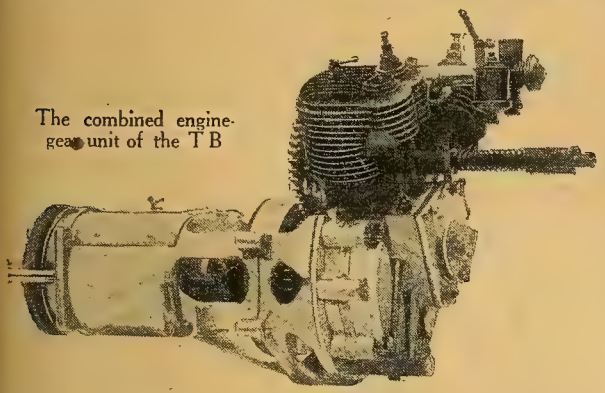
A Review of 1921 Runabouts.

By B. H. DAVIES.



A Morgan for the family man. It has extra seats at the rear

TWO names leapt to the Editor's mind when he decided to publish a *revue* of the three-wheelers at Olympia. Their scope and future are so keenly debated at the moment that either Mr. A. J. Balfour's philosophic doubt, or Mr. Asquith's attitude of postponed observation would have fitted the job like a glove. Since neither of these gentlemen is seriously interested in economical motoring,

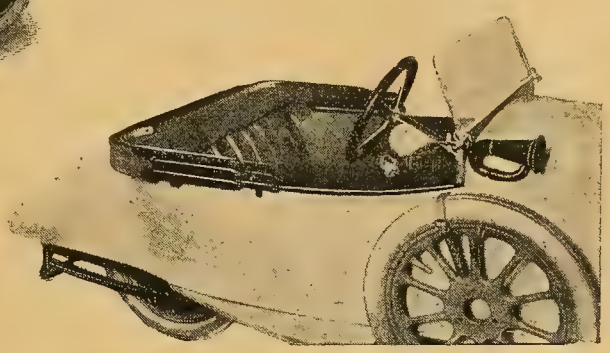


The combined engine-gear unit of the T B

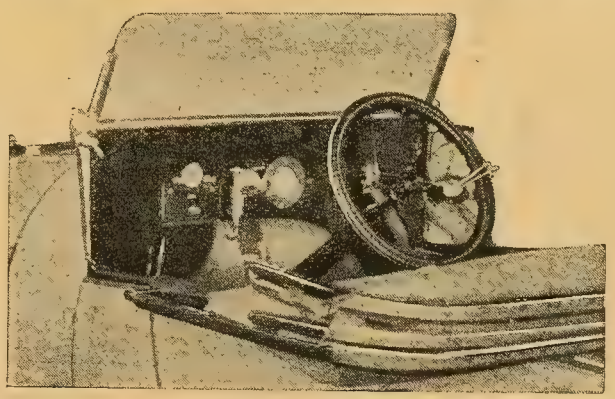
the Editor fell back on me. Some experts hold that the sidecar outfit will gradually be eliminated by the three-wheeled car. Other authorities consider that elaborate three-wheelers listed at £275 or thereabouts will never sell freely against such cheap four-wheelers as the Tin Lizzie and the 8 h.p. Rover. One man asserts that only a light, simple three-wheeler is any good, and that nobody but Morgan can plan such a specification. Then somebody else avers that the more elaborate a three-wheeler is, the better—provided it is decently designed and made. Obviously nobody short of a Balfour or an Asquith could do justice to such a tangled situation. This modest scribe must be content to deal with facts and factors.

Economy Advantages.

First and foremost, if we omit the Dayton bath chair and the Warrick parcel car (as catering for special markets), there are eight different makes of three-wheelers at the Show—that is, eight firms staking their plant and capital on the future of these vehicles, and some of them are firms whose opinion carries very considerable weight. Let us set them out—Morgan, Scott, New Hudson, Coventry Premier, T.B., Castle Three, L.S.D., and Stanhope. Compared with the best sidecars, they claim great and obvious advantages in sociability, cleanliness, and weather protection. Compared with cheap cars, they show great economy in running costs—a tax of £4 (as against £21 for a Ford): and a fuel consumption of not less than 50 m.p.g. (as compared with the 25 m.p.g., which is a sanguine estimate of the average Ford consumption). They need fear no rivalry from the standard types of British light car, which interfered with the three-wheeler market in 1914, but cost £200 more. So far as sociability goes, would you rather take your best girl out on a pillion, after the

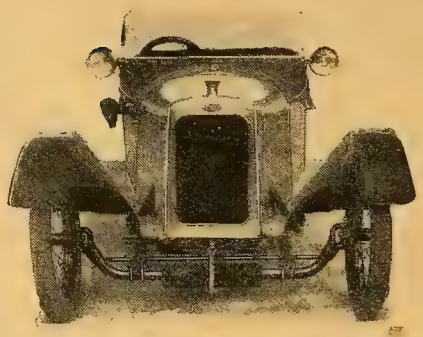


The seating accommodation of the Castle-Three is identical with that of a car.



Viewed from the driver's seat, the T.B. gives one an impression of a fully fledged car

fashion of King Arthur's knights, or in a 10 h.p. Singer? So far as weather protection goes, would you rather be a parrot on a perch, or a pet pug in a plush-lined case at a dog show? If you were taking on a delivery job for Harrods in December, would you rather have your parcel car fitted up on a Morgan chassis, or coupled to the best motor cycle ever made? We are all extravagant in our pleasures, but the exhibits prove that the trade expects a distinct boom in commercial parcel cars, both in sidecar and tricar chassis. In that sphere running costs are decisive. It is surely clear that the three-wheeler has a unique opportunity, which good design and good workmanship can easily exploit.



Another three-wheeler that closely follows car lines when viewed from the front is the Coventry Premier.

The Search for Ideals.

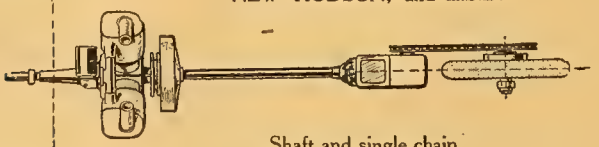
Taking the continued success of a few elect three-wheelers for granted, we are met by a medley of ideals upon the correct specification. No two designers are agreed upon the best type of engine, suspension, frame, or transmission. Their disagreements don't disturb me in the least. The three-wheeler is still juvenile (barring Grandpa Morgan), we can't expect design to be stereotyped, and variety is a thoroughly healthy sign. A glance at some of the opposed ideas may be interesting. There are three main types of frame. The simplest is found in the New Hudson and Coventry Premier—a channel steel parallelogram, braced with diagonal tubular struts. A second type is more reminiscent of an aeroplane fuselage—three or more steel tube longerons, braced by pressed steel bulkheads, or by tubular cross struts, as in the Morgan and T.B. The third pattern is the Scott triangulated tubular chassis. All three are obviously workmanlike productions. The engines are of three types: water-cooled four-cylinder (Castle Three), vertical two-stroke twin (Scott), and air-cooled V (all the rest). The four is the bulkiest, the most expensive, and the most refined. The air-cooled V is cheap, good, and easily kept in order. The Scott is an attempt—as yet not publicly proved—to combine the merits of both its rivals. The divers methods of suspension contain little which has not long since made good on four-wheelers. The various drives are all familiar and sound. The two-chain gear of the Morgan is the lightest and cheapest, thoroughly satisfactory with a light chassis behind it; and in return for these advantages it demands periodic routine attention from

TRANSMISSION SYSTEMS OF THREE-WHEELED RUNABOUTS.

CASTLE THREE.

Shaft from engine and gear unit to rear wheel

COVENTRY PREMIER, NEW HUDSON, and L.S.D.



Shaft and single chain.

T.B.

Shaft from gear box to rear wheel

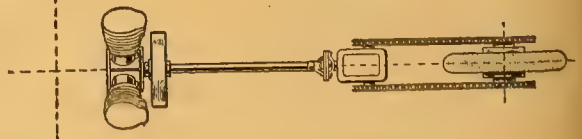
SCOTT SOCIABLE.

Shaft from engine and gear unit to rear wheel.

STANHOPE.

Twin belt to double pulley on front axle member.

MORGAN.

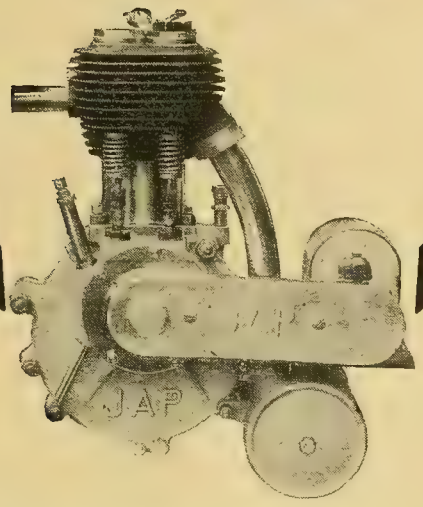


Shaft and two chains.

THE WONDERFUL LITTLE

J.A.P.

2¾ Engine



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10 miles, Class A and A1, 58.3 m.p.h.
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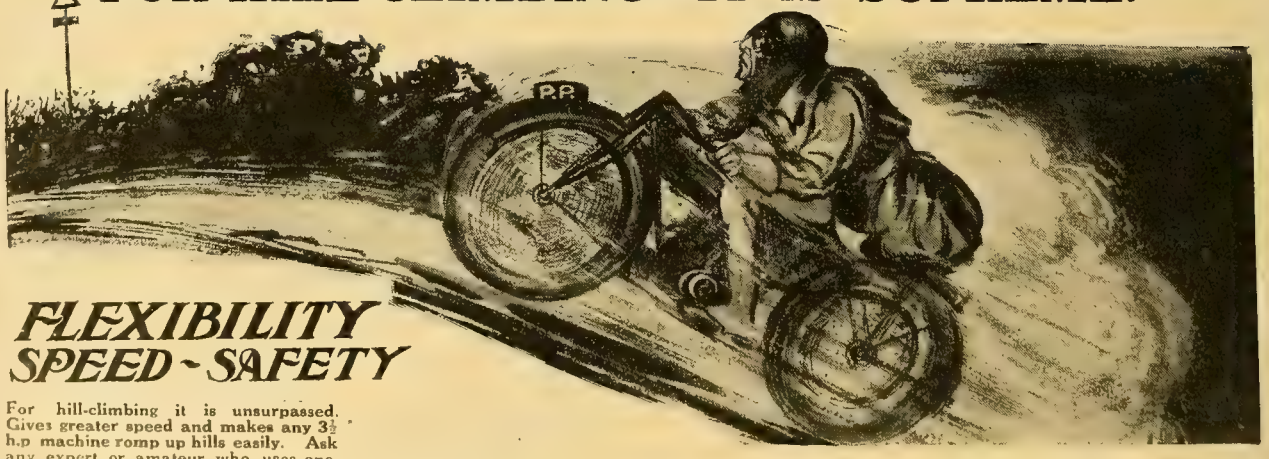

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Extract from "The Motor Cycle," November 25th, 1920.

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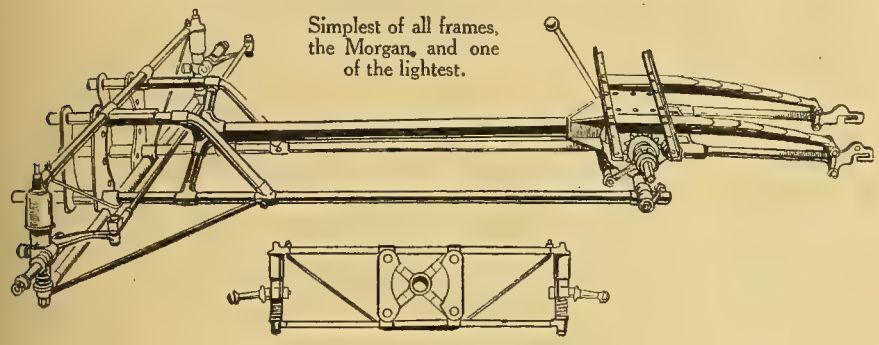
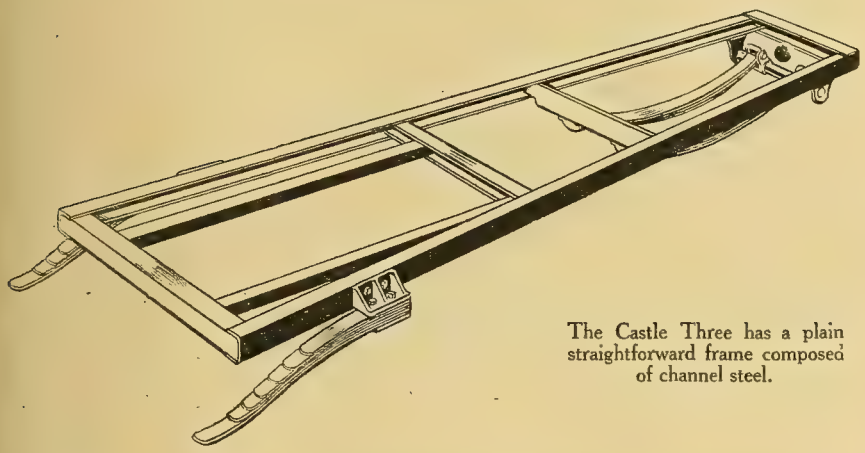
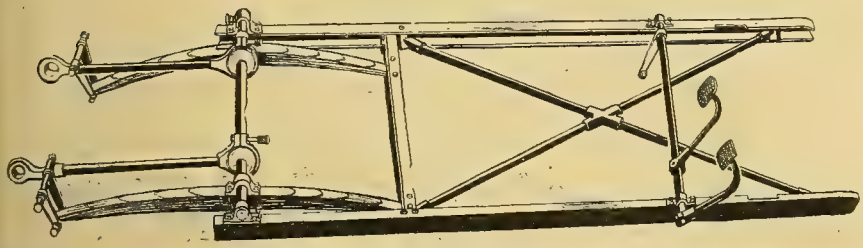
CHASSIS DESIGNS OF THREE-WHEELED RUNABOUTS.



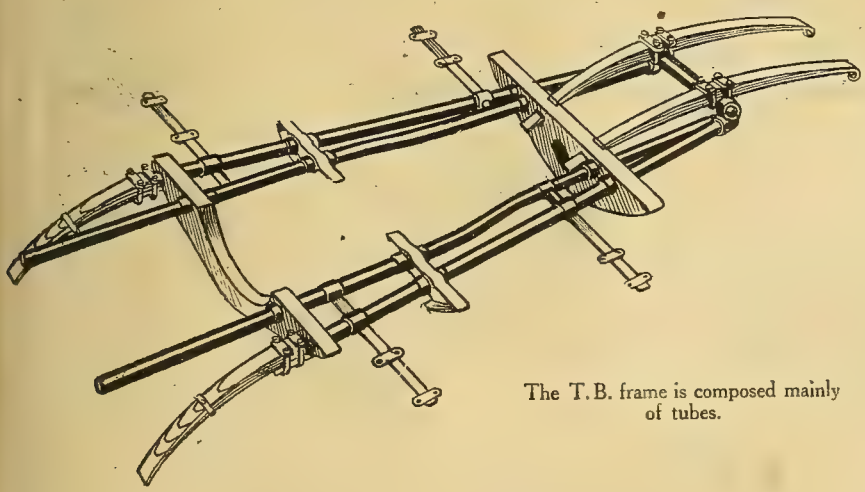
Simplest of all frames, the Morgan, and one of the lightest.



The Castle Three has a plain straightforward frame composed of channel steel.

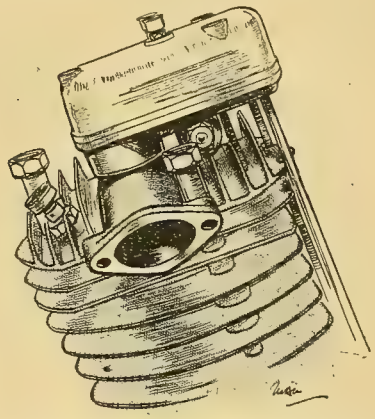


Channel steel and tubes are used in the frame of the New Hudson



The T.B. frame is composed mainly of tubes.

its driver. The three speeds and reverse, shaft, and chain on the New Hudson require less notice from the owner, but will need a professional mechanic's attention every year or so, whilst their weight and cost are higher. The keynote of the leading three-wheeled chassis is variety within a circle of commonsense. They are inspired by different policies, they appeal to different tastes: but they embody nothing which is unsound or even experimental. Their future will be governed rather by sentiment and finance than by any technical considerations. Much will turn upon the results of the 1921 competitions. Until now, the Morgan has enjoyed itself much as Field-Marshal von Mackensen did in the great war. It has had to wrestle with roads



Detachable cylinder head rocker arms and enclosed of the New Hudson twin

and climates, but it has never had to tackle a rival of its own class. The newcomers were not ready last year. In 1921 the passenger class in the Six Days may with luck include some two dozen tri-cars, and the Morgans will really have to fight rivals as well as roads. When that trial is over, we shall know whether extra weight is an asset or a defect: and we shall know how faithfully and wisely *the detail work of the newcomers has been executed*. Their outlines are obviously sound: it is by their details that they will succeed or fail. However, given the detail work, there is no reason why they should not all survive.

Turning to some of these details, the old snag of tyre inaccessibility is being grappled with. All the single wheels are readily detachable, and on several

machines—*e.g.*, the Scott, T.B., and Castle Three—the front and rear wheels are interchangeable. In such cases one spare wheel reduces a puncture to a very trivial matter, and vastly improves the mental comfort of bad weather driving. On those machines where the wheels are not interchangeable, a reserve inner tube will shorten the inevitable tyre stops.

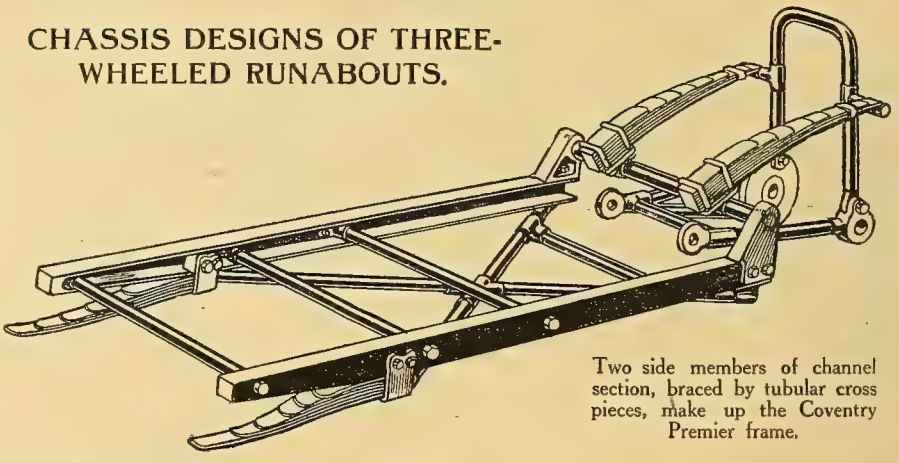
Starting.

Engine starting has been another bugbear of the cheap cycle car. A big V twin is not the pleasantest handle-starting proposition for a weak man or for any woman. The New Hudson has a non-detachable handle connecting with the camshaft; the T.B. has a similar handle operating on the kick-starter principle and geared 2 to 1; the Castle Three has a four-cylinder engine—very easy to start, given decent time; and the Scott engine requires coaxing rather than effort if it should ever turn sulky. These are small points, but they count heavily in sales.

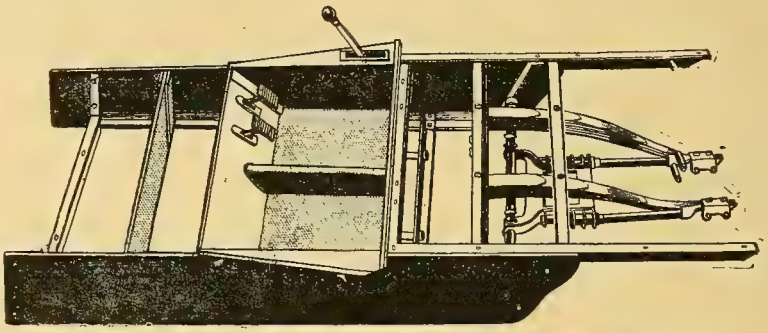
Ease of Entry.

Or take ease of entry. I do not think any three-wheeler at the Show scores quite full marks on this question of convenience. Imagine a rainy day. There is no engine-starter. There are no side doors. The hood is up. You have a traffic stop. The engine chokes. The detachable handle is, maybe, under the seat-cushion. Four taxis and three motor 'buses are using regrettable language just astern of your tail. It is thus that the seeds of divorce suits are sown. But with two side doors and a handle permanently mounted, things are not quite so bad. This, of course, does not apply to the Scott Sociable, which has the starting lever inside the body.

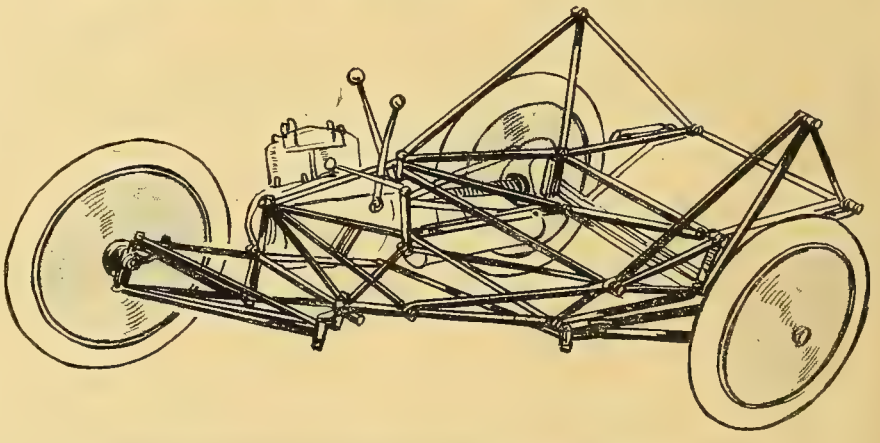
CHASSIS DESIGNS OF THREE-WHEELED RUNABOUTS.



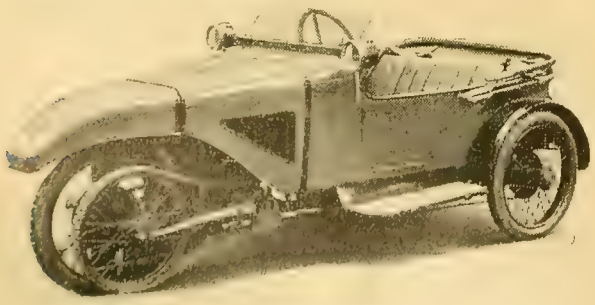
Two side members of channel section, braced by tubular cross pieces, make up the Coventry Premier frame.



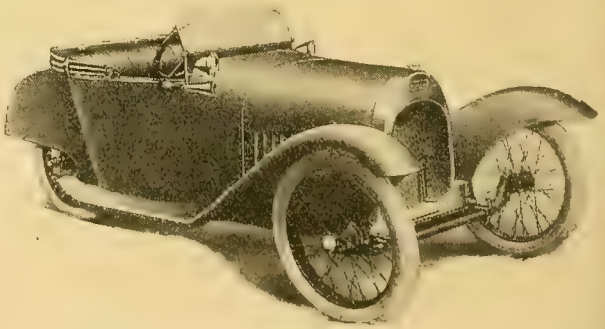
Steel side plates and angle cross members form the frame of the L.S.D.



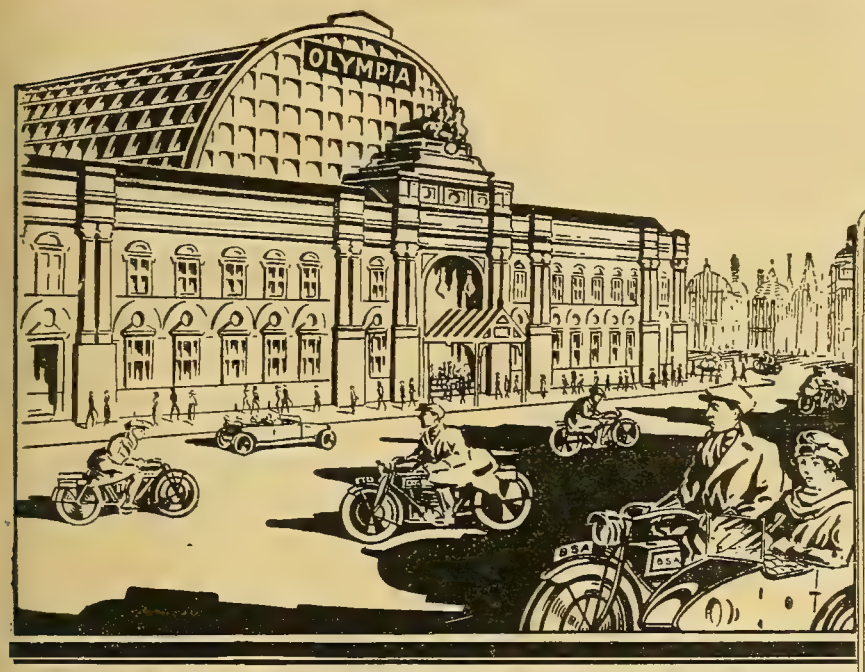
Triangulated tubular construction makes the Scott Sociable appear complicated.



The front wheel-driven Stanhope, a well-built machine now entering the market.



Latest of the three-wheelers, the New Hudson, is in every way up to date.



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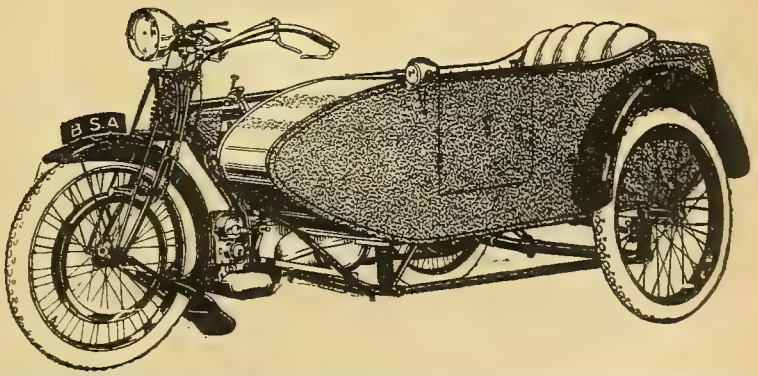
B·S·A

New Engine Detail and Sidecar

form the chief alterations on the famous B.S.A. 4¼ h.p. Model. The various new features further enhance the efficiency of the famous B.S.A. 4¼ h.p. Model, which, it will be remembered, won the Team Prize in the 1919 A.C.U. and 1920 Scottish Six Days, and 5 Gold Medals with 5 entries in the 1920 A.C.U. The new B.S.A. Sidecar is of exceptionally graceful appearance, and affords the maximum of riding comfort and luggage capacity. In every detail the 1921 B.S.A. 4¼ h.p. follows out B.S.A. practice with regard to excellence of material and workmanship.

1921 B.S.A. 4¼ h.p. Motor Bicycle
For Solo and Sidecar.



Write for Catalogues.

B.S.A. CYCLES, LTD., BIRMINGHAM.

Proprietors: The Birmingham Small Arms Company, Limited.

Come to Croydon

Allen-Bennett is well worth a visit. Keen motor cyclists are coming more and more to us—they know the service we give. A sound guarantee and the best terms. Good machines tuned up to ride away.

That's what we offer the motor cyclist.

Why not call round and see us, or 'phone or write us.

Remember, we give 3 months' guarantee with every machine.

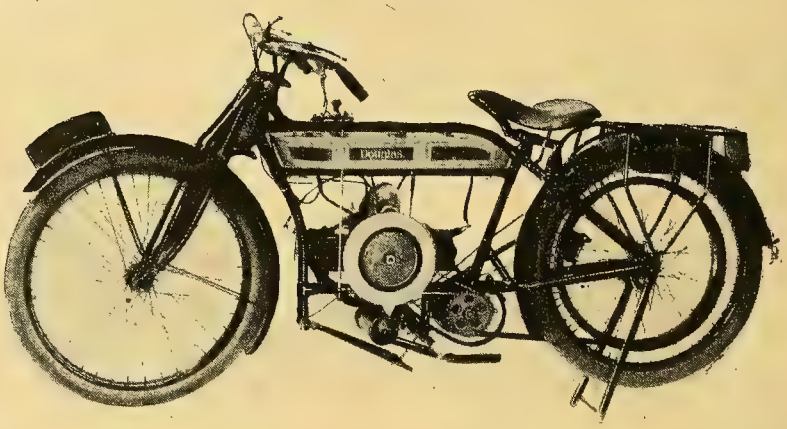
24 hours' approval against remittance. Extended payments system.

DOUGLAS

1916,

$2\frac{3}{4}$ h.p., 2-speed,

Thoroughly overhauled and repainted makers' colours, and guaranteed for three months from date of purchase.



Ex-Government Machines.

All of which are thoroughly overhauled, re-enamelled, and plated, finished in makers' 1920 colours, and guaranteed for three months from date of purchase.

DOUGLAS **1917-18, 4 h.p. solos,** thoroughly overhauled and repainted makers' colours, and guaranteed for three months from date of purchase.

TRIUMPH **4 h.p., 3-speed,** countershaft, clutch, and kick-starter.

Trade Supplied. Extended Payment Orders can only be accepted in England. **Cash. Exchange. Extended Payments.**

See Miscellaneous Advts. for New and other Second-hand Machines.

ALLEN-BENNETT MOTOR Co.

The Motor Cycle Specialists,

9, 10, 11, ROYAL PARADE, WEST CROYDON.

'Phone—Croydon 2450. 'Grams—"Track, Croydon."

Three Wheelers at Olympia—

For convenience of starting, the Morgan has an exhaust valve lifter on the side of the body.

To conclude with a list of interesting, but petty items, reverse gears are provided on the New Hudson, T.B., L.S.D., and Coventry Premier (the Scott has such a small turning circle that it never needs to reverse; it can make rings on a bread trencher). The T.B. steering column is adjustable for height. The Castle Three has Ford type steering gear, and its gear control is also reminiscent of the Ford—*ergo*, almost foolproof. Its back wheel can be withdrawn through the hinged tail, obviating the need for jacking up really high. The Coventry Premier can tackle a day's run without any lubrication anxieties, thanks to its capacious sump. The Morgan will probably feel no anxiety about its speed reputation: fast as some of its rivals claim to be, its light weight should assure its invincibility on hills. It can also claim the only four-seated body in its class. The L.S.D. has a very sturdy frame, and a motor cycle type of rear wheel stand, in lieu of the loose jack needed on other makes.

The Stanhope has a unique transmission and steering. Its twin rear wheels render the chassis specially suitable for heavy commercial loads, quite a big van body can be fitted without fear of rolling, and the height of a front box on a more conventional chassis is limited by the driver's need of vision. The New Hudson is a most attractive layout, with a new engine specially designed for the job, a gear box planned for easy changing, and an external band brake which doesn't rattle or bind. The shaft drive in the T.B. permits one brake to be located amidships, thus simplifying the rear hub; its rear frame has three pivots, each provided with a greaser (some machines have no such provision). The Scott weighs less than 4 cwt. complete, which is probably even lower than the Morgan figure.

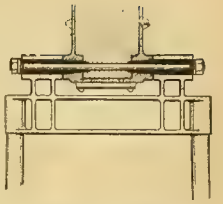


Diagram of the cone mounting of the rear fork hinge in the Morgan gear box.

I think we are all eager to see these machines fight out a big trial. Those which lay the foundations of a good name will have to fight afresh for supremacy in 1922, when—if rumour can be trusted—there will be further aspirants for fame in this class of passenger machine between the sidecar and the light car.

ECHOES OF THE SHOW.

Disconnected Observations concerning Last Week's Exhibition at Olympia.

DOES your machine weigh under 200 lb.? This simple question did not always produce satisfactory answers, but various devices were employed to render such queries unnecessary. One firm suspended their lightweight model from a spring balance. Another adorned the number plates with the weight of the machine in gold letters. A few produced weighbridge certificates, and at least one firm stated that the heaviest machine in their exhibit was well under the 30s. mark.

The standardisation of catalogue "horse power" is much to be desired. The non-technical public may be forgiven for wondering why engines of approximately 1,000 c.c. should be variously styled 8 h.p., 7-9 h.p., and 8-10 h.p., also why 500 c.c. engines should vary from 3½ to 4¼ h.p. in rating, and why the same engine should be rated differently when installed in various makes of frame.

A real lightweight motor cycle at last! The new two-stroke J.E.S. weighs but 80 lb., and is not a pedal cycle with motor attached. Obviously, it would be possible to produce a two-speed model at under 100 lb.

Opinions on the Scott Sociable varied to an enormous extent, as is usually the case with a startlingly new design. It was variously described as the best engineering proposition in the Show, a mass of brains and tubes, and Accles and Pollock's delight. May we add that, in our opinion, the first of these descriptions comes nearest to hitting the nail on the head.

It was good to see Mrs. Knowles looking quite herself again after the accident which befell her at the close of the Six Days Trials. It is understood that, since ladies are debarred from competing in the London-Exeter run, she will undertake the trip as a sidecar passenger.

Sectioned engines always attract attention, and there are many who now realise that the Villiers flywheel magneto still functions with some vim, despite its skeleton-like appearance when the cover is removed.

While most manufacturers are struggling to reduce weight, it is interesting to note that the simple single-geared Levis remains one of the lightest propositions exhibited, and fully acts up to its name.

Open-frame models for the use of the fair sex are on the increase, and already there is a wide choice for those who require a light and handy runabout.

On Thursday afternoon last Prince Purachatra of Siam, accompanied by Major Stanley, visited the Motor Cycle Show. He was received by Messrs. Harold Bowden and W.G. Bower, vice-presidents of the Manufacturers' Union, and by Major H. R. Watling, the general manager.

His Royal Highness is a keen motorist, and is particularly interested in light cars. He stayed in the Show for over an hour, and concentrated chiefly on the principal makes of motor cycles and three-wheelers, and at the conclusion of his visit he expressed the opinion that it was a very fine show.

"To buy, or not to buy, that is the question:
Whether 'tis nobler in the mind to suffer
The stony stare of irresponsive 'bus men,
The taxi-driver's scorn, and underground
To shuffle meekly farther down the car,
Or to shell out the sleek and glossy Fishers
And buy a motor bicycle? To mote!
Perchance to skid: ay, there's the rub.
But here I see are tyres that men say
Will go with even keel through mud and snow,
And road improvements—'tis a consummation
Devoutly to be wished."

—*Daily News.*

As has been previously mentioned in *The Motor Cycle*, there is a good deal of motor cycling in sunny Spain, but the country does not apparently offer the same facilities for visitors on motor cycles as others in Europe. At the Show we had a few minutes' talk with Mr. Geoffrey Hill, who was one of the competitors in last year's Paris-Nice Trial. He has had to abandon his Scott in Spain pending a discussion with the Customs authorities. He brought the machine from Italy to Spain by sea, and it appears that when any motor vehicle is brought into the country by sea a duty has to be paid, and there is no possibility whatsoever of getting this refunded when leaving the country. Mr. Hill also informed us that the conditions of the roads are appalling, and his advice to those who intend to visit Spain is—Don't!

CURRENT TOPICS

Times to Light Lamps.

Dec.	9th	... ...	4.20 p.m.
,,	11th	... ...	4.19 ,,
,,	13th	... ...	4.19 ,,
,,	15th	... ...	4.19 ,,

Police Activity in Peterborough.

We hear that there is considerable police activity in Peterborough. Licences particularly are being asked for, and motor cyclists are being summoned for driving to the common danger.

Essex M.C.

The annual dinner has been arranged to take place at the Royal Venetian Room, Holborn Restaurant, W.C., on Saturday, January 8th, 1921, at 7 p.m. Mr. S. G. Cummings will take the chair.

The annual general meeting will take place at the Royal Automobile Club, on Thursday, December 9th, at 7.30 p.m.

Reward for Stolen Machine.

A reward of £10 is offered by the Autocar Fire and Accident Assurance Co., Ltd., of 77, Cheapside, London, E.C., to the first person who gives information which leads to the recovery of a motor cycle as stated hereunder, and the apprehension of the thief or thieves:

Triumph No. DU 212, engine 48,863, frame 275,895, magneto 8,504, the usual Triumph colours, rear portion of tank covered with a green leather cloth, three-speed countershaft gear, believed 1918 pattern.

The Road Bill.

If all the Ministry of Transport's proposals for the new Road Bill eventually come into force, the lot of the motor cyclist, like that of the policeman, will be "not a happy one." For instance, it is proposed that a penalty of £50 may be imposed on the owner of a motor vehicle for allowing his licence card to become obscured. Similarly, a fine of £100 or six months' imprisonment is proposed for licence declarations which are "misleading in any respect," and the burden of proof of innocence lies with the owner. Since the maximum penalty for any similar offence under the existing Motor Car Act is £10, these estimates appear to be excessive. We have no desire to encourage motor cyclists in attempts to defraud the revenue, but mistakes are bound to occur through misunderstandings of the regulations, and there are comparatively few motor cyclists who could afford to pay such fines.

It is proposed that the bulk of the revenue from the new taxation shall be devoted to road maintenance. This is as it should be, but the Minister of Transport will have power to close any road against any specified class of traffic, so that motorists may have to pay for roads which they are prevented from using.

The Motor Legislation Committee are taking an active part in warning motorists of these and other dangerous features of the Bill.

Overseas Trade.

An advance copy of an interesting booklet issued by the Department of Overseas Trade has reached us. Its contents will be of interest to all exporters, since they deal with the work of the Department and its methods of providing assistance. Copies may be obtained by manufacturers and traders of the United Kingdom on application to the Department of Overseas Trade, 35, Old Queen Street, Westminster, S.W.

No speed limit here! A Griffon rider in last week's Circuit de Paris Reliability Trial going through the speed test on a perfect stretch of road.

Special Features.

PASSENGER MOTOR CYCLES.
COMFORT AND CONVENIENCE
SIDECAR PROGRESS.

Important Events in 1921.

The dates of next year's open and other classic events have now been tentatively arranged by the A.C.U. in conjunction with clubs concerned. These fixtures are amongst those which will receive the support of the trade. All are open competitions with the exception of those organised by the M.C.C., and there are a few remaining events still to be decided upon and allocated at a later date.

Feb. 12th.—One Day Winter Trial, A.C.U.
Feb. 25th.—A.C.U. Silencer Trial, Brooklands.
March 25th (Good Friday).—Richmond Meet (Yorks.).
March 26th.—M.C.C. Jarrott Cup Trial.
March 28th (Bank Holiday).—East Midland Centre A.C.U. Speed Trials.
April 23rd.—Midland Centre A.C.U. Reliability Trial.
April 30th.—North-eastern Centre A.C.U. Reliability Trial.
May 7th.—B.M.C.R.C. Open Meeting.
May 14th.—M.C.C. London-Edinburgh.
May 20th-21st.—Western Centre A.C.U. Two Days Reliability Trial.
May 28th.—East Midland Centre A.C.U. Speed Trials.
June 14th-16th.—T.T. Races.
June 25th.—M.C.C. Inter-team Trial for *The Motor Cycle* Cup.
July 2nd.—North-western Centre A.C.U. Hill-climb.
July 6th-7th.—Arbuthnot Trophy Trial (provisional).
July 16th.—Yorkshire Centre A.C.U. Reliability Trial.
July 30th.—North-eastern Centre A.C.U. Speed Trials.
Aug. 6th.—B.M.C.R.C. Open Meeting.
Aug. 8th.—International Six Days Trial, Geneva (provisional).
Aug. 20th.—Western Centre A.C.U. Speed Trials.
Aug. 25th.—Welsh Open Speed Championship.
Aug. 27th-Sept. 3rd.—Six Days Trials.
Sept. 8th.—Norfolk M.C. and L.C.C. Speed Trials.
Sept. 10th.—North-western Centre A.C.U. Speed Trials.
Sept. 17th.—Midland Centre A.C.U. Reliability Trial.
Sept. 24th.—M.C.C. Sporting Trial.
Oct. 1st.—Yorkshire Centre A.C.U. Speed Trial or Hill-climb.
Dec. 26th.—M.C.C. Winter Trial.

Proposed Hertford and District M.C.C.

It is suggested that a motor cycling club be formed in Hertford, Hoddesdon, and Waltham Cross district, and all interested are asked to communicate with Mr. D. C. Archer, "The Hawthorns," Hoddesdon, Herts. If adequate support is forthcoming, a meeting will be arranged to discuss the formation of a club.

Newcastle M.C.

Proving a highly successful gathering, the Bohemian concert of the Newcastle Motor Club was held recently at the Central Exchange Hotel. Mr. Joseph R. Scott, the president, was unable to attend owing to ill-health, and Mr. James Daglish, of Wallsend, took the chair. Mrs. Daglish presented the prizes to the successful competitors during the season.

Mansfield and District M.C. and L.C.C.

The above club has decided to run a speed trial on the well known Clipstone Drive on Boxing Day, December 27th. The following events will be run, on time only, over a distance of half a mile, with a flying start of about 400 yards: 275 c.c., 350 c.c., 500 c.c., 750 c.c., unlimited c.c., and unlimited sidecar, and a special class for Ford cars. The above events are open to any member of the club. Entry forms will be ready in a few days, and may be obtained from the hon. sec., Mr. G. Mills, 16, Hall Street, Mansfield.

Bradford M.C. and L.C.C.

The above club had a very successful social evening on Thursday, November 25th. The entertainment consisted of a set of lantern slides, all photographs of motor cycling events, and, in addition, several films were shown, the cinema apparatus having been kindly lent by Mr. Eric S. Myers, of Bradford. The British Excelsior Co., of Birmingham, kindly forwarded their private film of "Clovelly High Street," and the Scott Motor Cycle Co., Ltd., their films of the 1919 and 1920 Scott trials, whilst several lantern slides were also shown of the club's own event on Rosedale Abbey Bank.

Mr. Felix Scriven, one of the founders of the Bradford Club, gave a very interesting lecture on "Motor Cycles of Years Ago," and Mr. J. N. Longfield (president of the Ilkley Club and also a member of the Bradford Club) spoke in his official capacity of chairman of the Yorkshire Centre A.C.U.

Several members of the Leeds and District Club came over specially, and about twenty more new members were enrolled.

The large room at the Belle Vue Hotel, Bradford, the club's headquarters, was packed to the door.

Proposed Rhyl M.C.C.

An informal meeting of motor cyclists was held recently at Whitaker's Garage, Rhyl, when it was decided to form a club for Rhyl, Prestatyn, and Abergele.

Bristol M.C.C.

The officers for the coming year are as follows: President, Mr. W. Carter; vice-president, Mr. C. T. Pearce; captain, Mr. R. Passey, Cheddar, Som.; vice-captain (competition), Mr. A. V. Tozer, 9, Raymond Road, Victoria Park; vice-captain (social), Mr. A. W. Rankin, Ivanhoe, Wick Road, Brislington; hon. treasurer, Mr. A. G. Mason, 109, Berkeley Road, Bishopston; hon. secretary, Mr. Rex Poweraker, 23, Claremont Road, Bishopston; and assistant hon. secretary, Mr. H. F. Scamp, 49, West View Road, Chessels, Bedminster.

Jersey M.C.C.

Reliability trials are not easy to arrange in a small island, but the above club held a successful autumn trial in the middle of November. Route marking was by whitewash arrows, this being very well carried out by Mr. R. Quenouillere. Results:

1, D. L. Caudey (4 W.D. Triumph), 220 marks; 2, G. de la P. Hacquett (6 A.J.S. sc.), 214 marks; 3, J. Varney (2¾ Sun), 196 marks, these riders winning the solo, sidecar, and lightweight classes respectively.

Other finishers were: R. O. Binet (4¼ B.S.A.), E. C. Oldham (4 Triumph sc.), W. Simmons (2¾ Verus), A. Harrison (4 Triumph), J. Rimeur (2¾ Douglas), C. M. Lanelick (2¾ A.J.S.), V. W. Bryant (3½ Brough), and R. P. Simon (4 Triumph).

North London M.C.C.

The first winter event was held at the Orange Tree, Friern Barnet Lane, taking the form of a lantern lecture. A series of slides were exhibited illustrating motor cycling events which have taken place during the year. Mr. Bernard Staley gave a short description of each slide, and read a history of the evolution of the motor cycle from 1885 to the present day. Messrs. H. R. Harveyson and R. H. Baxter were present and supplied many interesting details.

North Eastern Centre A.C.U.

A social gathering of the motor cycling members of the A.C.U. North Eastern Centre will be held at Durham on Sunday, January 16th, 1921. There will be a lunch, to be followed by a meeting, at which the presentation of prizes for competitions run during 1920 will take place. Many prominent motor cyclists are expected to attend, and during the meeting opportunities will be given for expressions of opinion on motor cycling matters in general and competitions for 1921 in particular. Each member is entitled to take a friend, and ladies are especially welcomed.

Tredegar M.C.

Tredegar Motor Club, one of the strongest organisations in South Wales, held its annual dinner at the Castle Hotel on November 24th.

Berwick and District M.C.

The first annual dance of this club was held recently at the Corn Exchange, Berwick. It was very well attended and included representatives of the Newcastle and District and Kelso Motor Clubs.

Barnsley and District M.C.C.

On Thursday, November 25th, this club held its first annual dinner. A most enjoyable evening resulted, during which prizes were presented to members who had won events in the past year.

Portsmouth and District M.C. and L.C.C.

It has been suggested that the above club be formed to arrange sporting and social events in Portsmouth during 1921. Application will be made for affiliation to the A.C.U. Will interested motor cyclists and light car owners please communicate with Mr. M. J. Tanner, Elbury, Milton Road, Portsmouth, who will arrange a meeting if sufficient support be forthcoming.

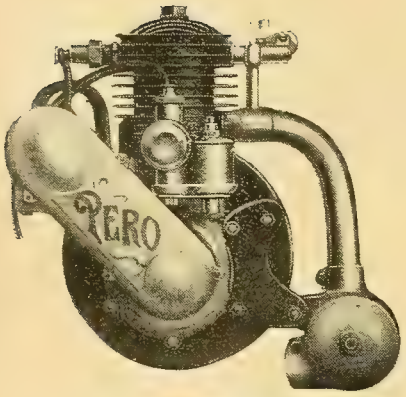
Reigate M.C.C.

It has been suggested that a motor cycling club be formed in the borough of Reigate. A meeting will be held at the Warwick Hotel, Redhill, on Thursday, December 9th, at 7.30, with a view to arranging sporting and other events for the forthcoming year. The large number of motor cyclists in this district would seem to warrant the step, and should ensure its success. Any further information will be gladly furnished by Mr. E. P. Duplock, 15, High Street, Redhill.

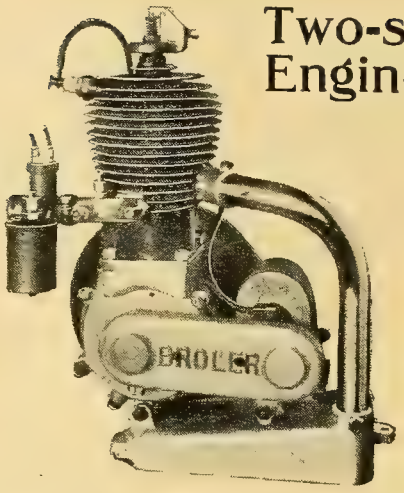
Basingstoke M.C. and L.C.C.

The second annual dinner and prize distribution of the above club took place on Tuesday, November 23rd, at the Station Hotel, Basingstoke. About forty members and friends (including ladies) sat down together. Immediately following the dinner, Mr. H. Julian (late Mayor of Basingstoke), chairman, kindly presented the cup, medals, and other valuable prizes, awarded to members won in recent competitions during the past season, and, in doing so, remarked on the wonderful success of the club, including the magnificent display of prizes, worthy of any club in the country. The concert following was of a very varied nature and thoroughly enjoyed by all. At 10-30 the National Anthem and "Auld Lang Syne" terminated on enjoyable evening by an enthusiastic club.

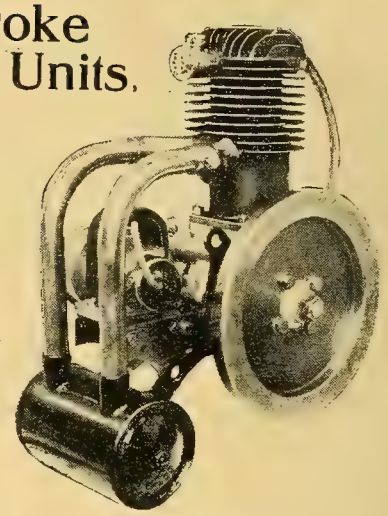
Two-stroke Engine Units.



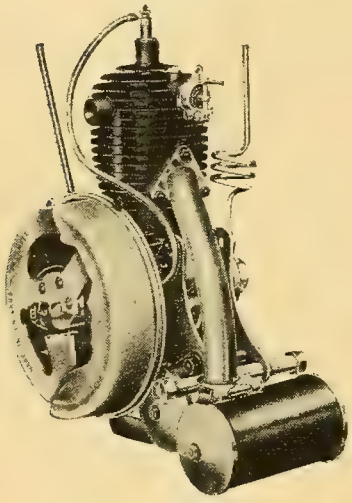
PERO.
70 × 70 mm. (269 c.c.)
Pero Engine Works, Potter Street, Birmingham.



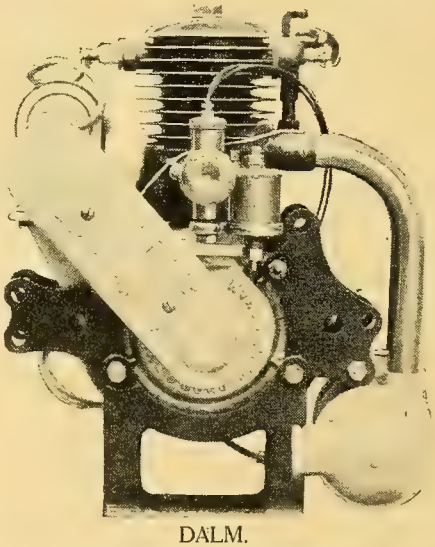
BROLER.
75 × 79 mm. (349 c.c.)
Brooks & Tranter, Narborough, Leicester.



ENDURANCE.
70 × 70 mm. (269 c.c.)
Endurance Cycle Co., Birmingham.

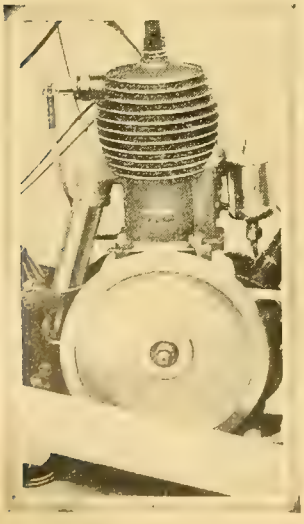


VILLIERS.
70 × 70 mm. (269 c.c.)
Villiers Engineering Co., Blakenhall, Wolverhampton.

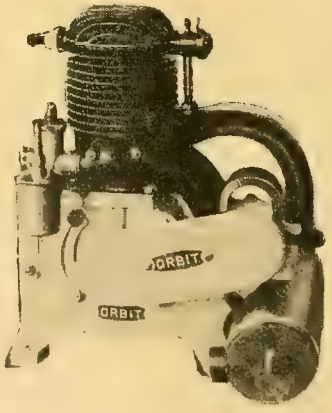


DALM.
73 × 76 mm. (318 c.c.)
Dalman & Sons, Birmingham.

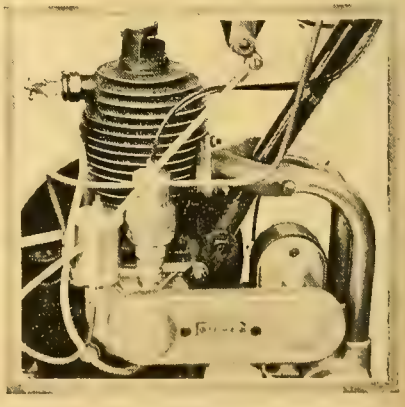
PRECISION.
74 × 81 mm. (348 c.c.)
F. E. Baker, Ltd., King's Norton, near Birmingham



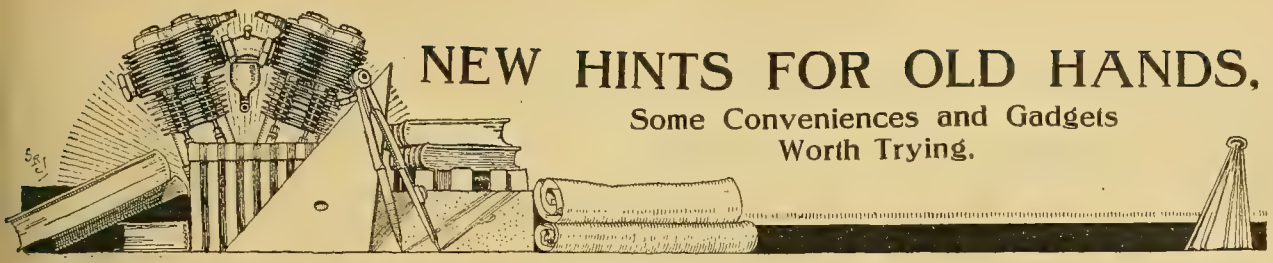
WALL.
70 × 70 mm. (269 c.c.)
A. W. Wall, Ltd., Tyseley, nr. Birmingham.



ORBIT.
68 × 72 mm. (261 c.c.)
Orbit Engine Co., Wolverhampton



ARDEN.
70 × 70 mm. (269 c.c.)
Arden Engineering Co., Berkswell, nr. Coventry.



NEW HINTS FOR OLD HANDS.

Some Conveniences and Gadgets Worth Trying.

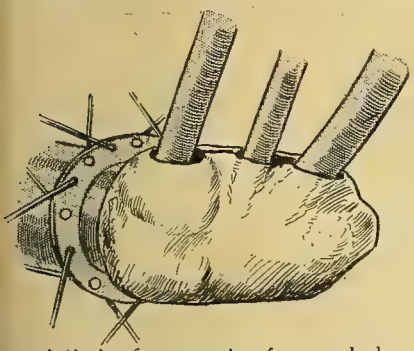
MANY machines do not permit of the use of knee-grips, owing to the fact that the gear lever or some other necessary but unwieldy article of adornment comes in the way. The consequence is that if one wears tarpaulin leggings or any other stiff overalls the enamel is very soon rubbed from the saddle end of the tank, which detracts considerably from the smartness of the machine.

Personally, I gave up knee-grips long ago for anything but the overhead valve type of solo 'bus, and use, instead, a leather jacket which covers the knee-grip end of the tank. The cover is made of good quality black leather, capable of taking a burnish, and really adds very considerably to the aristocratic appearance of the machine.

The illustrations show how the jacket is made, and, if one does not feel equal to the task of making it, almost any local cobbler will undertake the work to measurement.

A Convenient Pocket.

The small pocket is very useful for carrying a baby King Dick spanner or any other small fry in the way of kit, but, in addition to the bag, I have a loop into which fits a celluloid oilcan of the tubular variety having a screw-on safety cap, and thus I have everything instantly accessible for roadside adjustment. I have tried snap clips and various other fastenings for the bag, but find that a blunt brass hook and a stout elastic band serve the purpose better

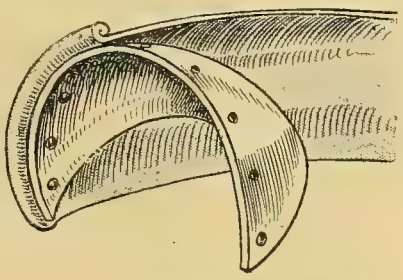


A device for protecting from mud the moving parts of certain spring forks and wheel bearings.

than any of them. This cover is further useful in that it prevents water blowing back along the tank and on to the legs of the rider.

A Mudguarding Hint.

Given a fast machine and a wet road one is fairly sure to experience the nuisance of mud blowing back from the forward tip of the front mudguard and smothering the fo'c'sle end of the tank, to say nothing of the knees of the rider. This was so bad in the case of the Henderson I am now riding that I devised all manner of shields to intercept the deluge, but finally came across a means to stop the flood at its source. A strip of leather was cut out roughly to the inside curvature of the guard in the shape shown in the sketch, and this strip was then secured inside the guard at the extreme end, so as to form an open pocket, as it were, to the splash rising from the tyre, and so conduct it back. The flap should be made of fairly stiff leather, and it will be found that, when bolted into position with short $\frac{3}{16}$in. bolts, it will naturally assume the desired shape. The end of the mudguard now keeps perfectly dry, even though the machine be ridden at high speed over torrential roads. The flap should comfortably clear the tyre.

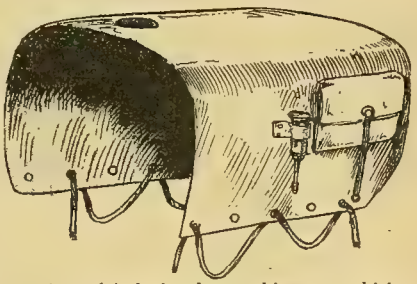


The forward end of a front mudguard in section, showing how the leather flap is inserted.

Enclosing Working Parts.

The following tip may be useful to riders of such machines as the P. and M. and various Americans, the front springing system of which involves the use of moving shackles adjacent to the front wheel spindle. The joints of these shackles should be kept well lubricated or they are apt to wear, with resultant slackness, which does not improve the steering on grease.

It is thoroughly worth while enclosing these parts with a simple leather shield, attached with copper wire, and, if the work is neatly done, it is far less unsightly than the oily mess which inevitably results from trying to keep the bearings properly lubricated. I have enclosed the forks of my P. and M. as shown in the sketch, and now, since the whole lot is out of sight, I keep everything amply lubricated, and the joints remain perfectly clean under the flap. A single charge of lubricant seems, indeed, to



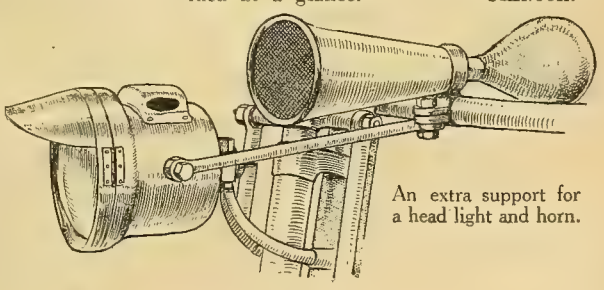
A useful device for machines on which knee grips cannot be fitted successfully owing to the position of the gear change lever.

last indefinitely, and relubrication necessitates only lifting the flap. Any old bit of leather will do, but to make the job look really finished, and to render the leather waterproof, it should be given a coat of ordinary black enamel of the kind most motor cyclists keep.

A Stabiliser for Lamp and Horn.

The following tip is, I suppose, more or less obvious, yet very few seem to adopt it. Horns have a way of slipping round the handle-bars during prolonged runs at speed, while head lamps are apt to vibrate, which eventually shakes their lenses loose and causes an eternal rattle—or, worse still, is very apt to cause the bracket to fatigue and finally break. This refers, of course, to machines fitted with steering head brackets really designed to carry a lamp.

Both misfortunes can at once be remedied by getting the village blacksmith to hammer out a rod of the correct length to interconnect the two. The rod will, of course, have eyes at both ends, one looking upwards and the other crosswise, and, if desired, the work can be nickelled, though black enamel is really good enough. The sketch illustrates the idea at a glance. — CHINOOK.

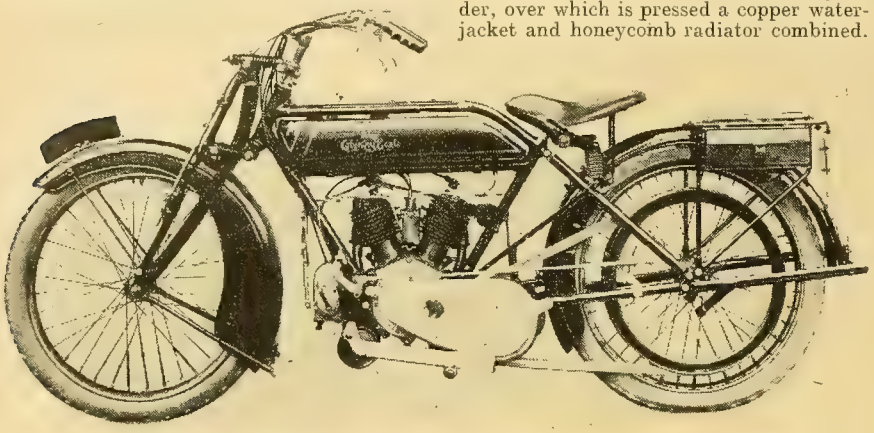


An extra support for a head light and horn.

OUTSIDE OLYMPIA.

NEW MACHINES OF INTEREST SEEN OUTSIDE THE SHOW.

OLYMPIA is not sufficiently large to accommodate all those who desired to display their wares in its spacious hall, consequently not a few items of interest were to be seen in the Hammersmith Road and the surrounding district.

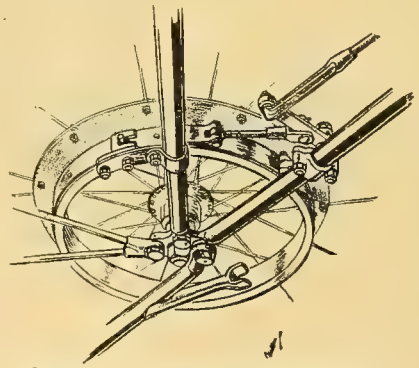


A twin Coventry Eagle, embodying the well-known 5-6 h.p. J.A.P. engine and Sturmey-Archer gear.

The best known exhibit was that of the Coventry Eagle Motor Co., which was well worth an inspection. A wide range of models was shown. The 5-6 h.p. J.A.P.-engined sidecar outfit, fitted with a Sturmey-Archer gear box and chain-cum-belt drive, is an excellent machine following standard lines throughout, but possessing one or two special features. Both brakes are on the rear wheel, that on the off side being of the external contracting pattern provided with a right and left-hand thread adjustment on the brake rod. The other brake consists of a Fibrax-lined aluminium shoe situated on the near side of the machine, and acting on a dummy belt rim. The handle-bars are covered with Bluemel's celluloid. Aluminium footboards are provided, with rubber rests at their forward ends. Quite an attractive model is the 3½ h.p. Abingdon-engined Sports model, which is provided with a Sturmey-Archer three-speed gear, kick-starter and clutch, Lucas Magdyno, and disc wheels. A similar machine, fitted with the same engine, 85×88 mm. (499 c.c.), is fitted with the new pattern brake, and has a sidecar attached to it. Among the lightweights we noticed a 2¾ h.p. J.A.P.-engined model with a two-speed Sturmey-Archer gear box, a Mark VI. Villiers engine two-stroke with an Albion gear box not incorporating clutch and kick-starter, and a 2¾ h.p. J.A.P.-engined Coventry Eagle fitted with the company's new spring frame.

A Water-cooled Single.

An important motor bicycle, which we are very glad to see revived after the war, is the 3½ h.p. Green. Our readers may remember that the Green engine is one of the lightest and most successful water-cooled engines ever fitted to a motor cycle. Water-cooling undoubtedly possesses many attractions; when it is fitted it is more easy to keep the engine in tune and more easy to maintain full power on full throttle. The Green engine possesses a cast iron cylinder, over which is pressed a copper water-jacket and honeycomb radiator combined.



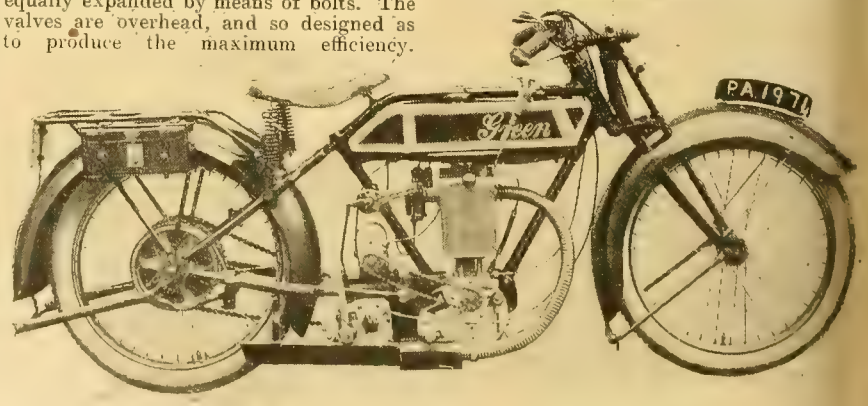
Contracting brake of the Coventry Eagle.

This jacket is secured at the top by means of a castellated ring nut, while at the base of the jacket is Green's patent watertight joint, consisting of a rubber ring between two brass rings equally expanded by means of bolts. The valves are overhead, and so designed as to produce the maximum efficiency. These excellent features remain unaltered; but, so far as the engine itself is concerned, the chief improvements lie in the fitting of ball and roller bearings to the connecting rod and crankshaft. The piston is of steel, and of the Zephyr pattern. The amount of water carried in the jacket and radiator is not quite sufficient for ordinary purposes, and in the very wide tank a separate brass water compartment, with a capacity of 1½ pint, has been let in, and between it and the oil compartment an air space has been provided. The tank is secured underneath, and the secondary horizontal frame member is in duplicate, and splayed out so as to allow the valves and the cylinder head to be easily reached. The frame has been entirely reconstructed, and is now built to accommodate a Sturmey-Archer three-speed gear box and 7½in. mudguards. Two external contracting band brakes are fitted to the rear wheel, in which also is incorporated the transmission shock absorber. This machine is shortly to be ready for production, and deliveries will, we understand, begin in March. The makers are the Green Motor Cycle Co., 50, Jermyn Street, London, W.1.

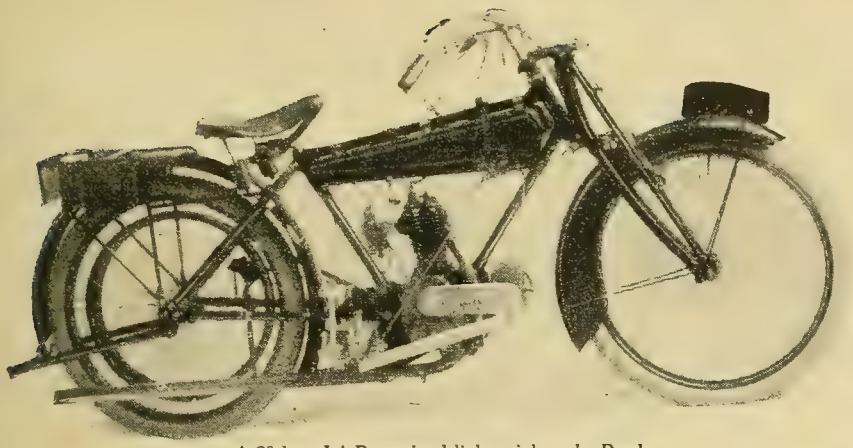
The Pullin Position.

In the same building there was also to be found the interesting Pullin motor cycle, which was dealt with in very full detail in *The Motor Cycle* of March 25th, 1920. Unfortunately, so far as production is concerned, it is no further advanced than it was at that date, but Mr. Pullin informed us that he hoped very shortly to announce that the manufacture of this interesting machine was already in progress. The Pullin motor cycle is handled by the Pullin-Groom Motor Cycle Co., Ltd., 24, Buckingham Gate, London, S.W.1. The new Martin motor cycle is also to be seen here.

Another motor cycle which was on view in the same house was the Ready-Jap. It is an attractive little machine built by Messrs. D. Read and Co., Weston-super-Mare. The frame is composed of straight tubes throughout. It is fitted with a 2¾ h.p. J.A.P. engine and the best components, and its price



Re-appearance of the water-cooled Green engine. It has a radiator embodied with the cylinder.



A 2¾ h.p. J.A.P.-engined lightweight—the Ready.

cipal feature consists of a concealed silencer in the end of the long exhaust pipe. This consists merely of two drilled cones, of which the apex faces forward, connected by means of a rod. It is held in position by a grub screw.

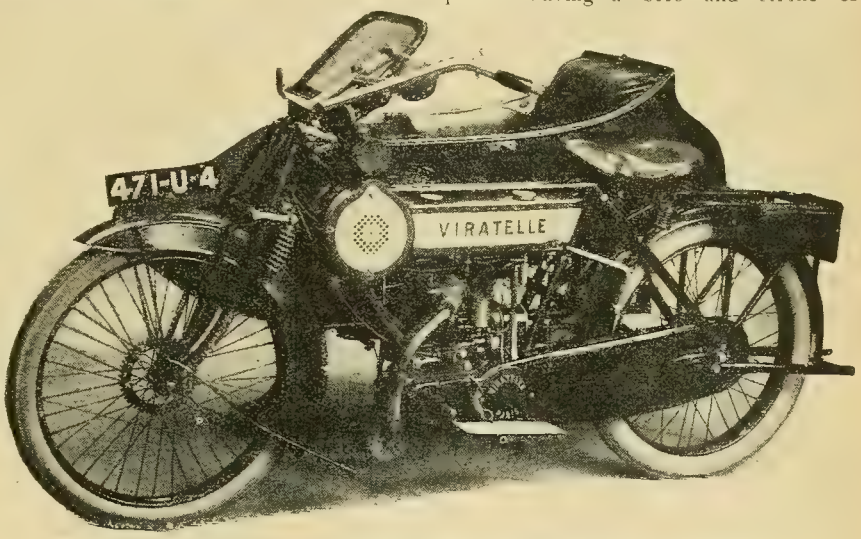
A Miniature Runabout.

Quite the cheapest three-wheeler in the neighbourhood of Olympia was the Cambro, made by the Central Aircraft Company, Ltd., Kilburn. The motive power, which was formerly known as the Johnson motor wheel, and now known as the Economic motor attachment, is situated over the rear wheel. It is single geared, and is fitted with a starting arrangement consisting of a pedal connected to the free wheel on the rear spindle. By actuating this pedal the whole machine is pushed forward, and the engine is started by this means. Both front and rear portions are sprung on rubber shock absorbers, such as are used on aeroplane landing gear.

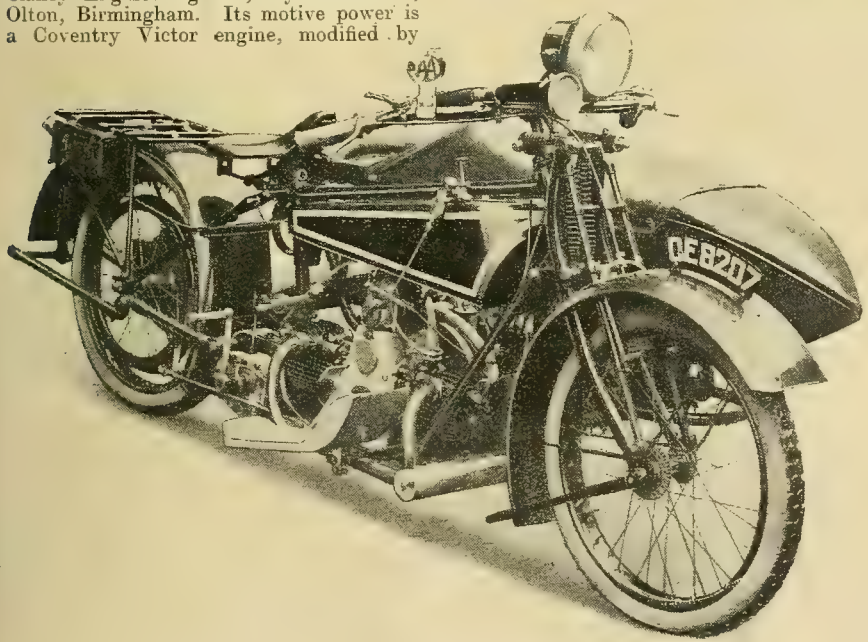
A machine which is built of standard components, is the Slaney, sold by the Slaney Engineering Co., Kyneton Road, Olton, Birmingham. Its motive power is a Coventry Victor engine, modified by the company so as to get a better chain clearance by moving the carburetter on to the near side, and placing the exhaust pipes on the off side. The exhaust pipes lead into a long narrow expansion chamber running across the width of the vehicle, and in front of the footboard, from which there is an exit pipe on the near side. Other special features are the finger nut adjustment of the external expanding foot brake on the offside, a very large tank, wide mudguards, and the specially strengthened luggage carrier.

An Engine Unit.

An excellently-made two-stroke engine was to be seen at Messrs. Burts Motors, 245, Hammersmith Road. This is the M. and B., made by Messrs. John Morris, Mill Lane, Knowle, near Birmingham. The engine is the ordinary three-port pattern having a bore and stroke of



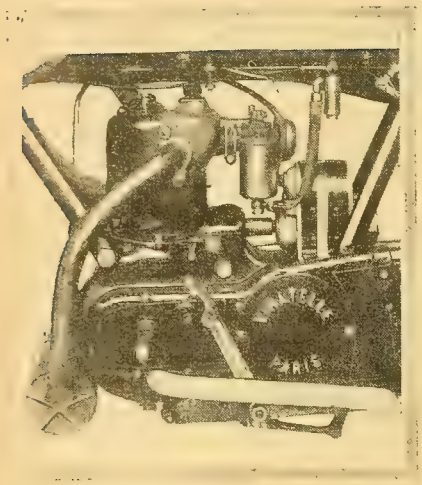
French Viratelle water-cooled two-cylinder outfit. Observe the peculiar radiators on the front end of the tank.



A big flat-twin Slaney, with a Coventry Victor enengine.

67×70 mm., and a c.c. of 246. The cylinder is very carefully bored so as to get even thickness of metal throughout, is then left to season for two months, and then ground. The piston is treated in very much the same way. The main shafts, of high quality steel, are hardened and ground, and run in bushes of large dimensions, composed of chilled cast phosphor bronze. Hoffmann roller bearings are employed in the big ends. The lubrication has been carefully thought out. Oil enters a single union and feeds through a port directly under the exhaust port to a groove round the piston with which it comes into line at the bottom of its stroke. Oil is then directed downward through internal oilways by a positive feed to the main bearings. The gudgeon pin is provided with oilways, and has a central groove cut in it, so that no matter what position the pin, oil has free access to the oilways.

At the same depot several models of the French-made Viratelle were to be seen. No one can accuse this machine of being out of date. It is a machine which has been thoroughly thought out from stem to stern. The single-cylinder has a bore and stroke of 73×82 mm. (350 c.c.). Both valves are enclosed, and



Engine and gear unit of the Viratelle.

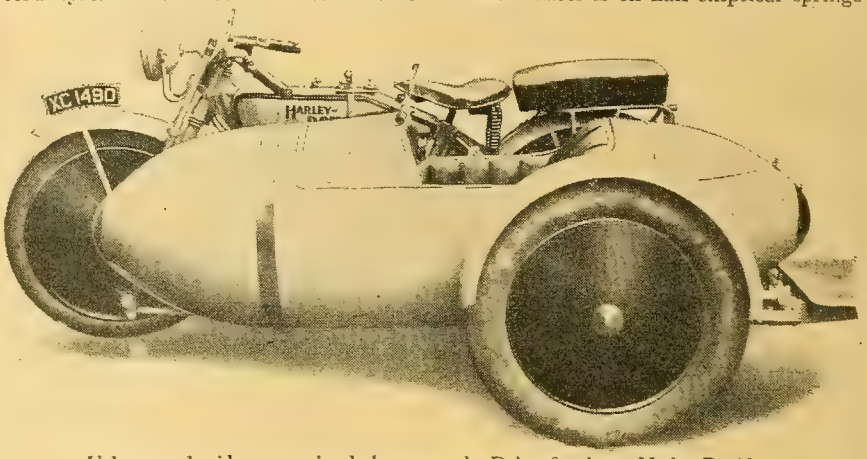
are situated at the rear, while the whole of the transmission is entirely protected. Behind the engine is a three-speed epicyclic gear box. The gears are selected by a lever on the handle-bars, while the clutch is engaged either by the pedal provided or by the handle-bar lever. Water-cooling is arranged on the thermo-syphon principle, the radiator being carried behind the front forks. Between each portion of the radiator is a fan driven by means of a flexible shaft from the magneto drive. The forks are not without interest, as they are hinged at the fork crown, and are provided with laminated springs which act both as fork springs and as girders. Knock-out spindles are provided to each of the wheels, and a spring seat-pillar and sprung footrests form part of the equipment. Control wires pass through the handle-bar tubes, which are finished in black. A similar machine was also shown to us which was fitted with a two-cylinder engine with the cylinders arranged side by side.

Several sidecars were to be seen outside the building. Among these we may mention the Delta, now known as the Volta, which was described in detail in the issue of June 3rd, 1920.

Car Type Tyres.

One of these machines was shown fitted with a 750×135 mm. oversize Palmer cord tyre. The sidecar is best known for its luxuriously fitted and elaborately equipped projectile-shaped body. Such a tyre as that referred to is practically unwearable, and greatly increases the comfort of the passenger. The Volta sidecar is sold by the Volta Sidecar and Accessories Co., 23, Westworth Road, Manor Park, London, E.12.

For those who fancy a two-seated sidecar the Art should be of special interest. It is manufactured by the Sandham Engineering Co., Ltd., and is sold by the Art Motor Cycle and Sidecar Co., 18, Walbrook, London, E.C. The body is most roomy, is provided with a comfortable hood and screen, and in future models the former will be designed to fasten down on to the latter, thus doing away with the necessity of straps. The body is hung on threequarter-elliptical car-type springs, while the sidecar wheel is on half-elliptical springs provided with long shackles which are hinged together. Strength for the sidecar axle is obtained by having this composed of three tubes instead of one single one. A load of up to forty stone may be carried.



Volta torpedo sidecar, previously known as the Delta, fitted to a Harley-Davidson.

Lightweight Records Broken.

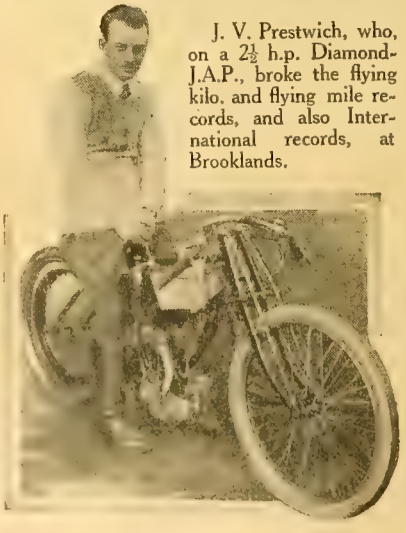
Two-stroke and Four-stroke Successes. A Two-stroke beats the Flying Kilo. Record.

NO doubt in the effort to secure effective Show advertising, records in the lightweight classes were broken with bewildering rapidity during last week.

First came J. V. Prestwich, who, mounted on a side-by-side valve J.A.P.-engined Diamond, made several alterations to the Class A (250 c.c.) figures on November 23rd. On November 25th the same rider again made an attack, and succeeded in raising all the 250 c.c. and 275 c.c. up to fifty miles another notch, while on the 29th (the opening day of the Show) he made new figures in the same classes for all distances and times up to 250 miles and six hours respectively.

As an instance of the way in which the Diamond-Jap maintained its tune, reference to the tabulated results below will show that the speed during the sixth hour was greater than that attained during the two hours immediately preceding.

Excellent as was the speed over the flying kilometre, the record established on November 23rd was destined to be short lived, for on December 1st D. R. O'Donovan, past master of extracting speed from whatever he rides, brought out the hush model 63×80 mm. (249 c.c.) Velocette, and proceeded to add an extra 3 m.p.h. to the flying kilometre speed. The performance is a remarkable one and is really epoch-making, in so far that it is the first two-stroke machine to break a short distance ultra high-speed record, although a machine with this type of engine has already made a successful onslaught on the long distance figures.



J. V. Prestwich, who, on a 2½ h.p. Diamond-J.A.P., broke the flying kilo. and flying mile records, and also International records, at Brooklands.

November 23rd, 1920.—J. V. PRESTWICH (2½ Diamond-Jap), Class A. (250 c.c.): Flying kilom., 35s. = 63.91 m.p.h.; flying mile, 56.6s. = 63.60 m.p.h. International Mean Record, Class A.—Flying kilom. 60.13 m.p.h.; flying mile, 62.39 m.p.h.

November 25th, 1920.—Class A. (250 c.c.): 5 miles, 5m. 3s. = 59.4 m.p.h.; 10 miles, 10m. 17⅗s. = 58.3 m.p.h.; 50 miles, 53m. 45s. = 55.81 m.p.h.; 1 hour, 55ml. 961yd. (55.55 m.p.h.).

Class A1 (275 c.c.): 10 miles, 50 miles, and 1 hour as above.

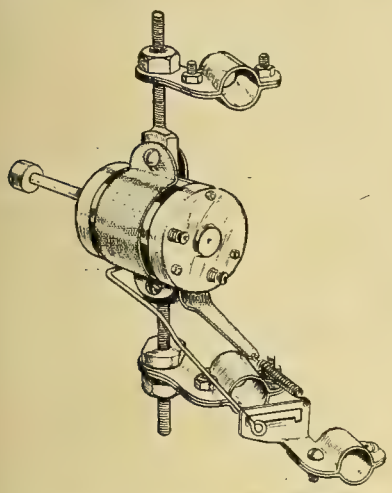
November 29th, 1920.—Classes A. (250 c.c.) and A.1 (275 c.c.): 100 miles, 1h. 50m. 39⅘s. = 54.22 m.p.h.; 150 miles, 3h. 0m. 48s. = 49.75 m.p.h.; 200 miles, 4h. 18m 35s. = 46.46 m.p.h.; 250 miles, 5h. 18m. 58⅕s. = 47.02 m.p.h.; 2 hours, 107ml. 1,442yd. = 53.01 m.p.h.; 3 hours, 149ml. 474yd. = 49.75 m.p.h.; 4 hours, 188ml. 263yd. = 47.03 m.p.h.; 5 hours, 234ml. 617yd. = 46.87 m.p.h. 6 hours, 283ml. 782yd. = 47.24 m.p.h.

December 1st, 1920.—D. R. O'DONOVAN (2½ Velocette), Classes A. and A.1: Flying kilom., 33.4s. = 66.97 m.p.h.

Illustrated Review of Useful Equipment for Motor Cycles.

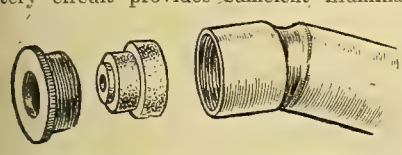
A.C. Sparking Plug, Ltd., London, S.W.7.—Various patterns of sparking plugs suitable for every type of engine.

Alterna Cycle Light Co., 89, Farringdon Street, London, E.C.4.—In a very small and compact dynamo lighting set produced by this concern, the dynamo itself is of the circular type with six stationary coils and a central rotor. The driving arrangement is by means of a friction wheel working on the tyre of the

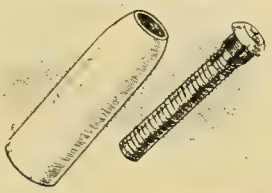


Friction drive from the tyre is employed with the Alterna dynamo for lightweights. The brackets carry it between the top and bottom rear frame stays.

back wheel, the dynamo being carried on a special bridge between the top and bottom back stays. A dry battery is also provided, since the current generated is alternating, and therefore unsuitable for accumulator charging. The head lamp is of rather unusual construction, since the bulb is carried on an arm and faces backwards towards the reflector. This arrangement gives an absolutely non-dazzling beam. While standing a small bulb connected with the dry battery circuit provides sufficient illumination to comply with the law. The Automatic sparking plug is another feature which was shown, its chief claim to



Loose connections are eliminated from the Burn Easy-Fix inflator, which pushes directly on to the valve. It was exhibited by Timson Bros.

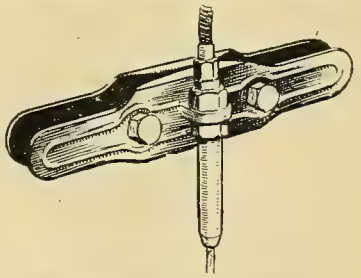


Made from French "75" shells, the Alterna electric heater is here shown dismantled.

notice being the movable points on the central electrode. It is stated that these vary their position at each explosion, and consequently never become affected by excessive carbon deposit. Another device which was shown is not only interesting on account of its utility, but also for the fact that it is a souvenir of other days. It is known as the "75" sidecar heater, and consists of a French 75 mm. shell with an internal resistance which is connected by a bayonet plug to an electric lighting circuit.

Best and Lloyd, Ltd., Cambray Works, Handsworth, Birmingham.—The Best semi-automatic drip feed is, of course, so well known that it is scarcely necessary to make any comment regarding it, and it suffices to say that it may be obtained in every possible form for motor cycle and light car lubrication. The Best mechanical oil pump, however, which is driven from the timing gear of the engine, and which works in conjunction with the semi-automatic drip feed, is not quite such a familiar component, although it has had considerable testing over the last twelve months. From actual experience, however, on one or two machines, we can say that it entirely fulfils the requirements desirable in a mechanical lubricator, since the supply of oil which it delivers can be varied as required either separately or in conjunction with the control of the throttle.

Bowden Brake Co., Ltd., Tyseley, Birmingham.—In addition to the already familiar lines connected with motor cycle brakework and control, the Bowden Brake Co. is making a special type of front brake, which is to be known as the Replacement pattern. This is specially suitable for old machines which are not provided with front brakes, and which in many cases must be so fitted to comply with legal requirements. The special feature is that a simple form of crossbridge to carry the adjustable Bowden wire stop is provided, and this is clamped to the front fork girders in any convenient position. A new and very attractive shape of handle-bar with inverted lever controls is also made. It

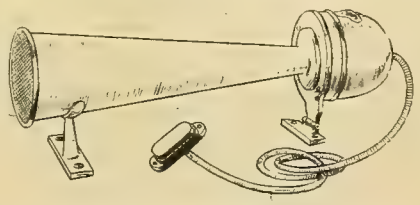


Stop bracket of the new Bowden replacement brake.

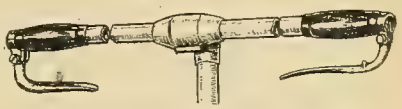
is of the straight pattern with slightly inclined and dropped grips.

Bowden Wire, Ltd., Victoria Road, Willesden, London.—Many novelties are being introduced in the control-operating mechanisms of this concern. Some of these have already been dealt with in *The Motor Cycle*, notably the Master Control, which by very simple means allows for interconnection and independent action of a combined hand and foot operation of clutches or throttles. Several types of front wheel brakes of the belt rim pattern are also being introduced for 1921 machines, and these provide a much more satisfactory method of braking than any of the rim types, but the latter are still produced.

Brampton Bros., Ltd., Oliver Street Works, Birmingham.—As well as motor cycle chains and front forks, both of

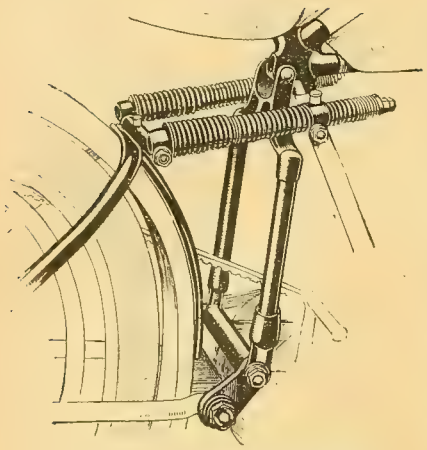


An Apollo horn suitable for the front panel of a sidecar.



An improved stem lug with outlet for internal cables is incorporated in the Bowden Brake Co.'s handle-bar.

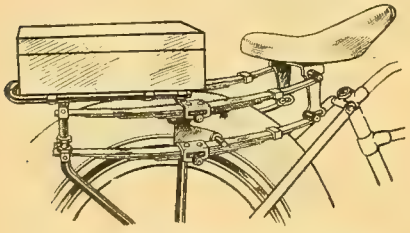
Accessories at Olympia.—



A Brampton spring frame unit for fitting to any standard type of lightweight frame.

which are equally well known, a new spring frame is being offered. It consists of stays hinged behind the gear box bracket and connected to the rest of the machine through the top stays by a system of coil springs similar to that employed for the top links of the front forks.

J. B. Brooks and Co., Ltd., Great Charles Street, Birmingham.—Brooks saddles enjoy a reputation as regards quality which may truly be described as unequalled, but the makers are determined not to rest on their laurels, and

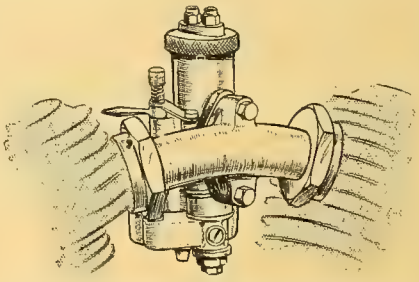


Brooks's cantilever saddle and a carrier case by the same makers.

have therefore produced an entirely new type of saddle suspension. This consists of four laminated cantilever springs pivoted at their centres upon the front stay of the standard motor cycle carrier. The forward extremities of the springs (two at each side) carry a pan seat leather topped on two vertical links, while the rearmost ends of the springs are free to slide under a pair of adjustable rollers, by means of which the tension on the springs may be altered to suit the rider's weight. The saddle has practically a vertical motion, and, owing to the length of the springs used, the rider may truly be said to float when carried on this type of seat. Many machines shown at Olympia were equipped with this new form of Brooks saddle, which is bound further to enhance the high reputation of those responsible for its production.

Brown and Barlow, Ltd., Carburet Works, Witton, Birmingham.—Carburetters for all kinds of engines are the standard production of Messrs. Brown and Barlow, Ltd., whose name stands for all that is good in this particular component part. There are very few changes in the standard variable jet and two-stroke types, but a detail improvement has been effected in the method of operating the pilot jet which is of special service for easy starting on V twin engines. On former models, if the driver omitted to cut out the easy starting device when the engine was running, it not only interfered with the carburation but caused the consumption to be excessive. The new arrangement, even if forgotten, will not seriously affect the running. An improved form of induction pipe for V twin engines is also being introduced. This consists of a very short pipe between the cylinders with a flange fixing for the carburetter. By this arrangement the latter is brought into a very unobtrusive position between the cylinders, where it is protected from draughts of cold air and obtains the maximum benefit from conducted heat.

C. L. and H. Burton, Bernard Street, Walsall.—Burton sparking plugs have

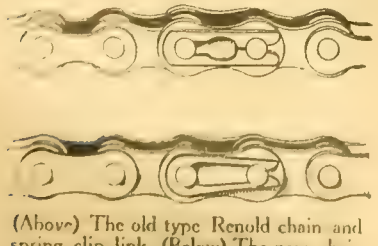


Short induction pipe and flange fixing for B. & B. V-twin carburetter, showing also the new easy starting control.

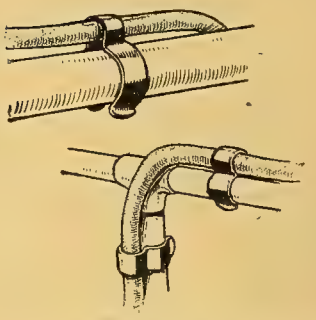
continually proved their efficiency in all types of engines, and it has not been found necessary to make any alteration to the standard three-point model with detachable steatite insulator. Many variations are made to suit different engines, such as those which necessitate a long reach or have a special thread. A new single-point model is also being produced as a competitive line; this also has a detachable insulator.

College Leather Co., Castle Street, Northampton.—The College mudshield is, of course, well known, for it has been on the market for eleven years. Covering the lower part of the engine, as well as the rider's legs up to the level of the tank, the shield may be used in conjunction with an apron, which provides the maximum weather protection possible on a solo machine. Other products include a number of becoming soft leather "tams" for lady motor cyclists.

Cooper Stewart Eng. Co., Ltd., 11, Broad Street, Bloomsbury, London, W.C.2. For those who favour the magnetic type of speedometer, which, of course, has decided advantages in many respects, the Stewart instrument may be regarded with interest. One of its special features is the absence of complicated mechanism. In addition to the speedometers, the firm produce a variety of practical mechanical horns.



(Above) The old type Renold chain and spring clip link. (Below) The new chain of double strength, with the new clip which cannot be thrown off at any speed.

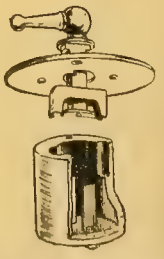


J.A.R. clips for acetylene tubing; there are two varieties to fit frame tubes and carrier tubes.

Cowey Engineering Co., Ltd., Kew Gardens, Surrey.—Cowey speedometers are made for all classes of motor cycle, and have been improved in details, a remarkably clean appearance having been attained. The same remark also applies to the Cowey horn, which is certainly in the front rank on account of its weatherproof construction and reliable mechanism.

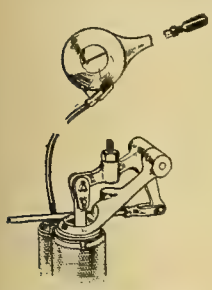
Cox Carburetters, Ltd., Lower Essex Street, Birmingham.—Automatic carburation is one of those subjects which form a never failing source of discussion amongst motor cyclists, and the Cox-Atmos carburetter, by reason of its simplicity, has created special interest. A new type of float chamber has been designed, and this includes an inner shell having gauze-covered apertures, so that no grit or water can pass through to the jet itself. Top feed has now been adopted.

G. Davenport and Co., Ltd., Clerkenwell Road, London, E.C.1.—A departure from the usual type of speedometer construction was shown on this stand, which has several features of interest. It is known as the Robinson, and carries a guarantee for 10,000 miles, this being made possible by the fact that it is constructed entirely by highly skilled instrument makers. The speed indication is controlled by a centrifugal governor, but



A high-tension terminal and an electrical switch made by the makers of Cooke's plugs.

Accessories at Olympia.—



A Binks carburetter arranged for twist grip control. An extra air lever is provided.

the trip recorder (and the total mileage recorder under the first 100 miles) is shown on a circular scale by two pointers coloured white and red respectively. The trip is instantly reset by a brass plunger knob in the centre of the dial.

Also shown by this firm was the Pettitts safety filler, which is carried in a neat leather case, which also accommodates a very useful spanner for all sizes of sparking plugs and petrol can stoppers.

DEGORY NO JET CARBURATOR CO., 93, Moore Park Road, S.W.6.—Amongst one lever automatic carburetters, the Degory No Jet is rapidly coming into a leading position, since it is proving to be exceptionally economical in use. Many of our readers have testified to its excellent qualities in this direction, and almost phenomenal mileages are claimed for it with various types of engines. It is particularly neat in appearance, and has a minimum number of parts, while the method of attaching the float chamber to the throttle barrel allows it to be used in any position.

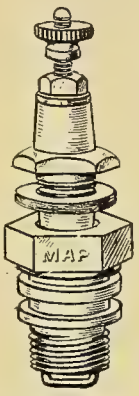
EAST LONDON RUBBER CO., 29-33, Great Eastern Street, E.C.2.—This concern is chiefly devoted to supplying all the demands of the retail trade, but a number of specialist lines are carried. Amongst these may be mentioned the Flexifork, a new type of front fork, which combines a vertical action controlled by coil springs with a radial action limited by a leaf spring; the E.L.I. spring seat-pillar, which is one of the many varieties of auxiliary saddle suspension introduced this year; and the Warner front forks and rear spring frame attachment. The latter is a simple form of spring frame having subsidiary top stays, which are connected to floating links carrying the wheel spindle, and pivoted at the rear fork-end. This device may be fitted to almost any standard pattern motor cycle frame with very little structural alteration.

Sterling leg-guards exhibited by Brown Bros., Ltd.

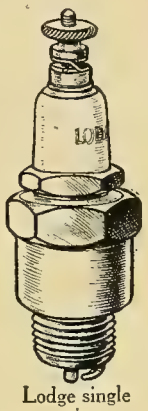
E.I.C. MAGNETOS, LTD., Sampson Road North, Birmingham. — As the standard ignition unit on a number of first rank machines, the E.I.C. magneto is unaltered, since the reliability of its design is unquestioned.

FORWARD SPARKING PLUG CO., 35, Summer Row, Birmingham.—A large variety of sparking plugs are manufactured by the Forward Sparking Plug Co., and all of them have proved their worth by long service in the hands of the public. A new model introduced this year is the Aero type, which has air-cooling flanges round the body. There is one central electrode, and the insulation is of the detachable mica variety. A number of other accessories are produced, and amongst these may be mentioned the

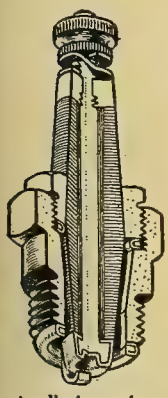
Representative Sparking Plugs.



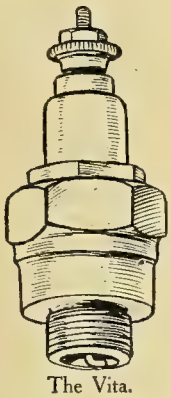
The M.A.P. plug.



Lodge single point.

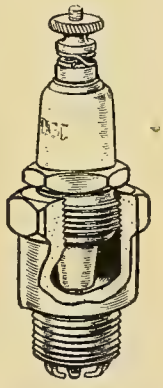


Apollo in section.

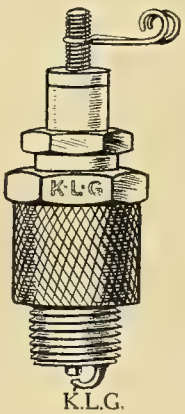


The Vita.

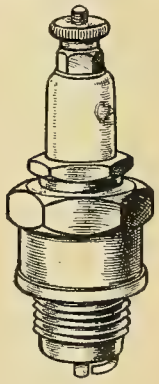
A.C.



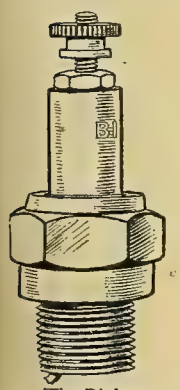
Section of Lodge plug.



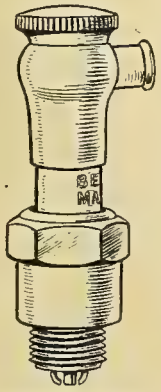
K.L.G.



Single point C.A.V.



The Binks.

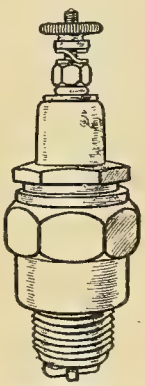


Bluemel Mascot.

The C.A.V.

Oleo.

Forward.



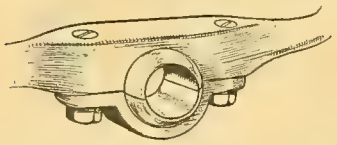
The Sphinx

Burton

Accessories at Olympia.—

valve stem adjusting cups for engines with non-adjustable tappets, the well-known Forward belt fasteners, and the new type of endless leather link belt, which varies from all other belts of this type in having all the connecting link bearings of metal.

A. H. HUNT, LTD., Tunstall Road, Croydon.—Electric lighting equipment

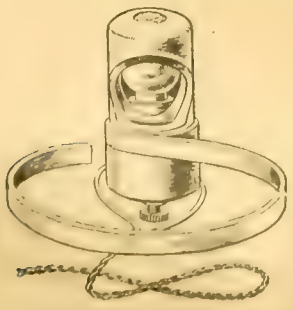


Ball and socket clamp of the Hunt electric head lamp and accumulator bracket.

using dry batteries or accumulators is the speciality of this firm, and amongst their new products may be specially mentioned the new Pleteset. This consists of a very efficient head lamp (carrying a six-volt bulb) mounted on a bracket which also supports a cast aluminium battery box. The bracket is adaptable for fitting to almost any type of handle-bar, since it makes use of a ball and socket clip of

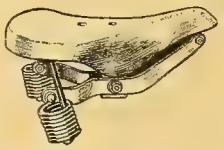
Details of the switch on Hunt battery lighting set.

extremely simple design. Included in the top of the battery case is a positive screw switch, which connects up the three-cell block type accumulator as required. The whole fitting is exceedingly well designed, and has a decidedly handsome appearance, and may be secured to any pattern handle-bar. Amongst other items produced by this firm is a neat and simple speedometer lamp, which clips around the body of the instrument. The bulb in this is tinted green, in order to eliminate any glare. In addition to the above-mentioned lamp, cheaper varieties, more suitable for lightweight machines, are produced, while every style of dry battery side and tail lamps is available, in addition to route card holders, spring lamp brackets, and a neat lock for motor cycles which is combined with two spanners and tyre levers. For use in the garage as an inspection lamp, there is a very convenient arrangement of a Hellesen dry battery with a holder which carries a small bulb in a large diameter reflector.



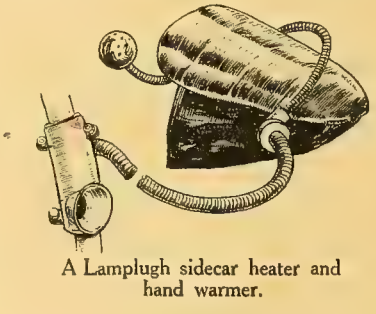
Hunt's speedometer lamp.

JELLEY'S SADDLE CO., Coventry.—An unusual type of motor cycle saddle having many claims to notice. Instead of a leather top a moulded flexible seat is used, and this has the property of conforming to the shape most comfortable to the rider. We can speak from experience of the comfort provided by this arrangement. Minor points connected with the saddle are that it has no rivets in the top; moreover, the rubber construction is waterproof, and the saddle does not suffer if the machine is left out in the rain for a length of time.



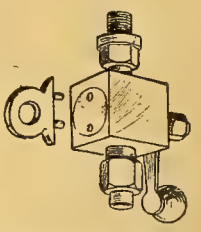
Jelley's padded flexible waterproof saddle top.

KERSLAKE, LTD., London, S.W.15.—To the motor cyclist the most interesting item amongst this firm's productions is a "sensitive" control for carburetters. This consists of a trigger secured beneath the regular control levers, and the actuation of the former opens the throttle without altering the setting of the latter. The effect is that of a sensitive finger-controlled accelerator.



A Lamplugh sidecar heater and hand warmer.

S. A. LAMPLUGH, LTD., King's Road, Tyseley, Birmingham.—A number of novelties are being introduced by this firm of specialists in motor cycle brass fittings. Probably the one of most seasonable interest is the Lamplugh sidecar heater; this is a very simple arrangement whereby warm air is passed from a box encircling the exhaust pipe and connected by a tube to a muff in the toe of the sidecar. An extension from the latter terminates in a perforated metal ball which can be used as a hand warmer. It will be noted that no exhaust gas is passed into the warmer, and the connecting tube may be detached in a moment if the heat is not required. In view of the fact that thefts of motor cycles are now very prevalent, the Ace petrol tap lock is worthy of notice. This is a petrol tap of somewhat larger proportions than the average, which is self-locking in the off position. It can only be reopened by the insertion of a special plunger key which engages with two holes provided in the back of the tap. Only when the key is pressed in may the tap be opened. Amongst other productions are a very easily operated quickly detachable filler cap and a two-level tap combined with a filter.



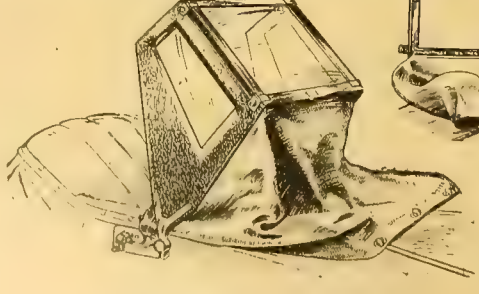
Lamplugh's Ace petrol tap lock; the petrol can only be turned on when the key is inserted.

LEO RIPAULT, LTD., 1, King's Road, N.W.1.—Oleo plugs in various models are the chief speciality of this firm. The construction is simple and very compact, electrodes of the single point and cross-bar type being used; the insulators are detachable, and are either of mica or porcelain. There is also a new model plug having a non-detachable mica insulator and a single central electrode. Probably this is one of the smallest sparking plugs made for motor cycle use, and it follows the general lines of those which were used successfully on rotary aircraft engines.

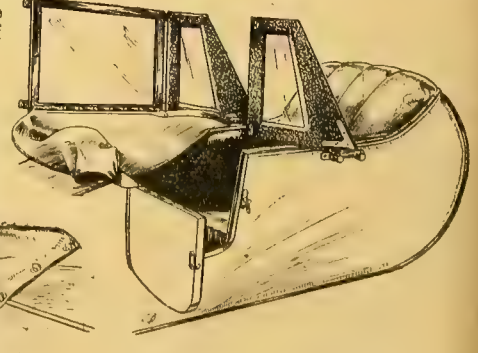
LLOYD MOTOR CO., LTD., 132, Monument Road, Birmingham.—A saddle suspension, made familiar on the L.M.C. machines, is now offered as a separate unit for the conversion of any machine which has a top tube not covered by a saddle tank.

LYCETTS, LTD., Bromley Street, Birmingham.—Saddles, pannier bags, and a top tube toolbag are products which are all satisfactory component parts in the specifications of many well-known machines.

MARKT AND CO. (LONDON), LTD., 98-100, Clerkenwell Road, E.C.1.—Adjustable spanners, Veeder cyclometers, fly-

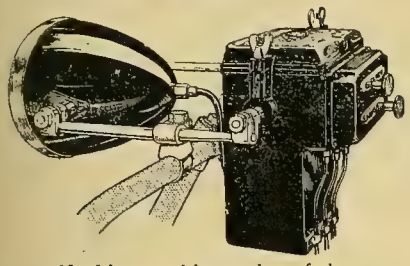


Combined windscreen, apron, and side curtains of Sandum manufacture.



A Sandum windscreen opened to admit the passenger.

Accessories at Olympia.—



Head lamp and battery box of the M-L Maglita set (lightweight model).

wheel and pulley removers, and the Johns-Manville speedometers are amongst the high-quality productions marketed by this concern.

Midland Gear Case Co., Ltd., Bridge Street West, Birmingham.—Motor cycle accessories in leather are the special products of this firm, and these include knee grips, which are adjustable to any size and shape of tank, and inner tube cases arranged to clip over a rolled-up tube on the handle-bars. Both these accessories are already well known to motor cyclists.

H. Miller and Co., Birmingham.—The special feature of Miller acetylene lamps, apart from the excellent light-giving qualities of course, is the convenient bracket which permits the set to be fitted to almost every type of handle-bar on the market. Miller dynamo lighting sets for motor cycles will shortly reach the production stage, and these include a handsome plated head lamp with a switch-box incorporated in the bracket. The batteries are carried in a box adjustable in all directions, so that when secured to the saddle tube of the machine it may remain vertical. Prolonged testing has proved that the dynamo itself is satisfactory, and the design, which was reviewed in *The Motor Cycle* twelve months ago, remains essentially unaltered. Regulation is by a magnetic arrangement, which reduces the intensity of the flux cut by the armature coils, and, in consequence, no delicate electrical appliances are required to keep down the voltage at speed.

The M-L Magneto Syndicate, Ltd., Victoria Works, Coventry.—One of the most popular combined lighting and ignition units in the Show is the product of the makers of the M-L magnetos. It was fully described in a recent issue of *The Motor Cycle*, but a further small improvement has been carried out in the head lamp. This consists of a small low-powered bulb for use when the machine is standing or when town riding. The dimming arrangement is controlled by a small knurled knob on the top of the head lamp which brings the small bulb temporarily into operation by depressing it or permanently by giving it a half turn. Of course, the automatic dimming device on the head lamp main bulb is retained; this acts as a reminder to the rider that the battery switch should be pressed in when the engine is running. The Maglita outfit is now being produced

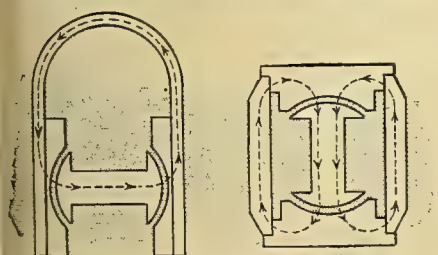
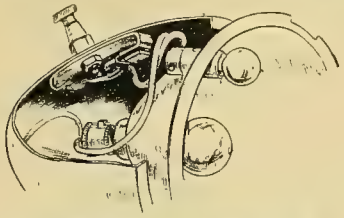


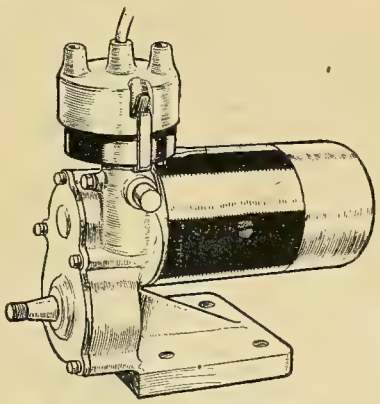
Diagram showing how the new design of M-L magneto allows a double magnetic flux to pass through the armature. It shows its compact nature in contrast with the old "horse-shoe" type.



Dim and full power bulbs in the M-L Maglita large size head lamp. A push-down switch controls the latter.

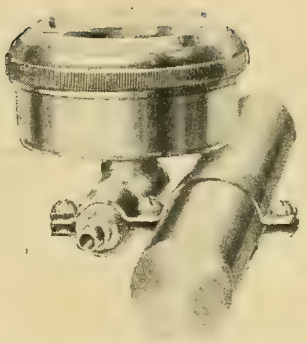
in a variety of forms suitable for light or heavyweight single-cylinder machines and for flat twins and two-strokes. The motor cycle magnetos for all types of engines remain unaltered, but a new pattern magneto, the K.V. type, is being introduced. This has decided electrical advantages which enable its external dimensions to be considerably reduced, and its appearance is exceedingly compact and workmanlike.

North and Sons, Ltd., 14, Soho Square, W.1.—A range of speedometers is produced by this firm, who, amongst other types, have made a speciality of rear-wheel-driven models. The driving arrangements are very substantial, and do not interfere with the security of the wheel spindle.



The Rotax dynamo with ignition contact breaker and distributer.

Prices' Co., Ltd., Battersea, S.W.11.—Motor cyclists do not need to be reminded of the excellence of Prices' oils, but the enquiring spirit will find much to mark and inwardly digest concerning lubrication if he obtains the various publications and pamphlets which the company offer. The advantages of purchasing small drums of oil are made clear, and a device for safely pouring out the contents of these is worth noting.



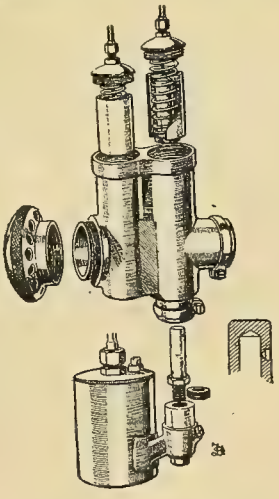
Top tube attachment for rear wheel drive of the Bonniksen speedometer.

Rotax Motor Accessories Co., Ltd., London, N.W.10.—A development of combined lighting and ignition, which may be far-reaching, is to be introduced. This consists of the Rotax dynamo arranged for providing a means of ignition by the incorporation of a contact breaker and distributer. The dynamo charges the batteries, which supply current for ignition *via* the contact breaker and a separate high-tension coil.

Rotherham and Sons, Ltd., Spon Street, Coventry.—Standard Rotherham productions are general motor cycle brass fittings, such as oil pumps, taps, cocks, unions, and gauges, but, in addition to these, are the Everest carburetters and Bonniksen speedometers. The latter have been improved in detail, especially as regards the driving arrangements.

Runbaken Magneto Co., Ltd., Manchester.—Magnetos bearing the Runbaken name have rapidly developed a reputation not only for their reliability, but also for their small dimensions, which make them specially suitable for small machines. A standard type of contact breaker is now fitted in place of that with stationary contact points which was formerly used.

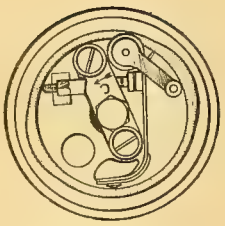
The Safety Petrol Filler Co., Ltd., Northampton.—Besides the well-known Liquall safety petrol fillers, a number of small conveniences for motor cyclists' use are made.



A carburetter produced by Rotherhams—the two-lever Everest with multiple jet.

Accessories at Olympia.—

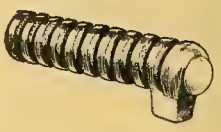
S. SMITH AND SONS (M.A.), LTD., 179-185, Great Portland Street, W.—Speedometers, mechanical horns, handle-bar watches, and similar accessories are all well-known products of this accessory firm, who specialise in fitments of the highest class. In addition to these, the K.L.G. plugs must not be forgotten, and attention must be drawn to the new G.1 type, specially commendable for its simple construction and the detachability of its insulated centre, which may be replaced at any time with a new one should it ever become defective. The body of the plug is finished by a rustproof process, which greatly adds to its appearance. Amongst other useful accessories stocked are Shock-stops, a new type of indiarubber handle-bar grip, which is specially adapted for use in conjunction with inverted lever controls, or with hook-ended grips of the ordinary type. These grips are becoming very popular.



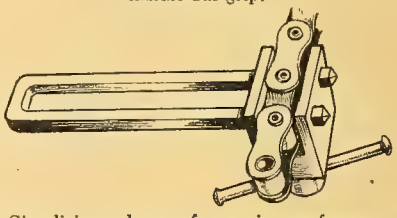
A continuous cam is now used in the contact breaker of the C.A.V. magneto.

Pettetts' "Fitall" spanner embodying two screw-drivers.

An all-rubber Roberts handle-bar grip.



A point about the new Smith "Shock Stop" handle-bar grip is that it protects the inverted lever joint.



Simplicity and ease of operation are features of the Dandy chain rivet remover handled by S. Smith & Sons (M.A.), Ltd.

VACUUM OIL CO., LTD., London, S.W.1.—Gargoyle Mobiloils, greases, and everything appertaining to the efficient lubrication of motor cycles and cycle cars. The Vacuum names are household words in motor cycledom.

C. C. WAKEFIELD AND CO., LTD., 30-32, Cheapside, E.C.2.—In addition to the brands of oil which have been standardised for many years by a number of leading makers, this firm is introducing a new variety to be known as Castrol XL. This is somewhat lighter in body than the better known Castrol C, and it has been specially blended for use under racing and competition conditions. Sidecar owners and others who purchase oil in five or ten-gallon drums should make a point of enquiring into the merits of the patent screw-in locking tap for the drums. This is specially suitable for use with the Castrol five-gallon non-returnable drums, and forms a handy method of avoiding waste when drawing off oil for use.

The B.M.C.R.C. Dinner.

FEW dinners that we have attended—and we have been present at a great many—have passed off better than the members' dinner of the British Motor Cycle Racing Club, held on Wednesday last week at the Holborn Restaurant. Nearly 170 members turned up, there were numerous guests, the speeches were as brief as possible, and the whole of the evening was devoted to enjoyment and amusement. An excellent programme had been provided, and, owing to the presence of several visitors from the Continent, the affair might almost be described as being an international one. The chair was occupied by Brigadier-General Sir Capel Holden, K.C.B., F.R.S. On his left sat Lt.-Col. F. Lindsay Lloyd, C.M.G., and among the guests we noticed M. Jules Neher (president of the Union Motocycliste Suisse), M. Fagard (president of the Union Motocycliste Belge), Mr. Paul Kelecom (of the Fabrique Nationale, Belgium), while MM. Mellane and Arnaud might be said to represent France.

Toasts.

After the toast of "The King" had been proposed by the Chairman, that of "The British Motor Cycle Racing Club" was proposed by Mr. H. T. Rutter. Mr. Rutter paid the club a great compliment, congratulating the president and officers of the club, as he said that at the many meetings he had attended he saw nothing but straight riding, few protests, and thorough sportsmanship on all sides. He evoked considerable amusement, and said that the club was an ideal means of testing a machine.

Mr. Loughborough, in a very brief reply, said that the proposer could not have praised the club in a nicer manner, and the club members could not have deserved it better. (Laughter.) He referred to our foreign guests, and made mention of several generous offers of prizes. Messrs. C. A. Vandervell and Co. had offered a ten-guinea prize for the best aggregate performance, but they had one already. This year Mr. Alec Ross, who had given a prize for the best aggregate performance by a Service member, repeated this offer for next year. Mr. H. Collier offered a ten-guinea prize for an open event; Mr. Olai offered a similar prize, while Capt. A. J. Millar offered a hundred-guinea gold cup for a hundred mile race and a two hundred-guinea gold cup for a two hundred miles race. (His idea is that long-distance races will attract the amateur, as it is not so much the speed which counts as the reliability of the machine, and consequently the private owner has almost as much chance as the expert.)

The Chairman then proceeded to distribute the numerous prizes won during 1920. Among the recipients may be mentioned W. A. Jacobs, who won the Ross Trophy; he has gained nearly all his successes on an eight-year-old Singer, and we learn now that he is putting up excellent performances on a little Metric-engined motor bicycle.

New Prizes.

Two further prizes were then announced: The Norton prize of twenty-five guineas for the best aggregate performance of a private owner, and a ten-guinea prize (presented by Mr Watson-Bourne) for a member or ex-member of the R.A.F.

Mr. T. W. Loughborough then announced that the Godfrey Cup, which, unfortunately, had not yet been engraved, had been won by H. R. Davies. This is a cup presented by Messrs. Godfreys, Ltd., in memory of the late Capt. O. C. Godfrey, for the first 350 c.c. machine to do eighty miles an hour on the track, a feat which Mr. H. R. Davies had successfully accomplished on a 2¾ h.p. A.J.S.

A Reminiscence.

The Chairman then rose, and said that, as he could not present the cup, he would like Mr. Davies to come up to the high table, and would like to shake hands with him. General Holden shook Davies warmly by the hand, and addressed a series of congratulatory remarks to him; but not a word of these could be heard owing to the deafening cheering.

Davies was then persuaded to make a speech, in which he thanked those present for their hearty reception of him, and thanked the officers of the track for their assistance.

Mr. H. Stevens was also called upon to say a few words.

Mr. Loughborough also paid a tribue to the performances of Le Vack, who had accomplished the highest speed ever made on a motor bicycle in this country.

Le Vack, who was called upon to reply, in turn paid a handsome tribute to Mr. C. B. Franklin, who is now at the Hendee Works in America.

Replying to the toast of "The President," by Mr. W. H. Wells, General Holden said it was twenty-five years since he first rode a motor bicycle (referring to his original four-cylinder). He had invited the late Mr. H. J. Swindley (of *The Autocar*) to come and see it, and he rode it and expressed himself very pleased with it, but frankly admitted that he could not understand why anybody should want to ride a motor bicycle, as pedal cycles were for pleasure and exercise. General Holden was a firm believer in the motor bicycle, and he looked to its further development. He sincerely hoped to see an all-weather machine, in which both the mechanism and the rider were fully protected.

The proceedings finished with "Old Lang Syne" and "God Save the King."

COPPEN ALLAN & Co

READING STANDARD

THE WORLD'S MASTER MOTOR CYCLE.

Solo - £184. 8-10 h.p. Twin Combination - £229.

PLUS ONE

A Single or Double-seater Sidecar at will.

Deliveries will commence positively in one month, with fittings complete for attachment to the undermentioned makes of cycles:—

Reading-Standard, Sunbeam 3½ h.p. and 8 h.p. Zenith, Enfield, Harley-Davidson, Triumph, Douglas 4 h.p., Blackburne 8 h.p. B.S.A. 4 & 6-7 h.p., Rudge 6 h.p. Henderson, Excelsior (American), British Excelsior, Indian, ACE, and others.

DUNELT

The £150 Interchangeable Wheel Combination.

CLYNO

The COMPLETE Outfit.

NEW HUDSON

The Most Popular Lightweight.

THE ACE

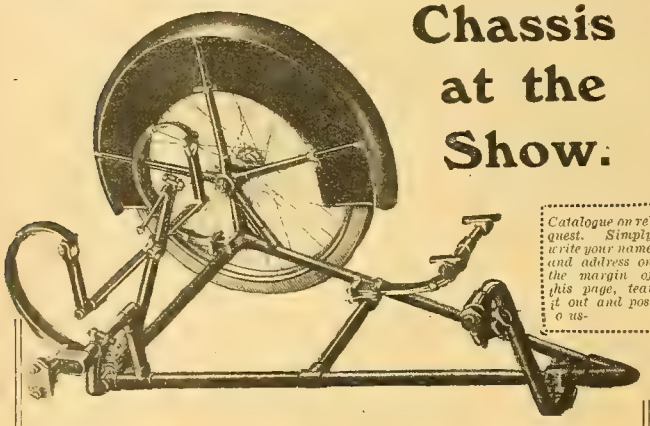
4-cylinder Motor Cycle Combination.

Olympia Show Models of all the above are on show here, see them in comfort.

89, Great Portland Street,——————London.

Mayfair 5399.

The Triangular Chassis at the Show.



Catalogue on request. Simply write your name and address on the margin of this page, tear it out and post to us.

The Olympia Show proved the following points (among others)—

One— The triangular chassis is the most up-to-date and is certainly the design of the future. Dunhills hold the original patent for this triangular chassis (No. 4784/15), and it is embodied in all their models.

Two— The Dunhill Chassis combines maximum strength and rigidity with minimum weight.

Three— On a weight for weight basis, the Dunhill patent triangular Chassis is the strongest on the market—on a load for load basis there is no lighter chassis.

Five— Dunhill Sidecar bodies are *smart.*

Six— Dunhill Sidecars *study the passenger.* The bodies are given really careful thought and are built for comfort and convenience on the road; their finish pleases the most exacting.

Seven—The greatest efficiency and service combined with absolute "passenger comfort," a Dunhill Sidecar is the one to buy.

Write to-day and get the Dunhill Sidecar Catalogue for 1921. It is of interest to every motor cyclist. Simply write your name and address on the margin of this page, tear it out and post to us.

Dunhills Limited

SIDECAR SPECIALISTS

359-361, Euston Road, N.W.1.

GLASGOW: 72, St. Vincent Street.

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BUY IT FROM THE

North Wales Motor Exchange, WREXHAM.

We are open to accept orders for the following: Norton, Omega, Edmund, Powell, New Imperial, P. & M., Zenith, Indian, Rudge, James, Sparkbrook, Ixion, A.J.S., Levis, Sunbeam, O.K., Douglas, Scott, B.S.A., Matchless, Wooler, Ivy, Bradbury, Rover, and Allon Motor Cycles. Also Singer, Morgan, Coventry Premier, G.W.K., G.N., and Calthorpe Cars.

YOU ARE URGED TO BOOK EARLY.

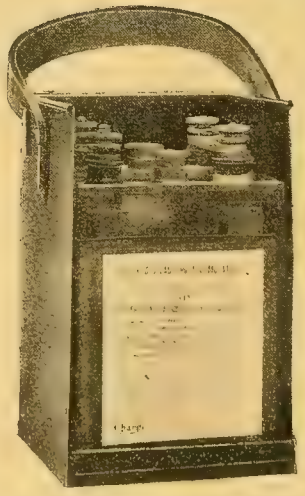
Send for our list of second-hand machines.

THE NORTH WALES MOTOR EXCHANGE

WREXHAM, N. WALES.

TELEPHONE 283.

An Exceptional OFFER!



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1	14/-	14/-
2	13/-	26/-
3	12/8	38/-
4	12/3	49/-
6	12/-	72/-
12	11/6	138/-

Carriage Paid. Cash with Order.

Illustration shows front of case taken out.

Size $5\frac{3}{4}$" × $3\frac{1}{2}$" × $3\frac{3}{4}$"

Surplus Government Accumulators

PETO RADFORD MODEL S.G. ACCUMULATORS

4 Volts. Capacity—12 ampere hour continuous, 24 ampere hour ignition.

DESCRIPTION.—Two separate cells consisting of 5 plates, each in a strong celluloid box with sealed lid, vent plugs and non-corrosive terminals; the two connected together by non-corrosive link and contained in strong black enamelled metal case with leather strap handle Never had acid in Weight 5 lbs. each.

Orders promptly executed.

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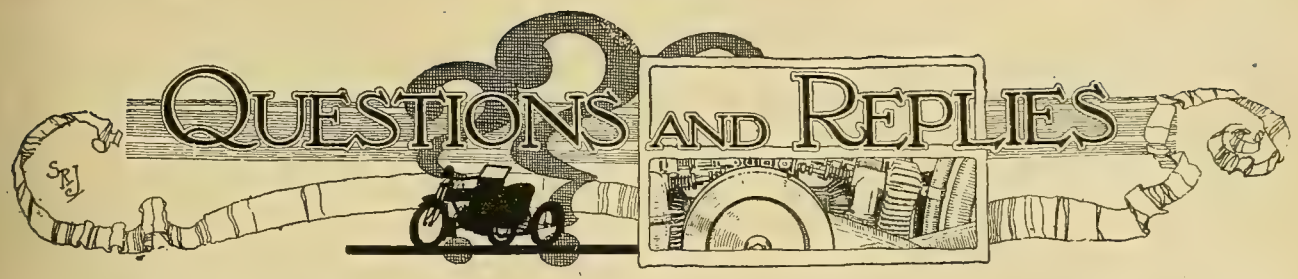

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Pressed Steel Wheels.

I should be pleased if you would kindly inform me whether there is such a thing on the market as a motor cycle wheel built entirely of discs, minus spokes, etc.—R.A.B.

There are no spokeless wheels obtainable which are suitable for existing motor cycles. Several French makers are using them, however, also the manufacturers of the Unibus.

Long Exhausts Again.

Could you kindly give me the full particulars respecting silencers or expansion chambers on motor cycles? A friend owns a Rudge-Multi solo machine, which is fitted with a tube 5ft. 2½in. long, and he is now summoned for not having a silencer or expansion chamber.—R.G.C.

The law demands that the exhaust gas shall first pass through an expansion chamber before being released into the atmosphere. Whether a long pipe alone constitutes an expansion chamber within the meaning of the law is a doubtful point; but if the machine is reasonably silent, it might be possible to contest the case.

Rebuilding a Scooter.

(1.) Will a two-stroke engine rotate in any direction, provided it is timed accordingly? (2.) What size engine sprocket should I require if I fit a 2¾ h.p. two-stroke to my scooter? The size of sprocket on the 20in. road wheel is twenty-four teeth. (3.) Is petroil lubrication quite satisfactory on a two-stroke of 2¾ h.p.?—P.D.S.

(1.) Theoretically the two-stroke engine will run in either direction, provided it is timed accordingly. Practically, however, we cannot say whether it would be advisable to do this, as we do not know to what engine you refer. (2.) You cannot drive directly from the engine to a 24T sprocket on the right wheel, as you would require a reduction of about 6 to 1; this would mean that you would require a 4T sprocket on the engine-shaft, which, of course, is impossible. The smallest size you can fit on the engine-shaft to obtain reasonable satisfaction is 12T (½in. pitch), and, therefore, you would need one of about 72T on the rear wheel, which is impracticable. (3.) The petroil system is quite satisfactory if the engine has been designed for this type of lubrication.

Higher Gear Ratios Wanted.

I am in possession of a 3 h.p. Neal Dalm two-stroke motor cycle with a top gear ratio of 5½ to 1. I wish to give it a gear of 4 to 1. (1.) Would this be too high? (2.) What size pulley should I need? The driving sprocket has 18 teeth, the gear box sprocket 32 teeth, the rear wheel belt pulley is 19in. in diameter, the gear box pulley 6in. (3.) Which would be the most advisable to change, the pulley, the gear box, or the engine sprocket?—T.L.D.

Your present top gear ratio is approximately 5½ to 1, and it is probably the most suitable one for your machine. A 4 to 1 top gear would be much too high. In order to alter the gear ratio it will be necessary to fit a large sprocket on the engine-shaft. If you think the machine is under geared, try to get a sprocket with either 19 or 20 teeth—probably 19 would be the more suitable.

Accident to a Dog.

I was out for a run recently when I had the misfortune to run over a dog. I overtook a flock of sheep which was in the care of two men and two dogs. I had a passenger in the sidecar with me at the time, and I had the machine well under control, and was running very slowly. I had passed one man and dog, and was about half-way through the sheep when the other dog ran right into my front wheel, which went over its hindquarters. Both I and my passenger did all we could to attract the attention of the dog, which came into us suddenly (it was not looking in our direction). I pulled up within 3ft. of the dog, which lay on the ground, but after a short time it got up and walked away with the men. At the time of the accident one of the men was driving the sheep to the side of the road to make room for us to get by. Will you please give me advice as to my responsibility?—T.M.

Provided that you were not travelling at an excessive speed, and that you took every care to avoid a collision with the dog, and provided you can produce witnesses to support any statements you may make in regard to the case, we do not think that you can be held responsible for the injury. We should certainly advise you to ignore any demand made by the owner of the dog, and you should not in any way prejudice your case by offering him compensation. Allow him to take action if he pleases, and place your own case in the hands of a good local solicitor.

Copper Piping for Acetylene Lamps.

Is it dangerous to use copper piping to conduct acetylene gas to a rear light? I am using one generator, as now, in this weather, I have disconnected the sidecar, and ride solo; and, to avoid a long length of rubber tubing, I have used copper pipe, passing through the clips under the tank, and, of course, connected to the generator and lamp with short lengths of rubber tubing. I was informed recently that spontaneous combustion is likely to occur.—I.J.

The danger of using copper piping for acetylene gas is that the action of the latter upon the copper creates an explosive compound which is liable to detonate when subjected to a sudden blow. On a small scale, however, it is quite unlikely that the formation of this compound will be sufficient to cause any trouble, and we ourselves have used copper tubing for this purpose many times. As it is as well to be always on the safe side, however, it would no doubt be better to use brass tubing.

Compensation for Lost Machine.

On September 6th last I consigned my motor cycle to the makers at Coventry. It has been lost without any chance of recovery, and the railway company are willing to compensate up to the value of the machine when lost. It was purchased new in March of this year, and had run 5,000 miles at the time of the loss. The purchase price was £105. The whole machine was in perfect order, except in one or two minor details. In view of the fact that a duplicate of this machine could not be purchased much under list price at the time of the loss, I have claimed £127 10s., less £4, the estimated cost of the replacements. The company wish to settle on the basis of the cost of the machine; but I think this unfair, for the result will be that I have to lay out £24 through their fault, if I am to be sure of obtaining as good a machine as the one they lost. Will you please say what you consider would be a fair basis for the settlement of my claim?—C.F.P.

It is rather difficult to say what should be done in the case you describe. If the machine only cost £103 in the first case, and has since run 5,000 miles, we cannot think that it was in such perfect order as to be equal in value to a brand new and unused machine of the same make. If the railway company are willing to pay the full amount of £103, we think you would be wise to accept it.

A Converted Magneto Lighting Set.

I have converted an old magneto into a lighting generator by winding the armature with 23 S.W.G. I am driving it at one and a half times the speed of the engine, with the result that I am getting an output of 12.15 volts ½ ampère. So far, the results are satisfactory, as I am getting quite a good light. I am using a fuse in the circuit for safety in case of excessive speeds. (1.) Can I increase the ampères by winding the field magnets so that the lamps will be working in series with the field windings? (2.) Would 23 S.W.G. be suitable? (3.) What is the limit in ampères that 23 S.W.G. will pass?—J. T.

It is doubtful whether you can increase the amperage by doing as you suggest, as the magnets of a magneto are hardened steel, whereas you would need soft iron magnets to get the effect you desire. You might experiment with a temporary winding, so that the induced polarity assists, and does not oppose the polarity of the permanent magnet. 23 S.W.G. wire, the same as you are using for the armature, will answer the purpose. Wire of this gauge will pass about .75 amp. continuous current, but the limit depends upon the winding insulation, etc. Provided the armature does not become unduly hot, you may assume that everything is in order.

A Question of Date.

In January last I purchased a 1916 W.D. Douglas, advertised as uncrated August, 1919. This was my first essay at motor cycling, and as things were not quite as I thought they would be, I advertised the machine for sale as a 1916 2¾ two-speed W.D. Douglas, uncrated August, 1919, in your issue of April 22nd. Early in May, in response to an application, I sent the machine to a prospective purchaser, using your deposit system as a safeguard. After retaining the machine a week he agreed to buy, and on May 31st I received a letter from him to say that he had just spent a successful tour of the Lake District, and was in every way satisfied with the machine. On October 1st (nearly five months later), I was surprised to hear from him to the effect that he had just taken the machine down and found that the rear cylinder was of 1913 pattern, and accusing me of misrepresentation. He sent me no proof whatever, declaring that he paid £5 more than the machine was worth in the first place (which is surely his own fault), and saying he would be satisfied if I would contribute £7 towards the overhaul, or he would consider a reasonable offer. Unfortunately the gentleman from whom I bought the machine can only give me his word of honour that he actually saw it uncrated at Grove Park in August, 1919.—H.W.M.

Before the buyer can succeed in an action against you, he would have to prove that you deliberately misrepresented the date of the machine. There is no doubt that the explanation is that in the Army workshops, machines were frequently dismantled in large quantities, and after the separate parts had been put in good order, they were reassembled, and in consequence parts of various dates found their way into the composite machines, which were those turned out. You would be well advised to ignore the claim which has been made against you.

The Weight Basis of Taxation.

Re the new motor cycle taxation which comes into force next year, does the 200 lb. dividing weight apply to the machine *stripped of accessories*, or will these be added in arriving at the correct weight? I ask because I possess a lightweight which, without lamps, tools, etc., weighs just under 200 lb., but with them a few pounds over the mark. —INTERESTED.

Up to the present time no definite ruling has been laid down, but we assume that the unladen weight of the machine, as delivered by the makers, will be required. The tank should be empty, and the lamps, tools, etc., should not be included.

IMPORTANT DATES.

Dec. 10th-19th—
Brussels Show.

Dec. 27th-28th—
M.C.C. London-Exeter Run.

Jan. 28th to Feb. 5th, 1921—
Scottish Motor Exhibition, Kelvin Hall Glasgow.

Effects of Prolonged Wear.

I have an old W.D. 4 h.p. Triumph, and I wish to know what to do to make it less noisy. There is a clatter, which seems to come from the valves. Also, what is wrong with the gear box? It does not slip at the clutch, but it jumps when in second gear.—H.C.

The noise arising from the valves is no doubt due to worn cam gear or to excessive tappet clearance. Probably new parts will be required. If the second gear jumps out repeatedly, it is almost certain that the operating mechanism is worn, and we should advise you to renew the pins and yoke ends which connect the control lever to the operating lever on the gear box.

Reliability of Flat-twin Two-stroke.

I am thinking of purchasing a flat twin two-stroke engine for building a cycle car. Could you advise me on these engines? Are they as reliable as a single-cylinder, and would there be any trouble from one crank case blowing through into the other?—G.H.

There should be no trouble with regard to reliability with this type of engine. You are mistaken in believing that there is a division between the two parts of the crank case; with the flat twin two-stroke, both cylinders fire at the same time, and consequently one crank case is sufficient for compression. Your greatest difficulty would be in obtaining a suitable form of ignition, and you would need to obtain a special two-spark magneto.

Magneto Lighting.

Can one draw current for lighting from an ordinary magneto, with a low-tension switch fitted, which serves also for the ignition of motor, and if so, what is the voltage of the lamps used? —HOLLAND.

Electric lights may be run from the low-tension switch of an ordinary magneto, as when the engine is running at its normal speed there is a considerable amount of surplus current. Four volt flash lamp bulbs are used. The system works best with twin cylinder engines, or two strokes; it is not nearly so satisfactory with single cylinder four-stroke engines.

Timing a Flat Twin Two-stroke.

(1.) What is the correct magneto timing for a 4½ h.p. Levis flat twin two-stroke engine? At present it is timed to fire at the top dead centre with magneto fully retarded. I notice, in answer to a question in a recent issue, you advise a more advanced timing for a Scott. Would my engine be improved in power by advancing the present setting? I am using a Thomson-Bennett double spark magneto. (2.) The carburetter fitted is an automatic Amac. What should be the probable size of jet required for this engine?—E.C.L.

(1.) The engine is correctly timed if the spark occurs when the pistons are on top dead centre, with the ignition control fully retarded. You may find a slight advantage by advancing a little further, but this is a matter for experiment. In the particular case to which you refer, we know that the engine will stand a greater advance. (2.) A 26 or 27 jet should be most suitable. The makers of the engine, however, might give you the benefit of their own experience if you write to them.

RECOMMENDED ROUTE.

CAMBRIDGE TO BURTON-ON-TRENT.—G.T.B.

Fenstanton, Godmanchester, Huntingdon, Ellington, Spaldwick, Hythorn, Thrapston, Cranford, Barton Seagrave, Kettering, Rothwell, Desborough, Market Harborough, Great Glen, Leicester, Groby, Hugglescote, Burton-on-Trent.

GRIMSBY TO KIRKBY MALHAM.—B.D.

Laceby, Caistor, Market Rasen, Caenby Corner, Gainsborough, Bawtry, Doncaster, Wentbridge, Ferrybridge, Boot and Shoe Inn, West Garforth, Killingbeck, Leeds, Headingley, Otley, Burley-in-Wharfedale, Ilkley, Addingham, Skipton, Kirkby Malham.

PETERBOROUGH TO SOUTHPORT.—R.W.C.

Wansford, Duddington, Uppingham, Billesdon, Thurnby, Leicester, Mountsorrel, Loughborough, Hathern, Kegworth, Shardlow, Derby, Mackworth, Kirk Langley, Brailsworth, Ashbourne, Hanging Bridge, Waterhouses, Leek, Bosley, Macclesfield, Broken Cross, Cholford, Knutsford, Hoo Green, High Legh, Latchford, Warrington, Sankey Chapel, Clockface, St. Helens, Rainford, Ormskirk, Scarisbrick, Southport.

The Show is over—that is so far as Olympia is concerned. But the wonderful show at Godfrey's continues all the year round.

Here at 208, the motorist can inspect the latest models at leisure, and be sure of getting earliest delivery.

There are other advantages, too, in dealing with this well-known firm:

Every machine is tested before being handed to the customer.

Every second-hand machine is thoroughly overhauled and guaranteed.

Customers can either pay cash or take advantage of our Deferred Payments System—one quarter down, and 12 equal monthly instalments.

Make a point of calling on Godfrey's now the Show is over. If this is not possible, write for our full lists. We have still a few new 1920 shop-soiled combinations and solo machines at specially reduced prices.

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SUPER—WILKIN—EFFICIENT

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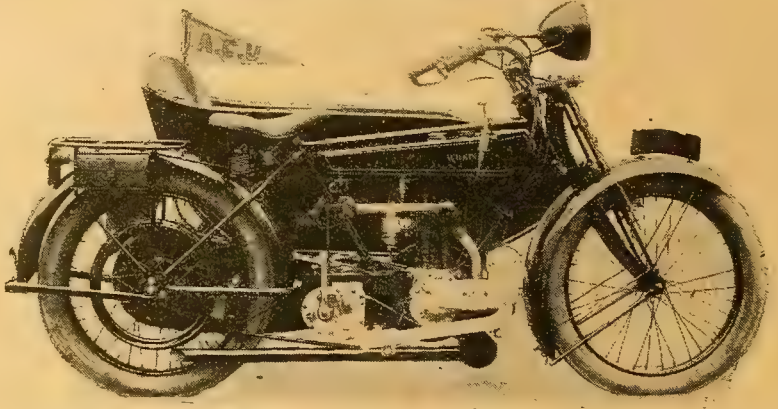

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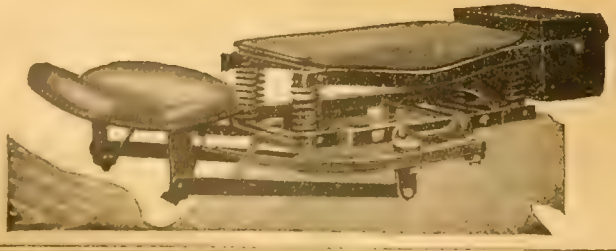

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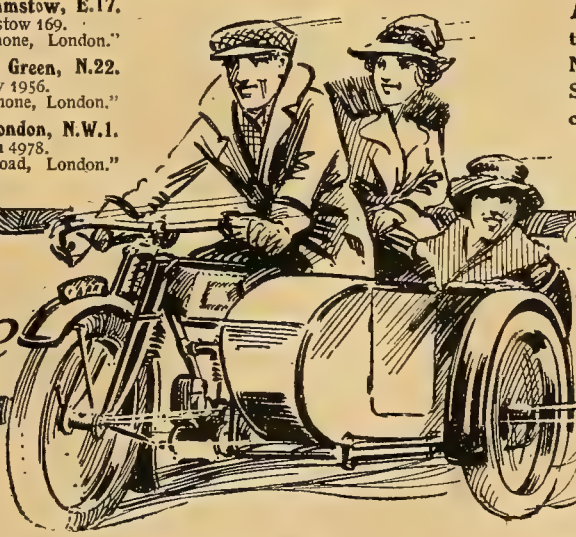

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MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A., 1919, 3-speed, K.S., canoelet sidecar; nearest £80, must sell.—29, Chapel Rd., West Norwood. Tel.: City 2423. [2359

B.S.A. 1920 4¼h.p. model, Miller's head and rear lamps, Lucas horn, as new; £70.—Parker's, Bradshawgate, Bolton. [X2907

1918 B.S.A., Rover sidecar, 4½h.p., chain-cum-belt, lamps, horn, perfect; £100.—Wintle, Nowton, Bury St. Edmunds. [2572

1920 (June) B.S.A. 4¼h.p. All-chain Combination, wind screen, luggage grid, insurance, etc.; £135.—Linnitt, Bath Rd., Devizes, Wilts. [2405

B.S.A. Combination, 1917, 3-speed, clutch, kick start, Easting, lamps, accessories, perfect condition; £115.—Holmes, 21, Sefton St., Southport. [2452

B.S.A., C.S. 3-speed K.S., all chain, 1916, perfect running order; £55, a snip; no letters.—31, Tupman Place, Friar St., Blackfriars, London. [3037

1920 B.S.A. Model H Combination, brand new, slightly shop-soiled; £125.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [2204

B.S.A. Combinations, actually in stock for immediate delivery; price and catalogue on application.—District agents, The Walsall Garage, Walsall. Tel.: 444. [8999

1919 4¼h.p. B.S.A., with B.S.A. sidecar, Tan-Sad, all accessories, perfect order, as new, only run on early-closing days; £125.—Sandall, Sheep Market, Spalding. [2383

B.S.A. 1917 4¼h.p. Combination, luggage grid and accessories, condition excellent, insurance transferable; any trial; £130.—Bruce, Plough Cottage, Marlborough. [2788

F.O.C.H. for 1921 B.S.A.'s; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2554

B.S.A., 4¼h.p., 1920, 3-speed, Model H, all-chain, fitted with B.S.A. No. 2 sidecar, unused, shop-soiled; reduced price £138.—Eagles and Co., 275, High St., Acton, London. [X2892

B.S.A. 1920 4¼h.p. All-chain Combination, Lucas Magdyno, B.S.A. sidecar, screen, apron, Klaxon, tools, mileage 300, guaranteed as new; £160.—30, Crystal Palace Park Rd., Sydenham. [2862

B.S.A., Model K. £107, H. £110, D. £90, A. £150; combination, Model K. £149, H. £152, A. £198; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London, W.1. [0330

B.S.A. 1920, with B.S.A. 1920 sidecar, all chain, Klaxon, electric lighting, luggage grid with mahogany luggage locker, as new; £145.—Apply, B.S.A., Omra, Regent's Park Rd., Church End, Finchley, N.3. [2526

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New B.S.A. machines from stock, chain and chain-cum-belt, delivered from stock, prices £110 and £107 respectively; also 4¼h.p. B.S.A., 1919, chain-cum-belt, £85. [3061

3½h.p. B.S.A., single gear, rebushed, new crank pin, 2 horns, light machine, £38; coachbuilt sidecar, underslung, 4-point, locker and luggage grid, £18; offers, or exchange both for 2¾h.p. Douglas.—43, Coleraine Rd., Blackheath. [2837

Calthorpe.

CALTHORPE-J.A.P., Enfield 2-speed, good condition, lamps, horn, etc.; £38.—Chamberlain, Burringham, Doncaster. [2449

1920 2¾h.p. Jap-Calthorpe Motor Cycle, new; £74/11.—King and Harper, 6 and 7, Bridge St., Cambridge. [8940

1914 4¼h.p. Special T.T. Calthorpe-Precision, T.T. bars, Bosch, B.B., discs, long exhaust, new belt, very fast; trial; £47.—Ford, Sotwell, Berks. [X2941

1920 2¼h.p. 2-speed 2-stroke Calthorpe Motor Cycle, new; £71/8.—King and Harper, 6 and 7, Bridge St., Cambridge. [8939

CALTHORPE 2½h.p., 2-speed, free engine, just overhauled, splendid condition; bargain, £35.—Harp, Wayford Rectory, Crewkerne. [2813

CALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed gear, perfect running order, nice appearance; bargain, £37/10.—Dorsett, 211, Garratt Lane, Wandsworth. [3016

1916 Calthorpe-Jap Coachbuilt Combination, 4-5h.p. twin, Enfield 2-speed gear, electric lighting, excellent condition; £80, or offers.—C. Smithdale, Acle Hall, Norfolk. [2581

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon, all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE-J.A.P. and 2-stroke, latest 1920 models, fitted with Enfield gears, new and unused; at greatly reduced prices.—Eagles and Co., 275, High St., Acton, London. [X2894

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7180

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Calthorpe

CALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed gear and clutch, shop-soiled only, bargain, £66; also shop-soiled 2¾h.p. 2-stroke model with Enfield gear, £63.—P. J. Evans, 81-91, John Bright St., Birmingham [X2606

Campion.

6h.p. Campion-Jap Combination, new June, 1920, in perfect order, all on; £170.—Cresswell, High St., Grantham. [2444

CAMPION-J.A.P. 2½h.p., 2-speed countershaft, nearly new tyres, nice little mount; £32/10.—43, Trevelyan Rd., Tooting, S.W.17. [3029

SECOND-HAND 2¾h.p. Campion-Jap, 2-speed, clutch, and kick starter, bought new a few months ago; £50; may be obtained on deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [2661

Chater-Lea.

CHATER-LEA, 6-8h.p., twin, Bosch, 1917, Amac, just rebushed, overhauled, list £10 shown, hand clutch, good tyres and condition; £38; any trial.—21, Alexander Rd., Aldershot. [2348

Cleveland.

CLEVELAND 3h.p., shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7181

WRITE for Catalogue of the 3h.p. Cleveland, with kick starter, clutch, and 2-speed gear; price £85.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0279

Clyno.

CLYNO 2-stroke, 2 speed, clutch, as new; £53.—97, Pendle Rd., Streatham, S.W. [2724

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. Clyno combination, 1917; £115. [3062

1920 2¼h.p. Clyno Motor Cycle, new; £75.—King and Harper, 6 and 7, Bridge St., Cambridge. [8937

CLYNO, countershaft, perfect ride away; offers.—Mitchell, 44, Wellington St., Camden Town. [2672

1920 8h.p. Clyno Standard Combination, new; £250—King and Harper, 6 and 7, Bridge St., Cambridge. [8938

CLYNO 1918 Combination, 6h.p., 4 interchangeable wheels; any trial; 100 gns.—280, Camberwell Rd., S.E.5. [1561

CLYNO Lightweights and Combinations.—Write Rothwell and Milbourne, Cowleigh Garage, Malvern. [1795

CLYNO 1921 De Luxe Model Combination; best offer clears; Clyno 1920 2-stroke; £75.—Garage, Horsmonden. [3013

JUNE, 1920, Clyno, 2-stroke, 2-speed, clutch, 1,400 miles, lamps, horn, spare tube, excellent condition; bargain, £58.—Jaques, College Rd., Oldham. [2491

CLYNO Lightweight, 1920, shop-soiled, at greatly reduced price. Now is the time to buy.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [2930

CLYNO Combination, exceptional condition, speedometer, handle-bar screen, leg shields, spare wheel, acetylene lighting, insurance; £95.—Write Tudor House, Riverside, Kingston-on-Thames. [2728

1916 Clyno Combination, spare wheel, 2 new combination covers, dissolved acetylene, exceptional condition, black and gold; £105; solo part.—65, Clifton Av., Wembley Hill, Middlesex. [2729

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3459

1917 6h.p. Clyno and luxurious Dunhill's sidecar, Easting screen, detachable wheels and spare, Binks carburetter, makers' colours, lamps, tools, spares, Klaxon, mirror, in new condition; 92 gns.—Oakdene, Anerley Park, S.E.20. [2827

CLYNO 8h.p. 1921 Combination.—Batchelor and Co., East Surrey agents, have a new 8h.p. combination; demonstration runs given; orders booked for very early delivery.—Batchelor's, Clarence St., Kingston-on-Thames. 'Phone: 1809. [9545

CLYNO 1913 Combination, 3-speed, spare wheel, all Clyno luxuries, electric light, speedometer, 5 tyres, 3 brand new (two 3in.), spares include cylinder, valves, races, cones, rings, chains, etc., only done 300 miles since completely enamelled and engine and gear box overhauled by makers, beautiful sidecar, in owner's posession since new, laid up during war; the whole magnificent order; will ride 100 miles to purchaser; any trial with pleasure; sacrifice £85.—Thomas, Bayville, Emsworth, Hants. [2757

Connaught.

1920 Connaught 2¾h.p., kick start, 2-speed, clutch, all accessories; £65.—Brockway, 74, Cophall Gardens, Twickenham. [2422

CONNAUGHT Miniature 2½h.p., 2-speed gear, shop-soiled only, bargain, £62; also shop-soiled single speed model, £52/10.—P. J. Evans, 81-91, John Bright St., Birmingham. [X2607

MOTOR CYCLES FOR SALE.

Coulson.

1920 2¾h.p. Coulson-B, brand new; what offers?—Hopkins, Motors, Ledbury. [2480

1920 Coulson B., 4h.p., with 1920 Gloria sidecar, condition as new; £150.—McDonald, 21, West Parade, Lincoln. [2799

COULSON-B, 4h.p. and 2¾h.p. models, shop-soiled; at greatly reduced prices; now is the time to buy —Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7182

NEW Coulson B, 2¾h.p., £99/15; fitted with 2-speed gear, spring frame, Blackburne engine; 2¾h.p model, with clutch and kick starter, £110/5; 4h.p., with 3-speed, clutch, and kick starter, etc., 118 gns.; if fitted with smart boat-shaped sidecar, painted royal blue, £162/10, or on deferred payments 4⅞ extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [2652

Coventry Eagle.

COVENTRY Eagle, 1916, Villiers engine, 2-speed gear, excellent condition throughout; £48.—Gregory, 16, Victoria Rd., Frome. [X2787

De Luxe.

DE LUXE 2-stroke, 1919; £33, no offers.—30, Copsewood Rd., Watford. [X2602

Diamond.

DIAMOND 2-stroke, new; £56.—Clark, 7, Exhibition Rd., S.W.7. [1501

DIAMOND-VILLIERS, 1920, 2-stroke, complete with all acessories, mileage under 500, like new; £55.—Watling, 7, Bournebrook Rd., Birmingham. [2970

1920 2¾h.p. Diamond-Jap, 2-speed and clutch, Stewart horn, P. and H. lamp, new last August, condition good; 47 gns.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [3000

Douglas.

DOUGLAS, Douglas, Douglas.

1921 Models in Stock; 4h.p. combination, £170 4h.p. solo, £130; 2¾h.p. clutch model, £105; 2¾ h.p. without clutch, £100.—Douglas Specialists, Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0315

1920 4h.p. Douglas Solo, brand new; £118.—Below.

1920 4 h.p. Combination, lamp sets, D.A. cyl., mirror, Cowey horn, speedometer, Easting, perfect condition; £134.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [2205

1917 Douglas, less mag. and a few parts; £25.—33, Hackford Rd., Brixton. [2759

1920 Douglas 2¾h.p., 3-speed, clutch, as new; £85. —Boulton, Saffron Walden. [2463

1911 Douglas, 2-speed, clutch, good order; £25.—Box 9,776, c/o *The Motor Cycle*. [2586

1916 Douglas 2¾h.p., 2-speed, all accessories; £45. —33, Hackford Rd., Brixton. [2761

DOUGLAS, late 1914, 2-speed, very fast; £39; must sell.—3, Cedars Rd., Beckenham. [2446

DOUGLAS 1921 2¾h.p., 3-speed, clutch, in stock.—Clark, 7, Exhibition Rd., S.W.7. [2594

1919 2¾h.p. Douglas, little used, well kept; £68, bargain.—78, Fordel Rd., Catford. [2423

DOUGLAS.—Early deliveries all models.—Pollard, Broomfield Rd. Garages, Chelmsford. [X2913

4h.p. Douglas, incomplete; reasonable offer accepted to clear.—41, Turnpike Lane, Hornsey. [2990

DOUGLAS.—A fine assortment in stock at prices to suit all.—Ross, 86, High St., Lee. [3848

DOUGLAS 2¾h.p., 1920, 3 speeds, clutch, as new; £90.—Messiter, Vicarage, Kingswinford. [X2890

1918 Douglas Combination, lamps, etc., splendid condition; £80.—26, Clare Rd., Maidenhead. [2575

DOUGLAS 2¾h.p., overhauled, splendid condition; £25, offer.—18, Purcell Crescent, Fulham. [2666

BRIGHTON, Hove and District Douglas agents.—Turpin', 22 and 29, Preston Rd., Brighton. [0201

£45 Douglas 1916 2¾h.p., absolutely as new.—Side Door, 36, High St., Hampstead, N.W. [2784

1911 Douglas 2¾h.p., 2-speed, perfect, £36.—Fell View, Dalton Lea Gate, Lambley, Carlisle. [X2601

DOUGLAS 1916 2¾h.p., re-enamelled and plated, guaranteed; £60.—15, Birchwood Rd., S.W.17. [2877

1919 4h.p. Douglas Combination, screen, lamps, mileage under 500; £110 - 12, Adams Mews, W.1. [2732

1916 4h.p. Douglas Combination, 3-speed, as new; £70. Freeman, 181, Tottenham Court Rd., N.1. [2671

1918 Douglas 2¾h.p., lamps, chain case, spares, tools, new tyre; £68.—Dyer, Silk Mills, Redbourn, Herts. [2773

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1921 8 h.p. **MATCHLESS** Combination.
1920 2¾ h.p. **NEW IMPERIAL,** 2-speed.
1920 2¾ h.p. **NEW IMPERIAL,** with clutch and kick starter.
1920 3½ h.p. **LEA-FRANCIS,** 2-sp., clutch, and kick starter.
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1920 4½ h.p. **B.S.A.,** 3 speed, clutch, and kick starter.
1920 6-7h.p. **B.S.A.,** 3-speed, clutch, and kick starter.
1920 3½ h.p. Isle of Man **RUDGE.**
1920 8 h.p. **ZENITH,** sports model.
1920 5-6h.p. **A.J.S.** Combination.
1920 4 h.p. **TRIUMPH,** 3-speed, and starter.
1920 2-stroke **TRIUMPH,** 2-speed.
1920 5-6h.p. **JAMES** Combination.
1920 6 h.p. **ENFIELD** Combination.
1920 8 h.p. **MATCHLESS** Combination.
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1915 4 h.p. **TRIUMPH,** 3-speed	**£75**
1915 4 h.p. **TRIUMPH** and accessories ..	**£85**
1920 2-stroke **JAMES,** 2-speed, and acces.	**£70**
1920 4 h.p. **DOUGLAS** Combination and accessories	**£155**
1915 4 h.p. **TRIUMPH** and Sidecar	**£105**
1920 8 h.p. **MATCHLESS,** dynamo lighting and all accessories	**£205**
1919 8 h.p. **ZENITH,** sports model, with Sidecar and accessories	**£135**
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MOTOR CYCLES FOR SALE.

Douglas.

1919 4h.p. Douglas Combination, electric lamps, disc wheels, splendid order; £135.—Hopkins, New St., Ledbury. [2481

1918 Douglas 2¾h.p., Douglas 4h.p., late, and condition guaranteed; offers.—Ford, Watchmaker, Redhill. [2704

1920 2¾h.p. 3-speed Clutch Starter Douglas Combination; £135, or exchange.—5, Victoria Av., Surbiton. [2733

1919 2¾h.p. 2-speed Douglas, well equipped, powerful, and perfect; £58.—60, Wallingford Av., N. Kensington. [2762

LATE 1919 2¾h.p. Douglas, splendid condition, many spares; £85.—Parker, London Road Garage, Bathampton, Bath. [2531

DOUGLAS 2¾h.p., 1917, completely overhauled, makers' colours; snip, £40.—3, Courtlands Av., Lee, S.E.12. [2939

1915 Douglas 2¾h.p., running order, horn, pillion, etc.; £50; Saturday and Sunday.—5, Eileen Rd., South Norwood. [2746

1916 2¾h.p. Douglas, electric lights, legshields, a really good mount, 2 speeds; £55.—76, Western Rd., Southall, W. [2523

DOUGLAS 2¾h.p., W.D., 1915; £60, or offer; sound and reliable in all weathers.—Evelyn Wood, 73, Bexley Rd., Erith. [2400

£55.—Douglas 2¾h.p., 1916, plating and enamel new, perfect throughout; real snip.—49, Fassett Rd., Kingston-on-Thames. [2851

DOUGLAS New 1921 Solo and Combination in stock; cash, exchange, or easy payments.—Motories, 25, Horton St., Halifax. [2539

DOUGLAS 1919 2¾h.p., condition as new, fast and powerful; £65.—Dentist, 216, Portobello Rd., North Kensington, W. [2039

DOUGLAS 2¾h.p., 1914, T.T., 2-speed, lamps, horn, good condition; £46.—Findlay, Crannoch, Larbert, Stirlingshire. [2781

1920 Douglas Combination, lamps, Klaxon, insurance, splendid condition; £125.—Aldridge, 13, Veronica Rd., Balham. [2710

NEW Douglas 4h.p. Combination, complete, unscratched; sacrifice, cash wanted.—Basement, 23, Crescent Grove, Clapham. [2902

1921 Douglas, 2¾h.p., 3-speed, clutch, K.S., unscratched, 50 miles, lamp, horn; £101.—Box 9,725, c/o *The Motor Cycle*. [2346

1921 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Douglas Agent, Yeovil. Tel.: 50. [5043

DOUGLAS 2¾h.p., 3 speeds, clutch, kick start, lamps, horn, mirror, etc.; £68.—Bennett, Bungalow, Knoll Hill, Clent, near Stourbridge. [X2923

SPEED Douglases.—Each machine prepared to individual requirements.—Robert Bamford (see under Consulting Engineers). [6693

DOUGLAS 4h.p. Solo, just delivered, lamps, horn, tools, and insurance; nearest £120.—Seen Ward's Garage, Tubbs Rd., Willesden. [2497

1919 Handsome 4h.p. Douglas Combination, equipped regardless, mileage 1,000, perfect; £110.—60, Wallingford Av., N. Kensington. [2763

1916 2¾h.p. Douglas, uncrated 1919, small mileage, new saddle, pump, tools, etc.; £56.—1, Melrose Rd., Merton Park, S.W. [1990

£30.—4h.p. Douglases, few parts missing, all late. Call early and have your pick.—Banister and Botten, 341, Upper St., London, N.1. [2899

£85.—New 1921 model 2¾h.p. Douglas, 2-speed, just put on the market; immediate delivery.—Moffat, Douglas Agent, Yeovil. 'Phone: 50. [2683

1915-16 2¾h.p. Douglas, Pedley grips, pump, horn, etc., very fast, any trial, perfect mechanical condition.—Longland, Crowland, Peterborough. [2395

DOUGLAS, 1918, 4h.p., discs, long exhaust, Brooks, lamps, 2 horns, and renovated, a top-hole 'bus; £90.—Fox, 226a, Unthank Rd., Norwich. [2694

DOUGLAS, 1920, 4h.p., fitted Lucas dynamo lighting set, as new in every way; £120; owner bought car.—Pollard, Broomfield Rd., Chelmsford. [X2914

4h.p. Douglas Combination, completely equipped, special sidecar, smart, good condition, insured £125; accept £95.—15, Dorset Rd., Wimbledon. [2664

1918 4h.p. Douglas Combination, appearance as new, makers' colours, hood, screen, lamps, etc., a luxury; £90.—Box 9,791, c/o *The Motor Cycle*. [2989

DOUGLAS, 1920, 2¾h.p., 3-speed, clutch, kick-starter, Binks, knee grips, 1,500 miles, as new; any trial; £85.—71, Holywell Av., Monkseaton. [2372

DOUGLAS, 2¾h.p., 1919, 2-speed, purchased new from makers, in perfect condition, extra large tyres, aluminium chain cover, tool roll complete, insured till June next, spares; £75.—Moore, 61, Highbury New Park, London, N. [2225

MOTOR CYCLES FOR SALE.

Matchless.

MODEL H 1920 Matchless Combination, 8h.p. J.A.P., Lucas electric lighting, spare wheel, Watford speedometer, screen, sidecar step, full kit of tools, mileage 2,000, insured, appearance as new, mechanically perfect; expert inspection invited; reason for selling, owner buying car; genuine bargain, £190, no offers; Glamorgan.—Box 9,777, c/o *The Motor Cycle.* (D) [2587

Metro.

1920 Metro-Tyler, all red, discs, all on, done 500 miles, beautiful condition.—161, Davenport Rd., Catford, S.E.6. [2354

Minerva.

MINERVA 3½h.p., good running order, low frame; £15/10.—29, Selkirk Rd., Tooting, S.W.17. [2785

3½h.p. Minerva, m.o.i.v., E.I.C. mag., Triumph carburetter, leaf springs, forks, adjustable pulley, long exhaust, ride away; £21.—Bell, Fellside, Lambley, Carlisle. [2301

National.

1920 2¾h.p. National-Union 2-stroke, E.I.C., B. and B., Burman 2-speed, clutch, kick starter; nearest £60.—Hardman, 10, Lorne Terrace, Darlington. [2737

New Hudson

1918 New Hudson 2-stroke, 2-speed, electric lighting, Lucas horn; £50.—128, Coopers Lane, Smethwick. [2811

1920 2¼h.p. New Hudson, brand new; £65.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [2207

NEW HUDSON Lightweight 2-stroke Show Models for sale; £75.—New Hudson Cycle Depot, 45, Gray's Inn Rd., London, W.C.2. [1821

NEW HUDSON, 3½h.p., Bosch, good tyres and belt, good appearance, in running order; £40. — 11, School View, Rainsford End, Chelmsford. [2949

LATE 2¾h.p. New Hudson-Jap, T.T. bars, discs, long exhaust, perfect, smart, fast, sporting; £36, quick sale.—9, Red Hill, Bassett, Southampton. [2817

1914 3½h.p. T.T. New Hudson-Jap, 3-speed, clutch, excellent condition, gears almost new; £45, near offer.—Gibbs, 58, Ashdown Rd., Worthing. [2495

NEW HUDSON 4h.p. Combination, late 1919, appearance like new, mechanically perfect, fully equipped; £115; exchanges.—Martin Mitchell, Ltd., Stafford. [1693

New Imperial.

1915 2¾h.p. 2-speed Imperial-Jap, fully equipped; £41.—Arthur White, Holbeach, Lincs. [X2931

1920 New Imperial Combination, condition as new; £160.—Wright's Garage, Saffron Walden. Tel.: 16. [2975

1920 8h.p. New Imperial Motor Cycle, new; £147.—King and Harper, 6 and 7, Bridge St., Cambridge. [8946

1916 New Imperial-Jap, 2 speeds, good condition, accessories, fully insured; £50.—Craft, Apsley End, Herts. [2356

NO. 2 1920 2¾h.p. New Imperial Motor Cycle; £89/5; new.—King and Harper, 6 and 7, Bridge St., Cambridge. [8945

NO. 1 1920 2¾h.p. New Imperial Motor Cycle, new; £80/17.—King and Harper, 6 and 7, Bridge St., Cambridge. [8947

NEW IMPERIAL Mortgomery Combination, full equipment; £110; solo wanted.—Box 9,733, c/o *The Motor Cycle.* [2390

NEW IMPERIAL, 2¾h.p., accessories, perfect condition; 48 gns., or exchange.—E. Pembrook, Grange Rd., Deal. [2366

NEW IMPERIAL-J.A.P., 2-speed, good tyres, good condition; £32/10.—Bennett, Wykeham House Cottages, Stanmore, Middlesex. [2858

1921 New Imperial, 2¾h.p. J.A.P., 2 speeds and clutch, kick starter; £89/5; exchanges or easy terms.—Homac's 243, Lower Clapton Rd., E.5. Dalston 2408. [2923

2¾h.p. New Imperial-Jap, 2-speed, 1915, Bosch, Dunlops, P. and H. lamps, good order; £42, or with Cowey £45.—Banwell, Heath, Leighton Buzzard, Beds. [2860

NEW IMPERIAL 8h.p. Combination, mileage 400, Orto triple wind screen, lamps, spares, excellent condition, appointment; price £125.—Pratt, 15, Clarges St., W. [2692

NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., 2-speed, kick starter, hand clutch, brand new, unused; immediate delivery; 85 gns.—Central Garage, Henley-on-Thames. [1074

WAUCHOPE'S, 9, Shoe Lane, London.—2½h.p. 1920 New Imperial-Japs, 2-speed clutch, and kick start models, £89/5; with 2-speed only, £80/17; cash or easy terms. [3052

NEW IMPERIAL, 2¾h.p. J.A.P., 2 speeds, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7186

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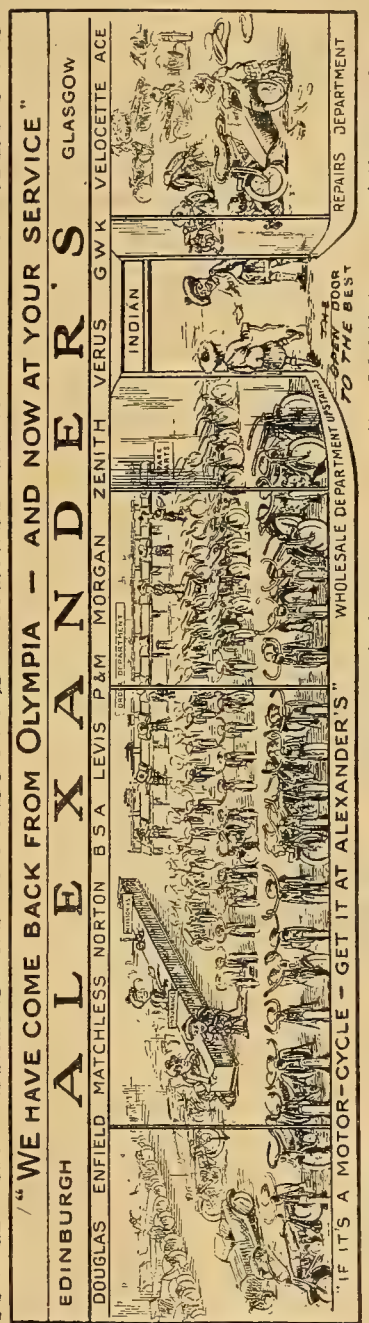

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New Imperial.

NEW IMPERIAL 1918 8h.p. Model, 3 speeds, kick start, hand controlled clutch, Sunbeam sidecar, Easting wind screen, full equipment, real bargain; £150.—Parker's, Bradshawgate, Bolton. [X2903

1921 New Imperial 6h.p. Combination, brand new, for immediate delivery; £186/18, as at Olympia; exchanges or extended terms. — Official agents, Homac's, 243, Lower Clapton Rd., E.5. Dalston 2408. [2922

NEW IMPERIAL 8h.p. Combination, Mills-Fulford sidecar, Easting wind screen, Lucas lamps, horn, tools, speedometer, Tan-Sad pillion, almost new tyres, excellent condition; £125; seen any time to 7 p.m.—Hedley and Son, Typewriting Engineers Rathgar Rd., Loughborough Junction Station, S.E. [2969

Norton.

NORTON.—North Yorkshire agents: R. H. L. Pickering and Co., 239, Linthorpe Rd., Middlesbrough. [2997

NORTON Big Four, all chain drive, just delivered; £135.—Turpin's, 22-29, Preston Rd., Brighton. [0204

NORTON Motor Cycles.—Place that order with me; early delivery dates.—Cook's Garage, Shifnal, Salop. [8136

1920 Big Four Norton Motor Cycle; £135; new.—King and Harper, 6 and 7, Bridge St., Cambridge. [8948

1920 3½h.p. Sports Model Norton, brand new; £98.—King and Harper, 6 and 7, Bridge St., Cambridge. [8949

NORTON Motor Cycles, sole district agents for Derby, all models in stock; enquiries invited.—H. Palin, Ltd., Bourne St., Derby. [8134

NORTON 1920 Big Four Model, Sandum sidecar, Cameo wind screen, fully equipped, as new; £150.—Parker's, Bradshawgate, Bolton. [X2904

1920 Big Four Norton, delivered last July, mileage under 2,000, Stewart horn, F.R.S. Major; £123.—A. Hewitson, 38, Grosvenor Rd., Birkdale, Lancs. 'Phone: 484 Birkdale. [2842

1920 3½h.p. T.T. 3-speed Norton, racing Amac, in spotless condition, and personally tuned by Mr. Leslie Mitchell; real snip for next season's competitions, will do 70 m.p.h. easy; preference given to rider wanting machine for speed events. Letters only.—Bullough's Motors, Ltd., Waterloo St., Oldham. [2457

N.S.U

6h.p. N.S.U. 2-speed Combination, Camber coachbuilt sidecar, any trial; £55.—18, Hartford Lane, Bexley. [2690

N.U.T.

N.U.T., only ridden 100 miles; for immediate sale, £150.—Pollard, Broomfield Rd., Chelmsford. [X2917b

1921 N.U.T. 3½h.p. Standard Model, Magdyno; £165; in stock.—Hewett Bros., 94, Western Rd., Hove, Sussex. [0343

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [6023

N.U.T.—Delivery from stock of these models, equipped with magdyno lighting; price £165; sole wholesale and retail agents for Staffordshire; the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [9002

1915 N.U.T., countershaft, 3-speed, clutch, 3½h.p., o.h.v. twin J.A.P., fast machine, over £20 spent on overhaul; £80; exchange late 5h.p. countershaft Zenith, Norton, Triumph; cash adjustment.—Evans, 57, Church St., Dunstable. [X2600

O.K

O.K. Junior 2½h.p., 2-stroke; 48 gns.—The Spalding Motor Co., Ltd., Spalding. [2432

O.K., 2¾h.p. J.A.P., 2-speed, late 1919; £50.—Perry, 3, Fanthorpe St., Putney, S.W.15. [2597

O.K., 1920, Villiers, bought October, as new; 44 gns.—Davies, Bowerham Dairy, Lancaster. [X2910

O.K., M.A.G. engine, 2 speeds, fine running order and condition; £35.—51, Finchley Lane, Hendon, N.W.4. [2933

O.K. Villiers 2½h.p., unused, cost 48 gns., must sell; what offers; cash or exchange.—Dorsett, 211, Garratt Lane, Wandsworth. [3017

Omega

2¾h.p. Omega-Jap, the sporting single; immediate deliveries.—Norwich Motor Co., Ltd., Norwich. [2787

OMEGA-J.A.P., 2¾h.p., 2-speed, 1920 model, only used for demonstration purposes; £60 to clear.—Campbell and Semple, 39, St. Leonard's St., Dunfermline. [2332

P. and M.

P. and M., very early deliveries.—Pollard, Broomfield Rd., Chelmsford. [X2915

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. P and M, 1920; £100. [3057

MOTOR CYCLES FOR SALE.

P. and M.

P. and M. 3½h.p., 2 speeds, countershaft, mag., runs splendidly; 29 gns.—53, Swaffield Rd., Wandsworth. [2569

P. and M., 1919, thoroughly overhauled and equal to new; £85.—Pollard, Broomfield Rd., Chelmsford. [X2916

1920 3½h.p. P. and M. Motor Cycle, quite new; £115.—King and Harper, 6 and 7, Bridge St., Cambridge. [8950

1918 P. and M., new Foxton sidecar, excellent condition; £90; lightweight and cash considered.—3, Lime St., Evesham. [2559

3½h.p. P. and M. 1919 Combination, lamps, hooter, speedometer; £110.—James, 12, Grange Rd., Upper Norwood, S.E.19. [3039

1914 3½h.p. P. and M. Combination, complete with lamps, good condition; £60.—The James' Garages, Ltd., Church Stretton. [2409

NEW 1920 P. and M. Combination in stock; two 1919 second-hand combinations, 95 gns.; exchanges.—Martin Mitchell, Ltd., Stafford. [1692

P. and M. Combination, re-enamelled, overhauled, perfect condition, must sell; genuine bargain, £60.—95, Dartmouth Rd., Forest Hill, [2

1914 P. and M., kick start, speeds, renovated, Lucas lamps, accessories; £58; accept lightweight part; photo.—Newing Green Farm, near Hythe. [2319

P. and M. about 1918, 2-speed, new condition, new roomy coachbuilt sidecar, all lamps, horn, tools; must realise; £90, gift.—365, King St., Hammersmith. [2517

P. and M., R.A.F. Model, excellent condition, thoroughly overhauled, all on, and spares; sell £55, or exchange Douglas.—11, Banbury St., Battersea. [2867

P. and M. Combination, Dunhill sidecar and storm apron, lamps, etc., fully equipped; £100, great bargain.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7188

P. and M. Combination, delivered 1920, lamps, horn, speedometer, tools, spare tyre, complete; this combination has been exceptionally well maintained; £110 cash.—208, The Rye, Dulwich, S.E.22. [2384

PHELON and Moore, Ltd.—R.A.F. models reconditioned and guaranteed; £90 solo, or £120 combination.—Fullest particulars on application, 4, Berners St., Oxford St. (opposite Bourne and Hollingsworth), W.1. [0314

P. and M. W.D. 3½h.p. Model, overhauled and guaranteed by us, £78; others not overhauled but in running order, £68; complete with Mills-Fulford sidecar, £100 and £110; deferred payments, no extra.—Maudes', 100, Gt. Portland St., W.1. [2917

P. and S.

P. and S. 2-stroke, 1920, 2-speed, fully equipped, small mileage; £55.—3, Courtlands Av., Lee, S.E.12. [2938

Peugeot.

5-6h.p. Peugeot, engine rebushed, Mabon clutch, pulley, handle-bar control, kick start, Dunlop belt, Splitdorf mag., re-enamelled, thoroughly overhauled, must sell; £20, or offer.—Apply, Horwich, Keeper's Corner, Burstow, Surrey. [2477

Pierce-Arrow.

PIERCE-ARROW, 4-cyl., shaft drive, 2 speeds, plate clutch, original tyres, fast, 60 bore, 190 lbs. weight; £80, as new.—Brailsford 17, Glenalmond Rd., Sheffield. [X2882

Precision.

PRECISION 3¾h.p., 1913 (late), sports model, fine condition; accept £45 quick sale; all spares.—R. Wood, Lingpark, Ilkley, Yorks. [2397

Premier.

PREMIER 2½h.p., splendid condition, good tyres, ride away; £25.—Whatley, 4, Briar Rd., Twickenham. [3030

Quadrant.

8h.p. Quadrant Combination, twin, 2-speed, handle starter, well equipped, fine condition; 100 gns.—Clement, 65, Gordon Rd., South Woodford. [3010

1920 Quadrant Combination, 3 speeds, clutch, all lamps, etc., as new; £130; exchanges or easy payments.—Homac's, 243, Lower Clapton Rd., E.5. Dalston 2408. [2925

QUADRANT 1920 4½h.p. Combination, shop-soiled, at maker's specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7189

QUADRANT 4½h.p. Big Single; combination £145, solo £115, new machines always in stock; the [illegible] Trade-proved outfit left.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0277

1919 Quadrant Combination, 4½h.p. B.S.A., 3-speed engine unit, all accessories, splendid condition, only used three months, 19½ owner going abroad.—Cowen, back Saltburn Rd., Barrow-in-Furness. [2462

QUADRANT. Sole Agents and Distributors for London and South-eastern Counties; see us at stand 41, Olympia. Best deliveries and subsequent attention.—Clifford Wilson Manufacturing Co., 70, Royal Hospital Rd., Sloane Sq., S.W.3. Tel.: 7113 Kensington. [9402

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Radco.

RADCO, 2-speed, brand new (list £66/11); £62, or near offer; week-ends.—10, Strawberry Hill Rd., Twickenham. [2420

RADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt., Portland St., W.1. 'Phone: 3426 Mayfair. [7190

Reading-Standard.

1920 Reading-Standard, Canoelet sidecar, electric lighting and horn, quite new; what offers?—Lait, Oak Terrace, Tipton. [X2924

READING-STANDARD 1920 Combination, 10h.p., 3-speed, electric horn and lighting, powerful, perfect condition; any trial; make good sidecar taxi.—Chamberlain, Cardiff Rope Works, Ltd., Penarth Rd., Cardiff. [2841

Regal.

1915 Regal-Precision 2¾h.p., T.T. model, makers' finish black and red, a fast sporty mount, in fine condition; £33 for quick sale.—Polehampton, Twyford, Berks. [2832

REGAL 2-stroke, late model, Brooks pan, tyres sound, brass exhaust, footboards, enamel, plating perfect, fast, nice machine; £30; exchange Levis, O.K.—H. Almond, Shepperton. [2709

Rex.

5-6h.p. Rex, very powerful; for quick sale, £25.—Semple, 39, St. Leonard's St., Dunfermline. [2329

£25.—3½h.p. Rex, B. and B., Bosch, tyres as new, lamps, horn, etc.—Lloyd, 45, Micheldever Rd., Lee, S.E.12. [2940

REX Combination, latest model, 4h.p., spare interchangeable wheel, Lucas lamps, etc., unscratched; £110.—40, Hertford Place, Coventry. [X2937

REX Twin, 6h.p., 1909, engine sound, new C.A.V.-N.S.U., good tyres and tubes, ride away, or sell engine, magneto; £20 the lot, or £12 for engine, mag.—Apply, Matthews, Traction Owner, Whitehall, Summercourt, near Grampound Rd., Cornwall. [2440

Rex-Jap.

1913 3½h.p. Rex-Jap, single speed, topping condition.—Pryce, Winllan, Aberangell, Merioneth. [2455

REX-J.A.P. 6h.p., 2 speeds, 1914 model, £60; with underslung sidecar, new coach body fitted, £75; or exchange.—H. H. Gaffer, Cotton, Stourmarket. [2685

Revere.

REVERE 2½h.p., 2-speed, lamps, leg shields, etc., carefully ridden; ride away; £55/10.—42, Irwell Lane, Runcorn. [2566

Romper.

ROMPER 1920 2¾h.p., 2-speed, excellent order; £65.—Sheppard, 108, The Crescent, Slough. [2505

Rover.

1919 6h.p. Rover, splendid condition; £120.—Wright's Garage, Saffron Walden. Tel.: 16. [2974

ROVER T.T. Model, with Philipson, 3½h.p.; £115.—The Spalding Motor Co., Ltd., Spalding. [2434

1919 T.T. Rover, complete, good condition; £85.—Wright's Garage, Saffron Walden. Tel.: 16. [2973

1920 5-6h.p. Twin Rover Motor Cycle, new; £183/5.—King and Harper, 6 and 7, Bridge St., Cambridge. [8953

1918 3½h.p. T.T. Model Rover, h.c. Philipson, perfect condition, all on; £76.—7, Bay Vue Rd., Newhaven. [2821

1920 3½h.p. T.T. Model Rover Motor Cycle, new; £124/3.—King and Harper, 6 and 7, Bridge St., Cambridge. [8954

1920 5-6h.p. Twin Rover Combination, new; £236/10.—King and Harper, 6 and 7, Bridge St., Cambridge. [8952

1920 Rover, 3½h.p. countershaft, Middleton sidecar, accessories, excellent condition; £115.—23, Baker St., W.1. [2822

ROVER 1920 3½h.p. T.T. model, Philipson pulley, perfect mechanical condition; £150.—Parker's, Brndshawgate, Bolton. [X2906

T.T. Rover, 1919, h.b.c., Philipson, specially fine condition, numerous extras; £78.—Fernside, Ollerbarrow Rd., Hale, Cheshire. [2513

1918 T.T. Rover, Philipson pulley, all accessories, full tool kit, spares; £80.—20, Queen St., Hammersmith Broadway, W.6. [2804

MOTOR CYCLES FOR SALE.

Triumph.

1919 4h.p. Triumph, complete lamps, tools, 2 new tyres, splendid condition; £85.—Jones, Glenthorne, Clarence Rd., St. Albans. [2461

TRIUMPH, July, 1920, Model H., accessories, fully insured; owner proceeding abroad.—Enquire Sutherland, Quebec Hotel, Marble Arch. [3006

1912 3½h.p. T.T. Clutch Model Triumph, long exhaust, good lamps, few spares, splendid order; £40.—Rosher, Barnby Moor, York. [2361

1920 Triumph and luxurious bulbous sidecar, dark mauve, and cover, accessories, 800 miles; £142/10.—61, New Kent Rd., London, S.E.1. [2727

3½h.p. Triumph, new C.A.V., new B.B., overhauled, complete, T.T. drop frame, ride away; bargain, 35 gns.—76, Western Rd., Southall, W. [2521

LATE 1920 Triumph, Model H., sporting Rennoc sidecar, lamps, discs, horn, perfect condition; cost £172.—Box 9,301, c/o *The Motor Cycle*. [2983

3½h.p. Clutch Model Triumph, overhauled, enamelled as new, heavy Dunlops, new lamp set; bargain, £48.—Reeve, Cooper's Lane, Potters Bar. [2304

3½h.p. Triumph, 1908, wants magneto and pulley; accept £18; tyres good; or sell in parts; first cheque secures.—Hall, Preston Rd., Chorley. [X2933

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, very small mileage; £70.—D. Lavin, Old House, Sonning, Berks. [2482

1921 4h.p. Triumph Combination, all chain drive, ready for delivery; £195.—Ellis and Co., 364, Lillie Rd., Fulham, S.W. 'Phone: Hammersmith 1553. [2635

BRAND New 1920 Triumph Combination, handsome outfit, equipped regardless, insured; cost £191, accept £150.—60, Wallingford Av., N. Kensington. [2764

1918 Triumph, countershaft, 4h.p., Lucas lamps, horn, not W.D.; £85; exchanges or easy terms.—Homac's 243, Lower Clapton Rd., E.5. Dalston 2408. [2926

JUNIOR Triumph, 1920 model, splendid condition, full equipment, as new; £65; owner must sell.—Letters to Russell, Spring Grove, Tenbury Wells, Worcester. [X2785

4h.p. Triumph, disc wheels, countershaft, 3-speed, clutch model, speedometer, and lamps; £70.—Blake, 4, Park Crescent Mews (East), Gt. Portland St., W.1. [2825

TRIUMPH 4h.p., 3-speed and clutch, with horn, lamps, Tan-Sad, etc., in good condition throughout; any trial; insured; £62.—Baker, Ningwood, Yarmouth, Isle of Wight. [2511

TRIUMPH, and everything for it, in stock; any query re Triumph gladly attended to.—Light Car and Motor Cycle Engineering Co., 26 and 26a, Tulse Hill, S.W. [2966

4h.p. Triumph, 1914, single gear, fast and sporty, lately overhauled, all accessories, excellent condition; £50.—A. C. McCarthy, 153, Lowfield St., Dartford, Kent. [2524

1920 Junior Triumph, new, with £7 accessories, ridden once only; owner going abroad; £64, or near offer.—2, The Chine, Grange Park, Winchmore Hill, N.21. [2809

1919 Triumph, cane Dunhill sidecar, triangular chassis, lamps, Tan-Sad, Klaxon, tools, speedometer, etc.; reasonable offer, quick sale.—61, Argyle Rd., Ilford. [3040

TRIUMPH 3½h.p., Bosch, 2-speed, free engine, N.S.U. gear, Chater-Lea wicker sidecar, good covers, lamps, tools, spares, good running order; £35.—39, Selkirk Rd., Tooting. [2500

F.O.C.H. for 1921 Triumphs; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2555

TRIUMPH, 1909, 2-speeds, free engine, variable gear, 3½h.p., perfect running order, together with light sidecar; £40.—J.S., 9, Villiers Rd., Willesden Green, N.W.2. [2720

TRIUMPH 1912-13 Clutch Model, Powell and Hanmer lighting outfit, overhauled, good condition, spares, tools; £38, offers.—Ellis, Maltese House, Writtle, near Chelmsford. [2715

1920 Triumph and Gloria Combination, nearly new, mileage 700, perfect condition, fully equipped; £138, or near offer.—Hunter, c/o Brantwood, Lowton St. Mary, Lancashire. [2317

BABY Triumph, 1919, £58; perfect condition, fitted with Bosch mag., new toolbags, footboards; purchase of combination sole reason for disposal.—Sleigh, Lilacs, Burgess Hill, Sussex. [2853

TRIUMPH Junior, 1919, 2¼h.p., 2-speed, carefully used, 400 miles, hardly distinguishable from new, lamps, horn; list £75, bargain £60.—Humpidge, 111, Cotham Brow, Bristol. [2333

4h.p. Triumph, 1914, with coachbuilt sidecar, 3-speed gear, accessories, recently overhauled by makers; 70 gns.—Woods, 330, Balham High Rd., S.W.17. Tel.: Latchmere 4368. [2878

4h.p. Triumph, 1914, coachbuilt sidecar, smart appearance, excellent condition, low mileage, stored during war, speedometer, tools, etc.; sacrifice quick sale, 68 gns.—22, Vicars Hill, Lewisham. [3035

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MOTOR CYCLES FOR SALE.

Triumph.

1918 Triumph C.B. Combination, Dunlop tyres, Lucas lamps, pump, etc., in first-class order, any trial; no reasonable offer refused.—Chesters, Orchard Garage, Bedford Park, Chiswick. [2302

1914 T.T. Triumph, 4h.p., just been overhauled, re-enamelled complete, lamps, mechanical horn, speedometer, tools, etc., splendid condition, very fast; price £45.—19, Barnfield, Wrexham. [2382

1918 Triumph 4h.p., W.D. Model, and Rover sidecar, lamps, horn, tools, smart appearance, thorough running order; owner going abroad; £120, or reasonable offer.—3, Pemberly Crescent, Bedford. [1411

TRIUMPH, new renovated by Triumph; new 1921 Triumph, Montgomery bulbous back sidecar, guaranteed for 3 months, lamps, horn, tools, etc.; lowest £139/10.—365, King St., Hammersmith. [2518

1920 Triumph 4h.p., countershaft, Lucas lamps, speedometer, Klaxon, Tansad, spares, etc., mileage 1,000, perfect; £106, offers; exchange lower power.—Heath, 10, Ambleeote Rd., Grove Park, S.E. [2719

1912 Triumph, new Armstrong Mark VI., tank re-enamelled, new piston and connecting rod, adjustable pulley, takes Sunrising 5½-1 gear; ride reasonable distance; £40.—A. H. Adams, Shipston-on-Stour. [2794

1920 Triumph, 4h.p., pack end August, only done about 50 miles, electric light, horn, and full toolkit, spare valve, better than new; nearest offer to list price.—Jameson, 4, Harrogate St., Sunderland. [2307

1919 Triumph, Type H., new June, 3-speed, complete with Lucas lamps and horn, little used; no dealers; genuine; £95; seen by appointment.—Parsonage, 87, Northern Grove, West Didsbury, Manchester. [2413

TRIUMPH, Model H. £127/10, S.D. £140, D. £105, L.W. £75; combination, Model H. £182/10, S.D. £195; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London, W.1. [0329

TRIUMPH 1919 Combination, Montgomery No. 1 sidecar, hood, screen, luggage and petrol carrier, D.A. lighting, spares, etc., perfect condition, trial; real bargain, £125.—E., 113, Helix Rd., Brixton Hill, S.W.2. [2675

TRIUMPH Countershaft Combination, excellent running order, with lamps, horn and spares; £75; stamp, full particulars; seen by appointment.—Motor, Five Bells, Harmondsworth, near West Drayton, Middlesex. [2583

1919 Triumph, 4h.p., 3-speed, countershaft, with 1920 canoelet sporting sidecar, lamps, horn, etc., apron, spares, grid, excellent running order; offers over £100; must sell, cash needed.—Vicar, Trimdon Village, Co. Durham. [2362

READ This.—4h.p. Triumph, 1920, mag., 3 speeds, countershaft, fitted with new tyres, 2,000 miles, and B.S.A. sidecar, luggage grid, lamps, horn, speedometer, Stirling legshields, in perfect condition; £160.—Verity, 28, Park Parade, Cambridge. [X2789

LATE 4h.p. Countershaft Triumph Combination, as new, all lamps, Lucas horn, pump, tools, spares, tyres new, roomy coachbuilt sidecar, wind screen, underslung, 4-point, fine outfit, ready ride straight away on tour.—Manser, 20, Valnay St., Tooting. [2557

NEW Triumph 4h.p. Countershaft Model, £127/10; 4h.p., type WDB, £105; 4h.p., all chain drive, £140; 4h.p., fixed engine, sporting, £105; all models in stock; Cambridge agents for Triumphs.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [2641

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4h.p. Triumph solo, delivery from stock, £127/10; also new 4h.p. Triumph combination, all-chain drive, £195; new 4h.p. Triumph solo, all-chain, £140; and 4h.p. W.D. Triumph solo, £105. Easy terms, or exchanges arranged. [3059

TRIUMPH.—Elce and Co., the City motor cycle agents, can deliver from stock the latest Triumph models, brand new, Model H, £127/10; chain-drive Model SD, £140; lightweight, £75; Tourist Trophy racer, slightly soiled, £85.—15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

1920 4h.p. Triumph, with Gloria sidecar, all complete, with Lucas lighting set, cowey trip speedometer, Klaxon horn, Easting wind screen, Tan-Sad pillion seat, Binks carburetter, insurance policy, many spares, including Triumph carburetter; price £182.—Apply, McG., 21, Cobham Rd., Kingston-on-Thames. [2391

1917 C.S. Triumph and extremely comfortable C.B. sidecar, Bosch mag., and new Binks carburetter, have been specially fitted, fittings include large P. and H. lamp set, Lucas horn and Lucas sidecar lamp, thoroughly sound mechanical condition; 85 gns., or nearest.—Williams, Bedford Terrace, Plymouth. [2398

TRIUMPH C.S. Combination, 1918 machine, 1921 Montgomery sporting sidecar, 1920 Binks carburetter, best Lucas lamps, Stewart speedometer, W.D. bars, Pedley grips, copper exhaust, oversize back tyre, spares, etc., machine recently overhauled, new piston rings, etc., legshields, in excellent running order; £145.—Vicarage, Wickhambrook, Newmarket. [2492

MOTOR CYCLES FOR SALE.

Velocette.

HORSMAN can do Velocettes from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0328

VELOCETTE, only ridden 100 miles; for immediate sale. £70.—Pollard, Broomfield Rd., Chelmsford. [X2917

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

1919 Velocette, 2-speed, chain drive, lamps, horn, perfect throughout; £48/10.—1, Othello St., Liverpool. [2768

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain drive; £75.—Agents: W. Sparrow, Ltd., Osborne Garage, Yeovil. [1632

VELOCETTE, the lightweight with a big heart, in stock for immediate delivery, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W1. 'Phone: 3426 Mayfair. [7196

Verus.

1920 (June) 4h.p. Verus-Blackburne Combination; £120, bargain.—78, Foidel Rd., Catford. [2424

VERUS, 2¾h.p. Blackburne, 2-speed, clutch, new, slightly soiled; £95.—Clark, 7, Exhibition Rd., S.W.7. [2591

T.T. 1920 Verus, 2¾h.p., 2-speed, hand clutch and K.S., nickel fittings, fast; take £80, or exchange Triumph or B.S.A. countershaft; moderate.—15, Howard Place, Carlisle. [2470

VERUS-BLACKBURNE 2¾h.p., 1920, perfect condition, F.R.S. lamps, special spring seat-pillar, very comfortable and speedy; £100, offers.—Box 9,737, c/o *The Motor Cycle*. [2435

Victoria.

VICTORIA, new Sept., 1920, 2½h.p. 2-speed Villiers; £55.—Pollard, St. George's St., Canterbury. 'Phone: 273. [2465

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7197

Williamson.

WILLIAMSON Combination, 8h.p., kick, 2-speed, clutch; sell or exchange, offers.—29, Selkirk Rd., Tooting, S.W.17. [2786

Wolf.

WOLF, Albion 2-speed, good tyres, one brand new, footboards, good appearance, owner buying combination; £35, bargain.—134, Lodge Lane, Hyde. [X2883

WE are Sole London and Home Counties Agents for the Wolf motor cycles; 1921 models in stock; sub-agencies open. — Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [2910

Wooler.

2¾h.p. 1920 Wooler, 6 speeds, McNab's record breaker; £85.—Wauchope's, 9, Shoe Lane, London. [3051

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7192

WOOLER 1920 2¾h.p., T.T. Model, aluminium footboards, plated lamps, Cowey horn, Tan-Sad; makers' price £103; very little used; bargain, £80, or exchange, cash adjustment, higher power, A.B.C. preferred.—Parsons, 1, Acton Lane, Chiswick. [2738

Zenith.

8h.p. Zenith Combination, fast; £85.—39, Essex Rd., Islington, N.1. [2888

1921 Zeniths, in stock.—Agents, Hewett Bros., 94, Western Rd., Hove, Sussex. [0344

1914 5h.p. Zenith Combination, Gradua gear, wicker sidecar.—For full particulars, write Newman, Motor Mart, Basingstoke. [2769

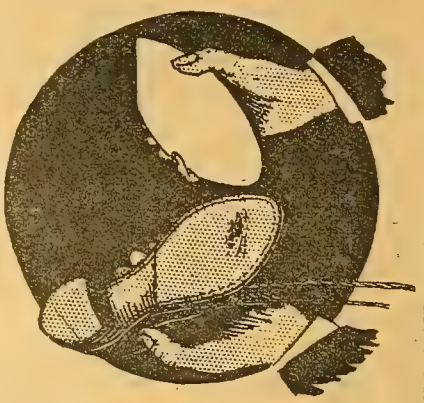
ZENITH-GRADUA, 6h.p. twin J.A.P. engine and [illegible] condition; no reasonable offer re[illegible] Tulse Hill Rd., S.W. [3043

1919 [illegible] Countershaft, brand new; cost £[illegible] Edwards, 50, Harrington [illegible] South Kensington. 'Phone: Kens. 3709. [2209

[illegible] new condition, hardly [illegible] £260, uncrated; giving [illegible] Granville Rd., Hornsey [illegible] [7080

ZENITH GRADUA, 6h.p., J.A.P., complete, best [illegible] sell or exchange, 90 mile, perfect; actual [illegible] £142, cost £156.—Wallwin, Graham and Robert, [illegible] [2 370

ZENITH 8h.p., 1920, Model H, hop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W. 'Phone: 3426 Mayfair. [7193



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Zenith.

ZENITH 1915 5h.p. Combination, countershaft, clutch, kick start, 1920 canoelet, thorough condition; £90, or near.—Saker, Wentworth, Chessington, Surbiton. [2718

ZENITH 8h.p. Sporting Model in stock; £139.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0319

1920 5h.p. Sports Zenith, hardly used, indistinguishable from new, lamps, horn, pillion, etc.; sacrifice at £100.—Deacon, Rosebank, College Av., Slough, Bucks. [2881

F.O.C.H. for 1921 Zeniths; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2553

ZENITH 1920 8 h.p. Countershaft Combination, Millford sidecar, Easting wind screen, luggage carrier, electric lighting, horn, speedometer, like new; £180.—Cutting, Ebor Villas, Stamford. [2964

F.O.C.H. have a 1919 6h.p. Zenith, T.T. bars, accessories, grand condition, cheap.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2550

AN Exceptional Bargain.—3½h.p. 1916 Zenith-Jap, Gradua gear, new Dunlops and belt and 1920 Amac, overhauled, any trial here; close offer to £45 accepted.—Harris, Grocer, Castlefields, Shrewsbury. [2819

1920 5h.p. Sporting Zenith, appearance, condition as new, mileage 2,500, Cowey, Klaxon, P. and H., electric rear lamp, all tools, insurance; offers; seen evenings.—Williams, 263, Camden Rd., N.7. 'Phone: North 1778. [2800

1920 (Sept.) 8h.p. Sporting Zenith, special competition engine (75 m.p.h.), electric lighting, horn, tools, tyres unpunctured, plating and enamel unscratched, mileage 200; £145.—Tame, Chequers, Dorchester, Wallingford. [2394

NEW 8h.p. Zenith Model II Combination; £204, or on deferred payments; one-fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [2658

8h.p. Zenith-Jap 1914 Sports Model, expensive accessories, condition and appearance as new; £65; luxurious C.B. sidecar for above, Cameo apron, luggage grid, lamp; £16; together or separate.—Bacon, Offington Lane, Worthing. [2872

Ladies' Motor Cycles.

LADY'S Motor Cycle, open frame New Imperial, 1916, 2¾h.p. J.A.P., 2-speed gear box, Dunlops, footboards, carefully used by lady only, new condition; accept £35; owner leaving town.—Clarke, Furnisher, 74, Overstone Rd., Northampton. [2953

Miscellaneous.

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24-HOUR Overhauls to any 2-stroke.

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1915-16 B.S.A., 4¼h.p., 3-speed, all-chain, hand clutch, 1920 large coachbuilt sidecar, Easting, luggage grid, 2 large head lamps, electric tail, Cowey horn, speedometer, etc., special long exhaust, many spares, tools, perfect condition; any trial; £90.

1920 American X, 7-9h.p., 3-speed, Henderson Elite sidecar, screen, all lamps, etc., as new; any trial; £160.

1920 Scott, 3¼h.p., 2-speed, gold medal winner, many spares, all accessories; £120.

1920 Brough, 5-6h.p., all-chain, 3-speed, very fast, long copper exhaust, all accessories; £120.

1914 Lincoln-Elk, 3½h.p., new tyres, spare belt, all accessories, finish as new, long exhaust, very sporting, fast; £40.

SILVER Star Motors, Frederic Mews, Kinnerton St., Knightsbridge, S.W.1. Gerrard 7791. [3034

2¼h.p. Levis, as new; £38; also hot stuff solo Indian, cheap.—57, Sellons Av., Harlesden, N.W. [3028

1920 4½h.p. Flat Twin Combination, new August, electric light; bargain, £155.—14, Claremont Hill, Shrewsbury. [2935

2¼h.p. Minerva Engine, perfect, in brand new O.K. frame, £11; also 3½h.p. Triumph, £55.—Sellers, Joiners, Lister St., Halifax. [2381

IF you want a good privately owned motor cycle or car, apply Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. [0138

8h.p. Coachbuilt Combination, 2-speed, K.S., underslung sidecar, new Palmers, Dunlop; sacrifice, £40.—49, Medway Rd., Bow, E.3. [2876

MOTOR CYCLES FOR SALE.

Miscellaneous.

WANDSWORTH Motor Exchange.—The finest and cheapest selection motor cycles in London.—Below.

WANDSWORTH.—Easy terms, easy terms, easy terms on any machines.—Below.

WANDSWORTH.—1920 Royal Ruby lightweight, looks just like new; 45 gns.—Below.

WANDSWORTH.—Moto-Reve lightweight, small twin,, mag., spring forks; gift, 18 gns.—Below.

WANDSWORTH.—Matchless-Jap, twin, Bosch, 3 speeds, clutch, beauty; 49 gns.—Below.

WANDSWORTH.—1915 Zenith, 3½h.p. J.A.P., mag., Gradua gear, disc wheels; 55 gns.—Below.

WANDSWORTH.—F.N. with coachbuilt sidecar, 5-6h.p. 4 cyls., enclosed Bosch, 2 speeds.—Below.

WANDSWORTH.—Bat-Jap with sidecar, 8h.p., twin, Bosch, countershaft gears; 42 gns.—Below.

WANDSWORTH.—F.N., magnificent machine, 5-6 h.p., 4 cyls., 2 speeds, fully equipped; 85 gns.—Below.

WANDSWORTH.—F.N. coachbuilt combination, 5-6h.p., 4 cyls., 2 speeds, clutch; gift, 55 gns.—Below.

WANDSWORTH.—Triumph with sidecar, 3½h.p., Bosch, 2 speeds, nice order; 49 gns.—Below.

WANDSWORTH.—1918 Triumph coachbuilt combination, 4h.p., 3 speeds, countershaft; gift, 89 gns.—Below.

WANDSWORTH 1915 Singer, 4h.p., mag., 3 speeds, countershaft, kick, beauty; 52 gns.—Below.

WANDSWORTH.—Indian coachbuilt combination, spring frame, 7h.p., 2 speeds, lamps; 68 gns.—Below.

WANDSWORTH.—Rex coachbuilt combination, 5-6 h.p., twin, Bosch 2 speeds; cheap, 45 gns.—Below.

WANDSWORTH.—P. and M. coachbuilt combination, 3½h.p., Bosch, 2 speeds; who wants? 49 gns.—Below.

WANDSWORTH.—Kerry-Abingdon, 3½h.p., Bosch mag., ready drive away; 28 gns.—Below.

WANDSWORTH.—Rex, 3½h.p., mag., 2 speeds, any trial; great bargain, 29 gns.—Below.

WANDSWORTH.—Bat, about 3½h.p., mag., F.E., clutch, wants attention; 19 gns.—Below.

WANDSWORTH Exchanges.—Wandsworth Motor Exchange. Ebner St., Wandsworth (Town Station). Phone: Battersea 327. [3019

BOOTHS' Motories, Halifax.—6h.p. Rudge combination, lamps, 1920 model, £125; 1920 4h.p. Blackburne-Verus, 3-speed, and new Millford sidecar, £120/10.

BOOTHS' Motories, Halifax.—1920 6h.p. Ariel combination, shop-soiled, £145/10; 1920 Harley-Davidson, very cheap.

BOOTHS' Motories, Halifax.—1915 Harley-Davidson combination, lamps, hood, etc., £87/10; 6h.p. 2-speed Rex combination, £40/10.

BOOTHS' Motories, Halifax.—8h.p. J.A.P., free engine, Druid forks, £30/10; 6h.p. Chater-Lea with sidecar, £35/10.

BOOTHS' Motories, Halifax.—1919 P. and M., with new sidecar, £115/10; 1920 2-speed Wolf, £52/10.

BOOTHS' Motories, Halifax.—Six 1915 Douglases, £49/10; four 4h.p. Douglases, 1918, £85/10; 1914 5½h.p. Sun-Precision, 3-speed, £35/10.

BOOTHS' Motories.—1920 O.K. lightweight, Villiers engine, only run 150, £43/10; ditto with 2-speed, £54/10; 1920 Omerga, 2-speed, £69/15; 1914 2-speed Scott, £47/10; 1920 10h.p. Swift light car, £420; 1920 Harley-Davidsons, Ariels, Quadrants, O.K. ; exchanges. —Booths' Motories, Portland Place, Halifax. [2621

3½h.p. C.B. Combination, Sturmey 3-speed countershaft (1920), new tyres, lamps, etc., complete; £88.—Price, 26, Avenue Rd., Aston, Birmingham. [2564

DOUGLAS S. COX, the A.S.M.M., West Norwood, has several real bargains in motor cycles and combinations in his long advertisement under Cars. [7727

DOUGLASES, 2¾h.p., 1915, 1916, and 1917, unrenovated, £25 each to clear; all parts supplied. Also P. and M. solo, £45, running order.—Sulina Garage, Sulina Rd., Brixton Hill, S.W.2. [2932

LEVIS 2-speed and Sidecar, just re-enamelled, competition model, £70; 2-speed Triumph, 3½h.p., chain and belt drive, £40; just overhauled, £10.—Richards, 4, Lane Ends, Orgreave, nr. Handsworth, Sheffield. [X2776

1920 Shopsoiled Models, £198; twin Ariel combination, £145; lightweight Enfield, £68; Mstchless combination, £175; Quadrant combination, £128, etc. —Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. [1345

R. D. VARTY has several second-hand machines to clear at bargain prices. Also one Swan sporting sidecar, suitable for Harley or Indian, £14. All accessories in stock. Write requirements.—R. D. Varty, Thundersley, Essex. [1268

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,,	Clincher De Luxe Ex. Hy.	42/6	62/6
,,	Beldam Extra Heavy	39/6	64/-
,,	Bates No. 1 Special	39/6	67/-
,,	Dunlop Heavy	39/6	53/6
,,	Palmer Cord Ribbed	39/-	52/6
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,,	Englebert Wired-on R.S.	35 -	64/-
,,	Beldam Heavy	34/-	58/-
,,	Englebert Wired-on Rib	30/-	60/-
26×2½	Palmer Cord Heavy	44/-	66/-
,,	Clincher De Luxe Ex. Hy.	39/-	68/6
,,	Bates No. 1 Special	37/6	71/6
,,	Kempshall Anti-skid	37/6	75/-
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,,	Elite E. Hy. Gvd. Retreads	33/-	—
,,	Moseley Ex. Hy. 3-rib	28/6	78/-
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FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Little used Douglas combination, £120; Ixion 2-stroke, £32; Campion-Villiers, 2-speed, £45; Enfield 2-speed 2-stroke, leg shields, electric lighting, new A.B.C., N.U.T., Lea-Francis, Ivy, Cedos; also

COVENTRY Premier Super Runabout [X1881

INDIAN 5-6h.p. Combination, 3-speed, kick start, lamps, etc., splendid condition; also Humber combination, 3½h.p., 2-speed, handle start, splendid condition, lamps, etc.; owner got car; the lot £85.—Mr. H. Clark, Spring Rd., Littlemore, near Oxford. [2403

BARGAINS.—Please peruse our advertisements in small columns. We are disposing of our large stock of shop-soiled models at greatly reduced prices. Do not wait. Come and buy at once. The offer may not occur again.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7194

S. E. CLAPHAM (Motors), Greenwich. — 1921 models. Place your orders now with S. E. Clapham for immediate or early delivery Matchless, A.J.S., Henderson, 4h.p. Excelsior, Sunbeam, New Imperial, James, Triumph, Connaught, Coulson B., Edmund, Acme, Rex, Rudge, etc., etc., any leading makes. We allow 10% on all deposits.—Note address: S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [2997

F.O.C.H, the car, light car, and motor cycle specialists.—A good new and second-hand selection always on view; prices to suit everybody; fair cash price paid for your 'bus; exchanges a speciality. We supply Triumph, Zenith, B.S.A., A.J.S., etc., also the famous Kingsbury Junior, Bleriot Whippet, Grahame White, G.N., etc.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [2556

MOTOR ATTACHMENTS.

JOHNSON Motor Wheel and gent's standard cycle; £25.—Broundells, Faversham. 'Phone: 155. [2515

YOUNG Motor Engine, 1¾h.p., complete, frame for fixing, 1920, new; £10.—R. W. Adams, Market Drayton. [2350

WALL Auto Wheel with lady's Rudge, excellent condition; £20, or separate.—Crittenden, 75, Salisbury Rd., Maidstone. [2747

MOTOR Attachments fit any ordinary bicycle, no vibration; price 25½ gns., including lighting generator; agents required.—Economic Motors, 62, East Castle St., London, W.1. [2595

MOTOR SCOOTERS.

EGERTON'S Northgate, Ipswich, can delivery from stock A.B.C. Skootamotas and mobile pups. [1445

A.B.C. Skootamota for sale, only done 100 miles, in practically new condition; £45.—King and Harper, 6, Bridge St., Cambridge. [1442

BARGAINS to clear.—1920 A.B.C. Skootamota, slightly shop-soiled, £40; Autoped motor scooter, £20.—Main, 36, Parade, Leamington. [X2888

MOTOR Scooter, Auto-Wheel engine, new condition, only ridden 3 times; going abroad; at £32, or nearest offer.—Box 9,780, c/o *The Motor Cycle*. [2626

1920 Autoglider, Type D, cost £57/15 last Aug.; accept £37/10; guaranteed perfect and practically indistinguishable from new.—Hartop, Draper, Bedford. [2551

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WINDSCREENS.—Avro, Triplex, sporting, cost 42/-; 12 6.—51, Maplethorpe Rd., Thornton Heath. [2874

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SIDECAR Chassis, new, 28in. wheels; £6/10.—39, Essex Rd., Islington, N.1. [2886

FLOAT Sidecars.—Manufactured by McConnell and Bailey, 73, Gt. Portland St., W.1.

FLOAT Sidecars.—Immediate delivery to fit all makes of motor cycles.

FLOAT Sidecars.—Write for illustrated list; price 28 gns. complete with chassis and tyre.

FLOAT Sidecars are fitted with underslung chassis; call and inspect at above address.

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HENDERSON Elite Sidecar, list price £45; what [illegible] Matchett, Ltd., Stafford. [1696

[illegible] and Large Sidecar, to suit all [illegible] Motor Exchange, Horton St., Halifax. [2537

LIGHT [illegible] Sidecar, 26×2½in. tyre, cft Triumph; [illegible] 109, Broom [illegible], Streatham Hill, S.W.2. [2743

UNDERSLUNG [illegible] Chassis, 700×80 tyre, 6in. mudguard, £7.—H. [illegible], Elm House, Shipley, Sussex. [2643

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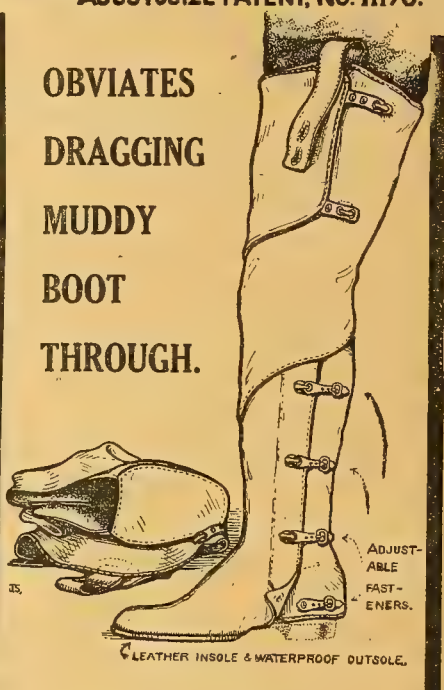

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BASTONE'S for Sidecars and Bodies. No better or cheaper house.—228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [9347

BRADBURY 4h.p. Sidecar, 1911, £25; under 200 lb.; before 2 or Saturday, not Sunday.—Cheverton, 13, Norman Rd., Wimbledon. [3038

1920 Harley-Davidson, brand new; list price £49/10, accept £41.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kens. 3709. [2210

SIDECAR, coachbuilt, by Varley, Birmingham, well sprung, 5-point, 26×2¼in. Dunlop, suit 4-6h.p.; £12/10.—128, Coopers Lane, Smethwick. [2812

1919 P. and M. Sidecar, new May, 1920, £20; also sidecar, torpedo shape, Green P. and M. fittings, £16.—Horner, Trimmingham, Halifax. [2436

SIDECAR (Myers), coachbuilt, re-enamelled, 4-point chassis, wheel complete, new apron; best offer accepted.—3, Rosemont Parade, North Finchley. [2722

MR. DAVIDSON, riding Harley-Davidson and Flying Middleton sidecar, won 1,000 c.c. championship and broke 5 and 10 miles world's records Oct. 9th.

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SIDECAR Chassis, springs, and wheel, new mudguard, nearly new Dunlop cover; £4; will separate.—Lusty, 110, Wheat St., Nuneaton, Warwickshire. [X2844

LATEST Model Regent Sidecars, new, complete with 28×3 tyre, R34 shape bodies, painted blue, upholstered cord; price £25.—Apply, Page, Motor House, Epsom. [2613

CANOELET MM4's for Harleys, complete with heavy Dunlop tyres and coverall aprons, new; £17/10 to £27 each.—Holliday Bros., 20, Queen St., Hammersmith Broadway, W.6. [2803

HENDERSON Sidecar.—Large stock of all models, shop-soiled, at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7198

CANOELET Minor, crimson, silver grey disc wheel, mascot, in new condition, new lamp, small luggage carrier, apron; cost £24 two months ago, £15.—Bailey, 93, Frome Rd., Trowbridge. [X2889

SIDECAR, off P.M., reupholstered best pegamoid, enamelled this year, wind screen, new tyre, £20; P.M. handle-bars, tank, 7/6 each.—Coomber, 97, St. John's Park, Blackheath, S.E [2670

WE have a great number of second-hand sidecars and bodies for disposal. These accumulated during a busy season when we had no time to trouble with them. Call and take your choice. Shop-soiled sidecars from £10.—Sandum Sidecars, 336, Gray's Inn Rd., W.C.1. 'Phone: Holborn 933. [0322

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8h.p. Morgan, 1914, fully equipped, excellent condition; £145.—20, Hengist Av., Margate. [2619

CARDEN Monocar, 1917, 2-speed, good condition; £75, offers.—3, Ladysmith Rd., Cradley, Staffs. [X2487

TAMPLIN, 1920, as new, all accessories; £150.—Kenilworth Garage, High St., Putney. Before 7. [2745

1921 Carden 2-seater; delivery February; £15 deposit paid; what offers for transfer?—Cox, 62, Philpot St., E.1. [2766

ROVER, 8h.p., 1920, the light car of the year; price £300; immediate delivery.—Murkett Bros., Huntingdon. [X1829

G.N.—We are large contractors, and can usually supply from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0327

G.N. Cycle Cars delivered anywhere; G.N. spares.—Brooklands Motor Co., G.N. Specialists, Ecclesall Rd., Sole Sheffield Agents. [2936

A.V. Monocar, 1920, electric lighting, accessories galore; must sell; what offers?—Grimes, 18, Bruton Place, Bond St., W.1. [2967

ROVER Light Car, 1921 model, 8h.p., in stock for immediate delivery; £300.—Godfrey's, Ltd., 208, Gt. Portland St., London, W.1. [0300

COVENTRY Premier 3-wheeler, 3 speeds and reverse, dynamo lighting, etc., absolutely T.T.; 275 gns.—Motor Exchange, Horton St., Halifax. [2543

MORGAN 1913 Model, newly hooded and repainted, a decided bargain at £120, or close offer.—Bamford. (See under Consulting Engineers.) [2357

MORGAN Type Runabout, light, fast, good condition; £110; exchange 4-stroke lightweight and cash.—Tonge, Villas, Killamarsh, Sheffield. [2815

JUST Arrived Works, latest Morgan de Luxe, w.c. 10h.p. M.A.G., hood, screen, lamps, discs; list price £242/5.—Clarke and Co., Queen St., Louth. [2545

MORGAN, 1914, lamps, hood, screen, good running order, just overhauled; £143; exchange low powered combination.—68, Manor Rd., Bexhill. [2570

G.N. Cycle Cars, £241/17/6, supplied anywhere, sole Sheffield agents; Crouch Cars, £315, complete.—Brooklands Motor Co., Ecclsall Rd., Sheffield. [2913

CYCLE Car, 8h.p., 2-seater, 650×60 tyres, sporting body, acetylene lighting, perfect running order; £95; enquiries.—H. Bettley, 3, Regent St., Willenhall, Staffs. [2565

8-10h.p. 1920 Aero Morgan, M.A.G. engine, yellow finish, done about 2,000 miles, electric lights.—Wauchope's, 9, Shoe Lane, London. 'Phone: Holborn 5777. [3053

MORGAN, 1919, Aero model, W.C. M.A.G., just been repainted as new; £176.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [1344

GIBBONS Mark III. Cycle Car, reduced to £115; delivery within one month; trials any time by appointment. Agents required.—Gibbons and Moore, Chadwell Heath, Essex. [4838

MERRALL-BROWN 3-wheeler, new, with spare wheel and other extras, 4-cyl. Coventry Simplex engine; £358/10; cash, exchange, or easy payments.—Motor Exchange, Horton St., Halifax. [2544

MORGAN De Luxe. M.A.G. engine, water-cooled, 1920 model, fast and powerful little car, little used, and in perfect condition throughout privately owned.—Box 9,724, c/o *The Motor Cycle*. [2345

1920 Tamplin, complete with hood, wind screen, discs, tools, electric lights, mechanical horn, cost £185; sell £135, or exchange Triumph and cash.—Harvey, 335, Gloster Rd., Horfield, Bristol. [2903

SPORTING 3-wheeler, 6h.p. Singer, w.c., completely overhauled, painted, tyres good, 2 new tubes, Bosch, B.B., dome radiator, fast; trial; £48, exchange M.C. to value.—Ford, Sotwell, nr. Wallingford, Berks. [X2940

CARDEN Monocar, 6h.p. twin, domed mudguards, aluminium running boards, all accessories, including speedometer and car generator, perfect; £90, or exchange sporting combination.—Akam, Dallam Rd., Shipley, Yorks. [2582

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 8-10h.p. Morgan, Grand Prix, M.A.G., water-cooled, fully equipped, just delivered from works, order cancelled, now available; price, including all extras, £236. [3063

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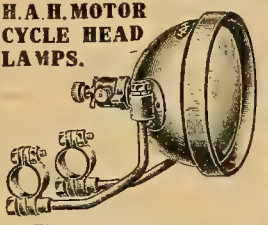

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Fig. 878 54/- 55/- ea.

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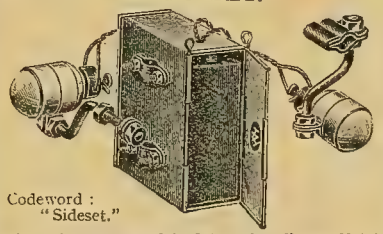

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" 560. **Sidecar Lamp** 8/6
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Fig. 347.
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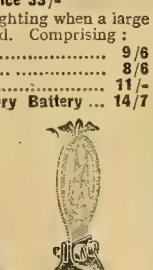

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MORGAN Service Depot.—We are official agents; all spares in stock; overhauls, repairs; if you are in trouble with your Morgan consult us; we will give you service.—Homac's, 243, Lower Clapton Rd., E.5. 'Phone: Dalston 2408. [2928

MORGAN, latest type Aero body, 10h.p., water-cooled, M.A.G. engine, all accessories, mileage about 300, condition as new; £230.—Elce and Co., Morgan Specialists, 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0072

LAMB'S give prompt delivery: G.N., Coventry Premier, Rover, Morgan, Kingsbury, New Hudson, light cars and runabouts. Exchanges, deferred terms.—Lamb's, 151, High St., Walthamstow; 50, High Rd., Wood Green, N.; and 387, Euston Rd., London, N.W. [2603

MORGANS.—Elce and Co., the City Morgan Specialists. Delivery from stock of these famous cycle cars. Grand Prix, £216; sporting model, £206; De Luxe air-cooled, £212; water-cooled, £225; cash, exchange, or extended terms.—15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0070

G.N. 1921.—Elce and Co., the City Light Car Specialists. Immediate delivery all models. Standard touring full equipment, spare wheel, hood, etc., £241/17/6; dynamo lighting model, £275/12/6; Legere, dynamo lighting set, £309/7/6. — 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0071

MERRALL-BROWN, late 1920, 10h.p., special 3-wheeler, blue body, aluminium bonnet, 4-cyl. Coventry Simplex engine, C.A.V. dynamo lighting, 5 lamps, speedometer, disc interchangeable wheels, spare wheel, screen, hood, petrol and oil indicators, many costly improvements, full equipment and insurance, mileage 1,200, cost £415; sacrifice, £260 or nearest, quick sale.—Apply, 41, Park Lane, Piccadilly. Tel.: Mayfair 1874. [2963

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£35.—10h.p. Darracq car, 3-speed, brass lamps, perfect order; must sell.—42, Naylor Rd., Peckham, S.E.15. [2630

1915 10h.p. Trumbull, all spares, English body, perfect running order; any trial; £110.—Chappell, Smockington, Hinckley. [X2864

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£125 Cash secures beautiful R.M.C. Sporting 2-seater.—Palmer's Garage, Tooting. [2904

8h.p. Twin w.c. Enfield Light Car, hood, wind screen, lamps, etc., shaft-drive, spare wheel; £120; exchange solo and cash.—Turner, 22, Langley St., Luton. [2934

HUMBERETTE, dark blue, is beautifully trimmed and finished; price £140; several other light cars from £70 upwards.—Bunting's Exchange, Wealdstone. Closed Sundays. [3026

NEW PICK Car, 1914, stored 2 years, brand new gears and engine bearings, completely overhauled, repainted, smart appearance, electric light; £285, offer.—Below.

6h.p. De Dion 2-seater, single-cyl., 2-speed, reverse, new body, good order; £55, offer.—Below.

PANHARD Van, 4-cyl., three-speed and reverse, splendid body; £45, offer.—Rugby Electrical Depot, Earl St., Rugby. [X2920

HUMBER Car, 15-25h.p., 5-seater, also Martini car, 4-seater, 15h.p., both in good running order, tools and lamps complete; no reasonable offer refused.—Apply, J. Cheeseman, High St., Saxilby, Lincoln. [2933

8½h.p. Rover 2-seater, recently overhauled, thorough good running order, new piston and new tyres; trial offered; £75 for quick sale; genuine bargain.—Apply, by letter, English, Colehill, Wimborne, Dorset. [1208

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SENSATIONAL Results of my systematic reduction scheme now apparent. If you want real bargains, come and see for yourselves. No need to take auction risks! If some of my cars don't appear cheap, remember many of them are most completely overhauled and renovated, and many almost equal new. Not a dud amongst them.—Cox (below).

TWELFTH Week of my astounding systematic reduction scheme! I reduce at least 10 cars by over £250 total each week. Total reductions to date over £4,000. Many cars below are absolutely absurd bargains, particularly some of the higher priced ones! This week 17 cars reduced £250! All advertised dates guaranteed accurate.—Cox (below).

TWELFTH Week Bargains.—6h.p. De Dion parcel van, mag., Binks carburetter, runs well, reduced from £85, now £20! 3-ton 1915 Seabrook lorry, many parts missing (but all parts can be obtained for £50—then worth £350), bargain, £35; 15h.p. old type chassis, unknown make, about 1902, 4-cyl., live axle, gate, Bosch, Zenith, real antique, £40! 20h.p. Leon Bollee chassis, live axle, enclosed valves, 4-speed gate, reduced from £185, now £75! 1920 Wooler flat twin countershaft bicycle, shop-soiled only, list price £103, reduced £78/10 (fine Christmas present); 14-16h.p. Belsize 4-5-seater, live axle, gate, Zenith, pulls splendidly, £90; 1920 A.V. monocar, extra pillion seat, electric lighting, as shown at White City for £165, bargain, £120! 12h.p. Sizaire-Naudin sporting streamline 2-seater, discs, fast, smart, £125; 12h.p. Alldays van, Ford type body, smart, £135; 8-10h.p. Blumfield-engined streamline light car, 2-seater, 3-speed gear box, smart, £145; 8-10h.p. Warne light car, streamline 2-seater, dynamo lighting, discs, live axle, gate, £175; smart little 8-10 h.p. 1913 Globe coupe light car, Claudel, gate, £185; 10-12h.p. 4-cyl. Humber, sporting streamline 4-seater, 1919 body, bulbous back, armchair seats, particularly smart, £185; Unic 15-cwt. van, sump lubrication, monobloc, detachables, originally £350, now £225; 1920 Bleriot-Whippet cycle car, 8-10h.p., detachable wheels, £225; 16h.p. Bell landaulet, enclosed valves, gate, sump, £235.—Cox (below).

OVER £4,000 Gone West.—10h.p. Delage sporting 2-seater, bulbous back, dynamo lighting set, 4-cyl. monobloc, smart, £235; Chinese Rolls-Royce 4-seater, avec camouflage de luxe, C.A.V. dynamo lighting, £100 worth extras, snip, £245; G.W.K. 2-seater, detachable wheels, £245; particularly smart 12-14h.p. Unic torpedo 5-seater, monobloc, sump, £265; smart 15.9h.p. 1912 Darracq, sleeve valve, roomy torpedo, worm drive, 4-speed, gate, Zenith, £385 originally, £285; nice 11h.p. 1915 Lagonda light car, coupe 2-seater, bull-nosed radiator, detachable wheels, streamline, £285; 1-ton 1916 Clydesdale lorry, £285; 18h.p. 6-cyl. Horbick streamline tourer, £295; 12-15h.p. Opel landaulet, monobloc, gate, cord, Zenith, £295; 10h.p. 1920 H.F.G. 3-seater, dickey, opposed twin, C.A.V. dynamo, detachable wheels, starter, £325; 15-20h.p. Chevrolet 3-seater, English coachwork, dickey, dynamo, starter, smart, £325; Itala sporting streamline 4-seater, low built, raked steering, fast, £325; 11h.p. Brennabor streamline 4-seater, 4-cyl. monobloc, enclosed valves, steel disc wheels, detachables, particularly smart, £350; 15.9h.p. Knight Daimler 4-seater, worm drive, detachable wheels, smart, bargain, £350; 12-15 h.p. Crossley 3-seater, dickey, monobloc, enclosed valves, detachable wheels, £350; smart 12-15h.p. 1913¾ Sizaire-Naudin streamline 5-seater, monobloc, detachable wheels, £350; 15.9h.p. Arrol-Johnston 3-seater, dickey, enclosed valves, detachable wheels, smart, £350; particularly posh 11.9h.p. 1913¾ Humber streamline 4-seater, enclosed valves, detachable wheels, £375; 12-15h.p. 1913 valveless Darracq streamline torpedo, detachable wheels, 4-speed, smart, £375.—Cox (below).

NOTICE These.—Exceptionally smart 1915 Bedford-Buick 3-seater, 15-18h.p., dickey, English coachwork, C.A.V. dynamo lighting, Zenith, gate, detachables, £385; 9.5h.p. 1915 Standard 2-seater, C.A.V. dynamo lighting set, £385; other cars of all types in stock, landaulets, interior drive saloons, latest turnover-side streamline tourers as fine as any. West End style and finish at suburban prices. Full printed list free (or see "The Autocar" or "The Motor").—Cox (below).

COMMERCIALS. Commercials. Commercials.—Sorry, I'm nearly sold out, but my systematic reduction scheme won't let me keep them. All solid tyred: 3-ton 1913 De Dion lorry, enclosed valves, worm drive, £165; 3-4-ton 1915 Locomobile lorry, worm drive, 4-speed, overhauled, retyred, £485 originally, £325; 5-ton Lacre lorry, 4-speed, gate, steel wheels, new tyres, roomy body, fine lot, £345; 3-ton 1914 Scout chassis, live axle, enclosed valves, high aluminium radiator, £375; 2-ton 1916 Vinot lorry, monobloc, 4-speed gate, worm drive, £375; 2-ton 1916 Seabrook lorry, worm drive, monobloc, £385; 2-ton 1915 Palladium chassis, worm drive, [illegible] valves, fine lot, £385; 3-ton 1915½ [illegible] worm drive, overhauled, new tyres, £[illegible]; 3-ton 1916 White lorry, monobloc, Zenith, 4 [illegible] £425.—Cox (below).

CHARABANCS 20 cars 1915½ Whiting open [illegible], 4-cyl., new hood, fine lot, £650; 20 [illegible] 1916 White charabanc omnibus, detachable [illegible] new tyres, only £785; 30 cars worm drive Straker-Squire fast and silent running, magnificent vehicle, worth £1,500, clear £895; take £1,800 for the three.—Cox (below).

DOUGLAS S. COX, the absolutely straight motor man, 6, Lansdowne Hill, West Norwood, S.E., has all the above and others actually in stock and on view. Please call. Hours 9 to 6, Saturdays 5. No business Sundays. No cheque taken (except as deposits, or in advance). Trams and buses pass. 17 mins. Victoria by L.B. and S.C. electric. Taxi fare from West End 10/- return. Established 1902. [2215

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A NEW Generator —with all the irritating faults eliminated!

Yes—there *have* been faults—we admit OURS—but we have profited by EXPERIENCE, and THIS Generator embodies improvements which make it absolutely foolproof.

It gives a uniform supply of gas, ensuring a clear, steady light—and will generate sufficient gas for Head, Tail, and Sidecar Lamps.

Ask your agent to show you one. All the Headlight sets now being sent out have this **new generator.**

F.R.S. LAMPS

"Beam Works," Pershore St., BIRMINGHAM.

30/- each.

F.R.S. LAMPS.

CARS FOR SALE.

2-SEATER, 8-10h.p. Blumfield engine, water-cooled, 3-speed and reverse, new tyres, hood, screen, mechanically sound; selling owing to ill-health; £150; easy payments arranged to suit purchaser.—62, St. Paul's Rd., Moseley, Birmingham. [X2790

FOR Disposal low price, 14h.p. 5-seater Argyll car, fitted hood, screen, Zenith carburetter, electric lighting, good tyres, spare tubes, would make good hire car, very reliable, genuine bargain, £135, or exchange new combination, Triumph preferred.—Melton Rubber Works, Melton Mowbray, Leicestershire. [3027

PAXTON Car Depot, 228a, Gipsy Rd., West Norwood.—1914 4h.p. Green-Precision sporty combination, £67/10; 16h.p. Bell parcels van, live axle, gate, £125; 25-cwt. Unic commercial, large van body, solids, 4-cyl. monobloc, sump lubrication, bargain, £250; 12-15h.p. Opel landaulet, delivered 1915, bargain, £285; 12-14h.p. Crossley 2-seater, dickey, detachable wheels, monobloc, enclosed valves, £295; smart 1915 Overland streamline 4-seater, self-starter, dynamo lighting, £335; also brand new 1920 25-cwt. commercial, £50 below list price. All on view. Call. Part exchange entertained if real good value.—Paxton. [1287

COMMERCIAL VEHICLES.

£100 Down and 12 monthly payments of £25 secures a magnificent 3-ton lorry.—Details, Palmer's Garage, Tooting. [2610

£85 Down and 12 monthly payments of £15 secures splendid 1-ton truck, twin solids, will carry 30-cwt.—Details, Palmer's Garage, Tooting. [2606

ENGINES.

3½h.p. Minerva Carburetter and controls; £5.—36, Church Lane, Moldgreen, Huddersfield. [2961

5-6h.p. Rex Engine, induction pipe, exhaust pipes, silencer; £8.—Lusty, 110, Wheat St., Nuneaton, Warwickshire. [X2843

4¼h.p. Precision Engine, 1913, Bosch watertight, less pulley and chain cover; £12.—33, Tunley Rd., Harlesden, N.W. [2493

1920 2¾h.p. T.D.C. 2-stroke engine, with mag., carburetter, perfect condition; £13.—Louvel Farm, Headington, Oxford. (D) [2957

2h.p. Moto-Reve Engine, with magneto, pulley, and sprocket, good condition; £6/10. After 6.—21, Corfton Rd., Ealing, W.5. [3064

DOUGLAS 2¾h.p. Engines, guaranteed perfect, complete, T.B. mag., Amac carburetter and controls; £14.—Dowell, Byfleet, Surrey. [2615

SUNBEAM 3½h.p. 1915 Unit, magneto, carburetter, not junk; offers over £24.—120, Marlborough Flats, Walton St., Chelsea, S.W.3. [X2936

ABINGDON King Dick Engine, 1920, complete unit, Binks with controls, mag., bracket, silencer, pipes, perfect; £25.—Brierley, Stewartlee, Queen Victoria St., Airdrie. [9558

5-6h.p. Rex Twin, new bushes and connecting rods, excellent condition; £8/10, or exchange 2-stroke unit, good gramophone, or cycle.—89, Congleton Rd., Biddulph. [2503

FOR Sale, 1912 2¾h.p. Douglas engine, complete with mag. and carburetter, less valves, in perfect condition; what offers?—Apply, 20, Oster St., St. Albans, Herts. [2977

PRECISION Engine, twin 6h.p., with induction pipe, 2 magnets, chain wheels; this is in perfect condition; accept £17.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X2294

J.A.P. 2½h.p. Single Engine, in perfect condition, complete with exhaust pipe, silencer, magneto; accept £15/10.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X2295

4h.p. King Dick Engine, quite new, complete with exhaust pipe, silencer, magneto, chain case, 2 wheels and chain; £18/10.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X2296

I HAVE the largest stock of J.A.P. engine parts in London. 8h.p. J.A.P. engines, £20; 4-5h.p. J.A.P. engines, £20. I have all parts for J.A.P. in stock.—Hawkins, 455, York Rd, Wandsworth. [9752

LAMBERT'S Garage (engine specialists) have several J.A.P. and M.A.G. air and w.c. type engines for disposal, from £17/10 to £27/10. It will pay you to get our quotation. A full stock of spares carried; any engine overhauls undertaken in 5 days certain; £2 singles, £2/10 twins plus cost of replacements. Inspection of our model workshops invited.—343a, Finchley Rd., Hampstead. [3047

J.A.P. Specialists.—Special J.A.P., 90 bore; 99 × 77½, side valve, single engine; complete engine, J.A.P., less mag. and carburetter, brand new, specially built by E. C. E. Baragwanath, guaranteed, price £17/17; 1 5h.p. J.A.P. engine, 1 8h.p. J.A.P. engine, all new parts, guaranteed perfect, not cylinders the rats have been at, price 5h.p. J.A.P., £23; 8h.p. J.A.P., £25.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town, N.W.1. [2259

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RELIANCE Magneto Repairing Co., specialists in magneto repairs.

RELIANCE guarantee to return your magneto within 3 days, and if necessary, 24 hours.

RELIANCE work under estimate, and guarantee every magneto for 12 months. Armature winding a speciality.

RELIANCE work for, and are recommended by, some of the largest firms in London and country, and can supply every want.

RELIANCE stock spares for Bosch, U.H., Eisemann, E.I.C., C.A.V., Splitdorf, Dixie, and all known makes.

RELIANCE specialise in the repair of U.H. magnetos, and, having the original U.H. parts, can guarantee a sound and reliable job.

RELIANCE stock new and second-hand magnetos at right prices; old magnetos taken in part payment. Send for illustrated leaflet of the new Fellows lightweight magneto, the smallest, cheapest, and most efficient made. Special terms to the trade.

RELIANCE will be pleased to receive your enquiries concerning your ignition troubles, and customers may be certain of obtaining promptness and courtesy.

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WEST London Magneto Co., London's leading magneto repairers, guarantee repairs for 12 months.

WEST London Magneto Co. can supply that magneto you require, either new or second-hand; also spare parts for every make of magneto at a low price.

WEST London Magneto Co. have a 24 hour repair service, which is pleasing thousands.

WEST London Magneto Co., 164, Shepherd's Bush Rd., London, W.6. [2107

BOSCH Magneto, single, £3/10; 4-cyl. Dixie, £6/10. —Shaw, Park St., Wellington, Salop. [X2887

PLATINUM Points, heavy, all makes, 15/- pair.—Wallis Bros., Redhill Rd., Hay Mills, Birmingham. [2359

NEW British Magnetos for any machine; exchanges quoted.—Collier's Motories, Horton St., Halifax [2534

U.H. Magneto, anti, 50% twin, guaranteed perfect; £4/10.—Semple, 39, St. Leonard's St., Dunfermline. [2331

MAGNETO Cogs, 8 and 9 teeth 3/6, 10 and 12 4/-, 14 and 16 4/6, 18 5/6, 20 6/6, 24 7/6 each.—Below.

PLATINUM Magneto Screws, 7/- each; platinum scrap bought.—Wood, Engineer, 4a, Kentish Town Rd., London, N.W.1. [2677

THOMSON-BENNETT Magneto, single, anti-clockwise; offers.—Stockdale, Mears Ashby Hall, Northampton. [2774

THOMSON-BENNETT Single Magnetos, £5/10; twins, £6/10; approval, deposit.—Ashton, Thornton Edge Dewsbury. [5900

SPARKING Plugs, best makes, Aero Type, 4 for 6/-, post free; fully guaranteed.—S.B.C., Worcester St., Wolverhampton. [X2387

75/-.—180° Thomson-Bennett magnetos, suit 4h.p. Douglas.—The M.C. Depot, 257, Cavendish Rd., Balham, S.W.12. [2741

DIXIE Magneto, 50°, suitable Clyno, £4; Bosch contact breaker, £1; other magnetos.—51, Maplethorpe Rd., Thornton Heath. [2873

THOMSON-BENNETT Magneto, 180° twin, anti and clock, guaranteed as new; £3/15.—Watson, 6, Cavendish Parade, Clapham, S.W.4. [2870

BOSCH Magneto, clock, suitable for big single; £4; approval willingly; guaranteed perfect.—Semple, 39, St. Leonard's St., Dunfermline. [2330

4h.p. Douglas Magnetos: 180° Thomson-Bennett, as new, £4; one 50° E.I.C., £4; carriage extra.—Sulina Garage, Sulina Rd., Brixton Hill, S.W. [2115

UNSATISFACTORY Magnetos should be replaced by a Boulton, £5 each; immediate dispatch. A few shop-soiled to clear at lower prices.—Boulton Magnetos, Ltd., Oldhall St., Wolverhampton. [8955

BOSCH Magneto, ZE1, anti, in perfect order, as new, accept £6/10; Bosch magneto, ZEV, 55%, anti-clock, in perfect order, as new; a bargain, £7.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X2298

ACCUMULATORS.—New C.A.V., 4 volt 15 amp. hours, metal case with strap, 14/6, carriage paid; approval against remittance. Trade supplied.—Maudes', 100, Gt. Portland St., London; and Paris St., Exeter. [1168

SEND Your Magneto for repair to the Loveland Magneto Repair Service, the service with 18 years' practical experience. Spare parts for all makes.—'Phone Streatham 1390.—Crescent Magneto Works, Norbury, S.W.16. [8508

MAGNETO Repairs.—Send your magneto to Palmer's Garage, Tooting. Reply paid; quotation telegraphed on receipt. Quick, efficient repair guaranteed in from two to six days, usually within 24 hours.—Palmer's Garage, Tooting. [2609

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NEW W.D. LIGHT
PALMER CORD
700 x 75 TO FIT 650 x 65 RIM.
COVER AND TUBE
£1 0 0
SUITABLE FOR SIDECAR WHEELS.

SPECIAL BARGAINS
Brand New Covers
1st Grade Only.
From Government Stores, etc.

24×2	Avon Druid	31/-
24×2½	Englebert	27/-
24×2½	Avon Druid	36/-
26×2	Clincher Ribbed	29/-
	FOR 2½ RIM.	
26×2½	Heavy rubber non-skid	27/6
,,	Avon Sunstone	39/6
,,	Wood Milne Combination	73/-
,,	Goodrich safety tread	58/6
26×2⅜	Dunlop heavy rubber studd.	42/6
,,	Palmer cord heavy	39/6
,,	Bates' special heavy	44/-
,,	Wood-Milne extra heavy	37/6
,,	Avon tricar	34/6
,,	Hutchinson passenger	35/-
26×2½×2½	Hutchinson rubber studded	52/-
,,	Englebert super	55/-
,,	Englebert touring	47/6
,,	Goodrich safety tread	61/-
	FOR 2½ RIM.	
26×2½	Heavy non-skid	37/6
,,	Wood-Milne combination	55/-
26×2½	Clincher de luxe heavy	50/-
26×2½×3	Dunlop heavy	45/-
,,	Englebert passenger	47/-
,,	Rom combination	57/6
26×3×2½	Pedley heavy 3-rib	67/-
	FOR AMERICAN RIMS.	
28×2½	Kempshall anti-skid	35/6
,,	Kempshall non-skid	42/6
28×3	Moseley extra heavy	28/6
,,	Kempshall	35/-
,,	Dunlop extra heavy	48/6
,,	Goodrich safety tread	59/6
,,	Palmer cord	55/-
,,	Clincher de luxe extra heavy	55/-
,,	Wood-Milne extra heavy	55/-
	FOR 650 x 65 RIMS.	
700×80	Dunlop grooved	80/-
,,	Spencer-Moulton	70/-
,,	Avon Sunstone	70/-
650×65	Dunlop grooved	57/6
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,,	Avon 3-rib	59/6
,,	Clincher de luxe ex. heavy	59/-

BELTS.
6ft 6in × ¾ Complete with fastener 13 6
1in Any length 2/- per ft.
8ft × 1in. 21/-

NEW CLEARANCE TUBES.

26×3×2½	Pedley heavy	10/6
26×2¼	endless	6/6
26×2⅜	endless	6/9
26×2½×2½	endless	7/6
26×2½×2½	butted	10/-
26×2½	endless	6/6
28×3	endless	8/6
28×3	Hutchinson	13/9
28×3	Avon	13 4

Sent carriage paid on 7 days' approval against remittance.

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RUNBAKEN Repair Service.—Thorough and efficient repairs to any make of dynamo, starter, or mag. We have the spare parts, plant, and skilled labour turning out guaranteed work only.—Enclose instructions and send by rail to The Runbaken Magneto Co., Ltd., 115, Gt. Portland St., London, W. ('Phone: Mayfair 3586.) North of England: Derby St., Cheetham, Manchester. ('Phone: City 8266). [0258

MAGNETOS, Magnetos.—We hold a stock of V twin magnetos of all degrees, and recommend the new B.T.H. 42° to Indian riders; Bosch magnetos, all degrees and rotations; B.T.H. singles in stock; exchanges. The only official Indian electrical service station B.T.H., Thomson-Bennett, and Peel Conner repairs service.—Euston Ignition Co., 329, Euston Rd., N.W.1. 'Phone: Museum 5034. T.A.: Magdymo, Eusroad, London. [3786

THE Magneto Repairing and Winding Co. (Established 1912), contractors to H.M. Government, and officially appointed by the R.A.C.—Magneto repairs of every description. All repairs at lowest possible prices, and strictly guaranteed. We can mostly return them within 24 hours. We have several new and second-hand single and 2-cyl. magnetos in stock, all guaranteed.—The Magneto Repairing and Winding Co., 78, Hampstead Rd., Euston Rd., London, N.W.1. 'Phone: Museum 1158. T.A.: Kumagnelec, Eusroad, London. [1539

EUSTON Ignition Co.'s 24 hour repair service. Guaranteed repairs to all types of magnetos; Splitdorf and Dixie specialists; official Indian electrical service station; Thomson-Bennett repairs and spares. All repairs are tested on an approved A.I.D. test bench before dispatch, and therefore carry our guarantee for 12 months. We hold the largest stock of guaranteed magnetos in London, twins all degrees; spare parts for all makes in stock; charged accumulators all voltages always ready in stock, plugs, cables, ½-watt and vacuum bulbs all voltages. We give you real live service always.—Euston Ignition Co., 329, Euston Rd., London, N.W.1. 'Phone: Museum 5034. T.A.: Magdymo, Eusroad, London [0263

TYRES.

H. EMANUEL'S for your motor cycle tyres.—Below.

28×3 Dunlop Extra Heavy, 4-ply, 50/-, Palmer cord heavy 50/-, Palmer cord 45/-, Wood-Milne extra strong 39/6, Moseley ribbed 35/-, Kempshall anti-skid 35/-.—Below.

700×80, for voiturette rims, will fit 650×65; Dunlop grooved 75/-, Wood-Milne Gruvrib 70/-, Spencer-Moulton 70/-, Beldam Bulldog 70/-, Avon Sunstone 70/-.—Below.

26×3×2½ Dunlop Heavy 45/-, ditto tubes 8/6.—Below.

650×65 Palmer Cord Heavy 57/6, Palmer cord 50/-, Dunlop heavy 50/-. As follows for voiturette rims: Michelin steel-studded 70/-, Dunlop steel-studded 75/-, Wood-Milne square 45/-.—Below.

26×2½ Dunlop Heavy Rubber-studded 45/-, Bates heavy pattern ribbed 39/6, Avon Sunstone 41/6, Dunlop combination rubber and steel-studded 57/6, Rom ditto 55/-, Wood-Milne 55/-.—Below.

26×2⅜ Dunlop Heavy 39/-, Wood-Milne extra strong 39/-, Moseley ribbed 34/-, Dunlop combination 55/-.—Below.

26×2¼ Dunlop Heavy 39/6, Dunlop combination 55/-, Rom ditto 55/-, Beldam ditto 55/-, Bates special heavy 37/6, Macintosh chain pattern 35/-.—Below.

THE Above Tyres are Government surplus, not in any way perished or soiled. All orders 7 days' approval against remittance. If not satisfactory money refunded. Country orders dispatched passenger train same day as order received.—Below.

H. EMANUEL, Tyre Factor, 27, Belgrade Rd., N.16. Stores: 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0235

15/6 is the cost for retreading your cover with extra heavy studded tread.—Below.

14/6 for retreading heavy ribbed pattern; send for sections of tread, post free.—Below.

REPAIRS of every description from 2/6.—Phœnix Tyre Repairing Co., 224, Sherlock St., Birmingham. [X2896

BASTONE'S.—Special purchase. New Michelin motor cycle covers, beaded edge, 26×2½ 21/-, 26×1¾ 15/-.

BASTONE'S.—New Michelin Tubes, 26×2¼ and 26×2½, 8/6 each.

BASTONE'S for Covers and Tubes.—Special line of Englebert wired edge covers, 26×2½, raised tread, 25/-; ditto rubber-studded, 32/-; also large stock of beaded edge covers, all makes, at low prices.—228, Pentonville Rd., King's Cross, London, N.1. Tel.: 2481 North. [2253

BRAND New Clincher Tyres, 26×2¼ 33/6, 26×2½ 39/6.—Waudsworth Motor Exchange, Ebner St., Wandsworth. [6171

650×65 American Victor Covers, heavy, brand new, not clearance; 35/-, listed £4/10.—5, Weardale Rd., Lee. [2305

TYRES. Great sale.—Don't buy any until you have seen our list. It is a revelation.—Bancroftian Co., 64 and 78, Bishopsgate, E.C. [0054

TYRES.

ECONOMIC Tyre Co.—Genuine bargains in new clearance and Government surplus stock; all goods sent carriage paid on 7 days' approval against remittance.

ECONOMIC.—24×2¼ (fit 2in. rims) heavy rubber non-skid, 41/-, listed 54/6; 26×2¼ Dunlop heavy, 37/6, listed £2/16/9.

ECONOMIC.—26×2¾ Dunlop heavy, 39/6, listed £2/19/9; Palmer cord heavy, 39/6, listed £3/19/4.

ECONOMIC.—28×2½ Goodyear diamond tread, brand new, 45/-, for pre-war American rims.

ECONOMIC.—28×3 Kempshall non-skid clearance, 55/-, listed £5/10; Palmer cord heavy W.D., 45/-, listed £4/13/6.

ECONOMIC.—650×65 Clincher de Luxe W.D., 57/3, listed £4; 700×80 Dunlop grooved, 75/-, listed £4/19/6.

ECONOMIC.—Fully guaranteed. 24×2 Dunlop rubber stud, 30/9; 26×2 Dunlop rubber stud, 33/-; 26×2¼ Dunlop rubber stud, 34/9.

ECONOMIC Tyre Co., 314, New Cross Rd., S.E.14 (near Town Hall). 'Phone: New Cross 1393. Repairs and retreading. [9324

BULL'S.—Large stock of motor cycle and voiturette covers and tubes at clearance prices.—Bull's Rubber Co., Ltd., 3, Upper St. Martin's Lane, London, W.C.2. Tel.: Gerrard 1347. [0243

STOCKTAKING Sale, 14 Days Only.—5,000 motor cycle covers, brand new soiled goods, 26×2 26/-, 26×2¼ 27/6, 26×2⅜ (for 2¼) 28/-, 26×2½ 28/-, 700×80 55/-.—Millards, Chesterfield. [1460

KEMPSHALL Non-skid, also Hutchinson T.T., 28×2¼, brand new, at a remarkable figure; 35/- each; special prices for quantities over 6; carriage free; greatest bargains in tyres.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0259

A 26×2¼in. High-class Rubber-studded Cover, straight from the factory, for 30/-; just think of it; not clearance; money refunded if not satisfied. Have one of these bargains. Send for our repairs and retreading list.—Melton Rubber Works, Melton Mowbray. [0347

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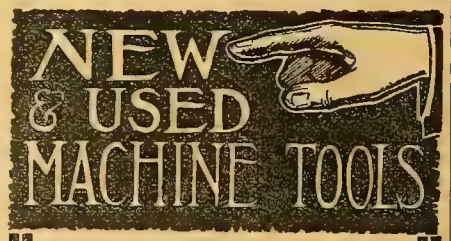

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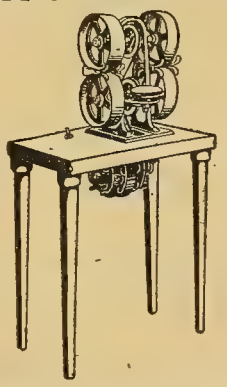

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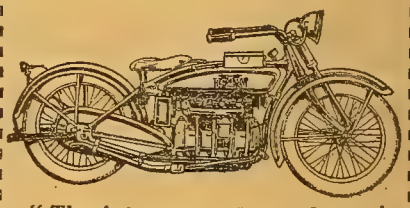

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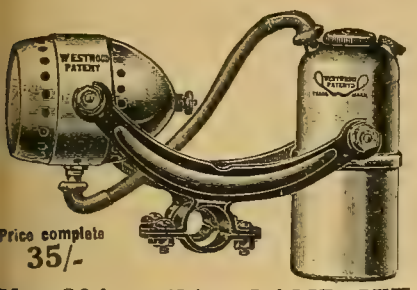

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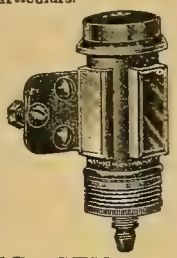

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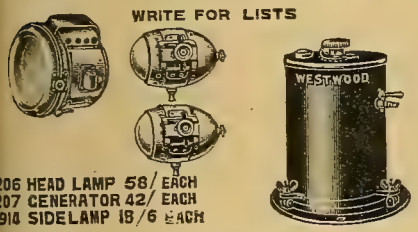

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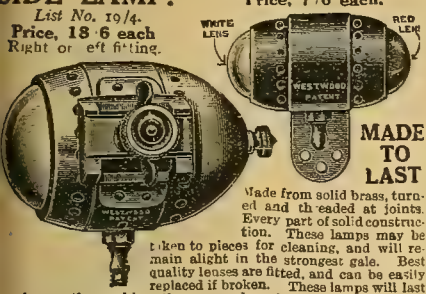

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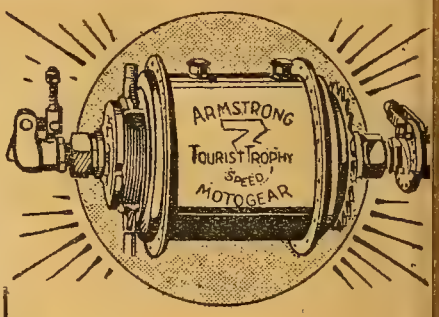

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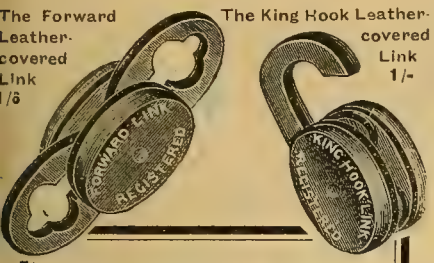

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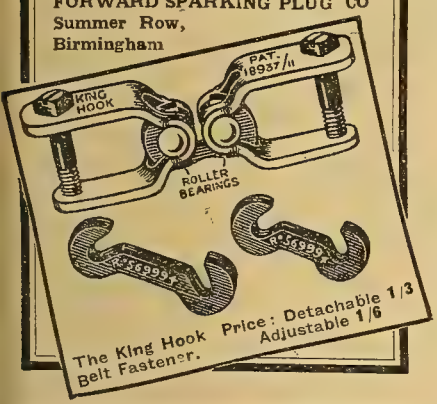

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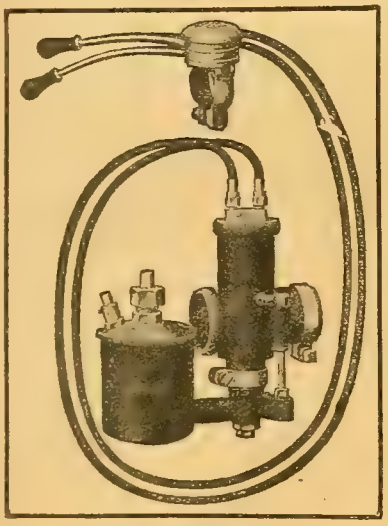

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BANCROFTIAN Co.'s Great Sale of surplus stock to be cleared regardless of cost, consisting of motor cycles, all makes: tyres, lamps, horns, sidecars hoods, speedometers, carburetters, magnetos, belting, accumulators, waterproof clothing, chains, saddles and everything for motor cyclists at extraordinary prices. Call or write; you will save money.—Bancroftian Co., 64 and 78, Bishopsgate, London, E.C. T.A.: Chaikel, London. Tel.: London Wall 9897. [0053

INDIAN Gear Boxes and Engines, and all parts for same. Below.

INDIAN Intake Domes, carburetters, magnetos, clutches, kick-starters.—Below.

INDIAN Carriers, chains and guards, springs, sprockets; in fact, everything for 7-9h.p.; all parts absolutely new.—Dennis Accessories Stores, 89, Brixton Rd., London, specialists in Indian repairs. 'Phone: Brixton 3129. [8739

STANLEY Fasteners, ¾ and ⅞in. and 1in., ex W.D.; 5d. pair.—Below.

TRIUMPH and Douglas Belts, ex W.D., quite as good as new; 7/6 and 8/6 each.—Marble Arch Motor Exchange, 135, Edgware Rd., W.2. [8133

DOUGLAS 2¾h.p. Engine Spares, buffer head, forks; £6.—33, Pennard Rd., W. [2958

COWEY Horn (handle-bar), new; 50/-.—Martin, 191, Caerleon Rd., Newport, Mon. [2894

N.S.U. Gear, £6/10; Grado, 90/-; ditto K.S., £8/10.—Box 9,793, c/o *The Motor Cycle*. [2992

GENUINE Douglas 2¾h.p., pistons, rings, gudgeons; 50% off list.—Crow Bros., Guildford. [2145

N.S.U. Gear, brand new, less controls, suit Bradbury; £7.—Box 9,794, c/o *The Motor Cycle*. [2993

ONE Week Old Binks, off Douglas; 60/-.—Faber, Eggleschffe Village, County Durham. [2450

SIDECAR, needs repair, £5; 6h.p. a.i.v. J.A.P., £10.—177, Canterbury Rd., Kilburn. [2779

P. and M. Spares, all parts in stock, cheap; state requirements.—Inman, Othello St., Liverpool. [2473

CLYNO Spares. Every part. We are not Government junk dealers, no rubbish supplied.

WE have the largest stock in the world; all prices reduced. Write requirements; stamp please.—Claridge's, Clyno House, 8, Chandos Rd., Redland, Bristol. [2896

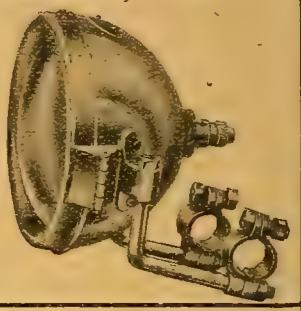
WALL Auto-Wheel, with lady's Rudge, excellent condition; £20, or separate.—Crittenden, 75, Salisbury Rd., Maidstone. [2747

LAMPS.—Stupendous bargain: H.B., 17/6; tail lamps, 5/6; large generators, 9/6; small, 7/6; first P.O. secures.—Claridge's, Lamplight House, 8, Chandos Rd., Redland, Bristol. [2895

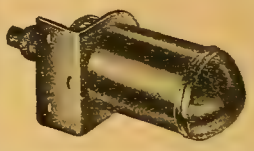
"TAW" ELECTRIC LIGHTING OUTFITS

"TAW" HEAD LAMP, Model No. 29

"Spotfinder"
5½in. diam.
Price:
£2-15-0
In White Nickel or Black Plated.



"TAW" SIDECAR LAMP, No. 33



Gives a pencil beam light; screws direct to sidecar body.
Prices:
White Nickel—**11s. 6d.** each
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Screws to Number Plate. Back removes and can be used as an inspection lamp.
Prices:
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"TAW" ACCUMULATOR

6 volt 40 amp.
£3-10-0
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In Teak Box.

"TAW" TWIN KNOB SWITCH

Black Plated
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Vulcaniser RUBBER FLEX Conductor 12s.
per six yards

COMPLETE SET, including 1 Head Lamp, 1 Sidecar Lamp, 1 Tail Lamp, Accumulator, Switch, Cable, and Bulbs.....£8-10-0

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Trade Enquiries Invited.

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Campsboure Wks., High St., Hornsey, N.8.

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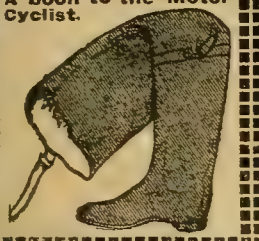

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BINKS Carburetters.—Large stock ready for immediate delivery.—Booth's Motories, Halifax.

BINKS Carburetters.—We specialise in these; all models supplied.—Booth's Motories, Halifax.

BINKS Carburetters.—We take your old carburetter in exchange.—Booth's Motories, Halifax.

BINKS Carburetters for Douglas, Scott, Indians, Harley-Davidsons, Triumphs.—Booth's Motories, Halifax.

BINKS Carburetters enable your engine to tick over; try one.—Booth's Motories.

BINKS Carburetters save petrol and give more power.—Booth's Motories, Halifax.

BINKS Carburetters.—Let us take your old carburetter in exchange.—Booth's Motories.

STATIONARY Engines.—1½h.p., run on petrol or paraffin; list free.—Booth's Motories.

STATIONARY Engines.—3h.p., run on petrol or paraffin.—Booth's Motories, Halifax.

STATIONARY Engines.—Hopper, cooled, mag. ignition, 2 flywheels; list free.—Booth's Motories.

STATIONARY Engines.—Large stock for immediate delivery; list free.—Booth's Motories, Halifax.

STATIONARY Engines.—Latest design, run on petrol or paraffin.—Booth's Motories, Halifax.

STATIONARY Engines.—Large stock; send for list; exchanges entertained.—Booth's Motories, Halifax.

100 MAGNETOS, brand new, weather-proof model; £4/17/6. carriage 1/6.—Booth's Motories, Halifax.

175 CARBURETTERS to be sold, cheap: Brown and Barlow, Amac, Capac, B.S.A., Senspray, Triumph, Scott, Douglas; price from 15/-. Several are latest 1920 models, hardly used; state requirements.—Booth's Motories, Halifax.

NEW 1920 Lightweight Frame, fitted with Villiers engine, magneto; £19/10. — Booth's Motories, Halifax.

1h.p. Gas Engine, with tank, £7; 3½h.p. Centaur 2 engine, m.o.v., 50 -; van body for G.W.K. car, £9/10; 26×2½ rims, 4 9; new 40 ampere accumulator. 27/6.—Booth's Motories, Halifax. [2622

MUDGUARD Blades, extra strong, 5in., front 8/6, back, sidecar or cycle car, 9/-; carriage 9d.

BELT Rims, 19in. or 16in.×2¾in., for 1in. belt, 17/-, carriage 1/-.

WIRE Wheels quoted for.—Front M.C. from 27/6; back M.C., from 36/-; sidecar wheels, from 35/-.—Gibbons, Chadwell Heath, Essex. [0111

THE Spot for cheap dependable typewriters.—Reliance House, 2, Gray's Inn Rd., Holborn, W.C. [1324

STURMEY-ARCHER Gear Boxes, brand new; in stock.—County Engineering Co., Hounslow. 7929

POLISHED Celluloid Sheets.—Athol Engineering Co., 9, Peru St., Higher Broughton, Manchester. [7962

SADDLES, Brooks B170, 35/-; Le Grande, 25/-; as new.—Turner, 78, Church Rd., Willesden. [2437

1917 Douglas, less mag. and a few parts, £25; Douglas wheels, 12/6.—33, Hackford Rd., Brixton. [2760

RENOLDS Chain, ⅝×¼, 96 links, 25/-; 56 links, 15/-; new.—56, Sutton St., Aston, Birmingham. [X2929

MABON Clutch, perfect, off 3½h.p. J.A.P.; £3.—Ellis, Maltese House, Writtle, near Chelmsford. [2716

LARGE R.A.F. Helmets, 18/6, cost £4/4 each; sent on approval.—76, Dalling Rd., Hammersmith. [2805

STURMEY-ARCHER Countershaft Gear Box for sale.—Ideal Trading Syndicate, Cromwell House, Holborn. [1630

ARMSTRONG and Sturmey-Archer Gears repaired while you wait.—County Engineering Co., Hounslow. [9626

PATRICK.—4½in. S.C. lathe, ¾in. hollow spindle; deferred payments; list 15E.—Penraevon Place, Leeds. [2235

GEAR Box, Alldays, 2-speed, clutch, controls, perfect; £5.—Burrell, Cheriton Lodge, Fareham, Hants. [X2772

TRIUMPH Clutch Wheel, complete, controls, pedalling gear; £6/10.—36, Winchester St., Coventry. [X2932

BARGAINS.—Triumph countershaft, frame, tank, front wheel, tyre; £7.—Searles Stores, Southborough. [2944

4h.p. Douglases, few parts missing, W.D. models; £30, real snip; worth dealers' consideration.—Below.

4h.p. Douglas Engines, gear boxes, frames, etc., cheap.—Banister and Botten, 341, Upper St., London, N.1. [2900

MOTOR Repair Plant, electric power, fitted with Hendy lathe and various other machine tools, only wants viewing.—Motors, 39, Essex Rd., Islington, N.1. [2889

"GRADO" GEARS

make your machine climb anything but a staircase. Fitted in two hours. No alteration to machine.

Price £12-0-0

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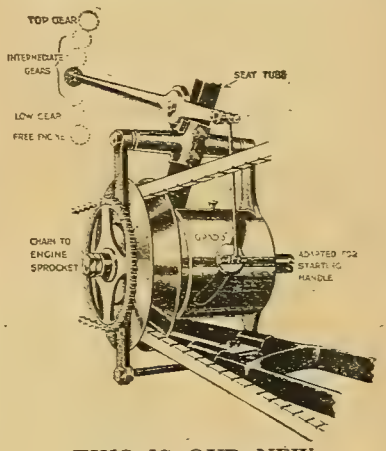
Sit on your saddle and start engine Variable gear, free engine, kick-start. Here is our world-famous kick-start model for all machines from 3 to 10 h.p.

DELIVERY FROM STOCK.

TWO-STROKE RIDERS — This gives you a gear for every gradient



THIS IS OUR NEW COUNTERSHAFT MODEL FOR TWO-STROKES.

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£12 complete with chain, both sprockets, and starter. Post 4/-

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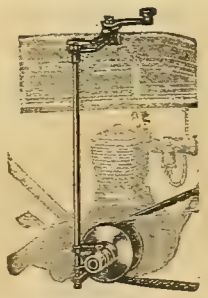
This Gear gives variable gear and free engine.



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Delivery from Stock.

Order to-day or write for further details.

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¶ Perhaps you have been waiting for the Show before deciding which make of machine you would purchase for 1921, and now, having studied the various makes of machines exhibited, you have possibly realised that it is difficult even now to make your choice from the great number that appeal to you.

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We hold no brief for any particular machine, but make it a point to sell only the BEST—let us know what you are looking for, whether you want solo or combination, miles per hour or miles per gallon, and we will take pleasure in advising you, whether you contemplate purchasing from us or no. We offer you the same guidance that we have given to the many others who are now our lasting friends.

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2¾h.p. Douglas Spares.—Gear boxes, £4/10; all gear box parts; frames, £5; wheels, front 27/6, rear 40/-; forks complete, £3; all engine parts, flywheels; pistons, 10/-; connecting rods, 22/6; back stands, new, 10/-; everything; write requirements.—Below.

4h.p. Douglas Spares.—Wheels, back £2/10, front 30/-; forks complete (late), £5; fork shackles and blades; fork springs, 10/- pair; all spares for engine, magneto wheels, etc., clutch spares, in fact everything for your Douglas; small orders receive same consideration as large.—Below.

4h.p. Douglas Head Lamp Brackets for models after 1917, to fit in steering column, 3/-, post 6d.

2,500, Government stock, brand new.—We, the Effra Motor Works, do hereby guarantee that the motor cycle lamps and generators to be sold by us are genuine Powell and Hanmer or Miller.—As below.

32/6 for a full size, e.g., 5½in. glass (or 4in. suitable for Douglas's, lightweights) Powell and Hanmer motor cycle head lamp, complete with full size Miller generator; lamp only, 22/6; is a gift to every motor cyclist; all brand new; postage 1/6.—As below.

30/-—Miller motor cycle (4½in. glass) head lamp, ebony finish, complete with full size generator; postage 1/6.—As below.

19/6—4h.p. Douglas head lamp, complete with Douglas brackets, fit 2¾h.p. Douglas 1919-20 models; postage 1/6.—Below.

THE above is all brand new stock, bought at huge discount. Compare prices. Goods forwarded against cash; money returned if not satisfied. Open Sunday mornings.—Cheques and postal orders should be made payable to The Effra Motor Works, 14, Effra Parade, Brixton, London. [3003

DOUGLAS, Triumph, less engine, parts cheap; mag., speedometer, etc.—Simpson, Engineer, Sunbury-on-Thames. [2806

SPARE Parts, replacements, repairs.—Humber, Ltd., Canterbury Rd., Kilburn, N.W.6. 'Phone: 1298 Willesden. [C197

RENOLDS Chain, 101 links, ⅝×⅜, new, 40/-; 56 links, 23/-; approval.—Davis, 35½, Whittall St., Birmingham. [X2926

FULL Size P. and H. Head Lamps, No. 127, 19/6; No. 128, 18/6; Millers No. 31H, 18/6; all brand new.—Below.

LAMP Brackets, 5/- pair; Lucas and P. and H. and Miller, second-hand.—Below.

MILLER Generators, full size, brand new, 11/6.—Marble Arch Motor Exchange, 135, Edgware Rd., W.2. [2212

MAUDES'.—Plugs: Clearance line of reconditioned Lodge Aero, K.L.G., and Sphinx plugs, 1/9; post free.—Below.

MAUDES'.—Discs, polished aluminium, 77/- set, sidecar wheel 42/-; genuine Ace discs, specially recommended, 90/- set, sidecar 45/-; leg shields, polished aluminium. 32/- pair, steel 17/6.—Below.

MAUDES'.—Bradbury 2-speed gears, Rudge and Triumph, brand new, £10/5; Rover, £11/15.—Below.

MAUDES'.—Horns: Klaxon, 36/-; Cowey, 55/-; H.B. bulb horns, 27/6; rear lamps, Motex, 5/-; T.W.R., 8/6.—Below.

MAUDES'.—Speedometers: Cowey, 120/-; Smith's, 105/-; Watford, 104/6; immediate delivery; Easting wind screens, 90/-; sidecar luggage grids, 27/6.—Below.

MAUDES'.—Spanners: Dum-bell, 3/-; Patchquick outfits, 3/3; knee grips, leather, 10/6 and 11/6; A.K., 12/6.—Below.

MAUDES'.—Chains: ¾×7-16ths for Morgans, 9/- foot; ½×¼in., 7/-; ½×¼in., 6/-.—Below.

MAUDES'—Hart and Peto Radford accumulators, 4 volt 12 amp. hour, shop-soiled only, 12/6.—Below.

MAUDES'—Hutchinson type wader boots, 20/- pair; Tan-Sad pillion seats, 43/9; shop-soiled saddles, 22/6.—Below.

MAUDES'.—Tyres: Special line Wood-Milne clearance covers, 28×3in., 27/6; approval.—Below.

MAUDES'.—Phelon and Moore parts, new but soiled; brake drums, 9/-; rear mudguards, 11/-; front mudguards, 15/-; front stands, 7/-; rear, 11/6; front wheels, 20/-; gear levers, 7/6; service green. All accessories on approval against cash; trade supplied.—Maudes, 100, Gt. Portland St., W.1, and Paris Exeter. [2915

2¾h.p. Machine, complete, less unit and tyres, good condition; £8/10.—Proudlock, 1, Lily Av., Newcastle-on-Tyne. [2950

SCOTT Engine, 1915 cylinders, main frame, carrier with stays, perfect order, little used.—79, Berkley St., Liverpool. [2892

WATFORD, Cowey, Smith trip speedometers, complete as new; £4 each.—30, Crystal Palace Park Rd., Sydenham. [2864

Cut this out and keep for reference.

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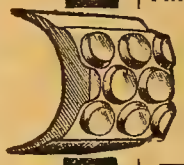
We do a large amount of Tyre Repairing for motor cyclists at our own works. All repairs are executed under expert supervision. Finest materials only used.



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*650×65	22/6
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* Extra Heavy Car Type Tread.

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Abraham.—"You don't do said so."

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LEATHER Coat, Opossum collar, medium size, excellent condition.—Tippett, Augusta House, Esplanade, Weymouth. [2459

A.J.S. Gear Box, 3-speed, kick start, clutch, all chain, complete, perfect, in new condition; £12.—Dowell, Byfleet, Surrey. [2616

OFFICER'S Leather Flying Coat, suitable motor cycling; first cash £6/10.—Stagg, 24, South St., Newport, Wight. [2499

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B.S.A. and 8h.p. Royal Ruby Spares. We hold a huge stock under list; let us have your enquiries.—Below.

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500 4-cylinder magnetos, £4 each; a quantity of tool boxes, waterproof covers for combinations and Engineers' benches; cheap, carriage extra; stamp please.—Holliday Bros., 20, Queen St., Hammersmith Broadway, W.6. [2802

SPEEDOMETER, Cowey, 24in., registered 1,350 miles, off Enfield 2-stroke; 4 gns.—Box 9,800, c/o *The Motor Cycle.* [2986

SPROCKETS, new, ½in. pitch, two 23 tooth 7/6 each, one 30 12/-; 25/- the three.—Hollingsworth, Uley, Glos. [X2897

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CAPAC Carburetters.—Fit one of these and make your lightweight equal to a 3½h.p.; liberal exchanges.—Below.

CAPAC Automatic Carburetters, £4/4; new model Capac for Douglas, with hot air attachment, £5/5; liberal exchanges.—Below.

CAPAC Carburetters give easy starting and increased power; liberal exchanges.—Halifax Motor Exchange, Horton St., Halifax. [2532

SPEEDOMETER Specialists.—We can supply from stock the following makes of speedometer: Watford, Stewart, Jones, Cowey, etc.—Below.

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150 SCREWS, nuts, washers, set screws, 3/-; 144 bright steel bolts, 2/6; 72 bright hexagon nuts, 2/6.—See below.

72 BEST Spring Washers, 3-16 to ¼in., 1/9; 36 castle nuts, ¼in. to ½in., 1/9.—See below.

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TRANSFERS, design-name, 14/6 gross; cycle linings wholesale, samples 6d.—Transfer Co., 9, Churchmead Rd., Willesden. [1777

2¾h.p. complete, less engine unit, new tank, new saddle, new handle-bars, good tyres; £9.—Graham, Newcastle St., Carlisle. [2815

250 BRIGHT Steel Assorted Nuts, studs, bolts, etc., sent carriage free 10/-; approval.—Palmer's Garage, Tooting. [2608

VALVES.—The finest pattern valves procurable, 3% nickel; all patterns stocked, 5/6 each; valve springs, 8d. each.—Below.

PISTON Rings.—High tensile cast iron; all patterns in stock, 1/9 each.—Below.

PISTONS, complete, for all engines, standard or oversize keenest prices, immediate delivery.—Reid Watt and Co., 14a, Snow Hill, Birmingham. [1388

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NEW Bowden Valve Lifting Levers (list price 14/6) complete with 6ft. cable, 4/6; Bowden wire and casing, 3d. per ft.—Below.

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LUCAS 12-volt Aero Dynamo, complete, with magnetic cut-out, £7/15/6.—Burke and Goodman, 25, Burscough St., Ormskirk, Lancs. [2311

P. and M. Spares.—Huge stock, all parts, cheap; frames, brand new, 35/-; tanks, 17/6; etc.—1, Othello St., Liverpool. [2631

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GENUINE BARGAINS.

We have a large stock of shop-soiled New **Motor Cycles** and **Combinations.**

No offers refused. 1920 Stock must be cleared at once.

NEW SHOP-SOILED SOLOS.

BLACKBURNE, 4 h.p., 3-speed	£125	0
NEW IMPERIAL, 8 h.p., twin J.A.P.	£140	0
ZENITH, 8 h.p., K.S., clutch	£155	0
DOUGLAS, 4 h.p., 3-speed	£117	10
INDIAN, 4½ h.p., 3-speed, K.S., clutch	£117	10
ROYAL RUBY, 3 h.p., spring frame, 2-sp.	£105	0
OMEGA-J.A.P., 2½ h.p., 2-speed	£70	0
COVENTRY-EAGLE, 3½ h.p., 3-speed	£115	0
B.A.T. 6 h.p., spring frame	£137	10
ROVER, 3½ h.p., T.T.	£105	0
ROVER, 3½ h.p., 3-speed	£135	0
N.U.T., mag. dynamo lighting, 3½ h.p. twin	£157	10
RUDGE-MULTI, T.T.	£100	0
RUDGE-MULTI, I.O.M.	£97	10
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CLYNO 8 h.p. Combination, spring frame	£250	0
MATCHLESS Comb., 8 h.p., mag. dynamo	£210	0
ZENITH 8 h.p. Combination	£200	0
HAZLEWOOD Combination, 6 h.p.	£195	0
A.J.S. Combination, 6 h.p., 3-speed	£210	0
ROVER Combination, 6 h.p.	£195	0
B.A.T. Combination, 6 h.p. and 8 h.p.	£190	0
ROYAL RUBY Combination, 8 h.p.	£195	0
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NEW IMPERIAL Combination, 8 h.p.	£177	10

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AUTOPED Scooter, dynamo lighting	£30	0

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2¾h.p. T.D.C. Engine, E.I.C., Senspray, frame, tank, and carrier, new; bargain, £24.—28, Durnford St., Middleton, Manchester. [2407

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CARBIDE for all purposes. Quality considered, we give best value. 43/- cwt., drums free.—Kemp's Garage (Importers), Louth, Lincs. [X2859

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1¼h.p. Clement Engine, £2; B. and B. carburetter, as new, nearest offer £2.—H., 5, Cornwall Rd., Braintree St., Mile End, E. East 672. [2467

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GEAR Box, B.S.A., 3-speed, complete, chain or chain-cum-belt, new, unused; £20, nearest.—Vickery, 2, Tyndall Av., Cotham, Bristol. [2414

LUCAS New 6-volt single meter, car type switch-box, £4/15; new 6-volt Lucas horn, 52/6.—17, Poplar Av., King's Heath, Birmingham. [X2603

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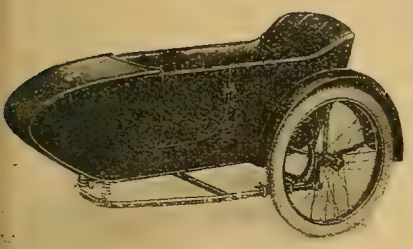

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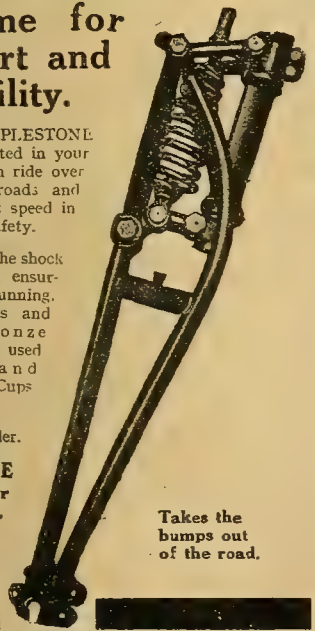

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SCOTT, incomplete, engine No. 571, £18; also Minerva, less accumulator, £4; offers considered.—Darlington, Jun., Vicarage, Kennington Oval, S.E.11. [2380

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CARBIDE, finest quality, giving 100% pure gas yield, cwt. 44/-, half cwt. 24/-, 28 lb. 13/6, including drums.—Young, Importer, Misterton, Somerset. [5693

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DOUGLAS 4h.p. Wheels £7, 2¾h.p. £5; latest pattern 2¾h.p. frame, £12; all the above brand new, genuine 1920; approval.—Box 9,805, c/o *The Motor Cycle.* (D) [2996

SPECIAL Offer brand new 28×3 Capon Heaton red motor cycle inner tubes and valves, 7/6 each, post free, or 78/- dozen.—Edwardes Bros., 20, Blackfriars Rd., S.E.1. [3021

ARMSTRONG 3-speed Gear, complete, new condition, £7/10; lightweight spring forks, suitable for Ivy, £2; pair P. and M. wheels, £2/10.—Warwick, Hinckley Rd., Leicester. [2502

STOCKTAKING Sale, single articles at less than wholesale price: horns, carburetters, plugs, taps, repair outfits, oil squirts, tubes.—King, 61, Somerset Rd., Teddington. [2415

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DOUGLAS Binks, £3; anti magneto, £3/10; new lamp set, £2/10; 2¾h.p. Douglas rear cylinder, 15/-; electric hand drill, £7/10.—602, King's Rd., Fulham, S.W.6. [2756

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CLYNO Spares.—I have secured a large consignment of spares cheap, and can therefore cut prices.—Write Stampeth, enquiries Babbage, 65, Cotham Brow, Cotham, Bristol. [2897

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ELECTRIC Self-generating lamp set, £4; 2¾h.p. Douglas, like new, all accessories, £60; 1916 Levis, £33; 2-speed F.N. single, £36.—31a, Compton Rd., Kensal Green. [2419

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Combination Models.	£	s.	d.
1920 A.J.S.	210	0	0
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1920 6 h.p. Bat Jap	210	0	0
1920 6 h.p. Bradbury	200	0	0
1920 4 h.p. Bradbury	160	0	0
1920 3¾ h.p. Scott	185	0	0
1920 4 h.p. Wilkin	164	0	0
1920 2¾ h.p. Hoskison-Blackburne	125	0	0
1920 2¼ h.p. Wilkin	145	0	0

Solo Machines.	£	s.	d.
1920 7 h.p. Indian	181	14	0
1920 6 h.p. Bat-Jap	160	0	0
1920 4 h.p. Bradbury	128	0	0
1920 3¾ h.p. Scott	145	0	0
1920 4 h.p. Wilkin	132	7	0
1920 2¾ h.p. Hoskison-Blackburne	103	19	0
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1920 2¾ h.p. Hoskison-Villiers	75	0	0

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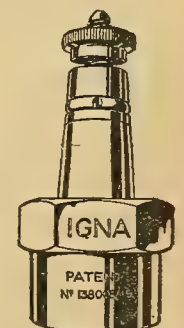
Price **4/6** of all Agents and Garages, or direct.



IGNA Mica Single Point Plug.

The IGNA Engineering Co., Ltd., Dudley
Northern Office: 196 Deansgate, Manchester

R.H.S.

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AMAC Carburetters, suitable for 2¾h.p. and 4h.p. Douglas, 67/-, complete: handle-bar controls, 15/6; float chambers, 25/-; float chamber caps, 5/-.—Robinsons.

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CRANKSHAFTS.—2¾h.p. Douglas, 1911, 2 gns.; 1915-20, 55/-; 4h.p. Douglas, 84/-; Villiers halves, 18/- each.—Robinsons.

CYLINDERS and Connecting Rods.—2¾h.p. J.A.P., £5/19/6; 4, 6, and 8h.p., £6/10; 3h.p. Enfield, 70/-; Humberette, £6; Humber, £5/15; Sunbeam, £6/10; Rudge, £4/10; Rover, £5/7/6; B.S.A., £4; Premier, £6; 2¾h.p. and 4h.p. J.A.P. connecting rods, 30/-, 6h.p. and 8h.p., 79/6 pair; Douglas 2¾h.p., 40/-, 4h.p., 60/-.—Robinsons.

DOUGLAS Handbooks for 2¾h.p. and 4h.p.; your own repairs; 1/9, post free.—Robinsons.

DOUGLAS Spares, all parts in stock, no waiting; complete list post free; special terms to trade.—Robinsons.

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DISCS, in polished aluminium, suitable for any make of machines, easily fitted, very sporty, 60/- and 70/-; Ace, 90/-.—Robinsons.

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FEELERS showing exact adjustment for tappet clearance, plug points, and contact breaker; 2/6.—Robinsons.

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FRAMES.—2¾h.p. Douglas, £15; 4h.p. Douglas, £18/18; Triumph front portion, £8/14; rear top stays £2, rear bottom stays £4.—Robinsons.

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HANDLE-BARS.—Douglas, semi-T.T., good position, 35/-; touring 25/-; Triumph W.O., 54/-; touring, 54/-.—Robinsons.

HORNS.—Cowey mechanical, nickel or black, 60/-; Mecaphone (2) mechanical, 30/-; French bulb, 25/-; Clyvite bulb, 27/-; a few shop-soiled bulb horns, 15/-, usual price 30/-.—Robinsons.

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LIGHTING Sets.—Hunt's electric sets, head lamp, 30/-, 50/6 and 67/-, black 32/-; rear lamps, 9/6; throw-over switches, 14/7 and 3/9; leather cases for batteries, 12/6.—Robinsons.

DOUGLAS 2¾h.p. Gear Box and Clutch Spares.—2-speed countershaft, 27/6; 24T screwed sleeve, 15/-; 30T pinion boss, 12/-; mainshaft, 17/-; dog, 7/-; 3-speed sleeve, 16T screwed sleeve, 17/-; 20T chain boss, 14/-; 16T pinion, 13/-; dogs, 9/-; ball bearing case, 14/-; small, 10/6; fixed pulleys, 10/-, adjustable, 20/-; box nut, 50T chain wheels, 12/-; chain wheel nut, 6d.; kick start bolts, 9/-; kick start springs, round, 9d., flat, 1/-; clutch draw bolt complete, 5/-; chain guard, 7/-; kick start quadrant, 15/-; 2-speed clutch main parts, 25/-; 2-speed gear box with pulley and chain wheel, £10; 3-speed ditto £14; 3-speed with clutch and kick-starter, £20.—Robinsons.

(This advertisement continued in third column.)

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1921 MODELS

AVAILABLE IMMEDIATELY

We can despatch per Passenger Train IMMEDIATELY any of the following New 1921 Machines, as exhibited at the Olympia Show:

1921 2¾ h.p. **DOUGLAS,** 2-sp., improved model £85
1921 2¾ h.p. **DOUGLAS,** 3-speed, clutch, and K.S. £105
1921 4 h.p. **DOUGLAS,** 3-speed, clutch, and K.S. £130
1921 4 h.p. **DOUGLAS** Combination .. £170

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Sporting Douglas Machines.

ALSO IN STOCK

1921 TRIUMPHS, SUNBEAMS, and HUMBERS.

Exchanges entertained.
Special Payment Terms arranged.

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EX GOVERNMENT STOCK.

2¾ h.p. DOUGLAS SPARES.

	List Price.	Our Price.
Tool Rolls, complete	5/6	25/-
Connecting Rods	25/-	19/6
Driving Chains	16/6	8/-
Front Brakes, complete	30/-	20/6
Pulleys	10/-	8/6
Cam Wheels	20/-	18/6
Sprockets	5/-	4/6
Chain Wheels	12/-	7/6
Valve Guides	3/-	2/9
Rocker Arms	7/-	6/-
Amac Caps	5/-	4/-
Tappet Heads	2/-	1/6
Petrol Pipes	5/-	2/6
Hubs	21/-	18/6
Front Forks, complete	80/-	65/-
Forks only	50/-	37/6
Fork Links	2/-	1/9
Magneto Studs	3d.	2d.
Gear Boxes	£10	130/-
Frames	£15	100/-

4 h.p. Spares.

Connecting Rods, **27/6**; Crankshafts, **40/-**; Hubs, **18/6**; Worm Screws, **4/6**; Worm Wheels, **2/-**; Piston Rings, **1/9**; Valves, **4/6**; Petrol and Oil Filler Caps, **1/6**; Bronze Operating Forks, **10/6**; Head Clips, **8/6**; Front Wheel, complete, less tyre, **45/-**; Frames, complete, **140/-**.

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See columns on each side of this advertisement for other interesting items, or send for complete Lists (Post Free) of

DOUGLAS, TRIUMPH, VILLIERS, and STURMEY-ARCHER SPARES. ALL IN STOCK.

ROBINSONS

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MAGNETOS.—Unused shop-soiled Thomson-Bennett £6/17/6; twin, £8/17/6; C.A.V. twin-cylinde model, £6/4. Can be had on approval.—Robinsons.

Motor Cycle Covers.—Shop-soiled Moseley touring 25/-, heavy, 45/-; Pedley touring, 30/-, extra heavy, 45/-; tubes, Moseley, Pedley, St. Helens, all sizes, 7/6 each.—Robinsons.

MUDSHIELDS.—College mudshields for winter, 16/6 20/6, 32/6, and 36/6; Stirling metal mudshields 50/-.—Robinsons.

OVERALLS.—Suits, very heavy, dark fawn, double breasted, very warm, waist-foot leggings, 67/6 lightweight, 50/-; cheaper quality, 37/6. Black waterproof suits, 65/-; leggings with seats, 40/-; waist-foot 30/-; single legs, 19/6. Brooks leggings, short brown 28/-; long brown, 45/6; black, short, 32/-. Any suit sent on approval.—Robinsons.

DRUID Forks.—Complete for 3½h.p. and 4h.p. machines, 5½in. head, 1½in., 15/6, column £6/5; heavy double spring type, £7.—Robinsons.

HUBS.—2¾h.p. Douglas, £1/5; 6h.p. Enfield, rear complete, £3/18/6, front, £1/6; 3h.p. Enfield rear, £3/16, front £1/5; Triumph 1919 rear hub 31/10; A.J.S., £4/4; B.S.A., 30/-.—Robinsons.

PISTONS for 3½h.p. Premier, 35/-; J.A.P. 4, 6 and 8h.p., 35/-, 2¾h.p., 30/-; Triumph 3½h.p. and 4h.p., 30/-; Douglas 2¾h.p. 18/-, 4h.p. 26/-, 3½h.p. 25/-; New Hudson, Indian, Sunbeam, and B.S.A. pattern, 30/-; Rudge, 39/9; 8h.p. Humberette 35/-; Rover, 35/-; all complete with rings and gudgeon pins; Rover 1913, 35/-.—Robinsons.

RENOLDS Chains.—101 links, ⅝×¾, 47/8; ditto 56 links, 27/-; ⅝×¼, 54 links, 24/-; ditto, 88 links, 39/7; Morgan chains, 10/9 foot; rivet extractors all sizes, in stock, 7/3 and 10/9; spring cranked and inner spare links, 1/3.—Robinsons.

TRIUMPH Carburetter Spares.—Carburetter complete 100/10; needles, 7d.; air caps, 3/10; springs, 5d; air and throttle pistons, 2/3; ticklers, 1/6; petrol union nuts, 5d.; jets, 7d.; needle valves, long 4/10, short 3/8; controls, 26/10.—Robinsons.

VALVES.—Rover, A.J.S., B.S.A., Enfield, 2½h.p., 2¾h.p., 4h.p. 6h.p., and 8h.p.; J.A.P. 4h. and 2¾ h.p. Humber, New Hudson, Douglas, Premier, James, Williamson, Ariel, Harley-Davidson, Indian, 5/- each.—Robinsons.

VILLIERS Spares.—Cylinders, 52/6; exhaust pipe 10/-; silencers, 18/-; crank case halves, complete with bushes, £2 each (state which half required); crank pin and nuts, 9/6; connecting rods, 12/-; pulley and screws 6/8; driving centre, 9/-; locking nut and washer, 1/6; extractor, 4/6; pistons, 15/8; gudgeon pins, 3/3; crank case bushes, 5/3; shafts, 18/-; set of rollers, 4/6; piston rings, 2/6; flywheel, 27/6; fly wheel caps, 2/-; sprockets, 5/3; oiling bolt with elbow union, 5/-; chain covers, 16/-; magneto chains, 5/-; release valves and springs, 4/6; complete illustrated price list, post free. The trade supplied.—Robinsons.

PISTON Rings.—High tensile cast iron, Douglas Triumph, J.A.P., Indian, Sunbeam, Rover, A.J.S., Baby Triumph, P. and M., Humber, Premier, Enfield, B.S.A., all sizes in stock, no waiting, 1/9 each.—Robinsons.

STURMEY-ARCHER Countershaft Gear Spares.—Gear box covers, £5; Dix controls, £2/10; axles, 16/- main gear wheels, £1/3/6; sliding pinions, 12/-; low gear axle pinions, 7/-; kick start pinions, 4/-; ball bearings, 9/6; layshafts, 23/-; layshaft sliding pinions, 10/-; cranks, 17/-; fibre rings, 5/-; clutch sprockets, £2/-; ball cups, 7/-; kick start springs, 1/3; pulleys, 22/6; send for our complete list of Sturmey-Archer countershaft gear spares.—Robinsons.

TERRY'S Spring Links.—B.S.A., Rover, Douglas and Druid forks, 3¾in. centres, for any make machine, 18/6 pair.—Robinsons.

TRIUMPH Spares. Compression taps, 2/3; rear stands, 34/-; front guard stays, 5/- pair; rear carriers, 40/-; valve caps, inlet and exhaust, 4/-; valve cotters, 2d.; pistons complete, 25/-; connecting rods complete, 28/10; connecting rod rollers, 2/-; cam wheels, 25/-; rocker arms, inlet and exhaust, 11/- and 10/4; tappets complete with guides, 29/-; union nuts, 3/3; rear brake pads, 3/9; rear brake spring, 5d.; kick start springs, 1/-; foot brake complete, 37/6; fork buttresses, 12/6; valve springs, 8/-; gudgeon pins, 3/9; bushes, large, 4/9, small 2/-; piston rings, 1/9; valves, inlet and exhaust, 6/6; valve springs, 9d.; filler caps, 2/6; footrests, rubber, fit to frame, 5/6 each; footrests complete, 30/-; flywheel sprocket side, with mainshaft, £2/18; flywheel, gear side, with gearshaft, £2/17; crank case bearings, 11/-; tank complete, £5; magneto control complete, 14/-; aluminium footboards, junior or countershaft, 34/-; front portion of frame, £7/5; top back stays, 30/-; bottom back stays, 67/-; front fork girders, 84/-; front stand, 23/-; hub complete, front, 23/2, rear 26/6; front spindles complete, 12/-, rear 13/4; front wheel complete, less tyre, 49/2; rear wheel ditto, 77/-; adjustable pulleys, 22/6.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [26

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AT OLYMPIA.

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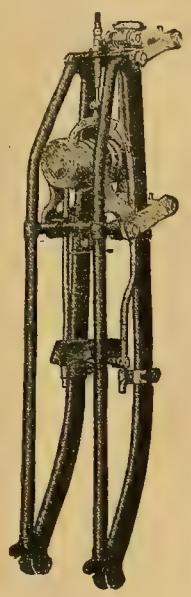

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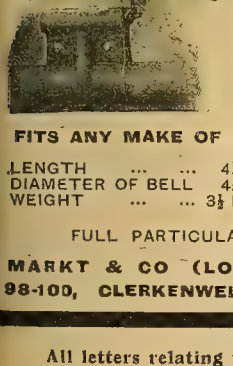

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FITS ANY MAKE OF MOTOR CYCLE.

LENGTH 4¾in
DIAMETER OF BELL 4¼in.
WEIGHT ... ... 3½ lbs.

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TRANSFERS.—Head, tank, and line transfers for motors. Complete sets for pedal cycles, single colours 1/6, double colours 2/-; 2d. stamp brings list. —Axon, Station Buildings, Altrincham. [X2423

HARLEYS. Harleys.—If you want speed without getting covered with mud, equip your machine with Barker's mud shields; set, £2/2. — Barker's Motors, 194, Balham High Rd., S.W.12. [1843

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NUTS, bolts, washers, for all motorists, all sizes. Sample bag of 50, 2/6; 100, 4/3; 200, 7/6; 300, 11/-; 500, 15/-; 1,000, 30/-; carriage paid.—Special Nut and Bolt Co., 63, Well St., Hackney, E.9. [6456

TRANSFER Lining, complete set for pedal bicycles in gold, red, or green, also in double colours; prices on application.—The British Transfer Printing Co., Ltd., Transfer Specialists, Coventry. [0114

UNBREAKABLE Chrome Nickel Valves, guaranteed one year, any pattern, 7/- each, 12/- pair, step-cut piston rings, 5/- pair, post free, per return. —Capacity Tool Co., Broseley, Shropshire. [2465

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AN Exceptional Opportunity.—Footboards, new, 12/6 per pair; 4h.p. and 2¾h.p. Douglas, aluminium, or special line lino covered, 10/6 pair, brass edged; packing and postage 1/- extra.—Below.

LAMPS.—P. and H., ex-W.D., acetylene, brand new, 4½in. lens, complete with generator, £2/12/6; packing and postage 1/6 extra. Generator only, large size, 12/6; packing and postage 1/- extra. Below.

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KNEEGRIPS, leather; 6/6 pair; postage 6d. extra. —Below.

TRIUMPH and Douglas Spares of all kinds in stock. We specialise in parts for the above machines, and can supply anything you require; write stating your requirements; cheques and P.O.'s to be crossed.— Light Car and Motor Cycle Engineering Co., 26 and 26a, Tulse Hill, London, S.W.1. [2965

POWERPLUS Indian cylinder, connecting rod, £4, offer; touring bars, £2/15; 28in. speedometer, £3/15; Mabon clutch, 15/-; New Hudson silencer, 12/-.—Seward, Red Hill, Bassett, Southampton. [2818

AMAC, 28/-; pair forks, 10/-; 3½h.p. Ariel motor cycle, £27/15; Belsize gear box, £5; Humber, £4; car carburetters, Sthenos 58/-, Poppe 50/-, B. and B. 17/6.—47, Millbrook Rd., Brixton, S.W. [2778

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A.B.C., 1920, dyno lighting, superb mount	£150 0
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GENUINE J.A.P. Parts.—J.A.P. cranks, 5h.p. and 8h.p., 50/- pair; connecting rods, 50/- and 60/-; valves complete, 4/- each; rings, 2/- each. I have all parts for J.A.P. engines. Stamp for reply.—Hawkins (below).

BURMAN 3-speed Countershaft Gear Box, £15; and I have all parts for 3-speed gear box in stock. Seal mainshaft driving gear, layshaft, and all others in stock. Stamp for reply.—Hawkins (below).

NEW IMPERIAL Frame for 8h.p. J.A.P., and back stays, 50/-; heavyweight Druid forks, 50/-; new Imperial front wheel, 28×2½, complete, 30/-; rear wheel, complete with chain sprocket, 50/-; Imperial aluminium footboards, 10/- pair. I have all parts for Imperial in stock. Stamp for reply.—Hawkins (below).

ROVER Frames for 5h.p. and 8h.p. J.A.P., with back stays, 50/-; forks, 50/-; mudguard front, 15/-; rear, 15/-; footboards, 10/- pair; front wheel, 30/-; rear wheel, complete with chain sprocket, 50/-; aluminium chain cover, 20/-; tanks; and I have all parts from Rover in stock. Stamp for reply.—Hawkins (below).

1,000ft. of New Chain, ⅝×⅜ and ¾×7-16, at 5/- a foot; or 4/- foot in 24ft. lengths.—Hawkins (below).

500 Gross of ⅝×⅜ Connecting Links, and ¾×7-16 ditto, and ⅝×⅜ spare links, and ¾×7-16 cranked links; ⅝×⅜ ditto, 10d. each, or 7/6 doz.; and ⅝×⅜ links for spring chains for Rovers, 1/6 each; carriage extra.—Hawkins (below).

1,000 Pairs of Heavyweight Druid Fork Springs, ex W.D., new, 2/- pair; and 500 Rover fork springs, 2/- pair; postage 9d.—Hawkins (below).

500 Pairs of Rims, 28×2½, all new, 7/6 pair.—Hawkins (below).

1,000 J.A.P. Valves, all complete, 4/- each, or 36/- dozen; 500 J.A.P. rings, 2/- each, or 18/- dozen.—Hawkins (below).

SUNBEAM Sidecar Wheels, 20/- each; springs, 10/- pair. I have a lot of Sunbeam sidecar bodies, want upholstering and painting, 50/-. I have all parts for Sunbeam sidecar in stock. Stamp for reply. Carriage extra.—Hawkins (below).

50 LARGE Car Generators, 15/- each. I have a lot of parts for B.S.A., Triumph, Matchless, and Rover gear box parts. Stamp for reply.—Hawkins, 455, York Rd., Wandsworth. [9753

INDIAN 7-9h.p. 1915-16 Spares: Frames, front, read wheels, hub brake, flywheels, domes, cylinder, chain, crank, timing cases, connecting rods, clutch.—Indian, 45, Handcroft Rd., West Croydon, Surrey. [2848

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CYLINDERS.—Enquiries invited for B.S.A., Rover, 3½h.p. Brown, New Hudson, 5-6h.p. Precision, and any make of cylinder.—Noyse Engineering Co., Rugby. [X2975

WE Can Bring your machines up-to-date and make it into a countershaft model by fitting a new back, with Sturmey-Archer gear box; any machine converted.—A. Pilkington and Co., 390, Lichfield Rd., Birmingham. [2912

SPARES, Spares.—Get them quickly and cheaply. I can supply most spares for leading makes. Try me for satisfaction.—R. G. Gamble, the spare part specialist, Blue Ball Yard, St. James's St., Piccadilly. Gerrard 6536. [2959

1919 6h.p. Royal Enfield Front Wheel, £1/1, as new; speedometer, Corbin Brown, to fit 1915 Indian, £4; 1919 Indian dynamo set, head light, sidecar lamp, and switch, £10.—Horswill, 42, Bridge St., Chester. [2340

B.S.A. Parts (1914), nearly new, front forks, complete, 50/-; front wheel, 10/-; semi-T.T. bars, 10/-; front brake, 8/-; brand new C.A.V. magneto, anti, single, cost £7/17/6, sell £5/10.—9, Osborne St., Barrow-in-Furness. [2507

TRIUMPH Pattern W.D. Wide Sporting Handlebars, new, 27/-. Write me for any Triumph parts you want; say whether new or second-hand. Stamp for reply will oblige.—Ward, 11, Radford Rd., Leamington Spa. [X2977

CLYNO Spares at Catalogue Prices.—Not the largest stock, but the cheapest, compare our prices before buying elsewhere; magneto platforms, 5/-; stamped enquiries.—Motor Cycle Dept., 341, Upper St., London, N.1. [2758

RUDGE Long Exhaust Pipes, weldless steel tubing, complete, all attachments, 37/- carriage paid; nickel plated, 15/- extra; fit in 5 minutes.—C.W. Motor Co., 209, Broadway, West Hendon, N.W. 'Phone: Kingsbury 162. [2913

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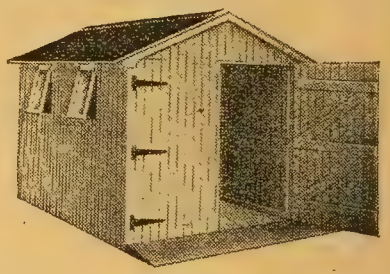

Length.	Width.	Height to ridge	Price	Floor extra.
6½ft.	5ft.	6½ft.	£9 10 0	£2 9 0
8½ft.	5ft.	6½ft.	£11 15 0	£3 4 0
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11ft..	8ft.	9ft.	£23 10 0	£7 0 0
15ft.	12ft.	10ft.	£39 0 0	£14 0 0
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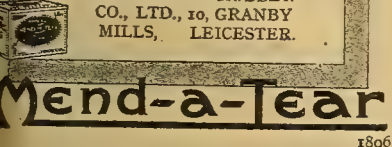

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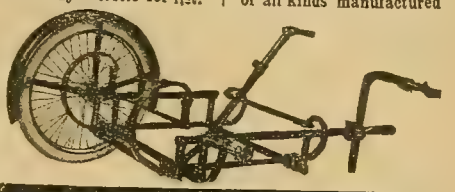

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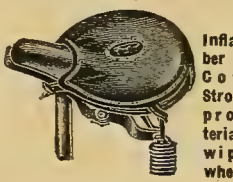

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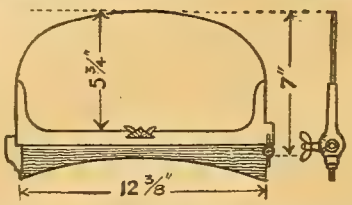

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MOTOR Cycle Lighting Sets, head lamp (7in. front), side and tail lamps, black and nickel, all brackets, finest British make, armoured cable, bulbs, switch, distribution board, 4-volt 40-amp. accumulator; the finest and best value on the market; 6 gns. complete.—The Colonial Motor Co., 104a, Finchley Rd., N.W.3. Hampstead 7822. [2598

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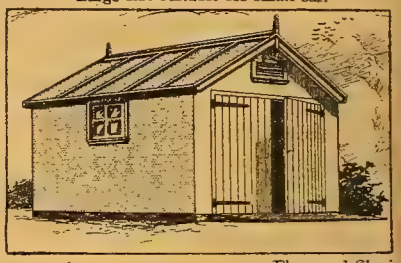

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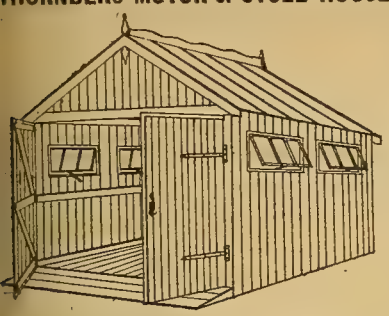

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SCOTT Back Wheels complete, 35/-; 6h.p. Enfield back wheel (1 cone missing), 30/-; Triumph wheels, complete, fronts 25/-, backs 35/-; 2¾ and 4h.p. Douglas wheels, complete, fronts 12/6, backs 20/-; Douglas hubs, complete, 6/-; Triumph belt rims, 6/-; Triumph back hubs, complete, 7/6; Triumph free-engine wheel, complete, £2; knock-out spindle hubs, complete, 6/-. Stamp, reply.—Cox, 149, Chepstow Rd., Newport, Mon. [X2865

T.T. 3½h.p. J.A.P., o.h.v., complete, as new, £55; Douglas carburetter, 5/-; fork spring, Saxon, 2/-; ditto Triumph, barrel, 5/-; sidecar wheel, 26in., 5/-; Emery grinder (treadle), 20/-; Jap and Brown pulleys, 5/- each; Precision flange, 2/-; Jap pistons, 76 mm., Triumph-Precision, 85 mm., 5/- each; 1¾h.p. Minerva engine, belt rim, new tank, 50/-; 2h.p. Minerva engine, needs repair, 20/-.—2, Worcester Parade, Gloucester. Stamp reply [X2786

DISCS for Any Make of Light Car, cycle car, runabout, or motor cycle wheels; solo sets for motor cycle, in polished aluminium, 55/- per set, in light steel, stove enamelled black or finished in any colour, 42/-; provision made for belt rims, brake rims, security bolts, speedometer, oiling, and our nickel neat fitting valve covers; all fittings are nickel plated; packing and postage free; trade supplied.—Mersey Disc Co., 34, Sutton St., Warrington. [1269

VILLIERS Free-engine Wheel with controls, Palmer tyre and tube, in perfect condition; £6 (26×2¼ rims); also one Thomson-Bennett magneto, single, C.W., £4/15, watertight; one Thomson-Bennett magneto, twin, C.W., watertight, £5/5; Triumph clutch wheel, with back stays, stand, carrier, all controls, and brake, £8, condition new; also one wheel only, with all controls, £5.—B. Bastick and Co., 122-124, Edward Rd., Balsall Heath, Birmingham. [2901

TIME Sheets, for immediate use, supplied from stock, 1/3 per 100; 12/6 per 1,000. Copyright forms ruled and printed for daily, weekly, and foreman's time sheets; also workmen's time sheets and pay sheets, showing where employed on outdoor work, travelling and other expenses; variations of work forms; material sheets, contractor's record of carting. Specimens free of charge and post free.—J. C. King, Ltd., 42, Goswell Rd., London, E.C. [8972

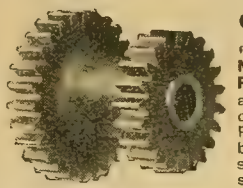
WRITE for List.—J.A.P. 8h.p. twin, a.c., 1918, 50°, second-hand, guaranteed, £25; Matchless gears, complete, 1920, £15/10; Amac carburetter, 1920, complete, £3; Thomson-Bennett magneto, 50°, chain and sprocket, £6/10; Kempshall anti-skid, 650×65, £3/5 each; Grimston tubes, 650×65, 10/- each; rims, 6/3 each; belt rims, 9/- each; hubs, 16/3 each; spokes and nipples to suit; wind screens, Avro, 25/- each.—Tait, Glendower Hotel, South Kensington, London. [2322

GOVERNMENT Waterproofs, quite new, best possible quality oilskin jackets, lined, 13/6, 17/-; trousers, lined, 12/6; Sou'-westers, 2/6; Pegamoid rubber trousers, 15/6; officers' rubber Poncho capes, 22/6; oilskin capes, lined, 13/9; many worth double. Second-hand jackets 8/-, trousers 8/-, coats (lined) 18/6; new fawn cap covers, with neck shields, 1/11; all carriage paid; approval or money back. Obtain our prices for all kinds of waterproofs.—Hawthorn, Ltd., Dept. M., Shrewsbury. Established 32 years. [0110

BARGAINS: clean sweep this week, all brand new, H.A.H. black electric head lamp, complete bulb, holder, and wiring, £2/10; ditto rear, 7/6; ditto sidecar, 10/6; acetylene lamp set, 25/-; Douglas pattern semi-T.T. bars, 12/-; Senspray carburetter, suit Rudge, £2/5; Splitdorf mag., single, £4/15; T.-B., 50° twin, £4/15; Cowey speedometer, £4/15; valves, 4/-; piston rings, all sizes, 1/9; Rudge touring bars, all fittings, £2/5; Bowden brakes, 12/6; all-leather toolbags, 7/6.—Popular Cycle Co., Riversley Rd., Nuneaton. [2796

GOVERNMENT Surplus.—A small stock only remains in response to our offer to enthusiastic winter riders in "Motor Cycle Show Guide issue, viz. Solid leather field boots, the ideal winter motoring boot, well repaired, as worn by R.A.S.C. and R.A.F., any size, 15/- pair carriage paid; also Canadian army lace to knee boots, solid leather, in sound condition, all sizes, 14/- pair carriage paid. Note, all boots guaranteed waterproof, and no extra charges for sizes 10-11. Money refunded willingly if not satisfied. Cross all P.O. money orders and cheques Barclay's Bank.—Jay Bros., Government Dealers, 41, Caesar St., Shoreditch, London, E.2. [2956

INDIAN GEARS
CUT TO PATTERN.



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8ft.	6ft.	7ft.	9 10 0	2 0 0
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10ft.	7ft.	8ft.	16 5 0	2 5 0

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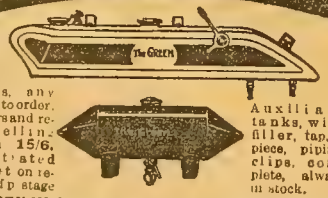

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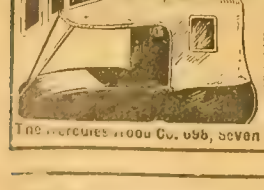

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MISCELLANEOUS.

GOVERNMENT Surplus; on approval for cash. New goods.—Australian boots, 30/-; blue, white, and khaki gloves, 1/11; natural flannel pyjama suits, 12/11; naval oilskin suits, 15/-; naval all-wool socks, 3/6; Canadian Cardigan jackets, 15/-; gent's brown and black field boots, 45/-; rubber thigh and knee boots, 20/-; post extra.—M. C. Lethbridge and Son, 75, George St., Devonport. [2303

DISCS.—We are makers of discs for any type of motor cycle, polished aluminium 25/- and 30/- per wheel, enamelled steel 20/- per wheel, Rudge Multi discs 5/- per wheel extra; discs for Douglas, Triumph, Indian, Harley-Davidson, and Rudge Multi motor cycles always in stock; prompt deliveries.—Hill and Co., Discs Specialists, 1 and 3, Walmersley Rd., Bury, Lancs. [0351

COPPER Exhaust Pipe (polished), all sizes in stock from 2/9 ft., bending a speciality. Cast aluminium footboards, upcurved front and heel-piece, checkered top, with adjustable clips, easily fitted to most machines; B.S.A., Levis, Sunbeam, Triumph, Douglas, etc., 17/6 pair, carriage paid. Wheels, forks, belt rims, hubs,, handle-bars, mudguards, etc., in stock; write us your requirements. Complete sets for home assembly; single-speed £45, 2-speed £52.—Evans Bros., Brougham St., Hockley, Birmingham. [X2878

WHEELS, Wheels, Wheels.—Motor cycle wheels built to order, all sizes in stock. Motor cycle frames repaired, altered, and brought up-to-date. Sidecar chassis repairs, discs fitted 26in. wheels, steel front 20/-, back 22/-, enamelled black, others to order. Contracts wanted for frame and wheel building, customers' own materials. Motor cycles overhauled, re-enamelled, plated, 2¾h.p. £8/5, 4h.p. £10. Wanted, belt rims, all sizes, cheap for cash. Stamp enquiries.—Pendleton, 28, Lonsdale Sq., Liverpool Rd., London, N.1. [1848

AEROPLANES.—Splendid Xmas present for your boy; genuine flying models, automatic stability, the result of years of experiments; signed guarantee with each one; 9in. twin screw, 3ft. long, 22in. span, will rise off ground after run of 15 to 20ft., and fly 300 yards; 10/6 postage 1/-; smaller size 6/-; postage 1/-; competition model, rise off ground, length 3ft. 6in., span 30in.; 17/6; postage 1/6, as sold in the large stores at double these prices; testimonials gladly shown.—M.S. Aviation Co., 21, Moring Rd., Tooting, S.W.17. [7587

500 Douglas Forks, 25/-; handle-bars, 12/6; 500 P. and M. frames, 25/-; tanks, perfect, 20/-; Grado gear, K.S., £9; 1,000 large car spanners, 4/-; 1914 Roc 2-speed back wheel, complete, stays, etc., £9; 2-speed wheel, all chain, £3; complete new, light back axle, hubs, centre differential, and chain drive, enclosed, £15; new 3-speed and reverse box to fit, £12; 1920 sporting canoelet sidecar, £17/10; sidecar body to order, from £8/10. Ask your wants. We repair, renovate all kind of motor goods. Buy, sell, and exchange new second-hand. Payments arranged.—Montague's Motor Mart, 85-87, London Rd., Manchester. 'Phone: 7745 Central. [2411

1916 New Imperial, 2¾h.p., 2-speed, clutch, and K.S., in splendid condition, date guaranteed, £40; 3h.p. unit, complete with magneto, adjustable pulley, Amac carburetter, silencer, and engine plates, sound, £10/10; lightweight dropped frame, complete with 26in. wheels, Druid forks, tank, Lycett's pan saddle, handle-bars, front and belt rim brake, £12; Bosch magneto, auti, guaranteed by Reliance Magneto Co., £2/15; head lamp and generator, £1; polished aluminium mechanical horns, 15/6 each; offers considered. Please send stamp if you require a reply. 3½h.p. P. and M. wanted, cheap.—A. S. Phillipson Hilda St., Grimsby. [2404

THE Cheapest House in the Trade for Accessories.—Mabon gears, £10/8; clutches, £6/1; sidecar bodies, 7 varieties, £7/15 to £10/15; Nelson hood, £4/10; Blumel wind screen, £4/10; the Easting, £4/10; the Orto, 52/6 and 72/6; the Raper, 57/-; the Cameo, £3; the Wallboro, £2/10; Taylor's, 33/6, 37/6, and 51/-; luggage grids, 25/-; storm aprons, 23/-; sidecar stand, 14/-; underslung chassis, £11, step body type; £7/5; auxiliary arms, 17/9; spring shackles, 6/6 set of 4; magnetos, M-L. £10/14/6; E.I.C., £8/10, all leading makes stocked; Watford speedometers, trip, £6/5, plain model, £5/15; Enot's drip-feed, 38/6, Best and Lloyds, 28/6; pillion seats, Tan-Sad, 44/9; Tynesider, 52/-; Willowbrook, 29/-; the Juno, 18/6; engine pulleys, fixed, 4in., 13/9; 5in., 14/6; 6in., 18/6; adjustable, 4in., 25/6; 5in., 27/9; 6in., 30/-; 7in., 32/6, made to order; College mudshields, 32/6, 16/6, 12/-; aluminium legshields, 36/6; footboards, 15/- and 17/- pair; 3½in. and 4in. mudguards, 14/6 and 16/6 set; W.S.R. adjustable jets, 8/6; waterproof suits, 61/-; seatless trousers, 23/-; leggings, 14/6; leather helmets, 10/6; goggles, 4/6, 3/6, and 2/-, Triplex 12/6 and 15/-; gauntlets, 14/-; carburetters, B. and B., Amac, Senspray, and Binks at makers' prices; Bowden control levers, 7/10; band brakes 44/- and 61/-; front brakes, 39/-; and 49/-; foot brakes and footrests, 48/9 and 23/9; cross-over brakes, 51/6; bolt rim brakes, 17/9; magneto control, 25/-; Lucas No. 462 lamp set, £4/17/6; P. and H. lamp sets, No. 145, 60/-; No. 125, 55/-; sidecar lamps, 11/9 and 12/9; rear lamps, 6/9; Lucas horns, 27/6 and 14/9; mechanical, 15/6, 30/-, and 37/6; Clyte mirrors, 13/-; Brooks B170 saddle, 60/-, B14 67/; Lycett's pan seat, 43/-; Ukantes stands, 13/6 pair; tubular carriers, 15/6, extra strong, 22/6; pannier bags, 6/6, 11/6, and 14/-; Auto-Wheels, in new condition, £25 cash; large illustrated list, price 6d.; its perusal will repay you.—M.Y. Dept., The Metropolitan Machinists Co., Ltd., 248, Bishopsgate, E.C. [2650

MISCELLANEOUS.

GOVERNMENT Surplus.—Leather waistcoats, li flannel, 12/6; all wool cardigans, 10/6 ne officers' field boots, lace up to knee, black and (new), 47/6; solid leather leggings, whole bac spring fronts, black or tan (new), 11/6; effec trench coats, lined rubber (new), 32/6 with be officers' brogue shoes, tan, 21/-; rubber thigh bo (new), 17/6; naval boots (new), 21/-; army w natural shirts, 12/6; all goods post paid; appro cash with order.—Army and Navy Stores, Wens St., Norwich. [2

LAMPS: Lucas, Miller, P. and H., Howes Burley, large, £1; smaller sizes, 15/-; ex-Gov ment stock, undamaged, postage 1/-. Brackets of descriptions, 3/- per set, ready to fit on machine, missing bolts, etc. When ordering, please state t required, rough sketch preferred. Handle-bars, Government, sound, black, 5/-; P. and M. Triumph, various others, plated, 10/-; postage ex Money returned if not satisfied.—Snodgrass, 18, Jr tion Rd., Brentwood, Essex. [2

TRIUMPH Engine Sprocket, 4/-; Triumph T.T. h 12/6; Watford speedometer, almost new, cost sell £4; Tan-Sad, 25/-; Lucas lamp and generator, g as new, 25/-; Amac carburetter (2-stroke), complete y controls, £1; another, without controls, 15/-; X saddle, good condition, 16/-; 2¾h.p. Douglas sproc gear box), 6/-; Indian chain, long, 10/-; back wheel, Triumph, 12/-; new toolbag, 5/-; second-hand, 3/-; ¾in. belt, 8ft., 12/-; Douglas clutch pedal, 1913, 5 postage extra.—L. Bull, 44, Hills Rd., Cambridge. [3

HEPPELTHWAITE'S.—50° C.A.V. magneto, n £5/5; Best and Lloyd drip, new, 15/-; 26x studded Dunlop, new (not clearance), £2/5; tu 6/6; Bowden magneto control, with cable, etc., 10 Advance adjustable pulley, 10/-; Cameo wind scre new, £2; lamp and generator, new, 30/-, P. and Amac carburetter, 1920, £2/10; Bluemel's pump, 6/6; 6-cyl. magneto, in parts, 25/-; h shaper machine, £12, new; 6in. screwcutting tre lathe, £30, heavy tool, all change wheels and ch etc.—19, Wilcox Rd., South Lambeth, London, S.V [2

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MOTOR CYCLES AND COMBINATIO

of various makes are ALWAYS included in o WEEKLY AUCTION SALES held EVERY MONL AT THE MOTOR AUCTION MART, SEYMO PLACE, BRYANSTON SQUARE, W.1. Accessories at 10.30 a.m. Vehicles at 2 p.m

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The Brussels Show.

ONLY pioneers among British motor cyclists and motor cycle manufacturers know how much the whole movement owes to the early designers in Belgium. It is now almost ancient history that most of the earliest British motor cycles were engined by the products of our gallant little Ally across the Channel. The first motor cycle engine to have mechanically-operated inlet valves hailed from that country, and right up to the outbreak of war a large number of British engine makers obtained their cylinder castings from Belgium.

It was with these facts in mind that we visited the Brussels Show, which opened on Friday last, and, knowing the main reason why the Belgian motor cycle industry has not made greater headway, we were surprised to see the number of motor cycle exhibits included.

We refer to the rough state of the Belgian roads, which are of a character that no motor cyclist who has not visited the country can possibly form a true conception. Undoubtedly, good roads have popularised the motor cycle in this country just as the pneumatic tyre made it possible and the magneto gave it reliability.

It must be a matter of great satisfaction to the British industry to know that their products easily predominated; in fact, the number of British makes represented outnumbered the combined representatives of America, France, Belgium, and Switzerland. Practically every make of American machine was exhibited, as compared with about 20% of those British makers who exhibited at Olympia.

Elsewhere in this issue we illustrate and describe the chief Continental exhibits, many of which reveal new lines of thought in connection with motor cycle design, in which connection we are in a position to state that at least one of the designs bears a close resemblance to a machine now being tried out by a British firm, and which may make its appearance in the spring.

Undoubtedly the Belgian people are keenly interested in motor cycles, but it will not be until the roads are of better quality that the single-track machine will come fully into its own in that country.

Spring Frames or Spring Seats?

THERE is much evidence at the present time that manufacturers are devoting their attention to the comfort of the rider. A number of new saddle springing devices appeared at the Olympia Motor Cycle Show, though the number of spring frames increases almost imperceptibly.

There are two distinct schools of thought in regard to suspension, some of our best known designers holding that it is advisable to reduce unsprung weight to a minimum, whilst others maintain that it is only necessary to provide increased comfort for the rider.

At the present stage of the industry, the latter alternative is perhaps the most satisfactory solution, since modern motor cycles have been proved to be capable of withstanding all reasonable road shocks, whilst it is certainly easier and less costly to produce a good saddle suspension than a really effective spring frame. The question of road adhesion is bound to crop up in any controversy on this subject, and here also the sprung saddle devices will score to a certain extent, though wheel slip is not likely to affect the normal rider on average roads.

Looking forward to future development, we cannot help thinking that the spring frame will be the ultimate solution of the problem. It has already been shown by more than one machine that a good spring frame is possible, and it remains an undoubted fact that, if properly carried out, rear springing saves the engine, transmission, tanks and cycle parts to a considerable degree and permits of certain weight reduction in these parts. It is noticeable also that several spring frame machines are heavier than their predecessors with rigid frames.

An index to the advertisements in this issue will be found on the page facing the back cover

Occasional Comments by "Ixion"

A Good Stunt.

ONE of the most appreciative crowds in the Gallery at Olympia was to be found all the week in front of the Villiers stand, where four of their new flywheel magnetos were sparking visibly at engine speeds varying from 60 r.p.m. up to 1,350 r.p.m. At 60 r.p.m. the spark was not frightfully impressive, but as this gait corresponds to 1 m.p.h., who cares? By the time the speed was equal to 8 m.p.h., the spark had become so fierce that it literally crackled; and at 1,350 r.p.m., the spark showed an intensive recklessness which I should judge to be equal to igniting Government beer or Bolshevist gas.

Exhibitors' Leg-pulling.

EVERY morning, before the crowds flooded Olympia, exhibitors tried to cure the inevitable "Show head" by pulling each other's legs. About 9.30 a.m. Jones (who is in a very small way, and exhibits two machines on a stand the size of an ordinary blanket) meets Smith (who is a super-manufacturer, renting about .5 of the total floor space). They confer as follows:

Smith (condescendingly): "Hello, old chap, how's business your way?"

Jones (attempting to conceal his natural gratification): "Not so dusty. I've sold my output!"

Smith (in malicious envy): "You never mean to say *you've sold them both?*"

A Question of Principle.

IN the conversation of some experts no less than in the technical press one encounters suspicions of the tendency to make the three-wheeler chassis heavier, more refined, and more elaborate. Why? Two points are quite clear. The heavier and the more complex a 'bus is, the more it will cost to buy and to run—a Rolls-Royce is a costlier possession than a Levis Popular. That goes without saying, and we naturally expect a New Hudson to be more expensive than a Morgan. On the other hand, isn't it nonsense to assume that the heavier and more elaborate outfit *necessarily* gives more trouble? I don't suppose Mr. Butterfield will charter a gunman to pursue me if I suggest that a Rolls-Royce is possibly a shade more reliable even than the Levis? Is it not, therefore, begging the whole question to denounce some of the new three-wheelers before we have tried them out on the road?

Gear Changing Made Easier.

FACTORY repair shops record the secret history of the [illegible], and the tendency in gear box design being towards the constant mesh type with [illegible] I guess that the sliding pinion type [illegible] chauffeur drivers. I confess that to this day I sometimes make a horrible noise in getting down from top [illegible] low, after a slow up in traffic. It [illegible] on your driving, you don't like to ra[illegible] engine, and [illegible] hanger on the level wants quite a lot of throttle to get silence out of some gear boxes. Well, the "stepped dog" (as in the new Comery box) is going to be a real help. Instead of trying to mesh teeth in notches which show the barest clearance over the teeth, you begin by slipping dogs into notches which may be 3/16in. wider than the dogs. This is easy. The subsequent engagement of the second "step" of the dog with the second "step" of the notch is practically automatic.

A Recollection.

FREAK hills naturally bulk much larger in the clubman's purview than in that of ordinary users. But, after all, some ordinary users have to climb pretty freakish hills as part of their daily riding; and as balance is at best a dubious factor in scrabbling up a freak hill on a two-wheeler, the three-wheeler's amiability in such climbs is of special interest to people who live in strenuous districts. We all know that driving grip of the rear wheel causes acute anxiety to our three-wheeler super-cracks on freak hills, and that their pet expedient is to concentrate extra weight (*e.g.*, a suitcase full of stones) in the tail. This being so, one's memory harks back to such 'buses as the 1906 Riley tri-car, which had its engine behind the driver's seat. Cooling—both by water or direct air—has made such strides that the stern position of the engine is now quite practicable, even for large horse-powers; moreover, it would simplify and lighten the chassis quite a lot. I rather wonder that not one of the newest cycle cars coquets with this solution of the problem. The Scott approaches it by a *détour*, and the rest wholeheartedly give it a miss.

Automatic Lubrication.

FOR years I have asserted that the average motor cyclist yearns for a car type of lubrication system, which he can commit to oblivion until a warm smell or an ominous clanking in his engine cause him to dismount hurriedly and start blowing through a lot of very greasy pipes. [N.B.—This should not occur often.] We have had various essays in this direction. The old Wartnaby-Draper machine went the whole hog, and expired in the effort. Various American engines without quite attaining my ideal, travelled much nearer towards it than the average Britisher. At the Show we greeted three machines which embody this most practical principle—the Velocette, the new Bradshaw, and the Superb Four. In addition, all "petroil" machines (including the Scott Sociable) and most Americans offer very similar convenience. How soon can such a system be applied to a high efficiency single-cylinder? For critics must never forget that the Americans have enormous engines, which cannot be run all out on British roads, and so do not subject their bushes to such heavy stresses. A good many riders intend to experiment with the new B. and L. pump, which is quite easily fitted to most standard machines at a low cost.

The Ladies' Model Overseas.

IT occurs to me that the perfection of cheap, light ladies' machines represents a profitable extension of export business. Of course, bad roads, fierce beasts, and the native question forbid a woman to motor cycle unaccompanied in many of our —— (confound this awkward word; whether I call them "colonies," "dependencies," or "dominions," somebody will take offence: anyhow, you know what I mean). But, after all, there are lots of corners of earth where the lonely white woman could get about alone if it wasn't for the distances and her utter lack of suitable transport. In this connection, it is interesting to hear that one firm of two-stroke manufacturers has exported forty ladies' models to India alone this year.

Two Types of Big Twin.

THE big air-cooled V twin-cylinders are at last diverging into two separate classes. In reality there are perhaps three separate patterns, viz.:

(*a*) The motor cycle type.
(*b*) The dual-purpose type.
(*c*) The cycle car type.

In the past most of our big twins have been designed as dual-purpose engines, for sale to firms who make big solo twins, sidecar pullers, or cycle cars indifferently. To-day we have the 10-12 h.p. New Hudson, the G.N. 90° twin, and the M.A.G. 90° twin all deliberately designed for cycle cars. Practically all the rest are motor cycle engines. What's the difference? Well, ideally there should be quite a lot. There is room for a 90° engine on a cycle car chassis, but not in a motor cycle frame. There is room in a cycle car for a big oil sump under the engine, but there isn't room on a motor cycle frame. There is no reasonable limit to the height of a cycle car engine: there are narrow limits on a motor cycle. On a motor cycle you must have your carburetter between the cylinders, and your magneto behind one of the cylinders: on a cycle car these fittings can be put wherever you prefer. A cycle car engine is required to run declutched for much longer periods than a motor cycle engine. Before long the "dual-purpose" twin may die out, and be replaced by engines specially designed under the freer scope which a cycle car permits, and also by engines specifically planned for diamond frames. Consider the cam gear on the New Hudson engine, and you will see what I mean.

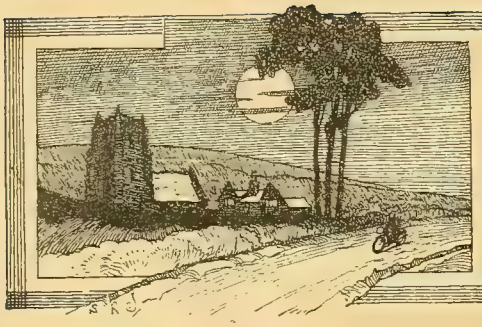
Ladies' Models.

SOME of the firms who list special ladies' models (especially in baby two-strokes) have been astonished and caught napping by the keen demand for open frame models during the last month or two. One firm, for example, received about nine times more orders for men's models than for ladies' until August. Since then the latter model has sold the more freely of the two. The almost universal provision of clutches and kick-starters on modern lightweights, if only as an option, will infallibly extend the conversion of the fair sex, for paddling off from cold is sometimes a fairly stiff proposition.

QUAINT, OLD-WORLD ARCHITECTURE.

(Left) This old inn at Norton St. Philip, Wiltshire, can claim to be one of the most picturesque as well as being the oldest licensed village inn in England.

(Right) Another quaint Wiltshire corner — Lacock village, near Chippenham. The outfit shown is a 4 h.p. Douglas.



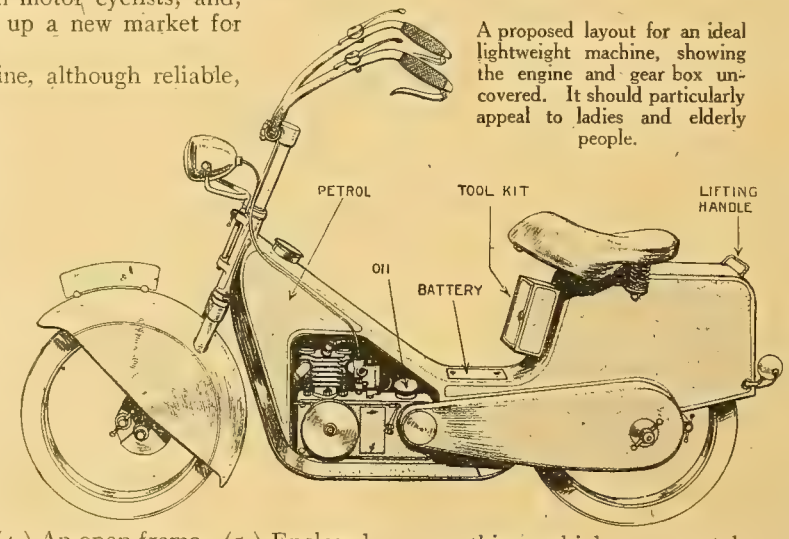
THE IDEAL MINIATURE.

Some Considerations of Design in a Lightweight Motor Cycle for the Fair Sex and the Elderly.

IN considering any design for a lightweight in the future, it is almost a certainty that the lady cyclist will have to be catered for to an equal extent as the other sex. This is a fact which becomes all the more patent after observing the big increase in lady drivers of motor cycles.

Whether the expansion in the number of women motorists is due to the more advanced age in which we live, or the gradual removal of common prejudices against women indulging in outdoor sports, must be a matter of opinion. In any case the advent of a lightweight motor cycle of a really suitable type would do an immense amount of good in further increasing the number of women motor cyclists, and, incidentally, opening up a new market for manufacturers.

The average machine, although reliable, requires a certain amount of physical effort in its use, being rather heavy for the average woman or elderly person to lift about when required. To appeal to the large potential market waiting for the advent of a more suitable machine, it should have the following features: (1.) Low price. (2.) Low weight. (3.) Low riding position. (4.) An open frame. (5.) Enclosed power unit and transmission. (6.) Perfect mudguarding. (7.) Freedom from wrist and arm vibration. (8.) accessibility. Such a machine would appeal not only to would-be women drivers, but also to a great number of elderly people of both sexes to whom the above points are essential.



A proposed layout for an ideal lightweight machine, showing the engine and gear box uncovered. It should particularly appeal to ladies and elderly people.

Speed not Wanted.

Speed should be no criterion at all, 20 m.p.h. probably being the maximum required at any time; but an ideal lightweight, as outlined, would have to climb any hill under its own power.

The mount which makes the greatest appeal to the prospective lady motor cyclist is the seat-type scooter, now grown into a miniature motor cycle; but the wheels fitted to most of these little machines are a shade too small to give full comfort on a long journey over bad roads. The ordinary 2½ h.p. lightweight motor cycle, on the other hand, is considered to be too bulky and heavy for the timid rider, and is difficult to mount and dismount without some exertion.

It remains, then, for a lightweight machine to be evolved which shall be something of a hybrid between the scooter and the ordinary motor cycle, with comfort, low weight, and manageability as prime features introduced in the design. In the illustration an endeavour has been made to embody such features.

Clean Exterior Essential.

The frame of the proposed ideal lightweight is semi-open, to give plenty of room for dress and to facilitate mounting and dismounting. This is probably the most important feature of all, since there is nothing which deters women and elderly folk so much as difficulty and awkwardness in arranging one's self on the saddle. Either pressed steel construction, or tubing and aluminium sheet covering, is suggested for the frame, and the outer surface must be as free as possible from anything which can catch or entangle the dress, such as bolt heads, controls, and external engine fittings. In the centre of the frame is mounted the engine and gear box, which are shown as built in one self-contained unit and completely enclosed within the frame, with the exception of the cylinder fins for cooling purposes. A 2 h.p. single-cylinder four-stroke engine is proposed, having a T head cylinder, outside flywheel incorporating magneto, single lever carburetter, and the crank case, which is in the nature of an oblong aluminium box, is extended rearwards to carry a small countershaft two-speed gear unit. Incidentally, this case acts as an oil container for both engine and gear unit. The object of forming the engine and gear unit as a whole has been to bring all the essential motive parts together and simplify design and construction, and when overhauling is necessary, to enable the whole engine and gear box to be withdrawn *en bloc* from the frame. No clutch or kick-

The Ideal Miniature.—

starter is incorporated as these features, although no doubt desirable from the point of view of convenience and ease of handling, are not absolutely essential, and their elimination from the design tends to reduce complication and manufacturing costs.

Transmission, Wheels, and Springing.

The transmission to the rear is taken through a chain which, with its case, is outside the frame to give the maximum of accessibility. To enable this to be carried out, the rear sprocket is carried on a short hollow shaft on roller bearings concentric with the rear wheel spindle, and drives the wheel through a small dog clutch.

To facilitate tyre repairs, the wheels are detachable and interchangeable, and of not less than 20in. in diameter, with fairly large tyres. Some form of spring forks is essential, with lateral stability in action, but without a large number of working parts. If large tyres are used, less tyre trouble is likely to be experienced, and spring suspension for the rear wheel may be unnecessary.

Providing for Comfort.

A large saddle is shown in the illustration, and it forms an important point in regard to comfort on bad roads. The saddle has a peak, and is not of the pan type, since the absence of any part in the centre of the machine for the purpose of knee grip makes the former type of saddle desirable, since it is of some assistance in enabling the rider to maintain lateral stability.

With regard to general equipment, it is suggested that comprehensive mudguarding should be fitted over the front wheel as well as knee shields at the front part of the frame, and that the rear wheel should be covered in as shown in the illustration. Efficient protection against mud and oil stains is a matter demanding a good deal of attention if the machine is to be a success. For lighting purposes, a well is formed in the frame behind the engine unit for the reception of a dry battery for the head and rear lights. An accumulator could be used if desired, but as a rule women and elderly riders do not ride much at night-time, and a dry battery may be all that is required. The tool kit is contained in a detachable case under the saddle—detachable, in order that the tools can be packed in comfort without bending down during the process.

Suitable for All.

This proposed outline of an ideal lightweight has no claims for originality, but the writer makes a bid for a machine that shall hold a greater attraction for the class of person for which it is designed. Perhaps one has only to suffer from some infirmity to realise that the majority of machines at present on the market offer no attraction for those people who are physically weak and incapable of handling machines seemingly built for the strong and sturdy, but who at the same time just as ardently desire the delights of motoring and its wide possibilities. M.M.

Unhonoured Gold Medal Performances are often the Lot of Trials Officials.

At all open trials an A.C.U. steward is in attendance. Here is a well-known A.C.U. Consul, wearing the steward's armlet, and accompanying the competitors in a recent Midland trial. He is riding a Beardmore-Precision.

The Sporting Solo Mount

Seekers after the Super-sporting Machine have a Widened Choice for 1921. The Return of the Medium-priced Solo Mount.

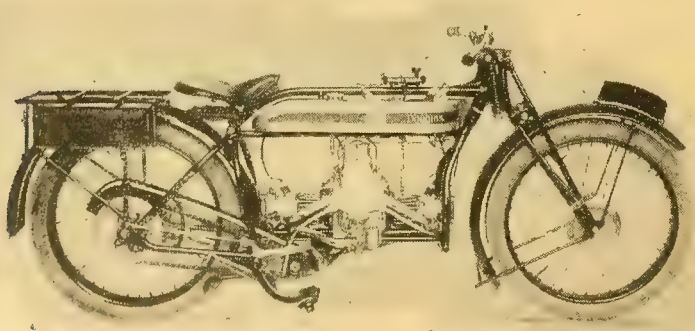
OF late years the sporting solo motor cyclist has, with some justice, complained that his interests and tastes have been neglected in the rush to cater for the family man, and the family man's family. One by one sporting mounts have been strengthened, enlarged, and developed generally as machines intended for *sidecar* work, but which could also be used solo. The solo enthusiast who requires something more than a lightweight has, however, been insistent in his demands, and so 1921 brings a change.

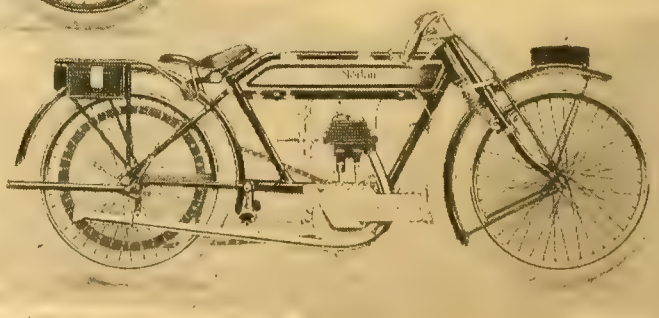
A Revival.

A list of purely solo machines with a sporting, as distinct from a utilitarian flavour, now includes some of the most famous names in the industry. Those who regard motor cycling as a sport—and the finest sport of all—continue to form a large section of the fraternity; and certain manufacturers are realising this, while those who ignore the requirements of the sportsman and fail to give him what he wants are losing a very good class of customer, to say the least.

The Genuine Sports Mount.

Our present purpose, however, is to deal particularly with the existing, revived, and entirely new "super-solo mounts" now in the lists. No attempt has been made to include solo mounts which have been primarily designed for dual-purpose work, but rather shall we deal with essentially solo machines even though they may be capable of light side-car work. For example, the 4 h.p. Triumph is not included; although it is one of the most popular mounts on the road and seldom need remain long in anybody's dust, speed is not the main reason of its existence. (The single-speed T.T. model is not listed for 1921.) The same applies to the majority of present day dual-purpose mounts.

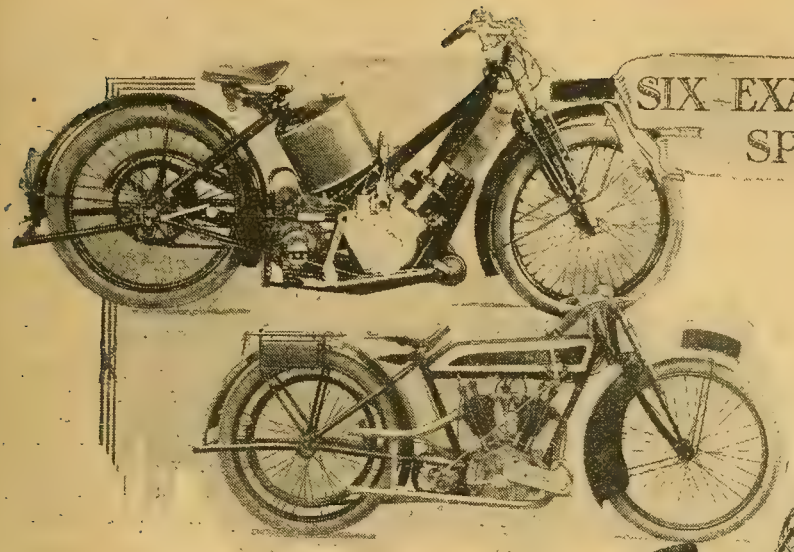




SINGLE AND FLAT TWIN.

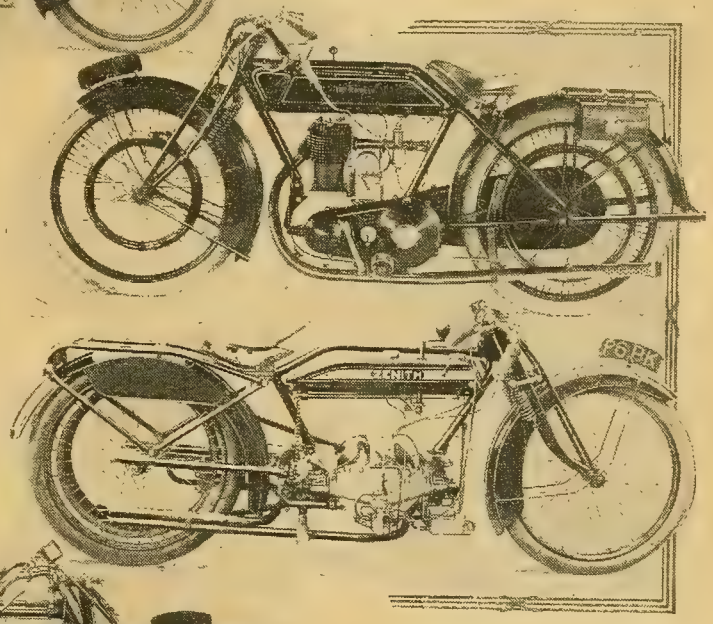
Two models with familiar names, both of which are admirable sporting solo mounts, the 3½ h.p. o.h.v. Douglas and the T.T. Norton.

SIX EXAMPLES of MODERN SPORTING MOUNTS



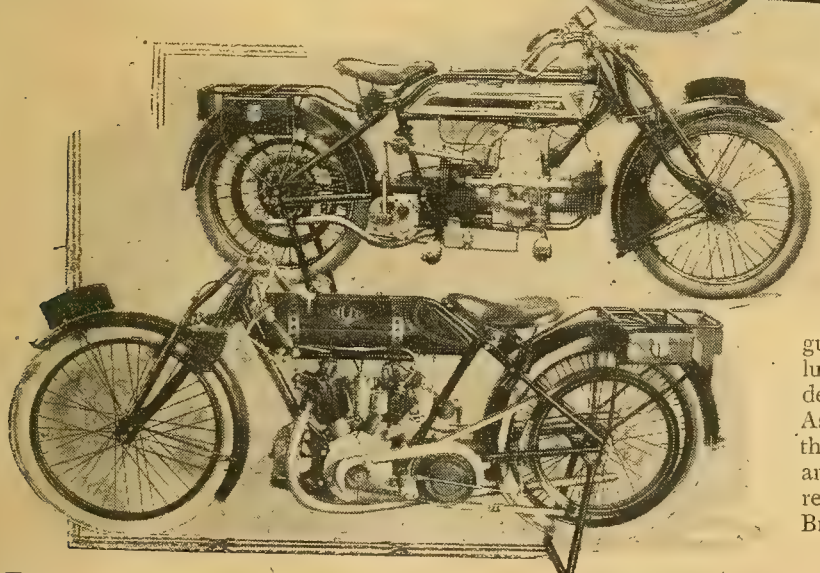
Dealing first with the firms who have never backed out, the Norton deserves special mention. This efficient long-stroke single, with direct belt or Philipson pulley drive, forms a combination of which only those who have ridden it can realise the fascination. With all-chain drive and countershaft gear box, the No. 16 Norton is also a fine example of the "go anywhere sports" type. Speaking without statistics, more leather helmets are worn by Norton riders than on any other two makes together!

Another belt-driven machine, the T.T. Rudge-Multi, although of fairly heavy build, is also essentially a sportsman's mount, and, with its pulling engine and high range of gears, it can get away from most machines of its class in the average friendly "blind." A redoubtable trio is completed by the inclusion of the T.T. Rover, now offered as a specially tuned speed model.



Two Flat Twins.

Of twins there are a few. Not often fitted with touring bars, the 3½ h.p. overhead-valved Brough may be obtained in one case with a guarantee of 60 m.p.h. —which, for a countershaft machine, is a striking figure.



Another very high efficiency flat twin is the new sporting Douglas, either in its 2¾ h.p. or 3½ h.p. guise. Here, too, overhead valves, lubrication, and combustion head are designed for maximum power output. As an indication of what we may expect, the 2¾ h.p.-engined mount has already annexed both sidecar and solo hour records in the 350 c.c. classes at Brooklands.

Nuts—

Last year, despite a very complete equipment, the N.U.T. was primarily a solo mount—and a fast one at that, but for 1921 the Newcastle firm has gone one better. The new six-valved

(Top) A genuine T.T. Scott—the new Squirrel model; and (below) the 3½ h.p. o.h.v. Dot which weighs but 196 lb.

(Right) Last year's T.T. winner in a modified form—the Sporting Sunbeam; and (below) the sensational Bradshaw-Zenith.

(Bottom) A cleanly designed o.h.v. flat twin—the 3½ h.p. Brough; and (below) the new six-valved T.T. model N.U.T.

The Sporting Solo Mount.—

twin is designed from steering head to rear hub on "hot stuff" lines, and the racing experience of the designer should ensure that it comes well up to high expectations. In appearance it is perhaps the most taking machine of its class on the road.

Also hailing from the north (if Manchester permits the designation), the two new solo Dot-Japs have the lines and the low weight that go to make up the "nippy" machine. The 3½ h.p. twin only weighs 196 lb., and certainly promises to *move*.

—and Squirrels.

The makers of the Scott, too, are entering the lists with a genuine T.T. product, very appropriately named the "Squirrel." Weight here has been cut down to a minimum (even the carrier has gone), but strength has not been sacrificed. And if the new Scott fails to get there by sheer speed—and, by the way, the maximum figure here is somewhat of an eye-opener—it will certainly get round a hairpin in less time than it takes to write about it.

Sunbeam performances in the T.T. augur well for the sporting model of that ilk—where again Antipon methods have been resorted to. A carrier and fairly ample mudguards are, however, retained, but an aluminium piston strikes the right note of the "revving" engine.

A Dark Horse.

Lastly, we have the new Bradshaw-Zenith. Both names indicate much to the enthusiastic follower of efficiency design: and the resultant product of the combination does not belie the hope. Yet untried against other machines, this super-scientific design cannot fail to figure largely in competition results next year.

There are others, too—many others, which are just over the border line of our self-imposed classification of "the purely sporting"—but, amongst those we have given, the solo enthusiast may spend many a pleasant hour deciding which is to carry his colours to victory. And what a scramble it will be round the Island in 1921.

Notes on the 1920 Six Days Trials.

Extracts from the Official Report recently issued by the Auto Cycle Union

ALTHOUGH the A.C.U. Six Days Trial was held during the last week in August, the judges' report was not issued until the eve of the Olympia Show. However, the tardiness of issue is balanced by the mass of interesting matter that it contains.

Somewhat startling is the statement that it was possible for a machine to gain a gold medal although entirely *hors de combat*. "This, in fact, actually did occur. One make alone had three machines with damaged engines, without the judges having any power to alter the awards otherwise obtained." Such looseness in the regulations is acknowledged, and should not occur in future events.

As was to be expected, there were more casualties among the smaller machines, but, contrary to what might be expected, Class A (up to 275 c.c.) has a better record than Class B (up to 350 c.c.). In Class A 71% of the starters finished, while in the old-established 350 c.c. class only 47% of the starters arrived at Brooklands, thus providing the class with the smallest percentage of finishers. It is, however, only fair to state that several of the well-known 2¾ h.p. machines were not represented at the trial.

Lightweights to be Encouraged.

Nevertheless, even the smallest machines entered demonstrated their ability to last through an arduous trial, and proved themselves to be capable of going anywhere.

In view of the rapid approach of taxation by weight, the report is worth its price if for the illuminating table of weights alone. Allowing that these figures are "all on" and not on the "stripped" taxation basis, it must be noted that only ten machines (all in the 275 c.c. class) turned the scale at under 200 lb. The judges strongly recommend that the A.C.U. should make special provision during the coming year for encouraging machines weighing, in touring trim, somewhere between 100 and 150 lb. This has been urged many times in *The Motor Cycle*, and we are glad to see our efforts are now bearing fruit.

In the run from Darlington to Thirsk, a distance of seventy-nine miles, the petrol consumption of several machines was measured approximately.

Some of the consumption figures recorded are as under:

	Approx. m.p.g.	
2¼ h.p. James	90	Petrol.
2¾ h.p. Levis	101	,,
6 h.p. A.J.S.	49	,,
7 h.p. Jime	53	,,
8 h.p. Matchless	58	Petrol and benzole
7 h.p. Matchless	45	,,

Silencer testing received much unfavourable comment at the time, especially regarding the accuracy of the audiometer. It is, therefore, worthy of note that the report states in almost every case the results obtained automatically by audiometer agreed with those noted by ear. Concluding their remarks on silence, the judges state that the absence of excessive noise was greatly appreciated by the general public throughout the trial, this being of valuable assistance in popularising the motor cycle.

Speed Test at Brooklands.

The inclusion of Brooklands as part of the "condition test," during which each machine travelling for thirty minutes at a speed determined by its class was satisfactory, but the judges consider that the duration of this test should be considerably increased in future. But few entrants had any difficulty in maintaining the scheduled speeds; in fact, the majority exceeded the set speeds by about 5 m.p.h., except those whose engines developed defects. This was the real object of this test, namely, to eliminate those machines which were on the verge of breaking down.

Brake tests were carried out on Brooklands test hill after 900 miles of riding under very severe conditions. The judges consider that the improvement in brakes is one of the most remarkable features of the machines taking part in the 1920 Six Days Trial.

Particular mention is also made of the performances of the following: Scott, Triumph, Velocette, A.J.S. (sc.), Levis, Matchless (sc.), Harley-Davidson, Humber (sc.), Dunelt, Beardmore-Precision, and Coulson.

The judges also desire to draw attention to the high state of mechanical efficiency of the machines which passed through the trials and were presented for their examination at Brooklands. Their condition was such as to bring the highest credit on British manufacturers as a whole.

Improvements made in brakes and silencers, and, above all, in engine performance, as exemplified by freedom from overheating, are highly satisfactory.

The judges consider that more attention should be given to cleanliness, streamline mudguarding, inertia of unsprung parts, silence, front wheel brakes, and sidecar wheel brakes (as operated by the passenger on the Humber machine).

Other points are ratchet brakes to hold sidecar outfits on hills when left unattended, low speed engine balance, lubrication of transmission, provision of detachable wheels with knockout spindles, large bearing surfaces to steering head, lower centre of gravity, greater convenience for oil filling, and larger screw greasers.

Tappet Clearances

A Semi-technical Discussion of Tappet Clearances based upon Technical and Theoretical Considerations.

By H. GEORGE HARLEY, Consulting Engineer, etc.

THE little space, or clearance, between the valve stem and tappet, or between the valve stem and rocker in the case of overhead valves, seems so small as to be of little importance to the general user of internal combustion engines. Although realising the necessity of clearance under all conditions, the average rider does not always rate at its proper value the importance of the *amount* of clearance.

The Importance of Clearance during Designing.

In order to give the average user of petrol engines some idea of the importance of tappet clearance adjustment, it is well at the beginning to point out that this little space between valve and tappet, amounting very often to only five or ten-thousandths of an inch, is fixed upon by the expert technical designer only after extensive and complicated mathematical calculations of running speeds, heat losses, cooling efficiency, expansion of cylinder, valve stems, etc. After fixing a figure for the clearance, this is used in conjunction with figures governed by the speeds, valve areas, lifts, speeds of gases, rate of valve closing, spring strength, and rate, etc., in designing the cam. Now, although a cam is apparently such a simple thing, the calculations for the cam profile call for a high degree of mathematical knowledge and a knowledge of all matters connected with the thermal efficiency of the engine, its probable performance, etc., in addition to the other matters outlined above. During the cam calculations the numbers used are often less than one-thousandth, being in the form of a decimal of five or six figures, and used in conjunction with mathematical knowledge only possessed by a highly trained engineer.

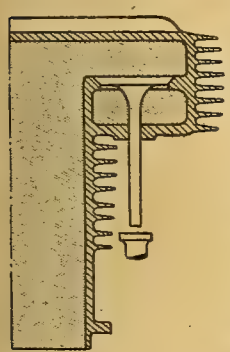


Fig. 1.

A consideration of the above information is worth while, because it shows that, if the calculations are based upon a tappet clearance of, say, five-thousandths of an inch, and there is an error of a mere five-thousandth in the adjustment, the clearance, being ten-thousandths, will obviously be twice as large as the clearance upon which all the above-mentioned calculations were based.

Although the actual calculations, which would be highly interesting to an engineer, could be given here by the writer, it is proposed only to give such figures as may be necessary to allow the "every day motor cyclist" to see the main points of importance of the subject.

In the first instance, it is well to go into the subject of heat expansion, and to deal with some points not well known among users. The average rider is quite aware that an exhaust valve increases in length when heated, and that this increase in length should always be less than the clearance allowed in order to have "hot" clearance.

Now there are other considerations to be taken into account that depend *entirely* upon the individual design or type of engine.

For instance, to discuss the case illustrated in fig. 1, the clearance is shown exaggerated; if the exhaust stem be increased in length, due to heating, the stem would take up a considerable amount of the clearance by extending in a downward direction; in addition to this, however, the cylinder, becoming heated, would extend in an upward direction. If therefore

e_1 = expansion of valve,

e_2 = expansion of cylinder (up to height of valve seat),

C = cold clearance

we have $C_1 = C + e_2 - e_1 =$ "hot" clearance ... (1)

It will be seen in this case that the amount of clearance is decreased by an amount equal to the expansion of the valve, and is increased by an amount equal to the expansion between the valve seat and bottom of flange of cylinder.

The Care of the Inlet Valve.

Now the inlet valve is a different matter; in this case the cylinder, of course, is expanded when hot, but the stem of the inlet valve may be quite cool or, at any rate, not at a temperature to be compared with the exhaust valve. The inlet valve clearance may therefore increase a little or remain at about the same figure when running or stationary. It is probable that in most engines the inlet valve *mean* temperature is somewhere about equal to the mean temperature of the cylinder *barrel;* the variation in clearance would therefore not be great. It should be noted that the clearance when cold may not be the same for both valves, but the difference in working conditions of the two valves may yet have been allowed for when designing, and the hot clearances would therefore be equal.

The conditions of expansion with overhead valves are a little different from those of the older valve

Tappet Clearances.—

arrangements, and when the valves are operated by rockers, as shown in fig. 2, these have the effect of complicating the action of expansion.

With rocker-operated overhead valves, the expansion of the valves may be assumed to be as before explained, but in this case, in addition to the valve and cylinder expansion already discussed, it is necessary to take into account the effect of cylinder expansion upon the height of the rocker pivot.

Cylinder Expansion and Overhead Valves.

The comparatively slight heating of the rocker bracket itself may usually be neglected, therefore the amount of lift of the rocker pivot, due to cylinder expansion, depends almost entirely upon the amount of expansion between the cylinder base and the base of the rocker bracket.

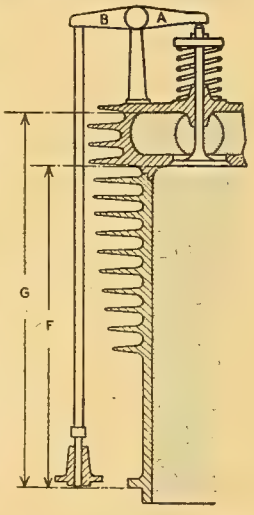


Fig. 2.

As the base of the bracket is not necessarily always placed at the same height as the valve seating, the height of the former usually has to be considered quite separately from the latter.

In the second case, illustrated by fig. 2, both valve and cylinder expand in the same direction, and the action of each has a reducing effect upon the clearance; on the other hand, expansion of the cylinder increases the height of the rocker pivot, and this has the effect of increasing the clearance.

In addition, the ratio of the arm A to the arm B of the rocker has an effect which may be best illustrated by fig. 3. In the figure the arms are equal, and therefore a lift of $\frac{1}{40}$ in. of the cylinder would lift the pivot $\frac{1}{40}$ in. Now, supposing the valve stem to remain stationary, the point where the push-rod is connected would lift twice $\frac{1}{40}$, equal to $\frac{1}{20}$ in. It happens, however, that the valve also lifts, and if the cylinder expansion lifted the valve $\frac{1}{40}$ in. as well as the pivot $\frac{1}{40}$ in., the clearance would be only increased $\frac{1}{40}$ in.

It should be clear from this that any lift of the pivot causes a lift at *both* ends of the rocker, and the corresponding lift of the valve, due to cylinder expansion, only takes up the clearance at *one* end of the rocker; the push-rod, always being cool, does not expand, therefore the increased height of the push-rod end of the rocker causes an increase of clearance.

An understanding of the preceding principles is necessary in order to see clearly that with overhead valves the tappet clearance adjustment is even more important than with the ordinary type, although both types require exact adjustment.

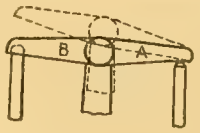


Fig. 3.

Referring to fig. 4, it should be evident that with A twice as long as B, an error of the adjustment of the clearance at S would mean an error of twice the magnitude at T.

The foregoing will show how little errors of adjustment may be multiplied or caused to have far-reaching effects on the running adjustments, out of all proportion to the error.

Fig. 4.

Having described the heating and expansion effects upon the two most usual types of valve gear, it is necessary to examine the effect of clearance errors upon the timing of the engine. The errors in timing caused by incorrect tappet clearance are not well known, although of great importance.

The cams of internal combustion engines are made to a variety of designs, but as the following remarks apply to all valve gears, reference may be conveniently made to the "tangential-faced" type of cam. In fig. 5, when the point of the cam profile, crossed by line H, is in contact with the tappet roller, the tappet commences to lift, but the valve begins to move when the point on the profile coincident with line I is in contact with the roller.

The reason why the clearance angle does not vary directly as the lift, but only *almost* as the lift, is that the angle Z does not vary at a regular rate.

As differences of clearance cause the above-mentioned variations of clearance angles, the angle S is therefore reduced by increase of tappet clearance, and is increased by reduction of tappet clearance. As angle S represents the *valve* lift period, it will now be understood what an enormous effect incorrect adjustment of tappet clearance has upon the valve timing and therefore the running efficiency.

Wrong Tappet Clearance and Unsatisfactory Running.

Improper tappet clearance has many strange effects upon running, and it should be noted that the ill-effects, like most ill-effects of bad "timing," are most serious when the engine is going "all out." The writer has made an increase of as much as 8 h.p. upon a certain type of aero engine during experimental tests by merely altering the tappet clearance about two "thousandths," and has also increased the horse-power of a well-known engine by nearly 18 h.p. by redesigning the cams, the slight variation made in the design being much less in its effects than many errors of tappet adjustments common in smaller engines.

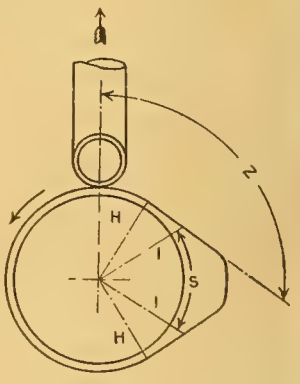


Fig. 5.

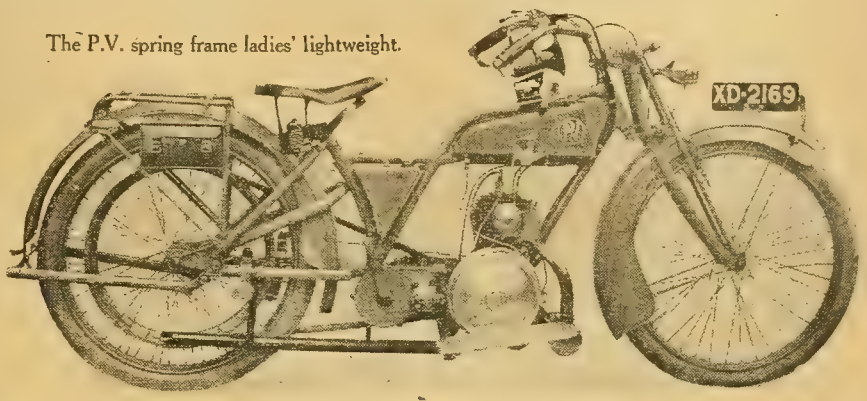
It is the knowledge of these "sensitive" points in poppet valved engines which causes some designers to turn their attention to sleeve and rotary valves, but it is interesting that up to the present the most efficient engines are of the poppet valve types.

A Spring Frame Lightweight for Ladies.

P.V. Machines for 1921 marketed with Open or Diamond Frames.

ONE feature of the 1921 models is that every class of rider is catered for. A large number of ladies' models have again appeared, and, without doubt, will not fail to attract those members of the gentler sex who have objected to riding a machine with a frame designed for the other sex. One fair critic at Olympia complained that there were no ladies' machines with spring frames, yet just outside Olympia she might have found such a machine in the P.V., now made in the two types illustrated on this page. A clutch and kick-starter are included in the specification of the lady's model.

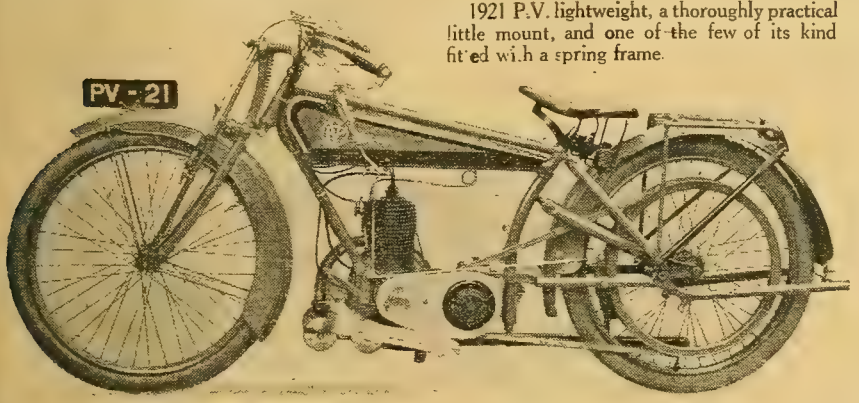
The P.V. spring frame ladies' lightweight.



A Distinctive Detail.

There are few more practical lightweights with modern refinements than

1921 P.V. lightweight, a thoroughly practical little mount, and one of the few of its kind fitted with a spring frame.

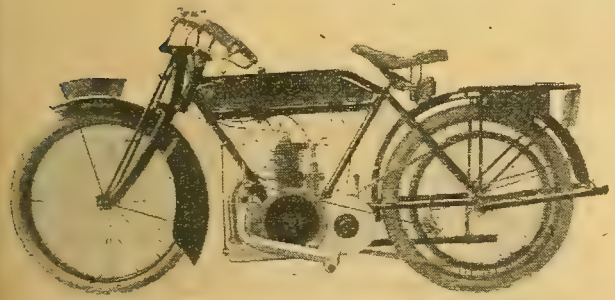


the 2½ h.p. P.V., which is fitted with one of the earliest and most satisfactory forms of rear springing yet devised. As may be remembered, the adjustable springs are enclosed in the frame tubes. Another distinctive detail is an easily detachable rear wheel, which may be removed without disturbing the brake. A 2½ h.p. Villiers engine supplies the motive power. The flywheel magneto control in this case, however, is from the handle-bar.

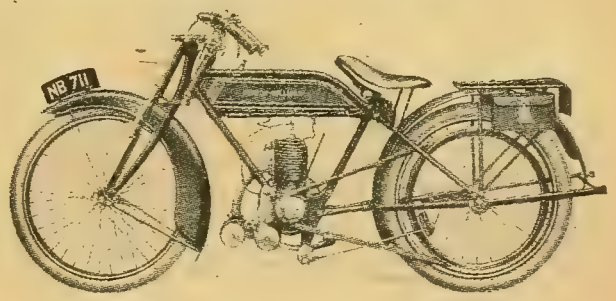
Both models are fitted with Brampton Biflex forks, which, combined with the rear springing, provide a degree of comfort not often found on so small a machine. A fairly long wheelbase should also be conducive to smooth running, and makes for great accessibility in both gear box and engine location.

Two Lightweight Two-strokes.

A 350 c.c. Two-stroke and a Smaller Machine that Sells at a Popular Price.



Ample power for solo or light sidecar work is provided by the 350, c.c. Broler engine fitted to the Spartan.



One of the cheapest machines on the market, the 2½ h.p. Newton-Villiers, which sells at well under £50.

NEARLY fifty motor cycle manufacturers exhibited two-stroke lightweights at Olympia, but this number does not represent the total number of makers offering this type of machine. Many were unable to take their models to Olympia, and among them were the two machines illustrated above.

The Spartan 350 c.c. Lightweight.

Previously known as the Welland B. and the Broler, the Spartan is essentially the same machine under a different name. A 350 c.c. Broler two-stroke engine is utilised as power unit, driving through an Albion two-speed gear box with clutch and kick-starter. Double-row ball bearings are fitted to the countershaft and big end of this engine, which is a cleanly-designed two-stroke of the conventional three-port type. Band and belt rim brakes both act on the rear wheel. A light sidecar outfit to the same specification is also marketed. Although not very familiar in open competitions, the Spartan made a commendable performance in both the Leicester two-stroke trial and the more recent Leicester M.C.C. Pascall Cup event. The concessionnaires are Messrs. Wallis and Jannes, of Nottingham.

The Low-priced Newton-Villiers.

One of the only lightweights proper that does not possess some form of gear changing mechanism, the Newton sells at the remarkably low figure of £48. As the name implies, a Villiers flywheel magneto engine is fitted, and it may be stated that the other components are of the same high-class order. It is marketed by Newton Bros., Levenshulme, Manchester.

CAR PRACTICE IN MOTOR CYCLE DESIGN.

Points in which the Example of the Larger Machine is being followed by the Smaller. Suggestions for Still Closer Unification of Principles of Design.

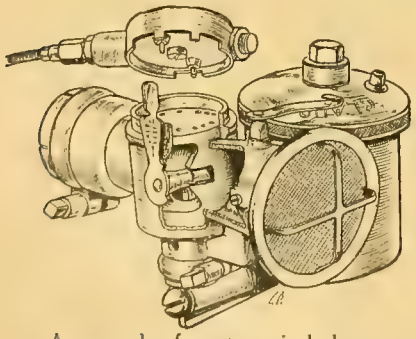
By CRITICUS.

This article is frankly written from a car owner's point of view, and while motor cyclists will not agree unanimously with all the points referred to, nevertheless the views expressed are of interest as coming from a member of "The Autocar" staff.

TO one more intimately connected with the products displayed at the Automobile Show, the Motor Cycle Exhibition at Olympia came as a refreshing tonic. In place of the somewhat detached and rather bored air of both car seller and buyer, one immediately plunged into an atmosphere of enthusiastic sellers and amazingly candid and critical buyers. Indeed the candour of some of the motor cycle purchasers was amazing. Perfect strangers advance on the designers themselves, and without preamble roundly assert that the design of such and such a part is "rotten." Mark you, they do not say that the design is incorrect in their opinion, or that it is open to improvement—it is simply, plainly and imbecilely "rotten!" It would appear that no personal reflection is intended, but it merely betokens an amazing keenness and absorbed interest on the part of the motor cycle using public.

One is tempted to wonder, in face of this prevalence of massed attack criticism, that motor cycles, as regards the design of their main components, the engine, gear box, etc., have not advanced upon more car-like lines than has been the case. One would have almost thought that the very enthusiasm and candour of buyers and users would have impelled manufacturers for very shame to have discarded all old-fashioned practice as not likely to appeal to such a discriminating public.

One is forced to the conclusion that either the practice followed in the design of the average motor cycle, although, perhaps, old-fashioned, provides extraordinary reliability, or else manufacturers as a whole are case-hardened against criticism. Any way, it was very refreshing for a car user to find himself in the midst of this seething mass of enthusism, which was to be found any day at Olympia during the progress of the Motor Cycle Show. Nor was such critical enthusiasm confined to the younger and, presumably, more enthusiastic type of motor cyclist; quite steady paterfamilias types of buyer were apparently similarly affected.

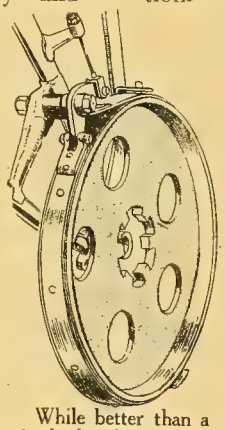


An example of car type single lever carburetter—the Claudel-Hobson.

If one is asked how motor cycles have gradually followed car practice and what degree of finality they have reached in this matter, one is confronted with a poser.

Car Features.

Detachable wheels, dynamo lighting, external flywheels, internal expanding brakes, sliding type gear boxes, mechanical lubrication, automatic carburation and even pressed steel frames, may all be mentioned as items used in the design of both cars and motor cycles. But when one has said this one has practically said everything. Practically all these items are ordinary everyday part and parcel of a modern car's equipment. On motor cycles many of the items are still the exception. To a motorist, there is something extraordinary that some of the details enumerated have not been clamoured for till they have been embodied as standard practice in the design of high grade motor cycles.

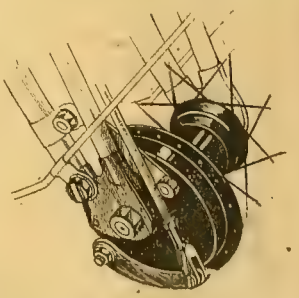


While better than a rim brake, the external contracting type suffers from its exposed position.

Surely the very fact that the mechanism of a motor cycle being continually exposed to mud, dust, and wet, in a way that no car engine is ever exposed, confirms the *prima facie* case for, as far as possible, embodying what one may term the principle of "automaticity" in its design. It is a horrible job mending tyres; everyone wants detachable wheels. It is terrible work wrestling with evilly disposed acetylene generators. Anyone who has ever used dynamo electric lighting would, like the tramp in the soap advertisement, never use any other. The silence, cleanliness, and general reliability of the internal expanding brake—a type practically universal on cars—are so satisfactory that one cannot imagine the use of any other type on the exposed-to-weather motor cycle.

Again, why are inside flywheels still clung to by the majority of motor cycle engine makers? Mechanically there is everything to be said against their use, and everything to be said in favour of the outside flywheel. Why make the engine drive the flywheels through a sea of oil?

With regard to pressed steel frames, it may be a debatable point as to whether the tube frame is not perhaps more satisfactory from a manufacturing point of view, but if the motor cycle for the million—in other words, a motor cycle Ford—is ever to appear, it will have to be a repetition job capable of being repeated in vast numbers for years



In the internal expanding brake the shoes are protected from mud and wet.

THE SECRETS OF SUCCESS.

How Thousands of Men and Women Have Won Their Way to High Positions in Life.

ONE often hears the question asked, "What is the Secret of Success?"

The answer might very well be given: "There is not one secret but many."

For Success in life does not depend upon the possession of any one particular quality. Many different qualities are required, and it is the combination of these qualities that proves irresistible in the combat and competition of Business, Industrial, Professional, and Public Life.

Fortunately, most people can acquire these qualities if they try, as the facts given in this page show.

Lord Ashfield's Opinion.

Lord Ashfield, for example, speaking of the qualities necessary in business management, says that the head of a large business requires:

—Judgment,
—Enterprise,
—Resolution,
—Prudence,
—Fortitude,
—Tact
and Sympathy.

Now these qualities—and many other qualities of the utmost value to a business man or woman—can be developed by training the mind on scientific lines, as everyone who practices Pelmanism knows.

And this being the case, it is not surprising to find Manager after Manager writing to say how much Pelmanism has helped him in his work.

"Doubled My Turnover."

One manager, for example, says that as the result of Pelmanism—

"I doubled the turnover of my department last year. This year I am doing better than last. I am always originating new ideas, and have a vivid and well-disciplined imagination."

Another Manager states that he owes his present position "entirely to the results obtained from the Pelman Course." A third business man says that he was in the rut "for twenty-two years." Then he began to Pelmanise and was given more responsible work. Now he, too, is a Manager. Yet another correspondent says that when he was demobilised at the end of the war he became a Commercial Traveller. He also took up Pelmanism. To day he is the Managing Director of a successful business. "I attribute my success," he says, "mainly to the results derived from your excellent Course." Further, he adds, "If you will refer any dubious cases to me I shall be happy to convince them of its advantages."

"Be Resilient," says Lord Riddell.

Another point of view—and a very important one—has been expressed by Lord Riddell. In his opinion, one of the most valuable qualities a business man or woman can have is that of Resilience. Many people fail utterly and entirely because they do not possess this quality. Defeat knocks them out. It crushes them so that they never rise again. To such people, he says, "failure comes as a staggering blow from which they never recover." "If a man fails and sits down under failure," he continues, "the world will kick him off his chair." But the man who ultimately succeeds is the man who gets up again "and makes another attempt." This is the man who does not lose confidence in himself under the blows of Fortune. He has Resilience. He has pluck. He has Self-confidence. And in the end he wins. "The man who is able to resist the effects of failure and disappointment and to concentrate his full attention on the next step," says Lord Riddell, "is likely to succeed in the end, whereas the man with weak powers of resistance will probably buckle up."

The Self-confidence that Wins.

Here again is a point where Pelmanism scores heavily. Pelmanism gives you Self-confidence. It banishes Depression, Weakness of Will, Nervousness, and the Fear of Failure. It gives you courage and assurance. It gives you that confidence which comes from the knowledge that your mind is trained, alert, and capable. It gives you the ability to Master your surroundings and to rise superior to your difficulties. And thousands of men and women have found this to be the fact, and have blessed the day when they first took up Pelmanism, and found that it gave them the Confidence in themselves that wins the confidence of others. "Whilst our chief accountant," so runs a letter recently received by the Pelman Institute, "who secured me the post, is unaware that I am a Pelmanist, I think I may truthfully say that I may thank the Pelman principles for the Self-confidence which enabled me to suggest that I should be entrusted with the work."

Seizing Opportunities.

Another secret of Success is the ability to seize opportunities. The world is full of opportunities. They come to everyone. They are always coming. But only a few make use of them and so find out how valuable they are. Pelmanism makes your mind alert so that you seize one opportunity after another instead of letting them slip by. "From a salary of £195 in August, 1918 (the time I completed the Course)," writes a Yorkshire Wool Dyer, "I rose in one step to £400, and in January this year to £800 per annum. I do not pretend that Pelmanism made the opportunities, but it certainly taught me how to make the most of them when they did come."

Concentration, Memory and Personality.

Concentration is another secret of Success, just as Mind-wandering is one of the causes of failure. If you concentrate well you can master any problem and perform any task in half the usual time. Yet another valuable quality is Retentiveness—the possession of a reliable Memory. Of what value is any knowledge or experience if you cannot remember it—if you forget? And yet another factor in Success is Personality, which is really the result of developing all the other qualities mentioned. Successful men and women are men and women with Personalities. They are Personalities because they are efficient. Inefficient men and women have weak personalities. They are shadows drifting through life. Here is a letter from a man who has developed Concentration, a good Memory and Personality all through Pelmanism. He is a joiner's apprentice, and this is what he says:

"Eleven months after taking up your Course finds me a different man. Concentration has been gained, my memory has been improved from Moderate to Good, and all my Perceptions greatly strengthened. Your Course is one which is suitable for persons of all temperaments, and, apart from all monetary gains, it gives that developed mentality and personality which is beyond price."

"More than Trebled My Income."

One of the results of developing these qualities is that Pelmanists are enabled to double, treble, and even quadruple their incomes. Hundreds of such cases could be quoted. A Clerk writes: "Since taking up the Course I have more than trebled my income, which is due solely to your teaching." An architect says: "Since I commenced your Course my efficiency has vastly increased. My income has gone up 300 per cent. I attribute all this to the Pelman Course." And similar letters have been received from men and women all over the world, engaged in almost every occupation that could be mentioned.

Readers who would like to know what Pelmanism will do for them should make use of the Coupon printed below. Post it off to-day, and by return they will receive, gratis and post free, a copy of an interesting book on Pelmanism, which will show them how thousands have mastered the secrets of success and won their way to prosperity and happiness.

Use this Coupon or a Postcard (or Call) To-day.

TO THE PELMAN INSTITUTE,
199, Pelman House, Bloomsbury St., London, W.C.1.

Sir,—Please send me, gratis and post free, a copy of the book, "Mind and Memory," a copy of "Truth's" Special Report, and an enrolment form entitling me to take the New Pelman Course on reduced terms.

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All Correspondence is Confidential.

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B2

Car Practice in Motor Cycle Design.—

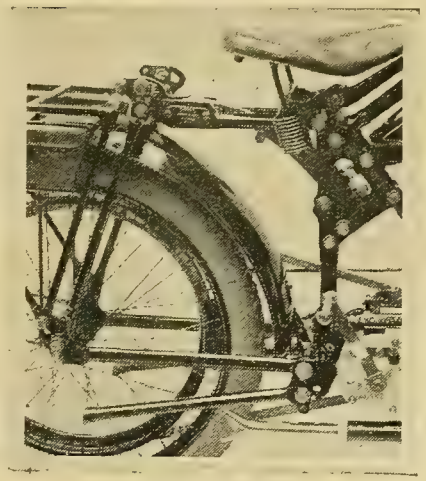
at a stretch. Whenever that happens there is no doubt whatever that such a machine will be equipped with a pressed steel frame, purely for the sake of cheap manufacture.

One now comes to two enormously vital points in the design of motor cycles, and points where it seems to the writer there is no possible excuse for not following car lead. These two points are expressed under the headings of "Mechanical Lubrication" and "Automatic Carburation."

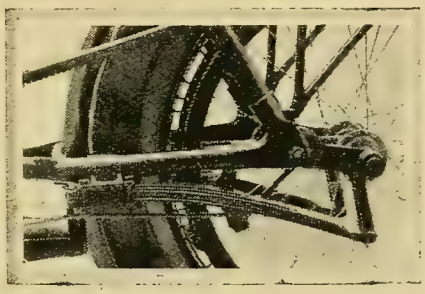
Lubrication.

Let us first consider the question of lubrication. One is glad to see that a few makers are following the lead of America in providing some sort of pump for circulating the oil, though one cannot recall that anyone carries out a complete forced feed lubrication system. By this I mean the provision of a proper sized oil sump and a circulation of all moving parts right up to the little end by means of a pump. This was done some years ago on the W. and D. engine, and it seems a thousand pities that that excellent lead has not been followed. First-class lubrication is more than ever necessary in these days of heavy sidecars. It would appear to be still a generally true criticism to say that the average motor cycle engine is over-oiled half its time and under-oiled the other half. The result is that the oil consumption on most motor cycle engines is inordinately heavier proportionately than on most car engines. The 40-50 h.p. Rolls-Royce engine does 1,200 miles per gallon of oil. How many motor cycle passenger outfits can come near that figure? One has only to think of the length of time it is possible to run the ordinary small car engine fitted with a proper form of lubrication without removing the carbon, compared to an average motor cycle engine. Most people put this down to the difference between water and air-cooling. The writer totally disagrees and feels convinced that it is the usual motor cycle system of 50% over-oiling coupled with 50% under-oiling that causes such comparatively enormous and frequent hard baked carbon deposits on most motor cycle pistons and cylinder heads. There is real work for designers in this direction, and it is to be hoped that the future will see less apathy on their part in this important matter.

CAR TYPE SPRINGING ON MOTOR CYCLES.



ROYAL RUBY



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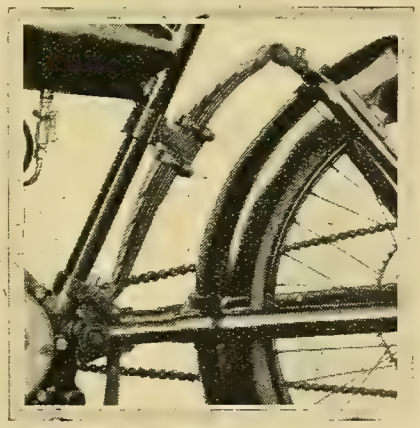


BEARDMORE-PRECISION.

Although our contributor is a car engineer he appears to favour coil springs for motor cycles, yet very few cars embody them. Three different types of motor cycle rear springing systems utilising leaf springs are shown above. The Royal Ruby may be said to consist of two frames connected by a leaf spring; The Coulson is a spring wheel, and has proportionately less unsprung weight than most cars. The Beardmore-Precision is a compromise of the two extreme types, as the springing does not necessitate the extra parts excepting the spring itself.

Carburation.

We now come to carburation. The average carburetter fitted to a motor cycle is equipped with two levers to regulate the amount of gas and air entering. For some reason or other, the majority of motor cyclists appear to distrust the one lever automatic carburetter. It is true that an ancient jest was made to the effect that an automatic carburetter provides an incorrect mixture on all speeds. This may once have been the case, but it has long since ceased to be so. Probably the average non-automatic carburetter of to-day gives a far more incorrect mixture in the hands of the ordinary user than does the automatic instrument. The very fact that the handle-bars of a motor cycle are subjected to far more vibration than is the steering wheel of a car goes to prove the extreme difficulty of correctly choosing the positions of two levers. It is not even the case that the provision of two levers gives really good fuel consumption. There is only one correct way to measure consumption of fuel, and that is in ton miles per gallon. Contrasted with the results obtained on most cars the ton miles per gallon achieved on most motor cycles is nothing short of a scandal. This then would appear to show that there is little good to be said of the non-automatic carburetter. It is good to see, therefore, that quite a move in favour of automatic carburetters was noticeable at this year's Show. There is now an excellent range of motor cycle automatic carburetters on the market, and it is fairly safe to prophesy that these will attain greater popularity as time goes on.

It is sometimes said by manufacturers of two lever carburetters that the air lever is used only for shutting off the air for starting. One can hardly accept this as any excuse for providing a couple of yards or so of Bowden wire, which, to say the least of it, does not improve the clean appearance of the handle-bars, when the carburetter itself might be equipped with an air strangler operated by a lever half an inch long.

Brakes.

With regard to brakes, one is unfeignedly glad to see that the

Car Practice in Motor Cycle Design.—

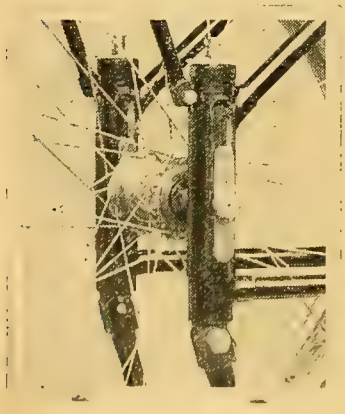
expanding type of brake both for front and rear wheels is gaining popularity. The old front wheel rim brake never was a great deal of use. The front wheel dummy belt rim type of brake could be made to function excellently, but it was generally ugly. To car users, the equipment of motor cycle wheels with large diameter extra rims upon which the brake shoes might work has always appeared as an example of strange and ragged designing. Motor cycles for years have been simply crying out for internal expanding hub brakes as used on cars, and it appears likely that at last these are in a fair way to become general. Of external band brakes on motor cycles the less said the better. They are indifferent on cars; on motor cycles, owing to their very exposed position, they are deplorable.

In their Favour.

If motor cycle designers are still more or less groping in the dark in their efforts to follow car practise, there is one point in which the smaller vehicle has the larger one guessing. This is in the matter of ease of gear changing and clutch manipulation. Nearly all cars are equipped with clutches that require relatively more effort to disengage by foot than does the average motor cycle clutch by hand. This is distinctly a feather in the cap of the two-wheeler. Nor can one think that on any car is it possible to change gear with such consummate ease and complete silence as it is on practically every motor cycle.

Gear Boxes.

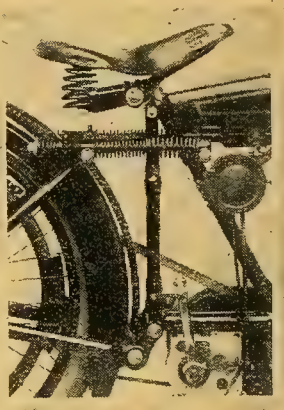
Designers of gear boxes for motor cycles have not stood still, and have been particularly praiseworthy in their efforts to eliminate unnecessary parts and reduce weight. One feels, however, that a good many gear units could with advantage be cleaned up as regards the exterior, many of them having too many crevices in which oil, dust, and mud become entrenched. A smooth exterior is a hall mark of good car component design—motor cycles need this "touch" sadly. It is also strange that more effort is not made to embody the engine and gear box in a single unit—a practice so largely prevalent on motor cars.



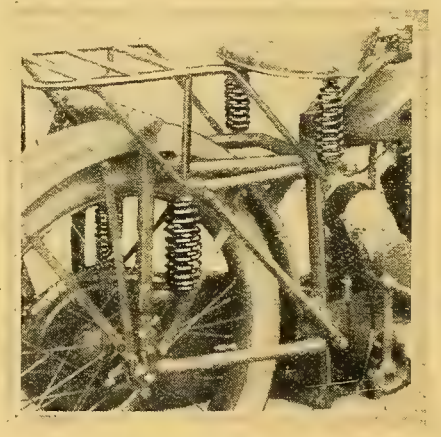
The Wooler springing system, like the Coulson, reduces unsprung weight to a minimum. It employs coil springs.

The car driver visiting the Show was at first glance almost tempted to enquire if the solo motor cyclist had ceased to exist. Except as regards the riders of lightweight machines, the Show was essentially a passenger vehicle show. Runabouts and sidecars of all shapes and sizes and degrees of equipment were everywhere—in fact, to see a stand of purely solo machines other than obviously small lightweights was a rarity.

The time appears to be ceasing to be when motor cyclists will be classed as solitary individuals. Even some of the smallest machines, although destined by their makers to run as solo mounts, are not to be exempt from the hand of the sidecar makers because dotted about the Show were many examples of miniature sidecars plainly announced as designed for lightweights. It is an agreeable testimony to the excellence of material generally used in the construction of both the motor cycles and the sidecars that one sees so very few of such light outfits in trouble by the roadside.



Coil springs in compression is the principle of the Hobart frame.



In the Matchless system, coil springs are used in compression.

Spring Frames.

In the matter of springing the motor cycle industry is evidently waking up. It is a very difficult problem to spring cars well. Much more is it difficult to follow suit with so light a vehicle as a motor cycle. Still, serious efforts are being made, and it is something to find a general realisation on the part of designers that the vertebræ of those riding *on* motor cycles and those riding *in* cars are similarly constructed. Whether the leaf spring is quite the thing for motor cycle suspension may be doubtful—the spiral spring has excellent attributes—but at all events one may be thankful the designers have gone so far as openly to confess that motor cycles, just like cars, need suspension systems. We are getting on.

There is one final point in which some sidecar outfits are following car practice a little too closely. This is in the matter of price. When one sees several firms listing outfits at a price which, out of three hundred pounds, leaves only about enough to fill the tank, one is forced to wonder how long such propositions will remain. It is shocks such as this that make the success of many three-wheeled runabouts and four-wheeled cycle cars assured. The *drivers* of the latter type—three or four-wheeled—keep dry and clean. Car drivers—however cheap the vehicle—keep dry and clean. *De luxe* sidecar outfits will simply *have* to follow this practice sooner rather than later. One wonders if Mr. Alfred Scott has pointed out the way.

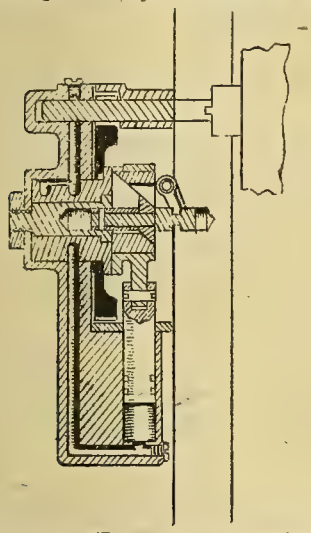
A Throttle-controlled Mechanical Lubricator.

Describing a Simple Oil Pump which Proportions Supply to Engine Load.

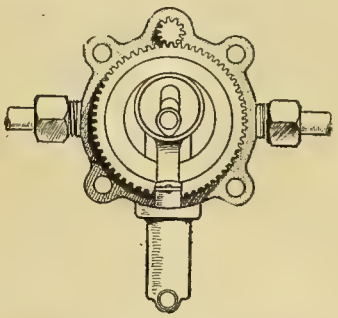
DIFFICULTIES in the way of mechanical lubrication for motor cycle engines usually arise from a fear of complication and the unreliability of small spring-operated ball valves, which have proved troublesome in the past.

In an effort to eliminate these faults, Mr. A. Turner, of 6, Lincoln Street, Old Basford, Nottingham, has produced a device having a positive rotary valve operated by the same drive from the timing gear which operates the pump plunger; the latter is given a variable throw dependent on the amount of throttle opening.

The apparatus consists, essentially, of a case (attached to the timing gear cover of the engine) from which depends a cylinder, wherein reciprocates a pump plunger operated by an eccentric driven



Section of the Turner oil pump attached to the timing gear of an engine.



Plunger, eccentric, and driving gear of the Turner oil pump.

by an 8 to 1 reduction gear off the camshaft. The amount of eccentricity of the driving disc, which runs within the pump connecting rod strap, may be varied by moving an actuating rod horizontally through the agency of Bowden mechanism interconnected with the throttle. On the actuating rod is a cylindrical section at an angle of 37° to the horizontal, and this slides in a hole bored through the disc at a similar angle. It will be seen that, according to the horizontal location of the actuating rod, the throw of the disc will be varied from zero to a maximum.

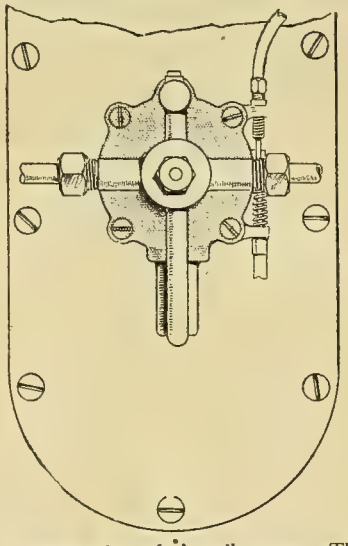
Rotary Distribution Valve.

The pump cylinder is connected by a passage to a chamber, in which rotates the controlling valve. The latter runs on a fixed stud concentric with the pump eccentric actuating rod, and drives the eccentric itself through the medium of a self-adjusting sliding tongue and groove arrangement on the abutting faces of the two parts.

On the periphery of the rotating valve are two grooves connected by a transverse slot. One of the grooves registers with the passage communicating with the pump cylinder, while the other, which only extends round half the circumference, registers with the suction and delivery pipes.

In operation, the half groove uncovers the suction pipe as the pump plunger ascends, thus sucking oil from the tank; on the down stroke of the pump the delivery pipe orifice is uncovered, and the charge of oil forced to the engine.

Advantages claimed for the arrangement are: (1) No screws in assembly of working parts, (2) entire mechanism running in oil, and (3) pump piston gudgeon pin secured by split ring. The inventor assures us that the running on his own 3½ h.p. Premier machine has been very satisfactory, from the point of view of both consumption and absence of trouble.



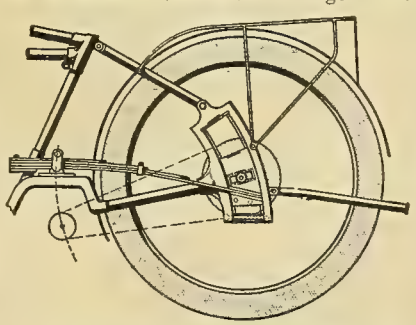
Exterior view of the oil pump. The delivery is controlled by Bowden wire interconnected with the throttle.

A NEW TYPE OF REAR SPRINGING.

AN ingenious system of springing a motor cycle, retaining a constant transmission tension, has lately been brought to our notice. The rear wheel is suspended on quarter-elliptical springs, which are held in a special lug on a horn plate sliding in guides at the base of the rear forks. Actually the horn plate slides in flanges, preventing any lateral movement of the wheel relative to the frame, and rubber buffers are placed top and bottom to take any extra violent shocks which may be received due to an exceptionally bad pothole. The guides are curved in arcs of circles struck upon the centre of the final transmission system, so that the same chain tension is retained.

At the top of each guide there is a lug, and on the top of each horn plate there is another lug. Both these are drilled for the reception of a bolt, so that, in the event of a spring breaking, the frame may be locked solid, and the rider can continue his journey home. Slots are provided in the horn plates for the adjustment of the chains.

Each spring is attached to the frame by a strap acting as a fulcrum. The wheel is easily removed by withdrawing the bottom bolt and rubber pad from each guide, and removing a pin from the side of the strap, so that this side can be turned down about a hinge. The spring may then be pivoted outwards from the wheel, allowing the horn plate to drop out of the guides.



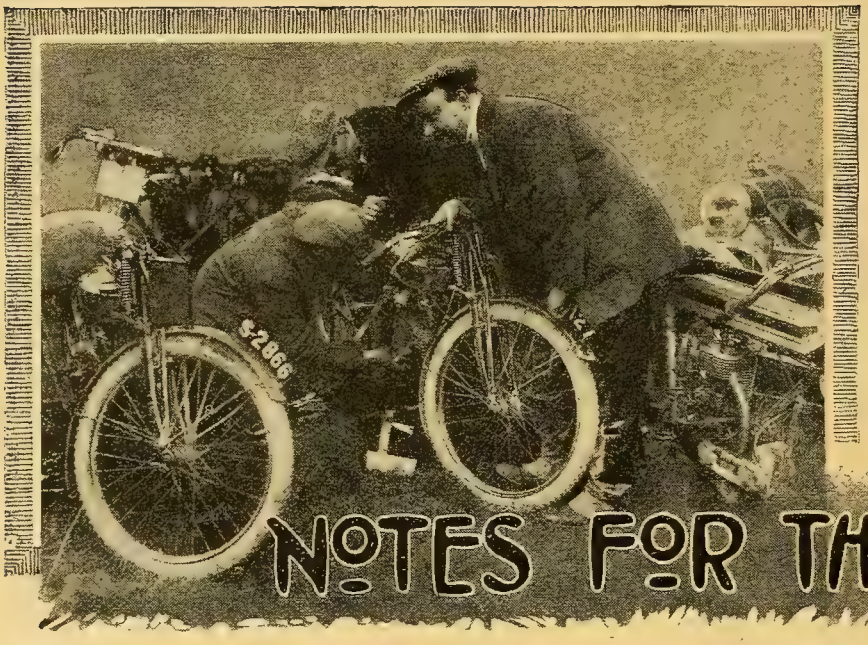
Belt or chain tension is kept constant with this system of springing, although no hinged members are used.

The rear stand is so designed that the guides are not obstructed by the stand-supporting lugs.

The system is adaptable to most motor cycles with rigid frames; and, where the countershaft sprocket and rear wheel are moved fore and aft for chain adjustment, the strap supporting the spring is mounted on the frame so that it can also be moved until it is in the same position relative to the countershaft. The arrangement reduces unsprung weight, prevents lateral movement of the wheel, and eliminates hinged joints in the rear of the frame, while the life of the transmission gear is claimed to be increased.

The inventor is Mr. G. H. Durston, of W. Henderson Gray's, A.M.I.M.E., 8, York Place, Baker Street, London, W.1.

Mr. Durston is also producing a side-car chassis sprung in a similar manner, but using vertical guides in lieu of radial brackets.



THE LIGHTWEIGHT—ITS POSSIBILITIES AND REQUIREMENTS TO ENSURE CONTINUED EFFICIENCY.

NOTES FOR THE NOVICE

IT commonly happens that the lightweight machine of moderate or low power is the first choice of recruits to the ranks of motor cyclists, and this is just as well, not because a heavier or more powerful machine is more difficult to ride or to keep in order, for this is by no means the case, but for the very good reason that a lightweight is far more easy to handle when the rider is not in the saddle. A heavy machine when taken off its stand is apt to pull its unwary owner over—I am assuming for the moment that the owner is a novice and not accustomed to handling anything heavier than a *push* bike (for the use of this term I hereby tender my humble apologies to all pedal cyclists)—or to knock him down, and lie upon him, dribbling petrol and oil the while over his best leather coat and mustard coloured waistcoat. It is very true that a heavy machine takes careful handling, and the new owner of one should always be careful to keep it leaning slightly towards him, whereas a lightweight is more amenable to discipline, and not likely to get out of hand.

Two or Four-stroke.

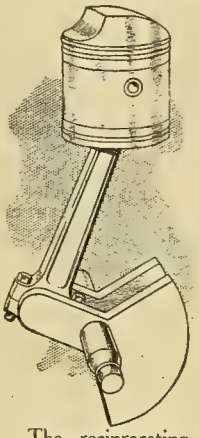
The novice then having been guided by my sage advice, though not given in so many words, and having decided upon a lightweight motor cycle, is faced by another question, viz., whether to buy a four-stroke or a two-stroke. On this matter I cannot give definite advice without offending someone or other—and good riders, to boot—therefore, I will not give it, but will content myself by laying before my readers (if any) a few of the points which should be taken into consideration before a choice is made, recognising all the while that it will be in the end a case of *chacun à son gout*, which, being translated, means that any motor cycle will cure a chappie of his gout.

Simplicity.

If simplicity be desired, a two-stroke engine has the advantage, in the smaller number of moving parts. These consist of piston, connecting rod, gudgeon pin, crank, and axle carrying a flywheel, and a pulley or sprocket. The four-stroke has all these, and, in addition, inlet and exhaust valves with springs, tappets, and timing gear. But simplicity does not consist only in a limitation of the number of parts; extra parts are no real disadvantage, provided that they function as they ought to do, and give no trouble. It is true that valves must be ground in, and tappets adjusted at intervals, of which more anon. Returning now to the question of simplicity, it must be admitted that the four-stroke, having had to give pride of place to the two-stroke in the matter of the number of its moving parts, scores when the two pistons are examined side by side. In simplicity of action, too, I would give a four-stroke pride of place. The charge is, in four strokes of the piston (1) induced, *i.e.*, drawn into the cylinder, (2), compressed, (3) fired, (4) driven out into the silencer, or, in other words, exhausted. In the rival engine two of these processes are sometimes being performed at the same moment. While the piston is rising in the cylinder, a charge already in place is being compressed into the cylinder head and another charge is being drawn into the crank case. The first mentioned charge is then fired, and while it expands the second is partially compressed. As the piston approaches the bottom of its stroke, first the exhaust and then the transfer ports are opened (unfortunately, they close in the reverse order), and while the burnt gas escapes, the charge, which has been partially compressed in the crank case, is transferred to the cylinder, and helps to drive the exploded gas out through the exhaust port. This is effected by means of the deflector on the piston head, which turns the fresh gas upwards into the top of the cylinder, whence it descends, driving the burnt gases before it. The gases probably get mixed to a certain extent, and doubtless some of the fresh gas escapes through the exhaust port, which, as has been already stated, is still partly open after the transfer port has closed. As the piston of a two-stroke has to perform the duty of opening and closing the inlet, transfer, and exhaust ports, it must be a good fit in the cylinder, and the crank case must be compression tight.

Notes for the Novice.—

When of good quality, both two-stroke and four-stroke do their work extremely well. The former is well known for the excellence of its pulling uphill at moderate speeds, but as a rule it is not so fast as its four-stroke brother. As the mixture is first supplied to the crank case, a very simple method of oiling can be used, which consists of mixing half a pint of oil with a gallon of petrol. This is known as the petroil system. Against this must be set the fact that errors in oiling may upset the carburation, and, moreover, the petroil system is messy. Errors in carburation may cause a two-stroke to four-stroke, that is, to fire and misfire alternately, and consequently lose one of its chief advantages, which consists in its evenness of torque. In much the same way defective carburation will cause a four-stroke engine to eight-stroke.



The reciprocating parts of a two-stroke engine.

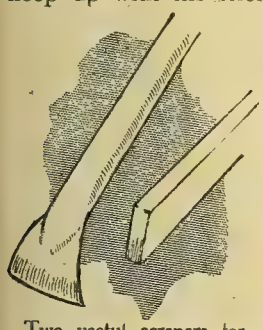
Transmission.

Another much debated point is the question of transmission. Personally, I am, and have been for years, a chain enthusiast; therefore lovers of the belt can skip this part or condemn it right away as the lucubrations of a bigoted idiot. I will, however, go so far as to admit that if there is one class of motor cycle on which a belt should be successful it is the class about which I am now writing, *i.e.*, the lightweight. On one point a belt certainly scores; it is more easily mended than a chain, and this can sometimes be done without soiling the hands much. This is lucky. On my own machines I have broken one chain in ten years; once when riding a borrowed machine I mended a belt five times in a fortnight.

A chain should be adjusted so that it is not tight in any position of the wheel, and it should be lubricated with graphite if exposed. Oil-tight cases are, of course, desirable, if well made and carefully fitted, but a tight guard does much to keep a chain in good order, as it keeps water from dripping off the mudguard on to the chain when the machine is standing.

Concert Pitch.

Now the owner of a lightweight constantly tries to keep up with his friends who are mounted on more powerful machines—and he does it too—but this, alas, means that his machine is more often driven near the limit of its speed and power than theirs, and consequently it needs more frequent attention.



Two useful scrapers for removing carbon deposit.

It is a common complaint against lightweights that they are more difficult to keep in tune than their more powerful brethren. This is hardly a fair statement; there may be something in it, but it requires some amplification. The real facts are as follows: (1) It is more difficult to keep any machine up to the extreme limit of its tune than to keep it in moderate order only; (2) a machine needs more attention when it is commonly run all out with an open throttle than when—to borrow a phrase from a friend—it is generally allowed to amble along on quarter throttle. Thus we see that a lightweight is likely to need more attention than a heavyweight, not because of any inherent defect in itself, but because of the treatment it often receives. The exceptions to this statement, as a general rule, are when lightness is carried to excess and certain parts are not up to their work, but such mistakes in design are not restricted to lightweights; there are numerous examples to be found even in the heaviest sidecar outfits. Of this the A.C.U. Six Days Trials will be witness, and the fact that, the combustion head of a little engine being smaller, a certain amount of carbon deposit, say $\frac{1}{16}$in. thick, will reduce the space by a greater percentage than a similar thickness of carbon will reduce the combustion chamber of a larger engine.

Valve Grinding and Piston Rings.

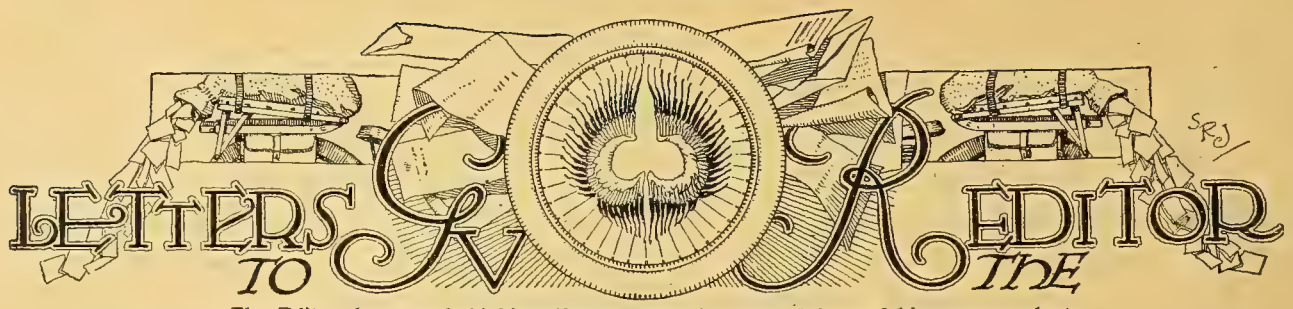
It is not advisable to do more grinding than can be helped in the engine, as this wears away the valve seating and forms pockets, which very seriously restrict the flow of the gas past the valves. Various ingenious devices have been sold to assist the operation of valve grinding, and it is not difficult to fake something for oneself; for instance, a piece of wood 2in. thick may have a hole bored through it to fit the valve stem, care being taken that the hole is bored at right angles to the surface. This hole should then be enlarged to the depth of about a quarter of an inch, and equal in diameter to the inside of the valve seating; the edge of this hole should be bevelled neatly with a knife and smoothed off with sandpaper. It may also be necessary to enlarge the top of the centre hole a trifle to admit the valve stem, which often increases a little in diameter where it joins the head. If a brace and suitable bits are available the operation is much simplified, in which case it is better to begin by boring the larger hole. When a valve requires grinding, the process can be commenced by placing it in this block with a piece of emery paper, through which a hole has been cut, underneath it. The block can then be held in a vice and the valve turned with a brace and screwdriver bit (a simple screwdriver will do if a brace is not forthcoming). Most of the pitting can be removed in this manner if care be exercised, and the valve finished by grinding in the cylinder in the usual manner with fine grinding paste or powder mixed with oil.

Examples of two-stroke and four-stroke pistons. In this case the palm for simplicity lies with the four-stroke.

Provided that the piston rings are free in their grooves and oily, it is not necessary as a rule to remove them, as a little dirt behind them does no harm; in fact, many think it an advantage.

When decarbonising, the rider of a two-stroke should always remember to scrape the ports thoroughly. This applies particularly to the exhaust port. If the piston be removed for any purpose, care should be taken to replace it correctly, *i.e.*, with the sharply curved side towards the transfer port and the gradual slope towards the exhaust.

J.H.W.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

NOMENCLATURE.

Sir,—May I suggest one of the following for the sidecar taxi: (1) Sidescab; (2) Sideshar; (3) Sidetaxi?

W. M. TOMLIN.

LUBRICATION OF NAKED CHAINS.

Sir,—I have found the following simple plan very satisfactory: Put a lump of the ordinary thick tallow and graphite chain lubricant in a flat tin, thin down with petrol to the consistency of thin oil, and apply with an old tooth brush.

H.B.

Greenwich.

DOUBLE-ACTING STEAM ENGINES.

Sir,—With reference to Mr. R. C. Stebbings's letter on "Torque and Comfort," he mentions that high speed steam engines are generally, with one notable exception, single-acting.

I wish to inform him that Messrs. W. Lisson and Co., Ltd., of Gloucester, are world-famed for their high-speed double-acting steam engines.

I should like to know which firm he refers to that makes the notable exception.

H.A.T.

Gloucester.

SIDECAR ADJUSTMENT.

Sir,—Can any of your readers state definitely the best method of adjusting a sidecar, as the makers' opinions differ greatly?

Two very well-known companies say that sidecar and cycle wheels should be parallel and vertical; another company says that wheels should be ¾in. out of parallel (narrow in front), but vertical; and a third concern says wheels should be ½in. narrower in front, sidecar wheel vertical, and cycle wheel leaning slightly outwards.

The position of the sidecar axle relative to the bicycle axle also differs greatly in various makes.

The points in question are:

(1.) What is the best position for sidecar wheel, *i.e.*, level, before, or behind cycle wheel?

(2.) Should cycle wheel be vertical or leaning outwards?

(3.) Should cycle and sidecar wheels be parallel or narrower in front?

(4.) Assuming other adjustments be correct, must sidecar wheel be vertical, *i.e.*, does it matter if wheel tilts slightly outwards owing to an oversize tyre being used on the cycle?

W. R. SMITH.

OWNER GOING ABROAD.

Sir,—In reply to your correspondent writing under the above heading, I would like to inform him that there are difficulties in taking cars and motor cycles abroad, and it is also likely to prove an expensive item to those not initiated in the formalities of packing machines, arranging delivery to the docks, freightage, and insurance, etc. I would strongly recommend anyone wishing to take his machine with him to get in touch with one of the many firms of shipping agents, who would undertake the delivery of the machine to any port required, on payment of a stated sum agreed beforehand.

There are many owners who believe the wisest course to be to dispose of their machines before leaving for abroad in the hope of being able to purchase their requirements the other side, but, as your correspondent states, there are very great difficulties in purchasing British motor cycles abroad. I do not think that British manufacturers, generally, have given sufficient support to the question of British motor cycles and cars abroad, mainly due, I believe, to the want of a clearly defined policy. In your correspondent's case he sent to an English firm to purchase an outfit to be sent to him in India, and the firm were unable to supply, owing to the makers' restrictions. The explanation is, I think, that the foreign agencies are allotted to various merchant houses, and orders may, therefore, only go through those particular merchants.

I should be very pleased to help your correspondent or anyone else who may have the same difficulties, and I will endeavour to give them assistance to enable them to obtain their requirements.

L. W. TAYLOR.

A POST-1921 IDEAL.

Sir,—I have always had a soft side for twin two-strokes, and share your surprise that, "despite the fact that it has held its unique position for several years, the Scott remains the only twin two-stroke on the market." My ideal mount would be a cross between the Sunbeam and the Scott, that is to say a twin two-stroke (but air-cooled if feasible) with chain-drive enclosed in an oil-bath gear case, with the orthodox type of frame, and everything protected from mud, etc., as in the Sunbeam. It wasn't at Olympia.

I think such a machine would be very popular and should like to see other readers' opinions on the matter, and on points like the following: Is an air-cooled twin two-stroke practicable? What relative position of the cylinders would give maximum cooling? What drawbacks would such an engine have? I think its advantages are obvious.

I hope no one will imagine that I am finding fault with either the Scott or Sunbeam machines. They are already known by their successes.

SIGMA.

Macduff, N.B.

CHAIN DRIVE ON SPRING FRAME MACHINES.

Sir,—Some time ago you were kind enough to publish a letter from me on the question of the design of spring frames for motor cycles, and especially their relationship to the satisfactory arrangement of a chain drive on such a machine.

Since then I have followed with interest your various correspondents' suggestions and descriptions, and am now venturing to write to you again, as I have, within the last few days, come across a chain drive spring frame motor cycle of rather novel design, which has overcome the great objection of variable chain tension of the rear drive in a very simple manner.

The machine is known as the "Ayres-Leyland," and is, in arrangement, very similar to the majority of spring frame designs, inasmuch as the chain stays are pivoted at the bottom of the seat-pillar tube, the spring motion being controlled by a cantilever spring carried just below the saddle as in the ordinary arrangement. The gear box, however, instead of being secured between the pivot and the engine, is actually secured to the chain stays, and consequently the final drive works at fixed centres irrespective of any movement of the back wheel. Certainly, there is a slight variation in the centres of the engine to gear box drive, but this, owing to the small movement of the gear box, only amounts to a few thousandths and is negligible. On a test run the behaviour of the machine, both as regards its springing and the running of the chains, was most satisfactory, and it appears to me as though at least one designer has secured that ideal of all designs, efficiency with simplicity.

T.

Hale, Cheshire.

A FAIRLY TALL ORDER.

Sir,—Can anyone tell me where to find a lightweight two-stroke, which can be used without any exertion, on which a fair sized man does not appear ridiculous (26 or 28in. wheels); which can be ridden in all weathers in ordinary clothes without mess from mud or oil; which can be used any time of the day or night, at a moment's notice (electric lighting); which will oil itself and not by any chance flood with oil; which will climb any hill; and which will give a year's silent service of daily pottering in a hilly district on present-day roads without attention to engine and transmission, frame, or tyres—save replenishment with fuel and oil weekly? G.P.

Sheffield.

A READER'S RUNABOUT.

Sir,—I am enclosing a photograph of a three-wheeler on purely motor cycle lines, which I have made; the chassis design is registered.

The machine is of simple construction, the frame being all straight standard tubes and lugs.

I have driven this machine 3,000 miles since Whitsuntide without any overhaul and with no trouble, except for a small one in the clutch. The consumption is just short of sixty miles per gallon.

A home-constructed three-wheeler, entirely on motor cycle lines, referred to in the letter of Mr. H. D. Day.

The following is a short specification of the machine, which is not so short and tubby as appears in the photograph:

ENGINE.—5-7 h.p. Coventry Victor, air-cooled.
GEAR.—Sturmey-Archer.
TRANSMISSION.—All-chain.
STEERING.—Rack and pinion.
SPRINGING.—Semi-elliptic in front and tension springs in rear.

I have climbed all hills I have met in my journeys, including Midland test hills. H. D. DAY.

THE LAST NIGHT OF THE SHOW.

Sir,—With reference to the Motor Cycle Exhibition which has just been held at Olympia, I should be glad if you could find space in your valuable paper and put on record the protest of many exhibitors as to the infernal pandemonium created by various irresponsible assistants towards the end of the Show.

It is surely known that this sort of thing is distinctly forbidden in the agreement of the exhibitors, and I think that the Society should see that this rule is not flouted.

This year the blowing of horns started soon after 8 p.m., when there were still visitors trying to get information with a view to purchasing; and personally I can say one such visitor left our stand and quitted the building disgusted. Certainly he said he would call at our works; but will he? Further, I think it is disgusting and insulting to the orchestra, who were doing their utmost to render good music.

I think it a duty to write this, as I have attended every Show from 1899 onwards in this country; and I think we can take it that the exhibitors are there for business, and not obnoxious foolery. Certainly, as every Exhibition ends, the matter gets worse and starts earlier.

I am not a kill-joy, and if the last hour finishes up in a social and dance it would be pleasant, but I should be very sorry to see our splendid Exhibition drop down to the level of a "penny gaff" or Mitcham Fair.

JOHN J. LEONARD,
THE BAT MOTOR MANUFACTURING CO.

THOSE INCREASED SUBSCRIPTIONS.

Sir,—There is no difficulty in answering the question asked by "Bled Dry." The pre-war subscription paid by A.A. motor cycling members was 10s. 6d. per annum; this subscription brought them all the benefits enjoyed by motor car members paying £2 2s. per annum.

Everything has gone up in cost, and the pre-war subscription is to-day quite inadequate for covering the expenses incurred in rendering the services afforded to our motor cycling members. There is no profiteering in this development—it simply resolves itself into a matter of necessity.

STENSON COOKE,
Secretary, Automobile Association and Motor Union.

Sir,—Permit me to tell "Bled Dry" what the A.A. has done for me during the last year's membership.

In April I was caught riding without lights. With one day's warning the Association found and sent a solicitor to defend me.

In August, I took my outfit to Belgium and France. I explained what I intended to do, and back came a sheet stating all the charges which would be incurred, *re* Customs, etc. On payment, I was in possession of all necessary papers and arrangements, and knew that whatever official tackled me, I had what he wanted—a great comfort!

Returned, a summons to appear at Kirkham, some sixty miles away, awaited me. I did not worry. The A.A. sent a man. All this by correspondence and telegrams, which made me feel that the organisation found it a pleasure to be able to help me.

In September, I broke my frame and back spindle at midnight sixteen miles from home, which cost me 10s. to have the outfit towed into Harrogate. I am perfectly certain that, had I had the impudence to present the bill to the Association, it would have paid it, but I did not.

Does "Bled Dry" feel "over" or "under-average" when an A.A. or A.C.U. sentry—paid out of the subscriptions of the "average" man—warns him of danger, or gives him the "all clear" at, say, cross roads?

It beats me to know why the subscription is still so small!

E. R. HINDLE.

Sir,—With reference to the letter of "Bled Dry," in your issue of December 2nd, surely the increased subscriptions of the A.C.U. and A.A. are justified if one considers the general increase of wages which their patrols, etc., must need in order to meet the present cost of living.

The advantages these organisations offer—the large body of patrols, free legal defence, touring facilities, etc.—are well worth the increased subscriptions now called for.

E. J. NOEL.

Sir,—Might I be permitted to occupy your valuable space with a reply to "Bled Dry's" letter?

Does he realise, in asking for a justification as to why the A.A. has increased its subscription, the increased cost of the work done by the A.A.? In fact, the cost in some branches must have been more than double long before now, and yet the subscription has not been altered at all!

As to what the A.A. does, may I let him have my own personal experience? A short time ago I had the misfortune to be summoned some distance from my home. My case was taken up by the A.A., defended by its solicitors (whose fees, like other things, have been raised), and all expenses paid by it.

Now, if I had *not* been a member I should have had the bother of going all that distance (120 miles), to say nothing of the expense and time taken, the cost of which would have been more than double my subscription. My case is one of many which the A.A. takes up, very often far more expensive to it than mine was, yet it does it for the same annual subscription. This instance is only one of many of the benefits I have gained, to say nothing of the benefits the motoring public receive in general.

A GRATEFUL MEMBER OF THE A.A.

Haywards Heath.

CARRIER DESIGN.

Sir,—The observer of the various whims of motor trade designers is struck by the peculiar stagnation of carrier design on motor cycles. The chief reason apparent for the present universal carrier is a desire to square off the end of the machine and to carry the number plate.

Unfortunately this square end of the machine is mistaken for a luggage carrier and used as such, the luggage in most cases being a human being. The manufacturer shrugs his shoulders, and declines to take any responsibility.

But now we have a leading saddle manufacturer fixing his springs to this inadequate square end, which has to carry the rider's weight and very often another rider as pillion.

It is now up to the manufacturer to build his carriers suitable for carrying two people, or to warn his customers that his carriers are not strong enough for the practice.

G. A. DOWNE.

DYNAMO LIGHTING ON A MORGAN.

Sir,—As a constant reader of your excellent paper, I noticed a few weeks back some photographs of Morgans fitted with dynamo lighting.

I have fitted my Aero model with a P. and H. dynamo lighting set, fitting the dynamo on a small platform on the front axle and taking the drive from the flywheel. It has proved extremely satisfactory, and on several occasions I have driven the machine all night, having full lights on for seven or eight hours, with no trouble whatever. I enclose a photograph of the machine showing lighting set, as I thought some of your readers might be thinking of fitting electric lighting, and the arrangement I have on my Morgan might prove useful.

How a dynamo lighting set may be neatly fitted to a Morgan is described in the letter of Mr. J. Barker. The dynamo is mounted on the front axle.

J. BARKER.

TEN THOUSAND MILES BEFORE DECARBONISING.

Sir,—As you will doubtless remember, you published in the year 1914 a short account I sent you with regard to running costs of a 2¼ h.p. New Hudson two-stroke two-speed model.

As the present demand is even more for economy in running costs, I thought the following particulars would be of general interest to your large number of readers, being my experience with a Douglas 4 h.p. combination purchased last January in Birmingham, and since used daily and done over 10,000 miles in the extension of my business between Bristol and Penzance.

I am more than pleased to be able to state I have never had a mechanical stop during this period, and now, after ten months' continual use, the total cost of necessary repairs is under £2.

You will notice by the photographs the amount of carbon deposit on the piston head is not excessive. The condition of the valve stems, valve seatings, and the engine generally is excellent, having in view the fact that the machine has been out in all weathers and never taken down for cleaning until a few days ago.

When I first checked my petrol consumption I was doing 55 m.p.g., but in March last I altered the petrol level and changed the 28 jet for a 24, which brought my average consumption up to 65 m.p.g. for town work and 70 m.p.g. on long distance runs. Of course, I spent some little time before finally obtaining this improved mileage, but the setting of the carburetter now gives me uniform results, and I have always used one brand of motor spirit, namely, Carburine.

One can hardly recommend the practice of running 10,000 miles without decarbonising; but, except for a very slight loss of power in the last 1,000 miles, I found no other ill-effects, which speaks well for the lubricating system and Filtrate air-cooled oil, of which I have always used a plentiful amount, but feel that it was true economy having regard to the excellent running and the small repair bill.

I only wish that I had some interest in the Douglas firm other than being, as I am, a very satisfied private owner.

E. VICTOR ABEL.

[Regarding the photographs (which, unfortunately, would not reproduce with sufficient clearness), we fully bear out our correspondent's statements that the carbon deposit shown is very slight indeed considering the mileage.—ED.]

SPEED WOBBLE.

Sir,—As a constant reader of your interesting paper for the last five years, I should like to claim a little space to express my views regarding speed wobble.

I may say that I am an experienced rider, and have done a lot of motor cycle racing in this country, but I cannot understand why a number of your correspondents "spill" as soon as they get a bit of a wobble on. I have had wobbles at all speeds up to and over 80 m.p.h., but have never had any difficulty in overcoming them. Here in New Zealand all the racing is done on unbanked grass racecourses laid down for horse racing, and, although one or two of them are fairly smooth, the majority are so rough that the front wheels of the faster machines lift from anything from a foot to eighteen inches off the ground at the worst bumps. When they come to earth again "speed wobble" is generally the rule, but for all that I have never seen a rider spill from that cause.

That speeds of 60-70 m.p.h. are impossible off the track, as stated by your correspondents, appears to me to be utterly ridiculous. On the road I have done 65-70 m.p.h. with both Indian and Harley-Davidson, both in really good running order, but neither specially tuned; and I have turned up 78 m.p.h. (timed and speedometer) with a well-tuned four-cylinder Henderson, also on the road. This machine would do over 70 m.p.h. before it was tuned up. Contrary to what I have said in the last paragraph, I have never had a sign of a speed wobble on the road, and have seen a boy seventeen years of age riding an Indian over a smooth piece of road at over 60 m.p.h. with his hands in his pockets.

Perhaps some of your readers will be interested in the speeds that are put up in New Zealand on the unbanked grass courses. Some of them are: Flying mile, 49⅗s., equal to a speed of nearly 73 m.p.h.; fifteen miles (standing start), 13m., or an average speed of 69 m.p.h. These times were put up by P. Coleman on an eight-valve Indian on the Takapuna Racecourse at Auckland, which is the best in New Zealand for motor cycle racing. The mile record for singles is 57s., done by a four-valve 3½ h.p. Indian.

Cambridge, N.Z. N. R. SOUTER.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle*.

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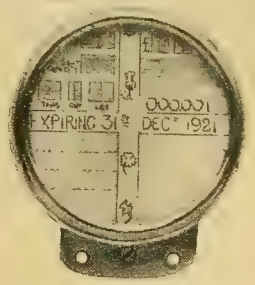
Holders for Next Year's Licence Cards.

Many Examples of an Accessory brought into being by the New Licensing System.

A neat aluminium holder for the sidecar body by the Taw Co.

Rotherham's holder, which is affixed to the handle-bar at its centre.



One of the neatest of the new holders, the Carlton, which sells at a low price.

A clean exterior characterises the Dunhill holder.

The Taw Co.'s brass holder, for the handle-bar.

IT is only to be expected that the accessory makers are now busily engaged in working out their ideas for carrying the new licence card which will be necessary on and after January 1st, 1921.

The first firm to submit their samples to us—and they deserve to be congratulated on their enterprise—was Messrs. A. W. Gamage, Ltd., Holborn, London, E.C.1, who sent two holders, one of which might be attached to the panel of the sidecar body, while the other could clip on to one of the front fork members or on to the handle-bar. These holders were well finished, and made strictly to Government specification.

Another idea has been carried out by the Brookes Manufacturing Co., Ltd., Stud Works, Aston, Birmingham. This consists of a licence holder made in one with the steel front number plate—an idea which is very ingeniously carried out. A similar device was also shown which is suitable for attachment to any other part of the machine.

The combined number plate and holder idea seems quite good, and the Atlas Engineering Co., of Hill Street, Coventry, who specialise in cast aluminium number plates, are embodying a holder cast with their front plates, which makes an exceedingly neat job. Other patterns by this firm, intended for handle-bar position and sidecar panels, are also offered in cast aluminium.

Messrs. R. Cadisch and Sons, Ltd., 171, Great Portland Street, London, W.1, produce two types of holders, one provided with a clip to fit on the handle-bars, and the other with a bracket attachment. These models have a very pleasing appearance, and, provided with a waterproof washer, fulfil the Government requirements.

The Service Co., Ltd., 289, High Holborn, London, W.C.2, market both a square and a round licence holder. The former is provided with a rubber washer and a metal back-plate. It is proposed to fit a clip attachment as well as bracket.

Combined holder and front number-plate produced by the Brookes Manufacturing Co., and an alternative pattern for fixing to existing number-plates.

The circular model is well finished, and will be fitted with similar clips to those of the square model.

Perhaps one of the neatest of the holders so far submitted to us is the Carlton, marketed by Spencer Bros., of Priory Street, Coventry. It has fewer nuts and bolts than the majority, and, having no flanges, is smaller in over-all diameter. Embodying a rubber packing ring, and having the back plate well inside the rim of the circular front, it is perfectly waterproof. Further, its price is lower than the majority, and is sold at 2s. 9d. with clips, or 2s. 6d. without, plus 6d. postage.

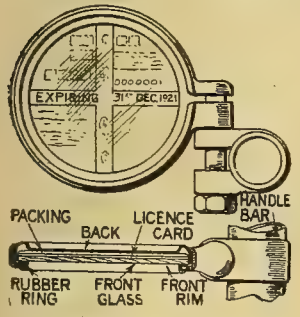
The lightest holder we have yet seen is the product of the Taw Manufacturing Co., Campsbourne Works, High Street, Hornsey, N.8. It is made of aluminium and weighs but 2 oz. and sells at 4s. A similar holder is also made in brass, and either may be obtained with a clip fitting for 5s.

Dunhills, of 359-361, Euston Road, N.W.1, have also produced a very cleanly designed holder, which uses only three small bolts to hold it together. It has a very smooth exterior, and the back plate is well recessed into the rounded flange. An alternative to the one illustrated has a handle-bar clip, and is sold at 8s.

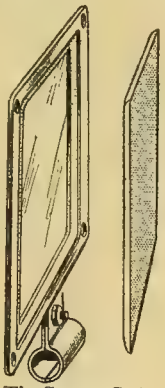
Another well-made licence holder is made by Rotherhams, of Coventry; while Stanley and Hill, Ltd., Birmingham, the makers of the well-known Motex lamps, are also producing holders for both motor cycles and sidecars, as are Tuck and Blakemore, Ltd., of Coventry.

F.R.S. Lamps is still another firm which has not been slow to take advantage of the compulsory demand for this new accessory. In this case the makers have reduced the total number of bolts to one. The price is 5s.

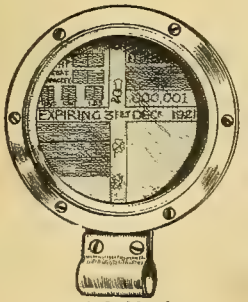
Among other firms marketing licence card holders may be mentioned Messrs. S. Smith and Sons, Ltd., 179, Great Portland Street, W.1.; A. J. Dew and Co., 21, Endell Street, W.C.2; the British Sheet Metal Co., Ltd., 24, Finsbury Square, E.C.2; Wright and Sons, Edgware, Middlesex; and W. Brandish and Sons, Foleshill Road, Coventry.



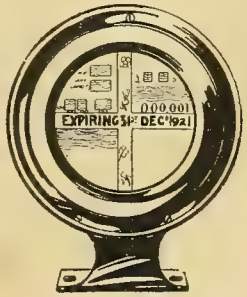
A holder with a "one nut" fixing offered by "F.R.S. Lamps." Below, a sectional plan view shows how it is constructed.



The Service Co.'s square holder



Gamage's holder for the handle-bar.



Cadisch's holder.

Cast with the aluminium front number-plate; a specialty of the Atlas Engineering Co.

CURRENT HAT

Times to Light Lamps.

Dec. 16th	... ...	4.20 p.m.
,, 18th	... ...	4.20 ,,
,, 20th	... ...	4.21 ,,
,, 22nd	... ...	4.21 ,,

Next Year's Outputs.

From many quarters we hear that next year's outputs were sold at the recent Show.

More Daylight.

Although actually December 21st is the shortest day, evenings are already drawing out. Lighting-up time to-day is one minute *later* than yesterday.

The Sporting Solo Mount.

The sporting solo "mediumweight" is coming into its own. An article on the new machines of this type appears on page 808.

"It's an Ill Wind."

The only people who bless the new "carry your licence where it can be seen" regulation are the accessory makers. Some of them are very enthusiastic!

Electric Lighting Everywhere.

With more than half the machines at the Olympia Show equipped with electric lighting outfits, chiefly combined with the ignition systems, it is safe to predict that few of the London-Exeter competitors will trust to acetylene.

Imports and Exports for November.

The Board of Trade returns of foreign motor cycles and parts imported during November show a decided decrease both in numbers and value over the corresponding figures for October. The actual figures with comparative amounts for two previous years are:

IMPORTS.

	Nov., 1913.	Nov., 1919.	Nov., 1920.
No. of motor cycles ...	61	154	148
Value of machine and parts	£9,148	£14,051	£20,491

Compared with last month there is a fall in the number of British motor cycles exported during November; but it will be noted that the total figures are well over double those of the corresponding month last year. The B.O.T. figures are as follows:

BRITISH EXPORTS.

	Nov., 1913.	Nov., 1919.	Nov., 1920.
No. of motor cycle	1,427	838	1,869
Value of motor cycle only	£64,373	£60,868	£156,405
Value of part and accessorie	£10,990	£30,757	£83,284
Total value ...	£83,363	£91,625	£249,689

Hints for the London-Exeter.

As the entry for the M.C.C. London-Exeter-London run on December 27th and 28th is a very large one, it is more than ever necessary to ensure that the event is carried out without giving offence to the general public. Riders should endeavour to make sure that their machines are efficiently silenced, since a long string of competitors in the middle of the night is apt to give annoyance to residents along the route. The captain of the M.C.C. (Mr. W. H. Wells) points out that overalls and wet motor clothing must be removed before entering the official hotels.

Buy Now.

From now till about the end of February there will be an unexampled opportunity of buying second-hand machines at extremely low figures. Several factors contribute to this state of affairs. The usual slackness at this time of the year, of course, is partly responsible, but even more so is the new taxation scheme. It cannot be too strongly emphasised that it is to the advantage both of the buyer and of the seller to carry through such transactions now, and thus to avoid the necessity of paying a greatly increased tax twice over. Later on, next year, owners who have paid the tax on mounts they then desire to sell will be compelled to increase their prices by corresponding figures.

Special Features.

THE SPORTING SOLO MOUNT.

CAR PRACTICE AND MOTOR CYCLE DESIGN.

THE IDEAL MINIATURE.

Licence Card Holders.

Elsewhere in this issue will be found particulars and illustrations of many of the new licence card holders.

A Month's Grace.

The new tax on motor cycles used any time during January next must be paid before the 31st of that month.

To be a Solo Trial.

Arrangements for the proposed motor cycle fox hunt in the Cudham district are in the hands of Mr. T. J. Ross, captain of the Woolwich Club, 6, High Road, Lee, S.E. He states it will be a solo trial.

Where are the Progressive Cities?

An enormous potential demand for sidecar taxicabs was revealed at the Show, but the business cannot be developed pending the issue of hackney carriage licences. Surely some go-ahead city will rise to the occasion and give a lead. An article dealing exhaustively with all phases of the subject will appear in our pages in the near future.

A FAMILY OF PRACTICAL RIDERS. The producer of Ivy motor cycles, Mr. S. A. Newman (second from left), with his four sons. Howard C. (third from left) is the designer of the Martinsyde-Newman engine, while Percy (fourth from left is responsible for the 3 h.p. Ivy two-stroke. All are mounted on Ivy machines.

Cars at the Brussels Show.

To-morrow's issue of *The Autocar* contains a fully illustrated description of the new car exhibits at the Brussels Show.

English as a Medium.

At the Brussels Salon last week it was amusing to listen to a certain conversation in English between a Belgian, who knew no Dutch, who was explaining the advantages and points of the A.J.S. to a Dutchman who had no French.

Midland Centre A.C.U.

The Midland Centre A.C.U. will organise the 1921 open events for which permits have been granted to the Birmingham and district clubs. This was decided at the meeting of club delegates which was held at Wolverhampton last Saturday. The decision means that individual clubs or groups of clubs will no longer run their big events in their own name, but that a trials committee, consisting of the secretary and trials secretary of each of the affiliated clubs, will jointly organise the open events in the name of the centre. At a previous meeting it had been decided to divide the Midland area into sections according to the number of permits granted to the centre, and that the clubs in the different sections would co-operate in organising the trials. If the whole of England eventually comes under the centre system and these local branches follow the lead given by the Midland Centre, then all open trials in the future will be A.C.U. events, and will be automatically distinct from the club trial.

The M.C.C. Annual Dinner.

On Friday last, December 10th, the Motor Cycling Club held its fourteenth annual dinner at the Wharncliffe Rooms, Hotel Great Central, London.

In the absence of the chairman, Lt.-Col. Charles Jarrott, O.B.E., Mr. R. Head took the chair. A large number of members and guests were present, and, at the conclusion of an excellent dinner, the chairman distributed a number of awards which had been gained by members of the club during the year.

The recipients of the primary awards of the London to Land's End Run were as follows: The Jarrott Cup, T. S. Sharratt; the Pettyt Cup (for sidecar machines), W. H. Elce; the Lester Cup (for light cars), W. B. Gibb.

The winners of the cups awarded for the events run off at Brooklands were: The Harry Smith Cup, Kaye Don; the Wells Cup, J. A. Masters; the Seed Cup, R. C. Empson; the Albert Brown Cup, B. S. Marshall; the O. C. Godfrey Cup, S. E. Garrett.

The Motor Cycle Cup, awarded to the winning team in the Inter-club Team Trial, was handed to representatives of the Leicester and District M.C.C.

No speeches were made. The Chairman, however, when expressing his appreciation, was glad to announce that the membership of the club now exceeded 1,000, and that a record entry of 230 had been received for the London-Exeter Run on Boxing Day.

A most entertaining musical programme followed, but it is doubtful whether the "no speeches" experiment will be repeated, as the evening did not seem complete without them.

Sidecar Taxi for Birmingham.

A hackney carriage licence was issued in Birmingham last week for a taxi-sidecar, which is now plying for hire on the streets of that city.

Wintry Weather.

Last week-end saw the whole country frost and snow bound. Nevertheless, many hardy riders were seen on the roads and one or two club runs were held.

Motor Sleighing.

The query has recently been raised as to the advantage that is claimed for the American idea of substituting skids or runners for the front or sidecar wheels for snow riding. A cynic of our acquaintance remarks that he has found rubber tyres possess remarkable skidding propensities.

The New Enfield Engine.

There seems to be some misapprehension regarding the engine fitted to the 1921 8 h.p. Enfield outfit. The fact that it is made by Messrs. Vickers caused it to be confused with proprietary engines available to the trade generally. The unit is essentially of Enfield design, and is made exclusively for the Enfield Co.

Licence Card Holders.

Following upon our outline of the new licensing regulations, published in *The Motor Cycle* of November 25th, last week's issue contained (page 764) full details with suggestions of how and where to fit the new licence card in order to comply with legal requirements. This week we are able to describe a batch of holders specially designed for use on motor cycles. Motor cyclists should realise that penalties may be inflicted for any breach of the regulations, and, in order to prevent misunderstandings, we shall be glad to answer any questions with regard to points in the new taxation not clear to readers, through out queries department.

Monday's Lucky Postbag.

For four weeks Maudes' Motor Mart are offering a new Autoped scooter as a prize to a customer whose order is opened first each Monday morning. Even the purchaser of a 1s. 9d. plug is eligible.

The F.I.C.M.

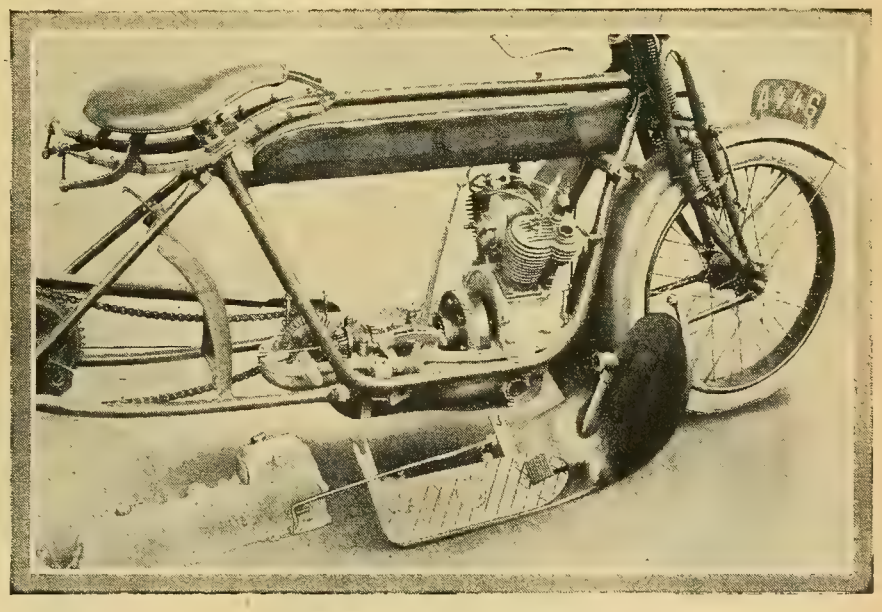
The next meeting of the Federation of International Motor Cycle Clubs will be held at the Belgian Royal Automobile Club on Monday, January 20th. The business to be discussed will be important and interesting, since it will largely deal with the question of rules governing international records. These rules, when passed and confirmed at the meeting, will come into force as from January 1st.

The Necessity for Insurance.

We are afraid we cannot agree with that optimist who smilingly declares that he will pay the £4 taxation on his sidecar outfit instead of insuring his machine next year. Admittedly motor thefts will be very difficult under the new registration scheme, but only time may prove that they are impossible, and, anyhow, insurance covers more contingencies than theft.

A Corsican Grand Prix.

We understand that the Automobile Club of Nice is organising a motor cycle race in Corsica on April 2nd to 6th next. Corsica is a delightful island possessing fairly good roads of the mountain variety, with numerous corners, and fairly steep gradients, so it may be anticipated that an accentuated T.T. course will be chosen. The race will be for two classes of machines, those of under 350 c.c. and from 351 c.c. to 500 c.c. The competition will be run under international rules and the rules of the Union Motocycliste de France. Entries cost 400 fr. per machine, and will close at ordinary fees on February 25th. Numerous prizes will be offered. On Wednesday, April 6th, there gold medals.

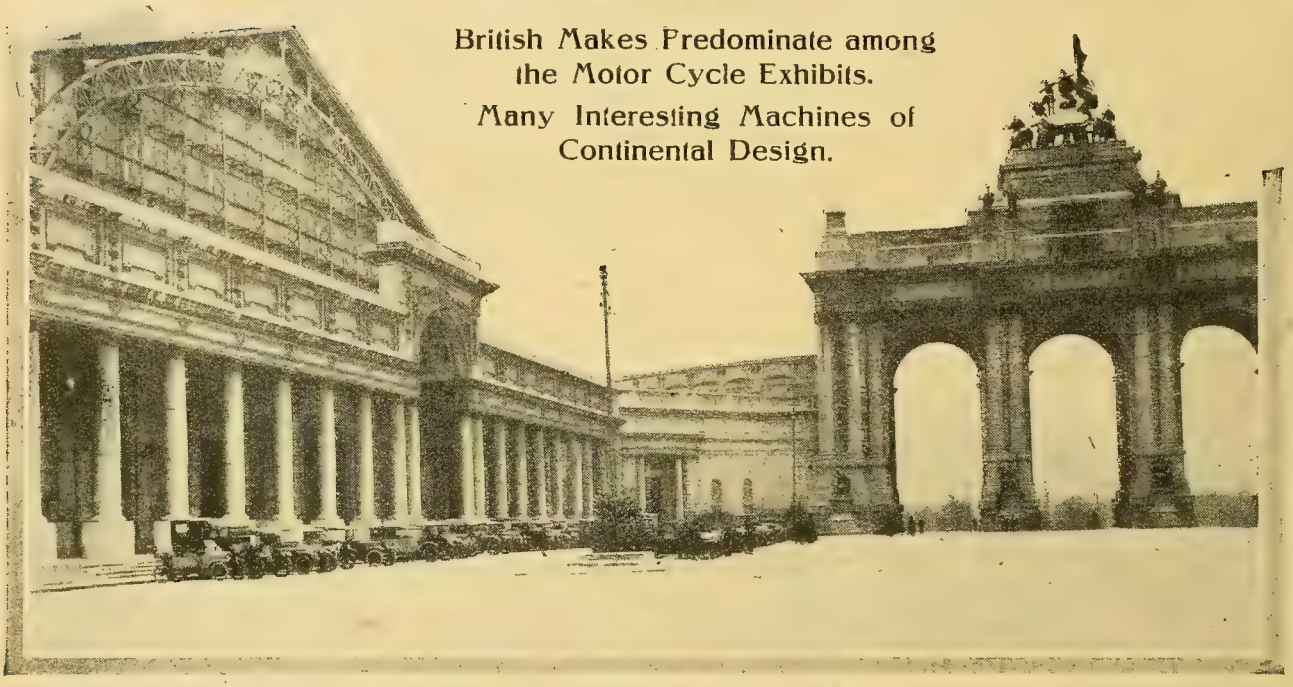


AT THE BRUSSELS SHOW.
Gear-box cover removed from the unconventional S. Spring; observe the toothed ring used to circulate the lubricating oil.

THE BRUSSELS SHOW.

British Makes Predominate among the Motor Cycle Exhibits.

Many Interesting Machines of Continental Design.

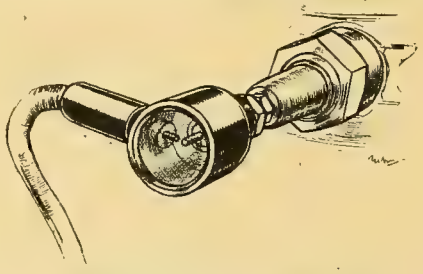


NO fewer than twenty-four makes of British motor cycles are exhibited at the Brussels Show, which opened on Friday last. This number is more than all the representatives of other countries put together. Of the balance, three are Belgian, seven French, seven American, and one Swiss, making a total of forty-two. In addition, many British makes of sidecars are exhibited, like the motor cycles, by the Continental agents of the firms concerned.

The Brussels Automobile Show is held in a handsome building known as the Palais Cinquantenaire, which stands high up in the city, and is approached by a wide street. During the German occupation it was used as a motor vehicle repair depot, and the damage done has only recently been repaired.

Pioneers.

Belgium has been associated with the motor cycle from the earliest period in its history, and motor cyclists owe this brave little country a great deal, as its early productions had a very distinct effect upon design generally, and helped to accelerate the evolution of the modern British mount. It must not be forgotten that the first motor cycle engine produced in quantities, and equipped with mechanically-operated inlet valves, was the Minerva, hailing from Antwerp, which appeared in England in 1902.



A novelty on the D.F.R. two-stroke—a visible spark gap.

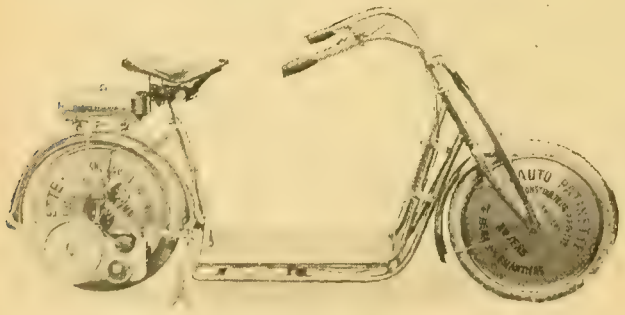
At the present time there are two distinct schools of thought among Belgian motor cycle manufacturers. There are those who have slavishly followed English ideas and those who struck out on original lines.

One of these latter is the Société Anonyme Ateliers Spring Streupaz-lez-Liège. Reference was made in *The Motor Cycle* to this interesting and original mount some eighteen months ago, since which date it has been modified slightly

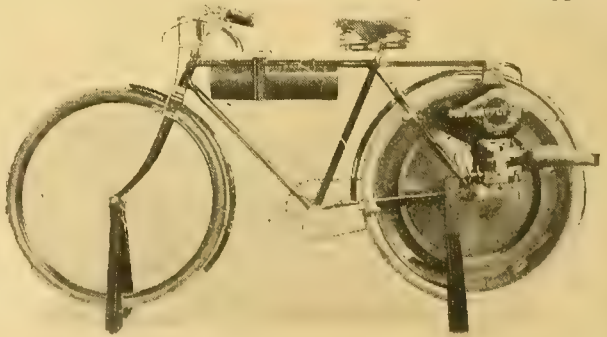
The Spring Motor Cycle.

The Spring is made in two twin-cylinder models—the 3½-4 h.p., 65×75 mm. (500 c.c.), and the 6 h.p., 72×92 mm. (750 c.c.). Perhaps the chief feature of the design is the position of the V twin engine, placed transversely in the front end of the duplex frame. The cylinders are set at 50°, and have side-by-side valves facing forwards. Inlet and exhaust pipes in each cylinder are held in place by a single central bolt and bridge piece, a simple and effective method, which makes for security and yet is easily dismountable.

The lubrication system is by splash, but is ingeniously arranged. Since the crank and gear box are in a single unit, the flywheel has its own compartment, at the base of which there is oil up to a certain level. To facilitate the distribution of the lubricant, the flywheel is supplied



An Auto-wheel is the propellant of this Auto-patinette



Motor-fly attachment with its cylinder below the crank case.

The Brussels Show.—

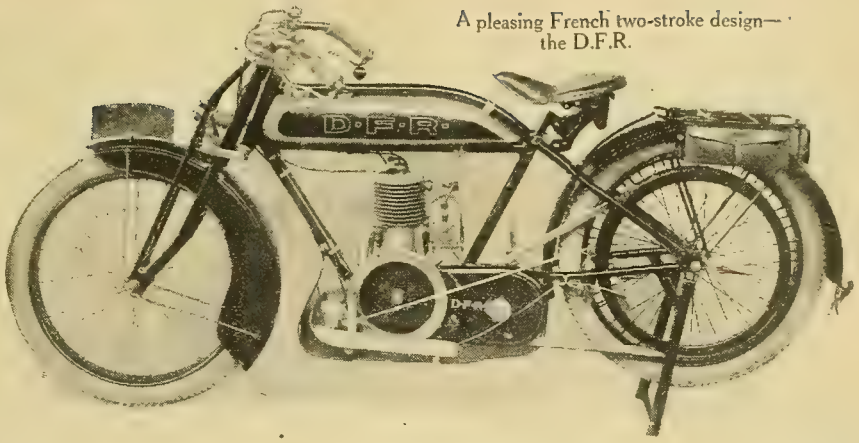
with a toothed ring similar to that fitted to cars when an electric starter is fitted. By this means the oil is flung into troughs which, sloping forward, feed it into a space beneath the crank into which the connecting rods dip. A neat oil gauge is provided, and is placed conspicuously on the crank case. In the 750 c.c. model there is an ingenious spring coupling between the flywheel and gearshaft, all shocks to the chain and transmission being absorbed by the laminated springs against which the coupling dogs abut. Behind the flywheel is the three-speed gear box of the ordinary sliding gear variety, while the final drive is by bevel and chain to the rear wheel. There is a further bevel at the end of the gearshaft, with which the kick-starter quadrant engages. On one model a spring frame is shown, of which the rear forks and chain stays are hinged to the top and bottom of the duplex saddle tube. The joint to the top is through a link, the upper end of which is attached to a bracket under the saddle connected to an attachment on the top tube by a pair of coil springs, while a corresponding pair of springs are fixed from the same point to a fork arrangement at the rear of the saddle. The system is so arranged that the springing of the saddle and of the frame are interconnected, and the saddle is capable of movement without altering its distance from the ground.

Detail Fittings.

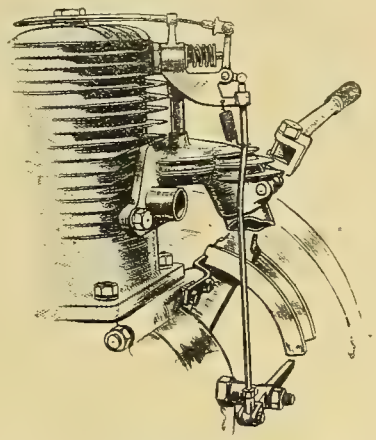
Being provided with knock-out spindles, both wheels are easily detachable. Both the front mudguard extension and the rear half of the back guard are detachable, so that either tyre is readily accessible, while with the rear guard are combined a spacious tool box and luggage carrier, and in the case of the 750 c.c. machine the rear stand is of channel steel. Each footboard is provided with a mudshield, in which is a slit set at such an angle as to deflect the air on to the adjacent cylinder, while under each is a separate silencer provided with a separate foot-operated cut-out.

F.N. Exhibits.

The other Belgian made motor cycle which struck out on original lines kept and improved upon them year by year is our old friend the F.N. The examples shown in the Salon are the same as those which were on view in Olympia. The four-cylinder model is equipped with an F.N. sidecar of handsome design, with the sidecar wheel enclosed by vertical and horizontal forks. The wheel spindle is mounted on tubes telescoping into the vertical forks, and abutting against enclosed coil springs. A luggage carrier was also fitted.



A pleasing French two-stroke design—the D.F.R.



The kick-starter and decompressor of the Gillet are interconnected.

A French Two-stroke.

Among the two-strokes may be mentioned the D.F.R., a French machine made at Neuilly-sur-Seine, and shown by MM. Berry Frères, 72, Boulevard d'Avroy, Liège. The engine is the well-finished Train 76×76 mm. two-stroke. In general design it follows British practice, having chain-cum-belt drive, Burman two-speed gear box, Saxon forks (made under licence) and petroil lubrication. One interesting feature was the visible spark gap embodied in the high-tension terminal.

The machine is shown in two forms, as a sporting and as a touring mount, and in the latter form it has an excellent undershield which protects the chain and other working parts. The Train water-cooled two-stroke engine and an air-cooled twin-cylinder of 6 h.p. were also shown by this firm. The latter follows standard lines, but is chiefly conspicuous for its excellent finish.

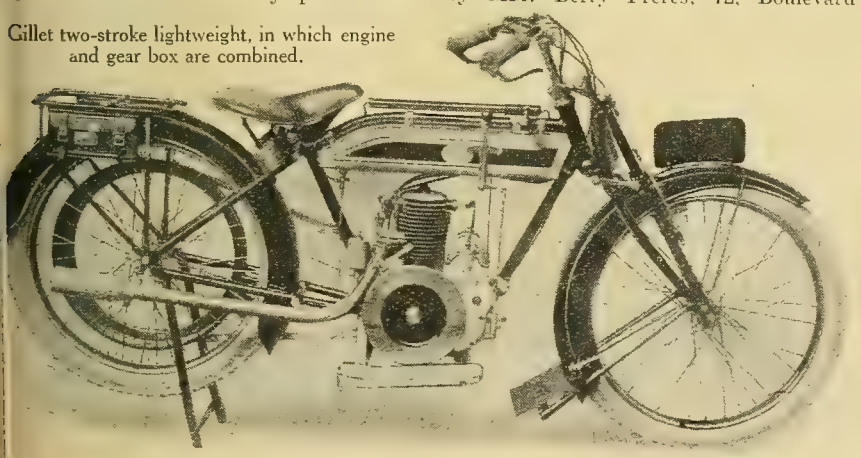
Gillet Two-stroke.

Probably the most interesting two-stroke in the Salon is the Gillet, made by the Société Anonyme des Ateliers Gillet, 546, Rue Hayeneux, Herstal. The three-port engine follows a tendency which is becoming increasingly popular, in that it forms a unit construction with the gear box. Simplicity is the keynote of the design, and altogether only five pinions serve for the two-speed gear (which is of the plain dog clutch variety), the magneto drive, and the kick-starter mechanism, also enclosed in the unit. The kick-starter arm is behind the flywheel, and has a folding pedal, which, when extended, projects clear of the flywheel rim. The piston is heavily drilled to reduce its weight and assist lubrication, while rollers are employed for the big end and the main shaft, which has three ball bearings. Ball bearings are also employed for the gearshafts.

Since the necessary reduction is effected through the gears a good size pulley can be employed, and incorporated with this is the clutch containing four Ferodo discs.

The whole design shows careful thought. The exhaust union is well ribbed so as to assist cooling, and for the same reason the sparking plug faces forwards.

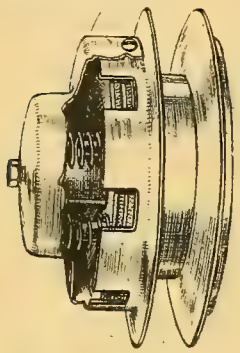
Gillet two-stroke lightweight, in which engine and gear box are combined.



Scooters.

Among the miniature motor cycles there were only two scooters; of these one was the British made Whippet shown by M. Feyens, and the Auto-patinette, consisting of an Auto-wheel mounted in a duplex frame, with disc wheels, shown by B. and B. Motors. There were also two genuine miniature motor cycles, our old

The Brussels Show.—



Gillet combined plate-clutch and pulley.

friend, the J.E.S., shown by M. Aronstein, and the French made Motor-fly.

This latter is quite an original form of attachment. The power plant is a two-stroke engine which is inverted so that the crank case is supported by a bracket extending from the saddle pin of the bicycle, while the cylinder head forms a lug which is connected to the rear wheel spindle. Flywheel and magneto are entirely enclosed, the latter being chain driven. The rear cycle wheel is of the disc variety, and has a leather-covered rim attached to it, to which the drive is conveyed through a flat surfaced pulley on the side of the crank case opposite the flywheel. Pressure by this pulley on the driving rim is exerted by a spring, and means are provided of obtaining "neutral" by pulling against this spring through a control lever on the handle-bar. The engine is controlled by the throttle lever only. The outfit includes a tank fitted with a large filler cap.

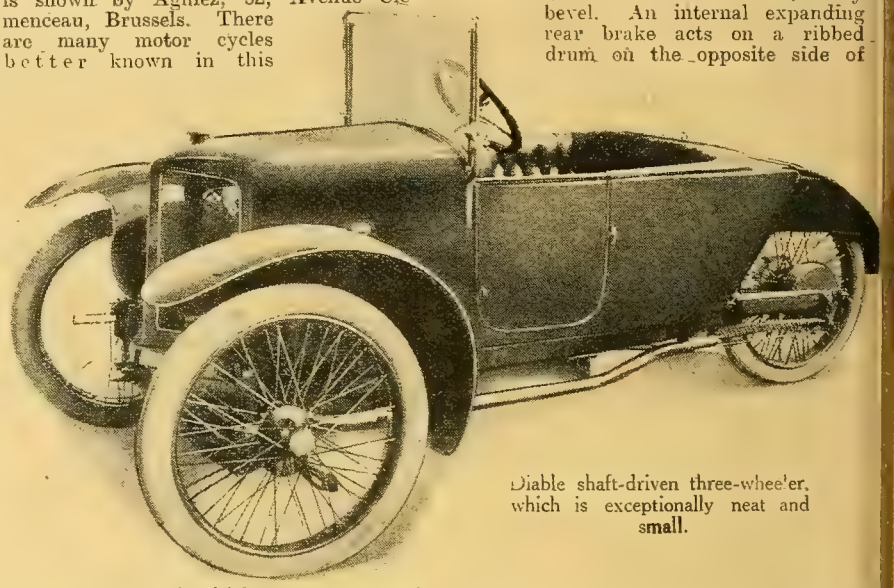
The Sarolea.

Among the Belgian machines to the makers of which England is without doubt in debt owing to their lead in the industry in 1902, mention must be made of the Sarolea made by La Maison Sarolea, Herstal, Liège. The firm started at the very beginning of the movement as manufacturers of engines, and many excellent examples of their products were in use in this country on machines of well-known make.

The modern Sarolea motor cycle is a worthy descendant of such an ancestry. As regards its design, nothing much can be said, except that it has followed a good lead, and has followed it well. The 4 h.p. Sarolea has a single-cylinder engine (85×97 mm.), the best English fittings, and is altogether English in design and equipment, particular attention being paid to comfort and convenience. A totally new model is fitted with all-chain drive, Sturmey-Archer three-speed gear box, and an engine provided with a detachable cylinder head, which, we are told, is not only a convenience for decarbonising, but it has a tendency to keep cooler than the one-piece cylinder casting.

A three-speed gear of the Enfield type is a feature of the Motosacoche—this is the operating lever.

Reference to those motor cycles having more or less unorthodox features is not complete without including the Blériot, an interesting machine with two-cylinder vertical unit engine and gear box which made its *début* at the 1919 Paris Salon. The Blériot sidecar body is shaped like a submarine's hull, and it is interesting to observe that this design is even retained in the tradesman's carrier. It is shown by Aguiez, 92, Avenue Clemenceau, Brussels. There are many motor cycles better known in this country, some of which are represented by agencies in Belgium, and others by their own depots. Of the latter we may mention the Henderson, Douglas, B.S.A., and Harley-Davidson firms.



Diable shaft-driven three-wheeler, which is exceptionally neat and small.

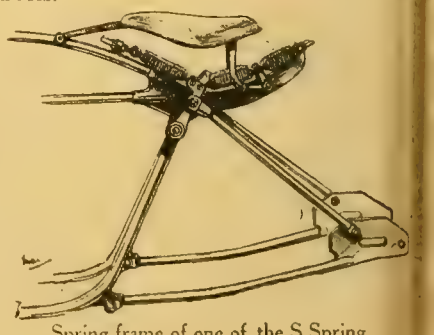
Many other British makes are shown by local representatives, some of whom exhibit several machines. The Ace, the third four-cylinder in the exhibition, is shown by Van Heurck et Cie., 15, Champ Vleminck, Antwerp. The Indian is exhibited by the Indian Import Co., 6, Rue Ledeganok, Antwerp. MM. Berry Frères, 72, Boulvard d'Avroy, Liège, show P. and M. machines as well as Indians. Noterman, 201, Rue Royal, Brussels, Humber, Omega, and Enfield. F. Depuy, 1-3, Chaussée de Bruges, Brussels, King-Dick, Abingdon, and a Sun-Vitesse. Feyens is also showing a 3½ h.p. M.A.G. (Motosacoche) equipped with handle starting and a three-speed Enfield type gear (which has three engine chains), a spring seat-pillar, and an all-metal tool-bag, also a Clyno two-stroke, Royal Ruby, Olympic, Ivy, and Martinsyde. Aronstein is also showing the Cleveland and Sunbeam. Oscar Guillot various types of James machines. Motos Verus et L.M.C., 92, Avenue Louise, Brussels, several examples of these makes. Reinartz, 36, Rue de la Sauvenière, Liège, Reading Standard. R. S. Stokvis et Fils, 141, Rue Royal, Brussels, Rover. B. and B. Motors a 4 h.p. Blackburne. Hobson, Belgium, several Matchless sidecar outfits. There were also two Triumphs—the 4 h.p. and the Junior—the American Excelsior and Ariel.

A Belgian Three-wheeler.

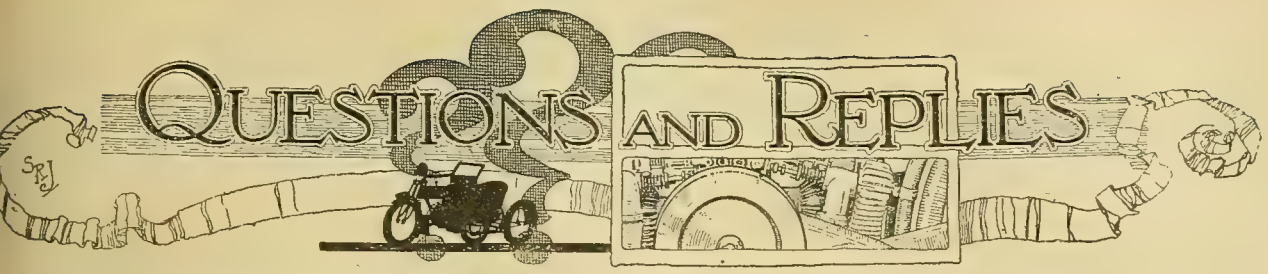
Among the cycle cars may be mentioned the Diable three-wheeler, in which are incorporated several features of modern design. So far as general arrangement is concerned, the usual three-wheeler practice is followed, but the unit system is employed; the crank case arms form part of the unit, and serve to attach the engine to the frame, while the gear box has three speeds and the reverse.

From the gear box to the rear wheel the drive is through an enclosed propeller-shaft with a universal joint at the forward end, while the final drive is by bevel. An internal expanding rear brake acts on a ribbed drum on the opposite side of the wheel to the bevel. It is exhibited by Altero-cycle Pilotier, 45, Avenue Jean Volders, Brussels.

There is one four-wheeler which is worthy of mention as being of interest to motor cyclists, and that is the tiny 8 h.p. four-cylinder Peugeot, which may one day prove a competitor to the motor cycle and sidecar. It has a small four-cylinder engine, with inlet and exhaust valves under a single valve cap on each cylinder. The cooling is by thermo-syphon, and the steering gear box is close up against the radiator, so as to accommodate the steering column, which approaches the horizontal, and goes straight through the dash, running over and well clear of the engine. The frame is of a single channel steel pressing, forming the floorboards of the body. The drive from the clutch is by propeller-shaft to the worm-driven rear axle, the two-speed and reverse gear box forming part of the axle casing. The chassis is suspended on a transverse spring in front and quarter-elliptic springs at the rear. It is exhibited by Automobiles Peugeot, Paris.



Spring frame of one of the S Spring machines.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Ignition Timing.

(1.) My machine is an 8 h.p. twin Chater-Lea 1912-14. Should the spark occur at the dead centre when fully retarded? (2.) If not, how much before dead centre hould it occur?—R.F.G.

) The spark should occur at the top id centre when the magneto control is o-thirds retarded. (2.) Nothing is to gained by timing the magneto in rance of this, provided the magneto has riable ignition.

Position of Sidecar Wheel.

As I am very suspicious of the alignment of my outfit, I would like to know the correct method to adopt to get the sidecar wheel exactly opposite the back wheel of the motor cycle.—A.L.

the axle connection of your sidecar s in the usual way on the stay of the otor cycle, it would appear that the ly means to bring the sidecar axle direct line with the back wheel axle to use a cranked member for the achment at the stay. Some sidecars ve such a connection, but if you conplate altering your existing sidecar should not be a very expensive matter.

Neutral Position of Gear.

I have just purchased a 2¾ h.p. two-stroke motor cycle (Villiers engine), and it is fitted with an Albion two-speed gear (high, low, and neutral). I am not experiencing any trouble, but what I want to know is whether I am right, when the engine is running in neutral position, to put the gear gently into low speed in order to start the cycle moving, and then next into high gear. If neutral position is not for this purpose, what is the advantage of having it? I have, of course, tried the above, but the machine moves off with some difficulty.—W.W.

is not desirable to engage either top low speed when the engine is running th the gear in a neutral position, unss some "way" is got on the machine fore engagement is made. It would rtainly do harm to place the gear in v speed position slowly, as you appear have done, as the gear box is of the g clutch type, and the gear is either or out. Consequently a start from standstill cannot properly be made means of engaging the gears. A utral position in a plain two-speed x is merely incidental, and cannot be de much use of at any time.

Designing a Twin Two-stroke.

I am designing a flat twin two-stroke engine to have a firing stroke each half revolution of the crankshaft. This will put both cranks on the same plane, and I am a bit puzzled as to how I shall balance it to overcome vibration, so will you please give me some idea to work on?—J.H.R.

You will find it very difficult to balance satisfactorily the engine which you describe, as the weight of the reciprocating masses is very high. It would be much better to make an engine with side-by-side cylinders and cranks set at 180°, when the balance (with the exception of a horizontal couple) is almost perfect. The firing intervals, of course, would be those which you require.

IMPORTANT DATES.

Dec. 10th-19th—
Brussels Show.

Dec 27th-28th—
M.C.C. London-Exeter Run.

Jan. 28th to Feb. 5th, 1921—
Scottish Motor Exhibition, Kelvin Hall, Glasgow.

Loss of Compression.

(1.) My two-stroke engine has started to lose power especially on hills, and also takes considerable time to pick up speed on the level. (2.) I have fitted a new piston ring at the top of the piston, thinking this would remedy the above, but without satisfactory results, excepting when the engine is cold, then there is an improvement, but on getting warm the power falls off. (3.) Please state the correct way to grind in piston rings.—F.G.F.

(1.) The trouble is probably due to leakage of compression; this may be due to worn main bearings, worn piston or piston rings, or to defective joints between the cylinder and crank case, or between the two halves of the crank case. (2.) If the piston is much worn, a new ring will not improve matters very much. (3.) It is not advisable to grind in the piston rings; it is much better to run the machine carefully for fifty or sixty miles, during which distance the compression will gradually improve.

Ignition Timing and Lubrication.

I have a 3½ h.p. single-cylinder water-cooled engine which I am using as a stationary power unit. The ignition is fixed, and is by accumulator and coil. (1.) Could you advise me as to the amount of lead I should give the piston in timing the ignition, so as not to risk a backfire, and yet give perfect running for the purpose required? (2.) The oiling is by drip feed. How many drops per minute should I set this to?—S.H.B.

(1.) You do not state the stroke of the engine, therefore we cannot give you a definite figure; but, if the stroke does not exceed 88 mm., about 5 mm. of advance should be quite safe. (2.) Without knowing the engine, it is impossible to tell you how to set the drip feed, but you might try thirty drops per minute, and if there is any overheating after running for, say, half an hour, you can increase the supply, or, if the exhaust smokes, decrease it.

Valve Timing for Efficiency.

What are the exact positions of opening and closing of inlet and exhaust valves, which are conducive to greatest efficiency, also what margin of adjustment would be advisable to allow in manufacturing? I am working out the details for a new system of valves for petrol engines, and would be very greatly obliged for these particulars. Perhaps the best thing would be to tell me the earliest and latest positions for the opening and closing of each valve. Also will you please say what area would the inlet and outlet need to be if a clear valve way were made, *i.e.*, the smallest and most efficient size of hole or clear opening through which the cylinder could be fed and discharged, say for 2½, 3½, 4, 5-6, and 7 h.p.—W.S.

It is impossible to give you any definite statement regarding the exact moment of opening and closing of the valves, as these vary between very wide limits, according to the design of the engine. For instance, an inlet valve might open as much as 15° early, and close 50° late, although mostly the inlet valve opens about the top dead centre of the stroke. In the same way, the opening of exhaust valves may vary between 30° and 75° early, and the closing may be anything between top dead centre and 15° late. Your second question is a matter which is entirely dependent upon the design of ports, lift of valves, and piston speeds.

Paraffin-benzole Mixture.

(1.) Can I use half benzole and half paraffin if I used a petrol injection device to start the engine? (2.) Is it possible to fit 26in. × 2in. tyres on 26in. × 1¾in. wheels?—C.J.E.

(1.) You would probably find that you could start on a mixture of half benzole and paraffin even without the use of any special starting device except in the very coldest weather. (2.) You could not fix tyres of 2in. section on 1¾in. cycle wheels.

Hub Gear Troubles.

I have a 3½ h.p. Ariel, fitted with a three-speed Mark VII. Armstrong hub gear. Every time I use the low or middle gear two of the teeth are shorn off the spindle. Can you say where the trouble lies? I am very careful with it—always lift exhaust lever when changing, run engine at suitable speed, and the spindle itself cannot shift.—R.R.

Probably the trouble is due to the spindle being of unsuitable material. The Armstrong Mark VII. hub gear gave satisfaction when retained in correct adjustment, but the original makers went out of business in 1914.

Petroil Lubrication.

My machine is a 1914 Royal Ruby-Villiers two-stroke with petroil lubrication. Will you kindly tell me what grade oil and what proportion to petrol is likely to give best results? I have just purchased one gallon of Gargoyle B. Is this suitable?—B.M.B.

Any good air-cooled oil, mixed in the proportion of eight to twelve to one will give the desired results. The oil you mention is quite suitable.

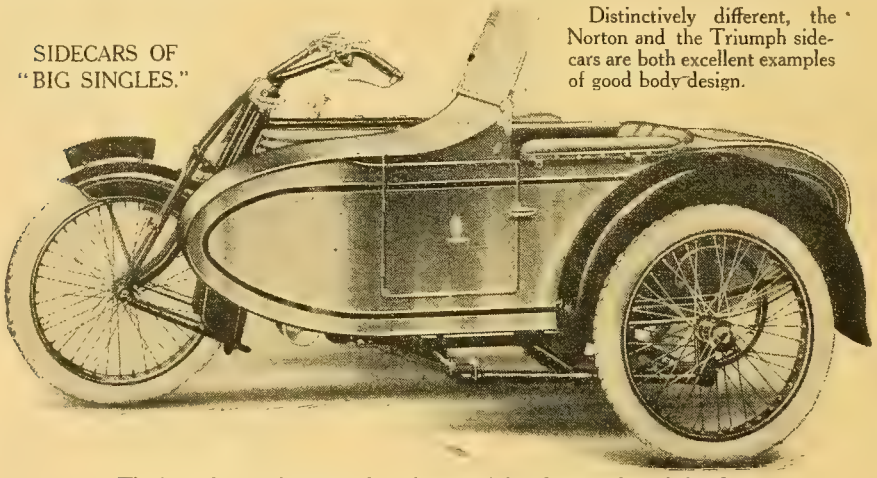
Advertising Second-hand Machine.

Will you kindly give me your opinion of the best method of advertising a motor cycle? (1.) The best type of advertisement. (2.) Any special points to take into consideration in framing it. (3.) The best way to make it attractive. The reason for asking these questions is because I continually notice in your paper advertisements which seem insufficient and unconvincing.—T.C.B.

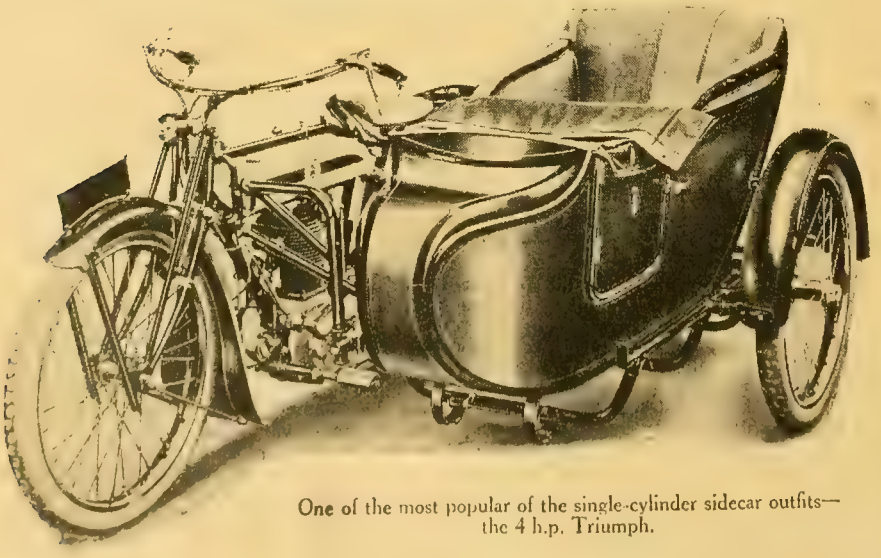
(1 and 2.) Give the engine, gear box, and frame numbers of your machine, the date of manufacture, the model, and date of purchase, full details as to equipment, mileage, and general condition, and, of course, the price at which you wish to sell. (3.) The only way to make an advertisement attractive is to take the public into your confidence by giving the fullest possible details. For example, do not forget to say whether it has a hub gear if this is the fact. On the other hand, if it is a countershaft model make the most of it.

SIDECARS OF "BIG SINGLES."

Distinctively different, the Norton and the Triumph sidecars are both excellent examples of good body design.



The immediate and most striking feature of the Norton sidecar is its clean design and symmetrical appearance.



One of the most popular of the single-cylinder sidecar outfits—the 4 h.p. Triumph.

READERS' REPLIES.

Extraordinary Plug Trouble.

Re the above matter, raised in your Show Report issue; "E.M." suffers from a trouble I used to have on a similar machine. Unfortunately I can display quite a number of various makes of plugs as evidence of my sufferings. Some time ago I tried—almost in desperation—the Aviation K.L.G. plug, and now all troubles of this nature have vanished. These plugs are expensive, but I have found nothing to stand up to my engine in the same way. Since installing them, my Rudge has travelled over 3,000 miles without a change of plug.—H. T. Brown.

Burnt Valves.

In your issue of October 28th a Rudge rider, "B.S."—under the above heading—describes his woes. I believe I can be of some little assistance to him, for I had the same trouble, and burnt out three valves in very little time, then I bought a new valve guide from the makers, and until I read of "B.S.'s" appeal for help I had forgotten that it was even possible to have a burnt-out valve.—H. T. Brown.

RECOMMENDED ROUTE.

Brigg to Chatsworth.—F.R.

Brigg, Scawby, Messingham, Blyton, Gainsborough, Saundby, E. Retford, Worksop, Whitwell, Staveley, Brimington, Sheepbridge, Baslow, Edensor, Chatsworth.

Ripon to Rochford and Back.—C.C.

Ripon, Boroughbridge, York, Market Weighton, Beverley, Hull, ferry to New Holland, Ulceby, Harborough, Great Coates, Great Grimsby, Louth, Horncastle, Donington, Spalding, Peterborough, Stilton, Huntingdon, Godmanchester, Caxton, Royston, Buntingford, Bishop Stortford, White Roding, Chelmsford, Rayleigh, Rochford. Return by the route given to Huntingdon, then go through Stilton, Wansford, Stamford, Grantham, Newark, Tuxford, Retford, Bawtry, Doncaster, Ferrybridge, Aberford, Wetherby, Boroughbridge, Ripon.

Worthing to Leicester.—A.D.

Broadwater, Findon, Washington, Ashington, West Grinstead, Southwater, Horsham, Broadbridge Heath, Buck's Green, Graffam, Bramley, Shalford, Guildford, Stoke, Mayford, New Woking, Ottershaw, Chertsey, Staines (edge of), Windsor, Eton, Slough (edge of), Salthill, Farnham Royal, Farnham Common, Beaconsfield, Amersham, Great Missenden, Wendover, Aylesbury, Waddesdon, Bicester, Baynard's Green, Souldern, Aynho, Adderbury (edge of), Banbury, Mollington (edge of), Ladbroke, Southam, Kytes Hardwick, Dunchurch, Rugby, Lutterworth, Blaby, Aylestone, Leicester.

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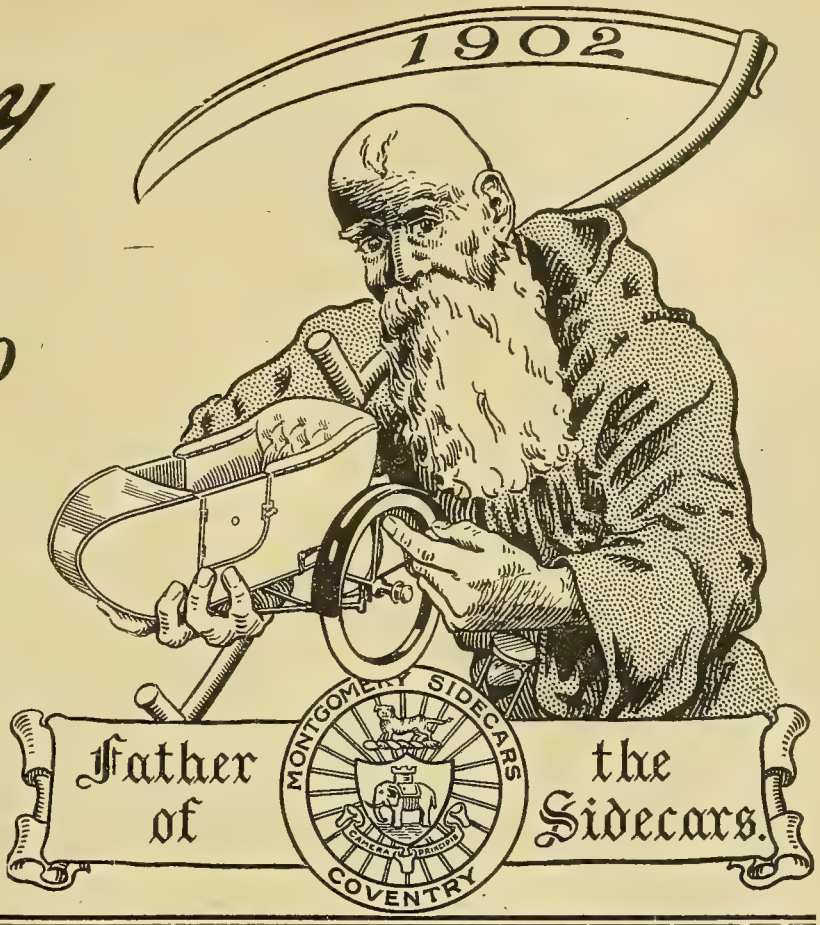

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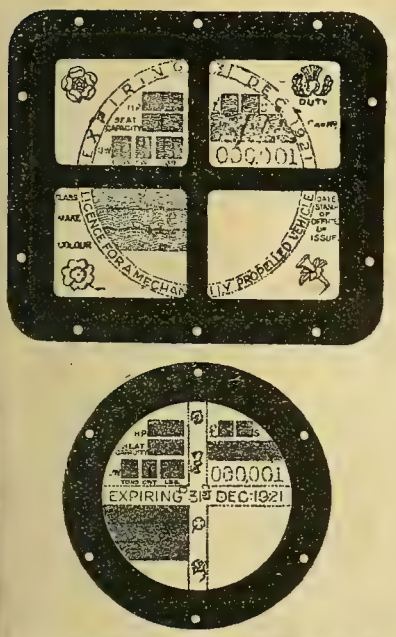

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For 1921 we are concentrating on an exceptionally high-class 2¾ h.p. Solo Motor Cycle and a 4 h.p. model which is suitable alike for Solo or Sidecar work. The engine used in each case is the BLACKBURNE, and we have not succumbed to the temptation of fitting the higher powered engine into the Lightweight frame, or vice-versa. The two models are separate and distinct, each being specifically designed for its own particular purpose.

The prices are 99 Guineas and 120 Guineas respectively, and we guarantee THESE PRICES TO REMAIN CONSTANT TILL MARCH 1921. Highly finished, luxuriously equipped, and efficient to the last degree, we claim each to be the best in its class on the market.

Radco

THE KING OF LIGHTWEIGHTS.

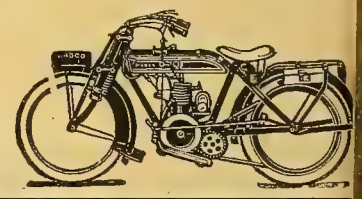
Orders will be booked in strict rotation.

Illustrated Booklet upon application.

E. A. RADNALL & CO.,
Dartmouth Street, BIRMINGHAM.

Standard Model	£55 0 0
Two-speed „	£63 10 0
Two-speed kick-starter	£69 10 0
Sporting Model	£69 10 0

Beware of overcharges by profiteers.



NEW LICENCE CARD

HOLDERS

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COVENTRY

The Best Road Guide for Motor Cyclists

THE MOTOR CYCLE ROUTE BOOK

With Road Maps of England & Wales, Scotland, and the London District

A WELCOME departure from the stereotyped form of road book is made in "THE MOTOR CYCLE" ROUTE BOOK. In addition to the usual routes from London, radiating main routes are given from other large and populous centres in England and Wales, and Scotland, as well as "linking-up" routes from all other cities and towns of fair size. The intersecting or linking-up routes are clearly shown by reference numbers. The items of interest on the main roads are described by the well-known authority on roads, Mr. Chas. G. Harper. A useful set of Maps of England, Wales, and Scotland, in Atlas form, and printed in red and black, is included.

Price 5/- net. **By Post, 5/6.**

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Radiating Routes from Large and Populous Towns, Traffic-avoiding Routes, and Routes into and out of London.
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List of Ferries in England, Wales, and Scotland, with their charges.
List of Speed Limits in Various Counties
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KING REX OF MOTOR CYCLES

REX

MOTOR CYCLES AND SIDECARS

If you visited Olympia you were undoubtedly impressed by the distinctive features of the Rex models.

Model 44L, 4 h.p., single-cylinder, chain-cum-belt drive, Motor Cycle.
Model 44C ,, ,, ,, ,, Combination.
Model 55BD 8 h.p., twin-cylinder ,, ,, ,,
Model 55CD ,, ,, all chain drive ,,
and the Super Taxi Combination.

If you did not visit Stand No. 84 send at once for full particulars.

THE "SHOW" OF THE SHOW.

ELEGANCE——REFINEMENT——DISTINCTION

THE REX MOTOR MANUFACTURING CO., LTD., COVENTRY.

In answering these advertisements it is desirable to mention "The Motor Cycle." B13

MOTOR LICENCE-CARD HOLDERS.

WATERPROOF. HIGHLY FINISHED.

Conforming to New Regulations which come into force January 1st. Suitable for all Vehicles; i.e., Cars, Lorries and Motor Cycles.

THE "A.J.D." LICENCE-CARD HOLDER WILL FIT ANYWHERE.

Screw flush to dash or other flat surface of car or lorry, or can be fitted (by attachments detailed below), to the most convenient position on any motor vehicle

CIRCULAR PATTERN

Retail Prices:

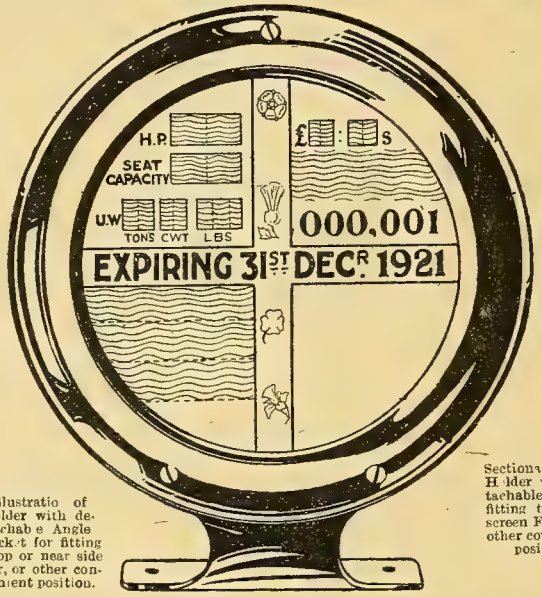
Brass 7/6 each.

Nickel 8/- each.

Price includes:

(1) Angle Bracket (as illustrated) for near side door or windscreen frame.
(2) Claw Fittings for windscreen rod.
(3) Clip Fitting for Motor Cycle Handlebar, or
(4) Lug Fitting for Motor Cycle Mudguard.

Please specify which Fitting required when ordering.



Illustratio of Holder with detachab e Angle Brack t for fitting to top or near side d or, or other convenient position.

Sectional view of H lder with detachable Clip for fitting to Windscreen Frame, or other convenient position.

DELIVERY FROM STOCK.

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for Cars, Cycles, Tractors, Aeroplanes, and Boats.

High-grade and Unexcelled.

Can be obtained from all Motor Garages and motor Car Dealers.

"SPEEDON"

Don't be satisfied with less than the best, **but demand "SPEEDON."**

Sole Manufacturers:

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MILLFORD ALL PURPOSE

The M.A.P PLUGS.

MICA INSULATION. DETACHABLE.

Cleaned, and replaced in one minute, with a simple mechanical Gap adjustment.

SOOTING PRACTICALLY IMPOSSIBLE

Send 3/6 for each Plug up to a set of Four, and if you wish to return the Plugs within 7 days your money will be returned

Price **4/6** each.

Manufactured by **MILLFORDS, LTD., Bullock Street, Birmingham.**

"SMITHFIELD" GENERATOR 9/6

Stocked and sold by every garage and agent, everywhere.

"REALITE" LAMPS 5/-

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Transfers

for

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Monograms : Crests Names : Letters, etc.

SPECIAL NOTE.—We cannot supply Manufacturers' own transfers to individual motor cyclists.

Send particulars of your requirements to

The British Transfer Printing Co., Ltd.

(Proprietors: Iliffe and Sons Ltd.),

London: 20, Tudor St., E.C.4. **COVENTRY** Manchester: 199, Deansgate.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., & Co. and crossed Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements the mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt. The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, 1 %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited. The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

3½h.p. A.B.C. Motor Cycle; £150.—King and Harper, 6 and 7, Bridge St., Cambridge. [3805

1920 3h.p. A.B.C., brand new, shop-soiled; £125. —Clarke, 98, London Rd., St. Albans. [3738

NEW 1920 3h.p. A.B.C., kick starter model, to clear; £100, cash.—Walbro Motor Cycle Works, Saffron Walden, Essex. 'Phone: 45. [X3337

A.B.C. (July), all accessories, insured, copper exhausts; best offer, or exchange big single.—Hopkins, Winchester Rd., Kingsclere, North Hampshire. [3793

WAUCHOPE'S

Easy Terms of payment to suit customers' own convenience. Write or 'phone.

We offer a large, and selected variety of **New Machines**, and can arrange to take Second-hand Motor Cycles, Combinations, Cycle Cars, and Light Cars in part payment.

The following can be delivered from Stock:

NEW MACHINES.

DOUGLAS 2¾ h.p. improved W.D., 2-speed gear, 1921	£85 0
QUADRANT Combination, with windscreen, 4½ h.p., new 1921	£147 15
B.S.A., 4½ h.p., Model H, new late 1920	£110 0
ROYAL ENFIELD Combination, 8 h.p., new 1921, dynamo lighting	£182 0
DOUGLAS, 2¾ h.p., clutch and kick-start, new 1921	£105 0
DOUGLAS, 2¾ h.p., 3-speed only, new 1921	£100 0
TRIUMPH, 4 h.p., Model H, late 1920	£127 10
BAT Combination, 6 h.p., late 1920	£175 0
TRIUMPH Junior, 2¾ h.p., late 1920	£75 0
TRIUMPH, 4 h.p., renovated by the Triumph Cycle Co.	£105 0
TRIUMPH Combination, 4 h.p., Nov., 1920, chain drive	£195 0
NEW IMPERIAL, 2¾ h.p., 2-speed, late 1920	£80 17
CLYNO, 2½ h.p., 1920	£75 0
P. & S., 2¾ h.p., 1920	£73 0
NEW IMPERIAL, 2¾ h.p., 2-speed, clutch and kick-starter, 1920	£89 5
LEA-FRANCIS, 3 h.p., new late 1920	£130 0
SUNBEAM, 3½ h.p., 3-speed, clutch, and kick-start, new 1921	£155 8
BRADBURY, 4 h.p., 1921	£128 0
BRADBURY Combination, 6 h.p., 1921	£199 0
LEVIS, 2½ h.p., 2-stroke, 1921	£80 0
AUTOPED SCOOTERS, 2 only, dynamo lighting, 1920 each	£35 0

SECOND-HAND MACHINES. SOLOS.

P. & M., 3½ h.p., 2-speed, kick-start, 1919	£100 0
B.S.A., 4½ h.p., Model K, 1919	£95 0
VERUS-BLACKBURNE, 2¾ h.p., 1920	£85 0
WOOLER, 2¾ h.p., 1920	£82 10
8-10 h.p. **J.A.P. Engine**, w.-c., magneto included	£45 0
CLYNO, 2-stroke, 1920	£55 0

SECOND-HAND COMBINATIONS.

B.S.A. 4¾ h.p. 1914 Combination	£75 0
TRIUMPH Combination, 4 h.p. 1920	£152 10
Dynamo **ENFIELD** Combination, 6 h.p., 1916	£125 0
CLYNO Combination, 6 h.p., 1917	£115 0
BRADBURY and Sidecar, 6 h.p. 1914	£110 0
INDIAN and Sidecar, 5-6 h.p., 1913	£80 0
MATCHLESS Combination, 8 h.p., 1920	£205 0
MATCHLESS and Sidecar, 8 h.p., 1915	£125 0
QUADRANT Combination, 4 h.p., 1920	£122 10
WILLIAMSON Combination, 8 h.p., 1914	£117 10
SUNBEAM Combination, 8 h.p., 1919	£215 0
ROVER Combination, 4-5 h.p., 1920	£162 10
ARIEL and Sidecar, 3½ h.p., 1916	£97 10

LIGHT CARS.

PREMIER Super Runabout, 8 h.p., new 1920, spare wheel, detachable wheels	£275 0
A.V. Monocar, 6 h.p., 1919 (special engine)	£160 0
CARDEN Monocar, 5-6 h.p., 1914	£70 0

A NUMBER OF SHOP-SOILED SIDECARS AND ACCESSORIES OF EVERY DESCRIPTION ALSO IN STOCK AT GREATLY REDUCED PRICES.

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9, Shoe Lane, Fleet Street, London, E.C.4.

'Phone Holborn 5777 Grams: Opificer, Fleet St., London

IMPORTANT NOTICE.

Owing to the Christmas Holidays, the issue of "The Motor Cycle" for Dec. 30th must be closed for press earlier than usual. Insertion of Miscellaneous Advertisements in that issue can only be guaranteed if in our hands by Wednesday, Dec. 22nd.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, 4-speed, ridden 200 miles; £120, or near offer; smaller machine taken in part exchange.—Box 9,942, c/o *The Motor Cycle.* [3398

1920 3h.p. A.B.C. Motor Cycle, as new, Ace discs, Palmer tyres, mileage 500; £95, no offers.—D. Brandish, 625, Foleshill Rd., Coventry. [X3464

1920 A.B.C., absolutely like new, speedometer, Lucas lamps and horn, all tools, practically unused; cost £175, accept £125.—36, West Hill, Sydenham. [3838

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only run about 300 miles, condition as new; cash, £150; may be obtained on deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [3438

Abingdon.

1920 Abingdon King Dick 5-7h.p., 3 speeds, clutch, and kick starter, all lamps, screen, horn, fitted Canoelet touring sidecar, discs, mileage 800; £145; guaranteed; exchanges or terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3724

Acme.

1920 Acme Combination, mileage under 2,000, spare wheel, 2 sets lamps, gas and electric, speedometer, spare belt and tube; £175.—Hunt, Woodford House, Farley Rd., Luton. [3156

A.J.S.

A.J.S. 7h.p. Combinations, with spare wheels.—Longman, Fisherton, Salisbury. [3815

A.J.S., 1921 models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [2472

5-6h.p. A.J.S. Combination; £210.—King and Harper, 6 and 7, Bridge St., Cambridge. [3806

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7998

UNRIDDEN 6h.p. A.J.S. Combination; £20 under list price, namely £190.—Box 9,920, c/o *The Motor Cycle.* [3283

1920 A.J.S. Combination, brand new, just delivered; £180, cost £210; bought car.—Box 1,000, c/o *The Motor Cycle.* [X3396

A.J.S. Brand New 1920 Combination, 6h.p.; best offer over £185 accepted.—15, King Edward's Av., Chelmsford, Essex. [3501

1920 A.J.S. Combination, July, mileage 1,500, speedometer, hood, screen, spare wheel; £185.—Emery, Sculptor, Burnham-on-Sea. [3291

1915 A.J.S. Combination, 4h.p., 3 speeds, lamps, horn, screen, hood, splendid running order; what offers?—Rev. Cox, Bampton, Devon. [3732

F.O.C.H. have a new A.J.S. Combination.—5, Heath St., Hampstead (nr. Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3351

A.J.S. 1916 C.B. Combination, spare wheel, Easting screen, speedometer, all accessories, unused 2 years, mileage 5,000; £145.—Mills, Norton, Bury St. Edmund's. [3466

BRAND New 1920 6h.p. A.J.S. Combination, spare wheel, wind screen complete, only one left; to clear, £185, cash.—Walbro Motor Cycle Works, Saffron Walden, Essex. 'Phone: 45. [X3336

1920 A.J.S. Combination, Lucas Magdyno, specially picked engine, tyres unpunctured, fitted with draught-proof hood, complete and perfect; £220; Midlands.—Box 996, c/o *The Motor Cycle.* [X3394

A.J.S. 1920 6h.p. Combination, dynamo lighting, speedometer, hood, screen, hood cover, side curtains, Klaxon horn, Tan-Sad pillion seat, mechanically perfect; £250.—Parker's, Bradshawgate, Bolton. [X3369

MOTOR CYCLES FOR SALE.

A.J.S.

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

1920 A.J.S. Combination, Lucas dynamo lighting, Klaxon horn, side screen, aluminium number plates, spare wheel unused, as new, cost £247 with spares and extras; accept £225.—Box 1, c/o *The Motor Cycle*. [X3404

1921 A.J.S.—We are official agents, and can give early delivery of the new 7h.p. combination; book now; our extended terms are at your disposal.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3727

80 Gns.—A.J.S. twin 4-5h.p., 1916-17, countershaft 3-speed, clutch, K.S., detachable wheels, excellent mechanical condition, equipped 1920 bulbous sidecar; £35; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [3914

1919 A.J.S. Combination, electric lighting, Bonnikisen speedometer, Klaxon, hood, screen, polished aluminium discs, spring seat pillar, top-hole condition, very smart; £210, or offer; buying car; after 6.—Lorimer, 4, Beaumont St., W.1. [3375

1920 A.J.S. Combination (July), 3 Lucas lamps, 2 large Lucas generators, Easting, Tan-Sad, Binks, Lucas mirror, H.B. muffs, spare valves, knee grips, back tyre unchanged and unpunctured; £190.—Spain, 74, Sutton Court, Chiswick, W.4. [3320

1919 A.J.S. Combination, electric and acetylene lamp sets, two pairs handle-bars, speedometer, horn, exhaust whistle, wind screen, and hood, excellent condition; £150.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [3839

1920 A.J.S. Combination, in new condition, done 950 miles, sidecar six inches larger than standard, holding child's spring seat, Triplex glass 3-fold screen, also child's screen, hood, celluloid side curtain, acetylene lamp, horn, and spares, luxurious outfit, cost £230; price £175.—Johnson, 3, Meriden St., Coventry. [X3460

BARGAIN.—1918 A.J.S. combination (6), Lucas dynamo lighting, all lamps, Klaxon, sidecar mat, apron, Easting, spare wheel, 5 months' insurance, sundries, just completely overhauled, reupholstered, re-enamelled by makers (unused since), only reason selling, owner (stationed Ireland) unable to use; £190.—Lee, Pharmacy, Menston, nr. Leeds. [X3267

Alldays.

ALLON 2¾h.p., 2-speed, kick start, just overhauled, lamps, etc.; £55.—2, Moreton Terrace Mews, Pimlico, S.W.1. [3322

ALLDAYS Allon 2¾h.p., 1917, 2 speeds, just overhauled, lamps, etc.; £35.—Knight and Wheatley, The Pavement, Coulsdon, Surrey. [3461

WALLINGTON.—Allon, 1917, very good condition, new lamps, tools, etc.; any reasonable offer accepted.—8, Mellows Rd., Wallington. [3414

38 GNS.—Allon 1917 2¾h.p., 2-speed, Dunlops, horn, lamps, re-enamelled and replated.—Short, 487, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Richmond 2362. [3616

American X.

AMERICAN X., 1920, in new condition, mileage 500, 3 speeds and clutch; £120, or near offer.—H. E. Hall and Co., Tonbridge. [X3265a

NEW 1921 Models American X now in stock for immediate delivery, an entirely new model with many improvements, 7-9h.p., 3-speed, 27×3½in. tyres, 165 gns.; Millford bulbous back model de luxe sidecar to match, £44; write for catalogue.—The Premier Motor Co., Aston Rd., Birmingham. [3885

Ariel.

ARIEL 3½h.p., 3-speed, kick, sporting sidecar; £80. —Shaw, Park St., Wellington, Salop. [X3383

1919 4h.p. Ariel, 3-speed, splendid condition; £65; wanted, lightweight.—37, Arlington Rd., Surbiton. [3551

3½h.p. Ariel, variable gear, 2 sets footrests, Miller lamps; £36/10; perfect.—Brown, Beevor Hall, Barnsley. [3177

NEW 1920 Twin Ariel Combination; £150.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [3830

1920 3½h.p. Ariel, as new, mileage 600, Lucas lamps, spare valve, sprocket; £112.—Kirby, Snitterby, Kirton, Lindsey, Lincs. [3366

ARIELS, order now for 1921 all-chain and chain-cum-belt models; spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

1920 3½h.p. Ariel Combination, electric light, horn, speedometer, screen, and mirror, as new; £150.—137, Chatsworth Rd., Lower Clapton, London, E.5. [3958

3½h.p. 1920 Ariel Combination, only done 500 miles, lamps, horn, and tools, and Binks carburetter; best offer; must sell.—D. Murphy, Blackridge, W. Lothian. [3317

THE BIRMINGHAM HOUSE FOR MOTORISTS

THE UNDERMENTIONED MOTOR CYCLES ARE

IN STOCK

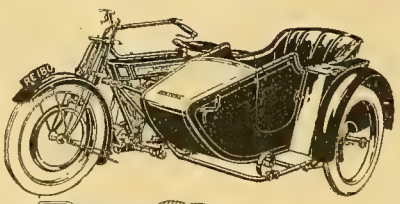
1921 MODELS.

8 h.p. ROYAL ENFIELD Comb.	£160
Ditto, with Lucas Magdyno	182
7/9 h.p. INDIAN Comb., dynamo lighting and speedometer	237
4 h.p. INDIAN SCOUT, dynamo lighting and speedometer	180
4 h.p. INDIAN SCOUT, speedometer	165
4 h.p. NORTON Comb., Lucas Magdyno, Triplex screen, leg shields	212
4 h.p. TRIUMPH Comb., 3-speed chain drive	195
4 h.p. TRIUMPH, 3-speed, belt drive	127 10 0
5/6 h.p. ROVER Comb., 3-speed	195
4½ h.p. HUMBER flat twin	140
2¾ h.p. TRIUMPH 2-stroke	75
2¼ h.p. ENFIELD, 2-speed	65
2¼ h.p. ENFIELD, kick start	70
2¼ h.p. MASSEY-ARRAN, Sturmey gear	90
2¾ h.p. EDMUND JAP, kick start	95

1920 MODELS (Shop Soiled).

6 h.p. A.J.S. Comb., Lucas dynamo	225
6/8 h.p. ENFIELD Comb., J.A.P. eng.	160
4 h.p. BLACKBURNE, 3-speed	125
8 h.p. New IMPERIAL Comb.	170
3½ h.p. ROVER Comb., 3-speed	170
3½ h.p. RUDGE Multi, T.T. Touring	100
2¾ h.p. New IMPERIAL J.A.P., 2-sp.	75
2¾ h.p. EDMUND J.A.P., Enfield gear	84
2¾ h.p. CALTHORPE J.A.P., ,,	66
2¾ h.p. CALTHORPE, 2-stroke, 2-sp.	63
2½ h.p. CONNAUGHT, 2-speed	62
2½ h.p. CONNAUGHT, single speed	55
2¼ h.p. JAMES, 2-speed	60
2¾ h.p. METRO TYLER, 2-speed	75

Call, Write, or 'Phone.



ROYAL ENFIELD

P. J. EVANS

81-91, JOHN BRIGHT ST.

Tel.: Mid 2910. Telegrams: "Lytcar, B'ham."

MOTOR CYCLES FOR SALE.

Ariel.

ARIEL 3½h.p., Bosch, B. and B., new Saxon bare, guards, lamps, mechanical horn, enamelling good, overhauled, any test; £30; after 7, Saturdays after 2.—41, Portsdown Rd., Maida Vale, W. [3923

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [8231

1920 Ariel 6-7h.p. Combination, mileage about 1,000, in splendid condition, all lamps, horn, etc., tyres practically as new; £135, or near offer.—104a, Finchley Rd., N.W.3. Hampstead 7822. [3939

ARIEL New 6-7h.p. Twin Combination, complete with accessories; customer unable to take delivery; will accept £150.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

1916-17 Ariel Combination, 3½h.p., 3-speed, and countershaft, K.S., speedometer, hood, screen, lamps, horn, spare tyre, accessories, perfect condition; £95.—Torodes, 7, Northfields Av., Northfields, Little Ealing, W.13. [3651

Bat.

BAT New 1920 6h.p., slightly soiled; £135, list £160. —Clark, 7, Exhibition Rd., S.W.7. [1500

1920 Bat-Jap 8h.p. Combination, run 400 miles, as new; reasonable offer.—Englemere, Laleham, Staines. [3490

6h.p. Bat-Jap and Sidecar, streamline body, C.B., 3 speed, good condition; £65.—H. Monk, 5, Su St., Waltham Abbey. [3651

BAT 1920 Model, 6h.p. J.A.P. engine, twin-cyl., no done 500 miles; £135, or near offer.—Apply R.A.B., The Shrubberry, Basingstoke. [3321

BAT 1921 Models.—We are now accepting orders for early delivery. Your enquiry esteemed.—Mebes 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair [3251

NEW 1920 Model No. 4 6h.p. 3-speed Bat-Jap slightly shop-soiled; at greatly reduced price write for clearance list.—The Premier Motor Co., Aston Rd., Birmingham. [3881

1920 6h.p. Bat, Dunhills Limousette sidecar, wind screen, equipped, 2 spare covers and tube, insurance; genuine bargain, £150, cost £220 June.—25, Oxford Rd., Kilburn, N.W.6. [3701

BAT, 6h.p., fully equipped as makers' specification shop-soiled; at greatly reduced price; also second hand combination, same make.—Mebes, 154-156, G Portland St. W.1. 'Phone: 3426 Mayfair. [7171

115 GNS.—1920 Bat combination, 8h.p., 3-speed Swan sporting sidecar, new condition, F.R.S. Major lamps, horn, speedometer.—Short, 487, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Richmond 2362. [3616

1920 Bat Combination, 8h.p. J.A.P., 3 speed clutch, and kick starter, Volex electric lighting horn, Cameo wind screen, luggage carrier, spring frame, Binks, delivered June; £150; exchanges terms.—Homac's, 243, Lower Clapton Rd., N.E 'Phone: Dalston 2408. [3727

B.A.T., 1920 model, delivered Aug., special 6h. J.A.P. engine, 3-speed, K.S., clutch, chain-drive and spring wheel, and Middleton sidecar, fitted with wind screen and apron, large size head lamp, sidecar and rear lamps, two generators, horn, 700×80 Palmer cord on back wheel, new chain fitted, and two spare chains. This machine has had very little use, and is new both in appearance and running, full kit of tools and many spares; price £180.—Seen and tried at 11 Hamilton Rd., Garage, Reading. 'Phone: 967. [3181

Beardmore.

BEARDMORE 1921 Model, in stock for immediate delivery; your enquiry esteemed.—Mebes, 154-6 Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3251

BEARDMORE, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St. W.1. 'Phone: 3426 Mayfair. [7171

Blackburne.

BLACKBURNE 4h.p., 3-speed, 1920, nearly new £95.—Marston, 31, Bridge St., Chester. [3701

1920 Blackburne 4h.p., 3-speed, all accessories; 1 gns., or nearest.—40, Broom Grove, Rotherham [3701

BLACKBURNE, latest 1920 4h.p. model, new, b shop-soiled; makers' price £135, reduced to £12 —Maudes', 100, Gt. Portland St., W.1. [3951

BLACKBURNE, 1920, Sturmey-Archer three-spee clutch, lamps, horn, tools and spares complete, l mileage, like new; £95.—529, Lordship Lane, Dulwi [3051

4h.p. Blackburne, single-speed, very flexible, sim lever, Amac, variable pulley; quick sale £60 Pratt (side door), Caley House, Leopold Rd., Wimb don. [3551

4h.p. Blackburne, new June, Binks, large lam Klaxon, mud shields, speedometer, Tan-Sad, r glass, and spare parts, practically unscratched; c £160, price £110.—Huxley, Glengorse, Peperharow R Godalming. [3151

MOTOR CYCLES FOR SALE.

Douglas.

TE 1919 2¾h.p. Douglas, splendid condition, many spares; £85.—Parker, London Road Garage, Bath-n, Bath. [2531

ARGAIN.—2¾h.p. Douglas, fine condition, nearly new Miller lamps; any trial; £56.—Hudson, Brook Redhill. [3490

19-20 4h.p. Douglas Combination, new clutch, first-class condition; £150.—C. Johnson, 25, South-St., Bath. [3195

h.p. Douglas, W.D. 1915, good condition, tyres almost new; £50.—Dukes, Bethune Av., Friern ict, N.11. [3526

OUGLAS, 1919, 2¾h.p., 2-speed, well equipped, powerful and perfect; £58.—60, Wallingford Av., Kensington. [3652

OUGLAS 1920 2¾h.p., trifling mileage, equipped, insured, absolutely perfect; 80 gns.—4, Devon-Rd., Holloway. [3595

EW Douglas 4h.p. Combination, complete, un-scratched; sacrifice, cash wanted.—Basement, 23, cent Grove, Clapham. [3416

15 Douglas 2¾h.p., perfect condition, tyres new, lamps, horn, tools, etc.; trial; £55.—Page, Wood-s, Horkesley, Colchester. [3639

OUGLAS 1916 2¾h.p., re-enamelled, plated, makers' colours; any trial; £56.—30, Crystal ce Park Rd., Sydenham. [3576

OUGLAS 1915 2¾h.p., 2 speeds, Pedley's good tyres, lamps, splendid condition; £42.—G., 63, n Rd., Brixton, S.W.2. [3665

21 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Doug-Agent Yeovil. Tel.: 50. [5043

14 Douglas 2¾h.p., with accessories, condition, appearance almost as new; £38.—R., 13, Egre-Place, Halton, Hastings. [3491

EED Douglases.—Each machine prepared to in-dividual requirements.—Robert Bamford (see r Consulting Engineers). [6693

h.p. Douglas, 1914, 2-speed, kick starter, lamps, etc., seldom used during war; 60 gns.—Brewer, oria Place, Newport, Mon. [3358

OUGLAS 1921 Solo, £85, £100, £105; combina-tions £170; cash, exchange, or easy payments.—ories, 25, Horton St., Halifax. [3872

OUGLAS 1919 4h.p. Handsome Combination, equipped regardless, mileage 1,000, perfect; £110. Wallingford Av., N. Kensington. [3654

p. Douglas, incomplete late models, £15-£30, few left; sidecar chassis, Douglas, £5.—Banister and en, 341, Upper St., Islington, N.1. [3634

20 2¾h.p. Douglas, 3-speed, clutch, K.S. model, just delivered, not used; must sell, offers.—King Henry's Rd., Hampstead. [3940

19 Douglas 2¾h.p., 2-speed, disc wheels, new Dunlops, perfect condition; £45, or best offer.—lay, 101, Albert St., Ramsbottom. [3217

OUGLAS, 1920, 4h.p., fitted Lucas dynamo light-ing set, as new in every way; £120; owner bought Pollard, Broomfield Rd., Chelmsford. [X2914

OUGLAS 1915 2¾h.p., good condition; £50, or exchange with cash for 4h.p. combination.—er, 85, Lyall Mews West, Lyall St., S.W. [3464

UGLAS 2¾h.p., 1921, improved W.D. model, £85; Douglas 2¾h.p., 1921, clutch, 3-speed; £105.—Pruen, Oxford St., Weston-super-Mare. [3402

OUGLAS 1915 2¾h.p., overhauled, new fittings where necessary, new P. and H. lamp set; trial llowed; gift at £39.—Dowell, Byfleet, Surrey. [3509

20 3-speed Douglas, kick starter, 2¾h.p., lamps, speedometer, Klaxon, mileage 300 guaranteed; £115, sacrifice £90.—Reynolds, Waterbeach, Cambs. [3898

OUGLAS.—Two brand new 2¾h.p., 3-speed, 1921 models, with and without clutch; each £5 under owner bought car.—Box 9,962, c/o *The Motor Cycle.* [3905

20 Douglas Combination, 3 lamps, mechanical horn, registered Sept., as new, expert examination id, room wanted; £155.—Gibb, Motors, Gloucester. [6340

UGLAS 2¾h.p., 1916, overhauled, fitted good tyres, tubes, etc., new P. and H. lamp set; any or inspection allowed; £45.—Dowell, Byfleet, Surrey. [3508

UGLAS 1916 2¾h.p., C.A.V. mag., all accessories, engine just overhauled (cost £10), perfect condition; -Cobley, 62, Golborne Rd., North Kensington. [3152

20 Douglas, 2¾h.p., 3-speed, P. and H. lamps, Klaxon, mudshields, all tools, as new; must sell; -Blake, 25, Clevedon Rd., Midsomer Norton, nr. [3690

UGLAS 1911 2¾h.p., 2 speeds, free engine, new tyres, tubes, and horn, good condition; what ?—Handbury, Foston Lodge, Countesthorpe, Lei- [3184

20 2¾h.p. Douglas, 3-speed, kick start, clutch, undershield, P. and M., Amac 2-lever, 200 miles; or offer.—Kebie, Leconfield, College Rd., Cheltenham [3279

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1920 8 h.p. **ENFIELD** Combination, Lucas Magdyno, brand new ..... **List price**
1920 8 h.p. **ENFIELD** Combination, standard model ..... **List price**
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1920 4½ h.p. **B.S.A.** Combination, all-chain drive model, brand new ..... **List price**
1920 6 h.p. **B.S.A.** Combination, immediate delivery ..... **List price**
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1920 **EXCELSIOR** Combination, dynamo lighting set, electric horn, and Henderson Elite sidecar **£165**

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1920 3½ h.p. **LEA-FRANCIS,** J.A.P. engine, immediate delivery ..... **List price**
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Douglas.

DOUGLAS 2¾h.p., 1916 W.D., new 1919, good condition, mileage 1,000, recent overhaul; £50, or near offer.—H.W.L.M., 26, Upper Gloucester Place, N.W.1. [2490

£110.—Douglas 1919-20 4h.p., 3-speed, clutch, K.S., Saxe blue combination, excellent mechanical condition; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [3915

DOUGLAS 1916-17, buffer springs, long exhaust, Alum leg shields, plating and enamel as new, engine perfect; offers.—129, Beechcroft Rd., Upper Tooting, S.W.17. [3521

FINE Light Combination, 2¾h.p. Douglas, float side-car, new condition, all lamps, screen, and Klaxon; real bargain, £78.—Vidler, 131, Mantilla Rd., Tooting Common, S.W.17. [3488

1920 2¾h.p. Douglas, 3 speeds, new condition, lamps, horn, long exhaust, spare valves, fully insured to September, 1921; £85.—1, Norfolk Rd., Seven Kings, Essex. [3374

DOUGLAS 1915-16 2¾h.p., 2-speed, original enamel and plating, buffer head, long exhaust, P. and H. lighting set, etc.; £46.—1, Albert Cottages, Marlborough Rd., S.E.1. [3922

1920 Douglas Combination, fitted Cowey horn, Cameo wind screen, electric light, good condition; trial and inspection at Leicester; £140.—Write Box 9,930, c/o *The Motor Cycle.* [3289

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196, Cheltenham Rd., Bristol. [0016

DOUGLAS 2¾h.p., 1919, 2-speed, new from makers May, 1919, splendid condition, new Lucas lamp set, spares, tools, and all accessories; £70.—Wells, 129, Thurlow Park Rd., Dulwich. [3237

DOUGLAS Combination, 4h.p., late 1916, fully equipped, lamps, wind screen, and spares, first-rate running order; £90, or near offer; trial, Chislehurst.—Box 9,960, c/o *The Motor Cycle.* [3863

1920 4h.p. Douglas Combination, 3 lamps, 2 generators, horn, etc., excellent order and condition; £150; view by appointment.—Gibbs, 169, Coldharbour Lane, S.E.5. 'Phone: Brixton 768. [3170

1920 2¾h.p. Douglas, clutch, kick start, 3-speed, indistinguishable from new, mileage under 300; cost over £108, offered at £93; any trials by appointment.—Z., 36, Alexandra Rd., Croydon. [3937

NEW 1921 Douglas 2¾h.p., Olympia models, 3-speed gear, hand-controlled clutch and kick starter; £105; in stock; delivered passenger any part of country.—Herbert Robinson, Ltd. (below).

NEW 1921 Douglas 4h.p., Olympia models, 3-speed, £130; with fine finish, coachbuilt Douglas sidecar, painted saxe blue, £170; in stock; delivered passenger any part of country.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [3880

1920 Douglas 4h.p. Combination, in excellent condition, lamps, horn, speedometer, and tools, mileage under 2,000; owner ordered abroad; price £125.—Mercer, 11, Sloane Gate Mansions, S.W. [3745

2¾h.p. Douglas, 2-speed, 1916, just replated and enamelled grey, a very smart machine; £38, a bargain; gramophone or children's toys part payment.—St. Leonard's House, West St., Banbury, Oxon. [3346

F.O.C.H. have a late 1919 Douglas combination, many accessories, as new, cheap.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3348

DOUGLAS 1921 2¾h.p., 3-speed, hand clutch, kick starter, all latest improvements, in stock; £105; exchanges, extended terms.—Elce and Co., Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

1920 2¾h.p. 3-speed clutch and kick starter Douglas, Lucas lamps, bulb horn, good engine, no mileage, very carefully used; £87.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [3883

DOUGLAS 2¾h.p. (June, 1920), clutch, kick start, Lucas lamps, Cowey horn, Cowey speedometer, spare belt, Brooks leg guards, tools, goggles, British Isles map, etc., going abroad; £105.—Grant, 9, Wilbury Av., Hove. [3158

4h.p. Douglas Combination, wind screen, disc wheels, Cowey speedometer, large Autoclipse head lamp and generator, rear lamp, Klaxon horn, smart outfit; first £85; cash wanted.—436, Whitehorse Rd., Thornton Heath, S.E. [3684

DOUGLAS, 1913, stored 1914 to 1920, clutch, kick starter, hardly ridden, original plating, enamel, absolutely perfect, genuine chance acquire pre-war quality half present price; any trial; £55.—4, Devonshire Rd., Holloway. [3594

DOUGLAS 2¾h.p., 1920, 3-speed, clutch, K.S. (Model W.), Stewart horn, only done 200 miles, unpunctured, absolutely as new; present price of model £105, best offer over 80 gns. for quick sale; S.E. district.—Box 9,958, c/o *The Motor Cycle.* [3861

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS, 1915, 2-speed, lamps, horn, new tyres, perfect condition throughout, £50; Douglas 2¾h.p. spares, frames, tanks, ball races, crank cases, etc.; upholstered spring pillion seats in all colours, stuffed hair, finished best leather cloth, 17/6, plus carriage.—Ranson, Whitefriars, Chester. [3104

DOUGLAS, 2¾h.p., 1921 model, new improved type motor cycle, fitted with 2-speed gear box, footrests, large tank, wide forks and mudguards; price £85; rotational deliveries.—Apply, authorised London agents, Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0352

DOUGLAS 4h.p. Combination, 1919, 3-speed, new from makers, perfect condition, special sidecar, hinged aluminium dash, wind screen, hood, horn, speedometer, spares, 8v. dynamo lighting set, ammeter, latest type Binks 3-jet vertical outlet, leaving footboard clear; £165; demonstrate within reasonable distance.—Hines, Westmoore, Dorset. [3359

DOUGLAS Combination, 1919, 4h.p., dynamo lighting, electric head, side, and tail lamps, accumulators, hood, side curtains with windows, mahogany framed screen, new belt, spare belt, complete set of tools, Stewart speedometer with trip, good tyres, luggage carrier, all in perfect running order, £145; stripped, £125.—A. J. Hill, 15, Sea Rd., Bexhill-on-Sea. [3331

DOUGLAS Motor Cycles, on easy terms of payment, 4h.p. combination, £170; 2-speed solo model, £100; 3-speed, clutch, and kick starter model, £105; plus a small charge for delivery from works to London. The above are makers' list prices; for easy payments 4% extra is charged, only one fifth deposit, balance payable by 12 monthly instalments; write for latest lists of other machines in stock, etc.—Harrods, Ltd., 118, Brompton Rd., London. [3441

Edmund.

EDMUND, 1921, in stock, three models; £90, £95, and £105.—Marston, 31, Bridge St., Chester. [3757

EDMUND.—The super spring frame 1921 models. Order now from S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3854

EDMUND 2¾h.p. J.A.P., fitted with Enfield 2-speed gear and clutch, spring frame, shop-soiled only; bargain, £84.—P. J. Evans, 81-91, John Bright St., Birmingham. [0359

Elswick.

1919 Elswick 2-stroke Lightweight, aluminium footboards, valanced mudguards, perfect condition; £48, or nearest.—9, West Bank, Scarborough. [3631

Enfield.

1920 Magdyno Enfield Combination in stock; list price.—Below.

1920 8h.p. Enfield Combination, brand new; £157.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3845

ENFIELD Lightweight, new 2-speed model; £60.—Marston, 31, Bridge St., Chester. [3760

ENFIELD Combinations and 2-strokes, 1921 models.—Longman, Fisherton, Salisbury. [3812

ENFIELD 2¼h.p., 1919, equipped; £46.—18, Marlborough Rd., Old Kent Rd., S.E.1. [3692

ROYAL Enfield 6h.p. C.B. Combination; price £85.—Perrin's Garage, Ashford, Middlesex. [3216

1918 8h.p. Enfield Combination, as new; £95.—29, St. Leonard's St., Bow. East 4708. [3598

1921 Enfield 8h.p. Combination; £160, plus carriage.—Welford, St. James St., Brighton. [3677

1920 2¼h.p. Royal Enfield, all accessories; £50.—Griffin, 23, Ivanhoe St., Dudley, Worcs. [3702

1919 3h.p. Twin Enfield, kick start model, electrically equipped; £58.—24, Cottage Grove, Surbiton. [3552

ENFIELD 1919 2¼h.p., 2-speed, fully equipped; £50.—18, Marlborough Rd., Old Kent Rd., S.E.1. [3693

NEW Enfield Lightweight, just registered, with new Lucas horn; £64.—Wain, Stanton Lees, Rowsley, Derbys. [3101

ENFIELD Combination, 6h.p., exceptional offer; at £89/10; any trial.—63, Walm Lane, Cricklewood, N.W.2. [X3407

ENFIELD 1915, M.A.G. twin, 2-speed, kick start, lamps, etc.; £37/10.—Payne, 1, Stanley Rd., Mortlake. [3142

1918 Enfield Combination, as new; £135.—Charles St. Garage, Burrage Rd., Plumstead, London, S.E.18. [3136

1919 Enfield Lightweight, Lucas lamps, horn; bargain price, £42.—Welford, St. James St., Brighton. [3676

100 Gns.—Enfield 1916 6h.p. C.B. combination; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [3916

NEW 8h.p. Royal Enfield-Jap, recently delivered, unridden; usual price £177, to clear £160.—Hicks, Motors, Truro. [3115

1920 2-speed 2-stroke Enfield, new, unridden; 60 gns.—Letters only, Owner, 35, Lithos Rd., South Hampstead, N.W.3. [3267

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RUDGE MULTI, with all accessories and coachbuilt sidecar **£75**

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INDIAN 1916 7-9 h.p. Powerplus model, with sporting coachbuilt sidecar, all accessories, specially finished blue throughout, a smart turnout **£115**

ENFIELD combination, 6 h.p., with all accessories, 1916 model .. **£115**

DOUGLAS 4 h.p. combination, late 1920 model with all accessories and Easting Windscreen, like new **£150**

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METRO-TYLER 1920 2½ h.p. 2-speed, all red, nearly new **£60**

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Enfield.

NEW 1920 8h.p. Enfield Combination in Stock makers' price.—Shepherd and Co., Enfield High way. Tel.: Waltham X51. [0340

ENFIELD Combination, 6h.p., 1914, all accessories Easting, splendid condition; £95.—Morris, 58 Osborne Rd., Forest Gate, E. [3601

1916 Enfield Combination, splendid condition, hood screen, etc.; trial given; £110, or nearest.—Blackburne, 80, Victoria St., St. Albans. [3691

1920 2¼h.p. Enfield, as new, little used, lamps an all accessories, Lucas; accept £60, or offer.—Merr 10, Amblecote Rd., Grove Park, S.E.12. [3531

1917 6h.p. Royal Enfield, as new, P.H. lamps, screen W.S.R. jet, spares, etc.; £135.—James McNeil 13, Belhaven St., Port Glasgow, Scotland. [3281

1921 Enfield Combination, dynamo lighting, with without dynamo, in stock, immediate delivery list price.—J. Smith and Co., 52-54, Hampstead Rd N.W.1. [0351

ENFIELD 1920 2-stroke, 2-speed, complete wit lamps, horn, tools, etc., like new; £53, or offer. 'Phone: 7355 Hampstead.—20 and 22, Finchley Ro N.W.8. [3331

1920 Royal Enfield, 2-stroke, 2 speeds, all-cha drive, brand new, unregistered; list £73/1 accept £65; exchanges.—Homacs, 243, Lower Clapto Rd., N.E. 'Phone: Dalston 2408. [3721

ENFIELD 8h.p. Combination, 1921 model, Magdyn lighting, Lucas horn, Vickers engine, just arrive from works, immediate delivery at makers' price £182.—Wilkins, Simpson (opposite Olympia), Londo [3381

1920 8h.p. Royal Enfield Combination, Lucas Ma dyno, wind screen and accessories, had 1 month use; exchange lower power solo and cash, or sell reasonable offer; will ride 20 miles to possible purchaser. R. L. Knight, Photographer, Barnstaple. [3331

ENFIELD 1920 8h.p. Combination, £160; 1919 2 h.p. model, £58; also 1916 6h.p. combination, accessories, £135; exchanges; deferred payments desired.—Lamb's, 151, High St., Walthamstow; 5 High Rd., Wood Green; and 387, Euston Rd., Londo N.W. [3331

8h.p. Enfield, 1920, 2-scater sidecar, Bonniks speedometer, Fallot head lamp, Low generat 2 A.L. acetylene cylinders, side, rear lamp, Klaxo watch, spares. Tan-Sad, excellent condition; £174, without cylinders £166; cost £194.—Westlake, Chemi Ashford, Middlesex. [36

ENFIELD 6h.p. Combination, 1919, Bosch mag., a shield, wind screen, dissolved acetylene lighti set, new tyre on back wheel (old one as spare), fa colour, little used, perfect condition; £120.—Ap after 6.30, or by appointment, Lake, 2, King's H Mansions, New King's Rd., Fulham, S.W. [30

Excelsior

EXCELSIOR 1920 2¼h.p. 2-stroke, 2-speed, clut kick starter; £55/15. — Peters, Bootmak Lancing. [3

1921 2¼h.p. 2-speed 2-stroke British Excelsi Olympia model, as delivered from motor cy show to us; list price £67. We can also give ea delivery of other models; cash or easy payments Agents, Gray and Raynes, 8, Low Rd., Balby, D caster. [3

F.N.

F.N.-CHATER, 2¾h.p., reliable, fast, and sporty 27, Corinne Rd., Tufnell Park, N.19. [3

£12.—F.N. 2¾h.p., Amac, belt, good condition, away; by appointment.—Chester, 93, Wood Barnet. [3

2¾h.p. F.N., splendid condition, goes like fury, chanically perfect, new front and nearly new b tyres, new mag., good carburetter; owner wants ca £28.—11, Newberry Terrace, Weymouth. [3

NEW 1920 2½h.p. F.N. Lightweight, kick-start shaft drive, slightly shop-soiled; at grea reduced price; write for special clearance list.— Premier Motor Co., Aston Rd., Birmingham. [3

Gamage.

GAMAGE-VILLIERS, 1920, 2-speed, nice condit all on; after 6; £55.—83, Shaftesbury Rd., H mersmith. [3

Haden.

HADEN-PRECISION 3½h.p., 2-speed C.S., as livered, only ridden a few miles; will accept —Apply, W. Henderson, Loudonstone, Trabboch, shire. [3

Harley-Davidson.

HARLEY Sports, fully equipped, new; £145.—Cl 7, Exhibition Rd., S.W.7. [1

1918 7-9h.p. Harley Combination, as new; £11 —29, St. Leonard's St., Bow. East 4708. [3

HARLEY-DAVIDSON 1918 7-9h.p. Combin lamps, horn, good order; £110.—322, Whitel Rd., Croydon. [3

HARLEY-DAVIDSONS.—I have at present a assortment in stock, all fully guaranteed.—1 86, High Rd., Lee. [3

£115.—1919 Harley Combination, lovely condi absolute snip; exchanges considered.—Toilet Mill Lane, West Hampstead. [3

MOTOR CYCLES FOR SALE.

Harley-Davidson.

ARLEY-DAVIDSON 1919 7-9h.p. Combination, head, rear, sidecar lamps, horn, as new; £190.—ker's, Bradshawgate, Bolton. [X3368

)18 Harley and Sidecar, electrically equipped, appearance and condition as new; offers.—136, enham Rd., Southfields, S.W.18. [3088

)20 Harley-Davidson, brand new; list price £49/10 accept £41.—Edwards, 50, Harrington Rd., South sington. 'Phone: Kensington 3709. [384

ARLEY-DAVIDSONS, 1919 and 1918 models, good condition and running order; from £80.—Owen, Scholefield Rd., Upper Holloway. [X3405

) Gns.—Harley-Davidson 1917 7-9h.p. sporting combination, speeds, clutch, K.S.; exchanges.—Cornwall Mews, Gloucester Rd., S.W.7. [3917

ARLEY-DAVIDSON 1919 7-9h.p. Combination, tools, mileage 1,200, electric lighting; £195.—L t, 71, Norbury Crescent, Norbury, S.W.16. [3147

)18 Harley-Davidson Combination, good condition, spare tyres, etc., privately owned; £140, or offer. gents Works, Disraeli Rd., Willesden, N.W. [3191

ARLEY-DAVIDSON 1920 Flat Twin, hardly used, in perfect condition; immediate sale, £135, no s; owner bought car.—Apply, 186, Campden Hill Notting Hill Gate, W.8. [3641

h.p. Harley-Davidson Combination, 1916, perfect order and condition, new double-seater sidecar, full amps, horn, many spares, any trial; £140, or near .—Dunn, Cross Keys, Mon. [3378

O GNS.—Harley-Davidson 1919 7-9h.p. combination, 3-speed, in perfect condition, not ex-y.—Short, 487, Upper Richmond Rd., East Sheen, 14. 'Phone: Richmond 2362. [3618

ARLEY New 4h.p. Flat Twin, sports model, complete with speedometer, horn, lamps; reduced £145.—Elce and Co., Bishopsgate Av., Camomile E.C.3. 'Phone: Avenue 5548. [0070

ARLEY-DAVIDSON in stock: Model W., £150, with speedometer and Klaxon; Model F, £185, speedometer and Klaxon; Model J, £195, with ric lamps, horn, and speedometer.—Marston, 31, ge St., Chester. [3767

R Sale, 1920 electrically equipped Harley-Davidson, with Millford sidecar painted to match, Easting screen, mileage 500; cost £240, accept £230, or st offer; business reasons for selling; can be seen time.—John J. Parkes, 2, Bradley Av., Castleford. [3774

ARLEY-DAVIDSON, 1918-1919, 7-9h.p., ex W.D. stock, thoroughly overhauled, £100; fitted with 1920 Montgomery sidecar, £130; two similar combions, slightly used since overhaul, but guaran-£215; deferred payments 7½% extra.—Maudes', Gt. Portland St., W.1. [3949

ARLEY-DAVIDSON 1918-1919 Models, thoroughly overhauled and guaranteed, solo £100; new Montgomery sidecar, £130; easy payments 10 down, 8 payments of £8, solo; £59/15 de-and 8 payments £10 for combination.—Maudes', Gt. Portland St., W.1; and Paris St., Exeter. [3802

19 Harley-Davidson Combination, 7-9h.p., appearance and condition excellent, new hood and n, cylinder acetylene lighting, Klaxon, speed-r, special head lamp, spares, insured; owner bought price £175; trial given.—Apply, Garage, 495, Ful-Palace Rd., or owner, Wilson, 'Phone Mayfair 6666. [2638

Hazlewood.

W 5-6h.p. Hazlewood Combination, 3-speed, clutch, kick start; £176.—Eddell, Thorne, Doncaster. [3706

OND-HAND 5-6h.p. Hazlewood-Jap Combination, 3-speed, clutch, and kick starter, complete with speedometer, and horn, had about 6 months' use; may be obtained on deferred payments.—Harrods, 118, Brompton Rd., London. [3442

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Henderson.

ENDERSON, 4-cyl., latest model, £220; with side-car £265.—Motor Exchange, Horton St., Halifax. [3873

16 10h.p. 2-speed Henderson, 4-cyl., coachbuilt combination, hood, screen; £20; trial.—Knight, Longmead Rd., Tooting, S.W.17. [3515

ENDERSON 4 cyl., 1921 Models.—The last word in motor cycles. Booking early deliveries.—S. E. ham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3837

ODEL K. Henderson (Blue) Combination, lavishly appointed; cost £300 last September; must sell e Xmas; price £250.—Garaged with Robertsons. Gt. Portland St., W.1.—H.W., 34, Wellington t, Knightsbridge, S.W.1. [3391

W 1921 Model Henderson now in stock. The new model K.R. includes 12h.p. 4-cyl. engine, 3-speed reverse, 27×3½ tyres, etc., the aristocrat of motor s; catalogue free upon request.—Sole Midland dis-tors, The Premier Motor Co., Aston Rd., Bir-ham. [3890

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Hobart.

HOBART-J.A.P. 2¾h.p., May, 1920, 2-speed, clutch, perfect condition; £70, or offer.—Taylor, North St., Langport, Somerset. [3213

1916-17 Hobart-Villiers 2¾h.p., 2-speed, M.L. mag., Amac, heavy Dunlops, lamps, accessories, tax 30/-, new condition; £55, cost £85.—63, Solon Rd., Brixton. [3550

1914 Hobart-Jap, 2¾h.p. single-speed, engine No. 2920, Bosch, B. and B., new Dunlop tyres and belt, new exhaust valve, lamps, horn; perfect order; £35, no offers.—Bayley, 2, Mount Pleasant, Congleton [3749

NEW 2½h.p. Hobart Lightweight.—2-speed models in stock at manufacturers' list price, £75; 4% extra for deferred payment; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [3435

1920 Hobart-Jap 2¾h.p., Sturmey-Archer gear, K.S., clutch, semi-T.T. bars, lamps, etc., done only 1,000 miles, perfect condition, owner buying combination, will ride 50 miles to purchaser; £70 for quick sale.—Lodge, Allandale, Warminster, Wilts. [3493

Humber.

3½h.p. Flat Twin Humber and sidecar, mag., 1919; trial; £95.—44, East St., Bromley, Kent. [3068

1920 (August) 4½h.p. Flat Twin Humber Combination, electric light; bargain, £155.—14, Claremont Hill, Shrewsbury. [3795

HUMBER Late 1919 Flat Twin, 3-speed, lamps, etc., like new; £85; lightweight exchange.—70, Beecher Rd., Cradley, Staffs. [X3334

1919 4h.p. Humber Flat Twin, hand clutch, 3-speed, lamps, condition as new; seen evenings; no offers.—Mellor, 30, Church St., Royston, Yorks. [3094

HUMBER 1914 3½h.p. Combination, 3-speed hub, kick start, Lucas lamps; £60; accept half down.—Bunting, Motor Exchange, Wealdstone. Closed Sundays. [3578

HUMBER Combination, brand new, 3½h.p., 3-speed, flat twin engine, ready for road; £145; any trial.—Lankester Engineering Co., 83, Victoria Rd., Surbiton. [3407

Indian.

1921 Indians, early delivery of all models.—Hewett Bros., 94, Western Rd., Hove, Sussex. [0345

INDIAN 1920 7-9h.p. Combination, exceptionally nice; £170, lowest, quick sale.—137, Cambridge Rd., S.W.19. [3275

INDIAN Scout, with sidecar, speedometer, etc., latest sporting model; £165.—Marston, 31, Bridge St., Chester. [3752

1915 7-9h.p. Indian, solo, 3 speeds, clutch, all on, 80 m.p.h.; first £78.—57, Sellons Av., Harlesden, N.W. [3955

INDIAN 7-9h.p., re-enamelled and overhauled, mechanically sound; £95.—Maudes', 100, Gt. Portland St., W.1. [3951

INDIAN Combination, 7-9h.p., 2-speed, re-enamelled and overhauled; £70.—C. Skelton, 172, Avenue Rd., Acton, W.3. [3849

INDIAN 7-9h.p., 2-speed, clutch, kick starter, speedometer, horn, spare tyre, stored during war; cheap, £60.—Shepperd, Ottery, Devon. [3227

INDIAN Combination 7-9h.p., 1914-15, excellent condition; bargain, £80.—Holt Motors, Kilburn Lane, W.10. 'Phone: Willesden 1341. [3099

INDIAN 7-9h.p., clutch model, C.B. sidecar, lamps, tyres, practically new; any trial given; £60.—Robinson, Rectory Lane, Ashtead. 3628

1915 7-9h.p. Indian, clutch model, and coachbuilt sidecar, good condition, very fast; £65.—137, Chatsworth Rd., Lower Clapton, London, E.5. [3960

INDIAN Combination, 1915, 5-6h.p., 3 speeds, foot clutch, T.T. bars, Millford touring sidecar, splendid order; £70.—G., 63, Solon Rd., Brixton, S.W.2. [3687

INDIAN, 1914, 7-9h.p., 2-speed and clutch, Bosch, Binks, re-enamelled and overhauled, new tyres, laid up during war; £80.—A. Hext, Ilminster, Som. [3736

1920 Indian Scout, T.T. bars, speedometer, spare chain, etc., tuned for speed work, small mileage; £135.—Lord, c/o Coventry Motor Mart, London Rd., Coventry. [X3458

1920 7-9h.p. Indian and Grindlay sidecar, dynamo lighting, wind screen, hood, and speedometer, as new; £210.—137, Chatsworth Rd., Lower Clapton, London, E.5. [3959

1920 7-9h.p. Indian Powerplus Combination, dynamo lighting, mileage 3,000, unpunctured, all necessary spares and equipment, perfect in every way; trial run; £175.—Elton Norris, The Gaer, Hereford. [3548

7-9h.p. Indian Luxurious Combination, 1915 model, spring frame, Easting wind screen, electrical equipment, speedometer, etc., tyres nearly new, genuine; £85.—81, Little Ealing Lane, South Ealing. [3664

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting; bargains.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3350

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£60 Cash.—7-9h.p. Indian, 2-speed, clutch, K.S., new heavy Dunlop rear, good front, all accessories, excellent condition and appearance; approval deposit system preferred.—Harwood, Collingbourne, Wilts. [3792

INDIAN 7-9h.p. Combination, absolutely new, car on right-hand side of machine, suit American or Continental rider, complete set of new acetylene lamps, horn, etc.; £190; owner going abroad.—Winning, Strand Palace Hotel. [3925

INDIAN Combination, 7-9h.p., 3-speed, clutch, kick starter, electric horn and lighting, comfortable Mills-Fulford sidecar, original tyres, mechanically perfect, enamel unscratched; £125, or near offer.—Wyatts, Kelvedon Common, near Brentwood, Essex. [3281

1920 Indian 7-9h.p. Combination, excellent tune and condition, small mileage, Easting wind screen, hand Klaxon, dynamo lighting, electric horn, 2 new Dunlop covers as spares, other tyres unpunctured; £220; bargain.—Box 9,944, c/o *The Motor Cycle*. [3400

1920 Powerplus Indian Combination, speedometer, tools, large sprocket, full electric equipment, aluminium sporting sidecar with head, step, and wind screen; owner would consider 1920 3½h.p. chain-drive Norton in part exchange.—Box 982, c/o *The Motor Cycle*. [X3310

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SECOND-HAND 2½h.p. Invicta, Villiers 2-stroke engine, single speed, complete with accessories, cost over £70, very little used; only £45; may be obtained on deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [3443

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IVY Cycles.—Write, Rothwell and Milbourne, Cowleigh Garage, Malvern. [1796

IVY, new, used few times, 2 speeds, 2-stroke, lamps, horn, tools, etc.; £56.—353, King St., Hammersmith. [3623

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IVY 1919 2¾h.p., 2-speed, T.T. bars, large P. and H. lamps, disc wheels, Dunlop tyres, insured for £70; bargain, £55.—R. D. Varty, Thundersley, Essex. [3710

IMMEDIATE delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G Henly and Co., London and District Agents, 91, Gt Portland St., W.1. Mayfair 4084. [0022

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1916 James Combination, 4½h.p., 3-speed countershaft; sacrifice, £78.—Denham House, Headington, Oxford. [3669

JAMES 1920 Sporting 3½h.p. Twin, polished brass exhaust, fully equipped; £115.—153, Yardley Rd., Acock's Green, Birmingham. [X3363

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NEW 6h.p. James Combination, model de luxe sidecar, slightly shop-soiled, at greatly reduced price; write for special clearance list.—The Premier Motor Co., Aston Rd., Birmingham. [3891

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J.A.P.

4h.p. J.A.P. Combination, 2 speeds, fine engine, all accessories, sporting lot, in excellent condition; £97.—10, Royal Parade, Dawes Rd., Fulham. [3069

BELIEVED 1914 3½h.p. J.A.P., thoroughly overhauled, lighting set, horn, etc., semi-T.T.; £35, or exchange, cash adjustment one higher h.p.—Peake, Warwick Rd., Banbury. [3428

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1921 J.E.S., the genuine lightweight, 75 lb., not an experiment. The man on the spot can supply you. —Gibb, Gloucester. 'Phone: 852. [3605

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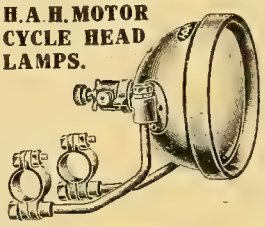

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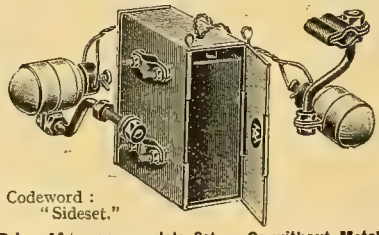

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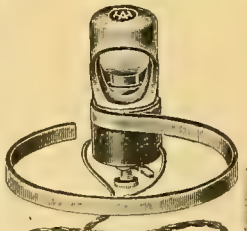

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JUNO, 2½h.p. Villiers 2-stroke, overhauled, new belt, new back tyre, good order; £38; evening and Saturday.—54, Fentiman Rd., Clapham Rd., S.W [366

Kingsbury.

KINGSBURY 1920-21 2¾h.p., 2-strokes, 2-speed all-chain drive, Dunlop tyres, electric lighting sets, all unused; £70.—Colonial Motor Co., 104a Finchley Rd., N.W.3. Hampstead 7822. [394

Lea-Francis.

LEA-FRANCIS, 3½h.p. M.A.G., new, slightly soiled £125.—Clark, 7, Exhibition Rd., S.W.7. [390

1920 Lea-Francis Combination, as new, mileage 200 £130.—Knight, Maypole House, Bexley, Kent. [369

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LEA-FRANCIS, M.A.G., as makers' specifications shop-soiled; at greatly reduced price; now is th time to buy.—Mebes, 154-156, Gt. Portland St., W.1 'Phone: 3426 Mayfair. [988

LEA-FRANCIS 1920 3½h.p., complete, as per makers specification, equipped with electric lighting, speeds, and clutch; £120, or near offer; mileage 50C —H. E. Hall and Co., Tonbridge. [X326

NEW Lea-Francis, 2-speed, clutch and kick starter M.A.G. engine; at list price, £130, or on de ferred payments 4% extra; only one-fifth deposit balance by 12 monthly instalments.—Harrods, Ltd. 118, Brompton Rd., London. [343

Levis.

1921 Levis, immediate delivery; satisfaction guaran teed.—Gibb, Gloucester. 'Phone: 852. [360

2½h.p. Levis, Enfield gear, all chain, mechanicall perfect; £48.—339, Brockley Rd., S.E. [338

LEVIS Popular, 1916, sound running order; £35.— Neaves, 52, Denmark Rd., Wimbledon. [324

LEVIS, 1920, practically new, lamps, accessories £55.—Fuller, 249, Bath Rd., Hounslow. [333

LEVIS 2¾h.p., 1915, single speed; £32/10; fin order.—Shaw, Park St., Wellington, Salop. [X338

LEVIS 2½h.p., 1916, Enfield 2-speed gear, equippe condition as new; £45.—22, Fairlop Rd., Leyto stone. [307

LEVIS, complete with lamps and horn; £55; slight soiled, latest model.—Marston, 31, Bridge St Chester. [375

1919½ Levis, 2-speed, all accessories, splendid co dition; about £50.—Herbert, 30, Waldron Rd Earlsfield, S.W.18. [325

1920 2¼h.p. Levis, horn, lamps, speedometer, perfe condition; 50 gns.—Fry, 39, Wallscote Rd Weston-super-Mare. [363

LEVIS.—The finest lightweight at the price Olympia; delivery of 1921 models from stock. Julians, 84, Broad St., Reading. 'Phone: 1024 Readin [339

LEVIS Popular, latest model, in stock; £60.— Vivian Hardie and Lane, Ltd., 24, Woodstoc St. (off Oxford St.), Bond St., London, W.1. 'Phone Mayfair 6559. [031

1921 Levis Popular, the most successful 2-stroke Olympia; immediate delivery from the offici agents; £60; exchanges or terms.—Homac's, 24 Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [37

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L.M.C.

37 GNS.—1915 3½h.p. L.M.C., 2-speed, clutch, ki start, fine order, only wants seeing.—Efford, 1 The Mansions, Hillfield Rd., West Hampstead. [39

L.M.C.—Mebes and Mebes are the sole London a Home Counties agents; early delivery of all 19 models; trade enquiries esteemed.—154-6, Gt. Portla St., W.1. 'Phone: 3426 Mayfair. [32

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1921 Models now ready; all the latest improvements. You can have one now, or book delivery for any forward date. Every combination personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [6881

MATCHLESS.—Early deliveries.—Pollard, Broomfield Rd., Chelmsford. [X2917a

T.T. Matchless, 5h.p., o.h.v., just overhauled by makers; £60.—Eddell, Thorne, Doncaster. [3707

h.p. Matchless Combination; £205.—King and Harper, 6 and 7, Bridge St., Cambridge. [3807

1921 Matchless, the passenger motor cycle; immediate delivery.—Gibb, Gloucester. 'Phone: 852. [3608

1920 8h.p. Matchless-M.A.G. Combination, brand new, shop-soiled; £180.—Clarke, 98, London St., St. Albans. [3739

MATCHLESS 1921 Combinations in stock; list; exchanges arranged.—Clark, 7, Exhibition Rd., W.7. [2596

MATCHLESS New Combination, M.A.G. engine, slightly shopsoiled, exceptional bargain; £185.—Low.

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1919 Matchless Combination, 8h.p., beautifully equipped, spare wheel; £120.—60, Wallingford Ave., N. Kensington. [3655

1921 Matchless Combinations, Magdyno; delivery from stock.—Agents, Hewitt Bros., 94, Western Rd., Hove, Sussex. [0334

1920 Matchless M.A.G. Combination, brand new, unused, all lamps, horn; £205.—The Poplars, Ackworth, near Wakefield. [3067

MATCHLESS, 1920, Magdyno, speedometer, spare wheel unused, all accessories, perfect; £195.—3, Rowan Rd., Goodmayes. [3306

MATCHLESS 1921 Models now ready for immediate delivery.—Alford, Charles St. Garage, Burrage Rd., Plumstead, London, S.E.18. [3137

MATCHLESS Combination, chain drive, fine turnout; £110, or lower power, cash adjustment.—26, Cornwall Rd., Brixton, London. [3341

MATCHLESS Combination, practically new, hardly soiled, fully equipped, with all extras, hood, etc.—Lords' Garage, Sidcup. 'Phone: 4. [3116

MATCHLESS.—Delivery of 1921 combination from stock, dynamo lighting, etc.; £230.—Julians, 84, Field St., Reading. 'Phone: 1024 Reading. [3595

MATCHLESS Combination, 1920, 8h.p., small mileage, beautiful condition, 55-60 m.p.g.; £230; London.—Box 9,977, c/o *The Motor Cycle*. [3965

1920 Matchless Combination, Magdyno, all extras, spares, insurance, absolutely as new; sacrifice best offer.—Capt. Alexander, St. Winifreds, Lower Parkstone, Dorset. [3384

1920 Matchless, Magdyno, horn, legshields, hood, good condition; bargain, £138.—Edwards, 50, Kensington Rd., South Kensington. 'Phone: Kensington 3840. [3840

MATCHLESS 1914 M.A.G. 8h.p. Combination, 3-speed, K.S., electric lighting, Easting, perfect running order; £115.—363, Sandycombe Rd., Kew Gardens, Surrey. [3339

MATCHLESS Combination, 1921 model dynamo in stock.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0317

MATCHLESS Spring Frame Combination, hood, screen, spare wheel, lamps, horn, used a few months; £190; great bargain; must sell.—H. Paskin, 3, Clarence Rd., Chester. [3750

1920 Matchless Combination, all accessories, including Easting screen and hood, new condition; £—, or offer; evenings by appointment.—22, Earlsdon Rd., Sydenham. [2721

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MATCHLESS 8h.p. Combination, 1921 model, M.A.G. engine, dynamo lighting, just arrived from works, immediate delivery at makers' price £230.—Wilkins, Simpson (opposite Olympia), London. [3388

1920 Model H Spring Frame Matchless Motor, Magdyno, electric lighting, legshields, rear drive, speedometer, and all accessories; £200.—Freeth, 5, Cornwall Parade, Church End, Finchley. [2196

MATCHLESS Combinations.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [3850

MATCHLESS 1920 Model H. Combination, Magdyno lighting, Lucas horn, leg shields, hood, wind screen, spare wheel, J.A.P. engine No. 69467, perfect throughout, insurance; £210.—Ingle, Kozimair, Feckenham Rd., Redditch. [X3296

MATCHLESS, 1915, 1919 improvements, M.A.G. engine, spring wheel sidecar, detachable wheels and spare, light car tyres, Lucas dynamo lighting, electric horn, splendid outfit; £140.—64, Melrose Av., Mitcham. [3413

MATCHLESS 1914 7-9h.p. 2-speed Chain Drive Combination, new tyres, chains, engine fitted new connecting rods, Easting, luggage carrier, electric lighting, guaranteed perfect; £85, or near offer.—104a, Finchley Rd., N.W.3. Hampstead 7822. [3942

MATCHLESS 1921 Models.—Send orders along to S. E. Clapham (Motors), Greenwich. As Matchless specialists, we guarantee satisfaction and unlimited service. Immediate delivery, or date to suit client. We allow you 10% on all deposits.—Note address, Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [2999

1920 (Sept.) Matchless Combination, M.A.G. engine, electric lighting, speedometer, hood and screen, Stewart horn, spare wheel and tyre, all tools, heavy Dunlop tyres (unpunctured) all wheels, mileage 800, extra good on hills, splendid running order, and enamel unscratched; trial arranged; must sell; cost £240, accept £190.—4, Napier Rd., Wembley. [3506

Metro.

1920 Metro-Tyler, 2-stroke engine, magneto; £12.—Bacon, Tobacconist, Canterbury. [3520

Minerva.

5-6h.p. Minerva Combination, chain-cum-belt, Bosch, 650×65 tyres, powerful; £26.—434, Fulham Rd., S.W. [3572

2¾h.p. Minerva, drop frame, mechanical valves; mag., B. and B., 5-40 m.p.h., 100 m.p.g., sound and reliable; photo; £20, or nearest.—Simpson, 28, Dulwich Wood Park, S.E.19. [3295

Motosacoche.

1912 Motosacoche Lightweight, variable gear, good condition; £20.—137, Chatsworth Rd., Lower Clapton, London, E.5. [3961

New Hudson.

NEW HUDSON 2¼h.p., lamp, complete, good running order; £38.—20, Albard Rd., Teddington. [3471

NEW HUDSON 2¼h.p. Lightweight, 1916-17, good condition; £42.—Letters to G., Doghurst, South Nutfield, Surrey. [3133

NEW HUDSON 2-stroke, excellent condition, electric lights, Dunlops, horn, tools; £33.—R. Old, Treator, Padstow, Cornwall. [3127

1920 2¼h.p. New Hudson, brand new; £65.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3846

BRAND New 1920 2¼h.p. New Hudson, 2 speeds, shop-soiled only; £65, cash.—Walbro Motor Cycle Works, Saffron Walden, Essex. 'Phone: 45. [X3341

NEW HUDSON 4h.p., 3-speed countershaft, kick start combination; £78; exchange lightweight, cash adjustment.—57, Kenbury St., Camberwell, London. [3343

NEW HUDSON 2¼h.p., 1918, 2-stroke, 2-speed countershaft, electric lighting, Lucas horn, Dunlops, excellent condition; £47/10.—128, Cooper's Lane, Smethwick. [3531

BRAND New 1920 New Hudson 2¼h.p. 2-stroke, 2-speed countershaft, fully equipped with lamps, horn, etc.; will accept £68.—11, Auckland Rd., Upper Norwood, S.E.19. [3534

New Imperial.

NEW IMPERIAL, 1921, 2-speed; £80/17; in stock.—Marston, 31, Bridge St., Chester. [3756

NEW IMPERIAL, 2¼h.p., 1917, lamps, horn, insurance; £40.—Turner, Duncton Mill, Petworth, Sussex. [3661

NEW IMPERIAL 1920 Combination, 8h.p., unpunctured, well equipped; £160.—72, Cedar St., Southport. [3781

NEW IMPERIAL 1916 2¾h.p., 2-speed, semi-T.T. bars, complete with lamps and horn; bargain, £38.—R. D. Varty, Thundersley, Essex. [3712

NEW IMPERIAL-J.A.P. 2¾h.p., 2-speed, lamps, horn, etc., good condition throughout; £45.—Cane, Forty Farm, Wembley, Middlesex. [3299

MOTOR CYCLES FOR SALE.

New Imperial.

2¾h.p. New Imperial-Jap, 2-speed, excellent condition, new tyres, lamps, horn, tools, spare belt, tyre, valves, chain, etc.; £46.—40, Wellington Rd., N.W.8. [3410

1920 New Imperial Combination, beautiful condition, under 2,000, F.R.S. and Lucas lighting; cost over £200, sacrifice £160.—Butler, Porthleven, Helston, Cornwall. [3630

NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., 2-speed, kick starter, hand clutch, brand new, unused; immediate delivery; 85 gns.—Central Garage, Henley-on-Thames. [1074

NEW IMPERIAL, 1918, 2¾h.p. J.A.P., 2-speed, clutch, kick start, lamps, horn, pump, tools, Palmer tyres, perfect; £60.—Turner, Westbourne House, Twickenham. 'Phone: 217 Richmond. [3582

1921 New Imperial, 2¾h.p. J.A.P., 2 speeds, clutch, and kick starter, as at Olympia, for immediate delivery; £89/5; exchanges or terms.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3717

1921 New Imperial Combination, 6h.p. J.A.P., 3 speeds, clutch, and kick starter, as at Olympia, just arrived; £186/18; exchanges or terms.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3716

New Scale.

1920 New Scale 2-stroke, 3½h.p., 2-speed, h.b. control, clutch, as new, 300 miles only; £65.—Hildred, Hainton Sq., Grimsby. [3658

1921 3½h.p. New Scale 2-stroke and Sidecar, Olympia model, as delivered from motor cycle show to us; list price £123; cash or easy payments. We can also give early deliveries of other models.—Gray and Raynes, Agents, 8, Low Rd., Balby, Doncaster. [3446

Norton.

NORTON New 4h.p. Big Four, 3-speed; £135.—Robbins, Garage, Rugby. [3111

1921 Norton Big 4, 3-speed, in stock; £135.—Marston, 31, Bridge St., Chester. [3753

NORTON.—Immediate delivery all 1921 models.—Parker's, Bradshawgate, Bolton. [X3373

NORTON Big Four, 1921.—Jack Pruen, Norton agent, Oxford St., Weston-super-Mare. [3401

ISLE OF MAN 3½h.p. 3-speed Norton, 1921, unridden; £132, list.—Box 9,880, c/o *The Motor Cycle*. [3109

TO Hold Your Own buy my B.R.S. Norton combination at £90.—Weybourne Cottage, Farnham, Surrey. [3790

NORTON.—North Yorkshire agents: R. H. L. Picketing and Co., 239, Linthorpe Rd., Middlesbrough. [299?

NORTON Big Four, all chain drive, just delivered £135.—Turpin's, 22-29, Preston Rd., Brighton. [0204

NORTON Motor Cycles.—Place that order with me; early delivery dates.—Cook's Garage, Shifnal, Salop. [8136

NORTON Big Four, 1920, 3-speed, fully equipped, as new; £125.—30, Crystal Palace Park Rd., Sydenham. [3575

NORTON 1915 3½h.p. Sports Model, perfect condition; £55.—Murrell, Oxford Mews, Cambridge Gardens, W.10. [3449

3½h.p. Sports Norton, chain drive, countershaft gear; £132.—King and Harper, 6 and 7, Bridge St., Cambridge. [3808

NORTON Motor Cycles, sole district agents for Derby all models in stock; enquiries invited.—H. Palin, Ltd., Bourne St., Derby. [8134

NORTON 1920 Big Four Model, Sandum sidecar, Cameo wind screen, fully equipped; £150.—Parker's, Bradshawgate, Bolton. [X3371

1921 Norton, 3½h.p., 3-speed, chain drive, kick start, brand new, unregistered; £132; exchanges.—Shaw, Durkar, Wakefield. [3737

NORTON, late 1920 3½h.p. T.T., Philipson, Binks, lamps, horn, knee-grips, tools, all as new; £100. Hargrove, junr., Wath, Ripon. [3432

NORTON 1920 and sidecar, with lamps, horn, Cowey speedometer, and spares, very slightly soiled; bargain, £150.—22, Bridge St. Row, Chester. [3764

NORTON, T.T. bars, 3½h.p., Philipson, horn, lamps, good condition, 1916-1917; £60.—Boardman, Abbotts Hall, Sturmer, Haverhill, Suffolk. [3225

3½h.p. Norton, I.O.M. model, 3 speeds, specially tuned, only done 500, unscratched, full equipment; highest offer; Cambelley.—Box 9,876, c/o *The Motor Cycle*. [3105

£85.—1920 T.T. Norton 3½h.p., as new, mileage negligible, Lucas horn, electric lighting, tools, etc. Nash, Didsbury House, Ellesmere Park, Eccles, Manchester. Tel.: 813 Eccles. [X3471

1920 3½h.p. Sports Model T.T. Norton, complete with lamps, speedometer, etc., mileage under 200, very fast; £95 cash, no offers; appointment by letter; will ride 50 miles to genuine buyer.—M. S. Fryer, Orchard End, Thaxted, Essex. [3183

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NORTON, 1920, new July, Big Four engine, frame, Grado gear, pillion, coachbuilt side Klaxon, tools, under 500 miles; £145, or near offe 85, Central Hill, Upper Norwood, London. [3

1920 Norton Big Four and Douglas sidecar, 4 lan 2 large generators, Bonniksen speedometer, chanical horn, spare tyre and tube, tools, insured May, 1921, 2 carburetters (B. and B. Senspray), 2 gine sprockets; offers over £130.—Sanderson, 23, Sil St., Doncaster. [3

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N.S.U. 3h.p., Bosch mag., minus brakes, needs at tion; £10.—Box 9,9[illegible], c/o *The Motor Cycle*. [3

N.S.U. 3½h.p. Combination, 2 speeds, Bosch, perf order; £45; Saturdays, Sundays.—Neaves, Denmar Rd., Wimbledon. [3

1912 N.S.U., 6h.p., 2-speed, F.E.; and C.B. s car, all lamps, etc.; £35.—Farnbank, 7, Be champ Rd., Clapham Junction, S.W.11 [3

N.U.T.

N.U.T., only ridden 100 miles; for immediate s £150.—Pollard, Broomfield Rd., Chelmsford. [X29

1921 N.U.T. 3½h.p. Standard Model, Magdy £165; in stock.—Hewett Bros., 94, Western R Hove, Sussex. [0

N.U.T. 1920 3½h.p., Magdyno, fully equipped, sp did condition, Watford speedometer; £110.— Gile's Garage, Northampton. [5

W. SPARROW, Ltd., Osborne Garage, Yeo official N.U.T. agents, now booking orders early delivery; write or 'phone for particulars.—Te Yeovil 114. [60

1920 N.U.T., Magdyno lighting, Lucas horn, enam plating and mechanical condition perfect, spares, including unused inner tube, bulbs, etc., surance policy valid 12 months, ride 50 miles genuine enquirer; nearest £150; Manchester distric Box 9,946, c/o *The Motor Cycle*. [3

O.K.

£42/10.—O.K., new July, 1920, lamps and hor Dewhirst, Great Baddow, Chelmsford. [3

1920 O.K.-Villiers 2½h.p., 2-speed, fine conditi offers.—Dennis, Willingale Ongar, Essex. [3

1918 2¾h.p. O.K. Union, Dixie, Senspray, re-en elled, fast, reliable; £35.—G. Tell, Stevenage [X3

O.K. Villiers, Aug., 1920, Albion 2-speed, mile 200, complete; £56/10.—Box 9,945, c/o *The M Cycle*. [3

O.K. Juniors, 2-speed, kick starter, 2-speed only, single gear, 1921 models.—Longman, Fisher Salisbury. [3

O.K.-UNION 1920 2¾h.p. 2-stroke, lamps, ho spares, excellent machine, as new; £40 cas Haining, Ashby Parva, Lutterworth. [3

42 GNS.—O.K. Union, 1920, brand new, 2¾h 2-stroke.—Short, 487, Upper Richmond East Sheen, S.W.14. 'Phone: Richmond 2362. [3

O.K. Junior, 1916, Amac, Dixie, excellent condit tyres good; £36, or offer; evenings or Satur afternoon.—Lower Flat, 294, Camden Rd., Cam Town, N.7. [3

Omega.

OMEGA Combinations and 2¾h.p. 1921 model Longman, Fisherton, Salisbury. [3

2¾h.p. Omega-Jap, the sporting single; immed deliveries.—Norwich Motor Co., Ltd., Norwich [2

P. and M.

P. and M., very early deliveries.—Pollard, Broomf Rd., Chelmsford. [X2

P. and M., W.D. model, overhauled, re-enamel £65.—180, Barry Rd., Dulwich, London. [3

P. and M., 1919, thoroughly overhauled and e to new; £85.—Pollard, Broomfield Rd., Che [X2 ford.

P. and M., 1917, 2-speed, K.S., first-class condit lamps, tools; best offer over £65.—54, Bracebr St., Birmingham. [3

P. and M., £40, 2-speed clutch, recently overhau new lamps, horn, mechanically perfect; try Brummitt, Banbury. [3

1920 P. and M. Combination, beautiful condit small mileage; £130 cash, no offers.—10, Par Rd., West Hampstead. [3

1920 P. and M. Combination, new Henderson car, mileage 1,200, condition excellent; £11 Cruiglais, Dukes Av., New Malden, Surrey. [3

P. and M. Combination, new sidecar, new tyres, Sad, all accessories new; £105, or exchange car.—Wain, Cotton Rd., Potters Bar, Middlesex. [3

P. and M. 3½h.p., new July, 1920, mileage 2 carefully driven; reasonable offers.—Bart 228a, Gipsy Rd., West Norwood. Sydenham 2210 a.m.-6 p.m. [

P. and M. Combination, Dunhill sidecar and s apron, lamps, etc., fully equipped; £100, bargain.—Mobes, 154-156, Gt Portland St., 'Phone: 3426 Mayfair. [

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P. and M., R.A.F. model, delivered new from works January 26th, 1920, Montgomery No. 2 sidecar, lamps, horn, all spares, in splendid condition; £105.—Blackburn, Winsoyer Rd., Spalding. [3538

P. and M. Motor Cycle, 2 speeds and free engine, in thorough running order, complete with Lucas head, rear lamps and generator, Bosch mag.; £27/10, or near offer.—65, High St., Feltham, Middlesex. [3571

P. and M. W.D. 3½h.p. Model, overhauled and guaranteed by us, £78; others not overhauled but in running order. £68; complete with Mills-Fulford sidecar, £100 and £110; deferred payments 7½% extra.—Maudes, 100, Gt. Portland St., W.1. [3950

PHELON and Moore, ex-W.D. models, thoroughly overhauled and guaranteed, tanks re-enamelled, front brakes, chain cases, £78; similar models overhauled and guaranteed by makers, £95; with sidecars, £100 and £110; easy payments 7½% extra.—Maudes, 100, Gt. Portland St., W.1; and Paris St., Exeter. [3803

Paragon.

1920 Paragon 2-stroke, 2-speed, spring frame, copper exhaust; bargain, £47/10.—6, Suffolk Rd. South, Bournemouth. [3189

Peco.

PECO Sidecarette, 2¾h.p., Henderson sidecar, 2 speeds, 3 lamps, horn, reliable, quiet; any reasonable trial; £55.—Apply 5 to 7 p.m. only, 2, Langley Court, Covent Garden, W.C.2. [3418

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PREMIER 3½h.p. 3-speed Countershaft Combination, Canoelet sidecar, electric and acetylene, speed-[illegible]eter, 2 horns, luggage and petrol carriers, etc., every-[illegible]ing guaranteed perfect condition; any trial; £90, or [illegible]ar offer.—Write 35, Peak Hill, Sydenham. [3270

P.V.

[illegible].V. 1913 3h.p., twin J.A.P.; £27/10.—127, Stanstead Rd., Forest Hill. [3382

Quadrant.

[illegible]UADRANT, new tyre and tube, good order; £20.—[illegible] Box 9,922, c/o *The Motor Cycle*. [3285

[illegible]914 4½h.p. Quadrant Combination, Bosch, 3-speed, clutch, good order; £60.—C. M. Rolfe, Cheveley, [illegible]wmarket, Cambs. [3516

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[illegible]UADRANT 1920 4½h.p. Combination, shop-soiled, as makers' specifications; at greatly reduced price; [illegible]is the time to buy.—Mebes, 154-156, Gt. Portland W.1. 'Phone: 3426 Mayfair. [7189

[illegible]UADRANT 4½h.p. Big Single; combination £145, solo £115; new machines always in stock; the [illegible]r moderate-priced outfit left.—Victor Horsman, [illegible]., 7, Mount Pleasant, Liverpool. [0277

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Radco.

[illegible]30.—Radco 2-stroke, perfect, 120 m.p.g., all accessories; cheap mount for holidays.—35, Freegrove Holloway, N.7. [3592

[illegible]EW Radco Lightweight 2¼h.p. 2-speed Model, slightly shop-soiled, at greatly reduced price; [illegible]e for clearance list.—The Premier Motor Co., Aston [illegible], Birmingham. [3893

[illegible]ADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now [illegible]he time to buy.—Mebes, 154-156, Gt., Portland St., [illegible]. 'Phone: 3426 Mayfair. [7190

Reading-Standard.

[illegible]920 Reading-Standard, Canoelet sidecar, electric lighting and horn, quite new; what offers?—Lait, Terrace, Tipton. [X2924

[illegible]EADING-STANDARD Combination, 1918, 10h.p., 3 speeds, H. and F. clutch, electric lighting, 2-[illegible]er sidecar, speedometer, mechanical horn, Cameo, [illegible]on, luggage grid, petrol carrier, tools, condition [illegible]lew, grand outfit; any trial; great bargain, £120. [illegible]ley, 99, Huxley Rd., Silver St., Edmonton, London. [3581

Revere.

REVERE, Villiers 2¾h.p., 2-stroke, equal to new, mileage 1,000, Bedford Club medal winner, will [illegible]emonstrated anywhere; price, with spare belt, tube, [illegible], speedometer, and knee-grips, £50.—Can be seen [illegible]1, Luke St., Bedford. [3504

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REX 4h.p., 1913, good condition, lamps, horn, etc.; £20.—Knight and Wheatley, The Pavement, Coulsdon, Surrey. [3460

REX 5-6h.p. Combination, coachbuilt, 3-speed, lamps, speedometer, etc., perfect condition; £75.—38, Chalsey Rd., Brockley, S.E.4. [3473

REX 1912 6-8h.p. Combination, 2-speed, handle start, overhauled, tyres, parts; £75; seen Saturday after 3, Sunday appointment.—86, Chichele Rd., Cricklewood. [3135

5-6h.p. Twin Rex, clutch, B. and B., Bosch, disc, large copper exhaust, lamps, generator, low sporty 'bus, fast; £60; offers.—Club House, Newchapel Lingfield, Surrey. [3450

NEW Rex 8h.p. Combination, Blackburne engine, detachable wheels, slightly shop-soiled, at greatly reduced price; write for special clearance list.—The Premier Motor Co., Aston Rd., Birmingham. [3894

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1920 Rover 3½h.p., all-chain, perfect; £125.—Copner, Dragon House, Petersfield. [3098

3½h.p. 1920 Rover, new July, done 1,000, new lamps, horn, etc., as new; £125.—Box 9,879, c/o *The Motor Cycle*. [3108

ROVER 3½h.p., B. and B., clutch, Bosch, good condition and running order; £36.—Bowman, 9, Thirlmere St., Carlisle. [3426

1920 3½h.p. Rover, 3-speed, all chain drive, brand new, shop-soiled; £127.—Clarke, 98, London Rd., St. Albans. [3740

ROVER Combination, all that could be desired, insured in July £136/5; 120 gns.—Write, Lewis, 12, Hafer Rd., S.W.11. [3735

ROVER 6h.p. Combination, Army model, bought unused 1920, perfect condition, small mileage; £140.—A.B., 93, Onslow Sq., London, S.W. [3305

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery.—Collard, Cook's Garage, Shifnal. [2684

ROVER, 1916, splendid condition, countershaft, engine rebored, new piston and rings, crank-pin, rebushed, tyres good; £85.—Binder, Jeweller, Oundle. [3117

1917 Rover, 3½h.p. countershaft, Millford Corvette sidecar, the whole as new, no equipment; £100, bargain price.—Welford, St. James St., Brighton. [3080

1919 T.T. Rover, fully equipped, fast and economical, perfect condition throughout; worth £90; no reasonable offer refused.—Cantrill, 172, Cross Rd., Coventry. [X3414

OCTOBER, 1919, 3½h.p. Rover Combination, Lucas lamps and horn, Easting screen, luggage grid; £135.—Seen by appointment, Templer, Kirkdale, Oldfield Lane, Altrincham. [3371

6h.p. W.D. Rover Combination, 1919, hood, wind screen, electric lighting, spring pillion seat, condition as new; £150, or near offer.—Owen, 4, Bexley Rd., Belvedere, Kent. [X3393

1920 3½h.p. Rover Motor Cycle, 3-speed, clutch and kick-starter, Lucas horn, Volex electric lighting set, complete; £125.—Apply, 74, Mount Pleasant, Barrow-in-Furness. [3535

ROVER Combination, 5-6h.p. J.A.P., W.D. model, 3 speeds, clutch, and kick starter, had very little use; £120; exchanges or terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3722

ROVER Combination, 3½h.p., 3-speed countershaft, kick starter, hood, screen, electric lighting, speedometer, Tan-sad, grand condition, owner bought car; sacrifice £105.—Briarbank, Portsmouth Rd., Kingston-on-Thames. [3919

ROVER 3½h.p., countershaft model, also T.T. model, Philipson pulley, as makers' specifications, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7191

ROVER New 6h.p. Combination, latest type, bulbous back sidecar, slightly shopsoiled, exceptional bargain, which cannot be repeated; £175.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart coachbuilt sidecar; £180, or on deferred payments 5% extra, one quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [3439

ROVER 5-6h.p., August, 1920, canoelet sidecar, new engine last week, extra heavy Kempshalls, puncture-proofed tubes, Lucas lamps, horn, speedometer, grips, tools, etc., combination as new; £155, or near offer; any trial.—9, Eaton Rd., Coventry. [X3459

Royal Ruby.

ROYAL Ruby 1921 Models, book order now; delivery to suit clients.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3833

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. A35

MOTOR CYCLES FOR SALE.

Royal Ruby.

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

3h.p. Royal Ruby, spring frame, 2-speed, clutch and kick-starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used and condition as new; £110; may be obtained on Harrods deferred payments system.—Harrods, Ltd., 118, Brompton Rd., London. [3437

Rudge.

RUDGE New 6h.p. Model; £115, bargain.—Marston, 31, Bridge St., Chester. [3758

RUDGE 3½h.p.; £45; overhauled by makers.—Marston, 31, Bridge St., Chester. [3771

RUDGE I.O.M. Multi, new, slightly soiled; £100.—Clark, 7, Exhibition Rd., S.W.7. [3907

RUDGE Multi, 1914, Chater coach sidecar; £50.—Taylor, 637, Seven Sisters Rd., Tottenham. [3643

RUDGE Multi 3½h.p. Combination, lamps, splendid condition; £70.—60, Bromar Rd., Camberwell. [3176

NEW Rudge Motor Cycle, 1920, and sporting car, complete, as new; £125.—Knight, Broomfield Hall, Chelmsford. [3397

1919 Rudge Multi, 3½h.p., excellent condition, no equipment; £50.—Welford, St. James St., Brighton. [3679

RUDGE T.T., clutch, E.I.C., Senspray, discs, lamps, etc.; £40, or near.—2, Moreton Terrace Mews, Pimlico, S.W.1. [3321

RUDGE 3½h.p. 1913, just overhauled, lamps, horn, etc., £40, or nearest offer. Ayling, 4, Little Elm Place, Chelsea. [3540

RUDGE Multi 1915 3½h.p. Clutch Model, T.T. bars, lamps, horn, speedometer; £48.—R. D. Varty, Thundersley, Essex. [3711

1914 Rudge Multi, 6h.p. big single and sidecar, condition excellent, all new lamps; £70.—Welford, St. James St., Brighton. [3678

RUDGE Isle of Man Model 1920 Motor Cycle, only used once; best offer over £100.—15, King Edward's Av., Chelmsford. [3499

1920 I.O.M. Rudge, T.T., as new, perfect condition, Watford speedometer; bargain, £82.—7, South Park Hill Rd., Croydon. [3417

I.O.M. Rudge, 1920, nearly new, equipped, signed guarantee perfect; forced accept £80; obvious bargain.—55, Eaton Terrace, S.W. [3477

1920 3½h.p. I.O.M. Rudge Multi, mileage 500, splendid condition; any trial; £95.—Parker, London Road Garage, Batheaston, Bath. [2530

RUDGE Multi 1919 Touring Model, 3½h.p., single-cyl., excellent order; £65, or near offer.—Apply, R.A.B., The Shrubberry, Basingstoke. [3325

1919 Rudge Multi, 3½h.p., I.O.M. T.T., lamps, Klaxon, pump, racing cams, excellent condition; £85.—R., 19, Sunderland Terrace, Bayswater, W.2. [3145

NEW 1920 5-6h.p. and 7-9h.p. Rudge Multi Combinations in Stock; maker's price.—Shepherd and Co., Enfield Highway. Tel.: Waltham X31. [0341

RUDGE, 2-speed Bradbury gears, recently completely overhauled and re-enamelled, tyres good, lamps and spares; £50.—Cooper, 34, High St., Ware, Herts. [3125

RUDGE Multi, I.O.M., 1920 model, only done 500 miles, and unscratched, complete with lamps, horn, etc.; what offers?—Leethem, Arundel Factory, Portsmouth. [3360

RUDGE T.O.M., 1920, mileage 800, overhauled by makers, very fast, with or without lightweight sidecar; best offers.—L. West, 71, Norbury Crescent, Norbury, S.W.16. [3148

RUDGE, 1918-1919, Brooklands model, sloping tank, all accessories, variable gear, fast and powerful, in perfect order; £65, or take lightweight part payment.—Snodgrass, 18, Junction Rd., Brentwood, Essex. [3610

1920 Rudge Multi, I.O.M. T.T., little used, complete with Lucas horn, lamps, spare belt, etc.; will exchange for 1915 or 1916 2¾h.p. Douglas or Cotton lightweight and cash, or sell £95 or nearest.—Davies, Hoo, Rochester. [2464

1920 (May) 3½h.p. T.T. I.O.M. Rudge Multi, starter, hardly had any use, perfect condition, not distinguishable from new, owner getting light car; any examination or trial; complete with lamps and Lucas horn; £97, bargain.—Box 9,900, c/o *The Motor Cycle*. [3199

Sarolea.

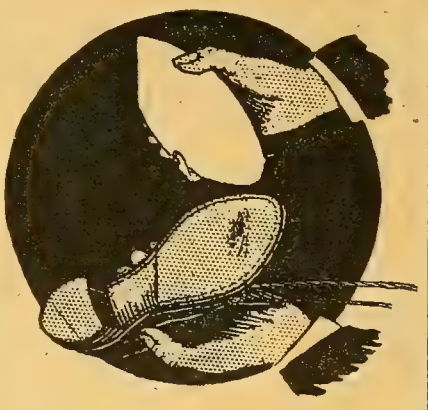
6h.p. Sarolea, good condition, needs few adjustments, been standing; £18.—55, Douglas St., Deptford. [3502

Scott.

SCOTT 1920, mileage under 1,000; £110.—Main, 36, Parade, Leamington. [X3377

SCOTTS, immediate delivery from stock, solo and combination.—Gibb, Gloucester. 'Phone: 852. [3609

SCOTT Special Competition Model, soiled, £120; also new semi-T.T. model, £130.—Marston, 31, Bridge St., Chester. [3768



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MOTOR CYCLES FOR SALE.

Scott.

SCOTT Combination, 1915½, splendid condition £88; for solo, cash adjustment.—57, Kenbury St Camberwell, London. [334

SCOTT, solo and combination (new), 3in. Palmers, stock; cash, exchange, or easy payments.—Motorie 25, Horton St., Halifax. [38

78 GNS.—Scott combination, 1917-18, excellent m chanical condition; exchanges.—12, Cornw Mews, Gloucester Rd., S.W.7. [39

SEMI-T.T. Scott, Bosch, Dec., 1914, recent overhau replacements cost £20; reasonable offer.—See High Street Garage, Guildford. [31

SCOTT Combination, fully equipped, very good co dition, any trial; £80, nearest, or exchange. 46, Fielding Rd., Wadsley Bridge. [37

1920 (July) Scott Combination, electric lighting, too indistinguishable from new; £160, or neare offer.—8, Merchants Hill, Wainfelin, Pontypool. [31

SCOTT Combination, 1914, Bosch, B. and B., 2-spee etc., complete, accumulator electric light; wan tuning; £55.—Thorne, 25, Temple Rd., South Ealin [30

SCOTT, 1920 sports model, horn, very small mileag enamel as new, plating fair, perfect order, love machine; £115.—D. Lavin, Old House, Sonning, Berk [24

SCOTTS from Welford, Scott agent, Brighton.—A Scott spares in stock, 1921 models for immedia delivery; solo £130, combination £170. Get it Welford's. [36

SCOTT 1921 Sports Model, special Olympia Sho model, immediate delivery; £130.—Elce and C 15-16, Bishopsgate Av., Camomile St., E.C.3. 'Phone Avenue 5548. [00

1915 Scott C.B. Combination, good mechanical co dition, been overhauled and repainted, comple with lamps, hood, and screen; £75, or offer.—J. B gent, Chobham, Woking. [30

SCOTT Rotary Valve T.T. Machine, 3½h.p., 2 plu per cylinder, racing gears, actual Tourist Trop winner, requires slight repair and tuning; what offe —Capt. Hay, Cookham, Berks. [35

SCOTT and Henderson Sidecar, Nov., 1920, acetyle head, electric, side and tail lamps, Watford spe ometer, light car, rear tyre, only done 100 miles; £16 trial by appointment.—Greenway, Naval College, Gree wich. [27

SCOTT, 1913, and coachbuilt sidecar, Binks carbu etter, new tyres, thoroughly good running ord except leak in water jacket occurred last week; a reasonable offer accepted; cash wanted; shown runni Saturday afternoon or Sunday.—Turner, Allan Hou Hambrook St., Ryeworth, Cheltenham. [X34

SCOTT, T.T., specially built for the T.T. rac rotary valves, double pole ignition, thorough overhauled, re-enamelled and plated, largest P. and lamp set, very fast; inspection invited; £85; exchang or easy terms.—Scott Agents, Homac's, 243, Low Clapton Rd., N.E. 'Phone: Dalston 2408. [37

Singer.

SINGER 3½h.p. 2-speed Countershaft Model, in go running order; £27/10.—Pearson, Gate Hou Cheylesmore, Coventry. [X34

Sparkbrook.

1920 Sparkbrook 2¾h.p., 2-speed, as new; best lam front and rear, horn, and spares, Cowey spe ometer; £70, no offers.—E. B. Job, Oxted. [31

1920 2¾h.p. 2-speed Sparkbrook, used for demo stration purposes, few miles only, perfect con tion; £63.—Herbert Robinson, Ltd., 32-35, Gre St., Cambridge. 'Phone: 995. T.A.: Bicycles. [38

SPARKBROOK (October) 1920 Model, 2¾h.p., speed, footboards, complete with lamps, Lu horn, leg shields, etc.; open to expert examinatio price £70.—G. Baker, Christchurch St., Ringwood, Ha [33

SPARKBROOK 2¾h.p., 2-speed, the lightweight w an ultra finish, as makers' specifications, sh soiled; at greatly reduced price; now is the time buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phon 3426 Mayfair. [7

Sun.

1920 Sun-V.T.S., Sturmey-Archer 2-speed gear, ha controlled clutch and kick starter, soiled or genuinely as new; £63.—Herbert Robinson, Ltd., 32- Green St., Cambridge. Tel.: 995. T.A.: Bicycles [3

Sunbeam.

SUNBEAM New 3½h.p., 3-speed; £155/8.—Robb Garage, Rugby. [3

SUNBEAM 1921 3½h.p., perfect, unscratched, miles; £155, no offers.—Banks, Clifford St., Y [3

SUNBEAM 1920 3½h.p. model, head and rear lam bulb horn, as new; £160.—Parker's, Bradsh gate, Bolton. [X3

1914 Sunbeam 3½h.p., in excellent order, with s car; £110; particulars with pleasure.—W. Bro Meal Bank, Kendal. [3

SUNBEAM 3½h.p. 1919 Combination, with all cessories, speedometer, and wind screen.—Mars 31, Bridge St., Chester. [3

MOTOR CYCLES FOR SALE.

Sunbeam

UNBEAM, 1920, 3 months old, fully equipped, condition excellent; £135; interchangeable wheels.—rne, Eccleston, Chester. [X2898

UNBEAM 3½h.p. Combination, unused and still in crate; list price; owner bought car.—Gill, Rutter's ll, Broomfield, Chelmsford. [X2912

919 8h.p. Twin Sunbeam Combination, Lucas dynamo lighting, perfect order, complete; £195. ones, Cheveley, Farnham. [3186

921 Sunbeams; guaranteed delivery of all models.—Brighton and District Agents, Hewett Bros., 94, stern Rd., Hove, Sussex. [0342

1h.p. Sunbeam Combination, 1920, mileage under 2 500, condition as new, Lucas lamps, horn; 80.—Chirner's Garage, Harpenden. [3241

921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith Co., 52-54, Hampstead Rd., N.W.1. [0353

h.p. Sunbeam Combination, new November, 1919, black and gold, electric lighting, spare wheel; what ers?—Write to Sunbeam, c/o Abbott, Eastcheap, Lon-n, E.C. [3087

920 Sunbeam 3½h.p., Lucas horn, lamps (King Road), Bonniksen, grips, spares, unpunctured, inance, excellent condition; £140.—Barrett, 21, Albert ., Devonport. [3092

REALLY Excellent 3½h.p. Sunbeam; 3 months old, Cowey speedometer and horn, marvellous accelera-n, very fast; 138 gns.—12, Mayfield Rd., Wimble-n, S.W.19. [3666

920 Sunbeam 3½h.p., brand new; immediate delivery; £155/8; exchanges or easy terms.—mac's, 243, Lower Clapton Rd., N.E. 'Phone: lston 2408. [3718

919 3½h.p. Sunbeam, Miller lamps, Klaxon, tools, fully insured, solo, sidecar sprockets; any trial inspection; £135, or nearest reasonable offer.—Girl's ammar School, Watford. [3565

UNBEAM 1919 8h.p. and sidecar, done 5,000, just overhauled by works, nearly new tyres, lamps, wind een, speedometer, excellent condition; £160.—A. nley, The Lodge, Harrow Park, Harrow. [3909

UNBEAM 1920 3½h.p. Sporting, with Millford Skiff sidecar, done 4,000 miles, at present being rhauled by Sunbeams, available immediately after nas; £160.—Shaw, Harfields Farm, Botley, Hants. [3269

1h.p. Sunbeam, 1916, late, and B.S.A. sidecar 2 attached, screen, tools, electric lighting, speedo-ter, spare tyres and tubes, been carefully ridden, ll; seen by appointment.—F. Veare, Havant, Hants. [3457

UNBEAM 1920 3½h.p. Sports Model, Lucas head and tail lamps, separate generators, Lucas horn, tford speedometer, Amac and B. and B. carbur-ers, excellent condition; £135.—Siddeley, Crackley, nilworth. [X3362

1h.p. Sunbeam, 1920 model, oil bath chain cases, 2 laminated front spring fork, lamps and horn, nbeam No. 1 sidecar fitted two months ago, tyres ioo-t unmarked; cash offers invited.—G. Smith, *The tor Cycle*, Coventry. [X3306

UNBEAM Combination, 6-8h.p., interchangeable wheels, spare wheel, electric lighting, speedometer, id screen, hood, legshields, luggage carrier, handle ars, spares, etc., in excellent condition; £165.—97, ss Lane, Swinton, Manchester. [0360

UNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling l plating under the supervision of Mr. T. C. de la y (late Sunbeamland).—The Molineaux Garage Co., d., Wolverhampton. Tel.: 1160. [3458

915 3½h.p. Sunbeam Combination (Cancelet), lamps, horn, Watford speedometer, spare tubes and parts, leage 4,000, used only week-ends, perfect running ndition; any trial; absolutely genuine bargain, £120. 22, Woodfield Rd., N. Ealing, W.5. [3910

918 Sunbeam 3½h.p. Solo, 3-speed, and handle-bar clutch, P. and H. lamps, Klaxon, trip speed-eter, Binks carburetter, kicks over in neutral, will mb anything, spare cover and tube, extra T.T. handle-rs; 112 gns.; seen by appointment.—Purdy, Hook-ld Park, Epsom. [3273

UNBEAM 4h.p., French military model, done 1,500 miles, appearance good, condition better than new, es excellent, Smith's trip speedometer, usual tools, res, gas and electric lighting, Ace discs, electric and eus horns, very reliable, fast machine; any inspec-n; £130.—Dodds, Clifton Villas, Sunderland. [3620

920 3½h.p. Sunbeam Combination, new July 30th, Easting screen, Cowey trip speedometer, P. and lamps, separate generators, horn, spare inner tube, ll set of tools, perfect condition, unpunctured, small llenge, insured to Aug. 4th, 1921; bargain for quick le; owner going abroad.—Pitcairn, Amport, Andover. [2725

920 3½h.p. Sports Sunbeam and Sunbeam sidecar, Dunhill wind screen, Bonniksen speedo-eter, Cowey horn, Hunt's electric lighting, ex-ptional engine, specially tuned for speed, every-ing perfect in every detail, no wear any-here, all tyres unpunctured, also spare tube and com-ete set of tools, repair outfit, and insurance to Sep-mber; £185, or near offer, cost £230.—Shakespear, t, Park Mansions, Knightsbridge, S.W. [3154

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"	Bates No. 1 Special	37/6	71/6
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MOTOR CYCLES FOR SALE.

Swift.

SWIFT 3½h.p., 3-speed, free engine, P. and H. lamps, engine very powerful, toured 1,400 miles through Wales this year with no trouble; owner buying big combination; £60, or offer.—J. Huntley, 322, Glyn Rd., Clapton, E.5. [3966

T.D.C.

£25; T.D.C., 2-speed, clutch, lass mag., nearly new; gift.—Capt. Collens, Fairholm, Sunbury-on-Thames. [X3327

Triumph.

TRIUMPH 3½h.p., variable gear, drop frame; £35.—Marston, 31, Bridge St., Chester. [3766

ALL-CHAIN Triumph, new October, 500 miles; best offer over £120.—Banks, Clifford St., York. [3166

1912 T.T. Triumph, complete, less engine, carrier; £14.—Merry, 19, Victoria St., Nuneaton. [X3060

1916 Baby Triumph, 2-speed, like new; £40, first cheque secures.—Box 989, c/o *The Motor Cycle*. [X3330

TRIUMPH 3½h.p., perfect running order, excellent condition; £38.—Dodd, 25, Princes Av., Chester. [3533

LATE 1919 Triumph and Sunbeam sidecar, as new, Easting, fully equipped; £135.—3, Harrington Sq., N.W.1. [3082

TRIUMPH 3½h.p., in first-class condition; £40; any correspondence.—45, Blackstone Rd., London Fields. [3422

1912 3½h.p. Triumph, clutch, minor defects, good running order; £30.—Particulars, Kirk, Kegworth, Derby. [3427

TRIUMPH 1914 4h.p. C.B. Combination, 3-speed, excellent condition; £58.—Ireland, Sankey, Warrington. [X3271

TRIUMPH, 1919, as new; £92.—Dental Parlors, 769, The Broadway, Manor Park, Romford Rd., London, E. [3335

1920 Triumph Spring Wheel Gloria Combination, absolutely perfect condition throughout; £126.—below.

1920 Triumph, all-chain, brand new, slightly shop-soiled; £126.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3641

1920 Triumph, countershaft, Henderson sidecar, as new; 129 gns.—Craiglais, Dukes Av., New Malden, Surrey. [3089

1921 Triumph, 3-speed, latest cush drive; list £127/10, sacrifice for £117 10.—Reynolds, Waterbeach, Cambs. [3899

JUNIOR Triumph, 1920 model, perfect, 500 miles, lamps, horn; £60.—Berry, 205, Hyde Rd., Woodley, Stockport. [3160

1921 Triumphs; all models in stock for immediate delivery.—The Premier Motor Co., Aston Rd., Birmingham. [3895

TRIUMPH 3½h.p. 1912-13, clutch model, thoroughly renovated; £45.—Eagles and Co., 275, High St., Acton, London. [X3386

3½h.p. 3-speed Triumph, engine in perfect order; £50, or nearest; photo sent.—Wm. Drummond, Blackridge, West Lothian. [3315

TRIUMPH 3½h.p., 1912, clutch, good condition; exchange 2-stroke; sell, £30.—Slater, 8, Graemesdyke Av., Mortlake. [3459

TRIUMPH, 1914, 3-speed, clutch, Canoelet C.B. sidecar, electric lighting, good condition; £80.—63, Chelverton Rd., Putney. [3266

1919 Triumph, as new, large P. and H., all spares, oversized piston fitted; price £95.—Harverson, Woodhall, Hatfield, Herts. [3086

1921 4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0354

1913 Triumph, 3-speed, clutch, accessories, recently renovated, excellent condition; bargain, £55.—26, Becmead Av., Streatham. [3503

TRIUMPH, free engine, pedal kick start, drop frame, horn, lamps, Brooks saddle, tyres sound; £50.—Bass, Golf Club, St. Neots. [3294

1920, T.T. Triumph, indistinguishable from brand new, mileage 300; cost £115, sacrifice for £85.—Reynolds, Waterbeach, Cambs. [3900

TRIUMPH Combination, £125; 1919, hood, screen, lamps, perfect order, various spares.—K., 38, Marlow Rd., Anerley, S.E. [3456

BABY Triumph, 1919, excellent condition, lamps, horn, footboards; £67.—Graham, Rosebank, Nantwich Rd., Middlewich, Cheshire. [3385

TRIUMPH 3½h.p., clutch, about 1912, speedometer, lamps, coachbuilt sidecar; snip, £39/10; ride away.—365, King St., Hammersmith. [3625

TRIUMPH, countershaft, 1918, re-enamelled, perfect order, head lamp, electric rear, tools, horn; £75.—3, Kildowan Rd., Goodmayes. [3307

1913 Trinmph 3½h.p., single-speed, excellent condition, recently overhauled; £35 or best offer.—Lowe, The College, Wye, Kent. [3228

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH 1920 4h.p. Model, Triumph sidecar, horn, Watford speedometer, equal to new; £175.—Parker's, Bradshawgate, Bolton. [X3367

4h.p. Countershaft Triumph, 1918 model, lamps, horn, and tools, in first-class condition; £80.—D. Murphy, Blackridge, W. Lothian. [3314

TRIUMPH 3½h.p., believed 1912, clutch, new Bosch, lamps, horn, excellent condition, fast; £37.—Bonavista, Bowes Rd., New Southgate. [3080

TRIUMPH 1918, 3-speed, C.B. sidecar, electric lighting, new speedometer; £96; after 6, or week-end.—8, Parolles Rd., Highgate Archway. [3486

1914 Triumph, sidecar, 3 speeds, clutch, fully equipped, good condition; trials; £65.—West, 5, Sutherland Terrace, Ebury Bridge. [3667

4h.p. Triumph, 3-speed, clutch, excellent condition; £75, or reasonable offer; seen by appointment.—Coleman, 84, Nightingale Lane, S.W.12. [3601

TRIUMPH 1917 Countershaft, just overhauled, accessories, spares; £85, or near offer; by appointment.—Millikin, 24, Warren Rd., Chingford. [3489

TRIUMPH 1918 Countershaft, new tyres, overhauled thoroughly and repainted, guaranteed condition.—Letters, 54, Canal Rd., E. Sheen, S.W.14. [3138

TRIUMPH, countershaft, 1918, 4h.p., 3-speed, lamps, Stewart horn, Tan-Sad, in excellent condition; £80.—27, Richmond Park Rd., Bournemouth. [3240

3½h.p. Clutch Model Triumph, lamps, horn, tools, spares, appearance and mechanical condition perfect; £40, offers.—21, Flaxton Rd., Plumstead. [3174

TRIUMPH 1920 4h.p., little used, fitted with new Swan sidecar; best offer over £140 accepted.—Buckingham, 21, Tindal St., Chelmsford, Essex. [3500

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, very small mileage; £70.—D. Lavin, Old House, Sonning, Berks. [2482

BRAND New 1920 Triumph Combination, handsome outfit, equipped regardless, insured; cost £191, accept £150.—60, Wallingford Av., North Kensington. [3653

TRIUMPH, All 1921 Models.—Early delivery, satisfaction guaranteed by booking with S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3836

TRIUMPH 1913 3½h.p., T.T., Bosch, re-enamelled, lamps, horn, belt, tyres, practically new, engine perfect; £45.—Whiting, 40, Agraria Rd., Guildford. [3455

TRIUMPH 1917 C.S., 3 speeds, etc., all accessories, 1920 new gear box; £78, near offer; must sell; cash wanted.—Norchi, 59, South Island Place, Brixton. [3697

4h.p. Countershaft Triumph, engine No. 45964, recently completely overhauled, good order, believed 1917; £67/10 lowest.—Sealey, 88, Princes Av., Watford. [3747

T.T. Triumph 3½h.p., 1912 engine, 1914 frame, speedometer, Klaxon, lamp, knee grips, good condition; £32, or nearest; photo.—Church, Bishops Stortford. [3303

BRAND New Type H 4h.p. 3-speed Triumph, fitted with special bulbous back coachbuilt sidecar; £160.—The Premier Motor Co., Aston Rd., Birmingham. [3896

1918 Countershaft Triumph, engine and enamel perfect, leg shields, new mudguards and tyre, insurance, accessories; £80, or offers.—Elmfield, Pittville, Cheltenham. [X3381

TRIUMPH 4h.p., Model H, new November, not done 250 miles, fitted F.R.S. lighting, Watford speedometer, Lucas horn; £115.—Burnett, Rowsley, Derbyshire. [3369

TRIUMPH 4h.p., believed 1918, countershaft, 3 speeds, new Dunlops, aluminium discs, large lamps, horn, tools; sacrifice £82/10.—365, King St., Hammersmith. [3624

F.O.C.H. for 1921 Triumphs; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3354

TRIUMPH, 1911, 3½h.p., Bosch, fixed engine, nearly new tyres and tubes, good appearance and condition, horn, lamps; £37, or nearest.—Broughton, Marston, Oxford. [3648

1912 Triumph 3½h.p., fixed gear pulley, engine newly overhauled by makers, excellent condition; owner going abroad; £40.—Wathen, 9, Sutherland House, Marloes Rd., Kensington. [3274

1920 Triumph Model H, Lucas lamps, Lucas horn, Cowey trip speedometer, mileage under 2,000, perfect condition throughout; £115.—Mackinnon, 25, Richmond Rd., Staines. 3495

TRIUMPH, 1921.—All models for immediate delivery at list prices; exchanges, extended terms.—Elce and Co., Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0072

1919 Triumph, not W.D. or renovated, polished cases, condition and appearance as new, complete, lamps, tools, spare valve, tube and cover; £90.—Cadman, Binchtree, Keresley, Coventry. [X3305

1918 Triumph C.B. Combination, Dunlop tyres, Lucas lamps, pump, etc., in first-class order, any trial, no reasonable offer refused.—Chester, Orchard Garage, Bedford Park, Chiswick. [3688

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Triumph.

TRIUMPH, latest model H, £127/10; Triu Junior model, £75; Triumph, Model H, renov by makers, just delivered, as new, £105.—Eagles Co., 275, High St., Acton, London. [X

1920 Triumph Combination, special G.L. semi s ing body, Dunhill chassis, Cameo screen, la horn, and spares, condition as new; £160; app ment.—Fooks, 39, Warwick Av., W.9.

1921 Triumph, all-chain, £140; 1921 Triu chain-cum-belt, £127/10; 1921 Triumph, type, 3-speed, £105; 1921 Triumph Junior, £75 in stock.—Marston, 31, Bridge St., Chester.

TRIUMPHS In Stock: Model H solo, £127 Model H combination, £182/10; lightweight, and W.D. Model, £105.—At the Triumph Ag West's (Lincoln), Ltd., High St., Lincoln. [X

1917 Triumph Combination, coachbuilt sid speedometer, Easting wind screen, lamps, pump, tools, and insurance policy, first-class condi £125.—Apply, 25, Buckingham Place, Brighton.

TRIUMPH 4h.p., 1919, Model H, countershaf speed, Watsonian latest sidecar with Eas screen, excellent condition, all accessories: £1 Eagles and Co., 275, High St., Acton, London. [X

TRIUMPH Gloria, all 1921 improvements, s drive, top tube gear change, leg guards, electric, hood, screen, spring wheel, perfect order; £ seen Midlands.—Box 983, c/o *The Motor Cycle*.

1916 Countershaft 4h.p. Triumph, Sturmey 3-sp hand clutch, new belt, footrests, mudgu looks as new, excellent running order, Miller's l set, bargain; £58/10.—21 Norfolk Rd., Littlehamp

1920 Triumph 4h.p. Millford Combination, la Klaxhorn, screen, luggage carrier, leg gua tools, accessories, in perfect condition, all tyres g any trial; £115.—H., 51, Shoot-up-Hill London, N. [X

TRIUMPH, Model H. £127/10, S.D. £140, £105, L.W. £75; combination, Model £182/10, S.D. £195; immediate delivery.—Vi Hardie and Lane, Ltd., 24, Woodstock St., Lon W.1.

3½h.p. Triumph, Bosch, B.B., Mabon clutch, la footboards, ride away, £30; also Triumph t with Best and Lloyd, 25/-; Triumph pulley, Klaxon, 17/6.—10, Windermere Rd., London, N After 6.

1920 4h.p. Triumph and B.S.A. sidecar, luggage lamps, horn, speedometer, spare valve, etc., 2,600 miles, almost new tyres, excellent condition, been well kept; £160.—Verity, Longfield, Hatf Herts. [X3

4½h.p. 1914 Triumph, 3-speed, clutch, equipped, just been rebored and overhau (bills shown), spare aluminium piston for speed w new tyres, belt, etc.; £55.—57, Sellons Av., Ha den, N.W.

1918 Triumph 4h.p., countershaft, 3 speeds, clu and kick starter, Lucas lamps, horn, T.T. b not W.D., guaranteed; £85; exchanges or term Homac's, 243, Lower Clapton Rd., N.E. 'Pho Dalston 2408.

100 M.P.G. Guaranteed: 1920 4h.p. Trium lightweight, canoelet, specially fitted loc back rest, wind screen, and carrier, lamps, Kla Cowey, all spares, tools, insurance, trial; £138.— Sylvan Rd., Wanstead.

1919 (October) 4h.p. Triumph with 1920 Montgom sidecar, lamps, horn, Easting, luggage grid, nearly new Dunlops, excellent condition, driven pre owner only; offers; trial by appointment.—C. B. well, Admiralty, London.

1920 Triumph Combination, very sporty outfit, bars, Ace discs, long exhaust pipe, sporting Cu let sidecar, with special wind screen and luggage Lucas accessories, tyres unpunctured; £150.—Hac 8, Mardol Head, Shrewsbury. [X3

TRIUMPH Gloria Combination, delivered 1920, en No. 66758, with lamps, tools, horns, Eas screen, insurance, guaranteed in most excellent or cost nearly £200 when new; an absolutely reliable fit; price £120; must realise.—Keen, Leominster. [3

NEW Triumph 4h.p. Countershaft Model, £127 4h.p., type WDB, £105; 4h.p. all chain d £140; 4h.p., fixed engine, sporting, £105; all mo in stock; Cambridge agents for Trimphs.—Her Robinson, Ltd., 32-35, Green St., Cambridge. 995. T.A.: Bicycles.

1919 Triumph Combination, brand new, sporting polished aluminium sidecar, wind screen, de able hood, disc all round, large size P.H. lamp Lucas horn, spare chain and belt, long exhaust appearance as new, first-class throughout; £125, gain.—Fairhaven, Flowery Field, Stockport.

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VELOCETTE 2½h.p., 2-speed, all-chain drive, perf £45.—Henderson, Crewe Rd., Nantwich.

HORSMAN can do Velocettes from stock.—Vi Horsman, Ltd., 7, Mount Pleasant, Liverpool.

VELOCETTE, only ridden 100 miles; for immed sale, £70.—Pollard, Broomfield Rd., Chelms

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NEARLY New 1920 Latest Model Velocette, no offers; accept £65, quick sale.—Stevenson's Garage, Tunbridge Wells. 'Phone: 425. [3235

IMMEDIATE Delivery of new 1921 model D2 Velocette; £75.—Sole Birmingham Agents. The Premier Motor Co., Aston Rd., Birmingham. [3897

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain drive: £75.—Agents: W. Sparrow, Ltd., Osborne Garage, Peovil. [1632

VELOCETTE 2-stroke Lightweight, excellent condition, lighting set, etc.; accept £32, or exchange for Triumph, Douglas, or good 4-stroke lightweight.—61, South Norwood Hill, South Norwood, S.E. [3093

VELOCETTE, the lightweight with a big heart, in stock for immediate delivery, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W1. 'Phone: 3426 Mayfair. [7196

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Verus.

VERUS, 2¾h.p. Blackburne, 2-speed, clutch, new, slightly soiled; £95.—Clark, 7, Exhibition Rd., W.7. [2591

£35 down and 8 monthly payments of £7/10 secures a brand new shopsoiled 1920 Verus Blackburne speed 2¾h.p.—Maudes' (below).

£40 down and 8 monthly payments of £8/15 secures a brand new 4h.p. 3-speed Verus Blackburne.—Maudes', 10p, Gt. Portland St., W.1; and Paris St., Exeter. [3804

Vindec.

VINDEC 6h.p., new tyres, tubes, belt, aluminium footboards, guaranteed perfect; £30.—73, Haverstock Hill, Hampstead. [3920

4h.p. Vindec, special aluminium crank cases, any number supplied.—Christie, moulders and engineers, 9, Hollybank Place, Aberdeen, Scotland. [3253

White and Poppe.

WHITE and Poppe 3½h.p., W.C., Bosch, B. and B., lamp, etc., economical and reliable, ride away; £3.—45, West Hill Rd., S.W.18. [3484

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7197

Wolf.

WOLF, Peco engine, new piston, 2 speeds, new mag., new Palmer back wheel, lamps, all accessories; £9.—Wilson, Gutherscale, Keswick. [3646

Wooler.

WOOLER, 1920, unused, P.H. lighting set, tools, etc.; £90.—11, Rochester Terrace, Camden Rd., N.W.1. [3563

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7192

Zenith.

1921 Zenith Sporting Model; £123; in stock.—Marston, 31, Bridge St., Chester. [3755

1921 Zeniths, in stock.—Agents, Hewett Bros., 94, Western Rd., Hove, Sussex. [0344

1920 Zenith 8h.p., clutch, kick-starter, only used 10 weeks; £135.—Tawstock, Cole St., Scunthorpe, Lincs. [3542

ZENITH Combination, 8h.p., electric lighting, 3 tyres, perfect condition; £85.—103, Moore Park Rd., Fulham. [3518

4h.p. Zenith Combination, wicker sidecar, in thorough running order; £50.—25, Rosslyn Crescent, Wealdstone, Harrow. [3943

ZENITH Combination, coachbuilt, 4h.p., 1913, good running order; offers.—Hale, 82, Hertford Rd., Enfield Wash. 'Phone: Waltham Cross 229. [3149

GATE 1919 6h.p. Zenith, condition as new, speedometer, lamps, Tan-Sad, fast; £100; any trial.—3, Prince Place, Hampstead. Hampstead 5982. [3144

1915-16 Zenith 4-5h.p., twin J.A.P., No. 5235, clutch, kick start, recently overhauled, all accessories, spares; £68.—120, Macoma Rd., Plumstead. [3298

ZENITH 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3262

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7193

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'Grams: "Cyclotomo, Phone, London.'
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387, Euston Road, London, N.W.
'Phone: Museum 4978.
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MOTOR CYCLES FOR SALE.

Zenith.

ZENITH 8h.p. Sporting Model in stock; £139.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0319

F.O.C.H. for 1921 Zeniths; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3352

1919 4-5h.p. Sports Zenith and light Millford coachbuilt sidecar, speedometer, lamps, mechanical horn; £93; or solo £90.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3842

F.O.C.H. have a 1919 6h.p. Zenith, T.T. bars, accessories, grand condition, cheap.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3349

ZENITH 8h.p. Combination, clutch, kick start, Lucas Magdyno, Cowey horn, luggage grid, petrol can carrier, tools and spares, only done 2,000, and is better than new; £180; owner bought car.—Wellands Garage, Portsmouth Rd., Esher. [3238

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments; one fifth deposit, balance by 12 monthly instalments, a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [3440

ZENITH 6h.p., magnificent condition, indistinguishable from new, small mileage, tyres as good as new, fully equipped, including screen and speedometer; seen any time; £120, or will exchange for lower power.—5, St. George's Rd., Forest Gate, E.7. [3084

ZENITH 6h.p. J.A.P. Combination, clutch, discs, hood, acetylene and electric lighting, B.B. and Amac carburetters, spare valves, tubes, etc., and full kit of tools, recently overhauled, appearance and condition perfect; £80.—32, Canterbury Rd., Brixton. [3574

8h.p. 1919 Sports Zenith, Swan sporting sidecar, special engine, cylinders reground and waisted pistons, polished crank case, dual oiling, 4ft.×3in. nickel plated copper exhaust with pedal operated baffle, Ace discs, electric lighting, including 24 c.p. head lamp and Klaxon, Bonniksen speedometer with light, Binks or Amac as required, sidecar finished Zenith colours, specially upholstered, and Triplex wind screen, the whole is in perfect condition and like new, 10-70 m.p.h. on top, many spares, including valves, belts, tyres, racing pulley, etc.; best offer over £165; seen by appointment.—Palmes, Holmwood Vicarage, Surrey. [3511

Ladies' Motor Cycles.

LADY'S New Imperial-Jap, 2-speed, splendid condition; £40.—Weddle, Bourne, Lincs. [3181

ROYAL RUBY 1917 Ladies 2½h.p., 2-stroke, 2-speed, clutch, lamp, horn, new back tyre; £30.—Bartlett, Garstang, Lancs. [3528

Miscellaneous.

G. A. SAX, 619, Garratt Lane, Earlsfield, S.W.17, has for disposal:

1920 Douglas 4h.p., fully equipped, £85; 1915 Douglas 2¾h.p., condition as new, complete with lamps, £50; Triumph clutch model, very fast, £42/10; A.C. Autocarrier, in perfect running order, £55; Maxwell touring car, perfect running order, upholstering as new, £120; Spyker 15-cwt van, C.B. body, in good running order, £60; Commer Car 3-ton lorry, R.C., 1915, chain case-type, fully equipped, hoops, sheets, etc., £325. Any exchange entertained. [3444

TRIUMPH, 1921, just delivered; in stock.—Light Car and Motor Cycle Engineering Co.

TRIUMPH, 1919, new condition; £100.—Light Car and Motor Cycle Engineering Co.

DOUGLAS 1916 2¾h.p., not W.D.; £47.—Light Car and Motor Cycle Engineering Co.

TRIUMPH Lightweight, 1920; £68.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2. [3809

1921 Triumphs, Scotts, Bradburys, James, Rudges, Campions, Morgans, etc.—Ewens, Garage, King's Lynn. [3659

BOOTHS' Motories, Halifax.—6h.p. Rudge combination, lamps, 1920 model, £125; 1920 4h.p. Blackburne-Verus, 3-speed, and new Millford sidecar, £120/10.

BOOTHS' Motories, Halifax.—1920 6h.p. Ariel combination, shop-soiled, £145/10; 1920 Harley-Davidson, very cheap.

BOOTHS' Motories, Halifax.—1915 Harley-Davidson combination, lamps, hood, etc., £87/10; 6h.p. 2-speed Rex combination, £40/10.

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BOOTHS' Motories, Halifax.—1919 P. and M., with new sidecar, £115/10; 1920 2-speed Wolf, £52/10.

BOOTHS' Motories, Halifax.—Six 1915 Douglases, £49/10; four 4h.p. Douglases, 1918, £85/10; 1914 3¾h.p. Sun-Precision, 3-speed, £35/10.

BOOTHS' Motories.—1920 O.K. lightweight, Villiers engine, only run 150, £43/10; ditto with 2-speed, £54/10; 1920 Omerga, 2-speed, £69/15; 1914 2-speed Scott, £47/10; 1920 10h.p. Swift light car, £420; 1920 Harley-Davidsons, Ariels, Quadrants, O.K.; exchanges.—Booths' Motories, Portland Place, Halifax. [2621

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1921 Motor Cycles.—Send your order along, for all leading makes. Satisfaction and good service guaranteed.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3832

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1920 Triumph, Model H, new, just ridden home, complete; 1920 N.U.T., March, in excellent condition, as new, Magdyno, Lucas, any trial; offers.—Robson, The Wold, Oundle, Northants. [3194

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Little used Douglas combination, £120; Ixion 2-stroke, £32; Campion-Villiers, 2-speed, £45; Enfield 2-speed 2-stroke, leg shields, electric lighting, new A.B.C., N.U.T., Lea-Francis, Ivy, Cedos; also

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BATCHELOR and Co. Can Deliver from Stock Triumph 4h.p. S.D. model, £140; Triumph 4h.p. Model H, £127/10; Triumph 4h.p. W.D.B., £105; Triumph Junior, £75; Douglas 1921, clutch, 2¾h.p. model, £105; Douglas 1921 2¾h.p. 3-speed, £100; Douglas 2¾h.p. 2-speed model, £85; Matchless 1921 combination, £230; Enfield 1921 combination, £160.—Note address, 36, Clarence St., Kingston-on-Thames. [3963

F.O.C.H. the car, light car, and motor cycle specialists.—A good new and second-hand selection always on view; prices to suit everybody; fair cash price paid for your 'bus; exchanges a speciality. We supply Triumph, Zenith, B.S.A., A.J.S., etc., also the famous Kingsbury Junior, Bleriot Whippet, Grahame-White, G.N.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [3355

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AUTO-WHEEL, B.S.A., for sale; £11.—Green, Ackleton, Wolverhampton. [3523

WALL Auto-Wheel, as new; £12.—Rev. Jeynes, Froome's Hill, Ledbury, Herefordshire. [3662

A.J.S. Motorcycletta Set, complete less mag.; £5.—Marks, 121, Acton Lane, Chiswick, W.4. [3733

AUTO-WHEEL attached gent's cycle, perfect condition; £19.—26, Southview Drive, Westcliff. [3151

WALL Auto-Wheel, almost new condition, had very little use; £10.—85, Beaconsfield St., Bolton. [3701

J.E.S. Attachment Set Complete, running order; first reasonable offer accepted.—23, Milton Rd., Bournemouth. [3311

WALL Auto-Wheel with lady's Rudge, excellent condition; £20, or separate.—Crittenden, 75, Salisbury Rd., Maidstone. [2747

FOR Sale, Auto-Wheel, run 50 miles, plating unscratched, tools, and bicycle attachment and stand.—Coomber, Tything, Worcester. [3214

AUTO WHEEL, nearly new, guaranteed perfect, tyre unscratched, mags., carburetter, tank, everything complete, cost since £15; decided bargain, packed free.—Dyde, 3, Portman St., Whalley Range, Manchester. [3780

MOTOR SCOOTERS.

KINGSBURY Scooter, with seat, perfect, trial; £25.—Write, Harman, 63, Sloane St., London. [3665

INGERTON'S Northgate, Ipswich, can delivery from stock A.B.C. Skootamotas and mobile pups. [1445

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2nd Nov., 1920.

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On the 28th of October, 1920, a 3 h.p. IVY two-stroke and Sidecar, fitted with a 350 C.C. IVY Engine, made **15** consecutive clean ascents, non-stop, of the Old Wyche Cutting, at Malvern, with a passenger in the sidecar, the driver being Mr. Percy Newman. In addition to this, an extra passenger was carried for two further ascents, the machine being brought to rest while the passenger mounted to his place, during which time the engine was not stopped. The weight of the outfit, complete, with driver and passenger, was 5½ cwt.; on the 16th ascent, the extra weight of the second passenger brought this up to 6¾ cwt., and during the 17th ascent, up to 7 cwt. At the conclusion of the trial, the engine showed no signs of overheating. The trial was carried out in fine weather, with no appreciable wind, and the road surface was good

Yours faithfully,
G DIXON SPAIN.
Assistant Secretary.

THE ARISTOCRAT OF ITS TYPE

MOTOR SCOOTERS.

AUTOGLIDER Scooter, 2¾h.p., climb any hill, ridden 10 miles; owner unable to ride it; unu horn and Lucas lighting set front and rear; £55 clear.—H. C. Chapman, 28, Wellington Rd., Bush Park, Enfield. [32

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ARGSON Hand and Motor Propelled Tricycles, invalid and disabled.—Particulars, Argson E Co., Ltd., 3, Kendalls Mews, George St., W.1. [2

HOODS, WIND SCREENS, ETC.

AUSTER Aero Triplex Aluminium Wind Scree 12in., adjustable, fit sporty sidecar, 22/6 ea and other types.—McConnell and Bailey, 73, Gt. Pc land St., W.1. [7

BODIES.

VENUS Step Bodies are the best for old chassis.

VENUS Bulbous Bodies are roomy and very sm

VENUS Tandems hold 2 persons. Strong and lig but not unsightly. Get one.

VENUS Bodies are made in a factory and suppl direct. Catalogue free.

VENUS Sidecar Co., 6-14, Gourley St., S. Tottenh [2

ROYAL Leicester Sidecar Bodies fit any chassis, fi class finish. Several bodies (new) to clear che Write for designs.—The Willowbrook Co., Manu turers, Leicester. [0

SIDECARS, beautiful coachbuilt bodies, many signs and colours to choose from; aprons, hoo wind screens, repairs. Trade supplied.—City Mo Co., 121, 123, 125, London Rd., Manchester. [0

SIDECAR Body Designs for the trade only. Wo ing, coloured, pencil, or line drawings of origi designs, also working drawings, full-sized or to scal Cooper's Vehicle Journal, Ltd., established design to the coach trade for over 80 years. Consult us wh designing new ideas.—20, Tudor St., London, E.C. [0

SIDECAR ATTACHMENTS.

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FOR

SANDUM, the Smart Sidecar Specialists.

SANDUM Sidecar Catalogue for 1921, the n comprehensive in the trade.

SANDUM Sidecars.—No. 1 De Luxe, £24/10; value in Olympia Show.

SANDUM Models. The Exquisite £24/10, and Sp £28/10, are of distinctive appearance.

SANDUM Elite Sidecar, £28/10; the smartest s car on the road; highly recommended in "Motor Cycle."

SANDUM Sidecars, prices to suit all, from £16/1 £50; absolutely honest value.

SANDUM Dual Purpose Sidecar (patented). A si or 2-seater sidecar as required in 5 seconds. of body as our single-seater Elite. Luxuriously c fortable seating for 2 adults, with the weight in rect position over rear axle. Finished in colours to any make of machine, £45, bodies only. £22 The latest development of the 2-seater as designed us, and approved by the recognised experts.

SANDUM.—Insist on Sandum enclosed wheel cha or on girder type chassis.

SANDUM Screen, £4/10; easily operated by pa ger, with screen in any position.

SANDUM Featherweight Streamline Body, smart racy, weight 18 lbs., locker in back and u seat; when not in use the seat back hinges forw and neat coverall encloses the whole; price £4/17

SANDUM Hoods, plated fittings, suit any body; mediate delivery; £3.

SANDUM Sidecars.—Wholesale manufacturers coachbuilt bodies, chassis, hoods, screens, aprons.

SANDUM Sidecars. The most noted body-builde the country.

SANDHAM Engineering Co., Ltd., 336, Gray's Rd., W.C.1. 'Phone: Holborn 933. Factories: to 165, Pentonville Rd., N.; and Britannia W Britannia St., W.C.

FLOAT Sidecars.—Manufactured by McConnell Bailey, 73, Gt. Portland St., W.1.

FLOAT Sidecars.—Immediate delivery to fit makes of motor cycles.

FLOAT Sidecars.—Write for illustrated list; 28 gns. complete with chassis and tyre.

FLOAT Sidecars are fitted with underslung cha call and inspect at above address.

FLOAT Sidecars in stock at McConnell and B 73, Gt. Portland St., W.1.

SIDECAR ATTACHMENTS.

DOUGLAS Sidecar, as new; £10; seen evenings.—65, Plimsoll Rd., Finsbury Park. [3453

GLORIA Sidecar, good condition; £30, or near offer.—Gartside, College, Newport, Salop. [3265

LIGHT Coachbuilt Sidecar; £9/10.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [3787

SIDECAR, brand new, cost £25; sell £18.—F. Green, 63, Ravensbourne Rd., Bromley. [3629

PERFECTION Coach Sidecar Bodies; £6/15.—Halifax Motor Exchange, Horton St., Halifax. [3871

CANOELET Minor, good condition, with screen; £13/10.—38, Normanby Rd., Willesden. [3293

COACHBUILT Sidecar, fit any machine, splendid condition; £5.—Box 992, c/o *The Motor Cycle*. [X3333

LIGHTWEIGHT Sidecar, coachbuilt, splendid condition; £13/10.—Marston, 31, Bridge St., Chester. [3770

SWAN Sporting Sidecar for American X. and spring frame Indian.—Motor Exchange, Horton St., Halifax. [3870

LATE Model Handsome Coachbuilt Sidecar, 26in. wheel, 4-point connection, condition as new; £14. —Below.

UNUSED W.D. Mills-Fulford Chassis with 28in. wheels, less fittings, 50/- each.—Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. [3931

STEVENS Sidecars, the best that British industry can produce. Immediate delivery. Catalogue on application.

STEVENS Model No. 1 Sporting Torpedo, price complete, £22; for Triumph, Rudge, B.S.A., etc.

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STEVENS Special 1921 Bulbous Back Model; price complete, £27; the most luxurious streamline turnout on the market.

STEVENS Sidecars can be supplied with fittings to suit any make of motor cycle; bodies and chassis parately if required.

STEVENS Sidecars.—Write for our illustrated catalogue before deciding; second-hand and clearance idecars usually in stock.

STEVENS Sidecars, 184-186, Pentonville Rd., King's Cross, London. 'Phone: Central 10264. [3590

TANDUM Featherweight, apron, excellent condition, sporty; £13/10.—Brooker, School of Mines, Camrne, Cornwall. [3192

TILLFORD, C.B., bulbous, apron, disc, carrier, good condition; £16.—Scott, 3, Morpeth Rd., uth Hackney. [3798

TIDECAR, coachbuilt, suitable for Scott; bargain, £9; seen between 10 and 5.30.—17, White Lion , Islington, N.1. [3198

TILLFORD Sidecar, off 8h.p. Sunbeam, screen, mat, and apron, new Dec., 1919; £35.—B. England, le Isle, Wakefield. [3382

TOYAL Leicester Sidecars to suit all machines, roomy bodies, comfortable upholstery, excellent springing; es from £19/10 upwards.

TEND Your Sidecar to us for renovation. New hoods, wind screens, and aprons fitted. Write for catae.

THE Willowbrook Co., Royal Leicester Sidecar Works, Belgrave Gate, Leicester. [0335

TASTONE'S for Sidecars and Bodies. No better or cheaper house.—228, Pentonville Rd., King's Cross, ndon, N.1. Tel.: 2481 North. [9347

TIDECAR to fit, and colour 1920, new; motor cancelled; list price £38, sacrifice £30; approval; ito.—12, Wray Crescent, N.1. [X2922

TARLEY, Excelsior, and Henderson.—New De Luxe bulbous back sidecars, 28×3 tyre, £39/19.—Motor change, Horton St., Halifax. [3869

0 Canoelet MM4's for Harleys, complete with heavy Dunlop tyres, Coverall aprons, bulbous backs, , £17/10 to £27 each.—Below.

00 Douglas Sidecar Chassis, less tyres, £3/10 each singly; £3 each in lots of 20.—Holliday Bros., Queen St., Hammersmith Broadway. [3479

WAN Sidecar, 28×3in. wheel, 18 gns.; coachbuilt underslung sidecar, apron, wind screen, 17 gns.; n any time.—895, Fulham Rd., Fulham. [3361

920 Henderson Featherweight, quick detachment, run 750 miles, tyre unpunctured, list price £23; 5/10.—Wootton, 18, Hercules Rd., Holloway. (D) [3308

HENDERSON Sidecar.—Large stock of all models, shop-soiled, at greatly reduced prices; now is the e to buy.—Mebes, 154-156, Gt. Portland St., W.1. one: 3426 Mayfair. [7198

COACHBUILT Sidecar, underslung, Easting screen, good condition, 26in. wheel, tyre new, larger locker, oint; £14/10; by appointment.—2, Queen's Gate as, Victoria Park Rd., E.9. [3368

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NEW BELTS.

6ft. 6in. × ⅞in. complete with fastener 13/6
⅞in. any length per foot 2/-
1in., 8ft. and 8ft. 6in. per foot 3/3

SPECIAL BARGAINS

Brand New Covers
1st Grade Only.

From Government Stores, etc.

24×2	Avon Druid	31/-
24×2¼	Englebert	27/-
24×2¼	Avon Druid	36/-
26×2	Clincher Ribbed	29/-

FOR 2¼ RIM.

26×2¼	Heavy rubber non-skid	27/6
,,	Avon Sunstone	39/6
,,	Wood Milne Combination	79/-
,,	Goodrich safety tread	56/6
26×2¾	Dunlop heavy rubber stud	42/6
,,	Palmer cord heavy	39/6
,,	Bates' special heavy	44/-
,,	Wood-Milne extra heavy	37/6
,,	Avon tricar	34/6
,,	Hutchinson passenger	36/-
26×2¼×2¼	Hutchinson rubber studded	52/-
,,	Englebert super	55/-
,,	Englebert touring	47/6
,,	Goodrich safety tread	61/-

FOR 2½ RIM.

26×2½	Heavy non-skid	37/6
,,	Wood-Milne combination	55/-
26×2½	Clincher de luxe heavy	50/-
26×2½×3	Dunlop heavy	45/-
,,	Englebert passenger	47/-
,,	Rom combination	57/6
26×3×2½	Pedley heavy 3-rib	67/-

FOR AMERICAN RIMS.

28×2½	Kempshall anti-skid	35/6
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28×3	Moseley extra heavy	28/6
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,,	Dunlop extra heavy	48/6
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,,	Palmer cord	55/-
,,	Clincher de luxe extra heavy	55/-
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FOR 650 x 65 RIMS.

700×80	Dunlop grooved	80/-
,,	Spencer-Moulton	70/-
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650×65	Dunlop grooved	57/6
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NEW CLEARANCE TUBES.

26×3	2½ Pedley heavy	10/6
26×2¼	endless	6/6
26×2¾	endless	6/9
26×2½×2¼	endless	7/6
26×2½×2¼	butted	10/-
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28×3	Hutchinson	13/9
28×3	Avon	13/4

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PIKE TYRE and RUBBER Co., Ltd.
The TYRE HOUSE,
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HOLBORN, W.C.1
'Phone: Museum 1543.

SIDECAR ATTACHMENTS.

MR. DAVIDSON, riding Harley-Davidson and Flying Middleton sidecar, won 1,000 c.c. championship and broke 5 and 10 miles world's records Oct. 9th.

MR. O. De LISSA came second 1,000 c.c. championship, riding Motosacoche and Middleton touring spring wheel chassis.

MR. BEACH, of O'Donovan Motors, Gt. Portland St., on Sept. 7th broke 12 records with 3½h.p. Norton and standard Flying Middleton sidecar.

MR. BREESE, riding B.S.A. with Middleton Flyer, broke 4-hour record on June 23rd.

MIDDLETON'S Flyer, on track or road, the fastest in the world.

MIDDLETON'S Undertake Repairs to any make of sidecar, chassis, or bodywork. We do everything in our own works. Kumanseus. What about your old-fashioned father's sorry chassis; let us make it up-to-date by converting it to spring wheel type.

MIDDLETON'S have four models.—the Flyer, for racing; lightweight coach, for 2¾h.p. machines, etc.; medium touring coach, for 3½h.p. upwards; and special tourers for big twins, Zenith, Harleys, Hendersons, Indians, including spring-frame model, etc.; trade supplied.

MIDDLETON'S Spring Wheel, the finest device of this kind, now ready; £4 extra on any model.

MIDDLETON'S, London's oldest established sidecar makers, 27, Stroud Green Rd., Finsbury Park, N.4. 'Phone: 1584 Hornsey. [1808

ROYAL Leicester, coachbuilt, underslung, hood, wind screen, side curtains, storm apron, 4-point connection; £18.—Ridgway, St. George St., Leicester. [X3281

SIDECAR.—Have a Hopley folding sidecar. No need to pay garage. You can keep motor at home; will go through passage 28in. when folded on any motor. Any shape body fitted. They have been well tested for six years on motors up to 8h.p.—Hopley, Upper Highgate St., Birmingham. [0152

CHASSIS.—The Sandum lightweight, £9/9; heavyweight, £12/12; heavyweight enclosed wheel type, £22; spring wheel type, £27. Ask to see our special sidecar connections. Trade enquiries invited.—Sandham Engineering Co., 336, Grays Inn Rd., W.C.1. 'Phone: Holborn 933. [0325

TAXICABS.

£100 Down and 12 monthly payments of £20 secures London taxicab.—Details, Palmers' Garage, Tooting. [3822

BELSIZE Taxi Chassis, gate change, mag., suit tradesman, drive away; £70, or offer; exchange considered.—J. N. Thomson, 47, Station Rd., Hitchin. [3517

TAXICARS.—B.S.A. Canoelet combinations, as exhibited at Olympia, for early delivery.—The originators: County Cycle and Motor Co., Broad St., Birmingham. [9708

RUNABOUTS AND CYCLE CARS.

MORGANS, delivery from stock.—Gibb, Gloucester. 'Phone: 852. [3607

1921 Rover 8h.p. Light Car, dynamo lighting; £300; in stock.—Marston, 31, Bridge St., Chester. [3751

6h.p. W.C. 2-seater Runabout, good order, no further use; offer.—133, Bewsey Rd., Warrington. [3505

CARDEN, 1919, tandem seating; 140 gns.; many improvements.—16a, Montpelier Crescent, Brighton. [3250

A.V. Monocar, J.A.P., 2-speed; £120; exchange combination.—26, Cornwall Rd., Brixton, London. [3342

A.C. Sociable, like new, insurance and spares; £85; after 2 Saturday.—60, Comerford Rd., Brockley. [3319

10h.p. Richardson, electric lights, dickey, mileage 600; £240.—Hughes, Dentistry, Abergavenny. [3545

MORRIS-OXFORD, late 1915, 5 lamps, tools, perfect running; bargain, £275/10.—6, Suffolk Rd. South, Bournemouth. [3190

G.N. Cycle Cars; latest models always in stock.—Best deliveries from Drake and Mount, Ltd., Motor Agents, Bracknell. [3936

G.N.—We are large contractors, and can usually supply from stock.—Victor Horsman, Ltd., 7, Mount Pleasant, Liverpool. [0327

ROVER Light Car, 1921 model, 8h.p., in stock for immediate delivery; £300.—Godfrey's, Ltd., 208, Gt. Portland St., London, W.1. [0300

HORSTMANN 10h.p. 2-seater, mechanical starter, hood, screen, electric lamps, detachable wheels; £170.—Jones, Cheveley, Farnham. [3185

COVENTRY Premier 3-wheeler, 3 speeds and reverse, dynamo lighting, etc., absolutely T.T.; 275 gns.—Motor Exchange, Horton St., Halifax. [3876

1919 Morgan, M.A.G., water-cooled, splendid order; £160; cash only.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. [3831

G.N. Cycle Cars, £241/17/6, supplied anywhere, sole Sheffield agents; Crouch Cars, £315, complete.—Brooklands Motor Co., Ecclsall Rd., Sheffield. [2915

RUNABOUTS AND CYCLE CARS.

MORGAN De Luxe, model 1920, mileage under 500, as new; £195, or exchange combination and cash.—Sims, Saxondale, Biscot Rd., Luton. [3675

MORGANS, G.N.'s Bleriot-Whippet, and Richardson cycle cars in stock at manufacturers' prices.—West's (Lincoln), Ltd., High St., Lincoln. [X3269

A.C. Sociable, modern types, fully equipped, mechanically sound, good appearance; from £60 to £85; trial.—29, Allsop St., Upper Baker St., London, N.W. [3157

MORGAN A.C., acetylene, electric, clock, speedometer, spares, tyres, condition good; bargain, £110, offer.—Claude Arms, Francis Rd., Leyton. [3829

VERY Smart 2-seater Warne Cycle Car, 8h.p. J.A.P. twin engine, Bosch mag., wire wheels, excellent condition; only £75.—83, Cherry Orchard Rd., Croydon. [3556

A.V. Monocar, 1920, 6h.p., domed mudguards, wind screen, very smart lot, mileage 1,700; £125, or offer.—'Phone: 7355 Hampstead.—20 and 22, Finchley Rd., N.W.8. [3338

MORGAN Grand Prix, 1918, like new, brass lamps, speedometer, 8-day clock, Binks carburetter, new Dunlop Magnum tyres; £185.—R., 52, Barrington Rd., Brixton, S.W.9. [3482

GIBBONS Mark III. Cycle Car, reduced to £115; delivery within one month; trials any time by appointment. Agents required.—Gibbons and Moore, Chadwell Heath, Essex. [4838

G.N., just overhauled and repainted, all accessories, must sell or exchange combination and £50; cash part essential; trial any time; £130.—East, Top Floor, 47, Fleet St., London. [3323

T.B. 1921 Models, 10h.p. Blackburne, air-cooled, £260, water-cooled £275; ready for delivery January.—Sole agents Sussex, County Garage, Gloucester Place, Brighton. Agents invited. [3231

VERY Smart Torpedo 2-seater, G.N. Type, 8h.p. J.A.P., 2 and reverse, Chater gear box, electric lighting; £75.—Gibbs, 57, Lancaster Rd., Hampstead, N.W. 'Phone: Hampstead 2974. [3584

MERRALL-BROWN 3-wheeler, new, with spare wheel and other extras, 4-cyl. Coventry Simplex engine; £358/10; cash, exchange, or easy payments.—Motor Exchange, Horton St., Halifax. [3877

T.B. Tricars.—We have a few new 1920 models, 8h.p. J.A.P., air-cooled, 3 speeds and reverse, spare wheel, acetylene lighting, disc wheels, screen, hood, tools, pump; £235; new tax £4.—County Garage, Gloucester Place, Brighton. [3230

MORGAN.—We are sole Wolverhampton agents; our allotment for this season is already booked, but send us your old machine for repairs, overhauls, or repainting.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3460

MORGAN De Luxe, air-cooled 1920 model, electric lighting, Cowey speedometer, new back tyre, September mechanically perfect, in good condition; £220; owner receiving larger car.—Cummins, Renshaw, Chesterfield. [3676

MORGAN Service Depot, London.—Repairs and overhauls by experts. If you are in trouble, 'phone us, advice gratis. All spares in stock.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3729

1920 Morgan W.C. De Luxe, J.A.P., hood, screen, lamps, in perfect order, low mileage, guaranteed perfect in every way; £210; easy payments accepted.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3728

MORGANS, 1921.—We are official agents, and still have a few vacant dates for early delivery; full particulars and catalogues on request. Second-hand machines always in stock. Extended payments arranged.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3730

G.N. 1921.—Elce and Co., the City Light Car Specialists. Immediate delivery all models, standard touring, full equipment, spare wheel, hood, etc., £241/17/6; dynamo lighting model, £275/12/6; Legere, dynamo lighting set, £309/7/6.—Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0073

MERRALL-BROWN, late 1920, 10h.p., special 3-wheeler, blue body, aluminium bonnet, 4-cyl. Coventry Simplex engine, C.A.V. dynamo lighting, 5 lamps, speedometer, disc interchangeable wheels, spare wheel, screen, hood, petrol and oil indicators, many costly improvements, full equipment and insurance, mileage 1,200, cost £415; sacrifice, £260 or nearest, quick sale.—Apply, 41, Park Lane, Piccadilly. Tel.: Mayfair 1874. [2963

CARS FOR SALE.

£30 Cash secures 7-9h.p. Singer light 2-seater.—Palmer's Garage, Tooting. [3817

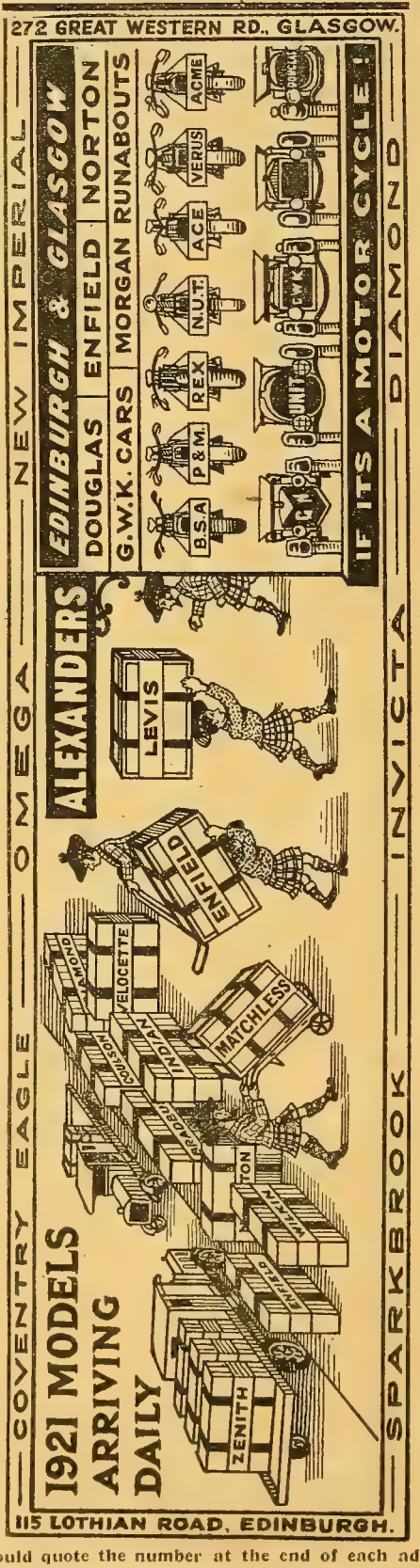
6h.p. 2-seater Rover; sell £55, or exchange.—Write, 18, Venetia Rd., West Kensington. [3277

TWIN Panhard, fast, mag., in daily use; £50 for quick sale.—Wilson, Mattingley, Basingstoke. [3744

£75 Cash and 12 monthly payments £7/10 secures splendid R.M.C. under-slung 2-seater.—Palmer's Garage, Tooting. [3818

180 GNS.—Ritz 10h.p. 4-cyl. 1917 sporting 2-seater, electric lighting; exchanges.—12, Cornwall Mews, Gloucester Rd., S.W.7. [3913

ALEXANDER'S



CARS FOR SALE.

SWOP Week.—We don't want your filthy lucre t week. We're going to be indejollywellpende What about some swops, chops, 'changes. L "verwechsel," as our Hun friends say. Avaswops Wotaboutit?—Cox (below).

CHOP Week.—Now's your choportunity. Hav you 2 or 3 old disused cars, or some old mc bikes you'd exchange for a good car? The excha is in your favour this week. If you haven't any, w consider War Loan, furniture, motor boats, mc cycles, pianos, old clothes, pot ferns, and if haven't got anything to exchange, although we d like money, we won't mind accepting that, just oblige. Don[t forget our systematic reduction schen reduced prices another £250 this week, will you Cox (below).

EXCHANGE Week.—Don't forget to bring just little cash adjustment. We ain't gree although we like a lot. Dates guaranteed accur 15h.p. 4-cyl. chassis, unknown make, live axle, g Zenith, Bosch, absurd bargain, £30! 3-ton 1915 brook lorry, many parts missing (but all parts tainable for £50), bargain, £35! 24h.p. 1910 Bollee chassis, enclosed valves, live axle, 4-speed g reduced from £185, now £65! 14-16h.p. Belsize seater, live axle, gate, Bosch, Binks, pulls splendi £85; 12h.p. Alldays van, Ford type body, sm £100; 12h.p. Sizaire-Naudin sporting streamline seater discs, fast, smart, £115; 1920 8h.p. A.V. mc car, £120; 8-10h.p. Blumfield-Crescent stream light car, 2-seater, 3-speed gear box, smart, £1 Ford van, good one, £165; 10-12h.p. 4-cyl. Hum sporting streamline 4-seater, 1919 body, bulbous h armchair seats, particularly smart, £175; 8-10 Warne light car, streamline 2-seater, dynamo light discs, live axle, gate, £175; smart little 8-10h.p. Globe coupe light car, Claudel, gate, £185; Unic cwt. van, sump lubrication, monobloc, detachab originally £350, now £195; Electromobile landau good batteries, fine lot, £200.—Cox (below).

BUCKSHEE Week'll be along soon if I systema ally reduce long enough. What hopes? 10 Whiting-Grant light car, 4-cyl. monobloc, encl valves, wire wheels, bull-nosed radiator, £225; 1 Bleriot Whippet cycle car, 8-10h.p., detachable whe £225; 16h.p. Bell landaulet, enclosed valves, g sump, £235; 10h.p. Delage sporting 2-seater, bulk back, dynamo lighting set, 4-cyl. monobloc, sm £235; 10h.p. Le Gui 2-seater, 4-cyl. monobloc, 4-sp gate, £245; 1920 G.N. 2-seater, dynamo lighting, tachable wheels, exceptionally nice, £245; 12-15 Gladiator torpedo, £245; 12-14h.p. Fiat 4-sea £250; 10h.p. coupe, 4-cyl. Chapuis-Dornier eng pointed radiator, £250; 12-14h.p. Unic torpedo, st lubrication, smart, £265; 20h.p. Rapid torpedo, £2 smart 15-9h.p. 1912 Darracq, sleeve valve, roomy pedo, worm drive, 4-speed gate, Zenith, £385 ori ally, £285; 1-ton 1916 Clydesdale lorry, £285; 18 6-cyl. Horbick streamline tourer, £295; 12-15h.p. landaulet, monobloc, gate, cord, Zenith, £295; h.p. 1914 B.S.A. 2-seater, worm drive, sleeve va detachable wheels, £325; 15-20h.p. Chevrolet 3-sea English coachwork, dickey, dynamo, starter, sm £325; 12-15h.p. Crossley 3-seater, detachable wh monobloc, £325; 15.9h.p. Knight-Daimler 4-sea worm drive, detachable wheels, smart, bargain, £2 15.9h.p. Arrol-Johnston 3-seater, £345; 12h.p. cloverleaf 2-3-seater, dynamo lighting, nice, £3 11h.p. Brennabor streamline 4-seater, 4-cyl. monot enclosed valves, steel disc wheels, detachables, ticularly smart, £350; smart 12-15h.p. 1913¾ Siza Naudin streamline 5-seater, monobloc, detach wheels, £350; particularly posh 11.9h.p. 1913¾ H ber streamline 4-seater, enclosed valves, detach wheels, £375.—Cox (below).

NOTICE These.—Exceptionally smart 1915 ford-Buick 3-seater, 15-18h.p., dickey, Eng coachwork, C.A.V. dynamo lighting, Zenith, gate, tachables, £385; 9.5h.p. 1915 Standard 2-sea C.A.V. dynamo lighting, £385; other cars of types in stock, landaulets, interior drive saloons, la turnover-side streamline tourers as fine as any. End style and finish at suburban prices. Full pri list free (or see "The Autocar" or "The Motor Cox (below).

COMMERCIALS.—Chars-a-bancs; 2, 3, and 4 20-30-seaters; list free. Why not exchange fo money earner?—Cox (below).

DOUGLAS S. COX, the absolutely straight m man, 6, Lansdowne Hill, West Norwood, S.E., all the above and others actually in stock and on Please call. Hours 9 to 6. Saturdays 5. No busi Sundays. Established 1902. [3

10h.p. Humber 2-3-seater, double dickey, left w new November, 1919, in beautiful condit mileage low; £500, or nearest.—2, Croft Rd., Covey [X3

PANHARD, 4-cyl., 80 mm.×120 mm., old model, splendid condition, 2-seater, highest class co work, screen, leather hood, etc., etc.; trial; £1 Herts.—Box 9,961, c/o *The Motor Cycle*. [3

HUMBERETTE, 8h.p., n.c., hood, screen, lamps, h good running order; £125; Zenith, Norton change considered, solo or combination, cash adjustm —Write Banister, 42, Canonbury Sq., N.1. [3

8½h.p. Rover 2-seater, recently overhau thorough good running order, new piston new tyres; trial offered; £75 for quick sale; gen bargain.—Apply, by letter, English, Colehill, W borne, Dorset. [3

FOR Sale, Perry car, 2-seater, with spare tyre wheel, pump, jack, and tools, head lamp, rece overhauled and varnished in good condition, fitted Zenith carburetter and magneto; price £200.—A Geo. Reeves, Whitstable. [3

CARS FOR SALE.

HUMBER Sporting 2-seater, good condition, fresh from paintshop, primrose, black wings and discs, electric lighting, Autovac; £260; exchange Morgan, Buckingham, Norton, etc.; stamp, particulars; West Riding.—Box 987, c/o *The Motor Cycle.* [X3266

2-SEATER Cycle Car, 8-10h.p. o.h.v. J.A.P., water-cooled, 3 speeds and reverse, worm and sector steering, quarter elliptic springing rear and front, handle start, lamps, hood and screen, all in perfect order; £130, or exchange good modern combination.—177, High St., Barnet. [X3512

FOR Disposal low price, 14h.p. 5-seater Argyll car, fitted hood, screen, Zenith carburetter, electric lighting, good tyres, spare tubes, would make good hire car, very reliable, genuine bargain, £135, or exchange new combination, Triumph preferred.—Melton Rubber Works, Melton Mowbray, Leicestershire. [3027

PAXTON Car Depot, 228a, Gipsy Rd., West Norwood.—1914 4h.p. Green-Precision sporty combination, £67/10; 16h.p. Bell parcels van, live axle, gate, £125; 25-cwt. Unic commercial, large van body, solids, 4-cyl. monobloc, sump lubrication, bargain, £250; 12-15h.p. Opel landaulet, delivered 1915, bargain, £285; 2-14h.p. Crossley 2-seater, dickey, detachable wheels, monobloc, enclosed valves, £295; smart 1915 Overland streamline 4-seater, self-starter, dynamo lighting, £335; also brand new 1920 25-cwt. commercial, £50 below list price. All on view. Call. Part exchange entertained if real good value.—Paxton. [1287

COMMERCIAL VEHICLES.

-TON Motor Lorry, 4-cyl., Bosch mag., 3 speeds and reverse; £40, bargain.—Box 990, c/o *The Motor Cycle.* [X3331

£100 Down and 12 monthly payments of £25 secures a magnificent 3-ton lorry.—Details, Palmer's Garage, Tooting. [3821

LORRY Bodies for Ford Tonners in Stock, extra strong make, enclosed cab; £65.—The Willowbrook Co., Leicester. [X3379

£85 Down and 12 monthly payments of £15 secures splendid 1-ton truck, twin solids, will carry 30-cwt. Details, Palmer's Garage, Tooting. [3825

ENGINES.

EVIS Twin Engine (new), handle start; £10.—85, Revelstoke Rd., Wimbledon Park. [3187

D. and M. Engine, late model, little used, perfect; £12/10.—1, Othello St., Liverpool. [3586

h.p. Douglas Engines, 1918, as new; £17; stamp, please.—Snow, 91, Mapledene Rd., Dalston. [3233

1h.p. Rex Engine, complete, £5; lightweight frame and tank, 30/-.—53, Stanway Rd., Coventry. [X3360

h.p. Gas Engine, 30-volt dynamo, large brazing lamp; cash offer.—9, Jubilee Terrace, Broomfield Rd., Chelmsford. [3218

h.p. Twin, overhead m.o. valves, Bosch waterproof, B. and B., small mileage; wanted, 6-8h.p., also or box.—69, S. Ealing Rd., W.5. [3558

PRECISION Engine, mechanical valves, fine condition, £4; two good wheels and tank, 20/-.—Hood, 7, Totteridge Lane, Whetstone, N.20. [3212

EVIS Flat Twin Engine, with special magneto, frame, new tank with drip feed; £20; after 5.—Ride, 5, Mordaunt Rd., Harlesden, N.W.10. [3175

1914 Triumph Engine, in perfect order, £12/10; 1920 New crank cases, £7.—H. Richardson, 2, Alton Villas, Hawks Rd., Kingston-on-Thames. [3613

-9h.p. Peugeot Twin Engine, complete with induction pipes, new condition, £8 cash secures; Dixie mag-o for same, nearly new, £4.—2, Oriel St., Swindon. [3797

TRIUMPH 4h.p., complete with decompressor and pulley, just left Triumph Works, and cost over £1, 1914 type; sell £18/10.—18, Key Hill, Birmingham. [X3456

PRECISION Engine, 10h.p., a.c., M.L. magneto, Zenith, engine sprocket, S.A. 3-speed countershaft, chain, both new condition; offers.—Box 997, c/o *The Motor Cycle.* [X3361

PRECISION Engine, twin 6h.p., with induction pipe, 2 magnets, chain wheels; this is in perfect condition; accept £17.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X2294

J.A.P. 2½h.p. Single Engine, in perfect condition, complete with exhaust pipe, silencer, magneto; accept £15 10.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X2295

WIN Siemens Unit, variable governor, pressure gauge, magneto, carburetter, suitable motor boat stationary purposes; £28; seen any time.—895, Fulham Rd., Fulham. [3362

NEW Power Unit, viz., Wall 2-stroke roller bearing engine, direct driven, Runbaken mag., silencer, sacrifice £15; by appointment only!—S., 156, Morton Rd., Wimbledon, S.W. [3619

4h.p. King Dick Engine, quite new, complete with exhaust pipe, silencer, magneto, chain case, 2 wheels and chain; £18/10.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X2296

COMPLETE Unit, in running order, engine 3½h.p. Humber, Senspray carburetter, accumulator and good tank; bargains, £3/10, or offer.—Proud, Prudhoe St., Alnwick, Northumberland. [3164

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RECORD-VALUE SALE

HAS JUSTIFIED ITS NAME

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Alexander & Co.

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2¾h.p. J.A.P. Engine, 1916, No. 200001, complete with variable E.I.C. mag., carburetter, pulley, silencer, etc., recently rebushed; £13.—111, Tiverton Rd., Bournbrook, Birmingham. [X3380

J.A.P. Engines in Stock.—Special o.h.v. engines built, complete stock of spares for all type J.A.P. engines; Bosch magneto, 50° twin, £6/10; A1 J.A.P. engines from £15.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town, N.W. [3930

EIGHT 8-10h.p. Douglas Lighting Set, water-cooled, with radiator, 120 v. dynamo, 20 amps., all on one base. These are complete with switchboards, which includes 1 voltmeter, 2 amp. meters, and 6 switches.—Below.

FOUR 8-10h.p. Douglas Engines only, with radiator and magneto and carburetter; £30 each.—Below.

SIX 4-cyl. Standard Lighting Sets, 10h.p. engine, with radiator, 120 v. dynamo, 20 amps., switchboard and switches. As used on the workshop lorries. £75 each, with magneto and carburetter.—Below.

EIGHT 10h.p. 4-cyl. Austin Lighting Sets. Particulars same as Standard. £75 each, with magneto and carburetter.—Below.

5-6h.p. 1916-17 Clyno Engines, less magneto and carburetter; £15 each.—Below.

I HAVE a very large quantity of cable, electric lamps, electric lighting shades and switches, and also a large quantity of switches and switchboards.—Below.

3h.p. Water-cooled Lighting Set, with radiator, dynamo, and switchboard; £30.—Below.

40 Switchboards, in cases, with sliding glass doors, containing 1 voltmeter, 2 amp. meters, and 5 switches; price £4 each.—Please write or apply to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [3207

12-16h.p. Alvaston Horizontally Opposed Water-cooled Twin Aero Engine, complete with carburetter, magneto, and cast iron baseplate, only run on trials, and in good condition; £50.—Gill Propeller Co., Ltd., King's Lynn. [3335

1914 Triumph 4h.p. Engine, just out of works, absolutely it, £17; 1½h.p. De Dion engine, 35/-; 3h.p. a.i.o.v. engine, 25/-; quantity of old engines and parts for disposal.—Pearson, Gate House, Cheylesmore, Coventry. [X3461

UNION 2-stroke Engine, 2¾h.p., fitted with C.A.V. mag., B. and B. carburetter, long exhaust pipe, also first-class frame, stand, carrier, tank with Best and Lloyd drip feed, the whole brand new; £30.—Homacs, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3715

SCOTT 3½h.p. Engine, twin 2-stroke, water-cooled, complete with carburetter and drive sprockets, etc., brand new, £20; Clyno 6h.p. engine, twin, complete with induction pipe, magneto chain cover, drive spricket, enclosed valves, brand new, £20; both above engines cost approximately £40 each.—R. Watson, 132, High St., Aldeburgh, Suffolk. [3567

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RELIANCE guarantee to return your magneto within 3 days, and if necessary, 24 hours.

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RELIANCE will be pleased to receive your enquiries concerning your ignition troubles, and customers may be certain of obtaining promptness and courtesy.

RELIANCE Magneto Repairing Co., 11, Gt. Sutton St., Goswell Rd., E.C.1. [2186

SPLITDORF Magneto, 2-cyl., 50°; £4/10.—Green, 85, High Holborn. [3423

BOULTON Magneto, new and perfect; £4.—Harley and Son, Fontency St., Liverpool. [3210

DIXIE Twin Magneto, 180°, clockwise, running order; 60/-.—12, Elmore Rd., Sheffield. [3776

NEW British Magnetos for any machine; exchanges quoted.—Collier's Motories, Horton St., Halifax. [3867

BOSCH, single, clock, type ZE1, huge spark, £8/10; Dixie, single, anti, £3.—Box 9,947, c/o *The Motor Cycle.* [3405

E.I.C. Magneto, clockwise, single, brand new; offers, cash; approval.—Reg. Samson, Ladywood Rd., Birmingham. [X3314

MAGNETO, C.A.V., brand new, heavyweight, single-cylinder, complete; £4/10.—Jackson, 89, Oak Lane, Bradford. [3429

IGNITION APPLIANCES.

SPARKING Plugs, best makes, Aero Type, 4 for 6/-, post free; fully guaranteed.—S.B.C., Worcester St., Wolverhampton. [X2387

£4.—Thomson-Bennett magnetos, 180°, condition as new, suitable 2¾ and 4h.p. Douglases.—Sulina Garage, Sulina Rd., Brixton Hill. [3928

DYNAMO Lighting, specially suitable for Triumph; £3 set; please write for particlars.—Light Car and Motor Cycle Engineering Co., 26, Tulse Hill, S.W.2. [3811

1-CYL. C.A.V., 75/-; 1-cyl. Thomson-Bennett, 75/-; 2-cyl. C.A.V., 180°, 80/-; all practically new and sent on approval; clock or anti.—32, Elnathan Mews, Maida Vale, W.9. [3555

UNSATISFACTORY Magnetos should be replaced by a Boulton, £5 each; immediate dispatch. A few shop-soiled to clear at lower prices.—Boulton Magnetos, Ltd., Oldhall St., Wolverhampton. [8955

BOSCH Single-cyl. Magnetos, latest waterproof pattern, for engines of 4h.p. or more, as new, ex R.A.F., £5; also Bosch 180° twin, as new, £5/10.—R. Watson, 132, High St., Aldeburgh, Suffolk. [3568

JEBRON, registered 291,298, greatly superior to platinum, unequalled for blades, screws, etc., cures misfiring, 7/- each rivet; Jebron screws, fit Bosch magnetos, 15/6 pair; old screws, Jebronised, 7/- each.

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BOSCH Magneto, ZE1, anti, in perfect order, as new, accept £6/10; Bosch magneto, ZEV, 55½, anti-clock, in perfect order, as new; a bargain, £7.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X2298

SEND Your Magneto for repair to the Loveland Magneto Repair Service, the service with 18 years' practical experience. Spare parts for all makes.—'Phone Streatham 1390.—Crescent Magneto Works, Norbury, S.W.16. [8508

MAGNETO Repairs.—Send your magneto to Palmer's Garage, Tooting. Reply paid; quotation telegraphed on receipt. Quick, efficient repair guaranteed in from two to six days, usually within 24 hours.—Palmer's Garage, Tooting. [3824

RUNBAKEN Repair Services.—Dynamos, magnetos, and starters. Huge stocks of spare parts and a modern plant enable us to make a thorough and efficient repair to every make and type. Pack in a strong box, enclose instructions, and address to The Runbaken Magneto Co., Ltd., 115, Gt. Portland St., London, W. ('Phone: Mayfair 3588). North of England: Derby St., Cheetham, Manchester ('Phone: City 8266). [0257

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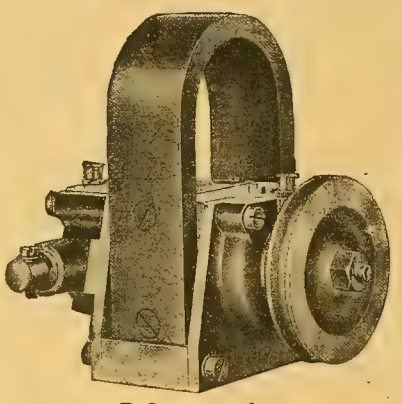

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TYRES.

BRAND New Dunlop Tyres, 26×2in.; 17/6, post free —Clarke, 15, South St., Louth. [3794

BASTONE'S.—Special purchase. New Michelin motor cycle covers, beaded edge, 26×2½ 21/-, 26×2½ 15/-.

BASTONE'S.—New Michelin Tubes, 26×2¼ and 26× 2½, 8/6 each.

BASTONE'S for Covers and Tubes.—Special line of Englebert wired edge covers, 26×2½, raised tread 25/-; ditto rubber-studded, 32/-; also large stock of beaded edge covers, all makes, at low prices.—228 Pentonville Rd., King's Cross, London, N.1. Tel. 2481 North. [225

BRAND New Clincher Tyres, 26×2¼ 33/6, 26×2½ 39/6.—Wandsworth Motor Exchange, Ebner St., Wandsworth. [617

TYRES. Great sale.—Don't buy any until you have seen our list. It is a revelation.—Bancroftian Co. 64 and 78, Bishopsgate, E.C. [005

ECONOMIC Tyre Co.—Genuine bargains in new clearance and Government surplus stock; all goods sent carriage paid on 7 days' approval against remittance.

ECONOMIC.—24×2¼ (fit 2in. rims) heavy rubber non-skid, 41/-, listed 54/6; 26×2¼ Dunlop heavy 37/6, listed £2/16/9.

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ECONOMIC.—26×2½ Palmer, 46/9, listed £3/10 26×3×2½ Dunlop extra heavy, 47/6, listed £4/1/6

ECONOMIC.—28×2½ (American) Goodyear Diamond 45/-; 28×3 Kempshall non-skid clearance, 45/ listed £5/12/2; anti-skid 35/-, listed £3/9/6.

ECONOMIC.—650×65 Clincher de Luxe W.D., 57/ listed £4; 700×80 Dunlop grooved, 75/-, listed £4/19/6.

ECONOMIC.—Fully guaranteed, Dunlop rubber-stud 24×2 27/9, 26×2 29/9, 26×2¼ 31/6.

ECONOMIC Tyre Co., 314, New Cross Rd., S.E.1 (near Town Hall). 'Phone: New Cross 139; Repairs and retreading. [385

BULL'S.—Large stock of motor cycle and voiturett covers and tubes at clearance prices.—Bull's Rubber Co., Ltd., 3, Upper St. Martin's Lane, London W.C.2. Tel.: Gerrard 1347. [024

STOCKTAKING Sale, 14 Days Only.—5,000 motor cycle covers, brand new soiled goods, 26×2 26/ 26×2¼ 27/6, 26×2⅜ (for 2¼) 28/-, 26×2½ 28/-, 700×8 55/-.—Millards, Chesterfield. [146

26×2½ Mackintosh and Spencer-Moulton Tyres these are brand new and are not perished; clear 30/- each. Special quotations for quantities; carriage extra.—J. J. Dooley, 33, Killyon Rd., Clapham S.W.8. [320

WISE Motorists reduce their running costs by sending their worn tyre covers to the Beldam Tyre Co. (1920), Ltd., Brentford, Middlesex, to be retreaded. A Beldam retread lasts as long as many new tyres. Estimates given free. [031

KEMPSHALL Non-skid, also Hutchinson T.T., 28-2½, brand new, at a remarkable figure; 35/ each; special prices for quantities over 6; carriage free; greatest bargains in tyres.—J. Smith and Co. 52-54, Hampstead Rd., N.W.1. [025

R. D. VARTY for Tyres.—New unused Dunlop heavy studded 26×2¼, 37/6; 26×2⅜, 37/6; two only 28×3 extra heavy, 47/6 each; also others at clearance prices, all sizes from 24×2, only a few left, don't delay —R. D. Varty, Thundersley, Essex. [37

A 26×2¼in. High-class Rubber-studded Cover, straight from the factory, for 30/-; just think of it; no clearance; money refunded if not satisfied. Have one of these bargains. Send for our repairs and retreading list.—Melton Rubber Works, Melton Mowbray. [03

26×2½ New Beaded Covers, 30/-; new best quality tubes, 24×2¼, 6/-; 26×2, 6/6; 26×2¼, 7/ 26×2½, 7/9; 26×2½×2¼, 8/6; 26×3, 9/6; 700×8 10/6; 750×75, 12/6; new rubber belts, 6ft. 2in.×1i 10/6; 15in. inflators, 2/6; sent approval; carriage pa receipt remittance.—Palmer's Garage, Tooting, S.W. [38

BARGAINS.—Seven days' approval; limited numb only: Englebert 26×2¼ heavy rubber-studd passenger 30/- (list 46/3), touring 35/6 (list 53/ solo 34/6 (list 49/-); Avon 3-ribbed, 20/3 (list 25/ plus postage 1/-; tube, 8/6 (list 12/-). Repairs, kinds, to tyres and tubes.—Armstrong, 17, Goldha Rd., Shepherd's Bush, London. [35

MOTOR Cycle Tubes.—Best red quality, with sm patch vulcanised by makers: 24×2, 5/3; 2 2¼, 5/6; 26×2, 5/9; 26×2¼, 6/-; 26×2⅜, 6/3; 2 2½, 6/6; 26×2½×2¼, 6/9; 26×3, 7/-; 28×2, 7/ 28×3, 7/6; 29×3½, 7/9; 650×65, 8/-. All leadi makes and sizes in stock.—H. Emanuel, Tyre Fact 27, Belgrade Rd., N.16. Stores, 37a, Balls Pond R 'Phone: Dalston 3161. [03

GOVERNMENT Surplus.—Huge stock of specia selected second-hand covers, Dunlop heavy, H mers, Kempshalls, Clinchers, etc., 26×2¼, 26×2⅜, 1 each; 28×3, 17/6 each; new Dunlop and Bates tri 26×2¼, 2⅜, and 2½, 7/6 each; special line of 700 grooved rebuilt covers, 40/- each; goods cash proval.—Homerton Rubber Works, Brooksbys W Homerton, E.9. 'Phone: Dalston 3483. 'Grams: Em rubwor, Hack., London. [03

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Greetings!

ONCE again the festive season is upon us, and in spite of the difficulties which beset the motor cyclist the interest in his favourite pastime never slackens. High prices, increased taxation and paraded licences all produce their quota of grumbles, but serious as they are, the true motor cyclist is as keen as ever. There is no more enthusiastic body in the world than the army of riders who use their machines throughout the year, and who help to support the keenest, cleanest sport in the world.

To all good riders, whether they be competition men, those who ride for business purposes or week-end pleasure, to manufacturers, traders, and purchasers alike, *The Motor Cycle* extends its heartiest Christmas greetings, and assures them that it will continue to support all that is in the best interests of the finest and most exhilarating pastime in the world.

Standardised Controls.

AGAIN a move is being made to bring about standardisation of controls. For ten years or more we have been urging that attention be paid to this point, and from time to time we have approached various organisations such as the A.C.U., the Manufacturers' Union, and the Engineering Standards Committee, on the matter. Now a sub-committee of the A.C.U. has made a recommendation for the standardisation of such items as carburetter and brake levers, but, although the effort being made to interest the manufacturers concerned is a step in the right direction, motor cyclists must not think that the matter is settled, and that in future uniform controls will be found on every new machine they purchase.

It still remains a question for the makers to consider, and while we know serious efforts will be made by the management of the Manufacturers' Union to bring the question before its members, it is by no means certain that sufficient support will be given to the idea—or, if given, that an agreement can be made between, say, the various makers of carburetters.

As pointed out in our leaderette in the issue for August 19th last, there is a diversity of opinion as to which is the better way for a carburetter lever to open, inwards or outwards.

Of the several points where standardisation is desirable, the position of the brake levers and the direction of opening the carburetter levers are the most important, and probably the best way to bring about ultimate standardisation of controls throughout the machine will be for the Manufacturers' Union to concentrate on one of the important points mentioned.

Standardise Carburetter Controls First.

Carburetter controls probably represent the easier proposition, as they not only affect a comparatively small number of makers, but are not such a large undertaking as other items. It will be appreciated that, even should the manufacturers come to a decision, standardisation must take some considerable time to come into effect, as in many cases it would mean redesigning certain details. Manufacturers could not be expected to do this excepting in an entirely new model, as it will be found that the *raison d'être* of existing control positions is that they have been considered to be the most convenient.

The recommendations of the A.C.U. Committee conform in the main with those which we submitted to the Manufacturers' Union some time ago, but with this significant change, *i.e.*, it is recommended that the foot brake be on the right side of the machine. It is difficult to see why this suggestion has been made, since the majority of kick-starter pedals are on this side of the machine. When a motor cyclist stops his engine on ascending a hill, the difficulty of re-starting with both brake and kick-starter on the same side has to be experienced to be fully appreciated.

An index to the advertisements in this issue will be found on the page facing the back cover

OCCASIONAL COMMENTS

BY IXION

Valves.

AT the Show I met a manufacturer whose speciality is valves on the grand scale. To the best of his belief the A.B.C. was the only 1920 motor cycle fitted with valves made of stainless steel, which never break, stretch, or burn. There is some excuse for this, since—quoting taken figures—a stainless valve may cost 300% more than a 3% nickel steel valve, as this steel is too hard for cheap production. On the other hand he delivered himself of an amazing dictum. By paying approximately 6d. extra per valve, it is possible to get a valve which is infinitely more reliable and satisfactory than 3% nickel steel. Yet hardly any firms in the industry will spring the extra cost, even for their exhaust valves.

The B.T.H. Lighting Outfit.

CASUAL visitors to the Show missed the B.T.H. lighting set, which was on J. A. Ryley's stand in the Gallery. It is the lightest and cheapest outfit of the type up to date, but at present is only ready in its baby two-stroke edition. The "idle maximum" of the magneto armature is tapped by a pick-up on the contact breaker and led to a battery mounted in the rear prong of the lamp bracket. It charges at .65 ampère, whereas a 4 c.p. head lamp and 2 c.p. tail lamp discharge the battery at .9 ampère. It follows that the set, though unsuitable for night work exclusively, should prove perfectly efficient for machines which do three hours by day for each hour which they travel by lamplight.

Long Life from Dry Batteries.

I AM not enough of an electrician to deal faithfully with our optimistic correspondents who claim satisfactory lighting service from dry batteries. It may be possible under the best conditions to obtain eighty lamp hours from a single small battery—I do not know. But I know this. Both as a private individual and in the semi-trade position of a technical journalist, I have obtained a number of dry battery sets from various firms who specialise in such outfits, and, though I have often had tolerable results, my uniform experience has been that the convenience of the system does not outweigh its cost. I confess that I still occasionally employ dry batteries for tail lamps, and, with luck, hope to get twenty hours out of them. I do not average anything like that period. I occasionally get the wind up when batteries give out unexpectedly soon. But for intermittent short distance work, they are, taking them all round, better than anything else, and worth their cost. Still, I have never had one solitary battery which suggested to me that this form of lighting could possibly be regarded as cheap. On the other hand, we have not all got dynamos. I do not know of a decent paraffin or candle tail lamp. And the acetylene tail lamp, as we all know, is a constant source of anxiety, though it can behave nicely on occasions. For real tail lamp joy, give me a dynamo outfit. If you carry a spare bulb, there is nothing to worry about.

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

About Toolbags.

I DON'T often travel by the slow and expensive train, but the other day Nemesis fell upon me, and I had to wait an hour at Bristol station. Beguiling the tedium, I spotted a brand new Douglas *en route* to some lucky man, and I noticed that it was fitted with the widest toolbags I have seen for a month of Sundays. They were long enough to accommodate a set of car tyre levers, and were equipped with strap fasteners. An F.N. enthusiast writes his praise of the toolbags fitted to the last edition of the famous four-cylinder. They are of the all-metal type, and the usual lock and key is supplemented by a spring tongue fastener secured by a milled nut. In other words, they cannot lose their shape, they don't jolt open on the road, and you can lock them when you store the machine. These obvious ideals are not recognised by all designers.

Through Signposting.

ON the question of signposting. Through signposting is at present left to local authorities (with very few exceptions, such as the Great North Road), and they carry it out with a great lack of imagination and efficiency. When you pobble into a strange town, you never know if it will be signposted or not, nor how, nor where. A few towns have intelligent and striking direction posts or boards. Some have faded legends painted before the war on garden walls half-way round corners. Some have curved scrollwork, engrossed with floriated lettering, in any convenient public place. I cannot at the moment name a single large town through which a stranger could hope to pass without repeated dismounts. There are four main requisites, viz.:

1. Every possibility of a false turn should be safeguarded.
2. Switch routes avoiding traffic vortices should be indicated where they exist.
3. The panels should be large. (Lettering of the village signpost size is useless.)
4. Distinctive colouring should be used in order to catch the eye (say yellow and black).

The Licence Pother.

I AM not quite as down upon the Transport Ministry as some grumblers. Their scheme is apparently plotted with several aims in view:

1. To keep tab of motor thieves. (I see nothing to prevent the forgery of both licence cards and log-books; and many difficulties in the way of swift and sure detection of such forgeries. But an additional safeguard is certainly provided.)

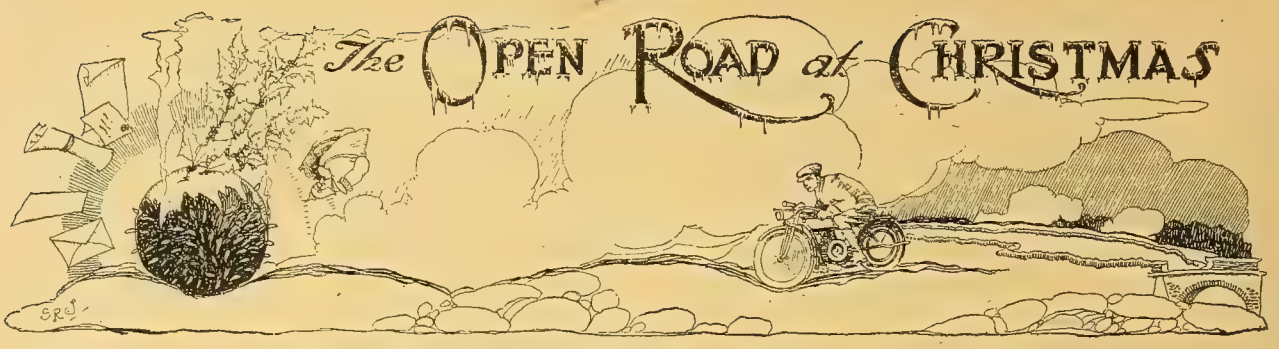
2. To collect revenue cheaply, and to prevent fraud through the use of unlicensed vehicles. (Only those behind the scenes know how much time and postage has been wasted in the effort to track down motors which have changed hands repeatedly, or how many motors are trotting about under fictitious numbers, or numbers which do not belong to them.)

3. To estimate the revenue from a given taxation scheme. (At present nobody knows with any close accuracy how many cars and motor cycles there are on the road; hundreds of "numbers" have fallen into disuse without ever being officially cancelled.)

But there are a few details on which no superman has yet cast his eagle eye. For example, why can a car be licensed for three months at a time, whereas the humble motor cyclist must *(a)* dub up a full year's money in one mouthful, and *(b)* pay a year's tax even if he does not buy his 'bus till September? Again, a three-wheeler scaling over 8 cwt. may, apparently, enjoy the benefits of a quarterly licence, whereas a three-wheeler weighing under 8 cwt. may not. So far no regulations seem to have been issued or any penalties inflicted for failure to notify the decease of a 'bus which is written off. There will be a stir at the Transport Ministry in January should my 1921 'bus get to the ground, card, logbook, and all. Before long death certificates with an adequate fee will doubtless be added to the scheme.

"Productibility."

NOT quite a flying kilometre sort of word, I admit, but I have known worse. I met a chappie at the Show with that air of mild curiosity which marks the technical journalist. "Who are you for?" I enquired, scenting a new paper. He explained that he had been chartered by an American firm of technical publishers to report to the U.S.A. motor cycle trade on any special items of design in our machines which might make for cheap and easy mass production. "What's doing?" was my next impertinence. He grinned, and allowed me to scan a sheaf of notes. I have never tackled a Show from this particular viewpoint, and I must confess that his analysis was not encouraging. He was particularly critical of our twin-cylinders, and wished to know what hidden reason prevented the two cylinders from being interchangeable in so many cases. But he also waxed rather merry about some items of single-cylinder design, having unearthed tappets, etc., that were not interchangeable.



Pleasures Awheel during the Christmas Holidays.

ANY motor cyclist who has used his machine at Christmas time must retain memories of the road that are distinct from all others, however pleasurable they may be.

There are hundreds of motor cyclists who have competed in the run from London to Exeter, in fact the enthusiast considers that the motor cyclist's education is not complete until he has taken part in this classic event. There are also other Christmas events of this nature, and those who have participated in them naturally draw upon their experiences when the question of Christmas rides is discussed.

It is not, however, such rides as these that inspire the title of these notes, as the writer's experiences in a London-Exeter were neither in keeping with the season nor worthy of retention as pleasant memories.

On Christmas Duty.

The Yuletide experiences of the average motor cyclist are totally different from those of the competition rider. His rides generally have a definite object, although sometimes when the sun gives a sparkle to the frost he may forsake his fireside for a run into the country merely for the sake of the ride. More usually, the Christmas rides are made awheel in lieu of trains, trams, or "Shanks's pony." Sometimes it is an exile who uses his machine to get to the home of his people.

What owner of a sidecar cannot find employment for his outfit during the Christmas holidays? The turkey, the cakes, the case of wine which harassed shopkeepers have forgotten to send are quickly rounded up. The holly, and with great luck, the mistletoe also, can be fetched from off the commons to become something associated with the country instead of with the florists' shops.

Families are often scattered, and Christmas is regarded as a suitable time for an annual reunion at the "old home." Those of the clan who possess motor cycles almost inevitably use them for the journey, which, under favourable weather conditions, is by no means the least enjoyable feature of the holiday. Given a snow-bound road and a kindly sun, the greatest lover of the fireside wonders why winter riding is not more general.

A Trip in Imagination.

Imagine the journey on a sunny Christmas morning when the roads are hard with frost. Imagine the loading of the sidecar with human freight and the locker filled with the inevitable parcels with which we burden ourselves at Christmastide. Imagine the good wishes of your neighbours when you set off. Further, in imagination, "start her up," let in the clutch and away in the smiling morn—perhaps only to return a few minutes later to make sure that the cat has not been locked in the house, or that the pantry window *has* been fastened.

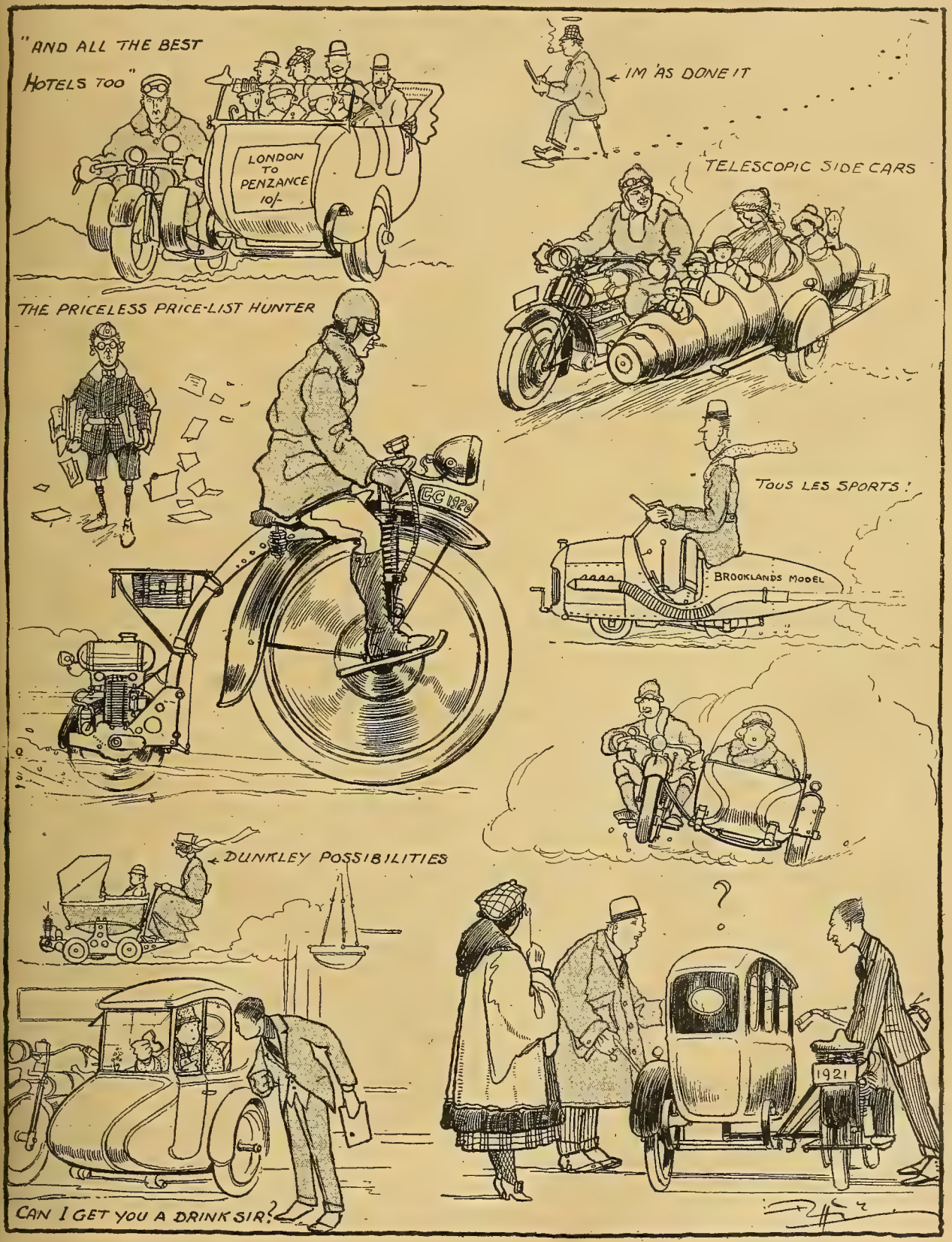
The whole world is animated by a universal good will. There are smiles on the face of everyone—and across the glistening village streets, stranger hails stranger with "a Merry Christmas." You may call at a familiar half-way house, just to give mine host and hostess "the compliments of the season," then off again. There's a blazing fire and a hearty welcome awaiting at the journey's end.

Imagine it all, you who stay at home, and you must envy the man who has to take to the open road at Christmas.

PREPARING FOR CHRISTMAS.
Gathering evergreens during last week's spell of snow.

MOTOROSITIES!

OUR ARTIST IN A CYNICAL MOOD—SOME SHOW INSPIRATIONS.



Opportunity knocks Once at every Man's Door, and on this Occasion our Hero was "at Home."

THAT conceited ass Rutherford swaggered down the steps of the golf pavilion just at the wrong moment. I hate men who wear M.C. ribbons on civvy waistcoats. I shouldn't if I'd been old enough to fight in the war.

"I like men who *do* things," murmured Dolly, cruelly nipping in the bud my attempt to propose for the *n*th time.

She looked achingly pretty, as she leant back in the deck chair. Eyes of delphinium blue. Twisty little curls, as yellow as a cornfield in June, before sun and wind have browned it to reddy gold. A nose which would have been straight if its tip hadn't just a quarter of a mind to be saucy. A slender little neck, and a figure as graceful in repose as it was lovely in movement. What an exasperating vision for cruel old Dame Nature to dangle before a youthful bank clerk with an affectionate nature and no prospects. Add a clever little head, the heart of a sportsman, and the jolliest girl nature in the whole world—then you can picture my enslavement.

"For the last time, Dolly," I demanded desperately, "will you give me a proper answer?"

Another Refusal.

She threw away her cigarette, leant forward with her elbows on her knees, and looked me straight in the eyes as a pal should.

"Look here, old boy," she said almost tenderly, "I like you awfully. Better than anybody else, perhaps. I could easily like you better still, if I let myself go. But we can't. I'm an outdoor girl, and as expensive as they make them. Dad's spoilt me. I've had nothing but the best since I left the nursery. If I were idiot enough to say 'Yes,' what would there be in front of us? You wouldn't let dad keep us if he could, and since the war his 'divis' are down so that he couldn't help if he wanted to. It takes him all his time to keep the Hall going. You're earning, I suppose, £200 a year, and not saving a farthing. I've spent that, and more than that, on frocks and golf every year since I came out. You won't earn much more than that till you're a cashier—ten years hence. I don't say I couldn't pinch and live in a dreadful little villa for the man I loved. Every girl could, and I would. But we couldn't be married at all for ten years, and even then—why, you'd be at the bank all day, and I should be cooking and scrubbing; and then there'd be cradles and—er—things. I daresay I could face it all to-morrow, but to wait ten years with only a poky little home and all the household jobs which I *hate* at the end of it—it isn't fair to ask a sporting girl to face that. I can't do it, and once for all, it's a great big 'No.' I wish it could be 'Yes,' old boy, but you must see it can't. So don't ask me again! And I'm not going to knock about with you so much if you can't be sensible. For instance, our round this evening had better be off, don't you think?"

She stood up, gave me her firm little hand to shake, and disappeared into the pavilion.

The Crash.

Commonsense, of course, but no end of a facer for me. I hadn't the heart to look for a game since she wouldn't play with me. I put my clubs back in the rack, got out my bicycle, and pedalled ruefully homewards.

I was rudely shaken out of my dreams at the sharp right-hand corner near Amberton church by a fool of a motor cyclist. Evidently a stranger, riding something with a sharp, crackly exhaust, he came round at a cool 45, with his wheels skidding and his brakes shrieking. Why he didn't come clean off, I can't think. He did a terrific wobble, which slewed him across the road, and I thought he was going to ram my old Humber amidships. But he recovered himself most adroitly, wrenched his 'bus over to his own side just in time, grinned at me, and tore on, glancing back over his shoulder. A second later I heard another roar approaching—a sidecar outfit thundered into view round the angle of the churchyard wall, and incontinently upset into the ditch on the other side. Before I could catch my breath three or four more racing motor cycles pelted round the bend in a clump. One of them crashed, and the others by some miracle dodged through the gap between me and the overturned sidecar on the edge of the ditch.

Taking Risks.—

I dismounted and rushed towards the ditch, whilst the motor cyclists returned looking very anxious. The sidecar was upside down on the top of its two occupants, and I was tugging at it ineffectually till the other riders came up, when we soon righted it. In the ditch lay two still, crumpled figures. We lifted them out carefully, and laid them on their backs by the roadside, and the motor cyclist who had passed first knelt by them anxiously.

"Jack's winded, I think," he said presently, looking up at the others, "but Percy's worse. Concussion, I fancy. His bones seem right enough. That's the devil of a blind corner. All up with to-morrow's hill-climb anyhow. Here you, sir (addressing me), is there a doc. or a hospital anywhere handy?"

The Competition Machine.

I told them that Dr. Johson lived a few hundred yards away up the village, and they examined the sidecar, which seemed to be undamaged, for the bodies of its occupants had acted as buffers in the crash.

"Some of you stay here with Jack," said the fellow, whom the others addressed as Utley. "He'll come round in a minute or so for certain. His 'bus seems all right. We'll put Percy in it, and take him to the surgery. Take care of my 'bus till I come back. I suppose I'll have to compete to-morrow just the same."

"I'll drive the sidecar," I put in eagerly, "I'm quite a good driver, and then you can come along to the doctor on your own machine with me."

"She's a hotstuff 'bus, you know?" Utley remarked doubtfully. I glanced at it—8 h.p., o.h.v., open exhaust, with a cigar-shaped racing sidecar.

"That's all right," I rejoined. "I drive everything I can borrow or steal, and never crashed yet."

"Very well, then," consented Utley; "but easy on the throttle, you know. She does 70 as soon as look at you if you give her any gas."

We took Percy to the doctor, but I'm afraid my thoughts were rather distracted from the limp, pallid figure in the sidecar by the extraordinary ferocity of the engine beneath me. Like Utley's mount it was a Blizzard—all the others, I noticed, were riding Whirlwinds. Everybody knows what the Blizzards do at Brooklands and in hill-climbs; but I'm pretty well tied to my desk at the bank, and I'd never actually seen one of their special competition 'buses before. It felt as if it had about ten ordinary engines concealed somewhere about it, and I daren't open the throttle more than a millimetre with that inanimate body in the sidecar. Utley, of course, must be *the* Utley, and "Percy," I supposed, is the Percy Richards who won last year's T.T.

Fortunately, the doctor didn't seem at all rattled about Percy. "Slight concussion," he said. A few days in bed, and he'd be as right as rain. The hospitable medico made him comfortable in a spare bedroom, and told us to look in later that evening.

An Idea.

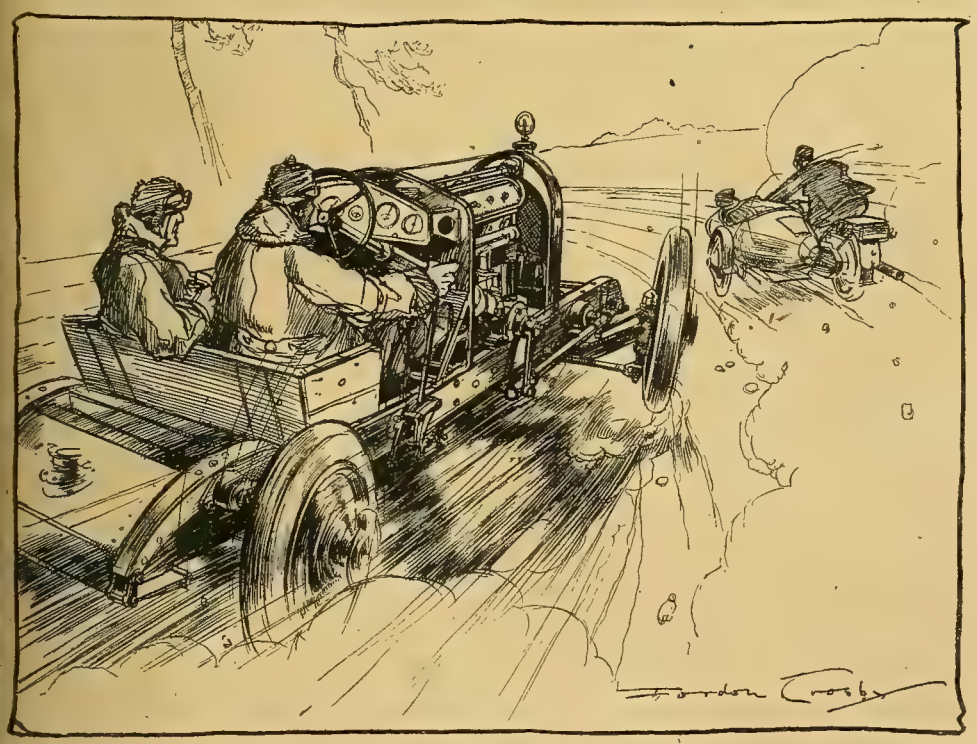
Utley asked me if I'd drive the sidecar to the railway station with him, as the doctor showed us out.

"This is a pretty business," he explained confidentially. "Percy's sidecar and my solo are both very hot stuff. We meant to sweep the board at the Clayshire Club's hill-climb to-morrow afternoon, and were coming up early to have a sniff at the hill. But the fact is Percy's getting too old for his job. His nerve's going, and he knows it; has to fill himself up with whisky nowadays before he does any stunt. We were fools to rip along like that, but the Whirlwind boys started it, and we weren't going to give them best. Percy's going on the management side next year, and we shall want another trial rider. The job is to find one; you see, you want a man with the devil's own nerve, and he must be a crack engine tuner as well."

Then suddenly—

"The directors will be very upset at getting no ad. after spending hundreds on getting that new 8 h.p. dead in the pink. I funk racing round corners on sidecars, but they'll expect me to try. Look here, will you drive her up to Clayshire for me, and then I may be able to save the situation? She's bound to be faster than any other passenger entry, and I daresay I needn't drive her too blue to win."

Ideas had occurred to me while Utley was talk-



". . . the car eased a bit for a corner which its driver didn't know . . . and I cleared him."

Taking Risks.—

ing. Hadn't Dolly said she was an outdoor girl? Wasn't Percy going on the management side next year? Didn't the Blizzard Co. want a new competition rider?

"No, I won't," I said slowly, "but I'm game to do better than that if you agree. The Clayshire climb is up Jacob's Ladder, isn't it? I know that hill blindfold. Our local nuts do all their tuning there. I'll take the 'bus up if you'll agree to my riding her in her classes to-morrow. One thing more. If I do decently with her, you'll recommend me to the directors for Richards's job."

Utley gasped and stared at me.

"You'll excuse me," he said slowly, "but every youngster fancies himself as a racing motor cyclist, and thinks that winning a T.T. is as easy as falling off a log."

"I don't," I said tersely; "but I do know that I can give any of our local boys points at riding or tuning, and there happens to be a good reason why I'd break my neck to get a better job with some prospects in front of it."

We had reached the doctor's gate by now. Utley looked me over appraisingly.

"I won't promise offhand," he said finally. "Tell you what. Ride the 'bus up with me, and if you shape well on the hill to-morrow morning, I'll give you a show. Can't say more than that. We can 'phone the doctor to make sure Percy is all right, and Jack will keep an eye on him, too."

The Test.

I dived into my digs to get a coat and a razor, and in ten minutes we were off. I think my earnestness had impressed Utley, for he rode just behind me, and put me to one or two tests. Somewhere about Featherbridge a new Bentley three-litre out on test hooted its way past us at sixty. Utley rode up level.

"We're not going to stand that!" he bellowed, and down went his nose on the steering head. An 8 h.p. sidecar isn't exactly the mount one would choose for a big scrap on a none too straight road, but I guessed my driving was under special observation. Utley intended to watch me, and didn't let his single right out. I caught and passed him. Then I went after the enormous dustcloud, which hinted that the Bentley wasn't clean off the landscape yet. I didn't at all like diving into that dustcloud, but I chanced it. There were some awful seconds whilst the Bentley and I were neck and neck, wreathed in smoke and grit and flying stones and a thunderous roar. Then the car eased a bit for a corner which its driver presumably didn't know. I *did* know it, and I cleared him. It was here I made good. It was just six miles to Clayborough, and Utley never sighted me again till I slowed a bit for the tramlines. When we pulled up outside the Golden Lion, he condescended to say,

"Youngster, I begin to hope you may do."

* * * * * * * * *

Next morning we breakfasted early and lightly, so as to get out on the hill before the rest of the boys were about. We had the hill to ourselves, and as I stared up at its rutty corkscrew disappearing into the larchwoods, I realised that it was one thing to scorch up it on a standard solo 'bus, and another to put a fire-eating Brooklands sidecar at it. Still, I'd burnt my boats. Old Porteous, our manager, had never loved me overwell, and when he discovered why my desk was empty this morning, the bank would need me no more. Utley and I left our machines at the bottom and walked up. He had an eye like a hawk for ruts and cambers and bits of loose stuff, which might get looser still after twenty or thirty men had been up. Then we walked down, and he got in the sidecar for me to make my first climb.

Sweeping the Board.

To say I was scared is to put it mildly. Utley knew the last words in sidecar racing. Once or twice his body was extended horizontally like a poker to keep the wheel down, with his toes hitched under the carrier or something—I had my hands too full holding the brute to watch him, but I felt the wheel keep down when by all the laws of nature it should have swung up over my head. We simply screamed up, and it took me half a mile to stop her when we were over the top.

Utley drew a long breath.

"Young man," he said solemnly, "consider yourself engaged. What's more if you're half as hot on a solo as you are on a sidecar, I don't mind how soon you succeed to my job as well after a climb like that."

I lost heart a bit during the morning, as one workmanlike 'bus after another roared out from Clayborough, and some of them simply ripped up the ascent. Utley introduced me to lots of famous riders, whom I had previously known only through the columns of *The Motor Cycle*. The nonchalance of these veterans put the wind up me no end, for I was palpitating with fear and hope. But Utley was frankly contemptuous.

"Absolutely nothing to touch you," he decided; "and I can lick anything of my own c.c."

So it proved. I had to drive in five classes. My first climb was a bit scratchy, but the gorgeous Blizzard engine wasn't pressed to fifths of seconds. I was fastest by a bit—not much but enough. When I came down, I noticed the boys at the foot of the hill surveyed me with a new respect, and I knew I'd had my full share of cheering on the way up. In the next class I drove like a demon; and by the time I got to the last class, I was literally inspired beyond all fear. Five firsts, with Utley's seven in the solo classes! Good enough, eh?

Utley pressed me to stay and dine at the Golden Lion with the boys and officials. I knew a trick worth two of that, and made him see that I meant driving the 'bus back to Amberton, where he must pick me up next morning *en route* to the factory. He was evidently disappointed, but said I'd earned the right to my own way.

"By the way," I said negligently, as we shook hands, "what's my screw to be?"

"You're worth a lot," he answered; "but they won't offer you more than £350 to start with. The prospects are first-rate, and there are pickings—bonuses, and the like. Richards made £1,200 the year he won the T.T. and you're young."

The Blizzard felt as if she had 6in. tyres all the way home. I went straight round to the Hall. The maid showed me into the drawing room. Dolly was half buried in a big armchair—dreaming of something sad, I fancy, for she had no book, and her lovely eyes looked clouded. They were radiant when we said good-night.

B.H.D.

Progress of the Motor Cycle in Belgium.

Impressions of the Brussels Show. Belgium Rapidly Reconstructing. The Need for Good Roads. Rival Organisations Controlling the Sport.

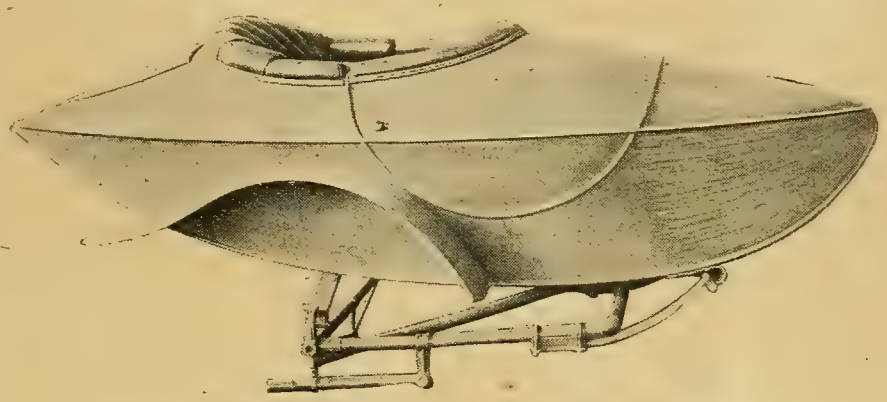
ONE of the most gratifying features of the Brussels Show was the fact that the motor cycle was very much to the fore. This is as it should be in a motor show; and the fact that the motor cycles were shown in an annexe of the same building as the cars was also clearly of benefit to the industry, as it gave the man who was interested chiefly in cars an opportunity of seeing the motor cycles, which would not have been the case had the motor cycle show been held in a separate building or at a different time.

There was really quite a number of motor cycle exhibits, and it was extremely gratifying to note the number of British machines. Naturally, in our report of the Show in last week's issue, British machines were not described, since every one of them had been dealt with in the Olympia Show number; but the fact remains that most well-known makes were represented, and this goes to show that not only are British motor cycles appreciated in Belgium, but that British manufacturers have confidence in the Belgian market.

As the only Continental Show of importance held this year, it is rather surprising that Continental manufacturers did not take greater advantage of it. It was disappointing to see that the famous firm of Peugeot exhibited pedal cycles only; that the Alcyon was not there; that the Viratelle, one of the most original French makes, was absent; and that not a single Italian machine was to be seen in the Exhibition.

The few Belgian machines, which we dealt with at length in the last issue, show distinct originality, considerable promise, and excellent finish.

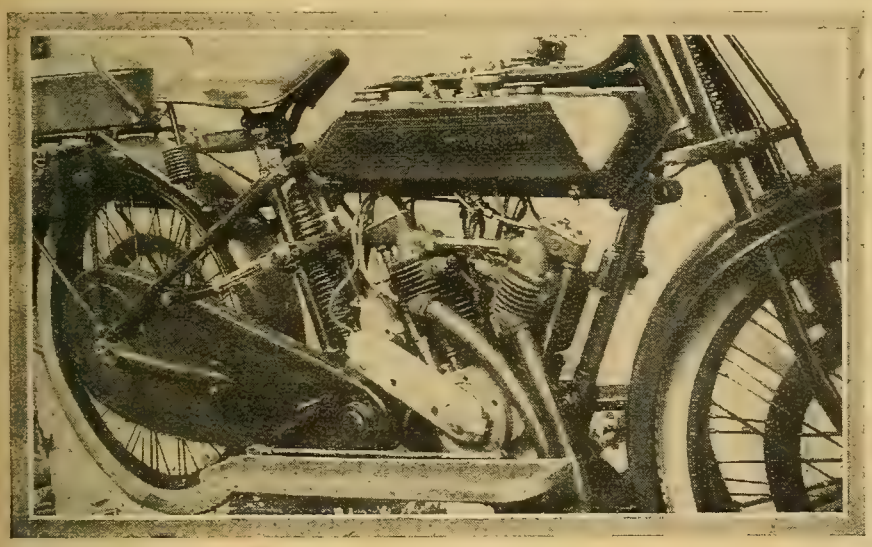
To revert to the Belgian market for British-made motor cycles, the prospect is good on the whole, though this little country, like every other, is suffering from shortage of money. There is, however, no doubt that money has been made by quite a number of people over there, and, though the country suffered more than any other, it is making the most rapid recovery of any embroiled in the recent war.



A distinctive Continental sidecar—the Bleriot, with door on the right side

The Regeneration of Belgium.

In the capital it is hard to realise that comparatively recently it was entirely in the hands of the enemy, but, thanks to the energy of the population, its industry, and capability for pulling together, such a recovery has been effected as has never been recorded in the world's history. As an example, men were at work repairing the floor of the restaurant in our hotel at 4 a.m., which, though not pleasant for the occupants, at least served to mark the energy universally displayed to restore the country to its former prosperity. With these indications it is only natural to prophesy that there is a good time in store for Belgium in the near future, and that trade between Belgium and England will rapidly increase. The little kingdom has the greatest admiration for Great Britain, and will never forget the latter's help and hospitality to her refugees in the dark days of 1914.

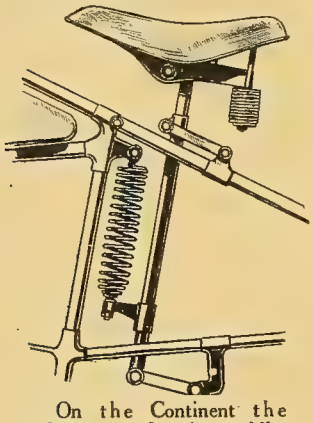


Switzerland's representative at the Brussels Show—the Motosacoche, which has an Enfield-type gear with three speeds

Good Roads Needed.

To encourage and foster the growth of a successful movement one thing is needed and needed badly, and that is a good road system. Unfortunately, railways and trams have been, if any-

Progress of the Motor Cycle in Belgium.—

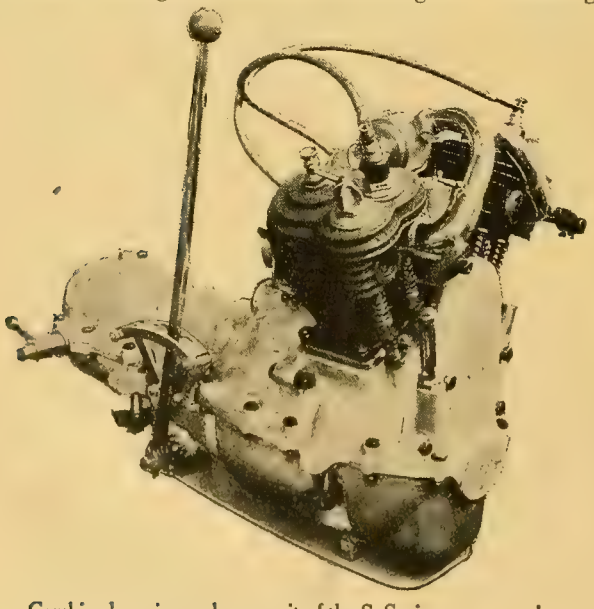


On the Continent the advantages of spring saddle-pillars are now appreciated. This is the system employed by the M.A.G. firm on the new Motosacoche.

thing, overdeveloped, and the roads have been neglected as a means of communication. There is far too much *pavé*, and sufficient attention is not paid to the reconstruction of the great highways, so that they possess durable surfaces capable of withstanding the wear and tear of modern motor traffic. On the other hand, reconstruction of the roads has not been entirely neglected, though much remains to be done. Our Belgian friends should remember that the splendid English road surfaces have done more than anything else to encourage the rapid development of the British motor cycle industry, and it is solely due to these good roads that British motor cycles have reached a higher standard than those of any other country.

Motor Cycle Organisations in Belgium.

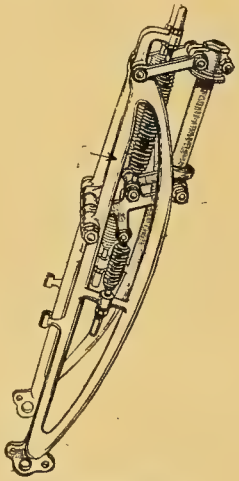
Though among the earliest nations to take up the motor cycle, the general organisation of the sport is more or less in its infancy, and at present the organisers are undergoing a somewhat severe trial. The interests of motor cyclists are looked after by the Federation Motocycliste Belge, a body which, like the Auto-Cycle Union, has had the power of control delegated to it by the chief automobile club—in this case the Belgian Royal Automobile Club. Though it suffers from inexperience, it is doing its best, and, not being too proud to learn, is endeavouring to form its organisation on the lines of that of the Auto-Cycle Union. During our visit we had a long and interesting conversation with M. M. Fagard (president of the F.M.B.), M. Marcellis (a member of the R.A.C.B. and chairman of the Competitions Committee of the Liège Motor Cycle Club), M. Mathot (a member of the Competitions Committee of the same club), and M. Colignon (general secretary of the Belgian Motor Cyclists' Federation).



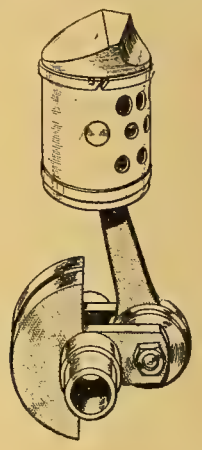
Combined engine and gear unit of the S Spring motor cycle at the Brussels Show.

Interpretation of F.I.C.M. Rules.

Motor cyclists in Belgium are apparently split up into two camps: those adhering to the F.M.B. and those who sympathise with the Union Vélocipédique Belge—the body which looked after the pastime previous to the founding of the F.M.B. At the end of our lengthy conversation between the gentlemen mentioned and one of the "lost sheep" of the U.V.B., we were left with the impression that it appears a good deal of the trouble existing between these bodies was due to the failure of the F.M.B. to interpret the F.I.C.M. competition rules as they stand at present with any idea of generosity. No provision is made in these rules for the inclusion of motor cycles with engines exceeding 1,000 c.c., and one or two machines coming under this category and hailing from the United States are represented in Belgium by young and enthusiastic motor cyclists. Being, therefore, excluded by the F.M.B. from all competitions, they have allied themselves to the pedal cycle organisers—a procedure which would be quite impossible in this country.



Spring forks of the S Spring machine.



The connecting-rod, crankshaft and drilled piston of the Gillet two-stroke.

However, there seems little doubt that Belgium will reorganise her affairs to the satisfaction of all concerned, and that on the occasion of the next F.I.C.M. meeting in Brussels, on January 20th, 1921, the British Auto-Cycle Union delegates will be able, after a quiet talk to explain quite a number of points about which their Belgian *confrères* are not clear.

So far as Belgian competitions for 1921 are concerned, the most popular of the events run in that country—the Paris-Liege-Paris trial—will, of course, be held, while a Grand Prix race will be held on September 2nd over a sporting course in the neighbourhood of Spa. This will be a car event, but it will be either preceded or followed by a motor cycle race, which will be run on T.T. lines.

THE NEW REGISTRATION BOOKS.

Each Motor Cycle is to have a "Dossier" which is not to be Kept on the Machine.

THE time approaches when the whole system of taxation on, and registration of, motor cycles will be changed. We have already given particulars of the new licence card holders, which have to be carried in such a position that they can be seen by a policeman from the near or left side of the machine.

In addition to having to purchase and parade this compulsory accessory, motor cyclists will have a registration book consisting of a manilla board folder making eight pages.

Four of these pages are shown in the reproduction on this page, from which it will be seen that three changes of ownership, after the initial purchase, are provided for on pages 3 and 4. Page 6 will contain full particulars of the machine, date of registration, etc., and page 7 is reserved for a seven years record of licences issued.

The following are the instructions contained on pages 1 and 5:

LICENCE REGISTRATION BOOK FOR MOTOR CYCLE, ETC.

1. The owner must sign under the name and address on page 3 (or 4) as soon as he gets this book.
2. Keep this book in a safe place—not on the vehicle. If you lose the book, you may have trouble and delay in renewing the licence or in selling the vehicle; and you should report the loss at once to the Registration Authority, whose address is on page 2.
3. If the particulars on page 6 are not correct, inform the Registration Authority at once.
4. Whenever the vehicle is on the road, the licence must be carried in the approved pattern holder in the prescribed position, *i.e.*, "in a conspicuous position visible at all times by daylight from the near side of the vehicle."
5. A police officer or an officer of the Registration Authority may at any reasonable time ask you, at your address, to show him this registration book, and he may take extracts from it.
6. If you change the unladen weight of your vehicle or its class (*e.g.*, to goods) or (if not already so licensed) desire to draw a sidecar or trailer, you must at once inform your Registration Authority and send this book to them. (It is an offence not to notify any change of the registration particulars.) If the alteration made increases the amount of licence duty payable, you should send a cheque for the amount of the additional duty.

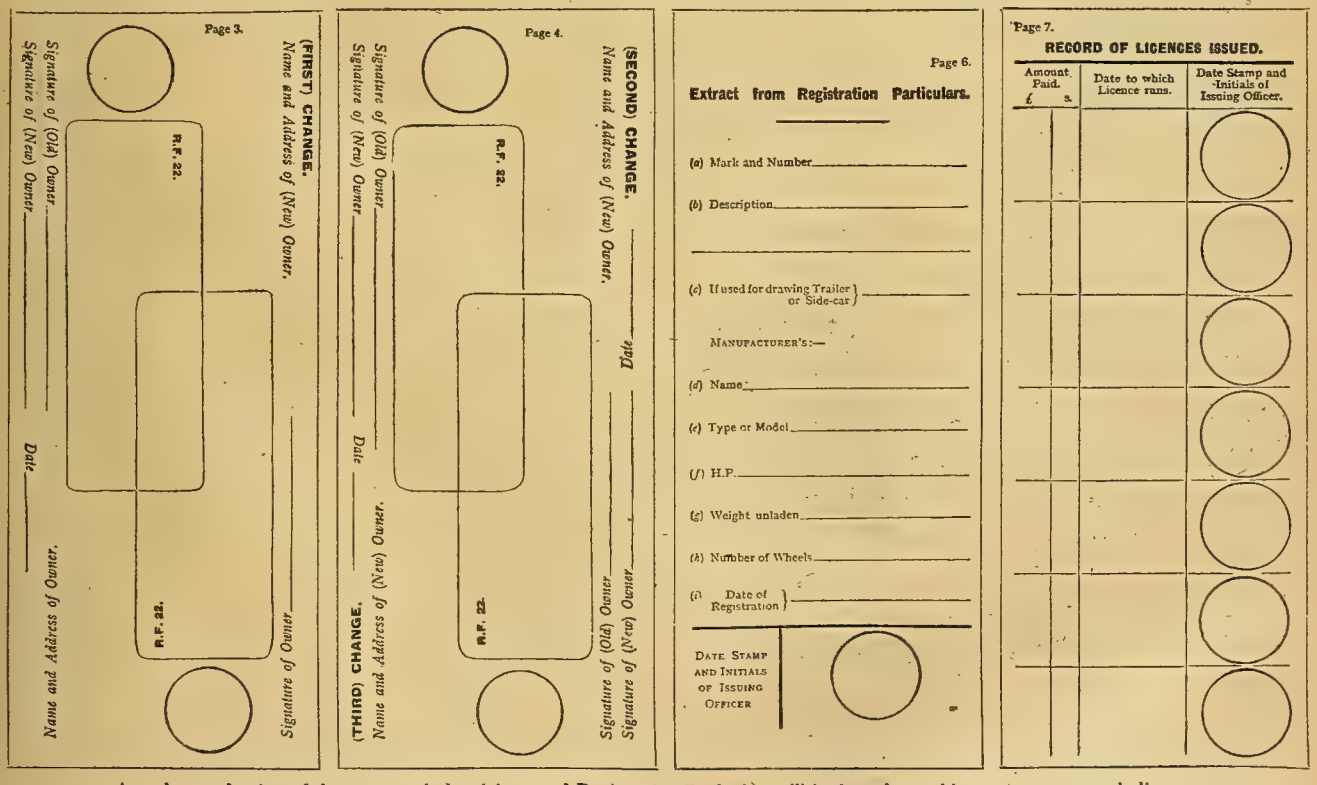
[PAGE 5.]

7. If you change your permanent address, at once put your name and new address in block capitals in the "Change" space on page 3 (or 4, if 3 is filled), sign your name below it, and post the book to your Registration Authority. (It is an offence not to notify change of permanent address.)
8. If you sell the vehicle, you must put the new owner's name and address in block capitals in the "Change" space on page 3 (or 4 if 3 is filled), sign your name below it, and post the book to your Registration Authority. (It is an offence if you do not notify the sale.) The new owner must also send a written notice to the Registration Authority of his district that he has bought a vehicle, and give its index mark and registration number. When the licence expires, the new owner must furnish full particulars of the vehicle on Form R.F.1 on making application for a new licence.
9. When your licence expires, if there has been no change of ownership of the vehicle, get a Renewal Form (R.F.1a) from your Registration Authority or from a Money Order Post Office, fill it up, and either:
   (1) Send it to the Registration Authority, or
   (2) Take to a Principal Post Office in your district:
      (*a*) The completed Form R.F.1a,
      (*b*) The old licence,
      (*c*) This book,
      (*d*) The proper duty,

   and you will get this book back, with a new licence.
10. If you do not wish to renew the old licence, it must be surrendered within fourteen days after the date of its expiry to your Registration Authority. (It is an offence if you do not surrender it within the time stated.) You cannot get a renewal of your licence at a Post Office after the expiry of the time stated.
11. If the licence is not renewed (and is consequently surrendered) owing to the non-use of the vehicle, you must retain this Registration Authority when you apply at a subsequent date for another licence for the same vehicle. When a vehicle is broken up, the registration book must be surrendered to your Registration Authority.

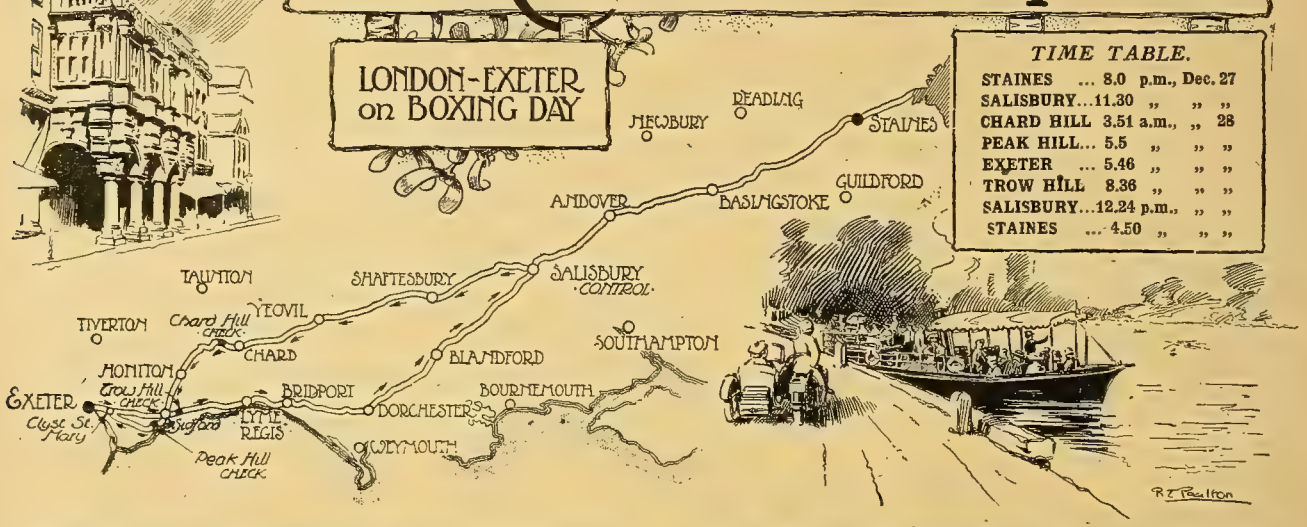
Pages 2 and 8 are left blank and intended for use by the Registration Authority only.

The Auto Cycle Union has issued a shilling guide on the subject of taxation and registration, but we understand that this has not met with the approval of the various authorities, as, in some districts, it has not yet been definitely decided which particular local department will handle the matter. For example, the Town Clerk's Department is given as the Registration Authority for Coventry, but the matter will be handled by the police. In other cities similar confusion is likely to occur, as in some cases the police, in others the town clerk's office or the city treasury department, will take charge of the registration.



Actual reproduction of four pages of the eight-paged Registration Book that will be issued on taking out a motor cycle licence

The Christmas Trial.



TIME TABLE.

STAINES	8.0 p.m.,	Dec. 27
SALISBURY	11.30 „	„ „
CHARD HILL	3.51 a.m.,	„ 28
PEAK HILL	5.5 „	„ „
EXETER	5.46 „	„ „
TROW HILL	8.36 „	„ „
SALISBURY	12.24 p.m.,	„ „
STAINES	4.50 „	„ „

THE 1920 M.C.C.'s London-Exeter-London Trial, starting on December 27th and 28th, will be run under strict trials conditions, and, whatever the weather is like, it will not be in any sense an irresponsible amble along the southern coast.

A departure from the accepted and familiar outward route has been planned by Mr. B. Alan Hill, the organising secretary, and this involves a *détour* at Honiton to climb a hill of some gradient near Sidmouth. As this will be negotiated in the grim hour before dawn, it may account for more than a few failures.

Those who contend that the sporting side of the motor cycle movement is on the wane have only to look at the list of entries, which is given below, for a negation of the idea. It will be seen that there are eighty solo riders and a similar number of sidecar enthusiasts. In addition to these there are thirteen three-wheelers and sixty-four cars. Of these the palm for enthusiasm must certainly be awarded to the soloists, especially those who are undertaking the long double journey of 318 miles on lightweight machines.

The first pair of competitors start away from the Bridge Hotel, Staines, at 8 p.m. on Monday, December 27th, and thereafter the competitors leave in pairs at one-minute intervals. The arrival of the first pair at Exeter is timed for 5.46 a.m. on Tuesday, and after a short respite the competitors start out again on the homeward journey at 7.50 a.m., being due to finish at Staines at 4.50 p.m. on the same day.

This run is essentially one which is only undertaken by the keenest of riders, since it not only involves riding throughout the whole of one night, but it is usually carried out under the most adverse weather conditions. It is a test of the riders, their machines, lighting equipment, and, above all, of the water-proofness and cold-resisting qualities of motor clothing, since it almost invariably rains when the competitors are crossing such open and exposed stretches of road as that over Salisbury Plain.

For the convenience of spectators along the road, the list of the entries given below is sectionised according to the makes of machines used.

Full List of Motor Cycle, Sidecar, and Three-wheeler Entrants, Classified according to Make.

A.B.C.
13. V. Belfield (3 h.p.)
15. W. S. Jameson (3 h.p.)
16. D. F. Bonham Carter (3 h.p.)
25. A. Milward (3 h.p.)
34. E. O. Brodin (3 h.p.)
38. B. E. Belfield (3 h.p.)

A.J.S.
88. E. W. Choldcroft (6 h.p.*)
89. W. C. Hemy (7 h.p.*)
93. Rev. E. S. Powell (6 h.p.*)
100. P. W. Giles (6 h.p.*)
101. D. H. Noble (7 h.p.*)
107. R. A. Rayner (6 h.p.*)
110. S. Julian (6 h.p.*)
129. W. J. King (6 h.p.*)
141. R. H. Bywater (6 h.p.*)
157. O. Wade (6 h.p.*)

ALECTO.
103. R. Dequin (2¾ h.p.*)

ARIEL.
12. L. Pulham (3½ h.p.)
40. C. Bourlet (3½ h.p.)
94. E. Atkins (3½ h.p.*)

BEAUMONT.
75. G. W. Shepherd (2¾ h.p.)

BLACKBURNE.
52. S. G. Woolridge (4 h.p.)
99. R. B. Whiffen (8 h.p.*)
145. H. Clenell (4 h.p.*)

BROUGH.
2. H. Karslake (5 h.p.)
3. F. W. Stevenson (3½ h.p.)
114. S. S. Debenham (5 h.p.*)
115. K. V. Chidley (5 h.p.*)

BROUGH SUPERIOR.
8. G. Brough (8 h.p.)

B.S.A.
148. R. H. Attwood (6 h.p.*)

CASTLE THREE.
165. W. R. Cornwall (8 h.p.†)

CLYNO.
125. W. A. Kay (8 h.p.*)
140. F. Smith (8 h.p.*)

CONNAUGHT.
76. W. M. Greenwood (2½ h.p.)

CORONA.
58. J. Harrison (4 h.p.
147. E. G. Operman (4 h.p.*)

COTTON.
60. Reg. Brown (2½ h.p.)

COULSON-B.
4. R. B. Clark (2¾ h.p.)
51. W. Bray (4 h.p.)
64. H. F. Edwards (4 h.p.)
160. H. Guy (2¾ h.p.*)

COVENTRY EAGLE.
128. T. G. Mooney (6 h.p.*)

DALTON.
63. F. Begley (4 h.p.)

DE DION.
56. B. F. C. Fellows (2¾ h.p.)

DOUGLAS.
1. P. W. Moffat (3½ h.p.)
46. F. G. Waters (2¾ h.p.)
50. A. H. S. Love (2¾ h.p.)
71. Tudor Thompson (2¾ h.p.)
81. E. Clark (4 h.p.*)
82. E. Kickham (3½ h.p.*)
84. E. Clark, jun. (4 h.p.*)

EDMUND.
36. J. C. Walker (2¼ h.p.)

GRIGG.
70. S. C. Marshall (1½ h.p.)

G.W.S.
44. R. C. Bennett (2¾ h.p.)

HARLEY-DAVIDSON.
32. F. G. Spikins (7-9 h.p.)
33. C. A. McKeand (4 h.p.)
41. O. Wilson-Jones (7-9 h.p.)
53. J. R. H. Knight (7-9 h.p.)
79. J. A. O'Sullivan (4 h.p.)
97. J. I. R. Jenson (7-9 h.p.*)
102. J. A. Masters (7-9 h.p.*)
106. B. Newit (7-9 h.p.*)
126. A. C. Rowe (7-9 h.p.*)
131. S. Frank (7-9 h.p.*)
140. J. D. Marvin (7-9 h.p.*)
143. S. E. Longman (7-9 h.p.*)
154. S. C. Tait (7-9 h.p.*)
156. F. C. Temple (7-9 h.p.*)
159. B. S. Allen (7-9 h.p.*)

HUMBER.
28. C. F. Hagenbach (4½ h.p.)
108. H. F. O. Evans (4½ h.p.*)

INDIAN.
5. H. R. Harveyson (4 h.p.)
22. C. C. Labin (4 h.p.)
91. I. Macdonald (7-9 h.p.*)
96. H. Le Vack (4 h.p.*)
112. G. D. Daley (7-9 h.p.*)

JAMES.
98. C. B. Cooke (5-6 h.p.*)
111. H. A. Reyre (5-6 h.p.*)
124. H. H. Saddington (6 h.p.*)
139. C. Crosthwaite (6 h.p.*)

NEW SCALE.
67. H. J. Scale (3½ h.p.)

MARTINSYDE.
119. H. Bashall (6 h.p.*)
150. A. G. Fenn (6 h.p.*)
151. J. T. Bashall (6 h.p.*)

MATCHLESS.
105. L. Arnold (8 h.p.*)
109. W. H. Julian (8 h.p.*)
116. G. Packman (8 h.p.*)
117. F. J. Ellis (8 h.p.*)
118. T. J. Ross (8 h.p.*)
119. G. D. Hardee (8 h.p.*)
120. J. Hoult (8 h.p.*)
134. D. S. Parsons (8 h.p.*)
155. F. W. Guiver (8 h.p.*)

METRO-TYLER.
72. W. P. Nell (2¼ h.p.)
78. J. S. Bennett (2¼ h.p.)

MORGAN.
161. G. A. Pidgeon (10 h.p.†)
162. W. Pattison (10 h.p.†)
163. H. W. Holmes (10 h.p.†)
164. H. E. Sawtell (10 h.p.†)
170. C. E. Bennett (8 h.p.†)
171. W. H. Elce (10 h.p.†)
173. D. G. Prentice (8 h.p.†)

NEW HUDSON.
43. C. C. Earls (2¾ h.p.)
73. J. A. W. Armstrong (2¾ h.p.)

NEW IMPERIAL.
95. O. P. C. Collier (8 h.p.*)
138. A. H. Harrison (8 h.p.*)

NORTON.
80. R. Knowles (4 h.p.)
132. H. Reynolds (4 h.p.*)
133. D. Bradbury (4 h.p.*)

*Sidecar. †Three-wheeler.

Motor Cycle and Three-wheeler Competitors in the London-Exeter Run (*Continued*).

N.U.T.
27. A. C. Rhodes (3½ h.p.)

OLYMPIC.
77. H. Gold (2¼ h.p.)

OMEGA.
30. L. W. G. Gotley (2½ h.p.)

P. & M.
49. P. O. Cunningham (3½ h.p.)

POWELL.
85. J. A. Watson Bourne (4 h.p.*)

PREMIER.
167. J. Haslam (8 h.p.†)
169. R. Croucher (8 h.p.†)
172. A. J. Dixon (8 h.p.†)

QUADRANT.
35. B. Silver (4½ h.p.)
104. C. Wilson (4½ h.p.*)

READING-STANDARD.
55. J. Wallis (8 h.p.)
69. G. A. Gibbs (8 h.p.)

REX.
86. W. A. Fel.-Smith (8 h.p.*)

ROVER.
11. W. C. Boyer (5 h.p.)
113. G. Lee White (5 h.p.*)

ROYAL ENFIELD.
137. A. F. Pulling (8 h.p.*)

ROYAL RUBY.
135. H. Dale (8 h.p.*)
136. L. A. Apsey (8 h.p.*)

SCOTT.
17. H. B. Browning (3¼ h.p.)
59 G. B. Betteridge (3¾ h.p.)
65. K. Don (3¾ h.p.)
66. J. Baker (3¾ h.p.)
158. P. Pike (3¾ h.p.*)

SUNBEAM.
10. T. Morgan (3½ h.p.
14. H. F. Fellows (3½ h.p.)
21. A. Bridge (3½ h.p.)
23. J. L. Anderson (3½ h.p.)
31. L. Keevil (3½ h.p.)
37. P. Street (3½ h.p.)
48. A. Wooding (3½ h.p.)
51. F. C. Townshend (3½ h.p.)
74. A. S. Guthrie (3½ h.p.)
92. P. W. White (8 h.p.*)
130. A. M. Knill (3½ h.p.*)

T.B.
166. F. Spouse (10 h.p.†)
168. F. E. Douglas (10 h.p.†)

TRIUMPH.
9. T. Francis (4 h.p.)
18. R. C. Staunton (4 h.p.)
20. H. E. Symons (4 h.p.)
24. A. S. Pinchbeck (4 h.p.)
42. E. L. F. Taylor (4 h.p.)
47. C. Smith (4 h.p.)
57. C. F. Edwards (4 h.p.)
61. R. B. Roberts (4 h.p.)
62. B. J. Sims (4 h.p.)
90. S. J. Marks (4 h.p.*)
121. E. Hillary (4 h.p.*)
122. G. S. White (4 h.p.*)
123. A. P. McGowran (4 h.p.*)
142. C. N. Green (4 h.p.*)
153. W. P. Brandon (4 h.p.*)

VELOCETTE.
6. G. Richardson (2¼ h.p.)

VERUS.
45. W. G. Churchill (2¾ h.p.)

WILKIN.
26. R. McRitchey (2¾ h.p.)
144. G. W. Wilkin (3½ h.p.*)

WOOLER.
29. J. F. Hull (2¾ h.p.)
39. F. A. Longman (2¼ h.p.)

ZENITH.
19. V. Gayford (6 h.p.)
83. J. G. Goodenough (8 h.p.*)
87. R. Charlesworth (8 h.p.*)
127. D. J. Stone (8 h.p.*)

UNSPECIFIED.
7. R. L. Richardson.
68. E. H. Fielden.
152. T. H. Willey.*

*Sidecar. †Three-wheeler.

CLUB NEWS.

Barrow and District M.C.

A whist drive and dance will be held in the Co-operative Hall, Abbey Road, Barrow, on Thursday next, the 30th. The whist drive commences at 7.30 p.m.; dancing until 2 a.m. Tickets, 1s. 6d. each, can be had from any member of the committee, or from the hon. secretary, Mr. W. A. Singleton.

Ripon and District M. and M.C.C.

The above club recently held their annual dinner at the Unicorn Hotel, when Mr. E. H. Ingram (vice-president), in the unavoidable absence of the President, presided over a large gathering. In the course of the evening the chairman presented the prizes won during the past year. An excellent musical programme was contributed to by various members and friends.

Kidderminster M.C.C.

Over seventy members and friends attended the first post-war dinner of the Kidderminster Motor Cycling Club, held at the Lion Hotel recently under the chairmanship of Capt. W. H. Stewart-Smith. During the evening the president, Mr. Loughton Goodwin, distributed a large number of prizes won by members in open and club competitions, including the handsome B.S.A. Challenge Cup, open to all England, which was won by Mr. F. W. Giles, of Kidderminster and Wolverhampton.

North-West London M.C.C.

Taking the place of the annual London-Gloucester Christmas run, a short "daylight" reliability trial will be run on January 1st. The start will be made from Jack Straw's Castle, Hampstead, at 9.30 a.m.; and, after a short, circular route through the Chiltern Hills, the finish will also be at Hampstead at 4 p.m. A non-stop run of 15½ miles is included, but tyre trouble in this section is not heavily penalised, provided no other adjustment be made to the machine during such stop.

A prominent scheme in the programme of this club is the motor camping section, which, while by no means a new pastime, is not specially catered for by many other clubs in this country.

The secretary of the North-west London M.C.C. is Mr. H. J. Pooley, 23, Clifton Avenue, N.3.

Keighley M.C.

The Keighley Motor Club recently held its first annual dinner at the Queen's Hotel, about seventy members and friends being present. The medals, etc., for the past season's events were presented by the president, and a very successful evening concluded with a musical programme.

Stourbridge M.C.C.

The above club will hold its annual Boxing Day event, the "Heroes" One Day Reliability Trial, on Monday, December 27th, over a sporting course of approximately one hundred miles. The well known local hills will be included, together with an acceleration test to decide the ties. The lunch stop will be at headquarters. The start is at 10 a.m.

West Kent M.C.

In spite of the "Christmas card" weather, a band of enthusiasts met to decide the club's flexibility test on Saturday, December 11th, with the following results: Under 350 c.c.—Heath (2¾ Douglas). Singles, over 350 c.c.—Gosling (4 Triumph). Twins, over 350 c.c.—Eastwood (8 Zenith). Passenger machines.—Barnes, jun. (6 Martinsyde sc.). The run back to headquarters was in the nature of a "Colonial trip."

Ilkley and District M.C. and L.C.C.

Remarkably good consistency riding was achieved by members of the Ilkley and District M.C. and L.C.C. in their winter trial on December 5th, for the trophy presented by Capt. S. S. English. As each competitor started he was given a card showing the names of the places through which he must pass. He had to find his own way by means of the map and was checked along the route by observers. On the last circuit, which was on a switchback track with a number of rough surfaces, W. Bradley's performance on a 4 h.p. Indian showed the remarkable figures of .01 m.p.h. variation of his standard time. His total error from his first circuit was 2.12 m.p.h. C. L. Peacock, on a 3¾ h.p. Scott and sidecar, was placed second with a total error of 2.175 m.p.h., and Alec Dovenor, also on a 3¾ h.p. Scott and sidecar, was third with a total error of 2.626 m.p.h. There was only one retirement.

Bedford and District M.C.

Not the least successful item on their programme this year was the annual dinner of the Bedford and District M.C., which was held at the Dujon Café on Thursday, the 9th. Over seventy members attended, and the success of the evening was enhanced by the presence of ladies. Many handsome trophies and gold medals were presented to successful competitors in events during the past year; and it was generally agreed that the future of the club was rosy.

Blackpool and Fylde M.C.

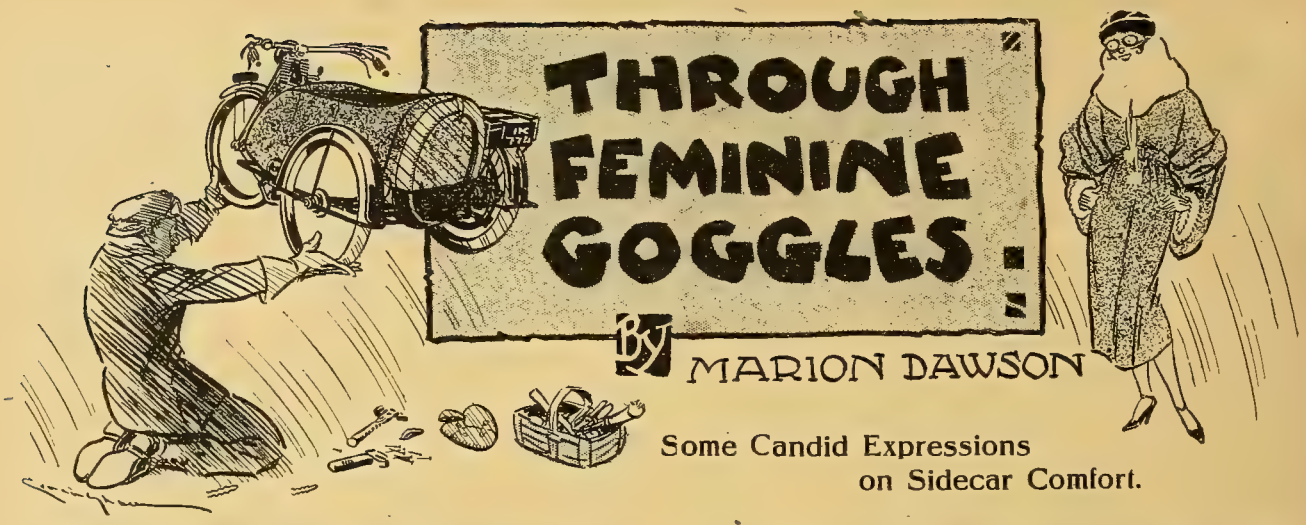
The above club held a very successful hot pot supper and smoking concert on Wednesday, December 1st, at the headquarters, South Shore Hotel, Blackpool. At the general meeting on Monday, December 6th, at headquarters, Mr. Thos. Sharples, chairman of the club, presented the three gold medals won in the reliability trial held on October 17th, 1920: Sidecar class, W. Lyons (7-9 Harley-Davidson, sc.); solo class, M. Parkinson (3¾ Scott). On Boxing Day, December 27th, the club will hold its Christmas Reliability Trial over a 100 mile course.

Worcester and District M.C.C.

At the Masonic Hall, Worcester, on Thursday, 9th December, the first annual dinner of the above club was held under the presidency of Mr. R. W. Barker. In addition to praising the work of the secretary, Mr. Howell, and the various other officials, many interesting references were made to the past and future work of the club. They had many ambitious ideas, including, on the social side, the renting of a building as a club house, and on the sporting side a suggested T.T. race round the Malvern Hills. Mr. Alec Ross said that he appreciated the way in which the club had lived up to its title of "the sporting club."

Mr. E. W. Thomas proposed the health of their Chairman, who, he said, helped the club not only with his name, but also with his purse.

The Chairman, in replying, tendered his thanks to Messrs. E. Davies and Blandford and Mrs. Gibbs for having contributed musical items during the evening, and also to their treasurer, Mr. B. Parkes, who acted as accompanist.



THROUGH FEMININE GOGGLES.

By MARION DAWSON

Some Candid Expressions on Sidecar Comfort.

I WONDER how many sidecar designers have sought a woman's views on what constitutes comfort in sidecar design? Not all, I imagine, judging by results, despite the fact that sidecars are almost exclusively used for the conveyance of the weaker sex. Having had some little experience I would like to give my views on the defects and possible improvements in the design of the sidecar vehicle.

Springing seems to me to be the essential factor in the matter of comfort. Without adequate springing a sidecar journey of any length is not only uncomfortable, but the effect on one's nerves is positively harmful, dreams haunted by phantom pot-holes and stones of enormous size being a not infrequent result of a day's run in a badly sprung vehicle. Some sidecars, too, are not built deep enough, and with unsuitable springing the risk of being thrown out justifies the feeling of fear experienced when the wheels of the vehicle meet with obstruction, or when one of the all too numerous stretches of bad road surface is traversed.

Worshipping at Two Shrines.

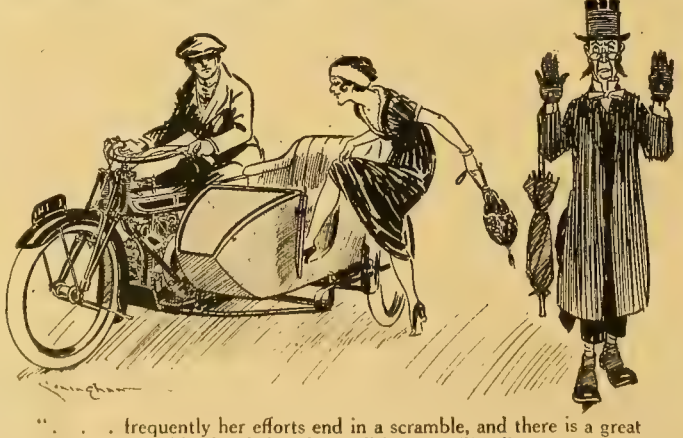
Reference might be made to the varying widths of sidecars, for some are certainly not built wide enough for comfort. (No, I am not blessed with too much *embonpoint*, turning the scale at a little under eight stone, but I have more than once felt the need of a gadget of the shoe horn persuasion to get into such a sidecar.) "Economised on size," says my escort, "to give the 'bus a better chance—we shall fly up the hills on top." We do, but I am hardly able to move during the run, and need help to get my cramped limbs out of the "feather-weight" at the end of the journey.

Some sidecars possessing many attractive features have a distressing habit of creating neckache. This, I have discovered, is due to the slope of the back of the vehicle. Unless the sidecar body is deep enough for support to be given to the shoulders, the back panel should be at right-angles to the seat, for it is far more comfortable to sit upright, as in a Windsor chair, than to be in a half reclining position with a badly aching neck.

Sidecars without seats, but fitted up instead with a long floor cushion, are a different proposition, but even these luxurious conveyances have their failings. Often they are not quite long enough, and to have one's knees doubled up is as annoying as the knowledge that one's shoe toes are being crushed against the end of the sidecar body.

Pride and Practicability.

The exhibition of a woman getting into a sidecar is often anything but an attractive sight. Frequently her efforts end in a scramble, and there is a great likelihood that they will be unavailing—without assistance—if she is wearing a fashionable skirt of 1920 Anno Domini. Some sidecars have no door at all, while others have a door about the size of a small pocket handkerchief let into the top of the side panel. To enable a lady passenger to get into a sidecar easily and gracefully, the door should be wide enough, and the opening low enough to enable her to step up comfortably from the ground, or as an alternative a conveniently placed step should be provided.

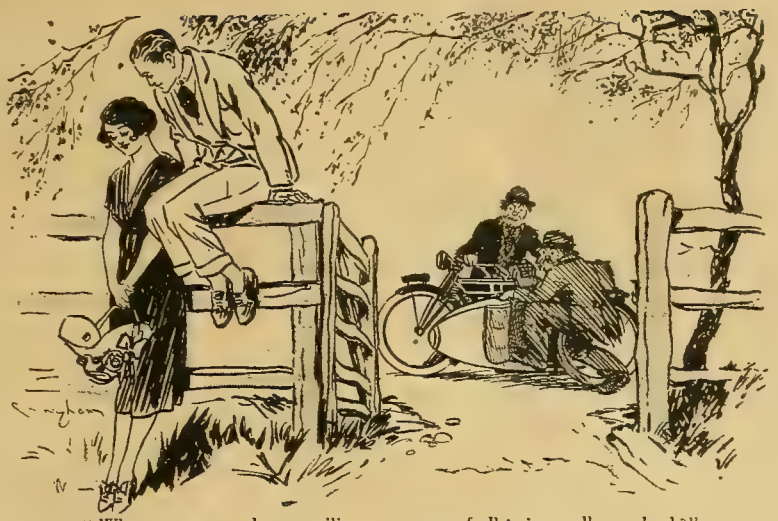


". . . frequently her efforts end in a scramble, and there is a great likelihood that they will be unavailing."

The variety of methods of fastening a sidecar door is a matter of wonder to my unmechanical mind. A satisfactory and decidedly simple means of holding the door in place is a button on the inside of the door itself, and is infinitely preferable, from the passenger's point of view, to a fastener which refuses to function if the door is slightly warped, or perhaps jolted a little out of position. I write feelingly, having recently

ridden some miles holding a sidecar door in place when an obstinate catch refused to work.

In conclusion, I would ask any sidecar maker to solicit the help of a lady of his acquaintance before designing his next model. I suggest that he should take her for a run on a trial model, impressing on her before the start that her *candid* admission of any discomfort experienced is required, and inviting her suggestions as to any possible improvement in his design. The italics are mine, for one finds it is seldom a wise, and often a futile, policy to grumble when the occupant of the saddle asks after one's comfort. New sidecars do not grow on blackberry bushes, and where the "best boy" is concerned the temptation is to suffer silently, for in grumbling a considerable risk is taken of further delightful spins over the roads and lanes of our charming countryside being curtailed, or even indefinitely postponed, whereas who can say to what a smiling assurance of all being well may lead?

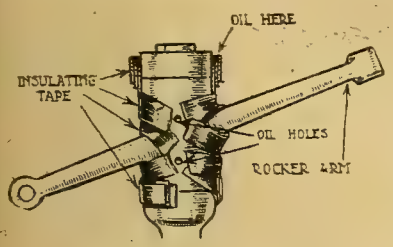


"Who can say to what a smiling assurance of all being well may lead?"

Care of Overhead Valve Mechanism.

A Few Hints for Reducing Wear and the Amount of Attention Required.

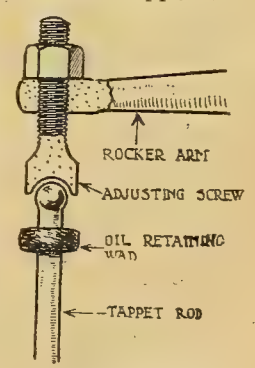
AS everyone knows who has ever possessed an engine having both valves overhead, it is necessary to give the valve operating mechanism a certain amount of attention. This, however, is amply repaid by obtaining a higher degree of silence, durability of the various parts, and general efficiency. If a few simple measures are carried into effect the necessary attention can be reduced and the mechanism can be made to wear better.



The rocker joints of an overhead valve mechanism wrapped with insulating tape to prevent grit wearing the working parts.

It is the custom to keep the working parts well lubricated with engine oil, which, unfortunately, causes the friction faces to collect grit, this being the chief cause of wear; and at one time I used regularly to take the whole machinery to bits, wash each part in paraffin, and put it together with clean grease—a troublesome, but thorough, business. I have now taken to wrapping the rocker joints with insulating tape in such a way that the joint is overlapped, so that the tape not only serves to exclude foreign matter, but acts as an absorbent wad. The joint can be completely bound so that the tape sticks to both members, since their movement will speedily release one side, thus leaving the rocker arm free to move. If the tape can be so arranged on the top side as to form a slightly recessed cup, as it can in the case of the A.B.C., so much the better, as a drop of oil introduced into the cup is retained long enough to soak into the joint, instead of being distributed broadcast.

In the case of the A.B.C. and a few other engines, the end of the push rod comes in contact with the end of the adjustment screw—a point at which a good deal of wear takes place and some noise naturally occurs. At one time I used to make a point of keeping these two contact faces as clear of oil as possible, as I found that the lubricant caused the adjustment screws to work loose. One day, however, I washed the whole mechanism with petrol, then put the adjustment screws back with a little Summit jointing material smeared on the threads—which, by the way, I have found most useful stuff—and this proved a safe remedy against the loosening of the screws. It also rendered it possible to keep the tappet rod ball joint permanently lubricated. Take the tapped rod out, and bind it near the end which comes in contact with the screw with some kind of absorbent twine, such as thin silk tape, and so as to form a wad. This wad can then be kept soaked with oil, which oozes on to the traversing surfaces and prevents clattering.



Overhead valve adjustment screw and the improvised oil-retaining wad.

I think that anyone who cares to carry these tips into effect will find that their overhead valve mechanism can be more or less left to look after itself, and will give much better service as regards wear and reliability. I may add that, in my opinion, half the alleged shortcomings of overhead valves are due to a lack of intelligent interest on the part of those who own them, and personally I much prefer this type to the side-by-side variety.

CHINOOK.

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

STRING FOR CHAIN REPAIRS.

Sir,—It would be interesting to know if any of your readers have managed to get out of such an apparently hopeless position by such simple means as I recently employed when following hounds on my 1912 2¾ h.p. Douglas. The chain broke, and, although I had a spare link, I could not find the spring to keep it together. The only thing I had in my pocket was a piece of thin string, and, as a forlorn hope, I decided to use it. I tied it crosswise round the link, and, to my surprise, reached home without further trouble, thus avoiding pushing my machine for eight miles.

R. HOPE.

A LICENCE CARRIER POINT.

Sir,—In reading "Further Details of New Licences" in your issue of December 9th, it struck me that the "off" rather than the "near" side was the better place to carry the new motor licence card which is about to be thrust upon us. First, because, when carried on the near side, it limits the card to the front forks or handle-bar in the dual-purpose mount, unless the rider is willing to shift his licence every time he attaches a sidecar. Secondly, motorists are alive to the fact that most of the police we pass are point duty men, who are only able to see the "off" side of our machines. This is obvious, and needs no further comment.

Perhaps the authorities have a good reason for their action; if so I should very much like to hear it.

R. A. McLAREN.

Sir,—With regard to the new taxes there are these points which will need to be watched for sidecar outfits.

(1.) The registration receipt for the sidecar will need to be separate from that for the motor cycle, as many of us keep the sidecar when selling the machine.

(2.) Motors are used both with and without sidecars. Will the card have to be carried on the sidecar when together and on the motor when solo, or can it be carried on the motor always? What a glorious victory it was!

EDGAR CARR.

THE SHOW AND THE SCHOOLBOY.

Sir,—I am a public schoolboy, and have been an interested reader of *The Motor Cycle* since I was given a 3½ h.p. Rudge nine months ago. Could it not be arranged for the Motor Cycle Show to be held in early January, or at some time when public schoolboys could visit it? Day by day more and more boys are becoming ardent motor cyclists, and it is a difficult task to make a choice from one or two motor cycles seen in a country agent's window. In a school as far North as this (Cumberland), there are about forty of us who live in London, and many of us own motor cycles. One or two of us hope even to follow in the footsteps of R. O. Clark, H. Le Vack, Watson-Bourne, and other premier motor cyclists of the day.

A. S. GRAY SCOTT.

ROAD REPAIRS AND NIGHT RIDING.

Sir,—Recently I was bringing a sidecar from Newcastle southwards, and, owing to a slight fog, we were hugging the side of the road. On the Newcastle side of Birtley we knew that the road was under repair, and, consequently, kept our eyes open for the usual corporation danger lamps. They appeared, and we intended approaching to within twenty yards before switching on to the off side. However, suddenly we crashed into some huge heaps of road metal, merely tipped on the road, at least twenty-five yards from the first lamp. I swerved quickly and tried to avoid the foremost heap but came near a frightful spill, my passenger being thrown violently, nearly leaving the car.

After ascertaining possible damage, I examined the heaps, and found them to be first a load of earth, then two loads of large sized metal. We got over the first one, but would rather not contemplate the possible consequences if we had struck the metal heaps first, these being about 3ft. or 4ft. high. Needless to say, my passenger is suffering from shock as a result of the accident. Luckily, as far as I can ascertain, the machine is undamaged, except for a broken sidecar mudguard.

EX-D.R.

Wolsingham.

WHAT IS A SILENCER?

Sir,—As an old reader of your valued paper and prospective owner of the machine in question, I am more than interested in the correspondence in your recent issues with reference to the silencing of the 3½ h.p. sporting Norton.

The Sunbeam people also are turning out a machine with a similar exhaust fitting. It certainly seems to be somewhat farcical that a machine in one particular district is fulfilling all legal requirements, but on being run in some other place is not.

Cannot some action be taken to obtain a definite ruling on this point?

E. E. HOWELL.

STRONGER CARRIERS WANTED.

Sir,—Anent "Pillion's" letter in *The Motor Cycle* of the 2nd inst., I have also observed that in the later models of most machines the supports of the carrier are confined to oblique stays longitudinally fixed to the hub of the back wheel, with no support to the saddle.

I knew of a case recently where a rivet sprang, and the whole carrier, together with the stays, fell backwards. Luckily no pillion rider was using the carrier at the time. This happened to a motor engineer of my acquaintance, who thereupon pointed out the danger in my own machine. He has devised neatly fitting stays which now connect the carrier with the saddle tube, the result being a distinct success.

Since that time he has standardised them, and now has quite a demand. If any of your readers are interested in the acquisition of these stays, the name of the firm is Mason and Peacock, Park Avenue, Hull, with which firm I have no connection.

ALAN G. FISHER.

BOILING WATER AND SODA FOR CHAINS.

Sir,—*Re* "Ixion's" remarks on chains, perhaps my method of cleaning them will be of interest. It may sound rather drastic, and some may say that the process will affect the steel, but all I can say is that I have used it dozens of times on both "push" and motor cycles with every success. My present chain on a 4 h.p. Triumph has done well over 7,000 miles without a breakage, and is still going strong.

Put the chain in an old pan, fill up with water and a little soda, and boil, then scrub with a stiff brush, and afterwards boil again. It is surprising the dirt, grit, etc., that is left in the pan and how clean the chain is. The chain should be taken out when the water is still boiling, and the surplus water shaken off; the rest will have all dried up by the time the chain is cold. Now stand in paraffin for a few hours, and then rub in some sort of grease.

I wonder if any reader could give me a tip for making a belt guard for my Triumph. I find splashes of mud all over the engine, etc., if the roads are not dry.

L.K.J.

York.

WILL SOO N BE 1921!

Sir,—I should like to say a few words in regard to the new regulations, or inconveniences for motorists. I wish to protest most strongly and vehemently against the exorbitant, intolerant, and unfair taxation. What have all the motor organisations done or going to do about this matter? They seem to have taken it all lying down. I, for one, am going to sever my connection with the A.C.U. over this business. My fees will help towards the extra tax, if it be inevitable. What has gone wrong with *everybody?* Are we all going to submit tamely and say nothing? Up and at 'em, everybody is affected. Have we not had enough (and more) of control, restrictions, inconveniences, etc.? It is high time it was all wiped off the board.

This registration form-showing business is a relic from Army life.

I have yet to learn that gun licences, livery tax, carriage tax, and also the dog tax have been raised on the same extortionate scale. And why on earth the motorist alone from among all other taxpayers should be the only one compelled to carry a visible form showing the tax has been paid defies all comprehension. It is time we said "Enough," and asserted ourselves.

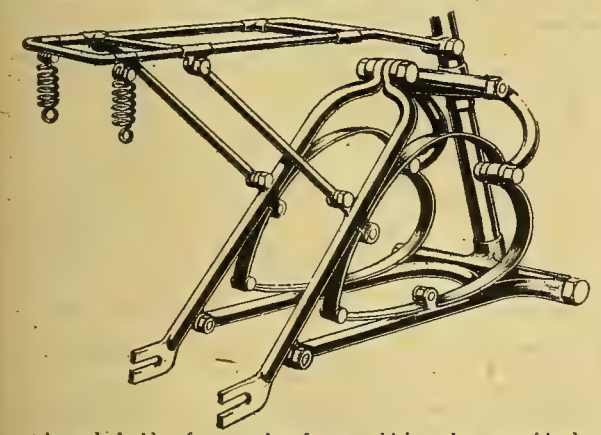
A WORKING MAN WEEK-END MOTORIST.

Leeds.

A READER'S REAR SPRINGING DESIGN.

Sir,—I think there must be some inherent difficulty in designing satisfactory spring frames, as, judging from the reluctance of the manufacturers to adopt them universally, or the reluctance of experienced riders to possess them, one must come to the conclusion that they do not give the satisfaction that was expected of them, or they would have been universally used by now.

I have been trying to think the matter out with a view to obtain a permanent lateral rigidity that will not be over springy and jumpy, and will not have too many pivots to work loose; also to keep a tension on the ones you must have, so that they will not be inclined to rattle and jump loose. For this reason I have avoided the use of links.



A reader's idea for a spring frame, which makes use of both leaf and coil springs. The latter are in compression against the mudguard. (See letter by Mr. W. F. J. Simpson.)

I enclose a sketch which, I think, explains itself, merely drawing attention to the fact that both the chain stays and the back stays may be triangulated slightly, giving additional rigidity.

As the load is taken by four leaf springs they could be made of single leaves, slightly tapering, and my idea was to make them of rustless steel.

The leverage on them would nowhere be very great, so that they need not be fastened with strong heavy chairs—in fact, simple pivot fastenings would give greater resiliency and avoid undue strain.

I do not see that the pivots should wear any worse than the links of the front fork, and simple provision could be made for adjusting them or renewing them if necessary—in fact, all the parts could easily be replaced by the owner of the machine.

As the load is divided between the back stay and the springs, and this again has to be divided by four to get at the load taken by each spring, I do not think the leaves need be very thick, and I fancy they would take an extreme bend without breaking.

I have shown a coil spring (compression) between the carrier and mudguard partly to prevent the carrier from rattling and partly to take any load the carrier might be called upon to resist (and, incidentally, it would relieve the leaf springs).

As I have not the means at hand to make a large scale drawing, it is very difficult to ascertain correctly the driving centre. It seems to vary a great deal with slight modifications of the frame; but this difficulty shows it would be easy to find a centre that would practically give no slack to the belt or chain.

I thought the design looked so promising that I have applied for provisional protection.

WILLIAM F. J. SIMPSON.

THREE-INCH TYRES ON LIGHTWEIGHTS.

Sir,—I noticed in a recent issue of *The Motor Cycle* you raised the point of 26in. × 3in. tyres for lightweight machines, especially selecting the Cleveland as an example.

Having ridden the Cleveland a considerable distance during the present year, I should like to state that it is one of those things that have to be tried to be realised, and if any have doubts as to its being a success or otherwise, I should suggest they try the Cleveland on their pet bit of "pot-holey" tramlines on a greasy December day.

The point may be raised that these tyres slow a machine, or pull down its efficiency, but the results we have had, both solo and with a sidecar fitted, have justified us claiming, or rather backing up, Messrs. Rudge-Whitworth's experiments on Brooklands some time ago. It is interesting to note that immediately after these tests Rudge-Whitworths standardised 650 × 65 mm. tyres on their models.

I made a journey to the Midlands to try and convince one of our prominent lightweight manufacturers that there is a wide market for a *modèle de luxe* lightweight fitted with large tyres and efficient mudguards, especially for doctors and professional men, and beg to suggest in conclusion that my experiments lead me to maintain that tyres of this class make a spring frame absolutely superfluous.

BERT HOULDING,
Director, BERT HOULDING, MARKS, AND CO., LTD.

THE ROADS BILL.

Sir,—On more than one occasion during the debates on the Roads Bill, the Parliamentary Secretary to the Ministry of Transport has stated that the recommendations of the Advisory Committee of the Ministry were unanimous as to the necessity for the proposed registration book as part of the 1921 administrative machinery for the collection of the new motor taxes.

As representing the interests of the Society of Motor Manufacturers and Traders and the Automobile Association on this Committee, it is only right that I should at once explain that from the first I have been strongly opposed to the recommendations of the majority of the Committee in relation to this so-called registration book.

The idea of the book originated, not as Sir Eric Geddes informed the House of Commons, in the Post Office, but in the belief by some of my colleagues on the Committee that it would materially check the traffic in stolen motor vehicles. The machinery of the Post Office in renewing quarterly or annual licences requires nothing more than a surrender of the licence card. The registration book for this purpose is redundant and unnecessary.

With reference to the very laudable desire to check the traffic in stolen vehicles, it is instructive to mention that Sir Eric Geddes refused to re-enact the provision contained in the Motor Car Act, 1903, enabling an unregistered car to be driven to an authority for registration, on the ground that as the new machinery will enable the registration book and the licence card to be obtained through the post, there will be no necessity for the car to be driven to the registration authority at all.

We may be delighted to hear this, but if it be true it is germane to ask what possible check the registration book will provide against the traffic in stolen cars, when that book can readily be obtained by the thief through the post.

It would surely appear that this book as a document of title will tend to aggravate the very disease it is intended to remedy.

ALFRED HACKING,
General Secretary, Motor Legislation Committee.

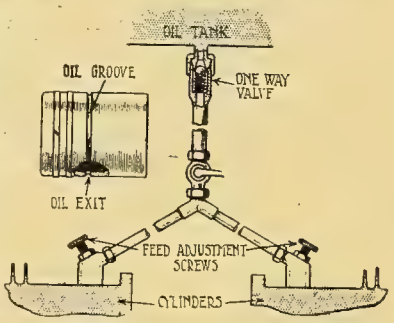
A SILENCING SUGGESTION.

Sir,—I have noticed in your columns several new designs for silencers. Since the greatest difficulty in silencing appears to be back pressure, I would like to suggest that both silencing and engine efficiency would be greatly improved by giving the exhaust valve a greater lift, or in a two-stroke making the exhaust port larger, and casting small, close radiating fins along the length of the exhaust pipe and silencer. By this means the gases would be much more rapidly cooled, and the expansion on entering the silencer would not be nearly so great. R. S. MORGAN.

OILING THE A.B.C.

Sir,—I agree with "Ixion" that Mr. Bradshaw might have arrived at a better system of oiling for his otherwise beautifully designed A.B.C. I have so far mastered the oiling of my machine that it is no longer a source of trouble, but that it is not perfect is proved by the fact that the left cylinder gets a good deal hotter than the right—so much so, indeed, that my right foot is often cold while my left is quite hot!

It would be very convenient to have an adjustable and independent feed to each cylinder, and I append a rough sketch of an arrangement which I am thinking of fitting. The ball valve is simply to cut off the supply when the machine is standing, in case one should forget to turn it off; and the system would be employed, I may add, more for the sake of equalising the oiling than for feeding the entire supply.



A suggested arrangement for the oiling of the A.B.C. engine, whereby equal distribution of oil is maintained.

Though the sketch is self-explanatory, a word of description may prevent error. The feed is maintained by the crank case vacuum, assisted by gravity. The vacuum draws the ball valve off its seating (if the ball valve does not stick!), then through the feed pipes to the respective cylinder walls, each cylinder being provided with an independent adjustment screw. An oil-retaining groove is cut round each piston just below the rings, and, there being but one outlet, and that on the opposite side, namely, the bottom of the piston, this groove is (theoretically) always full of oil.

I wonder if any other experimentalist has tried a similar system. H. MORTIMER BATTEN.

BEATING THE PUNCTURE FIEND.

Sir,—In recent issues three writers reach out a helping hand to the unhappy "Never Again," who, in *The Motor Cycle* last month, told a sad tale of puncture trouble, and who, to get even with the puncture fiend, threatens to go back to solid tyres.

As I have given some study to the puncture problem, and have been free from punctures for fully 30,000 miles, perhaps "Never Again" will be interested in my experience.

In my first 11,000 miles motor cycling I had forty-seven punctures. These were all in the *rear* tyre. The experts told me that that was due to the extra load there. I also noticed that my punctures—

(1.) Were caused by straight nails, incapable of standing on end, unless for a moment.

(2.) Were got when going fast.

(3.) Were got on dry roads, never on wet.

These facts seem to me to show that the front tyre is really the puncture fiend. It puts nails on end to puncture the rear tyre.

I therefore designed and patented a rear tyre guard to keep all nails out of the rear tyre. As I expected, this device has reduced puncture troubles practically to zero. The puncture preventer was a perfect success in a road test over 80,000 nails. (See *The Motor Cycle* of Christmas, 1919.) The nail movement was photographed in one-thousandth of a second, and a lantern slide prepared. When this was shown the whole thing became as plain as a pikestaff.

Mr. C. Tyers (*The Motor Cycle*, November 18th) recommends my puncture preventer "for flat-headed nails, standing point up." He is quite right; but I would remind him that such nails are uncommon on the road. Out of over 6,000 nails collected by me from British roads less than one per cent. were of the "point-up" kind. The deadliest foe is the straight nail, which jumps up for an instant after the passage of the front tyre over it, and finds a billet in the rear tyre. The puncture preventer makes a clean sweep of these.

M. M. MONIE,
M.P. PUNCTURE PREVENTER CO., 38, Bath Street, Glasgow.

EVERYDAY RIDERS' WANTS.

Sir,—"Easily Satisfied" should keep to the point. There are one or two statements to which I take exception:

(1.) "It is easily seen he is not an engineer." What marvellous deduction! I thought I accentuated this in my letter.

(2.) "Commonsense would tell anyone that, from an engineering point of view, ball races are superior," etc.

My preference for plain bushes was for ease in replacing.

(3.) "What better front brake and spring frame than the Beardmore," etc.? The front brake is ideal; but as the makers have to run the risk of chain breakages this is as it should be. Spring frames "cut no ice" with me.

(4.) "What engineer would prefer to turn and fit bronze bushes when ball races can be obtained," etc.?

We don't work because we love it, but because we have to. 'Nuff sed.

However, I am immensely relieved to find that he agrees with me on one point. Spares. *Facit indignatio versum.*

Glasgow, W. FED UP AND DISGUSTED.

UNPUNCTURABLE TYRES.

Sir,—Recently an intelligent boy called my attention to an "unbustable" ball, explaining that even if the outer rubber ball were cut or torn it did not become useless, as the inner ball held the cover in shape. Such inner ball was a core similar to the rubber sponges used for toilet purposes.

Would it not be possible to manufacture an inner tube, the centre to be filled with a core of this rubber sponge? I am assuming that the sponge core could be made of such consistency as to give the deflated tube the appearance and effect of a partly inflated, say half inflated, tube. The difference between the consistency of the core and full inflation to be effected by the usual method of pumping up. Such a tube, gashed, would only partly deflate—*i.e.*, to the extent of the air pressure lost. The cover and tube would then not be so liable to roll off and cause a smash as with the present tube. Further, say on a sidecar wheel, one could ride home on a punctured tube, the core being sufficient to prevent damage. Probably to enable the use of such tubes, one side of the rim would have to be removable as in large car tyre practice, but this should not be a great drawback.

Sheffield. W 8406.

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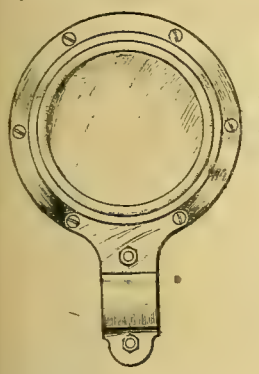
Further Examples of Licence Card Holders.

Over Thirty Firms now offering the New Compulsory Accessories.

IN last week's issue we were able to give particulars and illustrations of the licence card holders of fifteen firms offering them. Amongst the further batch of fifteen which has been submitted to us is a very novel type manufactured by Messrs. Nicol and La Riviere, 4, Emerald Street, London, W.C. A strip of metal is fixed at the bottom of the front plate by two small screws and again at the top with a similar screw. This portion retains the glass and metal holder in position, whilst this latter can be rapidly removed by unscrewing the top screw. It is finished in aluminium or nickel plate, and has a distinctly smart appearance.

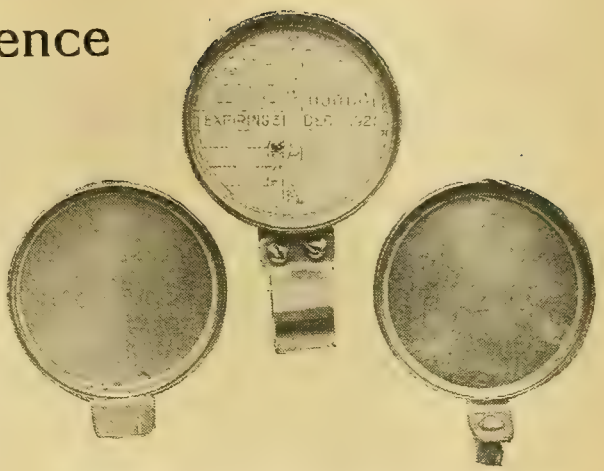
A substantially constructed holder is marketed by Messrs. S. Smith and Sons (M.A.), Ltd., 173, Great Portland Street, London, W.1. The front plate is provided with a milled edge, whilst a boss in the centre of the back plate holds the glass and packing tightly against the front plate. Three screws hold the body together, and, at the same time, clamp the tube fitting to the back plate. This model is also supplied with a flange fitting for attaching to the number plate.

Exceptionally neat is the holder, which consists of two parts only, manufactured by Messrs. Grover, Smith and Willis, Winchester Street, Basingstoke. It is constructed of aluminium; the circular front plate is threaded internally, into which a solid back plate is screwed. The back of the holder is flush, with the exception of a raised portion in the centre cut to receive a screwdriver. Two washers are provided, one in front and one behind the glass. A tube fixing is provided, and is held to the body by two bolts, whilst the back flange of the clip extends above the circular back plate and locks it in position.



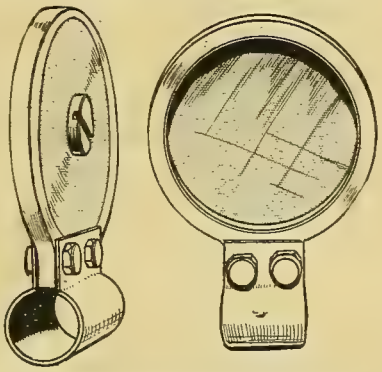
Coventry Plating and Presswork Co.'s holder in non-rusting polished nickel-silver which sells at a moderate price.

Messrs. Brown Bros., Ltd., of Great Eastern Street, is another firm which has introduced a licence card holder, which is, perhaps, the most simple of the many we have seen. Briefly, it consists of a brass tray to take the licence card, rubber ring and glass, the whole being kept in position by a spring ring after the manner of retaining lamp glasses.



The Brown Bros. holder has three types of fixings, for front number plate, handle-bar, and mudguard respectively.

Another firm producing a holder for the number plate is Messrs. Wright and Sons, Edgware, Middlesex. A circular back plate receives the waterproof front plate and glass, whilst the number plate fixing is integral with the rear plate.



The Grover, Smith, and Willis design in aluminium.

The well-known saddle and bag firm of J. B. Brooks and Co., Ltd., Birmingham, manufacture a holder in two patterns, one which screws or bolts flush to any flat surface, and the other is supplied with a strap for attaching to the tank or in a similar position.

One of the few firms producing a square type holder is Car Components, Ltd., 6, Hanover Square, London, W.1. This holder has no flanges, and presents a very neat appearance. It is made for cars, sidecars, and motor cycles; the latter type, equipped with a clip for the handle-bar, costs 9s. 6d.

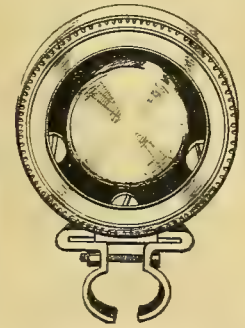
Godfreys, Ltd., 208, Great Portland Street, offer a very handsome holder in brass or aluminium, with clip fitting 5s., or direct fitting 4s., while Gratze, Ltd., have three types—(1) with a lug extension which may be bent to suit individual requirements for 6s., (2) with clip extension at the side for fitting above or below the handle-bar for 6s. 6d., and (3) with clip extending from the centre of the back of the holder at the same price.

W. Brandish and Sons, Foleshill Road, Coventry, are offering a flangeless holder of good design and exceptionally well finished for 2s. 6d. without clips, and 2s. 9d. with handle-bar fittings.

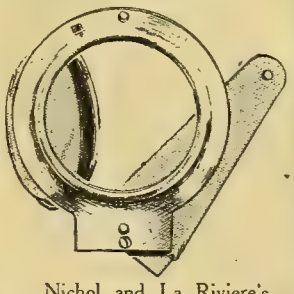
As is to be expected, the Terry holder, made by the famous Redditch spring firm, is a neat and well finished article. Having a nickel-plated finish, it is offered in three types—(1) for fitting to the woodwork of car or sidecar, 5s. 6d.; (2) fitted with a clip at the back of the holder for attaching either to the windscreen, 7s. 6d.; or (3) for motor cycle handle-bars, with an adjustable clip ⅞in. or 1in., 7s. 6d.

The Meteor Manufacturing Co., Ltd., 98, Tollington Park, London, N.4, the makers of the Corona motor cycle, are also producing a licence card holder, as are the Coventry Plating and Presswork Co., Ltd., whose product is illustrated, and F. Line and Co., Buckingham Street, Birmingham.

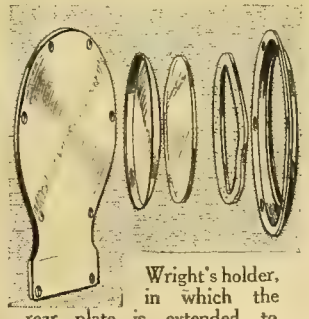
A square holder by Car Components, Ltd.



Smith's holder.



Nichol and La Riviere's method of holding the back plate to the glass rim.

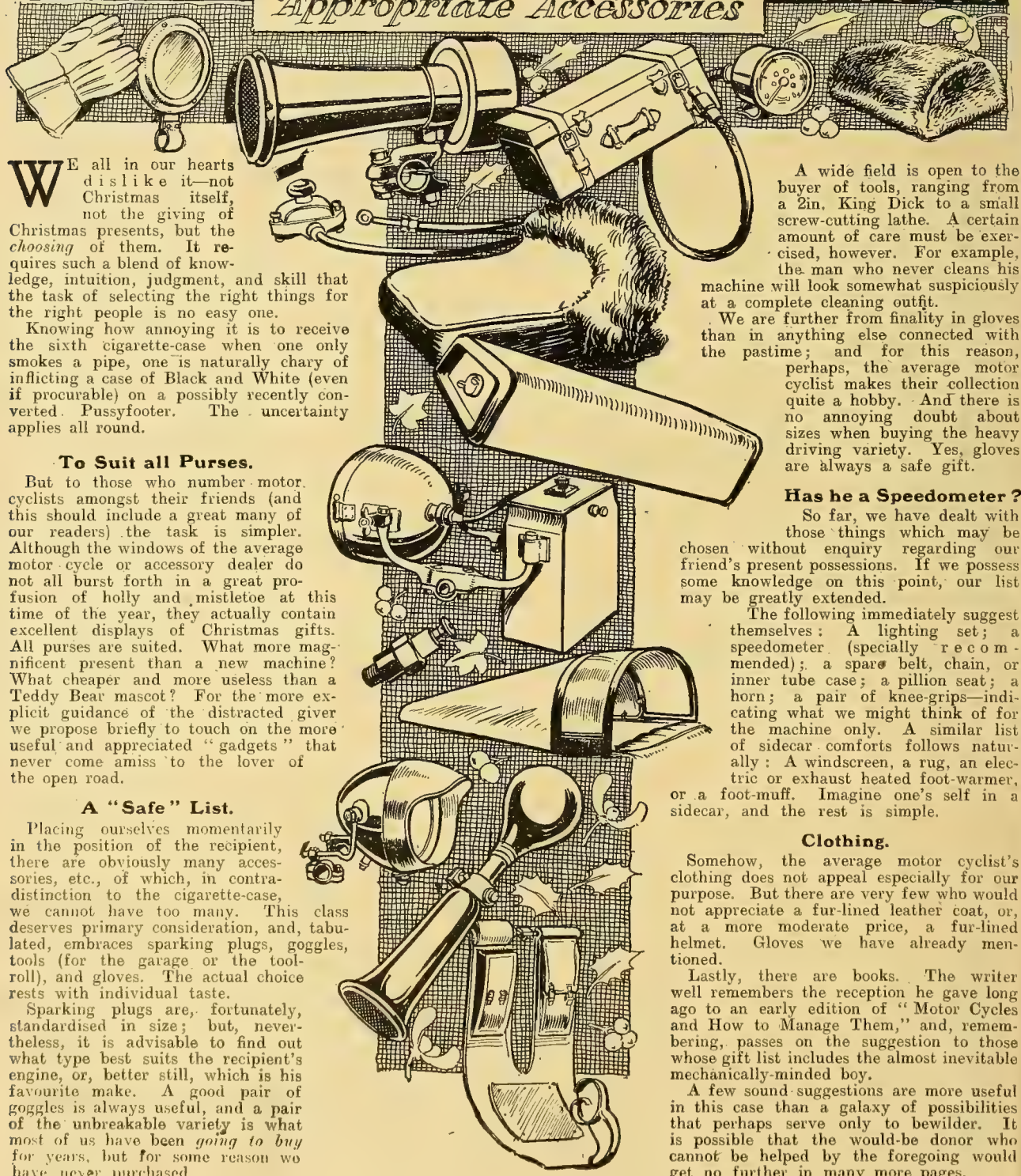


Wright's holder, in which the rear plate is extended to form the fastening to the number plate.

Holder by the well-known Terry spring firm.

Xmas Gifts

Some Useful and Appropriate Accessories



WE all in our hearts dislike it—not Christmas itself, not the giving of Christmas presents, but the *choosing* of them. It requires such a blend of knowledge, intuition, judgment, and skill that the task of selecting the right things for the right people is no easy one.

Knowing how annoying it is to receive the sixth cigarette-case when one only smokes a pipe, one is naturally chary of inflicting a case of Black and White (even if procurable) on a possibly recently converted Pussyfooter. The uncertainty applies all round.

To Suit all Purses.

But to those who number motor cyclists amongst their friends (and this should include a great many of our readers) the task is simpler. Although the windows of the average motor cycle or accessory dealer do not all burst forth in a great profusion of holly and mistletoe at this time of the year, they actually contain excellent displays of Christmas gifts. All purses are suited. What more magnificent present than a new machine? What cheaper and more useless than a Teddy Bear mascot? For the more explicit guidance of the distracted giver we propose briefly to touch on the more useful and appreciated "gadgets" that never come amiss to the lover of the open road.

A "Safe" List.

Placing ourselves momentarily in the position of the recipient, there are obviously many accessories, etc., of which, in contradistinction to the cigarette-case, we cannot have too many. This class deserves primary consideration, and, tabulated, embraces sparking plugs, goggles, tools (for the garage or the tool-roll), and gloves. The actual choice rests with individual taste.

Sparking plugs are, fortunately, standardised in size; but, nevertheless, it is advisable to find out what type best suits the recipient's engine, or, better still, which is his favourite make. A good pair of goggles is always useful, and a pair of the unbreakable variety is what most of us have been *going to buy* for years, but for some reason we have never purchased.

A wide field is open to the buyer of tools, ranging from a 2in. King Dick to a small screw-cutting lathe. A certain amount of care must be exercised, however. For example, the man who never cleans his machine will look somewhat suspiciously at a complete cleaning outfit.

We are further from finality in gloves than in anything else connected with the pastime; and for this reason, perhaps, the average motor cyclist makes their collection quite a hobby. And there is no annoying doubt about sizes when buying the heavy driving variety. Yes, gloves are always a safe gift.

Has he a Speedometer?

So far, we have dealt with those things which may be chosen without enquiry regarding our friend's present possessions. If we possess some knowledge on this point, our list may be greatly extended.

The following immediately suggest themselves: A lighting set; a speedometer (specially recommended); a spare belt, chain, or inner tube case; a pillion seat; a horn; a pair of knee-grips—indicating what we might think of for the machine only. A similar list of sidecar comforts follows naturally: A windscreen, a rug, an electric or exhaust heated foot-warmer, or a foot-muff. Imagine one's self in a sidecar, and the rest is simple.

Clothing.

Somehow, the average motor cyclist's clothing does not appeal especially for our purpose. But there are very few who would not appreciate a fur-lined leather coat, or, at a more moderate price, a fur-lined helmet. Gloves we have already mentioned.

Lastly, there are books. The writer well remembers the reception he gave long ago to an early edition of "Motor Cycles and How to Manage Them," and, remembering, passes on the suggestion to those whose gift list includes the almost inevitable mechanically-minded boy.

A few sound suggestions are more useful in this case than a galaxy of possibilities that perhaps serve only to bewilder. It is possible that the would-be donor who cannot be helped by the foregoing would get no further in many more pages.

CURRENT CHAT

Times to Light Lamps

Dec.	23rd	... ...	4.22 p.m.
,,	25th	... ...	4.23 ,,
,,	27th	... ...	4.25 ,,
,,	29th	... ...	4.26 ,,

To Our Readers.

A Merry Christmas.

A Winter Hint.

Keep your ears warm.

Enthusiasm.

Again a record entry for the London-Exeter run on Boxing Night.

Another Winter Hint.

A stone jar filled with hot water and wrapped in a rug makes an excellent heater for the sidecar.

Components, Ltd.

The balance sheet of Messrs. Components, Ltd., shows a profit for 1920 of £41,277. A dividend of 7½% (less tax) is recommended by the directors.

Engineering Standardisation.

The British Engineering Standards Association has reorganised its section which deals with automobile standardisation, and, to represent the British Cycle and Motor Cycle Manufacturers' and Traders' Union, Mr. F. E. Baker (of Precision engine fame) and Mr. W. Chater-Lea have been elected to the sectional committee.

Modern Definition.

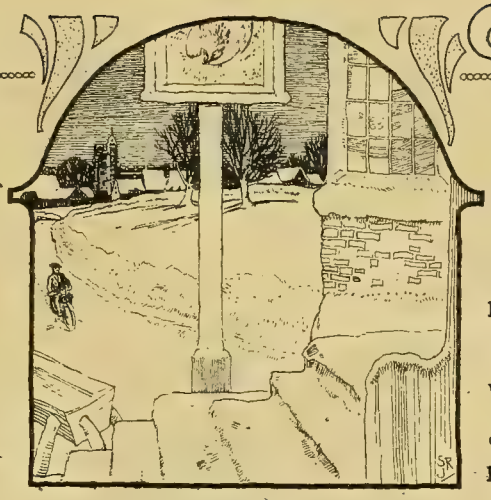
The Motor Cycle recognised the awkwardness of the definition "horizontally-opposed twin" and suggested the excellent substitute "flat twin," a phrase which has come to stay. Now *The Autocar* has performed a similarly good service by recognising the eight-cylinder engine having its cylinders in line, as "The Straight Eight," a terse and apt expression.

For Users of Transport.

Motor Transport is the new title of our sister journal *Motor Traction*, which for fifteen and a half years has faithfully recorded the progress and development of the industrial vehicle industry from the user's point of view. The scope of *Motor Transport* is more fittingly indicated by the new title, the circulation of the journal having grown to over 10,000 copies per week.

Sidecar Taxicabs.

Interest in the sidecar taxi is being awakened in many quarters, and, on Tuesday, December 14th, Viscount Curzon raised the question in the House of Commons, asking the Home Secretary whether he could say what were the serious objections to the use of this type of vehicle in London. He further asked what committee had been referred to on this matter, and when that committee's report might be expected.



Licence Card Holders.

The number of manufactures of licence card holders is now approaching forty.

£50,000 Reward.

The Commonwealth of Australia has increased its offer of a reward for the discovery of petroleum oil in commercial quantities from £10,000 to £50,000.

Distinction for Flywheel Magneto.

From time to time additions representing modern practice are made to the engineering exhibits at South Kensington Museum, and the latest item to be included in the motor cycle section is a Villiers two-stroke engine with flywheel magneto. The Villiers Engineering Co., Ltd., of Wolverhampton, are certainly to be congratulated on the selection of their production for inclusion in such a collection.

Special Features.

THROUGH FEMININE GOGGLES.

TAKING RISKS—A MOTOR CYCLE SHORT STORY.

ON THE OPEN ROAD AT CHRISTMAS.

Essex Index Marks.

In addition to the index marks E and HK, the county of Essex has now NO.

Winter Riding.

Some very pleasant riding was obtained during the real winter weather last week.

Price Reduction.

The A.B.C. motor cycle has been reduced to £140. Its specification now includes a kick-starter.

All-weather Riders.

There are always a good number of machines at the Editorial back door, and the recent severe weather has not reduced that number.

Air and Water-cooled Engines.

The air-cooled engine easily scores over its water-cooled sister at this time of the year, where the fear of burst radiators clouds the car owner's horizon.

On Ice-bound Roads.

A member of *The Motor Cycle* staff, whose daily mileage between home and office is about twenty miles, reports that, while several cars have been seen unable to proceed over the ice-bound roads, not once has he observed a motor cycle in similar trouble.

Some enjoyable riding was obtained last week-end, when the country-side had on its winter garb, and the temperature was not too low.

Singles and Twins.

Fifteen Triumph riders have entered the London-Exeter run, and a similar number are down to ride Harley-Davidsons.

Foreign Decorations.

We offer our sincere congratulations to Mr. Clive Preen, who was the first secretary of the Public Schools Motor Cycling Club, and was lately assistant custodian of enemy property in Egypt, on being awarded the Order of the Nile, Third Class, permission to wear which has been granted by H.M. the King.

Scottish Ex-D.R.'s Reunion.

It is proposed to hold during the Scottish Motor Show in January a reunion and dinner of ex-D.R.'s. All Ex-Signal Service D.R.'s who would like to attend are requested to write to Mr. R. Watson, c/o Jennings Ltd., 86, Mitchell Street, Glasgow. It is to be hoped that considerable support will be given to the first of these ventures to be held in Scotland.

For Men who cannot Motor Cycle.

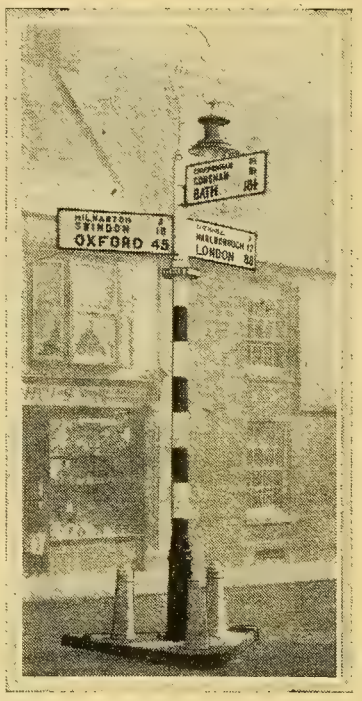
Sir Arthur Pearson is making a further appeal to the public on behalf of St. Dunstan's new headquarters for blinded soldiers. The hostel has still nearly five hundred men in training, some of whom have been prevented by the severity of their injuries from going to the home before, and many others have only lately lost their sight as the result of injuries received during the war. We know our readers will respond as liberally as their means permit. Subscriptions should be forwarded to Sir Arthur Pearson, St. Dunstan's Headquarters, 1, Regent's Park, N.W.1.

The Richmond Meet.

Added interest will be given to next year's annual meet of Northern motor cyclists at Richmond (Yorks.) on Good Friday by the provision of a Yorkshire Centre A.C.U. trophy. This will be awarded to the club with the highest attendance figures, based on percentage of members present multiplied by distance to the rendezvous.

What Might Have Been.

Situated at Calne, the signpost illustrated below was erected in August last by the A.A., and shows the type the Association intended to utilise if its offer, made at the beginning of the year, to signpost any continuous stretch of fifty miles of main road had been accepted. Unfortunately, the surveyors concerned rejected the offer. It will be admitted that the design and bold lettering are admirable. But how long shall we have to wait before this system of signposting becomes universal? Further reference to signposting is made on page 853.



The first national signpost. This admirably designed sign is situated at Calne, Wilts.

Indian Imports.

India imported £750,000 worth of motor cars and motor cycles during September, says the current number of *The Board of Trade Journal*.

Police Activity.

Motor cyclists should note that in certain districts, and particularly between Rushden and Wellingborough (Northants), the police are active in regard to motor cycles not fitted with two brakes. In Fenny Stratford the police are insisting that the 5 m.p.h. limit be observed.

Sidecar Police in New York.

To combat the extraordinary crime wave which at present is sweeping New York, the Police Commissioner has placed eighty motor cycles and sidecars at various points in the city in readiness for instant action. The mobility and speed of the sidecar should prove a big advantage where a gain of seconds means so much.

Second-hand Prices.

Although the second-hand market is undoubtedly slack, there is little sign of a slump, in the true sense of the word, as the following comparative table shows :

Name, Model, and Date of Machine.	Nov. 4th. Lowest and Highest.	Dec. 23rd. Lowest and Highest.
A.B.C., 3 h.p., 1920	£110–£150	£95–£150
A.J.S., 6 h.p., sidecar, 1920 .	£175–£250	£175–£250
B.S.A., 4½ h.p., sidecar, 1920	£130–£175	£132–£160
Douglas, 2¾ h.p., 1916	£45–£68	£38–£65
Douglas, 4 h.p., sidecar, 1920	£110–£160	£120–£155
Enfield, 8 h.p., sidecar, 1920 .	£150–£177	—
Harley-Davidson, 7-9 h.p., sidecar, 1920	£175–£210	—
Indian, 7-9 h.p., sidecar, 1920	£165–£210	£175–£210
Matchless, 8 h.p., sidecar, 1920	£160–£230	£180–£230
Norton, 4 h.p., sidecar, 1920	£125–£145	£130–£150
P. & M., 3½ h.p., sidecar, 1919-20	£95–£135	£118–£130
Rudge-Multi, 3½ h.p., 1920 ..	£80–£100	£80–£100
Scott, 3⅞ h.p., 1920	£100–£125	£110–£115
Sunbeam, 3½ h.p., 1920	£140–£160	£135–£160
Triumph, 4 h.p., sidecar, 1920	£140–£180	£115–£175
Zenith, 8 h.p., sidecar, 1920 .	£128–£198	£165–£180

NOTE.—Where no current figures are indicated, there were insufficient data available.

CLUB NEWS. (Continued from page 843.)

Ilkeston and District M.C.C.

The second annual dinner in connection with the above club was held at the Rutland Hotel, Ilkeston, on Thursday evening, December 2nd, 1920. The chair was occupied by Capt. C. P. Maltby, J.P.

Wallington and District M.C.

The Wallington and District Motor Cycle and Light Car Club held a general meeting at the Greyhound Hotel, Croydon, on Monday, December 6th, when it was decided to change the name of the Wallington Motor Cycle Club to the Wallington and District Motor Cycle and Light Car Club.

Bradford M.C. and L.C.C.

The above club held a "one-day winter trial" for the Spencer Cup (which had to be won outright) on December 12th. There were forty-four entries, and it speaks well for the sporting spirit of the club members that twenty-three riders faced the starter in a blinding snowstorm. The course was a fairly severe one over the Yorkshire dales, and was about eighty miles in length. The start was from the club headquarters, Belle Vue Hotel, Bradford. All previous first prize winners were barred from competing. The competition was a test of map reading, as well as riding to the schedule of 20 m.p.h., and only eight riders, all of whom were sidecarists, completed the course, with the following results : 1 (Spencer Cup), J. C. Neilson (7-9 Harley sc.), total error 38m. 30s. ; 2 (gold medal), H. Fisher (4 Triumph sc.), 40m. 5s. ; 3 (silver medal), W. Clough (3¾ Scott sc.), 46m. 35s. ; 4 (bronze medal), S. Hoyle (7-9 American X sc.), 49m. 30s. H. Baxter (4 Wilkin sc.), H. Firth (3½ P. and M. sc.), Miss N. Suddards (3¾ Scott sc.), and H. K. Watson (3¾ Scott sc.) were the only other four competitors to finish ; and, in view of the very arduous nature of the riding, the committee has decided to award a special silver medal to the only lady rider for her plucky performance of riding throughout a snowstorm, and finishing seventh.

York and District M.C.

The second annual ball of the above club will be held at the York Assembly Rooms, on Friday, January 28th, 1921, commencing at 9 p.m.

Eastbourne and District M.C.C.

The first annual dinner of the above club, held recently at the Gildredge Hotel, was of the happiest character, and, consequently, was thoroughly enjoyed by the eighty ladies and gentlemen present. The chair was occupied by Mr. C. H. Lewis (one of the vice-presidents). The speeches were almost all in more or less lighter vein, and the musical programme was of a most attractive character.

Main Road Travellers to have Right of Way.

Government Scheme for Signposting, and Several Other Important Matters, Discussed at Auto Cycle Union General Committee Meeting.

AT the fourth A.C.U. General Committee meeting of the 1920-21 session held at Cambridge last week several important announcements were made, including reference to the new Government scheme of signposting.

The Secretary reported the invitation to attend the deputation to the Ministry of Transport, and mention was made that the signs agreed upon had been restricted to eight types of road dangers to be indicated by signs and descriptive wordings, somewhat similar to those in use on the Continent. No indiscriminate triangles were to be erected anywhere. At cross roads no warning signs were to be established on main roads, but only on by-roads, thus putting the responsibility on the man entering the main road, and giving the traffic on the main road the right of way.

Anglo-Dutch Trial.

Six members of affiliated clubs and six from the Competitions Committee are to serve on the Anglo-Dutch Trial, and it is hoped to include a representative from the motor cycle manufacturers. The following members have signified their willingness to serve: Messrs. E. B. Ware, F. A. Hardy, A. S. Ross, E. J. Bass, Dr. A. M. Low, and Mr. W. Cooper (secretary).

It is also interesting to have to record that the Auto Cycle Union is seeking to persuade the Royal Automobile Club to hand back the control of vehicles of engine capacity of 1,100 c.c. to the Auto Cycle Union in accordance with international practice, as decided at the last meeting of the International Federation of Motor Cycle Clubs in Paris. It was reported that the matter had been referred to the International Council of Automobile Clubs.

One Day Winter Trial.

It has been decided to hold a one day winter trial for stock machines on February 25th. Though this is an innovation so far as A.C.U. trials are concerned, the idea is a very old one, and it will certainly be both interesting and instructive if only machines actually selected from stock take part.

The 1921 Six Days Trials.

Drastic alterations have been made in the method of running the 1921 Six Days Trials. A sub-committee recently met and made many recommendations, which have now been adopted.

A mudguarding test will be held at Brooklands over a specially prepared surface. There will also be a preliminary high-speed test on the track on the first day of the trial, and twenty-five laps at the conclusion of the trial. Petrol and oil consumption tests will be made for the whole distance.

Open Competition Permits.

It has been decided to increase the number of open competition permits to thirty.

The next General Committee meeting will be held at Shrewsbury on February 2nd.

The 1921 T.T.

Below we give lists of entries already received for next year's Tourist Trophy Races in the Isle of Man:

JUNIOR RACE.

Dr. C. Hopwood (Royal Enfield), Butterfields, Ltd. (three Levises), A. H. Haden (New Comet), A. J. Stevens and Co. (six A.J.S.'s), and E. B. Ware (two J.A.P.'s).

SENIOR RACE.

V. Olssen (Sunbeam), H. Minton (——), T. Vale (——), John Marston, Ltd. (four Sunbeams), Triumph Cycle Co. (three Triumphs), Scott Motor Cycle Co. (three Scotts), Norton Motors, Ltd. (three Nortons), A. J. Stevens and Co. (two A.J.S.'s), Hendee Manufacturing Co. (three Indians), E. B. Ware (J.A.P.), T. Mallon (Sunbeam), W. Royle (Norton), Jack Thomas (Norton), and Scott Motor Cycle Co. (three Scotts).

CLUB DINNERS.

SURBITON AND DISTRICT M.C.C.

ON Wednesday, December 15th, the Surbiton and District M.C.C. held its first annual dinner at the Holborn Restaurant, London, W., when Dr. A. M. Low was in the chair. Mr. A. S. Mays-Smith, in proposing the toast of "The Club," emphasised the progress it had made. Dr. Low, in responding, paid a tribute to Mr. F. W. Barnes, the captain of the club, and Mr. W. Pratt.

A large number of cups and awards were presented by Mr. A. S. Mays-Smith, whilst the Maudes Challenge Shield was handed to representatives of the Surbiton Club.

A further number of cups have been offered for next year's events. They include the Milano, the Cyril Pullen Challenge, the Alec Ross, the East, the Wright, the Amac, the Coulson, the Sproston, and the Mays-Smith Cups.

An excellent musical programme followed the dinner. The performers included "Beatie and Babs."

BRADFORD MOTOR CYCLE AND LIGHT CAR CLUB.

AN evening spent amongst the clubmen of the north serves to demonstrate that the keenness of club life there is by no means on the wane.

Perhaps there is something in the crispness of the mountain air blowing across the moorlands that gives the geniality of outlook, the crisp and racy accents, and the heartiness and zest for sport and social pleasures which were displayed at the Market Tavern, Bradford, on Friday, December 17th. Tables groaned equally with the weight of good things and a display of medals and trophies, which were to fall, or had already fallen, before the onslaughts of some 120 members of the Bradford M.C. and L.C.C.

After the toast of "The King," proposed by the President (Mr. J. E. Fearnley), Mr. H. Harrop proposed the health of "The Club," congratulating it upon its rapid development and expressing a hope that the body was now strong enough to re-establish club premises of its own. Mr. T. G. Bullus responded and traced the history of the club from May of this year, when it was revived (after six years of quiescence) by a band of thirty-eight enthusiasts; at the present moment the membership numbered 330. He laid particular stress upon the enthusiasm of the hon. secretary, Mr. W. A. Dovener (known affectionately as "The Live Wire"), whose efforts never ceased; it was this enthusiastic official who, at the very first meeting of the revived club, introduced forty-two new members, and it was he who engaged a band to attract the public to the hill-climb at Rosedale Abbey Bank immediately after the Six Days Trials.

The evening was brought to a close by the toast of "The President," proposed by Mr. S. Haigh.

COVENTRY AND WARWICKSHIRE M.C.

THE club president, Mr. E. Manville, M.P., occupied the chair at the Coventry and Warwickshire Motor Club's annual dinner on Friday last. There were present about one hundred members and guests, including the Mayor of Coventry, and representatives of the Cycle and Motor Cycle Manufacturers' Union, the A.C.U., and the A.A.

Major Watling (C. and M.C.M. and T.U.), in proposing "The Club," touched on the energy displayed by the officials of the club. Mr. Victor Holroyd, one of the founder members, replied, and drew attention to the fact that several of the original club officers were present.

In proposing "The Visitors and Prize Donors," Mr. E. M. Iliffe, C.B.E., emphasised the need of healthy competition, and thanked the prize donors for the encouragement they had provided in this direction. Replies were made by the Mayor of Coventry, Capt. Fryer (A.A.), and Maj. Dixon Spain (A.C.U.).

Replying to the toast of "The President," wittily proposed by Mr. E. M. C. Instone, Mr. Manville spoke of his Parliamentary duties in connection with motoring activities, and pointed out the importance of the club as representing the centre of the motor industry in the field of sport.

During the evening the President distributed the prizes won during the year, and an excellent musical programme was included. A golden goblet is to be offered as the chief award in a twenty-four hours reliability trial next year.

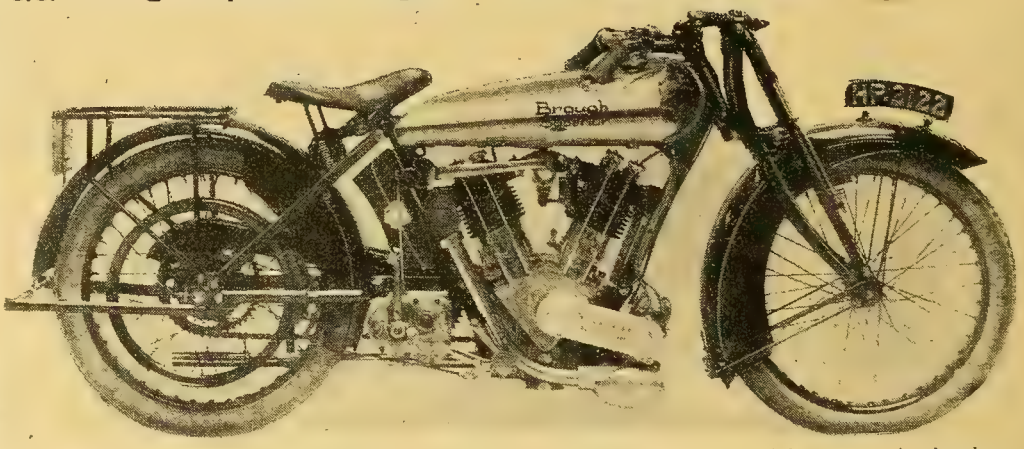
A BIG TWIN SOLO MOUNT.

The 980 c.c. Brough-Superior Designed for the Sporting Rider.

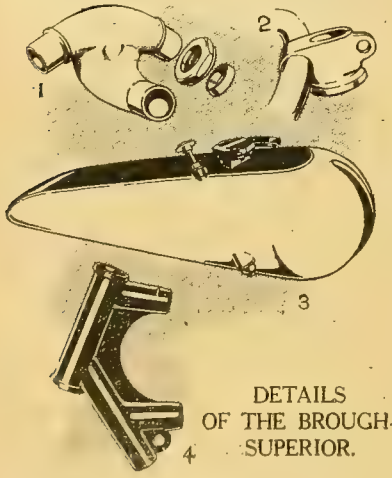
FOR some time past we have been urging that the claims of the purely solo rider should receive special attention. The 1920 Olympia Show demonstrated the fact that many manufacturers once again have their eyes on this important market. Unfortunately, however, one of the most interesting products of specialisation in this direction was completed just too late for exhibition.

Mr. George Brough, whose performances in many trials, notably the Scottish Six Days, are well known to most motor cyclists, decided, some months ago, to specialise on a super sporting machine, and informed us at that time that it was his intention to produce a fast, light, and well-equipped motor cycle, which should include all necessary fittings, but no fancy attachments, and, after inspecting his latest production, we may safely say that we have never examined a more sensibly equipped big twin solo mount. To begin with, large tyres (700×80 mm.) are used, and the designer has not forgotten that mudguarding is just as important for the solo rider as for the sidecarist. In consequence, really wide guards, with deep valances, are included. The chains, it is true, are covered only as regards the top run, but the majority of sporting solo riders will prefer this accessible arrangement to the entirely enclosed type.

The popular 90 × 77 mm. overhead valve J.A.P. engine has been specially redesigned to suit the requirements of Mr. Brough, and the light rocker gear and superb finish are outstanding features which catch the eye. Added to this, we are told that, with the aid of a special Amac carburetter which is being supplied for the machine, the engine will tick over at the merest "crawl" and yet accelerate with a rush.



A big twin designed for solo work, the 8 h.p. overhead-valved Brough-Superior, which has a large plated tank.



DETAILS OF THE BROUGH-SUPERIOR.

(1) A cast aluminium inlet pipe with cone and nut air leak preventers.

(2) The handle-bars form a unit with the head clip.

(3) The saddle tank has no flats or corners; it is plated, and has a black top panel, and hexagon top filler caps are fitted.

(4) A strongly webbed casting is employed for the head lug, which is formed in a single piece.

In proof of this statement, each machine will be guaranteed to do from 8 to 80 m.p.h. on top gear. It is never an easy matter to dispose of the exhaust pipes of an overhead valve engine, but, in this case, the difficulty has been overcome in an extremely neat manner.

A well ribbed cast iron port is screwed on to each exhaust outlet, taking the place of the usual exhaust pipe nut and the curves necessary to avoid the frame tubes are smooth and easy. From these ports, pipes lead to a large two-piece aluminium silencer placed forward of the engine and below the magneto; from this silencer a tail pipe extends rearwards.

High Gear Ratios.

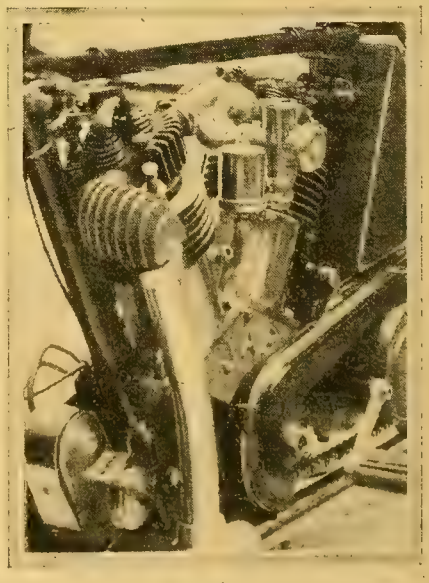
To the bottom bracket is attached a Sturmey-Archer gear box, having strengthened teeth and a six-plate clutch. The gear ratios provided by this box are 2.94-1, 4-1, and 5.9-1; such high ratios are, of course, only suitable for high-powered solo machines, but with the excellent pulling qualities of the overhead valve J.A.P. engine they should be low enough for any ordinary work, and, incidentally, should provide extremely nice top gear running at medium and high speeds. An Enfield type shock absorber is mounted in the rear wheel, in order to mitigate any tendency to "snatch."

Compactness characterises the framework, and, by means of careful design, it has been found to be possible to house the big engine in a machine having a wheelbase of only 55in., and a saddle height of under 30in. Naturally, a sloping top tube is used, and the large saddle tank is rounded giving a capacity for no less than 2½ gallons of petrol and half a gallon of oil.

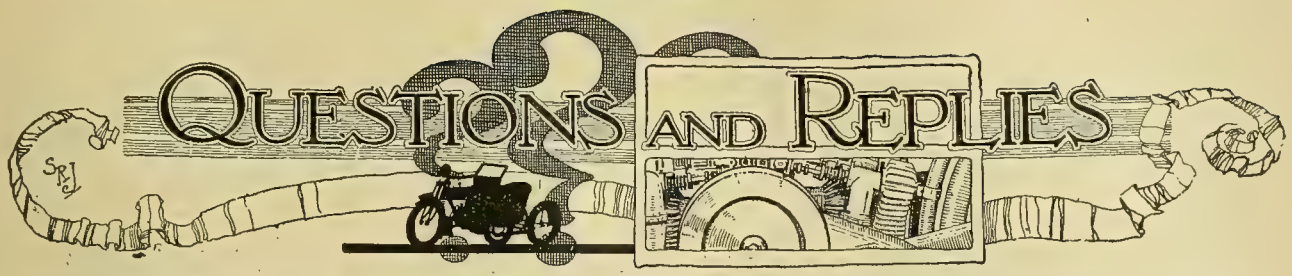
Two points immediately strike the observer's eye; first, that the large filler caps are of the hexagonal composition type frequently used on car radiators, and, secondly, the plated finish which is set off on the upper surface by a black panel with a narrow gold line to relieve the meeting of the two colours. It is, perhaps, surprising that sidecar lugs should be incorporated in the frame of a purely solo motor cycle, but it is a proof of the fact that Mr. George Brough knows his public, for sooner or later someone will attach a sporting sidecar, and integral lugs are certainly preferable to clip joints.

Ready for the Road.

All detail work is beautifully carried out, and there is an absence of clips which will gladden the eye of the critic. The handle-bar is brazed into the head ball race lug, and a special lamp bracket springs from the base of the Brampton Biflex forks; incidentally, an acetylene lamp and generator will be supplied as part of the equipment unless Lucas Magdyno is specially ordered.



Usually with an overhead valve engine the exhaust pipes are very prominent. The Brough-Superior is exceedingly neat in this respect.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

Automatic Inlet Valve Engine.

Will you please tell me how to set the valves on a Kerry engine? The inlet valve is of the suction type, and is placed at the end of the induction pipe.—H.H.

The inlet valve works automatically, and the exhaust valve should be set so that it is just closing when the piston reaches the top of the stroke.

Engine Location in Cycle Car.

I am contemplating building a light three-wheeled monocar, and am installing a 3½ h.p. air-cooled engine. The whole outfit will not exceed the weight of a solo motor cycle of the same power. Do you think cooling would be satisfactory, if the engine were fitted behind the seat as in the A.C. Sociable (less fan flywheels) but enclosed at the top and sides with air scoop at bottom facing forward?—C.W.

In all probability you will find that the engine will overheat, especially at low speeds when running on bottom gear. It will be much better to fit the engine at the front of the chassis in order to give it the full benefit of the cooling draught.

Consumption and Tyre Life.

My machine is a 1920 4¼ h.p. B.S.A. all-chain drive with sidecar. It has gear ratios of 5-1, 8-1, and 13.2-1, and the total weight of driver and passenger is 24 stones. The tyres are 26×2½in. Palmer cord on all wheels. Assuming that it is carefully driven (about 18 m.p.h. average): (1.) Are the gear ratios about right? (2.) What mileage per gallon of petrol should I obtain? (3.) What mileage per gallon of engine lubricating oil? (4.) What mileage should the rear tyre give, also the other tyres? (5.) Would larger tyres, say, 26×3in. to fit 2½in. rims, be an advantage?—W.H.P.

(1.) The gear ratios should be quite in order. (2.) About 70 to 80 m.p.g. (3.) About 1,000 m.p.g. (4.) The mileage which you will obtain from tyres depends on several factors, methods of driving and luck being the most prominent. Given reasonably good fortune, you should obtain from 2,000 to 3,000 miles from the back cover, while the tyres on the front and sidecar wheels should last about 5,000 to 8,000 miles. (5.) 26×3in. tyres would have the effect of raising the gear slightly; they would also make the machine much more comfortable, and in all probability they would wear longer. There is no objection to fitting them.

Life of Chains.

After having run a ⅝in. × ⅜in. British chain for 4,500 miles as final drive on a 7-9 h.p. American machine, I find it has stretched to such an extent that the rollers will not fit down into the sprocket on the driving wheel, but rides some ⅛in. up for about one-third of the distance of travel round the wheel. There is now 1½in. up and down play between the sprockets for over half the length of the chain, while for 3in. or 4in. the chain is almost rigidly taut. Kindly inform me: (1.) Is this harmful to the chain or sprocket? (2.) Is this amount of stretch abnormal? (3.) What is the average life in miles of chain of this size?—HIRADIN.

(1.) The chain is apparently worn out, and you should not attempt to use it any longer, as in all probability it will spoil the sprockets. (2.) The amount of stretch in the chain varies considerably with the care that has been expended on the transmission during the time the machine has been in use. An exposed chain should be removed from the sprockets every 500 miles, soaked in paraffin, and then dipped in molten tallow. (3.) The average life of the chain cannot be given in definite figures; it all depends on the conditions under which it has been used. We do not think, however, that you will obtain a much greater mileage than 6,000 from the unenclosed chain.

Changing an Engine.

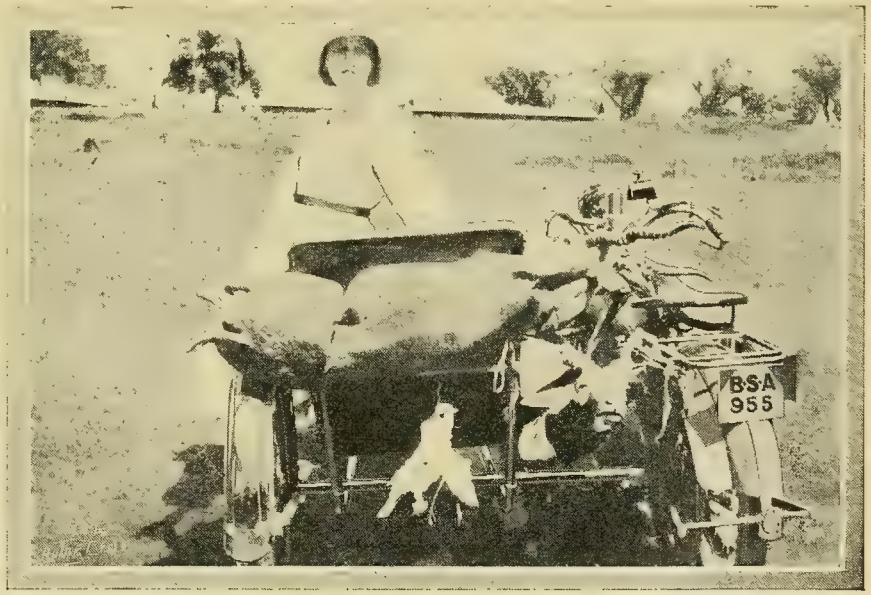
I have a 4 h.p. 1918 W.D. machine, and wish to fit a twin engine of about 5-6 h.p. to replace the single-cylinder engine. Is this a workable proposition?—H.W.G.

A certain amount of structural alteration to the frame of the machine might be necessary, but it should not be beyond the capabilities of the average motor cycle repairer. There does not appear to be any other objection to your scheme.

Oversize Tyres.

What is the largest size cover that can be fitted to a 26in. × 2¼in. D section motor cycle rim? Will a 26in. × 3in. × 2¼in. fit? Apparently a 3in. to fit a 2¼in. tyre is not made. At present I have the standard 26in. × 2½in. × 2¼in.—R.A.Y.

The largest section tyre made for the 26in. × 2¼in. rim is 26in. × 2½in. for 2¼in. Several makes of 28in. × 3in. American size tyres, however, *can* be used on this section of rim, but the tyre makers neither guarantee nor recommend them when so fitted.



THE SIDECAR IN CENTRAL INDIA.

One has to live in countries where railways are scarce and transport difficult to appreciate fully the handy sidecar. Here is shown a B.S.A. outfit used to take home black buck brought down in the central provinces of India.

Cleaning Inside of Exhaust Pipes.

(1.) The exhaust pipes of my twin engine are badly choked at the bends with carbon. What is the simplest way of removing this deposit? (2.) I am running my 3 h.p. twin J.A.P. engine on a fixed gear of 5 to 1. Do you consider this about satisfactory? (3.) What do you consider to be the highest possible road speed attainable on this gear ratio? (4.) Kindly state the best valve setting for this engine—*(a)* for general work; *(b)* for speed work.—H.C.B.

(1.) Heat the pipes to a dull red. This will loosen the carbon inside them, and the bulk of it can then be knocked out. (2.) If most of your riding is on reasonably level roads the 5 to 1 gear should be fairly satisfactory, but it is quite likely that a slightly lower gear would give more speed. (3.) 45 to 50 m.p.h. (4.) Unless you have facilities for making special cams, we do not recommend that you depart from the normal valve timing. This setting is as follows: With piston on top dead centre, the exhaust valve should be just closing and the inlet just commencing to open.

The Date of a Machine.

I recently purchased an A.J.S. outfit, and should be extremely obliged if you could enlighten me upon certain points regarding it. (1.) When purchasing this machine I was under the impression that it was of 6 h.p., but upon measuring the cylinder its dimensions were 70 mm. bore × 83 mm. stroke, and I came to the conclusion that it was 4½ h.p. Is this so? (2.) This machine is fitted with a two-speed gear box, but I see no means of lubricating the gears. Should this be packed with grease when assembled, or is there any other provision for lubrication? (3.) A hand-controlled clutch is fitted, apparently of the cork insert type, operated by a powerful spring. How can I tell when this spring is in correct tension? Also, is there any way of treating the corks to make them grip well? (4.) A U.H. magneto is fitted, which also seems to have no provision for lubricating. Should this be oiled, or should it run dry? (5.) Is this type of machine still made, and, if not, can you tell me its date?—J.B.G.

(1.) The machine is a 5 h.p. model, the cubic capacity being 638 c.c. (2.) The gear box should be partly filled with thick oil, and this should last for about 1,000 miles. (3.) If there is no slipping you may rest assured that the pressure on the spring is sufficient. The best method of arriving at the correct adjustment is to unscrew the adjusting nut until the clutch slips under load, and then screw up again until the slipping is just eliminated. The cork inserts do not require any dressing, but they should be quite free from oil or grease. If the clutch slips due to any of the gear box lubricant finding its way on to the corks they may be washed with petrol. (4.) No provision for lubrication is made on the U.H. magneto The bearings are packed with grease when assembled, and will run for 3,000 to 5,000 miles without attention. (5.) Many improvements have been made in later models; yours appears to be of the 1913 type.

READER'S REPLY.

Effects of Prolonged Wear.

I have a 1918 4 h.p. Triumph, and although it has done a considerable mileage, it is by no means excessively worn, but it manifests the same "jumpiness" in second gear that "H.C." complains of in your issue of December 9th. The effect is similar to a misfire, although not a misfire, and the jump of the machine occurs every ten yards or so, and is accompanied by pronounced grinding from the gear box. Whilst at the Show I was advised to use thicker oil in the gear box (such as Ambroleum), but I have been unable to try this remedy as yet.—W. A. BOURNE.

Important Dates.

Dec. 27th-28th—
M.C.C. London-Exeter Run.
1921.
Jan. 28th to Feb. 5th—
Scottish Motor Exhibition Kelvin Hall, Glasgow.
Feb. 12th—
A.C.U. One-day Winter Trial.
Feb. 25th—
A.C.U. Silencer Trial—Brooklands.
March 25th—
Richmond Meet.
March 26th—
M.C.C. London-Land's End Trial.
May 14th—
M.C.C. London-Edinburgh Run.

RECOMMENDED ROUTES.

LEICESTER TO TORQUAY.—A.B.

Leicester, Narborough, Wolvey, Coventry, Finham Bridge, Warwick, Stratford, Weston-sub-Edge, Broadway, Winchcombe, Cheltenham, Gloucester, Bristol, Redhill, Axbridge, Bridgwater, Taunton, Wellington, Exeter, Dawlish, Teignmouth, Torquay.

STOCKTON TO NORWICH.—H.C.

Stockton, Yarm, Crathorne, Thirsk, Borobridge, Wetherby, Aberford, Ferrybridge, Doncaster, Bawtry, Retford, Tuxford, Newark, Sleaford, Swineshead, Holbeach, King's Lynn, Norwich.

NORWICH TO CONISTON.—J.B.P.

Norwich, Dereham, Longham, Litcham, King's Lynn, Long Sutton, Holbeach, Swineshead, Sleaford, Newark, Tuxford, Retford, Bawtry, Doncaster, Wentbridge, Ferrybridge, Micklefield, Aberford, Bramham, Harewood, Arthington, Pool, Otley, Ilkley, Addingham, Skipton, Gargrave, Hellifield, Long Preston, Settle, Kirkby Lonsdale, Kendal, Underbarrow, Newby Bridge, Coniston.

KNIGHTON TO MAUCHLINE.—G.M.P.

Knighton, Clun, Bishop's Castle, Minsterley, Shrewsbury, Whitchurch, Tarporley, Weaverham, Acton Bridge, Stretton, Warrington, Winwick, Newton-le-Willows, Ashton-in-Makerfield, Wigan, Standish (not Chorley), Euxton, Preston, Garstang, Lancaster (Castle), Carnforth, Milnthorpe, Levens Bridge, Kendal, Staveley, Windermere, Ambleside, Rydal, Grasmere, Keswick, Portinscale, Bassenthwaite Water, the Castle Inn, Bothel (not Uldale), Red Dial, Thursby, Carlisle, Annan, Dumfries, Thornhill, Sanquhar, Cumnock, Mauchline.

SPARKLETS

A Precision Depot in London.

The makers of the Beardmore-Precision motor cycles (Messrs. F. E. Baker, Ltd., King's Norton, Birmingham) have established a London depot at 112, Great Portland Street, W.1.

Aluminium Pistons.

Motor cyclists with a *penchant* for tuning and the modification of existing machines will be interested to learn that Ricardo slipper pistons for a number of standard machines can be obtained from Messrs. Bentley and Draper, Ltd., 4, Fenchurch Avenue, London, E.C.3.

Sidecar Upholstery.

A Sandum sidecar is being exhibited in the showrooms of the Rexine Co., Ltd. (Rexine House, 42, Newgate Street, London, E.C.2), in order to illustrate the use of Rexine in sidecar upholstery.

Magneto Matters.

A little booklet, listing successes won with E.I.C. magnetos throughout 1920, has just been issued. The claims made include reliability, endurance, stamina, and waterproofness, and on the page opposite to that on which each of these items appears are given details of numerous corroborative performances accomplished in competitions.

Catalogues Received.

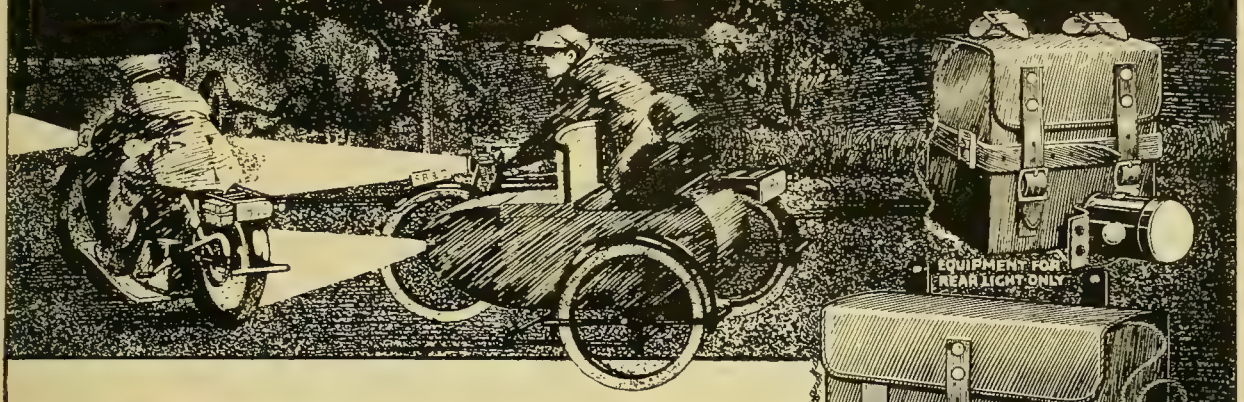
WILKIN MOTOR CYCLES.—Describing the popular Wilkin machines which distinguished themselves during 1920, especially by the famous ride round the coast under A.C.U. observation.

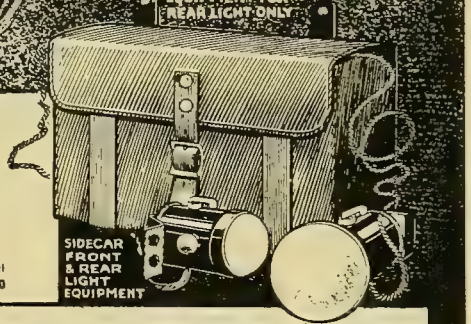
CLAYTON-WRIGHT ACCESSORIES. A catalogue published by Messrs. Clayton-Wright, Ltd., Great Hampton Street, Birmingham, containing a selection of motor cycle horns and mirrors.

Lubricating Exposed Chains.

We have had many queries of late as to the life of chains on machines with an exposed rear transmission, and our answer in all such cases must be that the service obtained depends entirely upon the care bestowed upon them. An exposed chain should be removed every 500 miles, thoroughly cleaned in paraffin, and then soaked in a warm mixture of oil and graphite; this process is ideal—for the chain! Few riders keep up this practice rigorously, and, as an admirable alternative method, we can recommend that the chain be treated at frequent intervals with Chemico chain lubricant. This preparation is in the form of a solid stick of mixed grease and graphite which is rubbed on to the chain while the latter remains on its sprockets; once on the chain it works into the bearings instead of being flung off, as is a surface dressing of oil. Incidentally, this is only one of the many useful lines produced by the County Chemical Co., Ltd., of Birmingham, whose wares extend from vulcanisers to patches, sparking plugs to rubber solution, and enamels to carbide.

SIEMENS DRY BATTERY ELECTRIC LIGHT EQUIPMENT





EQUIPMENT No. 1. Comprising SIDECAR and REAR LAMPS, and two Siemens DRY BATTERIES in LEATHER CASE.

EQUIPMENT No. 2. Comprising REAR LAMP only, with glass window for illuminating number plate, and one Siemens' DRY BATTERY in LEATHER CASE.

EQUIPMENT No. 3. Comprising REAR LAMP only (not suitable for illuminating rear number plate) and one Siemens' DRY BATTERY in LEATHER CASE.

Set.	Approximate number of hours light from one Battery.	PRICE, Including Batteries.	Spare Batteries.
No. 1	50	£3 0 0	Side Lamp, 8/- Rear Lamp, 5/6
No. 2	50	£ 12 6	5/6
No. 3	50	£1 2 6	2/6

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When judged by the standard of "actual value for money," CALTHORPE Motor Cycles easily "top the bill"—compare their value with other makes.

In the CALTHORPE, the prospective buyer has a range of high-class, well-finished, fully-equipped machines, listed at exceptionally reasonable figures—an "economy" proposition not to be passed by.

There are three models: the CALTHORPE 3 h.p. 2-stroke Combination at 110 Guineas, complete with Lighting Set; the 2¾ h.p. CALTHORPE-J.A.P. at 70 Guineas; and the 3 h.p. CALTHORPE 2-stroke at 65 Guineas, and specially note this—

Our 3 h.p. 2-stroke Combination at 110 Guineas is practically equal in power to the 3½ h.p. models of other makes listed at much higher prices.

This outfit perfectly meets the demand for a light, reliable, and economical passenger machine. It will take all reasonable hills, and comfortably averages 20 to 25 m.p.h. Approximate petrol consumption, 75 m.p.g. Specification includes 3 h.p. PECO 2-stroke engine, 2-speed Sturmey-Archer Gear with Clutch and Kick-starter, M-L Mag-Dynamo Lighting Set, Complete with light type Coach-built Sidecar.

In your own best interests, and before you decide on any other machine, send for complete information, and see what CALTHORPE value really is.

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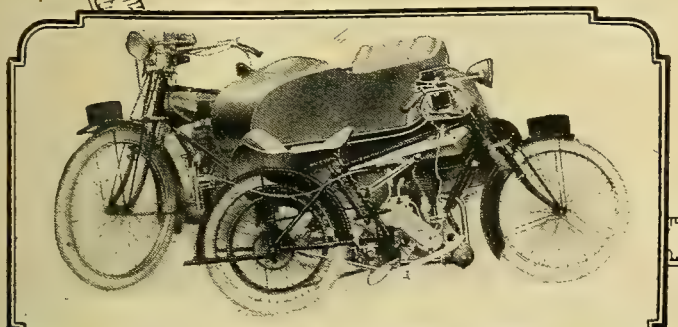

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The premier Blackburne-engined machine

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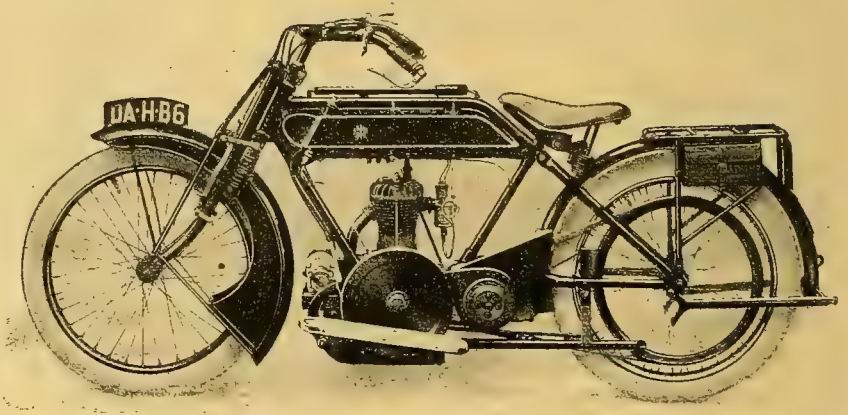
Examine the design generally and in detail, the components used, the liberal size of tyres fitted, and you will see they are all for reliability and comfortable riding.

The workmanship and finish are of the best, and we know you cannot get BETTER VALUE.

Our Agents have demonstration machines and will be pleased to have your inspection of same.

Their address will be sent you together with folders on receipt of a postcard.



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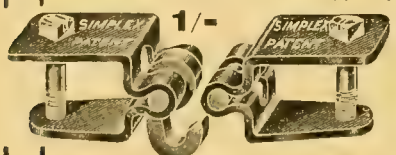
For 1921 we are concentrating on an exceptionally high-class 2¾ h.p. Solo Motor Cycle and a 3 h.p. model which is suitable alike for Solo or Sidecar work. The engine used in each case is the BLACKBURNE, and we have not succumbed to the temptation of fitting the higher powered engine into the lightweight frame, or vice-versa. The two models are separate and distinct, each being specifically designed for its own particular purpose.

The prices are 99 Guineas and 120 Guineas respectively, and we guarantee THESE PRICES TO REMAIN CONSTANT TILL MARCH 1921. Highly finished, luxuriously equipped, and efficient to the last degree, we claim each to be the best in its class on the market.

"SIMPLEX"
BELT FASTENERS



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RENOWNED for their perfect design and sturdy construction.

Will prove a paying investment to any owner of a belt-driven Motor Cycle.
"Simplex" Improved, 1/- "Simplex" Adjustable, 1/3
"Standard" 1913, 1/3 "Standard" Adjustable, 1/6
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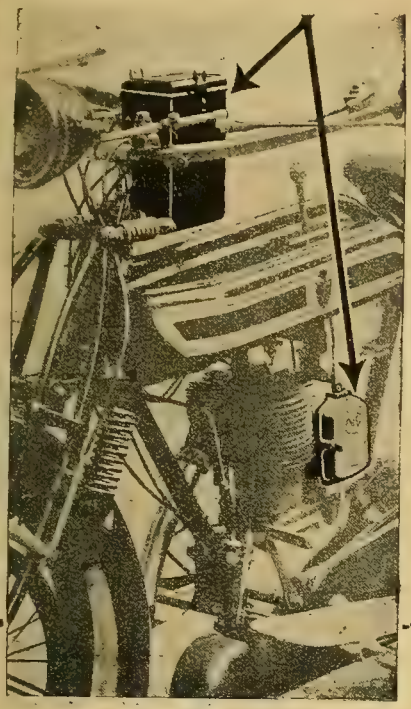
"KINGSPEED"
MOTOR CYCLE OILS
Manufactured by:-
HILTON, RIDER & Co. LTD
G^T SUFFOLK HOUSE, SOUTHWARK, S.E.1.
PHONES HOP. 837 & 2829 (ESTABLISHED 18[illegible])



A Rover motor Cycle fitted with an "M-L Maglita" Set.

Godbolds.

"For Simplicity, Convenience, and Universality of Application, this 'Maglita' seems to be one of the best things that have yet been brought out."

"The Times." Nov. 29th, 1920

¶ The "M-L" All British MAGLITA Combined Lighting and Ignition Set comprises Magneto - Generator, Lamps, Battery, Switch-Gear and Wiring. The "Maglita" provides your spark and lights your lamp. The "Maglita" is entirely self-regulating. You cannot burn out lamps at any speed. Specify an "M-L Maglita" on any single-cylinder machine you order. No more lamp trouble. No worry and mess with carbide. No more smells. Push the button and off you go.

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¶ *All enquiries and correspondence relating to overseas trade, and to retail and trade business in this country, to be addressed to S. Smith and Sons (M.A.), Ltd., 179-185, Great Portland Street, London, W.1. Sole Makers: The M-L Magneto Synd., Ltd., Coventry, to whom all enquiries from manufacturers should be sent.*

"Excelsior"

1921 Season PROGRAMME

A Fine appreciation of what motor cyclists really require is best evidenced in the "EXCELSIOR" range for next season, comprising :—

EXCELSIOR Modele de Luxe Combination
Complete, including Electric Lighting, Spare Wheel, Quickly Detachable Leg Guards, Luggage Grid, Hood and Screen, etc.
Price £243 : 3s. net. Combination only, £195 net.

EXCELSIOR 4½ h.p. Big Single Combination
Price of Combination, £160 net. Motor Cycle, £125 net.

EXCELSIOR 2¾ h.p. (c.c. 348) "Blackburne."
2-speed Gear, with Clutch and Kick-starter .. £96 net.

EXCELSIOR 2½ h.p. (c.c. 269) "Villiers."
2-stroke, 2-speed .. .. £67 net.
With Clutch and Kick-starter .. .. £73 : 7 : 6 net.

EXCELSIOR Open Frame Model.
With Single Gear .. .. .. £49 : 10 net.
With Sturmey-Archer 2-speed and Clutch .. £66 net.

NOTE.—Deliveries at once for first four Models, and in 6 weeks' time for Open Frame Model. :: :: ::

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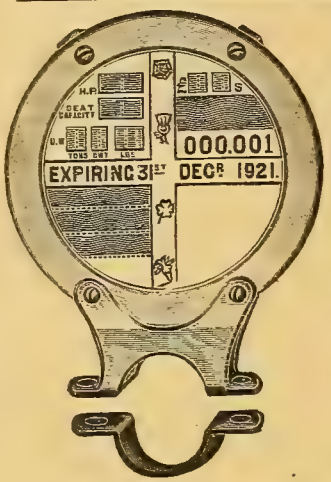
BAYLISS, THOMAS & Co. (EXCELSIOR Motor Co., Ltd.) King's Rd., Tyseley, B'HAM.

Telephone: 125 Acock's Green. **London Agents: H. TAYLOR & Co., Ltd. 52, Sussex Place, South Kensington, S.W.** Telegrams: "Monarch, Hay Mills."

The Graiseley Universal Registration Card Holder.



Suitable for fixing on the wing, body, or wind screen of Car or Motor Cycle Handle Bars.

Complies with all Government requirements.

In polished Aluminium, 3/6 each.

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Obtainable from all the leading garages

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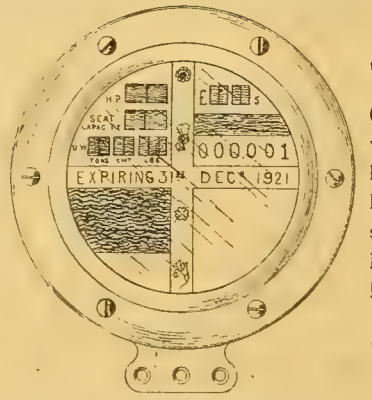
Your Weatherproof Motor Licence Card Holder.

Direct Fitting. Brass, 4/- Nickel, 4/6 $3\frac{13}{16}$" Dia. Provisional Prices.



Complete with Back Plate and Lug as shown. Brass, 5/- Nickel, 5/6

Orders taken in rotation.
Deliveries available in a few days.

Specially designed to fit to number plate, handle-bars, or mudguard on motor cycle; and windscreen or panel on motor car. Can easily be fitted in short time. Perfectly weather tight. washer back and front, lug can be at top, bottom, or sides. Order at once and save delay.

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——LONDON, E.C.——
Tel. No.: City 1858. Telegrams: 'Angelique Smith London."

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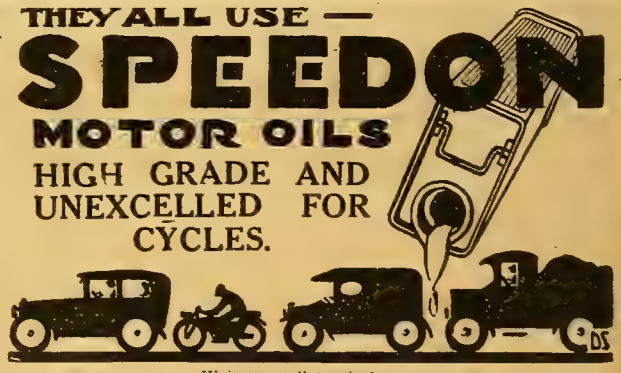
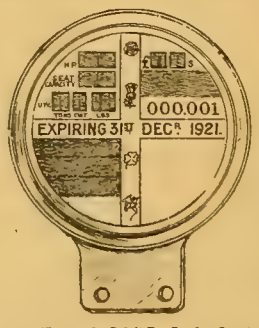
MOTOR OILS
HIGH GRADE AND UNEXCELLED FOR CYCLES.



Write for full particulars to
John S. Morris & Son (Oils) Ltd., Cross Lane Oil Works, Salford, Manchester

THE WEATHERPROOF LICENCE CARD HOLDER
Guaranteed Waterproof.
You must have one on Jan. 1, 1921
Registered Design.
PRICE 5/-



Can be screwed to number plate or sidecar, or supplied with clip for handlebar or top tube, at 1/- extra.

Supplied in Polished Brass, Nickel-plated, Black, Nickel, or Aluminium. Waterproof, neat, light, and unbreakable front.

Rectangular model for cars supplied at 6/- each. TRADE SUPPLIED.

Send at once to
E. REED & SONS, Ltd., Carlton Works, Daubeney Rd., Clapton, E.5

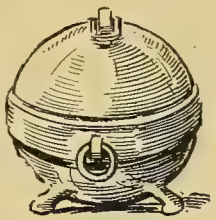
Godfrey's Genie

There was no doubt about its being Christmas Eve. The Calendar proved it for one thing, and it snowed heavily, for another. Besides Godfrey's had closed its doors at 5 o'clock sharp—which was perhaps the most conclusive evidence of all.

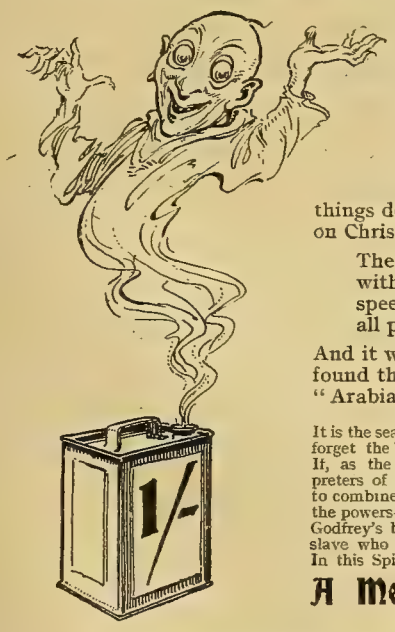
The Managing Director knew it was Christmas Eve. Of course he did. How could it be otherwise when all the letters he had signed that afternoon wished the recipients "The Compliments of the Season.

He thought of this when he reached his home and congratulated himself on the host of new friends which Godfrey's had made during the year, and the multitude of old friends to whom the House owed so much of it's success.

Reviewing the past naturally led to a mental speculation as to the future of the motor cycle industry. Perhaps a good dinner and the genial warmth of a log fire made him more optimistic than usual; perhaps the sound position of his firm and its ever growing popularity had something to do with it also. Be that as it may, he arrived at the very definite conclusion that the outlook for the New Year was decidedly bright, and that the pessimists were all wrong.



In this happy frame of mind he filled his pipe and reached for a quaint old brass lamp which had long been converted into a petrol lighter.



To his amazement it lit without any assistance on his part. With a sub-conscious effort he rubbed the lamp and exclaimed, "Now for the genie."

Scarcely had the words been uttered, when the lights went out, the yule log flared up, and the genie appeared before him, crying "What are thy commands? I am ready to obey thee as thy slave."

The best of employing a genie is that one gets things done quickly, so that by the time the bells rang out on Christmas morn—

> The new taxation scheme, and all motor taxes, had been withdrawn. Petrol was down to 1/- per gallon. The speed limit of 20 miles per hour had been removed, and all police traps abolished.

And it was the same bells that awakened the dreamer, who found the fire out, the lights full on, and a copy of the "Arabian Nights" lying at his feet.

It is the season for dreams and good actions, for idle fancies which help us to forget the Tax Collector and the every-day cares of life.
If, as the Philosopher Montaigne contends, dreams are the true interpreters of our inclinations, should not this idle dream of Godfrey's urge us to combined efforts to secure 10r motorists more considerable treatment from the powers-that-be.
Godfrey's believe in Genie, and Godfrey's Genie is "Service"; the ever-ready slave who anticipates the wants and desires of all its customers.
In this Spirit we again rub the lamp, and this time the wish is

A Merry Xmas and a Happy New Year
to our Fellow Motor Cyclists.

GODFREY'S, Ltd.,
208, Great Portland Street, London, W.1.

Phone: 7091 Mayfair (2 lines).

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TO ALL OUR CUSTOMERS AND THOSE WHO ARE NOT SO FORTUNATE

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ALLEN-BENNETT MOTOR CO., LTD.

EXTENDED PAYMENT TERMS, ⅓ Down and 12 Monthly Instalments.

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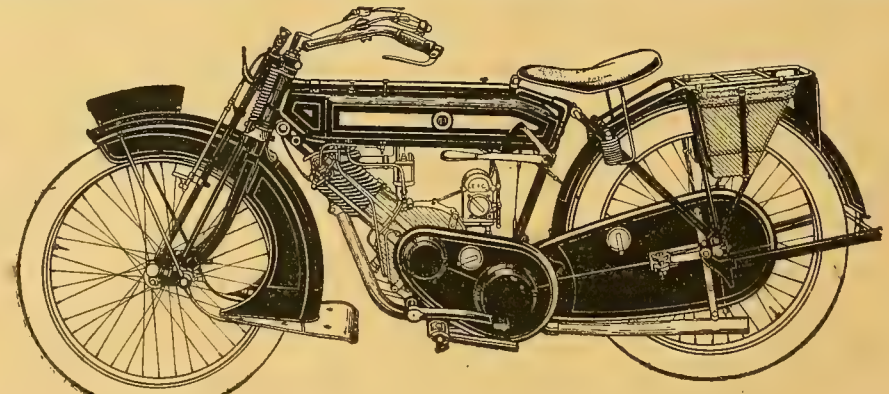

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DOUGLAS, 4 h.p., 3-speed, clutch, and k/s, **£85** Combination, **£115**
TRIUMPH, 4 h.p., 3-speed, clutch and k/s, **£90** Combination, **£115**

The above machines have all been thoroughly overhauled, re-enamelled and plated in our own works. FULLY GUARANTEED.

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Machines marked (*) in stock for Immediate Delivery.

May we send you our full list of Guaranteed Second-hand Machines, and Shop Soiled Models, at Special Reduced Prices?

9-10-11, ROYAL PARADE, WEST CROYDON.

Phone—Croydon 2450.
'Grams—"Track, Croydon."

MOTOR CYCLES FOR SALE.

B.S.A.

BEST Offers for 1915 B.S.A. countershaft C.B. combination, good order, or drive 40 miles to purchaser.—51, Beckenham Rd., Beckenham. [4179

1920 B.S.A., Model H, and No. 2 sidecar, brand new, to clear; £125.—Edwards, 50, Harrington Rd., South Kensington. Tel.: Kens. 3709. [4517

B.S.A. Combination, 1920, 4¼h.p., fully equipped with lamps, horn, wind screen and apron, not run 200 miles; £150.—Harris, High St., Slough. [4457

1913-14 B.S.A. 3½-4¼h.p., 2-speed, clutch, fully equipped, good tyres, take sidecar; quick sale £38; photo.—181, Newton Rd., Burton-on-Trent. [4326

B.S.A. Combination, Canoelet Minor, 2-speed, clutch, splendid condition throughout, guaranteed; £48, bargain; would separate.—7, Cowdrey Rd., Wimbledon. [4158

B.S.A. 6-7h.p. Combination, hand and foot clutch, Sandum spring wheel, touring outfit, just delivered, as exhibited Olympia; £200.—Seen, 336, Gray's Inn Rd., W.C. [0361

1920 (Aug.) B.S.A. Combination, hardly used, chain drive, screen, Lucas lighting and horn, Cowey trip, tools, spares, insurance; £162.—13, Florence Rd., New Cross, S.E.14. [4364

F.O.C.H for 1921 B.S.A.'s; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4210

B.S.A. 6h.p. and 4¼h.p. Solo in stock for immediate delivery; price list and catalogue post free; deferred payments arranged.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4010

B.S.A., Model K. £107, H. £110, D. £90, A £150; combination, Model K. £149, H. £152, A. £198; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London, W.1. [0330

1920 B.S.A. Magdynamo Combination, speedometer, horn, perfect condition, winner of Matchless Cup in Woolwich Open Trial; £160.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3845

4½h.p. B.S.A. 3-speed Combination, all-chain, late 1920, Palmer cord tyres, Easting, F.R.S. electric lamps, Van Raden accumulator, Lucas horn, spare tube, run 300 miles only, perfect condition; £140; Midlands.—Box 999, c/o *The Motor Cycle*. [X3395

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New B.S.A. machines from stock, chain and chain-cum-belt, delivered from stock, prices £110 and £107 respectively; also 4¼h.p. B.S.A., 1919, chain-cum-belt, £85; and 4¼h.p. 1914 B.S.A. combination, £75. [4578

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin, immediate delivery; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Arcade, North Finchley. [4232

Calcott.

CALCOTT Motor Cycle, 2½h.p.; £35; selling because of a new one on order.—Apply, Mundy, Midgham, Berks. [4418

Calthorpe.

1916 2¾h.p. Calthorpe-Jap, 2-speed, lamps, horn, tools, etc.; £40.—Reeves, The Knoll, Rudgwick, Sussex. [4421

1915 Calthorpe-Jap 2¾h.p., Enfield 2-speed gear, beautiful running order; first reasonable offer. 103a, High St., Wandsworth. [4394

CALTHORPE 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3258

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon, all models in stock for immediate delivery.—The Carlton Motor Co., 1, Torwood St., Torquay. [0201

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7180

CALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed gear and clutch, shop-soiled only, bargain, £66; also shop-soiled 2¾h.p. 2-stroke model with Enfield gear, £55.—P. J. Evans, 81-91, John Bright St., Birmingham. [0357

Cedos.

CEDOS.—1921 models ready for delivery; lists free. —Phipps, Sherston, Malmesbury, Wilts. [4357

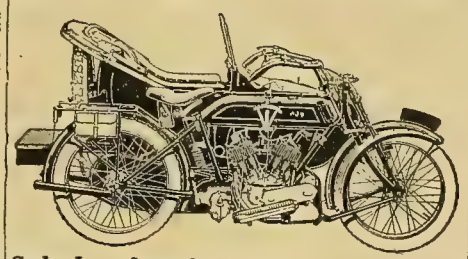
Centaur.

h.p. Centaur, new tyres, mag., chain drive, flyer, B. and B.; £30.—20, Pepper St., Nantwich. [3980

Cleveland.

CLEVELAND 3h.p., shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Portland St., W.1. 'Phone: 3426 Mayfair. [7181

CLEVELAND 1919-20 3h.p., 2-speed, clutch, kick start, polished engine unit throughout, beautifully enamelled, lined, and plated, far superior to any Show model; owner wants light car; £80.—Hammersmith Plating Works, 10, Gt. Church Lane, Hammersmith. 'Phone: 1684 Hammersmith. [4456



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Tan leather, fleece lined	11/6
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LOW GENERATORS.

The famous Low Generator, motor cycle size, **£2 17s. 9d.** Light car size **£4 10s. 9d.** Carriage **1/-**
Write for Illustrated Pamphlet.

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Black Waterproof, Teddy lined, **25/-**; Khaki Waterproof, Cloth lined, **14/6.** Carriage, **9d.** Fur-lined Foot Muffs, for sidecars, **45/-**

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Waterproof Gauntlet, with leather palms, **21/-** per pair. Post **6d.**
Leather one-finger Gauntlet Mitts, linen, **12/6** per pair. Post **6d.**
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College Leather, No. 108, **32/6**: No. 252, **36/6**; No. 146, **24/-**; No. 259, **28/-** Carriages **1/-**
Sterling Leg Shields, enamelled black, **50/-** pair, Carriage **1/-**

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Special Celluloid, for A.J.S. Sidecars, price **45/** Carriage **1/6**

CAMEO WINDSCREENS.

Complete with Side Vallance, **60/-**; or without Vallance, **55/-** Carriage **2/-**

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Clyno.

1920 Clyno 2-stroke, as good as new; £55.—Evans' Garage, Newport, Salop. [4460

CLYNO, 2-speed, clutch, good order; £33/10.—Shaw, Park St., Wellington, Salop. [X3809a

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. Clyno combination, 1917; £115. [4582

CLYNO, 1919, 2-stroke, 2-speed, clutch, as new; £55.—96, Shortlands Rd., Kingston-on-Thames. [4296

CLYNO Lightweights and Combinations.—Write Rothwell and Milbourne, Cowleigh Garage, Malvern. [1795

CLYNO 2-stroke, 1920, run about 250 miles, lamps, etc., 2 speeds and clutch, practically new; £48 cash.—Allen, 10, Freshfield St., Earlsfield, S.W.18. [4035

CLYNO 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. Tel.: 3426 Mayfair. [3254

CLYNO Lightweight, 1920, shop-soiled, at greatly reduced price. Now is the time to buy.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3255

CLYNO, 1920 brand new lightweight, 2-speed, 2-stroke, hand clutch; £10 under list, £65.—Elce and Co., Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0069

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3459

CLYNO 8h.p. 1921 Combination.—Batchelor and Co., East Surrey agents, have a new 8h.p. combination; demonstration runs given; orders booked for very early delivery.—Batchelor's, Clarence St., Kingston-on-Thames. 'Phone: 1809. [9545

8h.p. Clyno-Jap and Sunbeam Sidecar, fitted with electric lighting set (accumulator), screen with hinged dash, tyres in good condition, the whole in perfect condition and entirely overhauled, re-enamelled and plated; £140. Midlands.—Box 31, c/o *The Motor Cycle*. [X3851

1916-17 5-6h.p. 3-speed K.S. Clynos, W.D. models, unrenovated, £40 each. These machines are worth £120 when renovated. They are all complete, less mag. and carburetter. New Thomson-Bennett magneto £5/10 extra. These machines only require overhauling and renovating. The engines and gear boxes are quite sound. I have a large quantity of these machines, and they are going like hot cakes. Come and see them and have your pick. They are all good ones. Reduction on quantities.—Below.

1916-17 5-6h.p. 3-speed K.S. Renovated Clynos, W.D. models, £85 each solo. I have also every conceivable spare for these machines. Not one of each, but thousands. See my advt. under Miscellaneous for spares. I sell spares cheap to buyers of machines.—Apply or write to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4217

Connaught.

CONNAUGHT, 1921 Models.—The tried and trusted 2-stroke; immediate or early delivery.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3835

CONNAUGHT Miniature 2½h.p., 2-speed gear, shop-soiled only, bargain, £62; also shop-soiled single speed model, £52/10.—P. J. Evans, 81-91, John Bright St., Birmingham. [0358

Coulson.

COULSON.—Earliest deliveries 1921 models.—Order from R. B. Clark, Coulson specialist, 7, Exhibition Rd., S.W.7. [4335

COULSON-BLACKBURNE, brand new, 4h.p., 3-speed, clutch, spring frame; any offers for quick sale this week.—Box 1,075, c/o *The Motor Cycle*. [4468

1920 Coulson B. 2¾h.p., 2-speed, spring frame. Blackburne engine, ridden only 400 miles; offers.—Brind, Gillingham, and Co., Abingdon, Berks. [4293

COULSON-B, 1921 models, ready for delivery, lists free; 1919 2¾h.p. 2-speed model, thoroughly overhauled; £65.—Phipp, Sherston, Malmesbury, Wilts. [4358

COULSON B 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Mebes, 164-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3261

COULSON-B, 4h.p. and 2¾h.p. models, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7182

4h.p. Coulson-B, Blackburne engine, spring frame, 3-speed clutch and kick starter, only run about 100 miles, condition and appearance as new, cost £124; customer will accept £110 for quick sale; easy payments if desired.—Harrods, 118, Brompton Rd., London. [4538

NEW Coulson B, 2¾h.p., £99/15; fitted with 2-speed gear, spring frame, Blackburne engine; 2¾h.p. model, with clutch and kick starter, £110/5; 4h.p., with 3-speed, clutch, and kick starter, etc., 118 gns.; if fitted with smart boat-shaped sidecar, painted royal blue, £162/10, or on deferred payments 4% extra, only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4526

MOTOR CYCLES FOR SALE.

Dayton.

1914 Dayton 2½h.p., 2-stroke, Runbaken mag., Amac carburetter, tyres as new, new belt, enamel and plating good, fast; £17.—Ogden, 11, Thomas St., King's Lynn. [4400

Douglas.

DOUGLAS, Douglas, Douglas.

1921 Models in Stock; 4h.p. combination, £170; 4h.p. solo, £130; 2¾h.p. clutch model, £105; 2¾ h.p. without clutch, £100.—Douglas Specialists, Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559 [031

1921 Douglas 2¾h.p., 2-speed, in stock; £85.—Cross, Agent, Rotherham. [X3754

DOUGLAS Combinations and 2¾h.p. 1921 models. —Longman, Fisherton, Salisbury. [3813

2-SPEED Douglas, W.D. (not renovated), in fine order; £64.—Cross, Agent, Rotherham. [X3758

2¾h.p. Reconstructed Douglas Motor Cycle; £55.—Autoveyors, 84, Victoria St., S.W.1. [3969

£25; Douglas 1915 2¾h.p., less gear box and mag.—Side door, 36, High St., Hampstead. [4414

DOUGLAS.—Early deliveries all models.—Pollard Broomfield Rd. Garages, Chelmsford. [X2915

DOUGLAS.—A fine assortment in stock at prices to suit all.—Ross, 86, High St., Lee. [3848

BRIGHTON, Hove and District Douglas agents.—Turpin's, 22 and 29, Preston Rd., Brighton. [0201

DOUGLAS 2¾h.p., 1916, 2 speeds, horn; £55.—Ramm, Engineer, Godstone, Surrey. 'Phone: 10. [4125

1919 2¾h.p. 2-speed Douglas, well equipped, perfect; £58.—60, Wallingford Av., N. Kensington. [4376

DOUGLAS 2¾h.p., 1917, new condition, trial; £42.—64, Forthbridge Rd., Clapham Common. [4342

DOUGLAS Combination, 4h.p., 3-speed, K.S., in good condition; £60.—262, Blackhorse Lane, Walthamstow. [4278

1918 4h.p. Douglas, running order, 3-speed, kick start; £58 to clear.— Box 1,068, c/o *The Motor Cycle.* [4465

1911 Douglas 2¾h.p., single gear; bargain, £23, offers.—Fell View, Halton Lea Gate, Lambley, Carlisle. [4280

W.D. Douglas, uncrated Sept., 1919, perfect order; £65, offer.—13, Hamilton St., Atherton, near Manchester. [4129

DOUGLAS Latest 1920 2¾h.p., 3 speeds, clutch, kick start; £100.—Ramm, Engineer, Godstone, Surrey. 'Phone: 10. [4124

1915 Douglas 2¾h.p., all accessories, perfect order; £45.—C. S. M. Combes, The Drill Hall, High St., Camden Town. [4477

DOUGLAS 4h.p. Combination, nearly new, ridden 500 miles, complete; £125.—Basement, 23, Crescent Grove, Clapham. [4551

MAGNIFICENT Late Model 4h.p. Douglas Combination, new tyres, belt, lamps, smart outfit; £90.—21, Newton Av., Acton. [4299

1919 Luxurious 4h.p. Douglas Combination, mileage 1,000, equipped regardless; £110.—60, Wallingford Av., N. Kensington. [4377

1915 2¾h.p. Douglas, 2-speed, clutch, kick starter, lamps, splendid condition, perfect; £52.—L., 39, South Parade, Oxford. [4347

1921 Douglas Models, immediate delivery. Write us your requirements. Trade supplied.—Moffat, Douglas Agent, Yeovil. Tel.: 50. [5043

DOUGLAS 1917 2¾h.p., re-enamelled, plated makers' colours, any trial; £53.—30, Crystal Palace Park Rd., Sydenham. [4390

SPEED Douglases.—Each machine prepared to individual requirements.—Robert Bamford (see under Consulting Engineers). [6693

1920 Douglas 4h.p. Solo; £117; brand new; list £130.—Edwards, 50, Harrington Rd., South Kensington. Tel.: Kens. 3709. [4518

DOUGLAS 1921 Solos, £85, £100, £105; combinations, £170; cash, exchange, or easy payments.—Motories, 25, Horton St., Halifax. [424

DOUGLAS 4h.p. Combination, 1918, lamps, hood, screen, unscratched, smart lot; any trial; £90.—91, Mapledene Rd., Dalston, E.8. [4407

DOUGLAS 2¾h.p., late 1913, excellent condition, engine perfect. £45; Watsonian sidecar, 145/-.—Summers, Beechcroft, Rustington. [4088

1920 Douglas 2¾h.p., 3-speed, clutch model, K.S., just delivered, unused; must sell; offers.—71a, King Henry's Rd., Hampstead, N.W. [4507

1920 Douglas Combination, 5 lamps, mechanical horn, registered Sept., as new, expert examination invited, room wanted; £155.—Gibb, Motors, Gloucester. [6340

DOUGLAS 2¾h.p., 2-speed, 1915, overhauled and enamelled, fitted with new P. and H. lamp set, any trial allowed; £39. Dowell, Byfleet, Surrey. [4302

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1921 8 h.p. **ENFIELD** Comb...	£160	0
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1921 4 h.p. **DOUGLAS** Comb...	£170	0
1921 8 h.p. **MATCHLESS** Comb.	£205	0
1921 8 h.p. **NEW IMPERIAL** Comb.	£186	18
1921 3½ h.p. twin **LEA-FRANCIS**	£130	0
1921 2¾ h.p. 2-speed **DOUGLAS**	£85	0
1921 2¾ h.p. 3-speed **DOUGLAS,** with clutch	£105	0
1921 4 h.p. **TRIUMPH,** chain drive.....	£140	0
1921 10 h.p. **HENDERSON,** with reverse gear	£210	0
1920 5-6 h.p. **JAMES** Comb...	£175	0
1920 8 h.p. **NEW IMPERIAL** Comb.	£165	0
1920 2-stroke **DIAMOND** ...	£50	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL,** with clutch....	£83	0
1920 2¾ h.p. 2-speed **NEW IMPERIAL,** without clutch	£78	0
1920 **BABY TRIUMPH**	£70	0
1920 3½ h.p. **LEA-FRANCIS** ..	£118	0

SECOND-HAND MACHINES.

1915 4 h.p. **TRIUMPH,** 3-speed	£75	0
1920 4 h.p. **DOUGLAS** Comb.	£150	0
1920 5-6 h.p. **JAMES** Comb...	£145	0
1920 2-stroke **JAMES,** 2-speed	£65	0
1920 6 h.p. **ZENITH,** sports model, and Sidecar.....	£130	0
1920 8 h.p. **MATCHLESS** Comb., dynamo, and accessories ..	£200	0
1920 2½ h.p. 2-speed **EDMUND**	£78	0
1915 4 h.p. **TRIUMPH** and accessories	£90	0
1915 4 h.p. **TRIUMPH** and Sidecar	£105	0
1920 4-cyl. **HENDERSON** and Sidecar; all accessories....	£185	0

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MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 1916 2¾h.p., 2-speed, clutch, kick start with Dunhills chassis and box; £65.—Baels, 5 Wilton Mews, South Belgravia, London. [3984

DOUGLAS, 1920, 4h.p., fitted Lucas dynamo lighting set, as new in every way; £120; owner bought car.—Pollard, Broomfield Rd., Chelmsford. [X2914

1919 4h.p. Douglas Combination, perfect condition genuine bargain, £100, or best offer.—Bovington 2, Eastleigh, Milner Rd., Burnham, Bucks. [4086

3½h.p. Douglas, 2-speed, K.S., Watsonian lightweight sidecar, 1914-15, new tyres, all accessories, fine condition; £70.—Evans, Redcliffe, Newtown, Malvern. [4122

1920 Douglas Combination, new July this year and in good condition throughout, complete with lamps, horn, etc.; £127/10.—Fryer's, Commercial Rd., Hereford. [4049

1917 4h.p. Douglas Combination, engine recently overhauled; £90; any trial.—Herbert Robinson Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A. Bicycles. [4263

1920 4h.p. Douglas Combination, new condition throughout, electric light, every fitment for comfort; £145.—Walton, 3, Stourcliffe St., Marble Arch, W. [4375

DOUGLAS Combination, 1919, 4h.p., excellent condition, specially tuned, kick start, 3-speed, like new; £105; appointments 28-29th December.—23, The Hythe, Staines. [4085

ELI CLARK can give you good service both in new machines and spares; try me. I may be useful to you.—The Pioneer Agent for Douglas Motors, 196 Cheltenham Rd., Bristol. [0016

DOUGLAS 2¾h.p., 2-speed, 1916, excellent condition, Lucas lighting set, Tan-Sad, long exhaust any trial, seen any time; 52 gns.—Strickland, Corne House, Chobham Rd., Woking. [4344

DOUGLAS 2¾h.p., 1916, in splendid condition, new tyre, lighting set, knee-grips, long exhaust, mechanical horn, full kit, tools, and spares; £55, or nea offer.—24, Plymouth St., Swindon. [4161

1919 4h.p. Douglas Solo, lamps, Bonnikson, disc wheels, 1in. belt, will do 50 m.p.h. and 80-9 m.p.g., treated as a friend and not as a slave.—C.H Bolnore, Hayward's Heath, Sussex. [3977

1917 4h.p. Douglas Combination, new mag., new tyres, recently overhauled, lamps, Klaxon horn in splendid condition; £75, or exchange furniture.— Ivy House, Thomas St., King's Lynn. [4499

NEW 1921 Douglas 2¾h.p., Olympia models, 3-speed gear, hand-controlled clutch and kick starter £105; in stock; delivered passenger any part country.—Herbert Robinson, Ltd. (below).

NEW 1921 Douglas 4h.p., Olympia models, 3-speed £130; with fine finish, coachbuilt Douglas sidecar, painted saxe blue, £170; in stock; delivered passenger any part of country.—Herbert Robinson, Ltd 32-35, Green St., Cambridge. Tel.: 995. T.A. Bicycles. [4266

1914-15 Douglas 2¾h.p., 2-speed, overhauled makers (receipt £7/10), mud shields, new heavy Dunlops, new belt, guaranteed perfect, as new 42 gns.—Hayes, 2, Chapel St., King's Lynn. [4355

DOUGLAS 4h.p. 1919 Combination, fitted with electric lights, saxe blue sidecar, guaranteed perfect, practically new outfit, several spares; any trial; bargain, £110.—41, Cowley Rd., Brixton, S.W. [4558

DOUGLAS 4h.p., 3-speed, clutch, countershaft, and sidecar with apron, in absolutely perfect condition, bought new on Dec. 4th; owner wants a car cost £171, accept £160.—Box 1,087, c/o *The Motor Cycle.* [4559

1920 2¾h.p. 3-speed clutch and kick starter Douglas, Lucas lamps, bulb horn, good engine, low mileage, very carefully used; £87.—Herbert Robinson Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A. Bicycles. [4273

1920 2¾h.p. 3-speed Douglas, Lucas horn, excellent condition and perfect mechanically, mileage 1,000 with leggings and gloves; £80.—Herbert Robinson, Ltd 32-35, Green St., Cambridge. Tel.: 995. T.A. Bicycles. [4274

1919 (August) 4h.p. Douglas Combination, new discs, tools, tyres like new, engine just overhauled by makers, sidecar repainted and upholstered; best offer up to £135, or will exchange for solo.—Holtby, 11 St., Bridlington. [4264

1920 4h.p. Douglas Combination, fitted with extra heavy back cover, Lucas horn, lamps, and sh in sidecar, ridden 350 miles only, condition genuine as new; £150.—Herbert Robinson, Ltd., 32-35, Gre St., Cambridge. Tel.: 995. T.A.: Bicycles. [4275

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4 2¾h.p. Douglas machines, 1921, kick st models, 3 speeds, clutch, £105, 3 speeds only £10 4h.p. combinations, £170; 4h.p. solos, £130; 2¾h.p. W.D. Douglas, supplied from Douglas wor £57/10. Easy terms arranged or exchange. [4

DOUGLAS Combination, 4h.p., purchased Nov., 19 run under 2,500 miles, many accessories, includ wind screen, speedometer, lamps, etc., condition as ne first cheque £120 secures; can be seen by appointme —Hawker, Elees, Chigwell, Essex. 'Phone: Chigwell London area. [4

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS Combination, late 1919, screen, luggage carrier, electric lighting, pillion, Klaxon, good tyres, condition as new; £120; seen to 7 p.m., or later by appointment.—C/o Hedley, 15, Rathgar Rd., Loughborough Junction Station, S.W. Tel.: Brixton 2967. [4406

DOUGLAS, 2¾h.p., 1921 model, new improved type motor cycle, fitted with 2-speed gear box, foot-rests, large tank, wide forks and mudguards; price £85; rotational deliveries.—Apply, authorised London agents, Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0352

DOUGLAS 2¾h.p., 1919, 2-speed, purchased new from makers, in perfect condition, extra large P. and H. lamp set, electric rear lamp, new oversize tyres, aluminium chain cover, tool roll complete, insured till June next, spares; £70.—Moore, 61, Highbury New Park, London, N. [4512

DOUGLAS Motor Cycles, on easy terms of payment, 4h.p. combination, £170; 2-speed solo model, £100; 3-speed, clutch, and kick starter model, £105; plus a small charge for delivery from works to London. The above are makers' list prices; for easy payments 4% extra is charged, only one fifth deposit, balance payable by 12 monthly instalments; write for latest lists of other machines in stock, etc.—Harrods, Ltd., 118, Brompton Rd., London. [4535

Draper.

3½h.p. T.T. Draper, ready to ride away; sacrifice, £25.—Spencer, North Kilworth, Rugby. [X3695

Edmund.

EDMUND.—The super spring frame 1921 models. Order now from S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3834

EDMUND-J.A.P. 1920 2¾h.p., spring frame, equal to new; £63; gradual payments.—Bunting's Motor Exchange, Wealdstone. (Closed Sundays.) [4559

EDMUND 2¾h.p. J.A.P., fitted with Enfield 2-speed gear and clutch, spring frame, shop-soiled only; bargain, £84.—P. J. Evans, 81-91, John Bright St., Birmingham. [0359

Enfield.

NEW 1920 Enfield, 2-stroke, 2-speed; £75; in stock.—Randal, Andover. [0369

1916 Enfield Twin, 3h.p., perfect condition, good as new; £65.—Marquis, Esher. [4133

ENFIELD Combinations and 2-strokes, 1921 models. —Longman, Fisherton, Salisbury. [3812

1916-17 2¼h.p. Enfield, all on, perfect; sacrifice £45. —Young, Pinehurst, Headley, Hants. [4170

1920 Enfield 8h.p. Combination, brand new; £155.—41, Madrid Rd., Barnes. After 6 p.m. [4521

1920 8h.p. New Enfield Combination, in splendid condition.—E. M. Gibbon, Glasbury, Breconshire. [4091

ENFIELD Combination, 6-8h.p., 2-speed, good condition; £100.—262, Blackhorse Lane, Walthamstow. [4279

1921 Royal Enfields; 8h.p. combination £160, 2¼h.p. 2-stroke 2-speed £65.—Stacey, 12, Ecclesall Rd., Sheffield. [X3796

NEW 1921 8h.p. Enfield Combination, dynamo lighting; £182.—Bounds' Garage, 223, High Rd., Kilburn, N.W. [4451

3h.p. Enfield, 1918, kick start, lamps, horn, Tan-Sad, good condition; £48, or offer.—78, Bargery Rd., Catford, S.E.6. [4147

NEW 1920 8h.p. Enfield Combination in Stock; makers' price.—Shepherd and Co., Enfield Highway. Tel.: Waltham X31. [0340

1920 8h.p. Enfield Combination, Magdyno, brand new, £190; 1919 model, dynamo lighting, £165.—Eveson, Wollescote, Stourbridge. [4043

1920 Enfield Combination, 8h.p., Lucas accessories, had little use, in very good condition; £140.—Evans' Garage, Newport, Salop. [4462

ENFIELD Combination, 6h.p., splendid condition; £50 recently paid to makers for overhaul, accessories; £120.—Coombe, Gower Villa, Melksham, Wilts. [4151

1921 Enfield Combination, dynamo lighting, with or without dynamo, in stock, immediate delivery; list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0352

1920 8h.p. Enfield Combination, Lucas Magdyno, Cowey speedometer, Klaxon horn; bargain for quick sale, £140.—Drummond, 1, Wilton Crescent, Wimbledon. [4282

ROYAL ENFIELD 1916 6h.p. Combination, engine just overhauled, new chains and tyres, hood, screen, D.A. lighting set, in excellent condition; £120. —G., 19, Netherford Rd., Clapham. [4554

1920 Royal Enfield, 2-stroke, 2 speeds, all-chain drive, brand new, unregistered; list £73/10, accept £65; exchanges.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3720

1916 6h.p. Enfield Combination, Lucas head lamp and generator, Lucas horn, tyres good, mechanical condition excellent; £130.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4265

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151, High Street, Walthamstow.
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Grams: "Cyclotomo, Phone, London."
Closed 1 o'c. Thurs.

387, Euston Road, London, N.W.1.
'Phone: Museum 4978.
'Grams: "Lamocy, Eusroad, London."
Closed 1 o'c. Sat.

50, High Road, Wood Green, N.
'Phone: Hornsey 1956.
'Grams: "Doulamocy, Phone, London."
Closed 1 o'c, Thurs.

MOTOR CYCLES FOR SALE.

Enfield.

8h.p. Enfield Combination, to makers' specification, for early delivery, £160; dynamo lighting model, £182 plus delivery from works; deferred payments for small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [4544

1920 8h.p. Royal Enfield Combination, Lucas Magdyno, wind screen and accessories, had 1 month's use; exchange lower power solo and cash, or sell reasonable offer; will ride 20 miles to possible purchaser.—R. L. Knight, Photographer, Barnstaple. [3356

ENFIELDS.—The cheapest twin combination on the road. We are North London agents, and can give immediate delivery of the standard model, £160; electric model, £180; trade supplied. All spares in stock. —Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [4233

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—1921 new 8h.p. Royal Enfield combinations from stock, dynamo lighting model £182, standard £160; new 1921 2¼h.p. Royal Enfield 2-stroke, £65; and 6h.p. 1916 Royal Enfield combination, dynamo lighting, £115. Cash, exchange, or easy terms. [4584

Excelsior

100 Gns.—Excelsior 7-9h.p., dynamo, 1920, absolutely new, solo.—54, Coval Rd., Mortlake. [X3823

1921 2½h.p. 2-speed 2-stroke British Excelsior, Olympia model, as delivered from motor cycle show to us; list price £67. We can also give early delivery of other models; cash or easy payments.—Agents, Gray and Raynes, 8, Low Rd., Balby, Doncaster. [3445

F.N.

1920 F.N. 4-cyl. Coachbuilt Combination, with wind screen, 3-speed clutch, acetylene lamps, Cowey horn, Palmer cords, all accessories, good condition; £125.—Evans and Sons, Stone. [1251

Grandex.

1913 Grandex Precision 3½h.p., 2-speed, kick start, Bosch, Amac, drip feed, good tyres, horn, pump, etc.; £34.—Millard, Coleman Rd., Belvedere. [4290

Harley-Davidson.

HARLEY-DAVIDSONS.—I have at present a fine assortment in stock, all fully guaranteed.—Ross, 86, High Rd., Lee. [3849

HARLEY-DAVIDSON 1919 7-9h.p. Combination, fully equipped, low mileage, equal to new; £190. —Parker's, Bradshawgate, Bolton. [X3789

HARLEY-DAVIDSON 1918 7-9h.p. Combination, kick start, hand or foot clutch, good order; £115. —12, Kinerton St., Knightsbridge. [4068

1919 Harley-Davidson 4h.p., sports model, electric lights, generator and battery, Klaxon, pump, and tools, 80 m.p.g.; £135. Also

1920 Harley-Davidson 7-9h.p., with Harley-Davidson sidecar, electric model with instruction book, electric and bulb horns, pump and tools, speedometer, hand and foot clutch, hand and foot brakes, in perfect condition; £198; either machine delivered 100 miles.—St. Katherine's, Snodland, Kent. [4321

1919 Harley, complete, less engine unit only, excellent condition.—Barker's Motors, 194, Balham High Rd., S.W.12. Latchmere 4441. [4156

1920 Harley-Davidson Model J., with Mills-Fulford sidecar, new 3 months ago, as new; £210.—Stacey, 12, Ecclesall Rd., Sheffield. [X3795

HARLEY-DAVIDSON Combination, 1915, 4½h.p., lamps, horn, sporting sidecar; to clear £75.—Bambers', Eastbank St., Southport. Tel.: 607 [4204

HARLEY-DAVIDSON, 1919, and coachbuilt torpedo sidecar, electric model, good condition throughout; £115.—Apply, Creasey's Garage, Preston, Brighton. [4505

HARLEY-DAVIDSON, shop-soiled 4h.p. twin, complete with speedometer and Klaxon horn, for immediate delivery; £150.—The Walsall Garage, Walsall. Tel.: 444. [4007

1919 7-9h.p. Harley-Davidson Combination, just overhauled and re-enamelled, new tyres throughout, in excellent condition.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [4485

HARLEY Demonstration Combination, 1917, Magdyno, discs, 3½ tyre, new H.D. tank, sidecar, Triplex screen, hood, spares; £125; offer.—Sancreed, Galton Rd., Westcliff-on-Sea. [4023

HARLEY-DAVIDSON, Oct., 1919, 7-9h.p., electric model combination, Cowey, perfect mechanical condition; best offer accepted; bought car.—Bee, 40, Highgate Av., Fulwood, Preston. [4128

HARLEY-DAVIDSON, 1920, magneto model, H.D. sidecar, 3 lamps and generators, speedometer, watch, hood, wind screen, nearly new; best offer near £220.—15, The Marina, Southampton. [4004

HARLEY-DAVIDSON, 1917 (December), not W.D., electric model, speedometer, 2-seater sidecar, fully fitted, the whole in splendid condition; £138, bargain.—22, Princess Rd., Finsbury Park. [4474

1920 4h.p. Flat Twin Harley-Davidson, complete with lamps, horn, and speedometer, mileage under 3,000, guaranteed sound and as new in appearance; £125.—Vale, Church St., Leominster. [4044

MOTOR CYCLES FOR SALE.

Harley-Davidson.

HARLEY DAVIDSON 1919 7-9h.p., Montgomery sidecar, Easting screen, whole outfit in new condition; £130; accept half down; entertain exchange.—Bunting's Motors' Wealdstone. [4557

LATE 1919 Harley Combination, engine No. 19A5542, Klaxon, electric lighting, all in perfect condition, only wants seeing; any trial; £140, or near offer; will take 2¾h.p. Douglas part exchange. —177, High St., Barnet. [4294

CHANCE for Bargain Hunters.—Late 1916 Harley combination, electric lighting, horn, disc wheels, new tyres, bulbous back sidecar, hood, screen, pillion seat, enamelled buff, the outfit is in 1920 condition, any reasonable trial, owner must sell; no reasonable offer refused.—1, Pilgrim Hill, West Norwood, S.E. [3975

HARLEY-DAVIDSON 1918-1919 Models, thoroughly overhauled and guaranteed, solo £100; with new Montgomery sidecar, £130; easy payments £43/10 down, 8 payments of £8, solo; £59/15 deposit and 8 payments £10 for combination.—Maudes', 100, Gt. Portland St., W.1; and Paris St., Exeter. [4479

Hazlewood.

NEW 5-6h.p. Hazlewood Combination, 3-speed, clutch and kick starter, a thoroughly reliable outfit; Harrods have a large stock of these for sale at £186 each, or on deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4525

Henderson.

HENDERSON, 4-cyl., latest model; £210; with sidecar £255.—Motor Exchange, Horton St., Halifax. [4245

SPEED Model Henderson Racing Sidecar, suitable for any power down to 2¾h.p.; £8/10.—103a, High St., Wandsworth. [4395

HENDERSONS, 1921, just arrived; immediate delivery, dynamo lighting.—Barker's Motors, 194, Balham High Rd., S.W.12. Latchmere 4441. [4155

HENDERSON 4 cyl., 1921 Models.—The last word in motor cycles. Booking early deliveries.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10 [3837

HENDERSON, 2 months old, electric lighting, Swan de luxe sidecar, Easting, 60 m.p.g., magnificent outfit; will sacrifice; offers.—Huffam, Exchange St., Norwich. [3981

BARGAIN, 65 gns.—Henderson, 4-cyl., perfect condition and order; any trial.—Short, 487, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Richmond 2362. [4562

MOST Luxurious Henderson Combination in London, dynamo lighting, hood, screen, tools, spares, 70 m.p.g.; £180; (see Exchange).—Box 1,069, c/o *The Motor Cycle.* [4466

1920 Henderson, magnificently fitted, as new, electric light and horn, large sidecar, picnic basket, hood, screen, all spares; cost £300, what offers? bought car.—42, Perran Rd., Tulse Hill, S.W.2. [4413

Hobart.

£45.—Hobart, 2-speed, 2-stroke, 1917, excellent condition; any trial.—1, Princethorpe Rd., Sydenham. [4427

HOBART Brand New 2½h.p., 2-speed, aluminium footboards; list price £75, to clear £65.—Bambers', Eastbank St., Southport. Tel.: 607. [4201

HOBART Motor Cycles.—Early delivery of all models; cash or easy payments.—Sole agent for Durham, T. A. Middleton, Elvet Bridge, Durham. [X3804

1920 Hobart 2-stroke, 2½h.p. Villiers engine, lamps, horn, tools, etc., perfect condition; £47/10, or near offer.—Apply, 54, Victoria Drive, Eastbourne. [4368

NEW 2½h.p. Hobart Lightweight.—2-speed models in stock at manufacturers' list price, £75; 4% extra for deferred payments; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4527

Hoskison.

HOSKISON-BLACKBURNE 1921 2¾h.p. Sporting Model, 2-speed, kick-starter, mechanical lubrication, spring saddle pillar, horn, topping solo mount; 94 gns.—J. C. Phipp, Sherston, Malmesbury, Wilts. [4359

Humber.

HUMBER 3½h.p., 2-speed; £30; exchange sidecar. —32, Balfern St., Battersea (Bell). [4309

HUMBER 3½h.p., May, 1919, flat twin and sidecar; trial; £95.—44, East St., Bromley, Kent. [4560

3½h.p. Humber, 2-speed, Bosch mag., in good 32 running order; £30.—Dupont, May's Hill, Neath, Glam. [4109

3½h.p. Humber, 2-speed, just overhauled, in perfect 32 condition; exchange good 2-stroke 2-speed, or sell £33.—Watkinson, Top Pit, Wortley, nr. Sheffield. [4105

HUMBER Combination, brand new, 3½h.p., 3-speed, flat twin engine, ready for road; £145; any trial. —Lankester Engineering Co., 83, Victoria Rd., Surbiton. [3407

1919 3½h.p. Humber and Mills-Fulford Corvette sidecar, electric lighting set, bulb horn, Stewart speedometer, appearance and mechanical condition excellent, low mileage; £130.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4266

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May your Christmas . . be a . . Righte Merrie One.

START THE NEW YEAR WELL ON A NEW MACHINE.

WE have still a few 1920 NEW, but slightly SHOP-SOILED Solo and Sidecar Combinations, at SPECIALLY REDUCED PRICES to clear, including

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MOTOR CYCLES FOR SALE.

Indian.

1921 Indians, early delivery of all models.—Hewett Bros., 94, Western Rd., Hove, Sussex. [0345

1920 Indian Scout, fully equipped, and extras; £150, or near offer.—Wilman, Princes Rd., Windermere. [X3786

1915 7-9h.p. Indian Clutch Model, mechanically perfect; £65, or offer.—Wells, College Town, Camberley. [4164

INDIAN Combination, 7-9h.p., 1914-15, excellent condition; sacrifice £65.—Halt Motors, Kilburn Lane, W.10. 'Phone: Willesden 1341. [4476

INDIAN Combination 7-9h.p., 1914-15, excellent condition; bargain, £80.—Holt Motors, Kilburn Lane, W.10. 'Phone: Willesden 1341. [3099

INDIAN 5-6h.p., with sidecar and lamps, in good running order; £40, or nearest offer.—Child, Redthorne, Bookham, Leatherhead, Surrey. [4332

1919 Indian Powerplus Combination, dynamo lighting, perfect condition, accessories, mileage 4,000; 140 gns.—R. Larwood, Dereham, Norfolk. [4420

1915 Indian Combination, 7-9h.p., 3 speeds, hand-foot clutch, electric lights, disc wheelys, Easting; £90.—Austin, 92, Wednesbury Rd., Walsall. [4355

INDIAN Combination, 1914, 7-9h.p., 2-speed, clutch, electric light, discs, horn, smart appearance, complete; £110.—W.G.G., 45, High St., Bedford. [4250

BARGAIN, 1916 Indian 7-9h.p. Powerplus, 3-speed, good lamps, chains, and tyres, very good fast machine; £65.—Blanden, Lakenheath, Suffolk. [4107

1920 Powerplus Indian Combination, electric, reasonable offer accepted, perfect condition, accessories; owner going abroad.—Box 1,040, c/o *The Motor Cycle.* [4093

5h.p. 1915 Indian, 1920, Royal Leicester sidecar, outfit practically new; £135, or exchange higher power.—Brown, 93, Railway St., Hebburn-on-Tyne. [4311

7-9h.p. Indian Combination, mechanically perfect, enamel good, electric light and horn, all accessories; trial given; offers.—Motor, 22, Sackville Rd., Bexhill. [4379

1920 7-9h.p. Powerplus Indian Combination, electric equipment, condition and appearance as new, mileage 3,400; price £190.—Minton, 95, Edgar St., Hereford. [4045

INDIAN Combination, 1915, 5h.p., Millford coachbuilt body, electric light, kick-starter; price 100 gns.—Whippet Works, Falion Terrace, Clapham Junction. 'Phone: Battersea 1466. [4096

INDIAN 7-9h.p. Powerplus, 3-speed, clutch and kick-starter, 1916 or 1917 model, coachbuilt combination, in lovely condition; accept £76 cash.—Moffatt, 139, Burntwood Lane, Earlsfield, S.W.17. [4058

1920 7-9h.p. Indian Powerplus Combination, dynamo lighting, mileage 3,000, unpunctured, all necessary spares and equipment, perfect in every way; trial run; £175.—Elton Norris, The Gaer, Hereford. [3548

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting; bargains.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4207

1919 (New Jan., 1920) Indian Powerplus Combination, electrically equipped, 2 spare inner tubes, 1 spare outer, in thoroughly good condition, complete tools, etc., must sell; £120 only.—Simpson, 30, Lansdowne Rd., Tunbridge Wells. [4075

1920 7-9h.p. Powerplus Indian Motor Cycle Combination, fully equipped, sidecar fitted hood and wind screen, perfect mechanical condition, had little use; selling owing illness; bargain, £175.—Apply personally, 1, Russell Rd., or 'Phone Wimbledon 1396. [4027

1920 Indian 7-9h.p. Combination, excellent tune and condition, small mileage, Easting wind screen, hand Klaxon, dynamo lighting, electric horn, 2 new Dunlop covers as spares, other tyres unpunctured; £220; bargain.—Box 9,944, c/o *The Motor Cycle.* [3400

LATE 1914 Indian Coachbuilt Combination, fully equipped, recently overhauled, 2-speed, clutch, speedometer, 3 electric lights, spring frame, new luggage carrier, spare retread cover, stored during war, owner deceased; £90.—Vessey Church St., Creswell, Mansfield. [4353

Invicta.

SECOND-HAND 2½h.p. Invicta, Villiers 2-stroke engine, single speed, complete with accessories, cost over £70, very little used; only £50; may be obtained on deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [4536

Ivy.

IVY Cycles.—Write, Rothwell and Milbourne, Cowleigh Garage, Malvern [1796

IVY 2¾h.p., believed 1916, lamps, horn, etc.; £33.—C .M. Taylor, Trumpet Hotel, Stafford. [4341

IVY 1919 2¾h.p., 2-speed, T.T. bars, large P. and H. lamps, disc wheels, Dunlop tyres, insured for £70; bargain, £55.—R. D. Varty, Thundersley, Essex. [3710

IVY, the aristocrat of its type; delivery of all models from stock; prices and catalogue post free.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4011

IMMEDIATE delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt. Portland St., W.1. Mayfair 4084. [0023

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Ixion.

IXION Motor Cycles.—Early delivery of all models; cash or easy payments.—Sole agent for Durham, T. A. Middleton, Elvet Bridge, Durham. [X3806

IXION 2¾h.p., 2-speed, new engine, not run 100 miles, lamp, horn, speedometer, good mechanical condition; £45; North Yorkshire.—Box 1,071, c/o *The Motor Cycle*. (D) [4470

J.H.

WAUCHOPE'S, 9, Shoe Lane, London E.C.4.—7-9h.p. 1915 J.H. and sidecar, splendid condition; £110. [4568

James.

JAMES 4¼h.p., 1916, 3-speed, fully equipped; 48 gns.—17, Heaton Rd., Mitcham. [4387

1920 James 2-stroke, 2-speed, slightly shop-soiled; £72.—Motor, 22, Sackville Rd., Bexhill. [4380

JAMES New Combination, all models for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4012

JAMES 4¼h.p. Combination, clutch, 3-speed, kick start, Bosch mag., new tyres, good condition; £100.—Reid, Brendon, Carr's Crescent, Formby. [4194

JAMES Combination, 4¼h.p., 3-speed, kick start, clutch; any trial; £88, or exchange lightweight, cash adjustment.—57, Kenbury St., Camberwell, London. [4409

1920 James Combination 4¼h.p., 3-speed, kick starter, De Luxe sidecar, horn, D.A. lighting set, spare cylinder, speedometer, Easting screen, tools, perfect condition; price with insurance to May, £165.—Cole, Rutland Chambers, Newmarket. [4143

Kingsbury.

KINGSBURY 1920-1 2-strokes, 2-speed, all-chain drive, brand new; £65.—104a, Finchley Rd., N.W. Hampstead 7822. [4508

Lea-Francis.

1920 Lea-Francis Twin; solo £120, combination £135. — Tel.: Museum 6626. — A.S.C., 60, Mortimer St., W.1. [4487

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 3½h.p. Lea-Francis from stock; £130; cash, easy terms, or exchange. [4571

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0099

1914 Lea-Francis, 2-speed, mechanically perfect, recently overhauled by makers, cost £35; invoice produced; £80.—Apply, Colebrook, 44, St. Mary Axe, E.C.3. [4473

LEA-FRANCIS 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3260

LEA-FRANCIS, M.A.G., as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [9887

1920 Lea-Francis, 3½h.p. J.A.P., mileage 1,500, new condition, lamps, horn, and speedometer; owner going abroad; £115; seen by appointment in Exeter.—Southbrook, Whimple, Devon. [4021

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4528

Levis.

LEVIS 2½h.p., single speed, good order, new tyres; £33/10.—Shaw, Park St., Wellington, Salop. [X3809

1920 Levis, perfect, tyres unpunctured, accessories; 43 gns.—Fersfield, Westbury Rd., New Malden, Surrey. [4323

LEVIS Popular, October, 1919, new condition, all accessories; £44.—Evans, Redcliffe, Newtown, Malvern. [4121

LEVIS 2¾h.p., 1919, Edmond's spring frame, Enfield 2-speed, chain drive, perfect condition; £52.—115, Tuam Rd., Plumstead. [4118

LEVIS, the finest 2-stroke in the world; delivery from stock, £60.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4013

2¼h.p. Levis Popular Model, brand new from works; £60, or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [4537

LEVIS Popular, latest model, in stock; £60.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0318

1921 Levis Popular, the most successful 2-stroke at Olympia; immediate delivery from the official agents; £60; exchanges or terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3719

1920 Levis, single-speed, excellent condition, £55; also 1918 P. and M. and sidecar, excellent condition, £80, and a Rotax dynamo, 12-volt for car, almost new, £12.—Apply, Williams, Priestwood Garage, Bracknell, Berks. [4106

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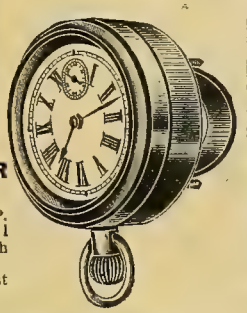

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3½h.p. Lincoln-Elk, T.T., low, dropped bars, Bosch, new Dunlops and tubes, running order; £25, or nearest offer.—A. G. Atkins, Penn, near High Wycombe, Bucks. [4254

1920 Lincoln-Elk 2¾h.p., Albion 2-speed clutch, kick starter, little used, as new; cost £85 May; take £70; insurance August.—Fairless, Newfield, Willington, Durham. [4193

L.M.C.

L.M.C., 6h.p., Sturmey, countershaft, never ridden, touring or T.T. bars; will sacrifice; offers.—Huffam, Exchange St., Norwich. [3982

L.M.C.—Mebes and Mebes are the sole London and Home Counties agents; early delivery of all 1921 models; trade enquiries esteemed.—154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3259

L.M.C., suspension and ordinary models, shop-soiled, as makers' specifications, at greatly reduced prices; also 6h.p. and 4¼h.p. combinations, second-hand; at bargain prices.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7185

Martinsyde.

6h.p. Martinsyde, the super combination; immediate deliveries. Norfolk agents.—Norwich Motor Co., Ltd., Norwich. [2786

MARTINSYDE-NEWMAN 1921 Models.—We are now accepting orders for early delivery, all models; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3263

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford; also Cornwall and Devonshire, for Martinsyde-Newman combination; £170; delivery ex stock; trade supplied; exchanges and deferred payments.—Maudes', 100, Gt. Portland St., W.1., and Paris St., Exeter. [5777

Matchless.

MATCHLESS.

1921 Models now ready; all the latest improvements. You can have one now, or book delivery for any forward date. Every combination personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [6881

MATCHLESS.—Early deliveries.—Pollard, Broomfield Rd., Chelmsford. [X2917a

SHREWSBURY Agent for Matchless. 1912 models from stock.—J. C. Pickering. [3988

1921 Matchless Combination in stock for immediate delivery; £205.—Stacey, 12, Ecclesall Rd., Sheffield. [X3797

1920 Matchless Combination, as delivered, shop-soiled; £175.—Wright's Garage, Saffron Walden. Tel.: 16. [4313

1921 Matchless Combinations, Magdyno; delivery from stock.—Agents, Hewitt Bros., 94, Western Rd., Hove, Sussex. [0334

MATCHLESS 1921 Models now ready for immediate delivery.—Alford, Charles St. Garage, Burrage Rd., Plumstead, London, S.E.18. [4322

1918 Matchless Combination, hood, screen, etc., excellent condition; £155, or near offer.—Write, Coomber, 90, High St., Marylebone. [4548

MATCHLESS-J.A.P., 1920, with full equipment, electric lighting, just overhauled; £185.—Baels, 6, Wilton Mews, South Belgravia, London. [3983

MATCHLESS 1921 Combinations in Stock; exchanges arranged.—Authorised agents, R. B. Clark and Co., 7, Exhibition Rd., S.W.7. Kensington 4096. [4334

MATCHLESS Combination, 1917 8h.p. J.A.P., Easting screen, Watford speedometer, spare wheel, horn, etc.—Grindrod, The Howe, Aughton, near Ormskirk, Lancashire. [3999

MATCHLESS Combination, 1921 model dynamo in stock.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0317

MATCHLESS Comination, late 1920, electric lighting, speedometer, horn, screen, legshields, spare wheel, tools, new condition; trial; 180 gns.—Jones, 2, St. Chads Terrace, Shrewsury. [4386

1920 (Aug.) Matchless M.A.G., electric lamps and horn, spare wheel, hood, screen, shields, very complete equipment; £200 for quick sale; trial after 6 p.m.—252, St. Ann's Rd., Tottenham. [4131

1918 Matchless Combination, M.A.G. engine, Lucas dynamo lighting, horn, speedometer, spare wheel, recently overhauled and repainted; £160, or near offer.—Can be seen at Roote's Garage, Maidstone. [4115

MATCHLESS 1914 7-9h.p. J.A.P. Combination, chain drive, clutch, K.S., Millford sidecar, Easting, luggage carrier, electric lighting, guaranteed perfect; £80.—104a, Finchley Rd., N.W. Hampstead 7822. [4509

MATCHLESS Combinations.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [3850

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Matchless.

1920 Matchless M.A.G. Combination, Lucas Magdyno, all on, speedometer, insurance policy, etc., sound; any examination; with 6 extra new covers; bargain, £230, no offers; ride away.—Trevista, The Grove, Coulsdon, Surrey. [4146

MATCHLESS Model H Combination, to makers' specification, £205; dynamo lighting model, £231/7/6, or on Harrods unique easy payment system for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [4545

MATCHLESS, 1920, £47 of accessories, including Magdyno lighting, hood cover and curtain, screen, with side valances, Cowey horn, rear drive trip speedometer, petrol economiser doing 65 m.p.g.; reason for selling, going abroad; £225.—Haynes, 28, Church St., Greenwich, S.E.10. Greenwich 1330. [4155

MATCHLESS 1921 Models.—Send orders along to S. E. Clapham (Motors), Greenwich. As Matchless specialists, we guarantee satisfaction and unlimited service. Immediate delivery, or date to suit client. We allow you 10% on all deposits.—Note address, Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [2999

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock; for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [4230

Metro.

2¾h.p. Metro-Tyler, in good running order, with lamps, etc.; £49.—St. Katherine's, Snodland, Kent. [4320

METRO-TYLER, new Feb., 1920, 2½h.p., electric lighting, rebushed (phosphor bronze) by makers; any trial; discs, accessories; £45.—Jones, 41, Abbeville Rd., Clapham Common. [3987

METRO-TYLER, brand new, latest S. Type, 2-speed, 2-stroke, £80; cash, or £40 down and 12 instalments of £3/6/8.—City agents, Elce and Co., Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0066

Minerva.

2¾h.p. Minerva, m.o.v., Bosch, B. and B., low, running order; £17, offers; photo.—205, Newton Rd., Burton-on-Trent. [4327

5-6h.p. Minerva, clutch, Bosch, overhauled £11, appearance poor, condition excellent; £30, offer, or unit separately.—Write, Lowther, 22, Montague St., W.C. [4188

MINERVA 3½h.p., C.A.V., mag., B. and B., long exhaust cut-down frame, good tyres and tubes; just overhauled, very fast, owner no further use reason for selling; bargain at £30.—J. F. Pearce, Glenview, Perrawell Station. [4099

Moto-Reve.

2¾h.p. Twin Moto Reve, 1912, perfect, sporty, fast; 16 gns., worth double; write appointment.—Maj. Bailey, 181, Manor St., Clapham, London, S.W.4 [4298

Motosacoche.

MOTOSACOCHE Lightweight, good order, battery, new leather belt; £12, or nearest.—Burnell, Wootton Courtenay, Somerset. [X3785

New Hudson.

BIG 6 New Hudson Combination, late model; £100, or exchange lower power.—Warwick, Hinckley Rd., Leicester. [X3741

1914 New Hudson Combination, splendid condition; sacrifice, £50; must sell.—Fairhurst, 68, Standishgate, Wigan. [4318

1920 2¼h.p. New Hudson, brand new; £65.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3846

1920 New Hudson, 2-stroke, electric lighting, speedometer; cost £93, nearest £70.—115, Earlsfield Rd., Wandsworth. [4017

3½h.p. New Hudson, kick start, clutch, 3-speed, disc wheels, lamps, horn; 36 gns.—Duncan, 8, Clifton Crescent, Folkestone. [4430

NEW HUDSON-J.A.P. 2¼, 3-speed, good condition, smart appearance, splendid climber, lamps, horn, watch holder, etc.; 35 gns., nearest.—Farr, 43, Alfred St., Swindon. [4173

New Imperial.

1920 New Imperial Combination, as new; £110.—Wright's Garage, Saffron Welden. Tel.: 16. [4315

1919 8h.p. Imperial Combination, perfect, full equipment, many spares, low mileage; bargain, £160.—96, Filton Rd., Bristol. [4053

1919 8h.p. New Imperial Combination, all accessories, small mileage, excellent condition; £165. Isard, North Tawton, N. Devon. [4286

1920 New Imperial 8h.p. Combination, as new; any trial by appointment; £170, or near.—Shears, 32, Gillingham Av., Gillingham, Kent. [4178

NEW IMPERIAL 1916 2¾h.p., 2-speed, semi-T.T. bars, complete with lamps and horn; bargain, £38.—R. D. Varty, Thundersley, Essex. [3712

NEW IMPERIAL-J.A.P., 4h.p., 3 speeds, gear and clutch, solo; £29, splendid hill-climber.—Moffatt, 139, Burntwood Lane, Earlsfield, S.W.17. [4037

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NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., 2-speed, kick starter, hand clutch, brand new, unused; immediate delivery; 85 gns.—Central Garage, Henley-on-Thames. [1074

WAUCHOPE'S, 9, Shoe Lane, London.—2½h.p. 1920 New Imperial-Japs, 2-speed clutch, and kick start models, £89/5; with 2-speed only, £80/17; cash or easy terms. [4581

8h.p.—W.D. New Imperial, Millford sidecar, acetylene head, electric side, tail lamps, Easting screen, low mileage, mechanically perfect; £140.—Pike, 21, Erith Rd., Belvedere. [4405

NEW IMPERIAL, 1920, new 2¾h.p. lightweight, 2-speed; list price £80/17, special reduced price, shop-soiled, £68.—Elce and Co., Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0068

1921 New Imperial, 2¾h.p. J.A.P., 2 speeds, clutch, and kick starter, as at Olympia, for immediate delivery; £89/5; exchanges or terms.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3717

1921 New Imperial Combination, 6h.p. J.A.P., 3 speeds, clutch, and kick starter, as at Olympia, just arrived; £186/18; exchanges or terms.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3716

NEW IMPERIAL Motor Cycles and Combinations supplied at manufacturers' list prices for cash, or on Harrods unique easy payments system for a small extra charge; full particulars on application.—Harrods, Ltd., 118, Brompton Rd., London. [4540

New Scale.

1921 3½h.p. New Scale 2-stroke and Sidecar, Olympia model, as delivered from motor cycle show to us; list price £123; cash or easy payments. We can also give early deliveries of other models.—Gray and Raynes, Agents, 8, Low Rd., Balby, Doncaster. [3446

Norton.

NORTON.—North Yorkshire agents: R. H. L. Pickering and Co., 239, Linthorpe Rd., Middlesbrough. [2997

NORTON Motor Cycles.—Place that order with me; early delivery dates.—Cook's Garage, Shifnal, Salop. [8136

NORTON 1920 Big Four, Sandum sidecar, wind screen, equal to new; £150. Parker's, Brad-shawgate, Bolton. [X3792

BIG Four Norton, Nov., 1919, chain drive, lamps, horn, excellent condition; £105.—Pyke, R.A. Mess, Woolwich. [4175

NORTON Motor Cycles, sole district agents for Derby, all models in stock; enquiries invited.—H Palin, Ltd., Bourne St., Derby. [8134

1920 3½h.p. No. 9 Model T.T. Norton, absolutely unscratched and as new; price £90.—Humphreys, Green Grize, Bullingham, Hereford. [4047

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 1921 4h.p. Norton de Luxe combination, just delivered, oversize tyres; £180/9. [4583

1920 3½h.p. No. 16 Model Norton, fitted with adjustable tappets and foot-controlled oiling, condition guaranteed; £105.—Vale, Church St., Leominster. [4054

NORTON 3½h.p. Sporting Model, recently been overhauled, warranted all right; trial or examination; spare belt, lamps, horn complete; £75, or nearest.—Box 1,062, c/o *The Motor Cycle*. [4222

3½h.p. B.R.S. Norton, 1919, over 77 m.p.h. on track, spare valves, piston rings, etc., tank a bit shabby, but machine is mechanically sound; owner must sell; any reasonable offer accepted.—T. Twentyman, Pickering, Yorks. [4136

B.R.S. Norton, 1916, Brooklands certificate, winner of 500 c.c. open scratch race Brooklands, October 2nd, also many wins speed trials, hill-climbs, and other Brooklands awards, engine in beautiful condition, as fast as B.S. model, spares include Philipson pulley; best offer over £100.—Kennedy, Hascombe, Surrey. [4411

N.U.T.

1920 N.U.T., Magdyno, almost new; £150.—Taylor, 39, Garden St., Burslem, Staffs. [4018

N.U.T., only ridden 100 miles; for immediate sale, £150.—Pollard, Broomfield Rd., Chelmsford. [X2917b

N.U.T., 1920, dynamo lighting, discs, Klaxon, as new; £125.—W., 9, Eardley Rd., Streatham, S.W.16. [4375

N.U.T., 1920, dynamo lighting, discs, Klaxon, new condition; £125.—W., 9, Eardley Rd., Streatham, S.W.16. [4550

1921 N.U.T. 3½h.p. Standard Model, Magdyno; £165; in stock.—Hewett Bros., 94, Western Rd., Hove, Sussex. [0343

1920 N.U.T., dynamo lighting, J.A.P. engine, 3 speeds, cost nearly £200; sacrifice 118 gns.—1, Ebner St., Wandsworth. [4416

N.U.T.; delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [4014

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W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [6023

O.K.

1920 O.K. Junior, brand new; £45.—Evans' Garage, Newport, Salop. [4461

O.K. 2¼h.p. Lightweight, 2-speed, good condition; £23.—17, Heaton Rd., Mitcham. [4389

O.K. Juniors, 2-speed, kick starter, 2-speed only, and single gear, 1921 models.—Longman, Fisherton, Salisbury. [3814

1920 brand new O.K. Villiers, with makers' guarantee, the perfect mount; first reasonable offer.—103a, High St., Wandsworth. [4393

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0368

OMEGA Combinations and 2¾h.p. 1921 models.—Longman, Fisherton, Salisbury. [3816

2¾h.p. Omega-Jap, the sporting single; immediate deliveries.—Norwich Motor Co., Ltd., Norwich. [2787

2¾h.p. Omega-Jap, Aug., 1920, rear heavy Dunlop, nickel exhaust, 400 miles, fully insured, as new; £68.—Capt. Andrews, Armoured Cars, Wareham. [4192

P. and M.

P. and M., very early deliveries.—Pollard, Broomfield Rd., Chelmsford. [X2915

P. and M., 1919, thoroughly overhauled and equal to new; £85.—Pollard, Broomfield Rd., Chelmsford. [X2916

1919 P. and M. Combination, as new, not a W.D. made up; £95.—Miss Patmoore, 106, Acre Lane, S.W.2 [4504

1920 P. and M., condition guaranteed as new, mileage quite negligible, perfect in every detail; £105.—Bryanston, Leominster. [4048

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—3½h.p. P. and M., 1920, £100; also 3½h.p. P. and M., 1919, £85. [4573

P. and M. Combination, in first-class condition, coach-built sidecar and screen, and numerous spares; £85.—Allen, 28, Hanworth Rd., Hounslow. [4061

LIGHTWEIGHT P. and M. 2½h.p., Bosch mag., Pedley grips, footboards, carburetter wants seeing to, otherwise in running order; £15.—Box 1,025, c/o *The Motor Cycle*. [4029

P. and M. Combination, splendid condition, electric lamps, speedometer, and spares; £70; or exchange suitable light car chassis with cash adjustment.—101, Croxted Rd., Dulwich. [4300

P. and M. Combination, Dunhill sidecar and storm apron, lamps, etc.; fully equipped; £100, great bargain.—Mebes, 154-156, Gt Portland St., W.1. 'Phone: 3426 Mayfair. [7188

PHELON and Moore ex-W.D. Models, thoroughly overhauled and guaranteed, tanks re-enamelled, front brakes, chain cases; £78. Similar models overhauled and guaranteed by makers, £95; with sidecars, £100 and £110; easy payments 7½% extra.—Maudes, 100, Gt. Portland St., W.1., and Paris St., Exeter. [4480

Peugeot.

5-6h.p. Peugeot, low built, in good running order, 2-speed, new belt, fast, and powerful; must sell; £30.—Grant, 26½, West High St., Forfar. [4255

Precision.

PRECISION 3¾h.p., 1913, Bosch, Amac, 2-speed countershaft, clutch, and kick start, Pan saddle, spring frame, new tyres, 120 m.p.g.; £50.—E. Tranter, Hampton-in-Arden, Birmingham. [X3827

Premier.

1914 Premier Canoelet Combination, 3½h.p., 2-speed countershaft, wind screen, lamp, Cowey speedometer; letters only.—A.J., 61a, High St., Merton. [411

PREMIER Lightweight, about 2½h.p., 3 speeds and clutch, good condition; accept £25, for immediate sale.—C. W. Allen, 10, Freshford St., Earlsfield, S.W.18. [4036

Quadrant.

QUADRANT 1920 4½h.p. Combination, shop-soiled, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7189

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4½h.p. 1921 Quadrant combination, with wind screen, £147/15; also 4½h.p. 1920 Quadrant combination, excellent condition, £120. [4567

1920 Quadrant Combination, 4½h.p., 3 speeds, clutch, and kick starter, all lamps, horn, Cameo wind screen, delivered August, absolutely as new; £130; exchanges or terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3721

Radco.

1915 Radco, 2-speed countershaft, good condition; £35.—24, Roberts Rd., Southampton. (D) [4073

RADCO Motor Cycles.—Early delivery of all models; cash or easy payments.—Sole agent for Durham, T. A. Middleton, Elvet Bridge, Durham. [X3803

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Radco.

RADCO'S.—One of the best 2-strokes on the road; immediate delivery; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [4235

RADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt., Portland St., W.1. 'Phone: 3426 Mayfair. [7190

Reading-Standard.

PANIC Price, 110 gns.—1920 Reading-Standard combination dynamo lighting, done 100 miles, otherwise absolutely new.—Short, 487, Upper Richmond Rd., East Sheen, S.W.14. 'Phone: Richmond 2362. [4561

Rex.

6-8h.p. Rex C.B. Combination, 3-speed, good condition, ride away; £45, offers.—Marsh, 31, Capstone Rd., Bournemouth. [4148

Rover.

1920 New 5-6h.p. Rover, listed £182; offered for £154.—Eveson, Wollescote, Stourbridge. [4041

1920 5-6h.p. Rover Combination, mileage 500, good as new; £175.—Rhodes, Appleby, Doncaster. [4082

1919 6h.p. Rover, splendid condition; £100.—Wright's Garage, Saffron Walden. Tel.: 16. [4314

3½h.p. Rover, 1914, new Grado gear; sacrifice, £35; must sell.—Fairhurst, 68, Standishgate, Wigan. [4317

ROVER Combination, 5-6h.p., W.D., late 1918, lamps, horn, Easting (new), spare tyre; £110.—Crawford, 105, Witton St., Northwich. [4190

ROVER Motor Cycles.—Place your order with an official agent, the man who rides a Rover; immediate delivery.—Collard, Cook's Garage, Shifnal. [2684

1920 5-6h.p. Rover Combination, new condition, delivered June, J.A.P. twin, all-chain, latest type sidecar, luggage carrier, reason buying car; 200 gns; Warwickshire,—Box 25, c/o *The Motor Cycle*. [X3578

ROVERS.—We are special agents, and can give immediate delivery from stock 3½h.p. comb., 5-6h.p. comb. All spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [4234

ROVER Combination, 5-6h.p. J.A.P., W.D. model, 3 speeds, clutch, and kick starter, had very little use; £120; exchanges or terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3722

ROVER 3½h.p., countershaft model, also T.T. model, Philipson pulley, as makers' specifications, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7191

1920 5-6h.p. Rover Combination, electric lighting and horn, wind screen, luggage carrier, Bonniksen speedometer, legshields, etc., cost £260, any trial, owner buying car; sacrifice, £150, or near offer.—12, Bridge St., Cambridge. [4051

NEW 3½h.p. Rover Motor Cycle, fitted with 3-speed clutch and kick starter, and with smart coachbuilt sidecar; £180, or on deferred payments 5% extra, one quarter deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4531

ROVER 5-6h.p. Combination, Aug., 1919, not done 3,000, does 70 m.p.g., lamps, horn, speedometer, wind screen and apron, luggage grid, full complement of spares, recently overhauled by expert mechanic, any trial; £165.—Hirst, Bowercombe, Radnage, Stokenchurch, Bucks. [4305

Royal Ruby.

3h.p. (Sept. 1920) Royal Ruby, lamps, horn, mileage 200, perfect order; £112, no offers.—Percy Kiln, Elm Grove, Southsea. [4059

1918 8h.p. Royal Ruby Combination, accessories; best over £100; seen Clapham Junction.—Box 1,067, c/o *The Motor Cycle*. [4271

ROYAL Ruby 1921 Models, book order now; delivery to suit clients.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [5833

1920 Royal Ruby, 3h.p., spring frame, kick start, 2-speed, immediate delivery; £120.—The Clydesdale Supply Co., Ltd., 2, Bridge St., Glasgow. [0265

ROYAL RUBY J.A.P. 8h.p. Combination, Canoelet sidecar, good running order, Cameo wind screen, electric light; £130, or nearest offer; after 7 p.m.—92, Moselle Av., Wood Green, N. [4450

3h.p. Royal Ruby, spring frame, 2-speed, clutch and kick-starter, equipped with Tan-Sad pillion seat, lamps, mechanical horn, etc., very little used and condition as new; £100; may be obtained on Harrods deferred payments system.—Harrods, Ltd., 118, Brompton Rd., London. [4529

Rudge.

RUDGE 1919 I.O.M. Model, full T.T. bars, long exhaust, very fast; £80.—Parker's, Bradshawgate, Bolton. [X3793

RUDGE Multi 1915 3½h.p. Clutch Model, T.T. bars, lamps, horn, speedometer; £48.—R. D. Varty, Thundersley, Essex. [3711

1920 Rudge Multi, 3½h.p., guaranteed perfect, original tyres as new; £100, nearest offer—Babbage, Chulmleigh, Devon. [4092

MOTOR CYCLES FOR SALE.

Rudge.

NEW 1920 5-6h.p. and 7-9h.p. Rudge Multi Combinations in Stock; maker's price.—Shepherd and Co., Enfield Highway. Tel.: Waltham X31. [0341

RUDGE Multi 3½h.p. Combination, tyres perfect, speedometer, Lucas lamps, Tan-Sad; must sell, offers; appointment.—Hermitage, 20, Haselrigge Rd., S.W.4. [4446

RUDGE 1919 T.T. Model, in splendid condition, well tuned, long exhaust, complete with lamps and horn; a bargain, £90.—Pioneer Motors, Ltd., 50, Grindlay St., Edinburgh. [4098

RUDGE Multi 3½h.p., believed 1914, wicker sidecar, recently overhauled, new rear hub, lamps, horn, good tyres; £55.—Whiting and Marrison, 45, Duke St., Henley-on-Thames [4152

Scott.

£59.—Scott, 1915 (?), good condition; trial.—Caunter, 25, Compton Terrace, Highbury, N. [X3739

IMMEDIATE Delivery 1921 Scott motor cycle and combination, in stock.—Millards, Chesterfield. [4003

WAUCHOPE'S, 9, Shoe Lane, London.—New 1920 Scott, delivery from stock; £130; cash or easy terms. [4570

SCOTT Combination, late 1920, little used; £155, or near offer.—Chatfield, Grosvenor Gardens Mews East, Victoria. [4275

SCOTT, solo and combination (new), 3in. Palmers, in stock; cash, exchange, or easy payments.—Motories, 25, Horton St., Halifax. [4246

SEMI-T.T. Scott, Bosch, Dec., 1914, recent overhaul, replacements cost £20; reasonable offer.—Seen, High Street Garage, Guildford. [3178

SCOTT, 1920 sports model, horn, very small mileage, enamel as new, plating fair, perfect order, lovely machine; £115.—D. Lavin, Old House, Sonning, Berks. [2483

SCOTT Combination, late 1920, little used, Binks carburetter, Lucas lighting set, acetylene cylinder, Bonniksen speedometer; £165, or nearest offer.—Turpin, 32, Powis Sq., Bayswater, London. [4291

SCOTT, T.T., specially built for the T.T. races, rotary valves, double pole ignition, thoroughly overhauled, re-enamelled and plated, largest P. and H. lamp set, very fast; inspection invited; £85; exchanges or easy terms.—Scott Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3725

SCOTT, engine, gears, radiator 1915, all other parts 1920, perfect mechanical condition, appearance as new, Cox Atmos carburetter, C.A.V. mag., lamps, horn, done 200 miles since overhaul by Scott experts; would ride any reasonable distance to purchaser; price £80.—Storrar, 8, Parkstone Rd., Poole, Dorset. [4198

Singer.

3½h.p. T.T. Singer, Bosch, B. and B., new wheels, general condition very good; £35.—160, High St., Old Woking. [3995

Sparkbrook.

NEW 2¼h.p. Sparkbrook, Villiers engine, single-speed £69, 2-speed £75; or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [4533

1920 2¾h.p. 2-speed Sparkbrook, used for demonstration purposes, few miles only, perfect condition; £63.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4260

SPARKBROOK 2¾h.p., 2-speed, the lightweight with an ultra finish, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7195

Sun.

SUN-VITESSE 2¾h.p., 2-speed, clutch, new tyres; bargain, £35.—Shaw, Park St., Wellington, Salop. [X3810

SUN Motor Cycles.—Early delivery of all models; cash or easy payments.—Sole agent for Durham, T. A. Muddleton, Elvet Bridge, Durham. [X3805

1920 Sun-V.T.S., Sturmey-Archer 2-speed gear, hand-controlled clutch and kick starter, soiled only, genuinely as new; £63.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4269

NEW 2½h.p. Sun-Vitesse, 2-stroke engine, single-speed, £55; 2-speed, £64; ditto, with clutch and kick starter, £70; lady's model, ditto, £73; or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [4539

Sunbeam

NEW 1920 Sunbeam 3½h.p. Solo; £155/8; in stock.—Randall, Andover. [0366

1921 3½h.p. Sunbeam in stock; 148 gns.—Cross, Agent, Rotherham. [X3756

NEW 1921 3½h.p. Sunbeam; £155/8.—Seen, Bounds' Garage, 223, High Rd., Kilburn, N.W. [4452

SUNBEAM 1920 3½h.p., fully equipped, equal to new; £160.—Parker's Bradshawgate, Bolton. [X3791

1920 3½h.p. Sunbeam, Lucas, accessories, ridden from works only, £150; T.T. Model, brand new, £150. Below.

1920 3½h.p. Sunbeam Combination accessories, as new, guaranteed; £175.—Evesom, Wollescote, Stourbridge. [4040

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SUNBEAM, 8h.p., perfect condition, 2 spare tyres and tubes, lamps, tools.—Parrett, Ilminster, Somerset. [4081

1921 Sunbeams; guaranteed delivery of all models.—Brighton and District Agents, Hewett Bros., 94, Western Rd., Hove, Sussex. [0342

SUNBEAM Brand New 3½h.p., solo model, complete with Lucas lamps and horn; £157/10.—The Walsall Garage, Walsall. Tel.: 444. [4008

1919 3½h.p. Sunbeam Combination, speedometer, lamps, horn, tools, etc., as new.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [4486

1921 3½h.p. Sunbeam Combination in stock for immediate delivery; makers' list price.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0353

1920 Sunbeam (new) 3½h.p., 3-speed, laminated springs, interchangeable wheels; £140 cash.—Hallam, Rosedale, Dove Holes, Stockport. [X3820

3½h.p. Sunbeam, 1919, engine No. 5901, in perfect condition, just overhauled, lamp, horn, and knee grips; £115.—Evans' Garage, Newport, Salop. [4459

SUNBEAM 8h.p. Combination, lamps, Cowey speedometer, all accessories, complete, new condition; £175.—Hartley, Tobacco Manufacturers, Farnworth, Bolton. [4171

1920 Sunbeam 3½h.p., brand new; immediate delivery; £155/8; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [3718

SUNBEAM 1920 3½h.p. Combination, Cowey mechanical horn, Lucas bulb horn, Lucas best lamps, Cowey speedometer, not run 100 miles, absolutely as new; £200.—Baron, Hylands, Kendal. [4079

SUNBEAM Combination, 1920, 3½h.p., excellent condition, done about 800 miles, complete with Lucas lamps, horn, and speedometer.—R. Burton-Fanning, 90, Newmarket Rd., Norwich. [4062

1920 Sunbeam 3½h.p. Sports Model, Cowey speedometer, Lucas lamps, horn, tyres unpuncture, mileage 2,000, perfect condition; £160, or near offer.—Heys, 15, Crescent Rd., Hale, Cheshire. [3998

SUNBEAM 8h.p. Combination, hood, screen, spare wheel, speedometer, horn, lamps, pillion seat, complete every detail, 700 miles; £200; seen any time.—Sharpe, Harcourt House, Wallington, Surrey. [4001

3½h.p. Sunbeam, 1920 model, oil bath chain cases, laminated front spring fork, lamps and horn, Sunbeam No. 1 sidecar fitted two months ago, tyres almost unmarked; cash offers invited.—G. Smith, *The Motor Cycle*, Coventry. [X3306

SUNBEAM Combination, 6-8h.p., interchangeable wheels, spare wheel, electric lighting, speedometer, wind screen, hood, legshields, luggage carrier, handle muffs, spares, etc., in excellent condition; £165.—97, Moss Lane, Swinton, Manchester. [0360

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay (late Sunbeamland).—The Molineaux Garage Co., Ltd., Wolverhampton. Tel.: 1160. [3458

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—1919 8h.p. Sunbeam combination, spare wheel, hood, screen, lamps, speedometer, mirror, warning signal, tools, condition as new, 200 gns.; also new 3½h.p. Sunbeam, latest model, £155. [4576

1920 (Aug.) 3½h.p. Sunbeam, latest Sunbeam sidecar, all wheels interchangeable, Sunbeam screen, apron, speedometer, legshields, Lucas accessories, very carefully used, appearance excellent; £205.—Wrixon, 41, Richmond Park Rd., S.W.14. [4371

T.D.C.

2¾h.p. T.D.C. De Luxe, 2-stroke, 2-speed; £35.—Humphries, 54, St. Mark's Rd., Maidenhead. [4197

GREAT Bargain; brand new 60 gn. T.D.C. de luxe 2-stroke, with 2-speed gear; accept £48; will take sidecar anywhere.—191, Sweetman St., Wolverhampton. [4367

Triumph.

NEW 1921 Triumph S.D. Solo; £140; in stock.—Randall, Andover. [0365

1921 Triumph, Model H, brand new; £112.—41, Madrid Rd., Barnes. [4522

NEW 1921 Triumph S.D. Combination; £195; in stock.—Randall, Andover. [0364

1920 Type H. Triumph Combination, new, shop-soiled; 150 gns.—Mitsons, Newmarket. [4425

4h.p. 1914 Triumph, 3-speed hub, perfect condition; £60.—Smith, 15, Carlyle Rd., Cambridge. [4100

TRIUMPH Junior, late 1919, perfect, excellent condition; £58.—107, King St., Hammersmith. [4283

TRIUMPH 1920 4h.p., Triumph sidecar, speedometer, etc.; £175.—Parker's, Bradshawgate, Bolton. [X3788

1920 T.T. 4h.p. Triumph Solo, shop-soiled; £100.—Wright's Garage, Saffron Walden. Tel.: 16. [4316

1914 3½h.p. Triumph, perfect order, good condition; £35.—Watson, 8, Valebrooke, Sunderland. [4349

 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

Triumph.

4h.p. Triumph; solo £105, combination £125.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [4488

TRIUMPH 4h.p., clutch, new, lamps, mechanical horn; £37.—C. M. Taylor, Trumpet Hotel, Stafford. [4340

TRIUMPH Combination variable gears, dynamo, B.B., Bosch, spares; £58.—169, Harvist Rd., Kilburn. [4196

TRIUMPH, 1919, as new; £92.—Dental Parlors, 769, The Broadway, Manor Park, Romford Rd., London, E. [3333

1914 Triumph, 3-speed model, recently overhauled, good condition; £47/10.—12, Bridge St., Cambridge. [4052

4h.p. 1914 Triumph, 3-speed, clutch, lamps, horn, etc., splendid condition; £70.—160, High St., Old Woking. [3993

JUNIOR Triumph, good condition, all accessories; £45.—Winder, 118, Hawcoat Lane, Barrow-in-Furness. [4058

TRIUMPH Brand New 4h.p., 3-speed, Model H.; £127/10.—Bambers', Eastbank St., Southport. Tel.: 607. [4203

100 Gns.—Triumph 1919 and Canoelet, lamps, perfect condition, new.—9, Grandeson Rd., Battersea. [X3822

1920 Triumph-Gloria Combination, excellent condition throughout; £140.—Phipp, Sherston, Malmesbury, Wilts. [4361

COUNTERSHAFT Triumph, enamelled and plated, 1920 colours, as new; £62/10.—1, Othello St., Liverpool. [4344

TRIUMPH, 1920, brand new Tourist Trophy model; list price £105, special reduced price, shop-soiled, £85.—Below.

TRIUMPH, 1920, brand new lightweight, 2-speed, 2-stroke; list price £75, special reduced price, shop soiled, £65.—Below.

TRIUMPH 1921 Models in stock for immediate delivery at list price.—Elce and Co., Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0067

TRIUMPH 4h.p., countershaft, 3-speed, clutch, excellent condition, very fast; £80.—25, Bracebridge St., Nuneaton. [X3577

BABY Triumph, 2 speeds, lamps and horn, splendid order; bargain, £50.—Miss Edmondson, 19, Barnfield, Wrexham. [4174

TRIUMPH Combination, just arrived; list price.—Barker's Motors, 194, Balham High Rd., S.W.12. Latchmere 4441. [4154

TRIUMPH 1920 4h.p. Gloria sidecar, Easting, Watford, lamps, horn, new condition; £160.—James, The Hoo, Hitchin. [4350

TRIUMPH, Baby, Sept., 1919, little used, fully equipped, spares; £60, or offer.—Sancreed, Galton Rd., Westcliff-on-Sea. [4024

1921 4h.p. Triumph, countershaft model, in stock for immediate delivery.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0354

1912 Clutch Model Triumph, lamps, Klaxon, first-class condition throughout; £45, or offer.—Burr, 48, Ealing Park Gardens, W.5. [3972

1921 Junior Triumph, £75; all-chain Triumph, £140; Model H., £127/10; in stock, ready to ride away.—Cross, Agent, Rotherham. [X3757

£110. Triumph, June, 1919, Canoelet and aluminium discs, 3 lamps, good tyres, little used, as new.—34, Observatory Rd., East Sheen. [4022

TRIUMPH Combination, 1919, 4h.p., 3-speed, Lucas accessories, perfect; a bargain at £135.—Bambers', Eastbank St., Southport. Tel.: 607. [4203

1916 Countershaft Triumph Combination, 3 lamps, tools, etc., excellent condition.—Seen at 5, The Boulevard, Balham High Rd., S.W.12. £90. [4366

1920 4h.p. Triumph, Philipson pulley, sporting Canoelet sidecar, in splendid condition; £100.—Bullroughs Motors, Ltd., Waterloo St., Oldham. [4020

1918 Triumph and Watsonian Coachbuilt Sidecar, Cowey speedometer, lamps, etc., splendid condition; £100.—Phillips, East St., Rye, Sussex. [4085

TRIUMPH Junior, perfect condition, enamel and plating as new, horn, lamps, spares, very small mileage; £70.—D. Lavin, Old House, Sonning, Berks. [2482

1920 Triumph, spring wheel, Gloria combination, perfect throughout; £126.—Edwards, 50, Harrington Rd., South Kensington. Tel.: Kens. 3709. [4519

BRAND New 1920 Triumph Combination, equipped regardless, insured; cost £191, accept £148; handsome outfit.— 60, Wallingford Av., N. Kensington. [4378

TRIUMPH, late 1914, 4h.p., Sturmey-Archer 3-speed gear, clutch, and kick starter, splendid condition; £46.—Allen, 10, Freshford St., Earlsfield, S.W.18. [4034

TRIUMPH, All 1921 Models.—Early delivery, satisfaction guaranteed by booking with S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3836

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"	Dunlop Heavy	39/6	53/6
"	Palmer Cord Ribbed	39/-	52/6
"	Clincher De Luxe Ex. Hy.	37/6	62/6
"	Hutchinson T.T.	37/6	59/-
"	S. Moulton Extra Heavy	37/6	59/-
"	Englebert Wired-on R.S.	35/-	64/-
"	Beldam Heavy	34/-	58/-
"	Englebert Wired-on Rib	30/-	60/-
26×2¾	Dunlop Heavy	41/6	56/9
"	Palmer Cord Heavy	39/6	66/-
"	Clincher De Luxe Ex. Hy.	39/-	68/6
"	Kempshall Anti-skid	37/6	75/-
"	Bates No. 1 Special	37/6	71/6
"	Avon Tricar Rubber Stud	34/6	72/6
26×2½	Palmer Cord Heavy O.S.	59/-	74/5
"	S. Moulton Extra Heavy	45/-	77/-
"	Beldam Extra Heavy	45/-	78/-
"	Palmer 2-ply Ribbed	39/-	50/3
"	Englebert Wired-on R.S.	35/-	72/6
"	Englebert Wired-on Rib	30/-	70/-
28×3	Goodrich Safety Tread	52/6	93/6
"	Dunlop Extra Heavy	48/6	84/-
"	Wood-Milne Extra Heavy	35/-	81/
"	Elite E. Hy. Gvd. Retreads	33/-	—
650×65	Palmer Cord Heavy	68/-	79/6
"	Avon 3-rib	58/-	75/6
"	Dunlop W.D. Grooved	52/6	77/-
700×80	Partridge R. Non-skid	85/-	110/-

BELTS—IN STANDARD LENGTHS

Dunlop, Pedley, Bates, etc. Per Foot. ½in. 1/7 ⅝in. 1/9 ¾in. 2/2 1in. 3/3 1¼in. 3/-

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Repairs are executed at our own works under expert supervision.

Extra Heavy £1
Heavy .. 17/6
Medium .. 15/-

RUBBER HIP BOOTS.

Made by North British Rubber Co., Ltd. Dominion Rubber Co., Ltd., etc.

Sizes 6, 7, 8, 9, 10, 11

18/6

ELITE RUBBER CO. LTD. Tyre Specialists

264—266 VAUXHALL BRIDGE ROAD, VICTORIA, S.W. 1.

Telephone: Victoria 6553.

MOTOR CYCLES FOR SALE.

Triumph.

1918 Countershaft Triumph (not W.D.), good condition, ride away, nearest offer £90; 2¾h.p. Coulson B wanted.—Boyce, Randwick, Nunney Rd., Frome. [4345

TRIUMPH 4h.p., 3-speed, clutch, 1919 model, little used, repainted, etc., in first-class condition throughout; £100, or near.—Greenwood's Garage, Pangbourne, Berks. [3971

F.O.C.H. for 1921 Triumphs; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4211

TRIUMPH Countershaft Front Wheel, £1; rear hub, 13/6; pair tappet guides, new, £1; B.S.A. 1914 front wheel, £1; Douglas front, 15/-.—Matthews, Ockley, Surrey. [4383

1914 4h.p. Triumph, 3-speed hub, clutch, Bosch, perfect condition, P. and H. lamps, new Dunlop; £40; with cane sidecar, underslung, £45.—Cornwell, Ticehurst, Sussex. [4145

1918 Triumph 4h.p. W.D. Model, lamps, horn, pump and tools, ready to ride away, owner going abroad, delivered 100 miles; £85.—St. Katherine's, Snodland, Kent. [4319

1920 4h.p. Model H Triumph, done 1,500 miles, Bonniksen, lamps, horn, tools, splendid condition, fast; £125.—Fellows, Moss Side, Manchester Rd., Ashton-under-Lyne. [X3825

TRIUMPH 4h.p., T.T., Swan sporting sidecar, all accessories and spares, splendid running order; seen by appointment; £130, or nearest.—Les Roses, Ashburton Rd., Croydon. [4475

1920 Triumph Gloria, sprung wheel, luggage petrol grids, aluminium footboards, Tan-Sad, unpunctured, perfect, new August; £140.—Bryn Rhedydd, Mossley Hill, Liverpool. [3990

1919 Triumph 4h.p. Solo, large sprocket, semi-T.T. handle-bars, knee-grips, lamps, exceptionally good condition; £85.—Write appointment, Axton, 22, Cranley Gardens, South Kensington. [4116

1920 Triumph Combination, only done 2,000 miles, fitted with Bluemel wind screen, speedometer, and all accessories, in new condition; £145.—Bounds, 223, High Rd., Kilburn, N.W. [4453

TRIUMPHS In Stock: Model H solo, £127/10; Model H combination, £182/10; lightweight, £75; and W.D. Model, £105.—At the Triumph Agents, West's (Lincoln), Ltd., High St., Lincoln. [X3268

1920 Triumph and B.S.A. sidecar, run 2,500 miles, fitted new tyres, luggage grid, Stirling leg shields, horn, lamps, speedometer, spare valve, spring, etc.; £155.—Verity, Longfield House, Hatfield, Herts. [X3753

TRIUMPHS.—We are the North London agents, and can give immediate delivery. Chain drive, chain-cum-belt, and renovated models.—Jones Garage, Muswell Hill, N.10; and at Woodside Parade, North Finchley. [4229

TRIUMPH, Model H. £127/10, S.D. £140, D. £105, L.W. £75; combination, Model H. £182/10, S.D. £195; immediate delivery.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., London, W.1. [0329

TRIUMPH, 1917, renovated makers, grand condition every way, 3-speed countershaft solo and sidecar gears, complete lamps, pump, etc., all good condition; for quick sale, £75.—Seen, Horsman's Garage, East Rd., Kingston. [4448

1920 Triumph Combination, very sporty outfit, T.T. bars, Ace discs, long exhaust pipe, sporting Canoelet sidecar, with special wind screen and luggage grid, Lucas accessories, tyres unpunctured; £150.—Hadley, 8, Mardol Head, Shrewsbury. [X3307

TRIUMPH Combination, 1919, late model, streamfort sidecar, splendid chassis, low mileage, fully equipped in every detail, including spare tyre and tube; 100 gns.—Apply, M. S. M. Parsons, Sergeants' Mess, Kensington Barracks, Church St., Kensington. [4050

1913 Triumph, excellent order throughout, complete, minus engine and wheels, £13; also Triumph Junior, appearance as new, engine and gears perfect, large P. and H. lamp set, Lucas horn, legshields, etc.; £47; exchanges.—Dawson, 34, Ampthill Rd., Bedford. [4177

NEW Triumph 4h.p. Countershaft Model, £127/10; 4h.p., type WDB, £105; 4h.p., all chain drive, £140; 4h.p., fixed engine, sporting, £105; all models in stock; Cambridge agents for Triumphs.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4268

TRIUMPH Combination, 3-speed countershaft, K.S., Millford Corvette sidecar, Dunlop tyres and belt, Bosch, B. and B., top feed variable, Brooks, T.T. handle-bars, Millers lamps, Tan-Sad, grand condition; £110, must sell; will separate.—Apply, Howich, Keeper's Corner, Barstow, Surrey. [4307

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 4h.p. Triumph solo, delivery from stock, £127/10; also new 4h.p. Triumph combination, all-chain drive, £195; new 4h.p. Triumph solo, all-chain, £140; and 4h.p. W.D. Triumph solo, £105; also 1920 4h.p. Triumph combination, £152/10. Easy terms, or exchanges arranged. [4580

TRIUMPH 1913 3½h.p., 3-speed, clutch, C.B. sidecar, whole just re-enamelled latest Triumph colour, Amac, Bosch, 1920 ars, Klaxon, new P. and H. set, T.W.R. side, tail, extra generator, spares, belt, cover, new tube, mag. chain, valve cap, jets, tools; trial any time; £66/10, or nearest; money needed.—Bond, 23, Applegarth Rd., W.14. [4381

MOTOR CYCLES FOR SALE.

Velocette.

VELOCETTES, 1921 models, ready for delivery; lists free.—Phipp, Sherston, Malmesbury, Wilts. [4360

VELOCETTE, only ridden 100 miles; for immediate sale, £70.—Pollard, Broomfield Rd., Chelmsford. [X2917

O'DONOVAN Motors are sole London and district agents for the wonderful Velocette; immediate delivery.—O'Donovan Motors, 76a, Gt. Portland St., W.1. [4708

IMMEDIATE Delivery can be given of the famous Velocette, 1921 model, 2¼h.p., 2-speed, all-chain drive; £75.—Agents: W. Sparrow, Ltd., Osborne Garage, Yeovil. [1632

VELOCETTE, the lightweight with a big heart, in stock for immediate delivery, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W1. 'Phone: 3426 Mayfair. [7196

Verus.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—2¾h.p. 1920 Verus-Blackburne, excellent condition; £85. [4566

£55 down and 8 monthly payments of £6/10 secures a brand new shop-soiled 1920 Verus-Blackburne 2-speed 2¾h.p.—Maudes' (below).

£40 down and 8 monthly payments of £8/15 secures a brand new 4h.p. 3-speed Verus Blackburne.—Maudes', 100, Gt. Portland St., W.1; and Paris St., Exeter. [4481

1920 Verus, 2¾h.p. 2-stroke, 2-speed, kick-starter, clutch model, first-class condition; £55.—J. C. Phipp, Sherston, Malmesbury, Wilts. [4362

1920 Verus, 2¼h.p., 2-stroke, 2-speed, kick-starter, clutch model, had little use, tip-top condition; £58.—H. Phipp, Sherston, Malmesbury, Wilts. [4033

Victoria.

VICTORIA Motor Cycles.—Early delivery of all models; cash or easy payments.—Sole agent for Durham, T. A. Middleton, Elvet Bridge, Durham. [X3807

Villiers.

2¾h.p. Villiers, S.A. 2-speed, clutch and K.S., lamps, horn, etc., not done 600 miles; £77.—Evans, Ironmonger, Rhos, Wrexham. [X3717

Wilkin.

WILKIN, Models B and B4, shop-soiled; at greatly reduced prices; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7197

Williamson.

8h.p. Williamson Combination, new sidecar, child's seat, hood, screen, lamps, etc.; £95, or offers.—2, Finch St., Deptford. 'Phone: New Cross 1497. [4289

1914-15 Williamson Combination, 8h.p., air-cooled, all spares, for good solo and cash (T.T. Triumph or Norton preferred); sell £100.—Parker, Alcester Rd., Feckenham, Redditch. [4351

WILLIAMSON 8h.p., 1916 model, water-cooled, complete with luxurious sidecar, tyres, etc. excellent, guaranteed; what offers; either cash or exchange small power unit, Ford, or anything useful, livestock.—Jennings, Mendip Lodge, Godalming, Surrey. [4117

Wolf.

1920 Wolf-Villiers, 2½h.p., complete, lamps and tools.—Wain, Stanton Lees, Rowsley, Derbyshire. [4119

1920 Shop-soiled Wolf Machines, fitted with Blackburne, J.A.P., and Villiers engines and Sturmey-Archer gear boxes; cheap to clear.—Tel.: Museum 6626.—A.S.C., 60, Mortimer St., W.1. [4489

Wooler.

WOOLER, 1920, practically new; bargain, £80; gradual payments.—Bunting's Motor Exchange, Wealdstone. [4558

2¾h.p. 1920 Wooler, 6 speeds, McNab's record-breaker, £85; also new 1921 2¾h.p. Wooler touring model, £103/10.—Wauchope's, 9, Shoe Lane, London. [4577

WOOLER, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7192

Zedel.

3h.p. Zedel, single-cyl., Bosch, Amac, in good running order, fast; sell £38; exchange high power combination and £10.—Smart, Chullymead, Melksham. [4032

Zenith.

1921 Zeniths, in stock.—Agents, Hewett Bros., 94, Western Rd., Hove, Sussex. [0344

ZENITHS.—Immediate delivery of 1921 models.—Evans' Garage, Newport, Salop. [4463

6h.p. Zenith-Gradua, believed 1914, overhauled, enamelled, sporty, good tyres, lamps, trial; £50; exchanges.—45, Riply Rd., Belvedere. [4084

ZENITH 1921 Models.—We are accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3262

Christmas 1920

The Eastern Garage Co

Respectfully wish their present and prospective friends

the

Compliments of the Season

MOTOR CYCLES FOR SALE.

Zenith.

ZENITH 8h.p., 1920, Model H, shop-soiled; in stock at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7193

FOR Sale, 1920 Zenith Model H sidecar combination, new in May, done 1,000 miles, all accessories, excellent condition; £180.—N. C. King, The Croft, Stourbridge. [3974

ZENITH 8h.p. Sporting Model in stock; £139.—Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., London, W.1. 'Phone: Mayfair 6559. [0319

F.O.C.H. for 1921 Zeniths; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4209

THERE is a Zenith Service Depot at 89, Wigmore St., W., where you may obtain all spare parts. 1921 models for immediate delivery, and 1920 models at greatly reduced prices.

WE Cater Solely for the Zenith rider, and prompt service is assured. Accessories, overhauls, tuning, information and advice.—The Motorists' Advisory Agency, Ltd., 89, Wigmore St. Mayfair 5598. [4218

ZENITH 1920 6h.p. Sporting Combination, Lucas head, lear, sidecar lamps, Cowey speedometer, Ace disc wheels, indistinguishable from new; £170.—Parker's, Bradshawgate, Bolton. [X3787

1919 4-5h.p. Sports Zenith and light Millford coach-built sidecar, speedometer, lamps, mechanical horn; £93; or solo £90.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3842

1920 8h.p. Zenith, countershaft, with Henderson Elite sidecar, discs, horn, mirror, spare chain, hardly ridden, perfect condition, guaranteed; £180, near offer.—Elms, 433, Brixton Rd., S.W.9. 'Phone: 704 Brixton. [4074

NEW 8h.p. Zenith Model H Combination; £204, or on deferred payments: one fifth deposit, balance by 12 monthly instalments a small extra charge being made for credit terms.—Harrods, Ltd., 118, Brompton Rd., London. [4534

ZENITH 6h.p. J.A.P. Combination, clutch, discs, hood, acetylene and electric lighting, B.B. and Amac carburetters, spare valves, tubes, etc., and full kit of tools, recently overhauled, appearance and condition perfect; £80.—32, Canterbury Rd., Brixton. [3574

1920 8h.p. Sporting Zenith, perfect appearance and mechanical condition, Bonniksen speedometer, mileage 1,050, Lucas lamps, Cowey horn, knee-grips, D.A. cylinders, etc.; £130.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4261

8h.p. Twin Zenith-Gradua 1920 Combination, Henderson Elite sidecar, electric lighting, spare accumulator, cover and tube, new spare belt, sidecar wind screen, speedometer, Klaxon horn, P.H. lamps, done only 3,000, thoroughly overhauled, Dec.; trial by appointment; price 170 gns., or near offer.—Robinson, Motor Works, Beccles. [4219

Ladies' Motor Cycles.

NEW Lady's Registered Design 1921 1½h.p. J.E.S., weight under 60 lbs.; 42 gns.; orders taken in strict rotation: photo for stamp.—Chandler, Shepherd's Well, Dover. [4076

Miscellaneous.

G. A. SAX, 619, Garratt Lane, Earlsfield, S.W.17, has for disposal:

1920 Douglas 4h.p., fully equipped, £85; 1915 Douglas 2¾h.p., condition as new, complete with lamps, £50; Triumph clutch model, very fast, £42/10; A.C. Autocarrier, in perfect running order, £55; Maxwell touring car, perfect running order, upholstering as new, £120; Spyker 15-cwt van, C.B. body, in good running order, £60; Commer Car 3-ton lorry, E.C., 1915, chain case type, fully equipped, hoops, sheets, etc., £325. Any exchange entertained. [3444

PALMER'S Garage, Tooting.—3½h.p. Triumph, recent model, Bosch, runs well; £25.

PALMER'S Gaarge, Tooting.—2¾h.p. Clement-Garrard light twin, £10; 8h.p. Henderson, £35.

PALMER'S Garage, Tooting.—2¾h.p. New Hudson light roadster, 3 speeds, clutch; £40.

PALMER'S Garage, Tooting.—2¾h.p. Grandex Precision, semi-T.T., £25; Rudge Multi, £35. [4431

3½h.p. Motor Cycle, mag., running order; £17, or offer; trial.—88, Garthorne Rd., Forest Hill. [4426

1921 Triumphs, Scotts, Bradburys, James, Rudges, Campions, Morgans, etc.—Ewens, Garage, King's Lynn. [3659

FOR Immediate Disposal, 40 B.S.A. motor bicycles with chain drive, Model H, 4¼h.p. 557 c.c. single-cyl. engine, 26×2¼in. Dunlop tyres, 3-speed countershaft gear; brand new.

10 Harley-Davidson Motor Cycles with Sidecars, mag. model, fitted with Goodyear Bluestreak tyres, 7-9h.p., twin cylinder, 3-speed countershaft gear, and multiple disc dry plate clutch with hand and foot control; new.

100 New Swift Cycles, free wheels with counter brake, gear 68, 3-16in. chain.—For further particulars, apply Chamedon Manufacturing and Engineering Co., Ltd., 20, Copthall Av., London, E.C.2. [4138

MOTOR CYCLES FOR SALE.

Miscellaneous.

JONES' Garage.—1920 3½h.p. solo Ariel.—See display advert.

JONES' Garage.—1920 Ariel combination, Magdyno.—See display advert.

JONES' Garage.—1920 6-7h.p. Ariel combination.—See display advert.

JONES' Garage.—1920 8h.p. spring frame Bat.—See display advert.

JONES' Garage.—1920 8h.p. Blackburne combination.—See display advert.

JONES' Garage.—1920 B.S.A., model H, and coach-built sidecar.—See display advert.

JONES' Garage.—1920 4h.p. Douglas combination.—See display advert.

JONES' Garage.—1920 Matchless combination, Lucas lamps and horn.—See display advert.

JONES' Garage.—1920 Rover combination, 3½h.p.—See display advert.

JONES' Garage.—1920 Rover combination, 5-6h.p.—See display advert.

JONES' Garage.—1920 I.O.M. Rudge.—See display advert.

JONES' Garage.—1920 Model H Triumph.—See display advert.

JONES' Garage.—Triumph renovated.—See display advert.

JONES' Garage.—1920 all-chain Triumph.—See display advert.

JONES' Garage.—1920 2¾h.p. 6-speed Wooler.—See display advert.

JONES' Garage.—1920 Clyno, 2-stroke, 2-speed, brand new; £60.

JONES' Garage.—1920 Diamond, 2-stroke, 2-speed, K.S., brand new; £78.

JONES' Garage.—1920 Diamond-Jap, 2-speed, brand new; £72.

JONES' Garage.—1920 Enfield, 2-stroke, 2-speed, brand new; £65.

JONES' Garage.—1920 Hobart, 2-stroke, brand new; £55.

JONES' Garage.—1920 Levis, fitted with Lucas accessories; £57 10.

JONES' Garage.—1920 Metro-Tyler, latest model S; £70.

JONES' Garage.—1920 O.K.-Unions, brand new; £44.

JONES' Garage.—1920 2-speed Radco; £60.

JONES' Garage.—1920 A.B.C. 4-speed; £130.

JONES' Garage.—Late 1919 Enfield, 2-stroke, fully equipped, all as new; £59.

JONES' Garage.—1914 2-speed 7-9h.p. Indian, renovated; £70, as new.

JONES' Garage.—1919 6h.p. James combination, all lamps, etc., as new; £130.

JONES' Garage.—Levis, as new, all accessories, 1916; £40.

JONES' Garage.—1916 New Imperial, 2-speed; £42.

JONES' Garage.—1919 James, 2-stroke, 2-speed, all lamps; £55.

JONES' Garage.—1917 Norton combination, all accessories, perfect; £100.

JONES' Garage.—Early 1920 P. and M. combination, as new and unscratched, fully equipped; £125.

JONES' Garage.—Late 1919 3½h.p. Sunbeam, not done 100 miles, fully equipped with Lucas accessories, not scratched, and guaranteed as new; £142.

JONES' Garage.—1918 8h.p. Sunbeam, 3-speed, Lucas dynamo lighting, hood, wind screen, spare wheel, etc., a real top-hole lot; £160.

JONES' Garage.—Late 1919 Triumph, sidecar combination, fully equipped, and as new; £145.

JONES' Garage.—1918 W.D. Triumph, overhauled, and guaranteed in perfect condition; £80.

JONES' Garage.—1918 W.D. Triumph and almost new sidecar, guaranteed in perfect condition; £100.

JONES' Garage.—Triumph renovated, 3 in stock; each £100.

JONES' Garage.—1919 electric Harley combination, in top-hole condition and perfect order, not W.D.; £160.

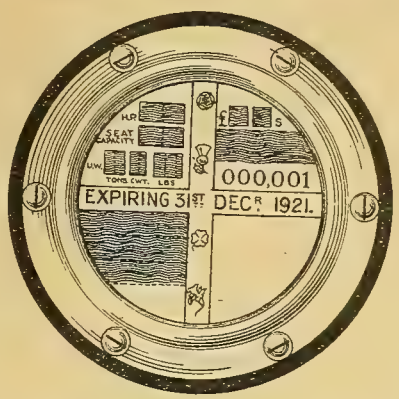
JONES' Garage.—Late 1919 electric Harley combination, absolutely as new, not done 100 miles, not scratched; £155.

JONES' Garage.—Ditto, with new double-seater sidecar to match; £195, a bargain; not W.D.

JONES' Garage.—1918 Harley combination, absolutely as new and guaranteed perfect, not W.D.; £120.

JONES' Garage.—1913 Triumph, Philipson pulley, in perfect condition; £39.

(This advertisement continued in third column.)



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LICENCE HOLDER

Brass. 5/- **Plated. 6/6**

(With Clip for Handlebar)

POST FREE.

Also the new or second-hand

MOTOR CYCLE OR SIDECAR

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May we send you our List?

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Telegrams: "Egaraco, London."

Official Repairers to R.A.C. A.C.U. A.A. & M.U.

MOTOR CYCLES FOR SALE.

Miscellaneous.

JONES' Garage.—1919 Rudge, 3½h.p., as new, not done 500 miles, in guaranteed order; £85.

JONES' Garage.—1920 2-speed Villiers, in perfect order; £50.

JONES' Garage.—All our machines are guaranteed as to date and condition, 3 months' guarantee given with every machine, no matter whether it cost £20 or £500.

JONES' Garage.—Our motto is fair and square dealing, which cannot be found everywhere. Any machine sent upon the deposit system, or upon the deferred system. Send for our big list.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [4226

WANDSWORTH Motor Exchange.—Winter's bargains; grand motor cycles, combinations, startling reductions. Watch.—Below.

WANDSWORTH.—Easy terms, easy terms, easy terms on any motor cycle.—Below.

WANDSWORTH.—Now's the time to buy real good motor cycles, at a winter's price.—Below.

WANDSWORTH.—1920 N.U.T. Twin, dynamo lighting, 3 speeds, magnificent machine; 118 gns.—Below.

WANDSWORTH.—N.U.T., famous T.T. twin, overhead J.A.P., very fast, beauty; cheap.—Below.

WANDSWORTH.—1920 Royal Ruby 2½h.p., almost new machine, nearly gift; 45 gns.—Below.

WANDSWORTH.—1920 lovely red Indian, dynamo lighting, 7-9h.p. Powerplus; only 125 gns.—Below.

WANDSWORTH.—1920 Triumph, T.T., 4h.p., Lucas lighting, mostly soiled, unscratched; 96 gns.—Below.

WANDSWORTH.—1920 Triumph coachbuilt combination, 4h.p., 3 speeds, beautiful turnout; 135 gns.—Below.

WANDSWORTH.—1920 Scott coachbuilt combination, twin, water-cooled, complete, smart lot; 125 gns.—Below.

WANDSWORTH.—1920 new Radco, sporting model, 2½h.p., 2 speeds, discs; 65 gns.—Below.

WANDSWORTH.—1920 De Luxe 2¾h.p., 2 speeds, very smart machine; only 49 gns.—Below.

WANDSWORTH.—B.S.A. 1918 4¼h.p., 3 speeds, almost new, unscratched; 89 gns.—Below.

WANDSWORTH.—B.S.A. late coachbuilt combination, 4h.p., 3 speeds, countershaft, kick; 85 gns.—Below.

WANDSWORTH.—P. and M. with sidecar, 3½h.p., mag., 2 speeds, countershaft; bargain, 49 gns.—Below.

WANDSWORTH.—Red Indian coachbuilt combination, spring frame, 7h.p. twin, 2 speeds, newly painted; 68 gns.—Below.

WANDSWORTH.—Rex coachbuilt combination, 5 h.p. twin, Bosch, 2 speeds; only 45 gns.—Below.

WANDSWORTH.—Bat-Jap combination, 8h.p. twin, Bosch, 2-speed countershaft; 48 gns.—Below.

WANDSWORTH.—Bradbury, fine coachbuilt combination, 4h.p., Bosch, 2 speeds; bargain, 55 gns.—Below.

WANDSWORTH.—Antoine, with coachbuilt sidecar, 5-6h.p. twin, mag., almost gift; 28 gns.—Below.

WANDSWORTH.—Bradbury 3½h.p., mag., 3 speeds, clearance; first cheque 29 gns.—Below.

WANDSWORTH Exchanges.—Wandsworth Motor Exchange, Ebner St., Wandsworth (Town-Station). 'Phone: Battersea 327. [4417

IF you want a good privately owned motor cycle or car, apply Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. [0138

BOOTHS' Motories, Halifax.—6h.p. Rudge combination, lamps, 1920 model, £125; 1920 4h.p. Blackburne-Verus, 3-speed, and new Millford sidecar, £120/10.

BOOTHS' Motories, Halifax.—1920 6h.p. Ariel combination, shop-soiled, £145/10; 1920 Harley-Davidson, very cheap.

BOOTHS' Motories, Halifax.—1915 Harley-Davidson combination, lamps, hood, etc., £87/10; 6h.p. 2-speed Rex combination, £40/10.

BOOTHS' Motories, Halifax.—8h.p. J.A.P., free engine, Druid forks, £30/10; 6h.p. Chater-Lea with sidecar, £35/10.

BOOTHS' Motories, Halifax.—1919 P. and M., with new sidecar, £115/10; 1920 2-speed Wolf, £52/10.

BOOTHS' Motories, Halifax.—Six 1915 Douglases, £49/10; four 4h.p. Douglases, 1918, £85/10; 1914 3¾h.p. Sun-Precision, 3-speed, £35/10.

BOOTHS' Motories.—1920 O.K. lightweight, Villiers engine, only run 150, £43/10; ditto with 2-speed, £54/10; 1920 Omerga, 2-speed, £69/15; 1914 2-speed Scott, £47/10; 1920 10h.p. Swift light car, £420; 1920 Harley-Davidsons, Ariels, Quadrants, O.K.; exchanges.—Booths' Motories, Portland Place, Halifax. [2621

1921 Motor Cycles.—Send your order along, for all leading makes. Satisfaction and good service guaranteed.—S. E. Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [3832

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. A27

MOTOR CYCLES FOR SALE.

Miscellaneous.

ASTONISHING List of new 1920 motor cycles in stock at bargain price; no reasonable offers refused.—Lamb's, 151, High St., Walthamstow; 50, High Rd., Wood Green; and 387, Euston Rd., London, N.W.1. [4236

R. B. CLARK and Co.—Brand new shop-soiled 1920 models, 10% under list; Rudge I.O.M., Lea-Francis, B.A.T., Verus, Sports Harley, Diamond, New Hudson. Call and inspect.—7, Exhibition Rd., South Kensington. [4336

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Little used Douglas combination, £120; Ixion 2-stroke, £32; Campion-Villiers, 2-speed, £45; Enfield 2-speed 2-stroke, leg shields, electric lighting, new A.B.C., N.U.T., Lea-Francis, Ivy, Cedos; also

COVENTRY Premier Super Runabout. [X1881

A.C. Sociable, good order, requires painting; best offer over £30; Rudge 2-speed motor cycle, very good condition, £40; Daimler lorry, running order, £50; lightweight motor cycle spring forks, complete less power unit, £7.—Smith, 126, Market St., Tottington, Bury, Lancashire. [3979

BARGAINS.—Please peruse our advertisements in small columns. We are disposing of our large stock of shop-soiled models at greatly reduced prices. Do not wait. Come and buy at once. The offer may not occur again.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7194

MOTOR Cycles (New Models), sidecars, and bodies actually in stock: B.S.A., Allon, New Scale, Radco (3 models), Triumph, Douglas, Sun Vitesse (for which we are the sole agents for the City of London), and others at lowest manufacturers' prices; carriage paid.—Bancrottian Co., 64 and 78, Bishopsgate, London, E.C.2. [0356

F.O.C.H. the car, light car, and motor cycle specialists.—A good new and second-hand selection always on view; prices to suit everybody; fair cash price paid for your 'bus; exchanges a speciality. We supply Triumph, Zenith, B.S.A., A.J.S., etc., also the famous Kingsbury Junior, Bleriot Whippet, Grahame-White, G.N.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays [4212

MOTOR ATTACHMENTS.

WALL Auto-Wheel, good condition, toured North Wales September; £12/10.—Thompson, Dhoon, Hoghton, Preston. [X3811

1921 Simplex Power Units, for attaching to push cycles; £25/10.—Sole agents, Bambers', Eastbank St., Southport. Tel.: 607. [4205

MOTOR SCOOTERS.

EGERTON'S Northgate, Ipswich, can delivery from stock A.B.C. Skootamotas and mobile pups. [1445

KINGSBURY Scooter, with saddle, carrier, toolbag, etc., run less than 100 miles, practically new condition; £25.—Abbeville, Parson St., Hendon. [4153

A.B.C. Skootamota.—As sole London agents, we can offer immediate delivery of all models, including Commercial Model; £55.—Autoveyors, 84, Victoria St., S.W.1. [9368

TRICYCLES FOR SALE.

ARGSON Hand and Motor Propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendalls Mews, George St., W.1. [2647

HOODS, WIND SCREENS, ETC.

HERCULES Hoods, best and cheapest on the market, made to fit any body.

HERCULES Hoods, 52/6, 65/-, and 80/-; write for list.—Hercules Hood Co., 698, Seven Sisters Rd., South Tottenham, N.15. [4547

CAMBER Hoods, 55/-; wind screens, 27/6.—Bright and Hayles, 78, Church St., Camberwell. [4181

WIND Screens, Auster Triplex, sporting type, as sold at 42/-; 12/6 each.—Central Garage, 302, London Rd., Thornton Heath. [4556

AUSTER Aero Triplex Aluminium Wind Screens, 12in., adjustable, fit sporty sidecar, 22/6 each; and other types. McConnell and Bailey, 73, Gt. Portland St., W.1. [7060

BODIES.

VENUS Step Bodies are the best for old chassis.

VENUS Bulbous Bodies are roomy and very smart.

VENUS Tandems hold 2 persons. Strong and light, but not unsightly. Get one.

VENUS Bodies are made in a factory and supplied direct. Catalogue free.

VENUS Sidecar Co., 6-14, Gourley St., S. Tottenham. [2298

CAMBER Coach Bodies made to order.—Bright and Hayles, 78, Church St., Camberwell. [4182

PERFECTION Coach Sidecar Bodies; £6/15.—Halifax Motor Exchange, Horton St., Halifax. [4243

ROYAL Leicester Sidecar Bodies fit any chassis, first-class finish. Several bodies (new) to clear cheap. Write for designs.—The Willowbrook Co., Manufacturers, Leicester. [0336

CHRISTMAS
To our friends everywhere.

WE, the Managing Staff of the Layton Garages, beg to wish you a Christmas full of peace, hope, and joy.

We desire also to express heartfelt thanks for the kindness experienced at your hands, and to assure you that our gratitude is unbounded and sincere.

One outstanding factor that has contributed towards making the Layton Garages one of the very best and largest motor cycle businesses in the United Kingdom, and that, in spite of the fact that Bicester has only a population of 3,000, is the courtesy and kindness you have so freely extended to us. You have treated us like men, and we have tried to justify your confidence. Our business is strong, and we are stronger because of the contact with your personality; in other words, our success is yours, and we most gratefully acknowledge the fact.

It is our hope that we may enjoy your friendship unceasingly, and our plans for 1921 are so arranged that no transaction carried out with us can ever give you cause for regret. We will only permit the *BEST* goods to come into our stock, so that you can never buy anything other than one thing from us—and that is satisfaction. Always we will keep before us the value of your confidence and friendship. We shall protect you, and *never*, if we can help it, shall you regret coming into our circle.

The object of this advertisement is not to sell you anything—it is simply our desire to say "Thank you" in the most sincere manner, but if you have queries that you wish to put to us, we are here surrounded by what we believe to be the very best motor cycle stock in England, and are at your service entirely.

But, above all things, do not forget that to-day, more than ever, our gratitude and best wishes are *YOURS*.

J. W. TOLLADY,
General Manager.

Layton Garages

London Road, Bicester, and 90, High Street, Oxford.

Phone: 35 Bicester. 'Phone: 784 Oxford.
Telegrams: "Integrity" Bicester and Oxford.

BODIES.

SIDECARS, beautiful coachbuilt bodies, many designs and colours to choose from; aprons, hoods, wind screens, repairs, Trade supplied.—City Motor Co., 121, 123, 125, London Rd., Manchester. [0004

SIDECAR Body Designs for the trade only. Working, coloured, pencil, or line drawings of original designs, also working drawings, full-sized or to scale.—Cooper's Vehicle Journal, Ltd., established designers to the coach trade for over 80 years. Consult us when designing new ideas.—20, Tudor St., London, E.C.4. [0004

SIDECAR ATTACHMENTS.

S

FOR

SANDUM, the Smart Sidecar Specialists.

SANDUM Sidecar Catalogue for 1921, the most comprehensive in the trade.

SANDUM Sidecars.—No. 1 De Luxe, £24/10; best value in Olympia Show.

SANDUM Models. The Exquisite £24/10, and Sport £28/10, are of distinctive appearance.

SANDUM Elite Sidecar, £28/10; the smartest sidecar on the road; highly recommended in "The Motor Cycle."

SANDUM Sidecars, prices to suit all, from £16/16 to £50; absolutely honest value.

SANDUM Dual Purpose Sidecar (patented). A single or 2-seater sidecar as required in 5 seconds. Size of body as our single-seater Elite. Luxuriously comfortable seating for 2 adults, with the weight in correct position over rear axle. Finished in colours to suit any make of machine, £45, bodies only, £22/10. The latest development of the 2-seater as designed by us, and approved by the recognised experts.

SANDUM.—Insist on Sandum enclosed wheel chassis or on girder type chassis

SANDUM Screen, £4/10; easily operated by passenger, with screen in any position.

SANDUM Featherweight Streamline Body, smart and racy, weight 18 lbs., locker in back and under seat; when not in use the seat back hinges forward and neat coverall encloses the whole; price £4/17/6.

SANDUM Hoods, plated fittings, suit any body; immediate delivery; £3.

SANDUM Sidecars.—Wholesale manufacturers of coachbuilt bodies, chassis, hoods, screens, and aprons.

SANDUM Sidecars.—The most noted body-builders in the country.

SANDHAM Engineering Co., Ltd., 336, Gray's Inn Rd., W.C.1. 'Phone: Holborn 933. Factories: 162 to 165, Pentonville Rd., N.; and Britannia Works, Britannia St., W.C. [0015

CAMBER Lightweight Sidecars; £16/10.

CAMBER Semi-touring Sidecars; £20/15.

CAMBER Tandem Sidecars; £27/10.

CAMBER Sidecars; lists free.—Bright and Hayles, 78, Church St., Camberwell, London. 'Phone: Brixton 2951. [418

FLOAT Sidecars.—Manufactured by McConnell and Bailey, 73, Gt. Portland St., W.1.

FLOAT Sidecars.—Immediate delivery to fit all makes of motor cycles.

FLOAT Sidecars.—Write for illustrated list; price 28 gns. complete with chassis and tyre.

FLOAT Sidecars are fitted with underslung chassis; call and inspect at above address.

FLOAT Sidecars in stock at McConnell and Bailey's, 73, Gt. Portland St., W.1. [705

HARLEY, Excelsior, and Henderson.—New De Luxe bulbous back sidecar, 28×3 tyre; £39/19.—Below

SWAN Sporting Sidecar, for American Ex.—Motor Exchange, Horton St., Halifax. [424

ROYAL Leicester Sidecars to suit all machines, roomy bodies, comfortable upholstery, excellent springing, prices from £19/10 upwards.

SEND Your Sidecar to us for renovation. New hoods, wind screens, and aprons fitted. Write for catalogue.

THE Willowbrook Co., Royal Leicester Sidecar Works, Belgrave Gate, Leicester. [033

TURNER Coachbuilt Sidecar, touring, re-enamelled as new, 26in. wheel; £11/11.—Quenby, Middle Rd., Lymington, Hants. [406

SIDECAR, cane canoe body, new chassis, tyre, and tube, only driven 5 miles; £12.—Blake, Polsmooth, Cornwall. (D) [409

1921 Harley Sidecar, £42; brand new; list £49/10.—Edwards, 50, Harrington Rd., South Kensington. Tel.: Kens. 3709. [458

FLYING Middleton, 1920, little used, complete, perfect; any offer for quick sale; seen London.—Box 1,076, *c/o The Motor Cycle.* [446

THE MOTOR CYCLE
ESTABLISHED IN 1903
AND FOR OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTIME

Advertising and Publishing Offices: 20, Tudor St., London, E.C.4. *Editorial Offices:* Hertford St., Coventry.
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AUSTRALIA—Gordon & Gotch, Ltd., Melbourne (Victoria), Sydney (N.S.W.), Brisbane (Queensland), Adelaide (S.A.), Perth (W.A.), and Launceston (Tasmania).
NEW ZEALAND—Gordon & Gotch, Ltd., Wellington, Auckland Christchurch, and Dunedin. INDIA—A. H. Wheeler & Co., Bombay, Allahabad, and Calcutta.
SOUTH AFRICA—Central News Agency, Ltd. PARIS—Smith's English Library, 248 Rue Rivoli.

The New Year.

AT a moment when a wave of trade depression is sweeping over the world one is apt to take a rather gloomy outlook of future events. There is, however, a brighter side to the picture which concerns the motor cycle industry. From the date of the Armistice till the summer of 1920 there existed an entirely fictitious state of trade induced by a rush of purchasers who were once more free to use the roads after the war period. The end of this scramble for machines unfortunately coincided with the normal yearly easing of orders and also with a state of world-wide trade depression.

There is, however, no need to be pessimistic with regard to the future of the motor cycle industry. We are settling down to a normal state of trade, and there is every prospect of a brighter outlook in a few months time. Motor cycles have proved their value in times past, and are daily becoming a necessity to an ever enlarging public. Their economy of running is a sure magnet in these days.

In addition, the majority of motor cyclists are enthusiasts who keep their machines for only a year, and there are still large fields to be explored in the Overseas market. Again, a belated reduction in petrol prices will improve matters.

Interest in competition work is increasing, and the keenness of the club man shows no signs of waning; therefore we feel that we are expressing no idle hope when we wish all readers of *The Motor Cycle* a Happy and Prosperous New Year.

The 1921 Six Days Trials.

ELSEWHERE in this issue will be found a *résumé* of the suggestions on which the A.C.U. proposes to base the regulations governing next year's Six Days Trials.

A perusal will show that the so-called freak hill policy which reached its culmination last September is to be discontinued, and that the forthcoming event will be over a route of much less intrinsic severity; greater technical demands, however, will be made, and we are promised that the machines will be subjected to much more rigorous examination, both before and after the riding tests, which are to commence and finish with certain performances on Brooklands. Silence, springing, braking systems, and oil retention are all marked down for criticism, and as opposed to more sporting events in other places, the "Six Days" tends to become still more a mass of regulations. If it was definitely manifest that these ordinances were introduced for the all-round betterment of motor cycle design, there would surely be no cause for complaint; but one regulation alone shows that the suggestions do not emanate from a source which keeps in view the universality of the motor cycle. We refer, of course, to the reservation respecting machines of over 350 c.c. capacity, *which will be compelled to draw a sidecar*. This proposed ruling discourages at one swoop the more powerful solo machines. If it is carried into effect, such features as ease of steering, weight distribution, light frames for solo use, and general "manageability" are almost entirely discounted in a class of machines which remain universally popular. Useless to argue that the trial is over roads which will make no demands on the larger solo machines, since good steering qualities, easy control, and particularly weight reduction are essential to all types of solo machines, whether on freak hills or elsewhere.

A wiser provision would have been that all machines listed by the makers for sidecar use should be entered with sidecars attached; such a proviso would prevent the makers of double-purpose outfits from confining their appearances in public tests to the solo classes, which is probably what the A.C.U. aims at doing.

After all *The Motor Cycle* has done to encourage the lightweight motor cycle, it is good to observe that the A.C.U. will encourage lightweights, particularly those in the 200 lb. class.

An index to the advertisements in this issue will be found on the page facing the back cover

OCCASIONAL COMMENTS

BY IXION

Naked Chain Life.

A MEDICAL reader has sent me without comment a filthy package on which I was fool enough to pay excess postage. I will scrag my friend when I meet him, for the package merely contained a worn-out chain. It has done 4,021 miles on a 7-9 h.p. combination, running without a chain case. During this mileage, which was mostly town work, and full of stops and starts, the chain has broken thrice. Once as the result of a piece of wire becoming entangled with the hub. Once because the spring clip was put on the wrong way round. Once from sheer inanition. Does my correspondent mean to imply that this is a miraculous record for a naked chain, or what?

A New Brake Pad.

NEITHER the reports of the last A.C.U. Six Days nor of Olympia noticed that a new brake pad has appeared on the horizon. Up-to-date motor cycle brake pads have been composed of fibre. I never heard any serious complaints of a good sample of this material, though every now and then one comes across a dud pad, which appears to be made of compressed blotting paper, and melts when it gets drenched. Car brakes are usually lined with asbestos reinforced with wire gauze. In the early part of this year the Ferodo laboratory got out a new "wireless" asbestos material, which they regard as superior to the old reinforced pattern. Many sample brake pads of the new stuff were tried out in this year's Six Days, and seemed to do quite as well as fibre. Olympia saw its Show *début*, and by this time next year we shall doubtless know whether it is better than the usual fibre pad.

A Misspent Holiday.

I BELIEVE theologians hold that there is a special department in Hell reserved for the writers of advertisements. It must be so. After the Show poor "Ixion" was looking a trifle spun, and his kindly Editor gave him a week off. I stood on a suburban platform and eyed the advertisements of holiday resorts. The first poster displayed a buxom damsel scantily swathed in a sort of *crêpe de chine* crank case, sitting on a sand castle in blazing sunshine, and administering bountiful glad eyes to the platform. Being a married man—and assisted by a below-zero draught from the east which howled across the station—I turned resolutely to the next poster. This exhibited maps of Cornwall and Italy carefully made to resemble each other. Between them stood a botanical curiosity in the shape of a tree, bearing apples on one side and oranges on the other. Against its trunk leant two damsels—one blonde, the other brunette. Beneath ran a legend to the effect that in climate, produce, and natural beauties Italy and Cornwall closely resemble each other. I hied me to Paddington, and took a ticket to Cornwall.

I no longer have any wish to see Italy. The temperature in Cornwall was below zero, and it snowed hard. There were no apples. The damsels in my selected watering place were extremely plain.

Heigh-ho!

Ixion's "MOTOR CYCLE REMINISCENCES" have just been published in book form, price 5s. 3d. post free, from "The Motor Cycle" Offices, 20, Tudor Street, E.C.4.

The Lucas Electric Hooter.

I WONDER how many owners of a Magdyno set are aware that the Lucas people market a nice electric horn to go with it, which can easily be connected up by any amateur in two minutes, and creates just the penetrating sort of noise required to shift a mirrorless char-à-banc over to its own side of the road. The price, of course, is steep compared to that of a bulb horn.

Pushbicycle Tail Lamps again.

LET me hastily preface that the Editor will not permit a resumption of the correspondence on this vexed question. I merely refer to it because one of the staff of the *New Statesman* has sent me a copy of that review for December 4th, in which a cyclist re-opens the campaign for the abolition of push-bicycle rear lamps, and is approved by the Editor. I thoroughly agree with the objection made to the manner in which this regulation has been reimposed by the Ministry of Transport on the rather dubious pretext of the railway strike, and without any Parliamentary discussion or support. That is exactly how we poor motorists are manhandled nowadays, and the experience may help the untaxed cyclist to sympathise with us. I further agree with the argument that "unlightable traffic" (*e.g.*, sheep) probably runs additional risks now that all "lightable" traffic is compelled to carry lamps. But I denounce the editorial comments that push-bicycle rear lamps are

(*a*) An intolerable burden

(*b*) Imposed solely to enable motorists to drive fast.

As a cyclist I know that a rear lamp is not an intolerable burden. As a motorist I know that rear lamps are a real protection to cyclists from cars which, so far from being driven fast, are being anxiously and gently steered by humane motorists under conditions of bad visibility. During the week-end of December 12th I had the misfortune to be out on a car in darkness and a thick snowfall, and found the cyclists' rear

Occasional Comments.—

lamps of vast assistance in driving home at an average speed of less than 10 m.p.h. The Editor of the *New Statesman* should know that wild exaggeration is not necessary in a good cause, and merely assists the disdisintegration of a bad cause.

Did Anybody Notice?

AMERICAN advertisers very seldom miss an opportunity, but the displayed announcement of Harley-Davidsons in our Show report issue left too much to the intelligence of readers. I will repeat its salient item here and now:

Model J, complete with electric lighting, horn, and speedometer	£199 10s.
Model F, complete with acetylene lighting, mechanical horn, and speedometer	£196 0s.

There are two very taking features in these price statements. The first is that you can buy a machine absolutely ready for the road, instead of having to ransack your local agent's stock for accessories which may or may not suit the layout of the machine. The second is that the complete electric equipment only adds £3 10s. to the cost, as compared with a complete non-electric equipment. At present British electric equipment costs more than this in most cases; and where such an equipment can be obtained at an infinitesimal cost addition, manufacturers do not trouble to make the fact plain to the world.

Narrowing the Issue.

I DO not happen to know what a private owner, resident in U.S.A., has to pay for the electric equipment fitted to the Harley if he purchases it separately for conversion purposes from the firm of electricians who supply it to the Harley people. But it is quite obvious that he would not have to pay anything like the sum a British electrical firm charges for such an outfit; otherwise the Harley people could not supply it as a 70s. extra upon gas lighting. An amateur friend of mine recently got an estimate from a leading firm of dynamo makers for fitting electric lighting to his 'bus. No structural alterations were needed, as his machine was easily adaptable, and did not require an extra drive; bolting on and wiring represented all the fitting required. The quotation was exactly £30. I mention this lest readers should imagine that motor cycle factories are profiteering, and charging additional percentages of a formidable character. This £30 set is the very make for which a certain motor cycle factory charges £24 15s. In other words, so far from profiteering, the motor cycle factory practically passes the lighting sets on to its customers at trade price, plus a very small charge for fitting. I do not even say that the dynamo firms are profiteering. No doubt their sets are of better quality than the American sets. No doubt their labour is more expensive, and possibly less industrious. The outstanding facts are that the American sets are of very decent quality, and that our price is very far from being competitive. Before long the Germans will doubtless assault this market, and they will have an enormous advantage in the low value of the mark, as the magneto industry has already realised. The German may even be able to supply magneto-dynamo outfits at a lower cost than we can supply ordinary magnetos, so that a machine with British gas lamps and a British magneto may be listed at *five pounds more* than the same machine with a German dymag.

I am sorry to draw attention to such doleful possibilities, but forewarned is forearmed. Patent rights may alleviate the position temporarily, but I doubt whether anything approaching an undodgable master patent is possible in this sphere.

Jack frost or, more correctly, his brother hoar frost, performs some marvellous transformations to the countryside. It may be cold, but it is worth it.

Should We Follow Car Practice?

Observations Suggested by, rather than Replying to, the Conclusions of "Criticus."

IN *The Motor Cycle* of December 16th an article on car practice in motor cycle design appeared under the signature of "Criticus," and the conclusions on which the writer bases his opinions seem to call for qualification.

These remarks, therefore, must be taken in their general sense, since they are only directed against the contentions of the above-mentioned writer to the extent that his reflections are assumed to be the mass-opinion of the car using community. At the outset we must recollect that the modern motor cycle preceded the car (assuming modern internal combustion-engined vehicles to date from Gottlieb Daimler's first effort), and that for many years cycle and car design went hand-in-hand. With increase of engine and transmission efficiency, however, the ideals of the car world led to a divergence coincident with the realisation that the car, as such, was a vehicle needing special features not then within the purview of cycle practice; many of those features are still outside the essential needs of the motor cycle, which it is to be hoped will remain true to type and not be contorted into that terrible thing which may be foisted upon us by zealots, the "car on two wheels"—a growth prone to sporadic outbursts in the U.S.A.!

Save Us from our Friends!

Thus car owners of the "Criticus" school look with dismay on our power units, apparently naked and exposed, and then urge a wider adoption of outside flywheels on motor cycles because that is following car practice. Now let us examine this very matter. Mechanically (in the case of single or V twin engines) inside flywheels have many advantages, commercially they make a cheaper unit, while practically the facilities which they permit in the direction of enclosing moving parts and transmission are undeniable. Commentary on this question is really needless in view of the tendency towards the enclosing of outside flywheels in special covers. (Shall we have to invent a new definition for "inside-outside" or "outside-inside" flywheels?)

In the matter of brakes it is doubtful whether the belt-drum type is to be roundly condemned; it may appal the car-owner, but there is no obligation on the part of the motor cycle designer to please the four-wheel enthusiast. The belt-drum brake fulfils the essential requirement of motor cycle practice; it is light, cheap, unaffected by weather, simple to adjust, and is powerful as well as smooth.

Easy-changing Gears.

"Criticus" asserts that we are adopting sliding gears, but bemoans the fact that we have a pull on the score of easy gear manipulation. Now the sliding gear is not nearly so common in motor cycles as the constant mesh type, and it is to the latter, in conjunction with the various excellent "delayed action" control mechanisms now used, that the motor cycle owes its easy changing facilities.

In the lubrication of motor cycle engines there appears to be no need for a slavish following of car practice, since the problems involved are in most cases of an entirely different nature. Car engines mostly have plain bearings which demand careful lubrication; motor cycles, on the other hand, are largely equipped with ball and roller bearings, and may be run efficiently on a splash lubrication system with a supply controlled by crank-case suction or exhaust-operated depression. Ball or roller bearing engines require a minimum of oil, and, provided the pistons are correctly lubricated, the bearings should take care of themselves. I firmly believe that motor cycle engines are consistently and negligently over-oiled; my own machine, a 532 c.c. twin with roller bearings to big ends and cranks, has done 1,200 m.p.g. of oil (sidecar) regularly, and I believe this could have been cut down.

"A Red Herring."

Finally, we are subjected to the inevitable ton-miles per gallon criticism. Let it be said at once that the car beats the motor cycle on this point only as the lorry beats the car. Carburetter tests have proved that a certain minimum consumption exists for a given idling engine, and that the consumption accounts for the great part of the same engine's fuel demand under full load, *i.e.*, an idling engine is not conducive to favourable consumption-to-load ratio. The motor cycle by reason of its high power-to-load ratio runs largely with idling engine, and its consumption approaches an irreducible minimum. A laden lorry, with low power-to-weight ratio, runs economically on a ton-miles per gallon basis, but it cannot be recommended as a "cheap" vehicle to run.

The reason motor cycle two-lever carburetters still persist is because of that same need which calls into being the wonderfully named and priced "petrol economisers" (extra air inlets) largely offered to car users as adjuncts to their automatic carburetters.

Specialised Needs—Specialised Methods.

Because certain details in car practice are used in motor cycle construction and *vice versa*, owing to contemporary growth and similarity of service, it does not follow that the one must necessarily follow the other in any particular direction; to ask for further unification of ideals merely for the sake of uniformity is futile. Nothing in either sphere is permissible unless it can be referred to a definite, useful, and purposeful end. Let each type proceed along its own lines, having regard rather to the complexity of its own problems than to the wholesale adoption of ideas developed in other fields.

WHARFEDALE.

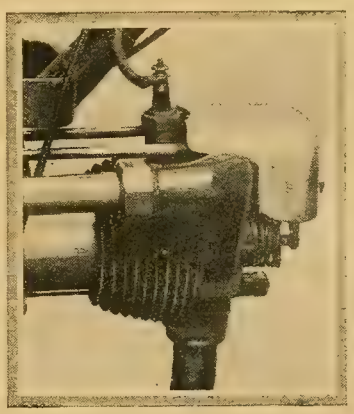
THE 3½ h.p. FLAT TWIN BROUGH.

A Comfortable and Speedy Sporting Machine.

MANY machines are fast: many machines are comfortable: some are fast and comfortable: a few are fast and comfortable *simultaneously*: but very few mediumweights come under this category. The new 3½ h.p. sporting Brough is one of the very few. Or, more explicitly, the Brough may be driven at really high speeds over really bad roads with little appreciable effect on machine or rider.

For nearly ten years Messrs. W. E. Brough have produced flat twins with a distinctly sporting flavour; and the machine that we recently rode away from Nottingham bears evidence of this in every line. Although not identical in every respect with their 1921 model, the main features are the same. It is an entirely new design, and has a 496 c.c. flat twin engine with overhead valves and detachable cylinder heads. A speed of 60 m.p.h. is guaranteed, which, for a three-speed countershaft machine with touring equipment, is an excellent figure.

Not on our test mount, but included in the final design is a large internal-expanding Ferodo-lined front brake, also a special Amac carburetter that bolts directly on to the timing cover, which contains the cored gas passages.



Showing the neat cover for the overhead valve rockers, which are internally lubricated through hollow operating rods.

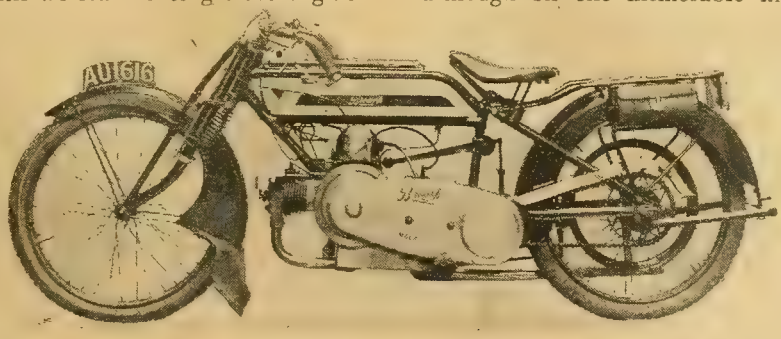
We may now mention our only difficulty with this particular mount. Until we learned to get the engine really "revving" on second gear before engaging the rather high top ratio, we found a slight but distinct tendency to "pull up" when accelerating. The deeper float chamber and shorter manifold of the new carburetter, however, should remedy this. And, even so, the get-away, after short experience, is as rapid as any who consider their tyres could desire.

Speeds that are Deceptive.

Once under way the speed, on account of the remarkable degree of comfort, becomes deceptive, and only with streaming eyes and a "scraped" corner comes the realisation that we have been doing forty-five on a road where we had previously never exceeded thirty-five. It must not be inferred from this bit of lurid corner work that the steering is difficult. Naturally, an outsize in wheelbases makes the Brough a different proposition from the usual T.T. machine to pilot round a "hair-pin"; but, again, *experientia docet*, and, having learned—well, the cycle almost steers itself.

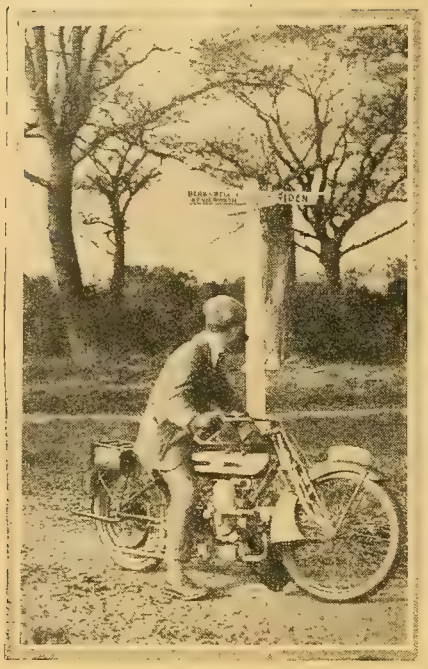
That notorious "snag" of the flat twin, difficulty of lubrication, appears to have been very effectively overcome. We set the automatic feed at an extravagant opening, and, although on one memorable night ride, lost among strange and slimy byways, we covered more than ten miles in second gear, with a following wind that every now and then obscured our path with dense exhaust smoke, we never had occasion to remove a plug.

Specially pleasing to the critical ear is the exhaust note, well silenced,



Typically sporting lines are not sacrificed, although the mudguarding is of "all weather" dimensions. The sharply dropped handle-bars were found to be most comfortable.

Road Tests of New Models.—



Autumn leaves are not an ideal road surface; however, the Brough is very steady on most varieties of slime. A cross-roads direction query.

but with just that hint of a "crackle" that indicates latent power awaiting a favourable opportunity of making itself felt. Indeed, the machine "feels" like a big twin in its general proportions; a "long" engine and tank of large size make it difficult to believe that the capacity of the power unit is but that of a 3½ h.p. single; and there was nothing in the Brough's performance that tended to emphasise the limitations expected of the 500 c.c. engine.

Mudguarding for a sporting type of mount is unusually complete, a large flap at the lower end of the front guard proving most effective without, on account of its diagonal setting and flexible construction, materially affecting wind resistance. The rear guard, too, proved an excellent protection on some very muddy journeys. A simple shield serves to protect the rear chain, but the primary drive is enclosed in a large aluminium cover. Both are quickly detachable.

The exposed position of the valves keeps them efficiently cooled, and their lubrication is effected through hollow operating rods.

Thus a specification essentially intended for speed actually combines the reliability and strength of a hefty single with the smoothness and comfort of a spring frame twin. And how it attains this latter end without any form of frame springing presents a nice little problem for the theorists. Several factors contribute—the even torque of a well-balanced engine, a silky cush drive, a long wheelbase, large tyres (kept fairly soft), a comfortable riding position in conjunction with an excellent saddle (Brooks B 176) are, probably in the order we have given them, chiefly responsible.

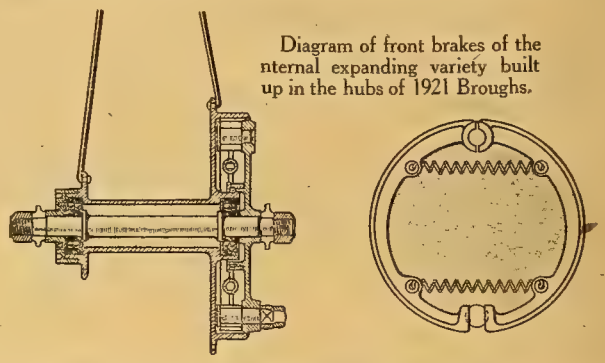
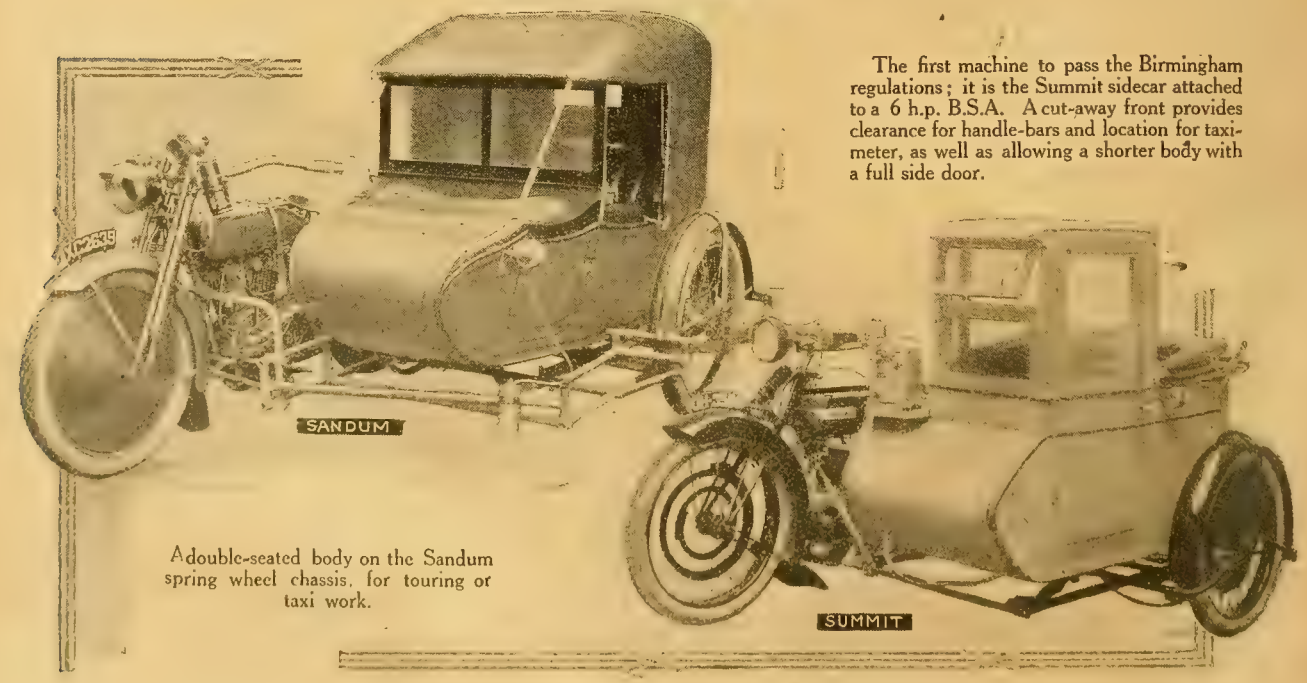


Diagram of front brakes of the nternal expanding variety built up in the hubs of 1921 Broughs.

But theorising, fortunately, does not alter the fact that the latest Brough *is* comfortable. It is that rare type of machine that on account of its diverse qualities should appeal alike to clubman and tourist.

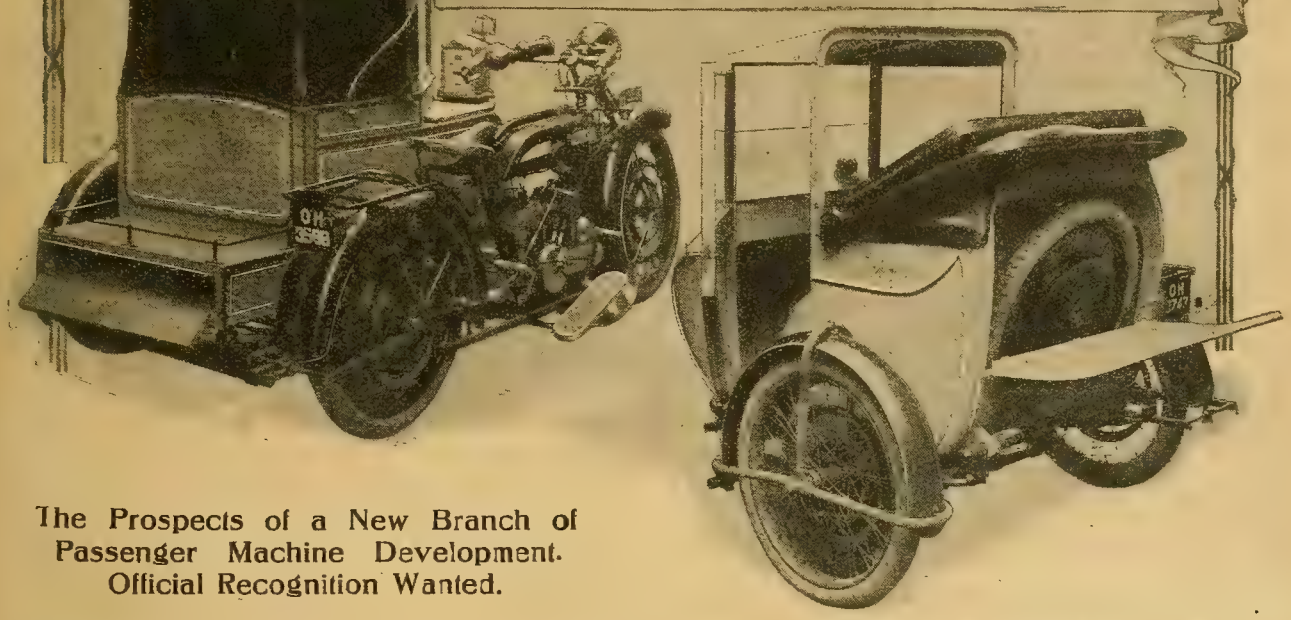
SIDECAR TAXI-CABS.—A comprehensive article on this type of vehicle, together with the views of fifteen police authorities, appears on page 863.



The first machine to pass the Birmingham regulations; it is the Summit sidecar attached to a 6 h.p. B.S.A. A cut-away front provides clearance for handle-bars and location for taximeter, as well as allowing a shorter body with a full side door.

A double-seated body on the Sandum spring wheel chassis, for touring or taxi work.

The Taxi-Sidecar



Summit (left) and Canoelet (right) methods of spare wheel and luggage carrying arrangements.

The Prospects of a New Branch of Passenger Machine Development. Official Recognition Wanted.

A NEW phase of sidecar progress has recently made itself evident, and but for lack of official support in some quarters it would no doubt be having a far reaching influence upon the commercial prosperity of certain sections of the motor cycle trade.

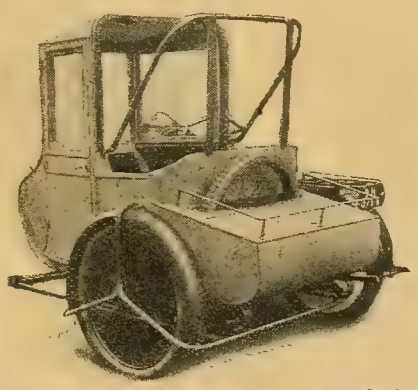
We refer, of course, to the many sidecar taxi-cabs which are now undergoing tests in the hands of various sidecar and motor cycle manufacturers. These were quite a feature of the Olympia Show, where at least eight machines of this type were shown.

A Hampered Movement.

Conversing at Olympia with makers of this type of vehicle we found that orders might have been freely booked, given the immediate possibility of obtaining hackney carriage licences for the sidecar taxi, but so far (with only a few exceptions) the official mind has exhibited its usual apathy towards all things connected with the motor cycle movement. By the second day of the Show, for instance, one firm alone had booked orders for thirty complete taxi-cab outfits conditional upon official sanction for their use being obtained.

Economical Running.

The outstanding claim for the motor cycle taxi, as against the ordinary four-wheeled vehicle, is its economical running. This will permit a great reduction in the fares charged to the public for the same class of service which has hitherto been available, for even at the present prices of supplies it is confidently assumed that a 6 or 8 h.p. outfit with a double-seated enclosed body may be run at a charge to the passenger of 6d. per mile. While this figure may be slightly optimistic there is no reason why such a machine should not be run profitably for 8d. a mile, which represents a saving of 33⅓% over the existing taxi-cab fares in London. Apart from this actual economy there should also be a saving in other directions. In traffic, for instance, the sidecar is much faster than the four-wheeled car owing to its smaller bulk, its rapid acceleration, and its great mobility. In this latter direction, of course no four-wheeled vehicle can compare with it, since the motor cycle and sidecar will turn in its own length with the greatest ease; it thus has the advantage under circumstances where the ordinary taxi-cab would have to make use of its reverse.



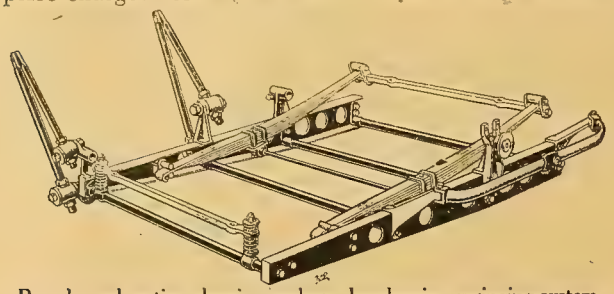
Watsonian taxi with well for spare wheel behind seats; the hood material is removed from sticks in order to show the interior. Note the large luggage grid and boot at the rear of the body.

Why is Encouragement Withheld?

Up to the present no definite reasons have been forthcoming as to the reason for the official refusals to grant licences. So far as can be seen, almost all the machines which were exhibited at Olympia comply with the requirements which were framed in the first case for four-wheelers, and it is feared that a good deal of the disinclination to consider the claims of the smaller and lighter vehicle arises from a desire to placate existing interests. If this is so, the situation is unfortunate, and it may take some considerable time before anything can be done. Nevertheless, even those who already own or drive taxi-cabs should be brought to realise that the sidecar has advantages which will appeal to all. The cost of running and the initial cost are proportion-

The Taxi-sidecar.—

ately less, in much the same ratio as the takings would be less than present receipts; therefore the profits on the business should be the same with less outlay and responsibility. The fact also that a machine can be hired at a much more reasonable charge would no doubt result in an increase of business, since the general public, especially business men and others to whom speedy transport is important, would not hesitate to charter the sidecar taxi, simply because the low price charged for its hire would not deter the economically minded. To those requiring a machine for several hours the question of low charges would have a special attraction.



Rex channel section chassis members also showing springing system.

The Required Specification.

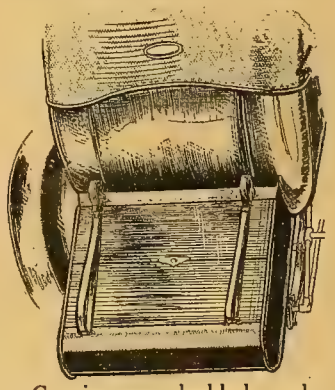
Turning to the actual details of such a vehicle it is unfortunate that there are no uniform regulations existing throughout the country, probably the majority of city councils pass their byelaws on the Scotland Yard requirements, but this does not always appear to be the case, and consequently a machine which is suitable for one town might require some modifications in another. At the same time it is believed that if one or two of our largest cities, such as London, Newcastle, or Manchester, would give a lead, the others would accept machines conforming to the specifications passed by them. It may be assumed, of course, that the following details will be needed in every case. Dealing with the machine in the first case, this must be of from 6 to 8 h.p. with gearing which will enable it to make a standing start with full load on a gradient of about 1 in 6 or 1 in 8; it must be capable of turning within a 15ft. circle, it must have two brakes, each one capable of bringing the machine to a standstill in a reasonable distance; and it must have detachable wheels, interchangeable with that of the sidecar, and a spare wheel must be carried. Electric lighting would be desirable, but in any case a light will be needed for the taximeter itself in addition to the normal lighting equipment required by law for all such vehicles. The sidecar will have to be capable of taking two adult passengers (a minimum width for the seating being usually specified). The body itself must be capable of being fully enclosed so as to be weatherproof, and the door must not be less than a specified width, with perfectly straight sides; the height of the hood must be such as not to prevent the driver from looking directly to his left when normally seated. The taximeter must be so placed that it can be clearly seen by the passenger, and it must be illuminated at night. In addition to all this, there must be reasonable luggage carrying capacity.

Present Position.

These requirements are by no means easy to fulfil, at the same time keeping the size and width of the outfit within reasonable limits, but an inspection of the various machines which are now available shows that in most cases the designers have met all these stipulations in a very satisfactory way.

Each manufacturer interested is doing his utmost to bring the claims of his particular machine before the notice of the licensing authorities, but, as before stated, little interest appears to be taken, if we except Nottingham, where the sidecar taxi was accepted some time ago conditionally upon its being run by ex-service men, and Birmingham, where at least one sidecar taxi is in commission. Bradford (Yorks.) and Guildford (Surrey) appear to be favourably disposed, while other places have the matter under consideration.

No doubt before anything can be done a wide appeal must be made, and the general public must make it known that there is a desire for this cheaper type of transport in our cities; business men who would largely appreciate the institution of sidecar taxi services could do much by bringing the matter before local Chambers of Commerce and similar bodies. Meanwhile the practical proof of the sidecar taxi outfit might be demonstrated by the inauguration of fleets available for private hire. If this is done, it can only be a matter of a little time before the hackney carriage regulations are modified, and the sidecar taxi accepted for universal use.



Campion spare wheel locker and luggage platform.

TAXI SIDECARS AND THE POLICE AUTHORITIES.

In order to ascertain the views of local authorities concerning sdecar taxis, we approached the chief constables of several cities, but their opinions are by no means unanimous. The taxi-sidecar is new, and before long may be generally recognised.

Sir,—In answer to your letter of the 13th inst., I have to inform you that the question of licensing motor cycles with sidecars has been before the Hackney Carriage, etc., Sub-committee on two occasions, but no decision has been arrived at, there not having been any applications before them.

F. CALDWELL,
Chief Constable, Liverpool.

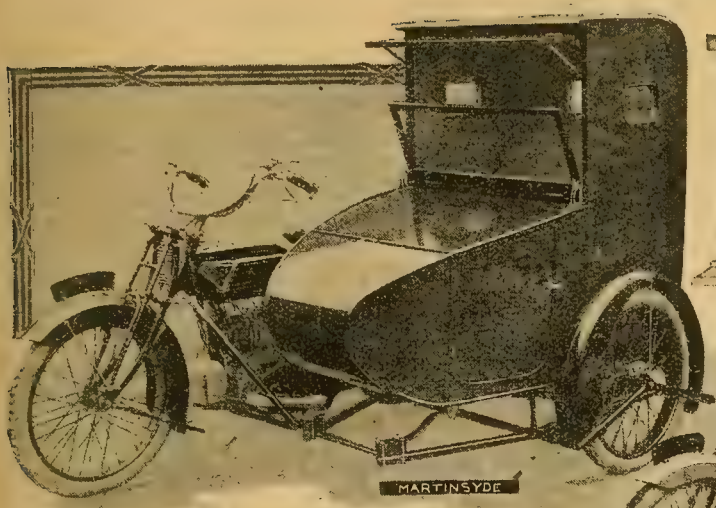
Sir,—Replying to your letter of the 13th inst., addressed to the Chief Constable, I beg to inform you that my Council has granted licences in respect of two motor cycles and sidecars to ply for public hire in the borough. A third licence was applied for by the same firm, but the Licensing Committee was not prepared to entertain any further similar applications for the present.

The Committee has not laid down any special specification in regard to such machines.

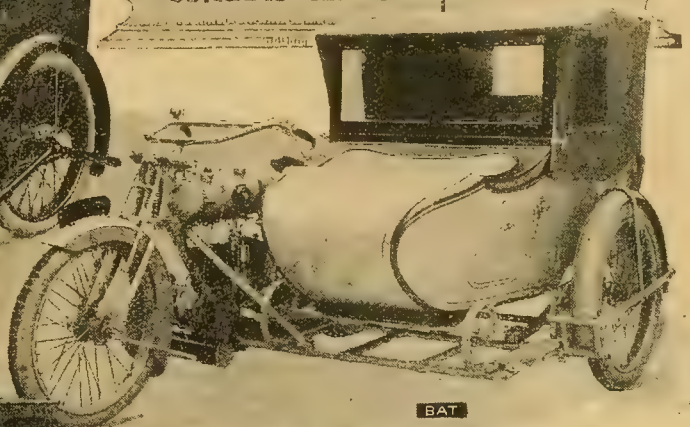
The two motor cycles in question are the design of the proprietors, who are two ex-Service officers, and the sidecars contain accommodation for two passengers.

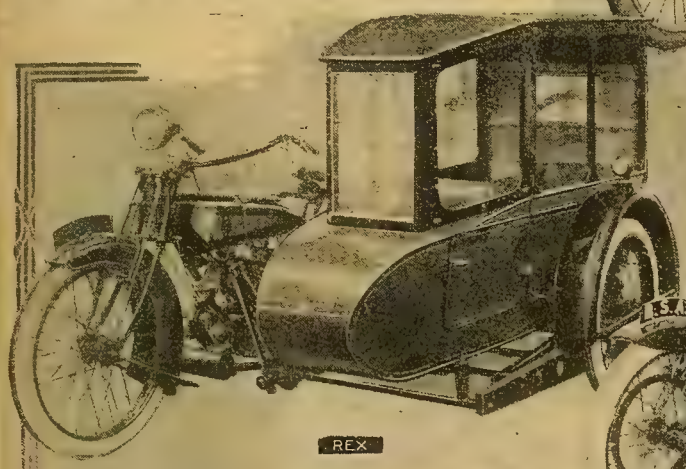
FREDK. S. HEX,
Town Clerk, Torquay.

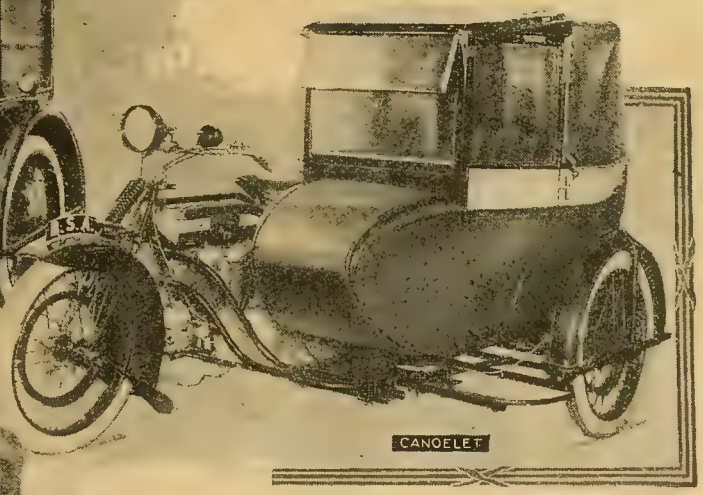
Examples of Two-Seater Sidecars designed primarily for taxi-service but suitable also for private use

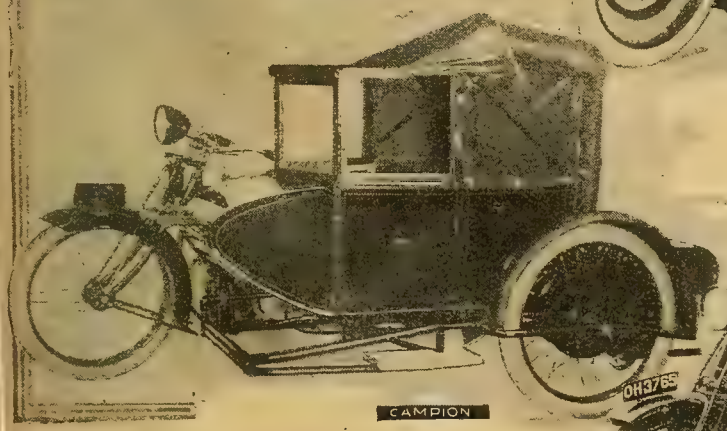


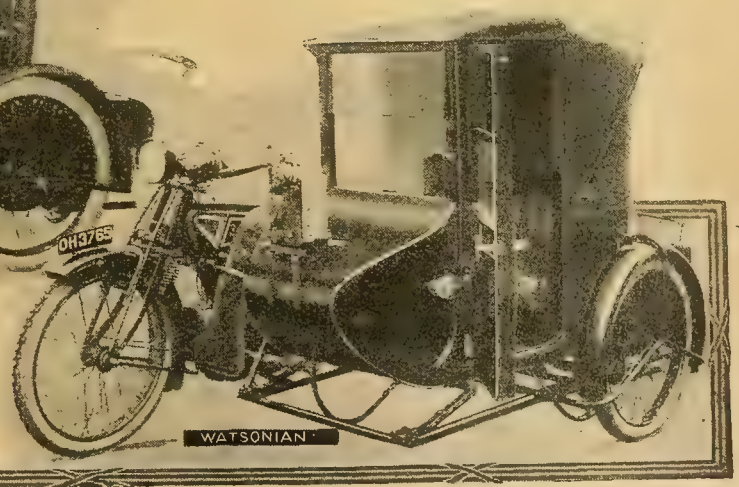
The Martinsyde body somewhat follows "hansom" lines, while the Bat has a hinged dash and Cape hood.











Rex taxi bodies have staggered seats and a permanent roof with detachable flexible "lights." Canoelet upper work is on convention cabriolet or taxi-cab lines. The Campion has a fixed screen with hood and side curtains, while the Watsonian is another follower of true taxi-cab body design.

The Taxi-sidecar.—

Sir,—Up to the present no application has been made to the Watch Committee for the licensing of a sidecar taxi in this borough. H. M. Haywood,
Chief Constable, Derby.

Sir,—The licensing of motor cycles with sidecar outfits as hackney carriages is under consideration here, but no decision has yet been arrived at.
J. B. Wright,
Chief Constable, Newcastle-on-Tync.

Sir,—I have to acknowledge receipt of your letter of the 13th inst. respecting the use of motor cycles with sidecars as hackney carriages, and to acquaint you that the Police Authority of this city has received a few applications for the licensing of these vehicles. It was, however, found by the applicants that the venture was not a financial success, and they ceased to use the vehicles for the purpose licensed. James A. Wilson,
Chief Constable, Cardiff.

Birmingham is Progressive.

Sir,—I have to inform you that the Watch Committee of the City of Birmingham, at its meeting held on the 6th October, decided to license cycle cabs to ply for hire, provided that the vehicles pass the necessary tests by the hackney carriage experts.
J. D. Griffiths,
Chief Inspector, Birmingham.

The Birmingham City Police has printed rules and regulations with respect to the licensing of motor sidecar taxicabs, from which the following are extracts:

"Motor cycle taxicabs must be new, and submitted for inspection in a thoroughly good condition, and no vehicle will be licensed unless it is certified by the experts appointed by the Watch Committee to be safe and fit for public use as a motor cycle taxicab.

"There must be at least four connections, of approved design, connecting the sidecar to the cycle.

"The cycle must be fitted with a countershaft gear box, and geared not higher than 5¼ to 1 or 5 to 1.

"All driving chains and sprockets must be protected by suitable guard.

"The tyres shall not be less than 700×80 mm.

"A spare interchangeable wheel, of approved pattern, must be carried.

"The sidecar must be of the landaulet or coupé type, and fitted with an adjustable hood that can be lowered.

"Measurements.

"Width on seat rail (inside of lining) ...	32in.
Top of cushion to floor	9in.
Top of cushion to roof	36in.
Cushion from front to back not less than ...	18in.
Door	18in.

"The body must be so fitted as to enable the driver to see over the sidecar. Adequate accommodation to enable each passenger to sit with ease must be provided.

"Ground clearance shall not be less than 5½in.

"Drop windows and doors must be constructed, so that they may be readily opened by passenger from the inside.

"Suitable steps must be provided.

"The windscreen and door lights are to be of Triplex Safety glass, or other glass that will not splinter, or of some non-inflammable material.

"A fire extinguisher, of approved type, must be provided and carried on each taxicab."

Under Consideration.

Sir,—I have to inform you that an application has already been made to run sidecar taxis in this city, and the matter is now under consideration. H. Allen,
Chief Constable, Leicester.

Sir,—There has been only one application made for a motor cycle and sidecar to be licensed as a hackney carriage, and it has been granted. There is no specification as to the suitability of the machine at present, but requirements are in course of preparation.
Josh. Farndale,
Chief Constable, Bradford.

Sir,—I am in receipt of your letter dated the 13th inst. respecting taxi sidecars, and have to inform you that I have brought the matter to the notice of the Watch Committee, who are the Hackney Carriage Licensing Department, but they do not anticipate adopting the use of the vehicles in question at the present juncture.
D. Webster,
Chief Constable, Wolverhampton.

Coventry's Requirements.

Sir,—(1.) I am willing to consider applications for the licensing of sidecar outfits to ply for hire on taxicab service.

(2.) Briefly, the cycle should be twin-cylinder-engined, from 6 to 8 h.p., free from vibration, and with a clean exhaust, and be capable of easy handling in congested traffic.

The sidecar should afford ample seating room for two persons, not necessarily side by side, fitted with hood and side protective screens.

The windscreens should be of "non-flam." celluloid or three-ply glass.

When the hood and screens are up both passengers should be able without difficulty to get into the sidecar.

There should be an efficient luggage carrier, and a spare wheel should be carried which will fit either of the wheels of the cycle or the sidecar, and be capable of being changed within a reasonably short time.

I have had one application, but neither the cycle nor the sidecar was suitable for such work.

(3.) Two manufacturers have shown me machines.

Both cycles were suitable, but the sidecars I have seen have not been quite what I should like.
Wm. Imber,
Chief Constable, Coventry.

Sir,—This matter is at present receiving the consideration of the Watch Committee.
F. J. Lemon (Lt.-Col.),
Chief Constable, Leeds.

Three Negatives.

Sir,—At a meeting on the 2nd inst. the Watch Committee of this city fully considered the matter of licensing motor cycles and sidecars as hackney carriages in Sheffield, when three applications were submitted, and it was decided that such vehicles should *not* be licensed to ply for hire as hackney carriages in this city.
J. Hall Dalwood (Lt.-Col.),
Chief Constable, Sheffield.

Sir,—I have to say that the Hackney Coach Committee has had under consideration the question of licensing motor cycles with sidecars for taxicab purposes, but has come to the conclusion that vehicles of this kind are not suitable for city work. R. Peacock,
Chief Constable, Manchester.

Sir,—So far no applications for the licensing of motor cycle and sidecar outfits as public hackney carriages have been received by me, neither am I willing to consider such applications. J. H. Watson,
Chief Constable, Bristol.

Nottingham Taxi Sidecars.

Sir,—I beg to inform you that on June 14th last my Watch Committee granted three licences for cycles and sidecars to ply for hire as taxi cycles, provided they were worked by ex-service men only. They are under the same regulations as for taxicabs.

The machines are 6 h.p. Campions, and the sidecars are built to carry two passengers.

The fares charged are 1s. for the first mile, and 8d. for each succeeding mile, with a proportion charge of 8d. for each succeeding proportionate part of a mile.

There is a taximeter fitted on the front of each sidecar in order that the passengers can read the distance they have travelled and the amount of fare due.

These cycles are giving every satisfaction to the public.
F. Brook (Lt.-Col.),
Chief Constable, Nottingham.

Current Chat

Times to Light Lamps.

Dec.	30th	4.27 p.m.
Jan.	1st	4.30 ,,
,,	3rd	4.31 ,,
,,	5th	4.33 ,,

Compliments of the Season.

The Editor and Staff of *The Motor Cycle* wish every reader a Happy New Year.

Car Practice.

Should we follow car practice? This point is discussed in an article on page 860.

Get Ready for Spring.

The present is a very favourable time, from the quick delivery viewpoint, for overhauls and renovations by the makers.

Oversize Tyres.

Tyres of a larger section than that standardised by the makers are becoming more popular every day. It must be remembered that the fitting of such tyres automatically raises the gear, although, strictly speaking, the numerical ratio remains unaltered.

Those Licence Card Holders.

A correspondent points out that licence card holders of apparently the same specification are offered to the public at prices ranging from 2s. to 10s. He demands an answer to the rather obvious why?

E.E.F. D.R.'s Reunion Dinner.

It is desired that as many as possible late D.R.'s of the Desert Mounted Corps E.E.F. attend the second reunion dinner on February 5th, 1921. Will all those not notified at the previous one, owing to the lack of addresses, please communicate with either of the following: Mr. J. G. King, 100, Bedford Road, Kempston, Beds., or Mr. D. R. Andrews, 90, Deansgate, Manchester?

Standardisation of the Foot Brake.

Last week we commented on an incidental objection to standardising the rear brake pedal on the right of the machine, as recommended by the A.C.U. Committee, viz., the difficulty of operating the kick-starter pedal simultaneously with the brake after a stop on an up gradient. Another point more inherent than incidental is the fact that thousands of machines are fitted with a brake acting on the belt rim, which is invariably on the left. Obviously, to take the pedal to the right in this case complicates and weakens the whole operating mechanism.

While You Wait.

To meet the convenience of motor cyclists desirous of becoming members of the A.A. whilst on the road, the road patrols have been authorised to enrol new members.

Wanted.

Owners of ex-W.D. machines, or rather of machines with W.D. type flat handlebars, are looking for a licence holder *that swivels*. Otherwise they will almost be confined to the number plate position.

Justice!

Last week a Bristol magistrate, in fining several motor cyclists for not having their machines properly lighted, inferred that a fine is heavier when a man attempted to save a day's wages by not appearing. In safeguarding his employment a man is therefore penalised.

Special Features.

SHOULD WE FOLLOW CAR PRACTICE?

THE TAXI-SIDECAR.

RENOVATING AN ILL-USED MORGAN.

Rumours.

It has been said that the author of "Home, sweet home" was an unsuccessful competitor in an early London-Exeter run. [When they went by coaches perhaps.—ED.]

The "Old George" at Norton St. Philip.

Illustrative of the keenness of our readers, several have pointed out that Norton St. Philip is in Somerset, and not in Wiltshire, as stated in *The Motor Cycle* of Dec. 16th. Incidentally, one correspondent recalls the interesting fact that the old George Inn under discussion was the resting place of Monmouth when marching *viâ* Frome to his last renowned, if disastrous, battle.

American motor cyclists have much colder weather to contend with than their British contemporaries, yet sidecar hoods and screens have not yet found favour. However, the passenger in this *National* sidecar appears comfortable enough, while the driver's "coon" coat is reminiscent of the early days of motoring in this country—a smart turnout nevertheless.

1921 Costs.

Petrol down—taxes up—but the motor cyclist who covers big annual mileages is all to the good.

Endorsements in the Future.

For the third time the Roads Bill was read and passed by the House of Lords on Tuesday of last week. An important amendment was agreed to, on the motion of the Earl of Lytton, providing that, if the owner of an endorsed licence has, for a period of three years, no offence recorded against him, he shall be entitled to a clean licence.

The High Cost of Living.

What with increased taxation, increased insurance rates, increased subscriptions to motoring organisations, licence card holders, etc., we are inclined to agree with the motor cyclist who thought of selling his machine in order to be able to afford these necessities—but has not.

THE MOTOR CYCLE

4d.

On and after the issue of January 13th, 1921, the price of "The Motor Cycle" will be 4d. instead of 4½d. as hitherto.

A small reduction in the cost of paper enables us to effect this slight change. We regret we are unable at present to lower the price to 3d., but the vast circulation (over 100,000 net) makes this impossible at the present cost of labour and material.

A further reduction in price will be made as soon as circumstances allow.

ILIFFE & SONS LTD.

An A.C.U. Innovation.

The A.C.U. are inaugurating a tennis club for 1921. We may shortly expect inter-centre matches, but there is no truth in the rumour that a tie for the team prize in the 1921 Six Days Trials will be decided by the "racket." In the last "Six Days" a maximum of only five marks could be lost under this heading.

Multi Plugs Increase Power.

Mr. G. H. Lanchester presided on Tuesday of last week at a Graduates' Section (Coventry) meeting of the Institution of Automobile Engineers. Mr. A. Hayward read a short paper on "Combustion" before fifty-two members, graduates, and visitors at the Foremen's Institute, Coventry.

Mr. A. P. Young, the magneto expert, commented upon some points raised in the paper, and stated that, in his opinion, turbulence in the combustion chamber increased the speed of pressure rise in the ratio of about 8 to 1 compared with the quiescent mixture. Referring to the advantages derived from the use of more than one plug, he instanced a test where a considerable increase in power was effected by the use of four plugs. The reduction of horse-power in an engine fitted with two plugs, with only one in use, was about 5%.

Reduction in Price.

On and after Thursday, January 13th, *The Motor Cycle* will cost you 4d. only.

Ultra Lightweights.

In next year's Six Days Trials a class replete with their new licences and holders on New Year's Day?

Next Year.

How many will appear on the road replete with their new licences and holders on New Year's Day?

London-Exeter-London.

There were 173 motor cycle and runabout entrants for last Monday and Tuesday's classic run to Exeter and back.

On Duty.

As we go to press the purr of a Scott and the distinctive note of a single from "down below" remind us that two of the staff have departed to see the London-Exeter Trial.

Re Keeping Ears Warm.

Despite a somewhat lamentable association with the super-knut, there is no doubt that fur-lined helmets are *the* cold weather headgear. Loss of dignity is preferable to frost-bitten ears!

Sidecar or Solo.

Although the confirmed sidecarist often dreads solo work on greasy roads, the true soloist is perfectly happy, and, strange to say, seldom skids, which proves that skidding is generally caused by lack of confidence.

New Models (?).

One would expect a printer's journal to be fairly free from compositors' errors; yet a recent issue of the *Printers' Exchange* contained a notice of "Pageot" and "Inadrant" motor cycles in an auction sale.

The Institution of Automobile Engineers.

The annual dinner and social evening of the I.A.E. graduates will be held on Saturday, 5th February, 1921. Tickets (single 15/-, double 21/-) may now be obtained from the hon. secretary, Mr. D. J. Macklin, 54, Malden Road, Acton, W.3. As the number is limited, early application is advisable.

The Price of Petrol in 1921.

Our readers will naturally rejoice at the fact that the price of petrol will be reduced by sevenpence a gallon as from January 1st. This is on account of the withdrawal of the petrol tax of sixpence on every gallon of spirit sold, and an extra penny the companies have been wont to charge for the expense of collecting it.

As to what the future price of petrol will be it is very hard to say. People have feared that as soon as the tax came off the price would go up, but, fortunately, this rumour seems to have no foundation. In fact, it has been suggested that the price may go down. While we sincerely hope that this will be the case, the controlling factor—the price of petrol in the U.S.A.—appears to be more or less stabilised at the present time, and no material change is yet indicated.

Notes on 1921 Taxation

TO THOSE WHO NOW OWN MOTOR CYCLES

Your new licence, which includes taxation, must be paid before January 31st.

This month's grace only applies to the first month of the working of the new Act.

TO THOSE WHO TAKE DELIVERY OF A NEW MOTOR CYCLE.

A licence, which will include numbers, must be taken out before the machine can be used.

The tax and licence will be:

- **5/-** for motor-propelled machines for invalids.
- **30/-** for a solo motor cycle under 200 lb.
- **50/-** for a sidecar outfit, the motor cycle of which is under 200 lb.
- **60/-** for a solo motor cycle over 200 lb.
- **80/-** for a sidecar outfit, the motor cycle of which is over 200 lb.
- **80/-** for a three-wheeled cycle car under 8 cwt.

The weights mentioned are unladen weights, *i.e.*, without petrol, oil, and equipment, which is not actually necessary for the machine to run on the road.

The licence card is square or circular, and must be carried on the machine in a water-tight holder in such a position that it may be seen from the near side of the machine in the daytime.

With a first licence for a machine the owner will be given a registration book, which is intended to be a record of the machine's life.

The new licence includes registration and taxation, but does not include the driving licence, which remains as before—5s. per annum.

If a machine is licensed as a solo mount, and it is decided to fit a sidecar, the owner must take out a fresh licence and hand in the one existing, paying the balance of 20s.

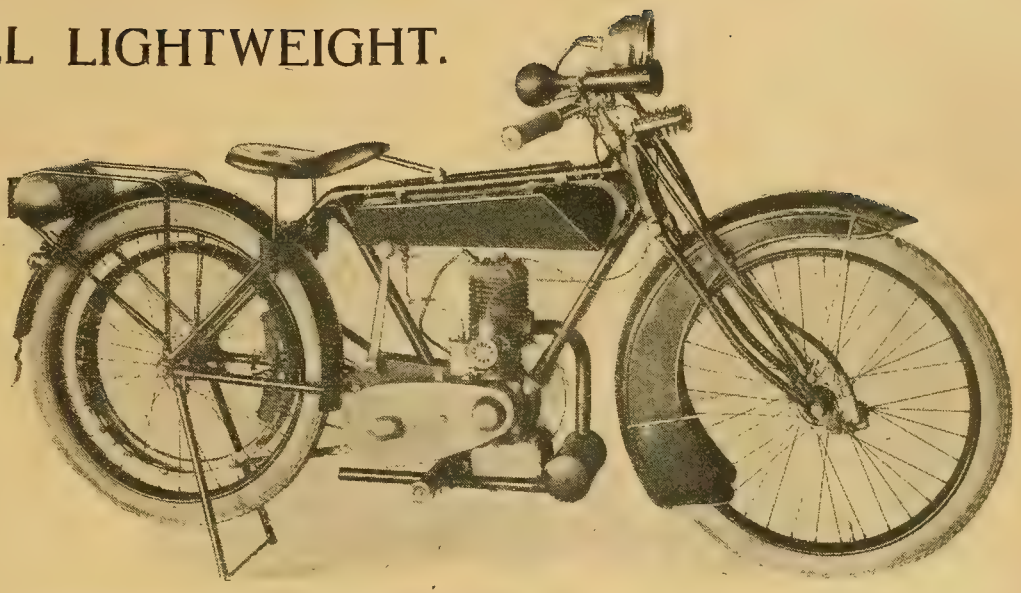
Taxation in future goes with the machine. The buyer of a second-hand motor cycle should see that the licence card is on the machine. He must sign the seller's registration book, and must see that the seller also signs as the "old" owner, who will then post it to the authorities with whom the licence was taken out.

DO NOT WAIT UNTIL THE 31st OF JANUARY!

A NOVEL LIGHTWEIGHT.

A Two-speed, Two-stroke, with Magneto Flywheel and Lighting Set for £60.

IT is quite refreshing to find a two-stroke which embodies several novel features. This, however, is the case with the 2¾ h.p. Hawker, a lightweight motor cycle intended for mass production and to be sold to the public at the low figure of £60. It will shortly be marketed by the H. G. Hawker Engineering Co., Ltd., Kingston-on-Thames, Mr. H. G. Hawker and Mr. T. O. M. Sopwith being the best known members of the company's board responsible for its production.



Produced under one roof, the new Hawker lightweight has more than the usual number of interesting points. Observe the rear top tube lug.

The ideas followed in building the Hawker have been cheapness of production, solidity, simplicity, and of course low weight, and we are assured that, without any special effort being made to obtain supreme lightness, the machine weighs but 165 lb., including all accessories and fuel.

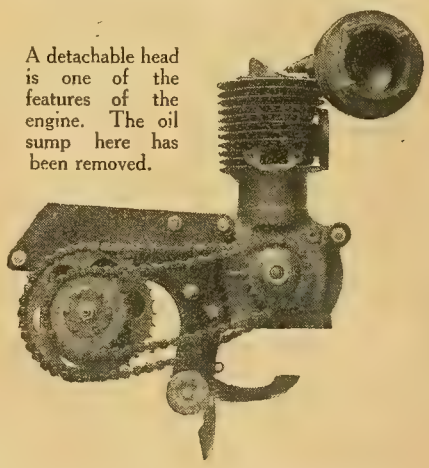
Accessibility.

The engine has a bore and stroke of 70×76 mm. (292 c.c.). Several novel features are incorporated in its design. The crank case and cylinder are in one casting, but on the flywheel side of the engine is a long main bearing which is supported in a circular disc, the removal of which gives access to the crank chamber and enables the crankshaft to be inserted. The engine is of the three-port variety, but experiments have been made in port construction, and it has been found that the V-shaped induction port gives better suction and renders the engine less liable to four-stroke. Another interesting feature is the casting of the transfer port in one with the cylinder, no separate cover to this being employed.

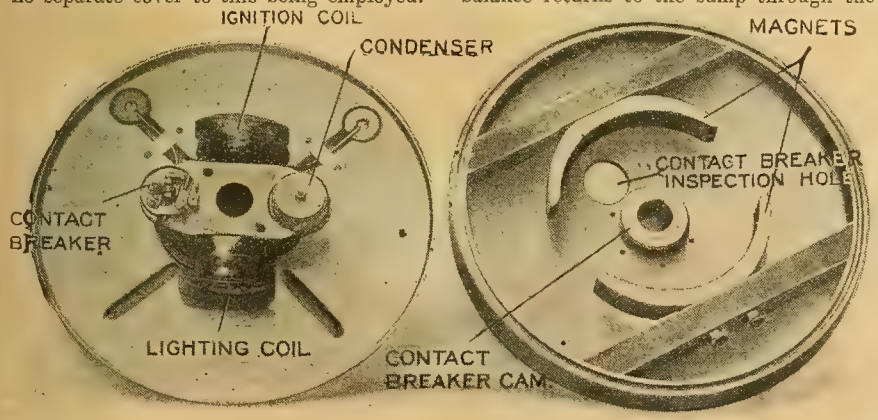
A simple type of carburetter is fitted, manufactured by the Hawker Engineering Co., Ltd., and so arranged that the air is controlled mechanically according to the throttle opening.

Quite the most attractive feature in the design of the Hawker engine is the lubrication system. A sump is bolted to the base of the crank case in which the oil is carried. When the piston descends there is naturally pressure in the crank case, and this is conveyed to the sump through the non-return valve. When the piston ascends there is suction in the crank case, but, owing to the closing of the non-return valve, which is of the simple disc variety, there still remains a certain amount of pressure in the sump, with the result that the oil is forced through the gauze filter into a hole registering with a passage drilled through one of the crank case webs and communicating directly with the drilled crankshaft. By this simple method we have forced lubrication through the crankshaft. Any excess of oil passes through the main bearing, lubricates the chains through drilled chain sprockets, and the balance returns to the sump through the non-return valve. The consumption of oil is 1,200 miles to the gallon, or 250 miles to the sump-full.

The cylinder head is detachable, and, when removed, it can be easily freed of carbon deposit, and sufficient of the piston is exposed to allow the top side of it to be cleaned without difficulty. Moreover, the use of a detachable head facilitates the cooling of the cylinder and prevents distortion.



A detachable head is one of the features of the engine. The oil sump here has been removed.



Details of the Hawker magneto flywheel.

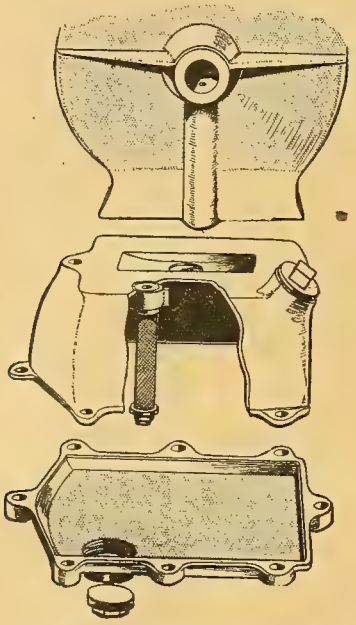
Flywheel Generator.

The ignition is by flywheel magneto, which is the subject of a patent. The flywheel is a steel stamping with a deep groove round its periphery engaging with a lip on a stationary aluminium disc, thus preventing foreign matter from entering. There are two armature coils, one above the flywheel centre, which serves to supply the current for the ignition, while the other, situated below the flywheel centre, supplies the current for the lamps. On the right of the centre is the condenser, and on the left thereof the contact breaker, which is actuated by

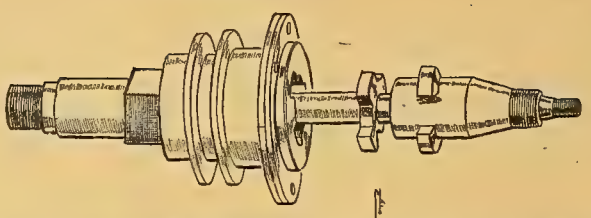
A Novel Lightweight.—

a cam on the exterior of the flywheel boss and is accessible through a covered port in the flywheel itself.

The engine is bolted into the frame in the usual manner, but the size of the engine plates is worthy of mention, as these serve not only to carry the engine but the gear box as well, the latter being supported by bolts running through longitudinal slots which allow the chains to be adjusted without interfering with their alignment. The gear box is of extremely simple design, as there are no internal wheels, but merely two chains, one for the high and one for the low speeds, the change of ratio being effected by means of a dog clutch in the gear box. A change speed lever is placed in such a position adjacent to the saddle tube that no undue force can be exerted when engaging the gears, as all that is necessary is quite a light pressure. Needless to say, both chains are enclosed.



Showing the lubrication system of the Hawker two-stroke engine. At the bottom is shown the base plate with drain plug in the centre. In the centre the main body of the sump is depicted with filter, filler cap on the right side, and the non-return valve in the centre of the trough into which the big end dips. The delivery to the crankshaft is indicated in the top illustration.



A simple gear arrangement. The dogs are inside the gear box, and there are no internal gear wheels, but two chains are employed to give the two ratios.

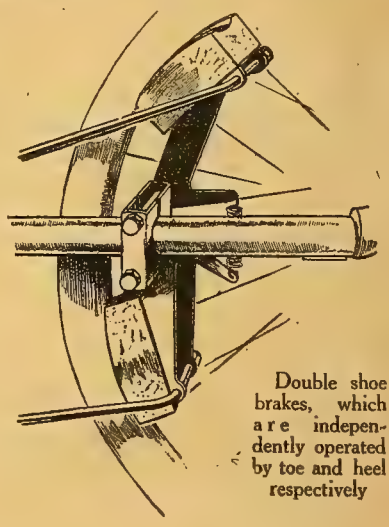
Double Shoe Brakes.

Two brakes are provided, and both are applied to the belt rim. They are constructed of stampings, and have a common take-off spring. Of these, one is worked by the toe and the other by the heel on the near side of the machine, so that in case of emergency both may be applied at once. Triumph type of forks are employed, while the saddle follows modern practice, being anchored at the peak to the top tube. Another interesting feature is the cylindrical tool case, situated at the rear portion of the carrier. It is fitted with a bayonet joint cover and is secured by a spring catch.

As mentioned before, the lighting of the machine is from the flywheel magneto, which gives excellent sparking at low speeds and a perfectly steady light at all reasonable speeds. It is intended to employ a dry battery for use when the machine is at a standstill.

Although it embodies several unorthodox features, the Hawker, in general appearance, is far from freakish; indeed, 26in. wheels and simple but symmetrical frame lines leave a machine that compares most favourably with the majority of lightweights in this direction.

The new Hawker is certainly the production of active motor cyclists: Mr. T. O. M. Sopwith has been a motor cyclist for the last seventeen years, and, though he has owned many cars, and, as all the world knows, was one of the pioneers in aviation, he has never forgotten his old love; the same remarks apply to Mr. Hawker. If it can be produced for the sum named, and we are assured that it can, the Hawker should be excellent value for money.

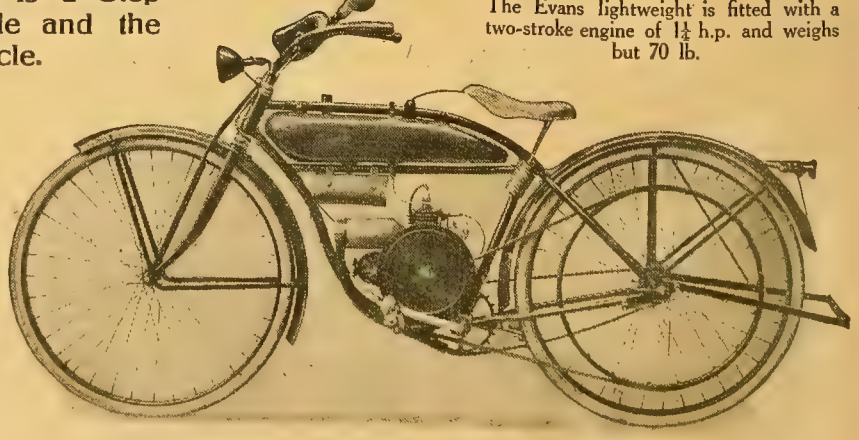


Double shoe brakes, which are independently operated by toe and heel respectively

An American 1¼ h.p. Lightweight.

The Evans Two-stroke, which is a Step between the Motorised Bicycle and the Conventional Motor Cycle.

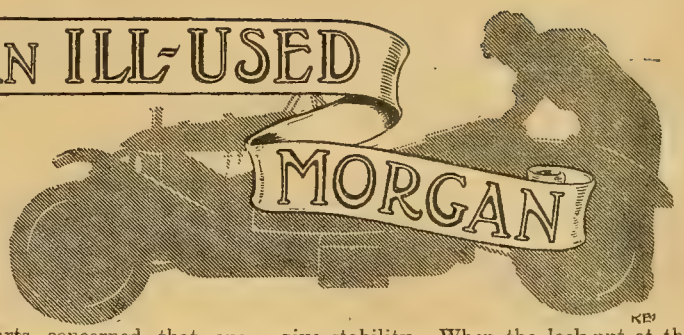
ONE of the lightest lightweights of recent years is the Evans, a sample of which we recently inspected at the showrooms of Messrs. Vivian, Hardie, and Lane, Ltd., 24, Woodstock Street, London, W.1. It is a complete motor cycle in miniature. The tiny engine of 1¼ h.p., which is of the two-stroke variety, is mounted low down in the frame. Behind the flywheel, which is a plain steel disc, is arranged the three-point chain drive driving the magneto and countershaft, whence the power is conveyed to the rear wheel through a ½in. V belt. The control is by one lever on the handle-bars, which releases the compression and also advances or retards the spark, and is the sole means of controlling the engine, no throttle being fitted.



The Evans lightweight is fitted with a two-stroke engine of 1¼ h.p. and weighs but 70 lb.

The machine is provided with a stand which flies up into position on being released, and the forks are of the rigid variety. It is interesting to note that the Berling magneto serves to illuminate the lamps. The machine weighs 70 lb.

OVERHAULING AN ILL-USED MORGAN



How an Amateur Mechanic rectified the Ravages of Time and Bad Treatment.

WHETHER or not there are many motorists to-day who would care entirely to overhaul a cycle car is a difficult matter to decide in view of present conditions; but one can be quite safe in saying that the experience gained in doing a job of this character is invaluable.

The machine in question was bought at almost a moment's notice, and without the possibility of making a previous examination, hence the decision to take the machine down entirely and make a systematic overhaul. Despite the work entailed, the ultimate cost of the overhaul was 50% lower than if the work had been carried out by a garage, as the cost of skilled labour was avoided, and, taking into account the bargain price of the machine in the first instance, a big advantage all round was gained.

Overhauling the Chassis.

At the outset the body, radiator, and engine were removed and put aside for the time being. The chassis was then mounted on a platform and stripped completely, the only parts not dismantled being the wire spokes of the wheels. With an old iron bath and a gallon of paraffin each part of the chassis was scraped, washed, and cleaned thoroughly, and then inspected for signs of wear and tear, and notes made for reference purposes.

The first repair job concerned the sliding mountings which carry the stub axles at the front of the chassis. The axle mountings had worn so badly that the front wheels leaned inwards instead of slightly outwards, and there was so much slack in the parts concerned that one could rock the forepart of the chassis sideways two or three inches, there being no measure of lateral stability whatever.

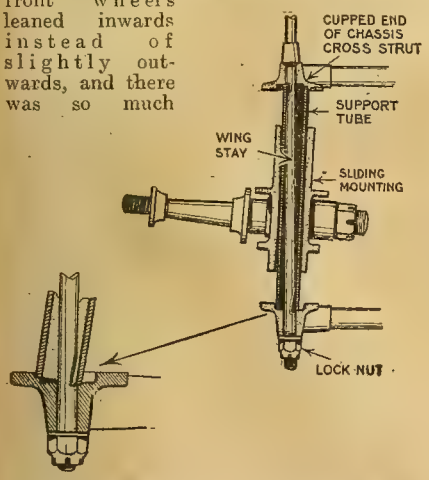


Fig. 1.—Through sheer neglect the supporting tube, carrying the front axle mounting, had worn in the chassis lugs and tilted over sideways. In the smaller sketch is shown how the supporting tube cuts its way into the wing stay.

The cause of the trouble is shown in fig. 1, where it will be seen that the stub axle is tilting upwards instead of slightly downwards. Investigation showed that the lock-nut at the bottom of the vertical wing stay had slackened off, thereby allowing the cupped ends of the chassis cross struts to spring apart slightly, and allow lateral movement of the supporting tube within the axle mountings. Still continuing the investigation, it was discovered that the tube in moving had cut into the wing stays top and bottom; and if the car had been driven many miles further, the tube, axle mounting, and wheel might conceivably have come adrift from the chassis. The subsidiary diagram in fig. 1 shows, on a larger scale, the manner in which the vertical tube had moved sideways and cut into the wing stay.

In the following account of an overhaul carried out by a private owner, it is desirable that four points are made clear.

(1) The machine was bought second-hand at a low figure.

(2) It had previously covered many thousands of miles and its wearing parts neglected.

(3) The runabout appealed to the present owner in view of the comparative cheapness of replacement parts, and simplicity of the chassis.

(4) The overhaul was undertaken privately to save expense.

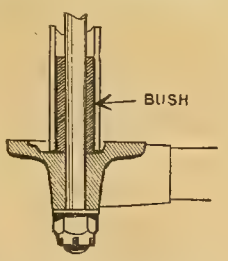


Fig. 2.—The remedy employed to realign the supporting tube of the front axle mounting with the wing stay by the aid of a bush.

New supporting tubes for the axle mounting were obtained, but it was found that they were slack in the ends of the chassis cross tubes, owing to the chafing and wear caused by the old supporting tubes; and another way out of the difficulty had to be evolved. New wing stays were purchased, and were found to fit tightly in the lugs of the chassis cross tubes. The new supporting tubes were then bushed to fit tightly on to the wing stays, as shown in fig. 2, the bushes being fully three inches long, in order to give stability. When the lock-nut at the bottom was tightened up, the two lugs at the ends of the chassis cross tubes were brought tightly down on to the supporting tube, but the latter could not move on the wing stay. This particular repair obviates the necessity of having new lugs fitted and brazed on to the end of the chassis cross tubes, and can be carried out with comparatively small expense.

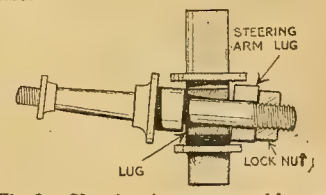
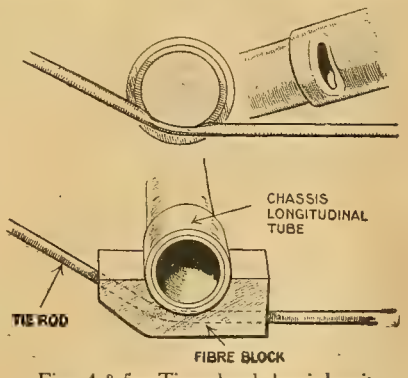


Fig. 3.—Showing, in exaggerated form, the tilting up of the axle in the lug of the axle mounting.

It was found that the stub axles still tilted upwards to a certain extent after this repair had been carried out on account of the lock nuts on the axles having shifted and the axles becoming loose, wearing the hole in the axle mounting to an oval (as in fig. 3). No amount of tightening of the lock nut would keep the stub axle firm, owing to the leverage exerted by the weight of the car on the stub axle. The only remedy was to rebush the lug in the mounting to take the axle firmly and without shake. Incidentally, it may be mentioned that the slackness and the rocking of the axle in the axle mounting had caused the end faces of the steering arm and the lug to wear badly; hence all these parts had to be scraped to fit again when the lug had been rebushed to take the axle.



Figs. 4 & 5.—Tie-rod and chassis longitudinal member before and after repair. In the upper sketch is shown how the tie-rod has worn through the tube, and in the lower illustration is depicted how a fibre block is interposed between the tube and the tie-rod.

Overhauling an Ill-used Morgan.—

The next item on the repair list was the inside cup of the ball bearing on one of the front wheels. The cup had become loose in the hub owing to maladjustment of the bearings generally. A new bearing cup did not fit tightly in the hub, and the only way to obtain a good fit was to take the whole wheel and mount it on the face plate of a big lathe and get the hub re-machined inside to take the cup in a new position. This repair was effected in a very short time by local machinists, but owing to the cup being fitted further into the hub (to the extent of ⅛in.), the outer dust cap of the hub fouled the axle, hence that part, in turn, had to be machined to clear the tip of the axle. This repair, incidentally, shows that alterations carried out on one's own initiative require careful planning.

A Useful Tip.

After the front wheels, axles, and mountings had been disposed of, the chassis was turned upside down, and the points of contact of the front tie-rod on the two longitudinal tubes of the frame examined carefully. It was found that vibration had caused the tie-rod not only to wear itself almost through at the point of contact, but an oblong hole had been worn in the longitudinal tubes also, as shown in fig. 4. Under the circumstances, the best repair was effected by obtaining a fibre block distance piece, 1½in. broad, and having it machined to fit snugly against the tube with a fairly large bearing surface. The outer face of

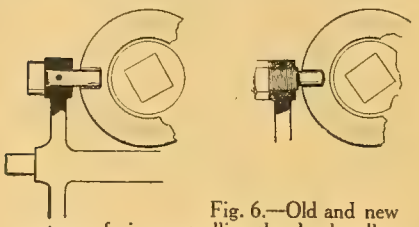


Fig. 6.—Old and new systems of pins controlling the clutch collar.

the block was then grooved carefully to take the tie-rod, as in fig. 5. These blocks were made for both points of contact of the tie-rod on the frame.

Clutch Withdrawing Collar.

In the machine in question, the fibre collar withdrawing the clutch is controlled by two cross pins in a pivoted fork. These pins are a "push-fit" in the arms of the fork, and are locked by a split pin (as in fig. 6) in each case. Owing to wear of the pins in the arms, these parts were scrapped and two bolts substituted with lock nuts; the bolts have the threads turned off for ⅜ths of an inch at the end to fit snugly into the holes in the clutch collar. The advantage of the bolts over the plain "push-fit" pins is that they can be screwed in, or out, to obtain a nice floating fit in the clutch collar without binding, and once they are locked by the nuts they cannot move in the arms of the clutch fork.

In a test run before the car was taken down for overhaul a certain amount of front wheel wobble was manifest, and was accentuated by the direct steering system of the Morgan. All the pins were renewed where necessary, but should any reader undertake this work

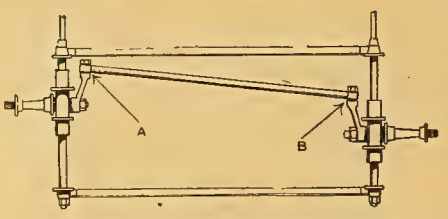


Fig. 7.—How the steering tie-rod moves out of the horizontal position when one stub axle rises higher than the other.

on a Morgan it must be remembered that a very small degree of slack must be left in the steering pin joints, owing to the difference in vertical movement that may occur between the rise and fall of the stub axle mountings when on the road. This movement will be seen more clearly on reference to the diagram, fig. 7, where it will be observed that when, for instance, the left-hand axle rises and the right-hand axle stays in its normal position the tie-rod moves out of parallel, and is, therefore, inclined to bind on the steering pins A and B.

Attending to the Gears.

Having seen that the engine bearer plates are true and not distorted in any way, attention was then directed to the rear of the chassis, and, in particular, to the gear box, rear forks, back axle, and chain transmission. The ball bearing on the propeller-shaft behind the bevel pinion was found to be very badly worn, and allowed the pinion to withdraw out of engagement with the crown wheel. The gears, in these circumstances, were comparatively quiet, but the bearing had in any case to be renewed, which resulted in the bevels going back to their original or correct position of engagement, and, since the teeth of the wheels engaged with each other in a new area of contact, they became very noisy on trial when the machine was again on the road. This noisiness, however, disappeared after a time when the bevels had become worn in their new position. All the chains and sprockets were worn, but as the low gear is seldom used on a fast and powerful little vehicle of this type, only the high gear chain and sprockets were renewed.

Inspection of the forks showed that the machine, at some time or other, must

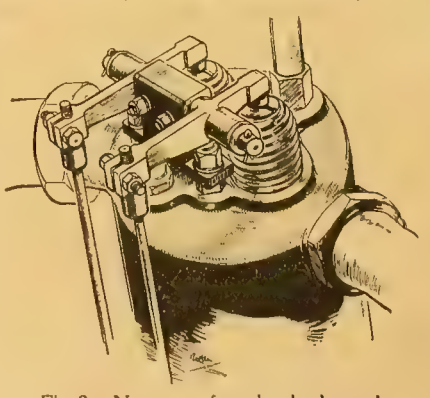


Fig. 8.—New type of overhead valve rocker gear fitted to the 90 mm. bore J.A.P. engine. Each pair of rockers is mounted on a cross pin in a single fulcrum post.

have had a violent skid, which ended in the back wheel striking an obstruction a very heavy blow, the force of which twisted the forks and bent the back axle. The forks were taken out, heated up, and restraightened, and a new back axle substituted, care being taken to see that the two ball bearings in the rear wheel hub fitted properly.

Lateral Stability of Rear Wheel.

It may be a hint to the lesser experienced Morgan owner to know that the lateral stability of the rear wheel almost entirely depends upon the good fit of the hinge pin in the forks in the gear box. If this pin is loose in the forks, or is likewise loose in the gear box, then twisting, or rocking, of the rear wheel will result, with diminished stability on the road. In the writer's machine very great care was taken to see that the hinge pin was locked hard in the bosses in the gear box. The damage to the rear forks mentioned above also had the effect of twisting, or distorting, the leaf springs above the forks. The opportunity was taken at the time of the overhaul to see that the springs were replaced in alignment and engaging correctly with the shackles pivoted to the forks near the rear axle.

The Engine.

In overhauling, the engine was taken as a separate unit, and all the work done on the bench. The cylinders were rebored, and new pistons and rings fitted by the

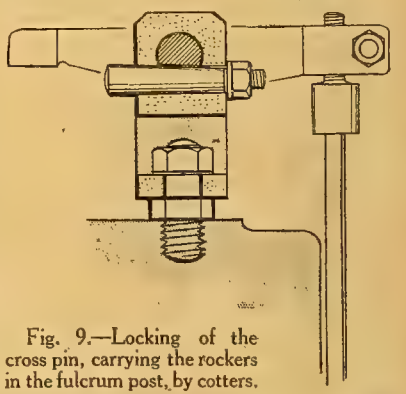


Fig. 9.—Locking of the cross pin, carrying the rockers in the fulcrum post, by cotters.

makers, and the valves and guides were also renewed. At the time, replacements for the standard J.A.P. overhead valve rockers, fulcrum posts, etc., were impossible to obtain, so a complete new set of rockers, fulcrum posts, and tappet rods was designed on a new basis and made to order. A single steel post, held to the cylinder head by two studs, supports a pair of inlet and exhaust rockers by a single cross pin, which is held in the fulcrum post by two cotters and nuts. At the tappet rod end of each rocker is a cupped bolt, which engages with the ball head of the tappet rod, and this bolt is secured in position by the split end of the rocker and a locking bolt and nut, as shown in fig. 8. All the parts are made of steel and case-hardened, and on the end of each valve stem is fitted a hard steel cap to eliminate wear likely to be caused by the movement of the rocker. The adjustment of the valve clearance is effected simply by loosening the nut on the locking bolt at the outer end of the

Overhauling an Ill-used Morgan.—

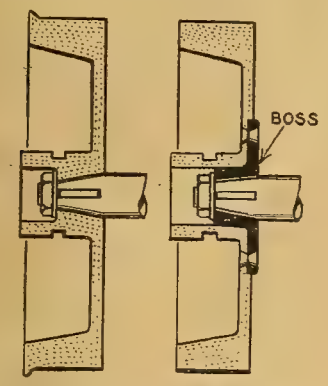


Fig 10.—(Left) The flywheel mounting in its old state. (Right) Rebossed to run true on the crankshaft.

rocker and adjusting the cupped bolt over the tappet rod, relocking the assembly afterwards.

In fig. 10 is shown the flywheel before and after repair. As the flywheel was originally out of truth on the crankshaft, it was decided to machine it in the hub to fit on a steel flange, which, in turn, was machined to fit on the tapered end of the crankshaft. As the flywheel and the new boss were machined very accurately, the flywheel ran dead true with the crankshaft, and, in order to prevent movement, the flange of the boss was riveted to the flywheel, as shown in the diagram. The necessity for truing the flywheel was due to the fact that if the wheel ran otherwise both the clutch and the propeller-shaft would run out of truth and vibrate at speed, making a smooth engagement of the clutch extremely difficult.

In assembling the engine, great care was taken to obtain a good fit in the joints in the crank case, cam box, and at the lower end of the cylinders, for the reasons that an oily engine, in the first instance, is not a pretty sight; and, secondly, oil leakage is expensive, in view of the cost of lubricating oil these days. The paper gaskets between the cylinders and crank case, and behind the cover of the cam box, were very carefully cut to shape, having no kinks or damaged spots in the paper.

Bodywork.

After the engine and chassis were assembled complete, the body was turned upside down on trestles and given a thorough wash with the water hose and brush. The object of inverting the body was to dislodge the accumulated dust and dirt in the small corners inside the body, and the cushions were removed before the operation was begun. On the body being secured in position on the chassis, it was considered advisable to reinforce the security of the tail to the main part of the body, to make it suitable to carry an extra load occasionally. Three bolts were fitted between the lateral board inside the tail and the back of the seat, as shown in fig. 11, and any tendency for the tail to droop is resisted by the bolts in that position.

In the final tuning up of the machine a good deal of trouble was taken in the adjustment of the chain transmission and brake gear. Owing to the difference in the centres between the rear axle and the fork hinge pin and the countershaft respectively, the forks move through a smaller radius than in the case of the chains, as illustrated in fig. 12. If the car is jacked up under the gear box, and the chains adjusted with the forks drooped and the rear wheel off the ground, then, on the car being jacked down to the ground again, it will be found that the chains will be too tight for running. The better plan is to adjust the chains with the rear wheel on the ground, with the forks nearly horizontal and the rear springs normally loaded.

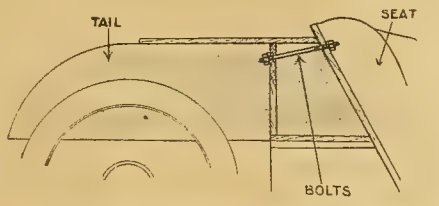


Fig. 11.—Bolts fitted to give extra security to tail on the rear part of body.

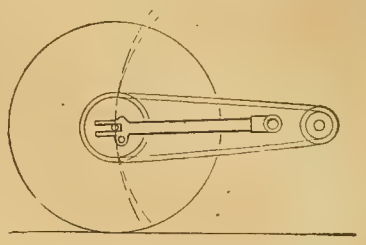


Fig. 12.—Diagram indicating the difference in radius between the fork, hinge pin, and the countershaft respectively, with the rear axle.

In regard to brakes, the efficiency of the grip of the brake bands on the drums was affected considerably by the position of the clamps on the rear fork arms carrying the fulcrum pins of the brake levers. In fitting the brakes, the position of the clamps was selected with care, in order to give the most powerful leverage of the brake arms, and, at the same time, to obtain due clearance for the brake bands on the drums in the "free" position.

In conclusion, it may be said that an overhaul of this description appeals perhaps only to a mechanically-minded and painstaking person. The saving in cash is an important point, however; and, in the case of the present machine, the total cost of the entire outfit, with new replacements, amounted to less than an everage second-hand sidecar outfit.

Adequately attired, there is real pleasure in winter riding, especially when the country is cloaked in snow.

NEXT YEAR'S SIX DAYS TRIALS.

All Motor Cycles over 350 c.c. to have Sidecars. New T.T. Regulations.

SOME interesting news came to light in the course of the Auto Cycle Union general meeting, held at Cambridge, and referred to briefly in the issue of the 23rd inst. The affiliation fees have been revised, and now stand as follows :

Div. A. 1s. 6d., Div. B. 10s. 6d., Div. C 15s., of which 6d. is to be remitted to the Centre in the case of fees paid in respect of members of a club within that Centre.

The most important announcement which we have to record is that referring to the Six Days Trials, which in 1921 will be run on entirely novel lines, so transforming the trial that it will be different from anything the A.C.U. has done before. No freak hills and no freak surfaces will be included. The following resolution was passed :

1. That a trial of at least six days' duration, to be carried out on a revised system of marking in which running cost shall be an important factor, is advisable and necessary for the further improvement of the modern motor cycle, as a demonstration of its reliability and for the encouragement of the sport and pastime.

2. That for 1921 the trial should consist of a preliminary examination and certain eliminating tests at Brooklands, the latter commencing on a Monday, and that the remainder of that day should be spent proceeding to a point "B," Tuesday from point "B" to point "C," Wednesday out and back to "C," from "C" back to "B" on Thursday, and on Friday from "B" to Brooklands, where certain final tests would be carried out, Saturday being reserved for the final examination.

3. That the tests at Brooklands should consist of :

(a) A preliminary high-speed reliability test of from about four to eight laps at minimum speeds, incorporating a test of mudguarding by running over a prepared surface each lap.

(b) A top gear slow running test down the "straight," followed by an ascent of the test hill.

(c) A silence test by audiometer and observation during *(b)* above.

(d) If found practicable, a test of springing.

(e) A brake test on the Friday, such test to be for each brake separately, and, if practicable, for both brakes together.

(f) A final high-speed reliability test of twenty-five laps at minimum speeds, followed by an examination for oil retention.

4. That by means of a special staff detailed for the work, a petrol and oil consumption test of each motor cycle for the whole distance of the trial should be made.

5. That all motor cycles of over 350 c.c. should be required to be fitted with sidecars.

6. That it would not be in the interests of the manufacturers or buying public to test the solo and passenger classes separately.

7. That having regard to the tests outlined above, and the suggested increased severity of the schedule of marking, the severity of the road portion of the trial should be reduced as compared with previous Six Days Trials.

8. That lightweights should be encouraged, particularly having regard to the revision of taxation, and that a class or classes should be instituted for motor cycles with a laden weight not exceeding 200 lb. It was suggested that the less severe road test would make it possible for lightweights of the scooter type to compete, and that entries of such should be encouraged under this heading.

There was considerable discussion concerning the advisability of granting permits for speed trials, and it was eventually agreed that before a permit was granted the organisers should guarantee that the safety of both the competitors and spectators should be ensured. It was also decided that the winners of both Junior and Senior T.T. Races, and all those entrants finishing within thirty minutes of the winner's time, should be transferred to the expert class without further qualifications, and that all other entrants finishing the course within the time limit for their respective race should be credited with a "first."

The new and recently amended international silencer regulation will be adopted in the T.T. if passed at the next F.I.C.M. meeting in Brussels. It reads as follows : "All motor cycles taking part in any competition must be fitted with an efficient exhaust system, as may be required by the rules governing such competition, but in races a free exhaust may be permitted. In all cases the exhaust gases must be so ejected as not to raise dust, or otherwise be dangerous to a competitor. Uncovered exhaust ports in the walls of the cylinder are forbidden in all competitions."

It was suggested that the following regulation should be added to the A.C.U. competition rules : "All racing motor cycles must be fitted with at least one brake operating on the rear wheel, which should be capable of bringing the machine to a standstill should any part of the transmission become inoperative." Submitted to the General Committee, this proposed regulation met with considerable opposition, Messrs. W. H. Wells and Harry Reed taking strong exception to it. The matter was therefore referred back for further consideration by the committee.

The number of open competitions already sanctioned, namely, twenty, has been increased to thirty.

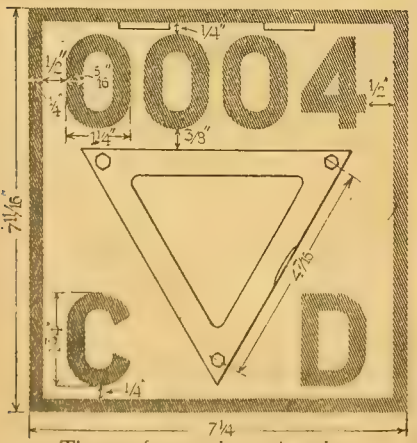
TRADE NUMBER PLATES FOR 1921.

Details of the Regulation Plates for Trade Purposes.

UNDER the new system of taxation and licensing, the existing arrangement of trade number plates is annulled, and in its place will be substituted a new scheme in which a trade licence will be embodied in the plate. The following extracts from the Memorandum issued by the Ministry of Transport are of interest to manufacturers and dealers :

"Under the new system a manufacturer or dealer may obtain from the county council (or county borough or burgh council) in whose area his business premises are situated an annual licence for the sum of £10, which will be applicable to any vehicle, or a licence at the annual rate of £1 10s., which will be restricted to any vehicle of the 'cycle' class, which class includes all vehicles with not more than three wheels, and not exceeding 8 cwt. in weight. Any such licence, however, only entitles the owner to have one vehicle upon the road at any one time for a prescribed purpose. Applicants may take out such number of these licences as they may reasonably require.

"Any such licence must be carried on the front number plate of the vehicle in use."



The new front trade number plate

A large front number plate bearing a triangular licence card holder will be compulsory, and will conform to the following specification :

Licence Holder.

"The form of holder must be of metal and of weatherproof construction. It must be triangular in shape, and conform to the measurements specified hereunder :

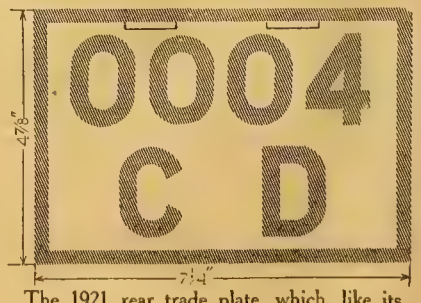
"The plate to be painted with two coats of good oil paint and a finishing coat of enamel paint of a pure white colour. The plate to be drilled with three $\frac{3}{16}$in. clearance holes, in the positions shown on the accompanying drawing, suitable for attaching the licence holder to the plate with $\frac{3}{16}$in. metal bolts. The holes to be drilled to the same template as that used for the licence holder.

"The figures and letters and a $\frac{1}{4}$in. border round the edge of the plate to be painted a signal red colour.

"To be flat and rectangular in shape, $7\frac{1}{4}$in. in length and $7\frac{1}{4}$in. in depth.

"Two rectangular slots, 1in. in length and $\frac{1}{8}$in. in depth, to be made in the plate as shown on the accompanying drawing, and to be suitable for attaching the plate to the motor cycle by means of straps or otherwise."

The rear plate must be of similar construction but without the licence holder, and should measure $7\frac{1}{4}$in. in length and $4\frac{7}{8}$in. in depth.

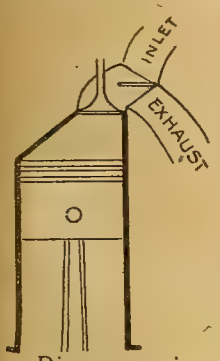


The 1921 rear trade plate, which, like its companion, is to be red on a white ground.

An Unusual Valve Gear.

A Single Compression-retaining Poppet Valve acts in Conjunction with a Distributing Flap Valve.

MODERN valve gear, particularly side-by-side valve gear, is, like the sidecar, something of an anomaly. Theoretically it is often most inefficient, but, practically, it appears to function extremely well indeed. However, there is no doubt that valve efficiency can be improved; the problem lies in making this improvement without impairing reliability.

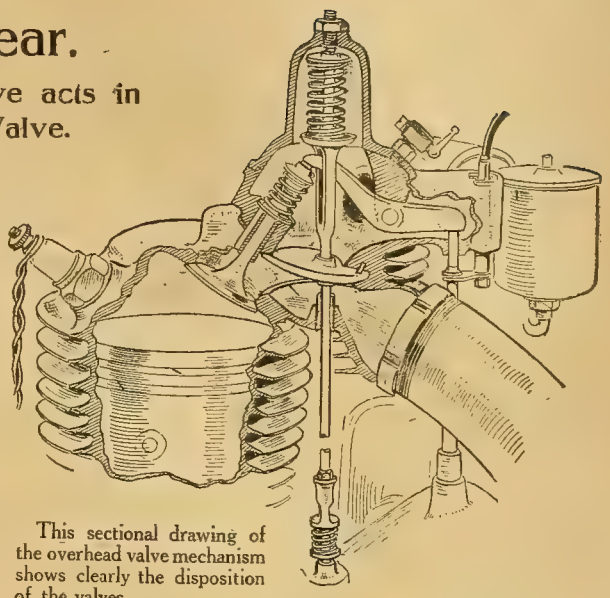


Diagrammatic arrangement showing the flap distribution valve.

The design we illustrate, adapted to a Rudge, necessitates an entirely new cylinder head, giving approximately a hemispherical combustion chamber, into which is set at an angle a large overhead poppet valve. A flap valve, pivoted at the fork of the inlet and exhaust passages, oscillates in turn on seatings on these passages, and thus acts as a distributer. A cam-actuated push or tappet rod engages in a ball socket underneath the flap valve, while above the valve is another rod similarly fixed and held down by the main spring, which, of course, does not need to be of excessive strength.

The action is simple. The main valve remains open approximately all through the exhaust and inlet strokes, while the flap valve changes over from the inlet to the exhaust seating at the correct moment for the induction stroke.

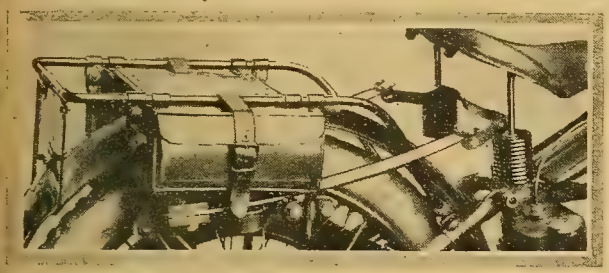
Among the advantages claimed for this design are totally enclosed operating mechanism, free gas passages, efficient combustion chamber, and a slow operating main valve which permits (1) a larger valve, (2) a greater lift, and (3) a weaker spring. Also the wasteful exhaust valve lifter is abolished, for, as may be gathered from the drawing, the action of lifting the main valve for starting does not nullify the effect of the induction stroke.



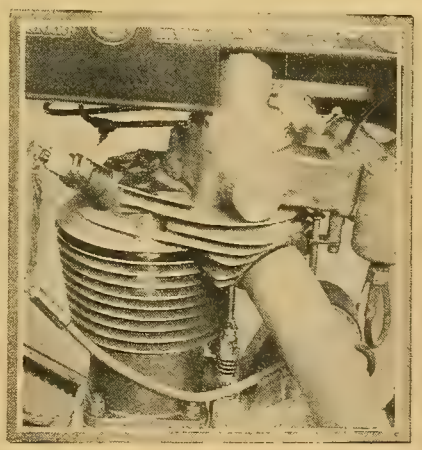
This sectional drawing of the overhead valve mechanism shows clearly the disposition of the valves.

Improving the Suspension.

The converted Rudge of the inventor (Mr. W. A. James, 115, Rosebery Road, Muswell Hill, London, N.10) has another interesting feature. This consists of a spring saddle pivoted in front and carried on two long leaf springs attached to the carrier in the rear. A short run on the machine demonstrated the efficiency of this springing system. The engine also appeared to pull remarkably well, though, without further tests, it would be impossible to give an idea of how much improvement has been effected by the valve gear. We are informed that these devices are fully patented by the rider who has carried out the conversions on his own machine.



An arrangement of leaf springing which obviates the use of a saddle-pillar. The front of the saddle is pivoted on to the frame.



External view showing the enclosed valve mechanism which is fitted on to a Rudge engine.

ALUMINIUM NUMBER PLATES.

IT is a long time since we inspected neater number plates than those supplied by Mr. Thomas-Taylor, Green Lane, Wolverhampton, for a Sunbeam motor cycle in our possession.

The rear plate is a solid aluminium casting, and the letters and figures are most clearly defined. The marks in question are riveted on to the plate, the rivets being solid with the letters and figures, and cast so that they are invisible in the finished article.

The front plate is provisionally patented, the difficulty at first being to get the steel plate at the bottom suitable for fixing on the lugs of any make of machine. The patented method of fixing overcomes this difficulty.

There is no seam or joint along the top, and the result is a really excellent job, calculated to enhance the appearance of the smartest motor cycle on the road. Motor cycle sets cost 21s. postage paid, and a point is made of the fact that the finished plates can be despatched the same day as the order is received.

A set of number plates remarkable for their fine finish.

A NEW PLUG.

A NEW plug, which, it is claimed, will never soot up, is the Automatic, sold by the Alterna Cycle Light Co., 89, Farringdon Street, London, E.C.4. Its chief peculiarity is the loose sparking points on the central electrode, which are free to turn or slide up and down.

The Automatic plug.

The Editor does not hold himself responsible for the opinions of his correspondents.
All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

ANOTHER IDEAL.

Sir,—My ideal motor cycle would be a B.S. Norton with the standard wheelbase, fitted with a light, strong gear box, clutch, two speeds, foot controlled change. I think the best ratios would be 4 to 1 and 5.75 or 6 to 1. Chain drive would be employed with a simple, securely fastened guard over each chain. Such a machine should be super-excellent for speed, handiness, riding comfort, control, and simplicity. Doubtless other readers have somewhat similar tastes.

Stamford. P.F.C.

TENNIS FOR A.C.U. STAFF COMMITTEE.

Sir,—I thought that a good many of your readers might be interested to know that the Staff Committee of the Auto Cycle Union has decided to inaugurate a tennis club, to commence with the 1921 season. This project has been enthusiastically received, and the chief problem at the moment is to secure the use of a suitable ground in the suburbs of London. Should any readers of *The Motor Cycle* know of such facilities they would greatly oblige by communicating with the writer.

P. A. EYLES,
Staff Sports Hon. Sec., Auto Cycle Union.

London, S.W.1.

"IXION" BLUSHES!

Sir,—I have just finished reading "Motor Cycle Reminiscences," by "Ixion," and can thoroughly recommend the book to all readers, whether motor cyclists or not. It is an excellent history of motor cycles from the day of their birth to the present time.

There is no dry technical reading: just a story, excellently written, of how the motor cycle emerged from its dark prehistoric days into modern times of efficiency and fame.

The author, apart from giving an interesting sketch of the trials of various types of engines and machines in the early days, keeps the reader amused by recounting his own experiences on these "early monstrosities and contraptions." To read some of these experiences (and there are many) is as good as a tonic.

The book is written by one who has had practical experience of motor cycling since its birth, and who has been closely associated with the movement throughout.

"Ixion" needs no introduction to the motor cycling world. I congratulate "Ixion" (whatever his real name may be) on this masterpiece, and hope that all motor cyclists will read this interesting and humorous volume.

Edinburgh. LEA-FRANCIS.

A JOINT CRITICISM.

Sir,—As two keen motor cyclists, we have perused your "Show" copies with much interest, especially the criticisms of Olympia.

There is one small point at Olympia, however, which particularly impressed us—the effort necessary to declutch on the various machines with hand-operated clutches—a detail, we admit, but a point of importance on long runs. Among the easiest were the B.S.A., the 4 h.p. Blackburne (Burman), and the 3 h.p. Royal Ruby—in fact, the last-named was so light that we wondered if the full number of springs was in use.

There was also a large number of machines of the *de luxe* type, which, although fitted with detachable wheels, had to have a speedometer pinion on each wheel. Surely if the A.J.S. people can do without these superfluous pinions other makers can do so. Also what a tremendous number of machines had not got the speedometer drive complete, the driving pinion being missing. If a manufacturer cannot attend to a small point like this for a Show machine, he certainly cannot be trusted to attend to the small details in the ordinary way.

We wonder if the tyre manufacturers will ever realise the need for a decent motor car valve instead of a push bicycle one, which breaks so easily? CD 5510.

Worthing and Hove. BY 7148.

THE CASE AGAINST THE HAND PUMP.

Sir,—I was interested to read the remarks on motor cycle lubrication in your paper by "Criticus." My experience bears out his statement that the average motor cycle engine is over oiled half its time, and under oiled the other half. I am riding a 4 h.p. single cylinder engine, made by a well known firm. It is fitted with the old-fashioned hand pump, and though I have much admiration for this make of motor cycle I think it is a pity that it should stick to such a method of lubrication.

My objections to it are, the alternate over and under oiling which first floods and then starves the engine, the risk of seizure because so much is left to the judgment of the rider, excessive carbonisation, the awful waste of oil, and the difficulty of starting.

I should be glad to know what there is to be said in favour of the hand pump system, because a few makers, and those not amongst the least important, are still relying upon it. They must have a reason.

V. D. WOOD.

A POST-1921 IDEAL.

Sir,—I am glad that "Sigma" (December 16th) appreciates the Scott. It is decidedly surprising, however, that he asks for air-cooling and an orthodox frame, for it is usually admitted nowadays that the great success of the Scott is due very largely indeed to its water-cooled engine and properly designed frame. As far as the frame is concerned, the Scott still remains the only machine (excepting perhaps the Cotton) which is not primarily a push cycle with engine added. I am not maintaining that orthodox frame design has not improved immensely, but the general truth of my statement will not be denied. With regard to the water-cooling, I feel strongly that for the Scott Company to revert to air-cooling would be a retrogression.

My own 1912 Scott I would not exchange for any other machine on the road, unless it were a 1921 Scott. I admit I am an enthusiast, and keep my machine in good tune.

My experiences have shown me that for consistently good averages over hilly roads, there is no solo machine to equal the water-cooled Scott. And mine, I must emphasise, is a nine year old model.

My one big point of criticism is this. I feel that the Scott would be greatly improved by a three-speed gear.

The present gear is delightful, and the foot-change ideal, but a middle gear, though difficult to design, would be a great advantage.

And another point. When the Scott Company adopt the shaft drive we shall have the perfect solo mount.

N. WILLIAMS.

THREE-INCH TYRES ON THE CLEVELAND.

Sir,—In reply to "Ixion's" query *re* experience of the 3in. tyred Cleveland, I have been riding a Cleveland for the past four or five months over some of the worst and hilliest roads in Devon, having previously ridden a lightweight shod with 2in. tyres, with the result that I cannot speak too highly in favour of the big tyre, either from a physical or a mechanical standpoint. On the Cleveland one can arrive at one's destination and partake of refreshment without having to wait for one's internal organs to subside and rearrange themselves. The big tyres also save the machine itself very considerably in the matter of nuts and parts working loose. One can afford to have the tyres pumped up much harder (and so save the tyres) than in the case of the 2in. tyre, and still have good resiliency. The machine is very steady on grease, and gives one that very desirable feeling of stability, comfort, and security.

Whilst on this point, there are several items about the Cleveland which I should think well worthy of our own manufacturers' consideration.

The direct drive magneto does away with one possible source of trouble. The multiple-plate clutch (car type) is a worthy innovation. Another very desirable feature is that the transmission, worm-driven countershaft, clutch, and change-speed gear are completely enclosed and run in oil.

The chain, although exposed and somewhat long, is very hefty for a 3 h.p. machine, and not calculated to give very much trouble, being about the size of that fitted to a 7-9 h.p. sidecar machine.

The footboards, very stout and durable, are of the hinged folding type. The compression of the engine is very high, and is not fitted with a compression release. This is rather a bad point at times relative to cooling the engine, but, nevertheless, it compels driving in the proper manner, *i.e.*, by the throttle. The deficiency of a compression release, as far as cooling when coasting is concerned, is greatly minimised by fitting a Binks carburetter, with which, by intelligent driving and use of the extra air inlet, the engine will two-stroke at all speeds, from 4 to 40 m.p.h. (This concurs with the remarks of "July" on "Misfiring of the Two-stroke" in your issue of November 11th.)

The mileage when fitted with a Binks is about 100 m.p.g. The weight is about 180 lb.

The initial outlay, owing to import duty, crate, rail, fitting of front brake and carrier, is fairly high; but, by comparison with some of our home produce at the same price, it is worth it.

I am not in any way connected with, or interested in, this or any other firm or agent, and would very much have preferred to buy British produce, if I could have obtained what I wanted at a reasonable price. G.S.

Plymouth.

WHAT IS FORCED FEED LUBRICATION?

Sir,—We notice in *The Motor Cycle* of December 16th, that you call attention to the small number of English machines fitted with mechanical lubrication. This important fact has certainly been neglected, and the writer has lately been driving a twin sidecar outfit with the usual hand-pump lubrication, and feels thoroughly disgusted with this system, since he has used mechanically lubricated engines since 1910.

The original Veloce engine was the first motor cycle engine to be mechanically lubricated. The idea was a spray of oil playing on the big end of the connecting rod. This spray of oil issued from the camshaft and was timed so that the hole in the cam always came opposite the big end when it was at its nearest point to the camshaft. This engine gave remarkably good results, but the oil pump was a source of trouble, since it ran at half engine speed and was really too busy to be reliable on a very high speed engine. In 1913 an engine of this type, but modified to get additional cooling by oil circulation similar to the new Bradshaw, was entered in the T.T. and ridden by Mr. Cyril Pullin, who finished in the Junior. The oil sump was formed with a large cooling area similar to the cooling fins on a cylinder. Owing to the speed the oil got too hot and caused a good deal of trouble by getting on to the belt. It proved almost impossible to keep the oil in the engine, for there was such an abundance of hot oil floating all over the working parts, and as the cooling effect did not give us the corresponding advantage we therefore abandoned the idea.

At present on the Velocette we are using a slow speed pump, in fact it runs at 1-75 of engine speed. It is, therefore, more reliable, and in addition the oil which is delivered by the pump never returns, consequently the engine is supplied with clean fresh oil and not oil which has deteriorated through constant circulation. VELOCE LIMITED.

P. J. GOODMAN, Director.

Sir,—As the inventor of the Best and Lloyd mechanical pump, will you allow me to comment on a statement appearing on page 754 of your December 9th issue?

This says that the "Best" pump "cannot be classed as a pressure lubricator," and it seems to me that the writer of your article can hardly be fully acquainted with the principles that govern the working of my pump; or possibly I may have misunderstood his use of the term "pressure lubricator," which I take to be synonymous with a positive or forced lubricator.

There are other types of automatic lubricator, where the atmosphere limits the available pressure, as in the so-called "suction feed" system.

Now the "Best" pump has a perfectly positive action however much the delivery of oil may be reduced. This is owing to the fact that the feed is controlled by altering the length of the stroke and not by restricting any passage.

It is clear that the pump plunger is capable of exerting practically an unlimited pressure if we take into account the source of power (the engine) and the incompressibility of oil. If there were any formidable obstruction in the delivery pipe the oil would have to find its release somewhere and would probably burst the pipe. Such an obstruction would have to be produced artificially. Experience has shown that any ordinary obstruction, such as congealed oil, is gradually forced through into the crank case.

It is sometimes argued that a mechanical pump is not positive if it depends on spring operated ball valves. I notice such a suggestion in your description of another mechanical lubricator in your issue of December 16th. This may be the case when comparatively rapid opening and closing of the valves is required, but where there is an adequate gear reduction no trouble with the working of the valves is experienced. H. WILLIAMS.

BEST AND LLOYD, LTD.

The new £4 tax on a motor cycle gives the motor cyclist the right to attach a sidecar or a trailer. Thus, while the owner of the smallest four-wheeled cycle car has to pay on the h.p. basis with a minimum of £6, the motor cyclist may have four wheels for £4. The above illustration shows a two-seater Cygnet rear car attached to an Indian motor cycle.

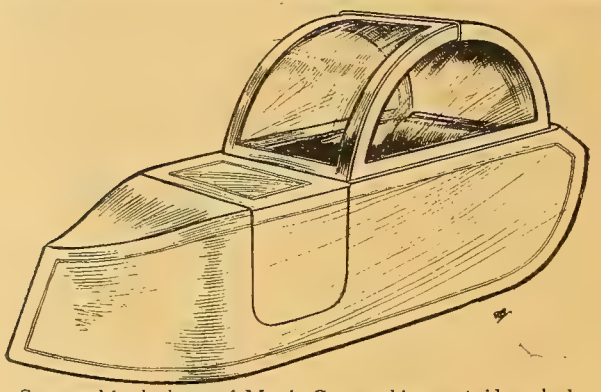
WEIGHTS.

Sir,—In view of the new taxation by weight, I suggest that motor cycle agents have a suitable weighing machine in their depots in order that purchasers may know how much their annual tax will be. LIGHTWEIGHT.

Lichfield.

A DISAPPEARING COUPE SIDECAR BODY.

Sir,—Having seen an illustration of a coupé sidecar in your issue of October 21st, I venture to send you the enclosed design in the hope that it is worthy of reproduction. The hood, when down, is completely concealed in the body of the car; the sides also lower, almost similarly to a railway carriage



Suggested in the letter of Mr. A. Groves, this coupé sidecar body possesses a disappearing top.

window. The hood, or top, is made in two sections, the front of glass or mica, and the back section of three-ply wood or aluminium, the front section sliding into the back, and the whole sliding into a compartment in the rear of the sidecar. A. GROVES.

A COMPREHENSIVE SPECIFICATION.

Sir,—My object in writing to you is to draw attention to the particular features of a design I am working on at the moment. And in view of the insistent demands in your journal, notably by "Criticus," I think it should be of special interest.

Specification: Duplex frame (spring front and rear), cushion saddle, twin two-stroke air-cooled engine of 5-7 h.p., sight feed lubrication, plate clutch, shaft drive, three-speed gear, electric lighting, all engine and gear box in one assembly with nothing but control rods and cables exposed, detachable cylinder head and crank case, brakes front and rear, wheels interchangeable and detachable, leaving brakes on frames, special mud-proof guards, adjustable mud shield for rider, and mud shield for engine. I also claim that the type of engine I have in hand, although conforming to common design, should be more efficient. It is foolproof throughout, including lubrication.

MAX YOUNG.

CHANGES IN DESIGN.

Sir,—In your issue of December 9th, "Puzzled" remarks that he was particularly struck with the fact that I have reverted to cast iron cylinders in my new engine.

After the long discussions in the past in your pages on the question of steel cylinders, which I always upheld, it is perhaps not surprising that someone should ask if I have any technical reasons for returning to cast iron ones.

The whole of design is a compromise, and the best compromise produces the best article. Steel cylinders fitted with air-cooling fins are better than cast iron ones similarly fitted because it is possible to cut fine fins on the steel barrels, and such fins can be designed to offer little restriction to the flow of air through them, whereas cast iron fins have to be shaped so as to render casting possible. Steel, also, has a heat conductivity about 20% higher than has cast iron, and (according to Dr. Gibson) a steel surface gives a greater heat dissipation than even an aluminium or a copper surface.

But years pass by and science gives us greater knowledge of which the engineer does not (or should not) fail to take advantage.

My new engine has cylinders which are not air-cooled by the methods we have previously used. They are not fitted with cooling fins at all, therefore the advantages of steel do not apply, but such advantages are replaced by other and greater advantages.

Your readers are probably not yet fully acquainted with the exact principals employed in the cooling of my new engine, nor have they seen detail illustrations of the cylinder barrels or crank case in section, therefore it is difficult (as I see from the correspondence I have had) for many of them and your correspondent "Puzzled" to understand the reason of the change. GRANVILLE BRADSHAW.

SOME REASONS WHY.

Sir,—I have ceased to be a member of any motoring association. In the first place, I can no longer afford the increased subscription, as I shall have to use the money to purchase my new licence holder and in having my number plates repainted. In the second place, I do not consider membership worth while, because it does not appear that the associations are out to help the motorist in really vital matters. Have they made any real effort to combat the provisions of the new Roads Bill, which are to cause us so much trouble and expense? Have they ever succeeded in reducing our petrol costs? I must say that the only things I have ever had for my membership have been salutes from patrols.

On two occasions I have been hung up on the road this year, but could not get any help from scouts, although two of these did appear—unfortunately belonging to a rival organisation to mine. Could anything be more absurd? Why do the associations not join forces? They might then together be a real power in the land. LIMIT.

Rugeley.

Sir,—May I be permitted, in view of the A.A. secretary's remarks, published in your issue of December 16th, to range myself on the side of "Bled Dry."

I first joined the A.A. in consequence of an advertisement appearing in your valuable paper enumerating the benefits derived from so doing, one of which is the free use of telephone boxes.

Upon remitting my second subscription, I mentioned the fact that I had not been supplied with a telephone box key. I received a reply to the effect that it would be forwarded on receipt of 2s. 6d. A remonstrance brought forth the comparison of the car owners' and cycle owners' subscriptions.

On principle, I have not remitted the 2s. 6d., more especially in view of the full page advertisement appearing in your issue for December 16th.

Is it not up to the A.A. when setting out the advantages of joining also to set out the extras which arise, and in its correspondence to mark the maxim that "comparisons are odious"? BLED DRY (2).

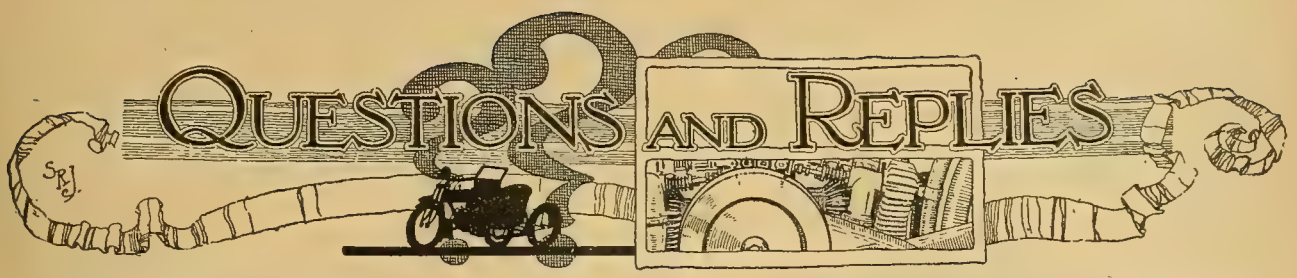
Salisbury.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with *The Motor Cycle.*

	Price net.	By post.
"MOTOR CYCLES AND HOW TO MANAGE THEM." The standard handbook of the motor cycle. Covers every subject relating to all types of motor cycles, their management and care. Twenty-first Edition. Just published	2/6	2/10
"HINTS AND TIPS FOR MOTOR CYCLISTS." Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition.	2/-	2/3
"TRACING MOTOR CYCLE TROUBLES." A reliable system for tracing motor cycle faults and of remedying any trouble when found. Fourth Edition.	2/-	2/3
"MOTOR CYCLE REMINISCENCES." By "IXION," of *The Motor Cycle.* An interesting and amusing description of early motor cycling experiences, with many unique illustrations ...	5/-	5/4
"THE MOTOR CYCLE" ROAD MAPS. England and Wales, Scotland, London (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.	5/6	5/10
"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District. New Edition. Just published	5/-	5/4

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C., or of leading Booksellers and Railway Bookstalls.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not **must be accompanied by a 2d. stamped addressed envelope for reply.** Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of the envelope, and should be kept distinct from questions bearing on technical subjects.

Difficult Starting.

I have been all over my 4 h.p. Douglas, and everything seems to be in order, but it is nevertheless difficult to start. It will not run slowly on the stand; it either races or stops. Why is this?—C.E.B.

Probably the cause of the trouble is an air leak at the induction pipe joints. You should carefully go over the entire induction system, and, if necessary, replace the copper and asbestos flange washers, smearing them with seccotine before fitting.

Naming an Engine.

I have bought an old motor cycle and wish to get full particulars of the engine. It is a twin-cylinder, bore about $1\frac{3}{16}$in., stroke about 3in., overhead automatic inlet valves, no name whatever on the carburetter or magneto, but has a disc on the crank case marked "Brevets, Gianoli, Belge." On the pulley there is the stamping "Moto-Rêve," but I am not sure whether this was fitted to the engine in the first place or whether it is an odd part since fitted.—J.A.

The engine is evidently a Moto-Rêve. It was made in Switzerland and was fitted with the Gianoli magneto.

Uneven Running.

My $2\frac{3}{4}$ h.p. Douglas persists in firing in a very jerky manner. Both cylinders appear to fire at times, but there is nothing sweet in the running. The compression is certainly low, but considering the type of engine I do not think anything out of the ordinary. I have taken the engine down and decarbonised, taken special precautions against air leaks, ground in valves, and overhauled the magneto. The only thing is the jet. I am at present running on a 26 (Amac). Do you consider this too small?—R.P.

From your description the engine appears to be in good order mechanically, and consequently an ignition fault may be suspected. You should carefully examine the contact breaker and make quite certain that the rocker arm is working freely. Also remove the high-tension carbon brushes, and clean the slip ring on the armature by inserting a piece of rag soaked in petrol through one of the carbon brush openings. A slightly larger jet might give sweeter running. You would find that one of the variable jet adapters which can be obtained for the Amac carburetter would assist you in tuning.

An Illusive Noise.

I have a lightweight machine fitted with an Enfield two-speed gear. Recently a knocking sound has developed in the spindle of the gear. The knock is not continuous, but occurs at indefinite periods. I should be pleased to have any information you could give me as to the cause and remedy of the fault.—H.R.

Obviously we cannot tell you the cause of a sound so vaguely described as the one you mention, but as the dismantling of the gear is quite a simple operation it would be advisable to take it down. Possibly the noise is due to a broken ball race, or it may be due to the pulley being loose on the shaft.

Important Dates.

Jan. 20th—
F.I.C.M. Conference, Brussels

Jan. 28th to Feb. 5th—
Scottish Motor Exhibition Kelvin Hall Glasgow.

Feb. 12th—
A.C.U. One-day Winter Trial.

Feb 25th—
A.C.U. One-day Winter Trial for Stock Machines.
A.C.U. Silencer Trial—Brooklands.

March 25th—
Richmond Meet.

March 26th—
M.C.C. London-Land's End Trial.

May 14th—
M.C.C. London-Edinburgh Run.

Belt Slip.

I am an all-weather rider of a 1919 model $2\frac{3}{4}$ h.p. single-cylinder chain-cum-belt-driven machine, and find that some oil is thrown on to the belt from both the crankshaft and gear box. In wet weather this causes a great deal of belt-slipping. Can you suggest any contrivance or improvement that will remedy this nuisance in wet weather?—D.L.L.

In all probability the trouble is due to the bearings of both engine and gear box being somewhat worn. Make sure whether this is so or not. If worn, the remedy is obvious; but if the amount of wear is not sufficient to warrant renewals, try the effect of fitting either felt or leather washers on the shafts immediately behind the pulley and sprocket. Why oil should cause more slipping in wet weather than otherwise is not quite clear. Probably the belt needs tightening.

Fitting Magneto Switch.

Being desirous of fitting a switch on my motor cycle, and there being no terminal on the contact breaker casing for an earth-wire, would it be all right to branch a wire from the high-tension wire running to the plug?—A.S.

On no account fit a switch in the high-tension circuit. An ignition switch should be arranged only to cut out the low-tension current. If a terminal is not fitted on the contact breaker casing, it should be quite easy to make the fitting yourself. You merely require an insulated terminal which makes contact with the centre screw of the contact breaker.

Benzole and Tank Enamel.

I am using benzole in my Triumph cycle, and I find where it flows over at the filler cap it is taking all the paint off the tank. I should esteem it a favour if you could tell me what to do to prevent this.—H.C.

For 3,000 miles last year we used a Triumph sidecar outfit on N.B.A. benzole without experiencing the trouble to which you refer. We used a safety filler in replenishing the tank, and were always careful not to spill any on the enamel work, and also we did not fill right up in order to avoid flowing over when on the road.

Blow-back in Drip Feed.

I purchased a new 4 h.p. flat twin last April, and up to the present time have had a lot of trouble with the drip feed. The oil keeps blowing back from the front cylinder into the sight feed, and it frequently fills the cup and splashes all over the tank. I have written to the makers about it, and they sent me a complete new non-return valve, but the results are just as before (in fact, it is the second new valve I have fitted). A few weeks ago the whole engine was taken down for decarbonisation, but the blow back was not cured. It has quite puzzled me and many more in the town, and I should be very glad if you could advise me on the matter.—F.H.M.Y.

It is very difficult to explain the cause of the trouble if the makers themselves cannot cure it. It may possibly be due to the piston being a loose fit in the cylinder and a certain amount of gas escaping past the rings and so through to the drip feed. We assume, of course, that the crank case release valve is quite clear.

Fixed Ignition on Two-stroke.

Q. Will you please advise me regarding my 2¼ h.p. Radco two-stroke machine, which I cannot persuade to run? I have re-made the joint between the cylinder and the crank case, also the carburetter and exhaust joints. Both cylinder and piston rings are clean, and the latter are free in their grooves. Lubrication is by petroil. I have retimed the engine so that the points break when the piston is at top. Immediately after doing this I tried the machine, and it ran beautifully for about half a mile. I noticed that it soon required full air. Five minutes after this trial I attempted to restart, but without success. I tried several Lodge plugs, including two that are functioning correctly on my Douglas, but the most I could get out of the machine was an occasional bang. All the plugs gave an excellent spark when I tried them in the air, and, so far as I can see, the fault would seem to lie in some mysterious fashion with the magneto, which is of American make with fixed ignition. I also overhauled the petrol pipe and the jet, and both were clear.—G.E.H.

Presumably, you have made certain that the timing of the ignition has not slipped. It is quite common, after a machine has been overhauled, for the magneto sprocket to move sufficiently to throw the timing out. The spark should occur 6 mm. before the piston reaches the top of the stroke if the ignition is fixed. We should certainly recommend you to obtain an English magneto with variable control.

A "Waiting List" Echo.

Q. In October, 1919, I wrote to a firm *re* delivery of a motor cycle. The said firm informed me that No. 48 place on their waiting list was vacant, and that they hardly expected that particular machine through before December or January. They enclosed a leaflet giving specification of the machine and quoted the price. On the strength of these facts I wired them to book me the machine and sent them a deposit. In May I sent a complaint to the firm about the machine not having been delivered, and they enclosed a schedule of deliveries, giving date of No. 28 (to which I had been advanced) as November. They also admitted that their schedule was very disappointing and that the price had been nearly doubled, and stated that if I should prefer to cancel the order they would be pleased to refund the deposit in full. I did not reply to that letter, but purchased another machine in the meantime. On August 2nd I got a notice that my machine was in stock, and I then asked that the order be cancelled, but this they refused to do, stating they intended to keep my deposit as a "slight recompense." Will you kindly let me know if I can now *(a)* recover the deposit or *(b)* insist on their supplying the machine at the price originally quoted?—S.H.

Whether you can recover your deposit or alternatively insist on the delivery of a machine at the original price depends entirely on the wording of the contract between the dealer and yourself. Usually, the acceptance of an order by an agent is conditional upon the makers' price at time of delivery. From your letter it would appear that you rather made a convenience of the agent by allowing your order to stand until you obtained a machine from another source. You should have cancelled the order when the agent gave you the option of so doing.

Stronger Axle Wanted.

Q. I have an auxiliary engine attached to a first-class make of bicycle on which I have covered some 400 miles. The spindle of the back wheel has twice been broken and once bent. Can you suggest the reason, and advise a remedy? I have taken care to go slowly over rough roads.—M.C.H.C.

Probably the stresses imposed by the weight and extra speed of the motor attachment are too much for the spindle of the bicycle. We would suggest that you have a new spindle made of silver steel (not hardened, of course). This would probably give better results. Any good mechanic should be able to make one for you.

High Consumption on Small Engine.

Q. I have a well-known 1920 single-speed two-stroke motor cycle, and can only obtain about 45 m.p.g. on the Amac carburetter. The level is correct, and it has the correct jet, viz., No. 28. The top of the jet is only about $\frac{1}{32}$in. from the six or seven inlet holes in the carburetter. Can you help me to solve the difficulty?—N.H.B.

High petrol consumption is rather a fault of many small two-stroke engines; but it can usually be overcome by reducing the jet size, and also by lowering the level. The level should be so low that there is only about 3-64in. play on the float chamber needle. Keep the ignition well advanced, and also make sure that there is no belt slip.

An improvement to the Sterling leg shield manufactured by the Highgate Motor Co., 6, Highgate Road, Camp Hill, Birmingham. Side valances of American cloth are now supplied, either with new guards or to be fitted to those in use.

U-Nead-It Repair Outfits.

We understand that the Progressive Motor Co., 168, Regent Street, London, W.1, is handling the U-Nead-It puncture and tyre-repairing outfit described in *The Motor Cycle* of October 7th.

New F.R.S. Lamp Works.

Increase of business necessitating an enlarged staff has resulted in the removal of the makers of F.R.S. lighting equipment. The new address is: F.R.S. Lamps, "Beam Works," Vere Street, Birmingham.

Union Two-stroke Engines.

After having made upwards of 2,500 Union engines, Messrs. Josiah Parkes and Sons, Willenhall, will shortly discontinue their manufacture (by arrangement with the patentee). Meanwhile, those interested in these excellent engines should address their communications to Mr. R. S. Whaley, 50, Guildhall Buildings, Navigation Street, Birmingham.

An Engine Size Modified.

Endurance two-stroke engines, a sample of which we illustrated on page 790 in our issue of the 9th inst., now have a bore and stroke of 68×72 mm. (261 c.c.); the size quoted on the above-mentioned page referred to an earlier model. The makers, Messrs. The Endurance Cycle Co., Sheepcote Street, Birmingham, are also making complete motor cycles in increasingly large quantities.

Books and Catalogues Received.

ROVER MOTOR CYCLES.—A complete list of the various Rover models, together with prices.

DUNHILL'S SIDECARS.—A very well illustrated list of these excellently designed sidecars with full details and prices.

THE ASTRA DYNAMO.—A most attractive booklet is now issued by the Astra Dynamo Co., Ltd., 110, Victoria Street, London, S.W.1, showing how the Astra dynamo is fitted on to various makes of motor cycles, such as the 8 h.p. Sporting Zenith, the 6 h.p. A.J.S. (solo or sidecar), and the 2¾ h.p. Douglas. Parts and switches are also catalogued and priced.

THE MOTOR, MARINE, AND AIRCRAFT RED BOOK, 1920 (W. C. Bersey and A. Dorey). The Technical Publishing Co., Ltd., 1, Gough Square, Fleet Street, London, E.C.1. Price 21s. A very valuable book of reference for all motorists, containing a complete list of motor cycles, with fullest particulars. The motor cycle section is well carried out, and is accompanied by a technical dictionary in English, French, Italian, Spanish, and Russian of motor cycle terms. The book also contains particulars of motor cars, airships, industrial motor vehicles, legal information, a list of motor and motor cycle clubs, a list of technical books, and a directory.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns —First 12 words 3/–, and 3d. for every additional word. Paragraphs of under 8 words are charged double rate. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed & Co. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Motor Cycle." Only the number will appear in the advertisement. All replies should be addressed No. 000, c/o "Motor Cycle," 20, Tudor Street, E.C.4. *Replies to Box Number advertisements containing remittances should be sent by registered post, but in all such cases it is advisable to make use of the Deposit System.*

In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being inspected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/- is charged; on transactions over £10 and under £50, the fee is 2/6; over £50 and under £75, 5/-; over £75 and under £100, 7/6; and on all transactions over £100, 1 %. All deposit matters are dealt with at 20, Tudor Street, London, E.C.4, and cheques and money orders should be made payable to Iliffe & Sons Limited.

The letter "D" at the end of an advertisement is an indication that the advertiser is willing to avail himself of the Deposit System. Other advertisers may be equally desirous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

NEW 1920 A.B.C. 4-speed; £150; in stock.—Randall, Andover. [0367

A.B.C. 3h.p., makers' sidecar, Lucas electric dynamo set, kick starter, done 300 miles, Smith speedometer, mechanical horn; cost £215, sell £180.—Dr. Griffith, Bures, Suffolk. [4643

3½h.p. A.B.C. Motor Cycle, dynamo lighting model, only run about 300 miles, condition as new; cash £150; may be obtained on Harrods deferred payments for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [4790

WAUCHOPE'S

NEW MACHINES AND COMBINATIONS.
(Just Delivered.)

TRIUMPH, 4 h.p., chain-cum-belt	£127	10
NORTON de Luxe Combination, 4 h.p.	£180	9
ENFIELD, 2¼ h.p., 2-stroke	£65	0
TRIUMPH, 4 h.p., renovated by the Triumph Cycle Co.	£105	0
ROYAL ENFIELD Combination, 8 h.p., Magdyno	£182	0
ROYAL ENFIELD Combination, 8 h.p., standard model	£160	0
WOOLER, 2¾ h.p.	£103	10
QUADRANT Combination, 4 h.p., with windscreen	£147	15
DOUGLAS, 2¾ h.p., clutch, and kick-start	£105	0
DOUGLAS, 2¾ h.p., 3-speeds only	£100	0
BRADBURY, 4 h.p.	£128	0
SRADBURY Combination, 6 h.p.	£199	0
LEVIS, 2½ h.p., 2-stroke	£60	0
BAT Combination, 6 h.p.	£175	0
TRIUMPH Junior, 2¼ h.p.	£75	0
TRIUMPH Combination, 4 h.p.	£195	0
NEW IMPERIAL, 2¾ h.p., No. 1 Model	£80	17
NEW IMPERIAL, 2¼ h.p., No. 2 Model	£89	5
P. & S., 2¼ h.p.	£73	0
CLYNO, 2½ h.p.	£75	0
LEA-FRANCIS, 3 h.p.	£130	0
SCOTT, 3⅜ h.p.	£130	0
TRIUMPH, 4 h.p., chain drive	£140	0
AUTOPED Scooters (2 only), dynamo lighting, each	£30	0
DOUGLAS, 2¾ h.p., improved W.D., new, 2-speed, renovated by Douglas Bros.	£85	0

SECOND-HAND SOLO MACHINES.

TRIUMPH, 4 h.p., 3-speed, 1913-14	£55	0
WOOLER, 2¾ h.p., 1920	£85	0
DOUGLAS, 4 h.p., 1915	£65	0
P. & M., 3½ h.p., 1919, 2-speed, kick-start	£80	0
VERUS-BLACKBURNE, 2¾ h.p., 1920	£85	0
B.S.A., Model K., 4½ h.p., 1919	£95	0
J.A.P. Engine, 8-10 h.p., w.-c., magneto	£45	0
WOOLER, 2¾ h.p., 1920	£82	10
RUDGE, 3½ h.p., 1912	£40	0
DOUGLAS, 2¾ h.p., 1916, W.D.	£60	0
P. & M., 3½ h.p., 1920	£105	0

SECOND-HAND COMBINATIONS.

B.S.A. Combination, 4½ h.p., 1914	£75	0
J.H. Combination, 7-9 h.p., 1915	£110	0
TRIUMPH Combination, 4 h.p., 1920	£152	10
Dynamo **ENFIELD** Combination, 6 h.p., 1916	£115	0
CLYNO Combination, 6 h.p., 1917	£115	0
INDIAN and Sidecar, 5-6 h.p., 1913	£80	0
MATCHLESS Combination, 8 h.p., 1920	£205	0
MATCHLESS and Sidecar, 8 h.p., 1915	£125	0
QUADRANT Combination, 4 h.p., 1920	£122	10
WILLIAMSON Combination, 8 h.p., 1914	£117	10
SUNBEAM Combination, 8 h.p., 1919	£215	0
ROVER Combination, 4-5 h.p., 1920	£162	10
ARIEL and Sidecar, 3½ h.p., 1916	£97	10
ENFIELD and Sidecar, 6 h.p.	£165	0
DOUGLAS and wicker Sidecar, 3½ h.p., 1914	£65	0
QUADRANT Combination, 4 h.p., 1920	£120	0
A.J.S. Combination, 6 h.p., 1920	£200	0

LIGHT CARS (NEW).

Grand Prix **MORGAN**, 8 h.p., 1920, w.-c. M.A.G. engine	£235	9
PREMIER Super Runabout, 8 h.p., new 1921 spare wheel, detachable wheels	£275	0

LIGHT CARS (SECOND-HAND).

A.V. Monocar, 6 h.p., 1919, special engine	£160	0
CARDEN Monocar, 5-6 h.p., 1914	£70	0
MORGAN, 10 h.p. M.A.G. engine	£250	0

A NUMBER OF SHOP-SOILED SIDECARDS AND ACCESSORIES OF EVERY DESCRIPTION ALSO IN STOCK AT GREATLY REDUCED PRICES.
LIST ON APPLICATION.

Wauchope's.

9, Shoe Lane, Fleet Street, London, E.C.4.
Phone Holborn 5777 'Grams: Opificer, Fleet St., London

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, only used for a few miles, latest model, kick starter, exceptional bargain; owner will accept £95.—Elce and Co., Bishopsgate Av., Camomile St., E.C.3. 'Phone: Avenue 5548. [0065

Abingdon.

1920 Abingdon King Dick Combination, 5-7h.p., 3 speeds, kick-starter, all accessories, discs, mileage approximately 800, £140; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4763

A.C.E.

ACE 10-12h.p., special finish, ¼in. gold line, Swan sports sidecar and Avro wind screen, Ace discs, Lucas dynamo lighting, Bonnik-en speedometer and Apollo horn, smartest combination on the road, very fast; cost over £300, accept £250; owner buying rabbits. —Hampton, Home Farm, Withdeane, Brighton. [4847

A.J.S.

A.J.S. 7h.p. Combinations, with spare wheels.—Longman, Fisherton, Salisbury. [3815

A.J.S. Spares, prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [7338

J. C. PICKERING, Shrewsbury.—Early delivery 1921 models A.J.S.; 1920 from stock. [3989

A.J.S., 1921 models.—Early deliveries at Merrick's Stores, 174, Listerhills Rd., Bradford. [2472

BRIGHTON, Hove and District A.J.S. Agents, Turpin's, 22-29, Preston Rd., Brighton. [0202

CROW Bros., Whitehall Garage, Guildford, A.J.S. agents and expert repairers since 1912. [7989

UNUSED 6h.p. A.J.S. Combination; immediate delivery; £20 under list, namely £190.—Box 42, c/o *The Motor Cycle*. [X4118

A.J.S. Brand New 6h.p. Combination, complete with horn and lamp; £195.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4006

A.J.S. 1921 Models, delivery guaranteed when required; deferred payments arranged.—A.J.S. Specialists, The Walsall Garage, Walsall. Tel.: 444. [4009

1920 A.J.S. Combination, lamps, Cowey speedometer and horn, tools, spares, Tan-Sad, spare wheel unused, insurance; seen any time; £217.—Bear, Mancot, Hawarden. [4864

A.J.S. 5h.p. 1912 Model, with 2-speed, clutch, and kick start, and Venus coachbuilt sidecar, in excellent running order; £70, or nearest offer.—John Lyndale, Narberth. [4626

A.J.S. 1920 Combination, dynamo lighting, speedometer, hood, screen, side curtains, Klaxon horn, Tan-Sad, indistinguishable from new; £250.—Parker's, Bradshawgate, Bolton. [X4166

1914 6h.p. A.J.S. Combination, engine and gear box No. 3199, lamps, £30 recently spent in overhauling engine, gear box, magnets, etc.; what offers?—Lt. Lawder, 9, The Quay, Fareham. [4696

F.O.C.H. for A.J.S. Combinations, 1914 and 1920, dynamo lighting; bargains.—5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4668

1919 6h.p. A.J.S. Combination, 4,000 miles, recently overhauled, with spare wheel, speedometer, etc., in excellent condition; £185, or nearest offer.—May be seen at Belmont Garage, King St., Cambridge. [4676

A.J.S. Combinations.—Good deliveries for 1921. Book your orders with us now to save disappointment. Officially appointed agents for this famous outfit.—F. E. Wootten, Ltd., High St., Oxford. 'Phone: 308. [3392

1914 2¾h.p. A.J.S., 2-speed, clutch, and K.S., almost new tyres, 1920 Amac, engine and gear box almost completely renewed, all accessories, splendid mechanical condition; any trial; £70, or best offer.—Muir, Bungalows, Aston Rd., Wem, Salop. [4644

1919 A.J.S. Combination, electric and acetylene lamp sets, two pairs handle-bars, speedometer, horn, exhaust whistle, wind screen, and hood, excellent condition; £148.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Ken. 3709. [3839

1920 6h.p. A.J.S. with Sidecar, screen apron, spare wheel, full kit of tools, spare chains, etc., dynamo lighting, guaranteed, mileage 250 only, very good reason for selling; nearest offer 200 gns.; must sell.—J. H. C. Faire, Redcot, Brighton Rd., Sutton, Surrey. [4594

A.J.S. Combination, 6h.p., 1919, latest Lucas Magdyno lighting, Cowey trip speedometer, Lucas horn, hood, hood cover, screen, storm apron, spare wheel, fitted with Ace aluminium discs to all four wheels; £200.—Ramm, Engineer, Godstone, Surrey. 'Phone: 10. [4123

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

Alldays.

1916 Allon 2¾h.p., 2-speed, good condition, running order; £34; ride away.—23, Leathwaite Rd., Clapham, London. [4651

ALLDAYS 2¾h.p., 1917-18, 2-speed, clutch model, new tank, new Miller lamps, spare belt and chain, horn, etc.; £64, or nearest.—C. Roberts, Maltby Market, Rotherham. [4705

NEW 2¾h.p. Alldays Allon Medel de Luxe, 2-speed, clutch, and kick starter; £85; or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [4792

Ariel.

NEW 1920 Twin Ariel Combination; £150.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kensington 7113. [3830

ARIELS, order now for 1921 all-chain and chain-cum-belt models; spares in stock.—Geo. Taylor, Ariel Agent, 28, Lower Addiscombe Rd., East Croydon. [8165

1919¾ Ariel, 3½h.p., 3-speed, excellent condition, new tyres, spares; any reasonable offer; owner going abroad.—26, Samuel St., Newtown, Stockton-on-Tees. [4818

ARIEL.—Orders now booking for the new all-chain models which will be the Rolls-Royce of motor cycles. All spares stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [8231

ARIEL.—Some agency is the Ariel, and we hold this for North London. We are practical riders and gold medal winners with this wonderfully efficient and reliable motor cycle. Have you seen the new 4½h.p. comb.? it is a glorious outfit; immediate delivery; 3½ h.p. solo, 3½h.p. comb., and 6-7h.p. comb., 4 models in stock; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [4231

Bat.

1920 Bat Model 4, shop-soiled; £135.—Wright's Garage, Saffron Walden. Tel.: 16. [4755

BAT-J.A.P. 3½h.p. Sporting Outfit, must be sold; a cheap bargain, £36; after 6 p.m.—302, Moor Terrace, Eccleshill, Bradford. [4616

BAT 1921 Models.—We are now accepting orders for early delivery. Your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3256

BAT, 6h.p., fully equipped as makers' specifications, shop-soiled; at greatly reduced price; also second-hand combination, same make.—Mebes, 154-156, Gt. Portland St. W.1. 'Phone: 3426 Mayfair. [7177

BAT 8h.p. and 6h.p., new, £135 each, or with side-cars to suit, single-seater, £160, or double-seater £175; immediate delivery.—336, Gray's Inn Rd., W.C. [0374

1920 Bat Combination, 8h.p., 3 speeds, kick-starter, all chain drive, Volex electric lights, Binks, Cameo screen, delivered June, £150; exchanges or easy terms.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4764

Beardmore.

BEARDMORE-PRECISION 1921 Model, in stock for immediate delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3257

BEARDMORE, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7178

Blackburne.

GENUINE Bargain.—Blackburne 4h.p., 1920, new; £120.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., Bond St., W.1. [0320

BLACKBURNE 4h.p Combination, 1920, mileage 500, sidecar new, undershield fitted, lamps, horn, spare valve, tools; £130.—Granger, 1, Skinner St., Whitby. 'Phone: Whitby 11. [4588

1918 or 1919 4h.p. Blackburne, Montgomery sidecar, lamps, horn, tyres excellent, had very little use; great bargain, £100.—West Sussex Motor Co., Portland Rd., Worthing. 'Phone: 272. [4719

BLACKBURNE 1920 8h.p. Combination, spare wheel, hood, screen, speedometer, lamps, leg shields, Klaxon, tools, etc., splendid condition; £175; can be seen at Ballards Motors, 92, Gloucester Rd., South Kensington, S.W.7, or write Elliot, 25, Whitmore Rd., Beckenham. [0349

Bradbury.

BRADBURY 6h.p. Twin, fully equipped as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1 'Phone: 3426 Mayfair. [7179

Brough.

LATE 1920 Model G, 5-6h.p. Brough Combination, Swan sporting sidecar, disc wheel, aluminium finish, complete with all lamps, Cowey horn, tools, spares, etc., small mileage, condition throughout and appearance as new; £165; can be seen and tried Burton-on-Trent. Box 1,137, *c/o The Motor Cycle.* [4633

Phone: Mid. 2910. 'Grams: "Lytcar, B'ham.'

THE BIRMINGHAM HOUSE FOR MOTORISTS.

DON'T WAIT UNTIL THE SPRING

Before deciding on your New Mount.

Orders are rapidly coming in for Delivery during the early months of next year, and New Models that are available Now will be all booked up if you delay.

PLACE YOUR ORDER NOW.

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COMBINATIONS.		Dynamo Lighting Sets.
A.J.S., 7 h.p.	£215	£28
ENFIELD, 8 h.p., Vickers Engine	£160	£22
INDIAN, 7-9 h.p., Electrically equipped ..	£237	
ROVER, 5-6 h.p.	£195	£25
NORTON BIG FOUR ..	£177	£25
NEW IMPERIAL, 8 h.p.	177 Gns.	£25
JAMES, 7 h.p.	£195	£25
TRIUMPH, 4 h.p., Chain Drive	£195	

SOLO MACHINES.

INDIAN, Scout, 4 h.p.	£165	0
NORTON, 3½ h.p., 3-speed....	£132	0
NORTON, 2½ h.p., T.T.....	£98	0
TRIUMPH, 4 h.p., Chain drive	£140	0
TRIUMPH, 4 h.p., Belt drive	£127	10
ROVER, 3½ h.p., 3-speed	£127	10
HUMBER, 4½ h.p., Flat Twin	£140	0
ZENITH, 6 h.p., Sports	£139	0
BLACKBURNE, 4 h.p.	£135	0
RUDGE-MULTI, 3½ h.p.	£110	5

LIGHTWEIGHTS.

ENFIELD, 2¼ h.p., 2-speed ..	£65	0
ENFIELD, 2-speed, K.S.	£70	0
TRIUMPH, 2¼ h.p., 2-speed..	£75	0
MASSEY-ARRAN, 2¾ h.p. J.A.P., 2-speed, K.S.....	£90	0
EDMUND-J.A.P., 2-speed, K.S.	£95	0
NEW IMPERIAL-J.A.P., 2-speed, K.S.	85 Gns.	

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B.S.A.

B.S.A., all models now in stock; delivered anywhere.—Below.

B.S.A. Combination, 1917, like new; £105.—Grimes, 18, Bruton Place, W.1. [4827

B.S.A., condition perfect; write for full particulars.—Allen, Marchington, Staffs. [4614

B.S.A., brand new, ridden few miles, 3-speed, all-chain; 92 gns.—116, Askew Rd., W. [4812

B.S.A. 1914 4h.p., clutch model, perfect condition; £35, bargain.—H. Wright, Arlesey, Beds. [4838

B.S.A. Specialists.—Replacements by return.—County Cycle and Motor Co., Broad St., Birmingham. [4177

BOLTON.—All B.S.A. models in stock, solo and combinations, complete.—Grosvenor Garage, Bradford St., Bolton. [X2019

B.S.A., brand new Magdyno combination; £10 under list; great opportunity.—Clark, 7, Exhibition Rd., South Kensington. [4333

B.S.A. 1915, 12314, Model K, C.B. sidecar, fully equipped, Easting, good condition, trial; £90.—Newlyn, 21, Dane John, Canterbury. [4831

B.S.A. 1920 4¼h.p., Sandum sidecar, fully equipped, hand-controlled clutch, indistinguishable from new; £130.—Parker's Bradshawgate, Bolton. [X4170

B.S.A. 6-7h.p. Combination, hand and foot clutch, Sandum spring wheel, touring outfit, just delivered, as exhibited Olympia; £200.—Seen, 336, Gray's Inn Rd., W.C. [0361

F.O.C.H for 1921 B.S.A.'s; earliest deliveries.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4670

1920 B.S.A. Magdynamo Combination, speedometer, horn, perfect condition, winner of Matchless Cup in Woolwich Open Trial; £160.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [3843

B.S.A. 6h.p. and 4¼h.p. Solo in stock for immediate delivery; price list and catalogue post free; deferred payments arranged.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4010

1919 B.S.A., with Millford sidecar, complete with 3 lamps, Easting wind screen and storm apron, in perfect condition, and open to expert examination, low mileage.—Apply, Jeffery, Crossways, Alveston, Glos. [4829

1920 B.S.A. Chain-cum-belt Combination, Terry spring links and Bonniksen speedometer, Easting wind screen, sprung luggage grid, all lamps, two generators, horn, spare springs, valve, and tube, the whole in excellent condition; £125.—Bellasis, Shilton, nr. Coventry. [X4090

B.S.A.—A motor cycle worthy of its name is the B.S.A. We have always in stock at least three models, Model K, Model H, and 6-7h.p. twin, immediate delivery; all spares in stock; trade supplied.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [4232

Calthorpe

CALTHORPE 2-stroke, 2-speed, Dec., 1919, 700 miles, perfect condition; best offer over £40.—Bowden, Wilfred Rd., Boscombe, Bournemouth. [4870

CALTHORPE 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3258

CALTHORPE 2¾h.p., 2-speed Enfield gear, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7180

CALTHORPE Motor Cycles, wholesale and retail agents for the County of Devon, all models in stock for immediate delivery.—The Carlton Motor Co., 33, Torwood St., Torquay. [0201

CALTHORPE-J.A.P. 2¾h.p., Enfield 2-speed gear and clutch, shop-soiled only, bargain, £66; also shop-soiled 2¾h.p. 2-stroke model with Enfield gear, £65.—P. J. Evans, 81-91, John Bright St., Birmingham. [0357

Campion.

2h.p. Campion-Precision, 2-speed gear, good condition, sound and reliable; £40.—S. Smith, 30, Bathwood Drive, Sutton-in-Ashfield, Notts. [4684

1919 8h.p. Campion-Jap Combination, Easting, new tyres, all accessories, any trial, anywhere; £155; tax deducted for spot cash.—Stephens and Kay, Engineers, Staveley, Chesterfield. [4635

Cedos.

1920 Cedos 2½h.p., 2-speed, very little used, magnificent machine; only 50 gns., very great bargain.—Julian, 84, Broad St., Reading. 'Phone: 1024. [4659

Cleveland.

CLEVELAND 1919-20 3h.p., 2-speed, clutch, kick start, polished engine unit throughout, beautifully enamelled, lined, and plated, far superior to any Show model; owner wants light car; £80.—Hammersmith Plating Works, 10, Gt. Church Lane, Hammersmith. 'Phone: 1684 Hammersmith. [4456

MOTOR CYCLES FOR SALE.

Humber.

1919 3½h.p. Humber and Mills-Fulford Corvette sidecar, electric lighting set, bulb horn, Stewart speedometer, appearance and mechanical condition excellent, low mileage; £130.—Herbert Robinson, Ltd., 32-35, Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4739

Indian.

1921 Indians early delivery of all models.—Hewet Bros 94, Western Rd., Hove, Sussex [0345

INDIAN 5-6h.p. Combination, clutch model; £55, near offer.—11, Friern Barnet Rd., New Southgate, N.11. [4815

1920 Scout Model Indian, only run in Aug., unused since, fully insured, guaranteed perfect; £120.—Pocklington, Wainfleet, Lincs. [4683

INDIAN Combination, 7-9h.p., 1914-15, excellent condition; sacrifice £65.—Halt Motors, Kilburn Lane, W.10. 'Phone: Willesden 1341. [4476

INDIAN 1920 4h.p. Scout Model with sporting sidecar to match, fully equipped, indistinguishable from new; £155.—Parker's, Bradshawgate, Bolton. [X4172

F.O.C.H. for Indian Combinations, 1916 and 1920, dynamo lighting; bargains.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4667

INDIAN Powerplus Combination, August, 1920, bulbous back, dynamo lighting, electric horn, speedometer, done 2,000 only, as new; cost £225, sacrifice £178 quick sale.—Harris, Merrilees, Trowbridge. [X4113

1916 Indian, 5-6h.p., 3 speeds, clutch and kickstarter, all lamps, horn, Bonniksen speedometer, tyres perfect, guaranteed perfect, £85; exchanges or easy tems.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4771

ANY Offers?—7h.p. twin Indian combination, Swan sidecar, lamps, new Aug., 1920, run 250 miles; owner only selling for financial reasons; any reasonable offer accepted for quick sale.—Write, Box 1,120, c/o *The Motor Cycle*. [4604

1915 5-6h.p. Indian Combination, 3 speeds, clutch, large Montgomery sidecar with luggage grid, lamps, mechanical horn, speedometer, tools and spares, splendid condition; any trial; £90, or nearest.—135, Balmoral Rd., Gillingham, Kent. [4726

1920 Indian 7-9h.p. Combination, excellent tune and condition, small mileage, Easting wind screen, hand Klaxon, dynamo lighting, electric horn, 2 new Dunlop covers as spares, other tyres unpunctured; £220; bargain.—Box 9,944, c/o *The Motor Cycle*. [3400

1918 7-9h.p. Indian Combination (blue), spring frame, 3-speed, leg guards, roomy sidecar, hood, large wind screen, luggage carrier, electric side and rear lamps, tyres, tubes perfect, spare ditto, Comfy cane seat on carrier, bought new, guaranteed perfect; £110.—G.M., 91, Wightman Rd., Harringay, N. [4708

Invicta.

SECOND-HAND 2½h.p. Invicta, Villiers 2-stroke engine, single speed, complete with accessories, cost over £70, very little used; only £50; may be obtained on deferred payments.—Harrods, Ltd., 118, Brompton Rd., London. [4796

Ivy

IVY 1919 2¾h.p., 2-speed, T.T. bars, large P. and H. lamps, disc wheels, Dunlop tyres, insured for £70; bargain, £55.—R. D. Varty, Thundersley, Essex. [3710

IVY, the aristocrat of its type; delivery of all models from stock; prices and catalogue post free.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4011

IMMEDIATE delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, Gt. Portland St., W.1. Mayfair 4084. [0022

James.

NEW 1920 5-6h.p. James Combination; £190.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0340

JAMES New Combination, all models for immediate delivery from stock.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4012

1920 James Combination 4¼h.p., 3-speed, kick starter, De Luxe sidecar, horn, D.A. lighting set, spare cylinder, speedometer, Easting screen, tools, perfect condition; price with insurance to May, £165.—Cole, Rutland Chambers, Newmarket. [4143

Lea-Francis.

LEA-FRANCIS, 1915, twin J.A.P., 3-speed gear, splendid goer; any trial; £60, or exchange.—Stanford, Midland Bank Chambers, Yeovil. [4603

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1. [0099

1914 Lea-Francis, 2-speed, mechanically perfect, recently overhauled by makers, cost £35; invoice produced; £80.—Apply, Colebrook, 44, St. Mary Axe, E.C.3. [4473

LEA-FRANCIS 1921 Models.—We are now accepting orders for early delivery; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3260

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MOTOR CYCLES FOR SALE.

Lea-Francis.

LEA-FRANCIS, M.A.G., as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [9887

NEW Lea-Francis, 2-speed, clutch and kick starter, M.A.G. engine; at list price, £130, or on deferred payments 4% extra; only one-fifth deposit, balance by 12 monthly instalments.—Harrods, Ltd., 118, Brompton Rd., London. [4788

Levis.

LEVIS 2¼h.p., excellent condition; bargain, £45.—14, Pandora Rd., West Hampstead. [4707

LEVIS, the finest 2-stroke in the world; delivery from stock, £60.—Sole district agents, The Walsall Garage, Walsall. Tel.: 444. [4013

2¼h.p. Levis Popular Model, brand new from works; £60, or on Harrods unique easy payment system 4% extra.—Harrods, Ltd., 118, Brompton Rd., London. [4797

1921 Levis Popular, in stock for immediate delivery, £60; exchanges or easy terms.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4768

L.M.C.

L.M.C. 1919 4¼h.p. C.B. Combination, 3-speed, electric lighting, fully equipped, perfect condition; no reasonable offer refused.—Brown, 153, Cromwell Rd., Peterborough. [4825

L.M.C.—Mebes and Mebes are the sole London and Home Counties agents; early delivery of all 1921 models; trade enquiries esteemed.—154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3259

L.M.C., suspension and ordinary models, shop-soiled, as makers' specifications, at greatly reduced prices; also 6h.p. and 4¼h.p. combinations, second-hand; at bargain prices.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7185

Martinsyde.

6h.p. Martinsyde, the super combination; immediate deliveries, Norfolk agents.—Norwich Motor Co., Ltd., Norwich. [2786

MARTINSYDE-NEWMAN 1921 Models.—We are now accepting orders for early delivery, all models; your enquiry esteemed.—Mebes, 154-6, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [3263

MARTINSYDE-NEWMAN.—Sole agents for London, Essex, Bucks, Surrey, Middlesex, and Hertford; also Cornwall and Devonshire, for Martinsyde-Newman combination; £170; delivery ex stock; trade supplied; exchanges and deferred payments.—Maudes', 100, Gt. Portland St., W.1., and Paris St., Exeter. [5777

Matchless.

MATCHLESS.

1921 Models now ready; all the latest improvements. You can have one now, or book delivery for any forward date. Every combination personally tested by the Matchless specialist. Spares of all dates in stock.—J. Tassell, 1a, Bloomfield Rd., Plumstead. [6881

1921 Matchless Standard, lamps, horn, mileage 200; bargain, £179.—Below.

1920 Matchless Magdyno brand new; £185.—Edwards, 50, Harrington Rd., South Kensington. 'Phone: Kensington 3709. [4750

MATCHLESS.—Early deliveries.—Pollard, Broomfield Rd., Chelmsford. [X2917a

SHREWSBURY Agent for Matchless. 1921 models from stock.—J. C. Pickering. [3988

1921 Matchless Combination in stock for immediate delivery; £205.—Stacey, 12, Ecclesall Rd., Sheffield. [X3797

1920 Matchless Combination, as delivered, shop-soiled; £175.—Wright's Garage, Saffron Walden. Tel.: 16. [4756

1921 Matchless Combinations, Magdyno; delivery from stock.—Agents, Hewitt Bros., 94, Western Rd., Hove, Sussex. [0334

MATCHLESS Combination, 1917, 8h.p. M.A.G., 3-speed, F.R.S. lighting, hood, screen, and spare wheel; £150.—Owner, 39, Avondale Rd., South Croydon. 'Phone: Croydon 2646. [4639

MATCHLESS Combination, 2-speed, kick start, chain drive, fine turnout; £110; take lower power part.—26, Cornwall Rd., Brixton, London. [4820

MATCHLESS 1921 Combinations in Stock; exchanges arranged.—Authorised agents, R. B. Clark and Co., 7, Exhibition Rd., S.W.7. Kensington 4096. [4334

1920 Matchless Combination, 8h.p. J.A.P., fitted lamps, horn, hood, screen, small mileage, perfect condition, must be sold quickly; a bargain; offers over £160, cost £225.—Lugg, Arcade, Okehampton. [4613

MATCHLESS Model H., dynamo lighting, hood, screen, spare wheel, etc., the last one of the 1920 models, brand new; best offer secures.—Clapham Motors), 27, Stockwell St., Greenwich. 'Phone: 751. [4779

MATCHLESS Combinations.—Book your orders now with Ross, 86, High Rd., Lee, S.E., for 1921 models; deliveries guaranteed strictly as per order received; a large assortment of 1919 and 1920 models also in stock. [3850

MOTOR CYCLES FOR SALE.

Matchless.

MATCHLESS Model H Combination, to makers' specification, £205; dynamo lighting model, £231/7/6, or on Harrods unique easy payment system for a small extra charge.—Harrods, Ltd., 118, Brompton Rd., London. [4805

1920 Matchless (August), M.A.G. engine, Lucas Magdyno lighting, Lood, speedometer, all accessories, beautiful condition, spare wheel, never been used; owner taking delivery of Morgan; £215, or nearest.—44, Dingwall Rd., Croydon. [4807

1920 Matchless Combination, 7-9h.p., M.A.G. engine, hood, screen, speedometer, spare wheel, Lucas gas set throughout, absolutely as new, £185; easy payments.—Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4765

MATCHLESS.—We are the recognised North London agents for the delightfully sprung and practically designed Matchless combination; the Rolls-Royce on three wheels; immediate delivery from stock; for cash, deferred payments, or exchange; trade supplied; all spares in stock.—Jones' Garage, Muswell Hill, N.10, and at Woodside Parade, North Finchley. [4230

Metro.

METRO-TYLOR, 1920 (Sept.), 2-stroke, 2 speeds, all on, mileage 350, as new; 55 gns.; any trial except Sundays.—35, Wellhouse Rd., Barnoldswick. [4620

Motosacoche.

2¾h.p. Motosacoche, variable gear, Bosch mag., fully equipped, perfect condition; £28, or near offer.—5 Tudor Rd., Hayes End, Middlesex. [4587

New Hudson.

1914 6h.p. New Hudson Coachbuilt Combination, engine just overhauled; £70.—Hope, 96, Bennett's Lane, Bolton. [4586

NEW HUDSON Combination, 3-speed, kick start, clutch, chain belt; any trial; £88; for lightweight, cash adjustment.—57, Kenbury St., Camberwell, London. [4821

New Imperial.

1920 New Imperial Combination, as new; £110.—Wright's Garage, Saffron Walden. Tel.: 16. [4758

NEW IMPERIAL 1916 2¾h.p., 2-speed, semi-T.T. bars, complete with lamps and horn; bargain, £38.—R. D. Varty, Thundersley, Essex. [3712

FOR Sale, New Imperial, 1917 2¾h.p., 2-speed countershaft, and accessories; must sell, £42, or near offer.—Bates, Riverside, Chertsey. [X4114

NEW IMPERIAL-J.A.P., 1921 model, 2¾h.p., 2-speed, kick starter, hand clutch, brand new, unused; immediate delivery; 85 gns.—Central Garage, Henley-on-Thames. [1074

1921 New Imperial; all models in stock, combination, £186/18; model 1, £80/17; Model 2, £89.5; exchanges or easy terms.—Official Agents, Homac's, 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4760

NEW IMPERIAL Motor Cycles and Combinations supplied at manufacturers' list prices for cash, or on Harrods unique easy payments system for a small extra charge; full particulars on application.—Harrods, Ltd., 118, Brompton Rd., London. [4800

Norton.

NORTON.—North Yorkshire agents: R. H. L. Pickering and Co., 239, Linthorpe Rd., Middlesbrough [2997

NORTON Motor Cycles.—Place that order with me; early delivery dates.—Cook's Garage, Shifnal, Salop. [8136

NORTON 1920 Big Four, Sandum sidecar, wind screen, equal to new; £150. Parker's, Bradshawgate, Bolton. [X4168

NORTON Motor Cycles, sole district agents for Derby, all models in stock; enquiries invited.—H. Palin, Ltd., Bourne St., Derby. [8134

NORTON 3½h.p., 3-speed hub gear, clutch, lamps, engine No. 10164, excellent condition; £55.—Norris, Catmos Villa, Oakham. [4703

1920 Big 4 Norton and De Luxe sidecar, absolutely new, shop-soiled; very great bargain, original price £177, reduced to 155 gns.—Julian, 84, Broad St., Reading. 'Phone: 1024. [4657

LATE 1919 3½h.p. Norton, geared model, as good as new, electric lighting set; £108/10, or nearest offer. Further particulars, write to L. Donaldson, Royal Hotel, Mansfield-Woodhouse, Notts. [4113

1920 3½h.p. Sports Norton, 3-speed, and Canoelet sidecar, all lamps, winner of several gold medals at hill-climbs, splendid condition; great bargain, 132 gns. Julian, 84, Broad St., Reading. 'Phone: 1024 [4660

N.S.U.

N.S.U. and Sidecar, 5-6h.p., 2-speed, Thomson-Bennett, lamps, horn, mirror, tools, spares, sound condition, motor house, 8ft 6in. × 6ft 6in., floor; cost £50; going abroad. Millar, Park Ter., Maybole. [4680

N.U.T.

N.U.T., only ridden 100 miles; for immediate sale £150.—Pollard, Broomfield Rd., Chelmsford. [X2917b

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WE are making FURTHER REDUCTIONS, and are now offering our stock of SHOP-SOILED 1920 Models at ROCK-BOTTOM PRICES TO CLEAR.

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N.U.T.

1921 N.U.T. 3½h.p. Standard Model, Magdyno; £165; in stock.—Hewett Bros., 94, Western Rd., Hove, Sussex. [0343

N.U.T., Oct., 1920, Lucas Magdyno, Bonniksen speedometer, unscratched; £140, or nearest.—Hampton, Home Farm, Withdeane, Brighton. [4848

N.U.T.; delivery from stock of all models. Sole wholesale and retail agents for Staffordshire; the trade supplied.—The Walsall Garage, Walsall. Tel.: 444. [4014

W. SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early delivery; write or 'phone for particulars.—Tel.: Yeovil 114. [6023

O.K.

O.K. Juniors, 2-speed, kick starter, 2-speed only, and single gear, 1921 models.—Longman, Fisherton, Salisbury. [3814

1917 O.K., 2¾h.p. J.A.P., 2 speeds, T.T. bars, lamps, etc., in first-class condition; will ride 30 miles; £45/10.—P. Saunders, Longwell Green, near Bristol. [4257

Omega.

NEW 1920 Omega 2-speed; £75; in stock.—Randall, Andover. [0368

OMEGA Combinations and 2¾h.p. 1921 models.—Longman, Fisherton, Salisbury. [3816

2¾h.p. Omega-Jap, the sporting single; immediate deliveries.—Norwich Motor Co., Ltd., Norwich. [2787

Overstone.

£45.—Overstone-Villiers 2-stroke, 1919, all accessories, mileage negligible; any trial or examination; by appointment.—L. Jackson, 11, Central Av., Littleborough, Lancs. [4824

P. and M.

P. and M., very early deliveries.—Pollard, Broomfield Rd., Chelmsford. [X2915

P. and M., December, 1919, splendid machine, as new.—Ashley, Probus, Cornwall. [0370

P. and M., 1919, thoroughly overhauled and equal to new; £85.—Pollard, Broomfield Rd., Chelmsford. [X2916

P. and M. 1921 Model for immediate delivery; £125.—W. and H. Motor Co., Ltd., 287, Deansgate, Manchester. [4617

PHELON and Moore 1920 3½h.p. with brand new Watsonian sidecar to match, low mileage, indistinguishable from new; £130.—Parker's, Bradshawgate, Bolton. [X4171

P. and M. Combination, Dunhill sidecar and storm apron, lamps, etc., fully equipped; £100, great bargain.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7188

PHELON and Moore ex-W.D. Models, thoroughly overhauled and guaranteed, tanks re-enamelled, front brakes, chain cases; £78. Similar models overhauled and guaranteed by makers, £95; with sidecars, £100 and £110; easy payments 7½% extra.—Maudes, 100, Gt. Portland St., W.1, and Paris St., Exeter. [4753

Premier.

1914 3½h.p. Premier, 3-speed, clutch, Bosch, B. and B., good running order; £45.—W. Poole, Stokenchurch, Bucks. [4591

Quadrant.

NEW 1920 4½h.p. Quadrant Combination; £145.—Shepherd, Enfield Highway. Tel.: Waltham Cross 31. [0341

QUADRANT 1920 4½h.p. Combination, shop-soiled, as makers' specifications; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7189

QUADRANT Combination, 1920, 4½h.p., in beautiful condition, hood, screen, etc.; £120; accept half down.—Bunting's Motor Exchange, Wealdstone. Closed Sundays. [4732

1920 Quadrant Combination, 4¼h.p., Stumey-Archer, 3 speeds, all chain drive, all lamps, horn, Cameo screen, under 500 miles, as new, £130; exchanges or easy terms.—Homac's 243, Lower Clapton Rd., N.E. 'Phone: Dalston 2408. [4761

Radco.

RADCO Lightweight, single-speed, as makers' specifications, shop-soiled; at greatly reduced price; now is the time to buy.—Mebes, 154-156, Gt., Portland St., W.1. 'Phone: 3426 Mayfair. [7190

Rover.

1919 6h.p. Rover, splendid condition; £100.—Wright's Garage, Saffron Walden. Tel.: 16. [4757

1919 3½h.p. Rover, 3-speed countershaft, lamps, horn, etc., new condition: bargain, £75.—H. Wright, Arlesey, Beds. [4836

3½h.p. Rover, 3-speed, clutch, coachbuilt sidecar, splendid condition; £80.—Write Mitchell, Thornhill, Madeira Av., Bromley, Kent. [4714

1920 Rover 3½h.p., 3-speed, new July, done 1,200, with lamps, horn, speedometer, as new; £120.—Box 1,166, c/o *The Motor Cycle*. [4855

3½h.p. Rover, late 1919, 3-speed, kick start, all accessories, splendid condition; £120, or nearest offer.—Loach, 65, Park Av., Worcester. [4819

MOTOR CYCLES FOR SALE.

Miscellaneous.

1921 Triumphs, Scotts, Bradburys, James, Rudges, Campions, Morgans, etc.—Ewens, Garage, King's Lynn. [3659

IF you want a good privately owned motor cycle or car, apply Kwiksale Private Motor Registry, 35, Long Acre, W.C. Gerrard 2392. [0138

BOOTHS' Motories, Halifax.—6h.p. Rudge combination, lamps, 1920 model, £125; 1920 4h.p. Blackburne-Verus, 3-speed, and new Millford sidecar, £120/10.

BOOTHS' Motories, Halifax.—1920 6h.p. Ariel combination, shop-soiled, £145/10; 1920 Harley-Davidson, very cheap.

BOOTHS' Motories, Halifax.—1915 Harley-Davidson combination, lamps, hood, etc., £87/10; 6h.p. 2-speed Rex combination, £40/10.

BOOTHS' Motories, Halifax.—8h.p. J.A.P., free engine, Druid forks, £30/10; 6h.p. Chater-Lea with sidecar, £35/10.

BOOTHS' Motories, Halifax.—1919 P. and M., with new sidecar, £115/10; 1920 2-speed Wolf, £52/10.

BOOTHS' Motories, Halifax.—Six 1915 Douglases, £49/10; four 4h.p. Douglases, 1918, £85/10; 1914 3¾h.p. Sun-Precision, 3-speed, £35/10.

BOOTHS' Motories.—1920 O.K. lightweight, Villiers engine, only run 150, £43/10; ditto with 2-speed, £54/10; 1920 Omerga, 2-speed, £69/15; 1914 2-speed Scott, £47/10; 1920 10h.p. Swift light car, £420; 1920 Harley-Davidsons, Ariels, Quadrants, O.K.; exchanges.—Booths' Motories, Portland Place, Halifax. [2621

R. B. CLARK and Co.—Brand new shop-soiled 1920 models, 10% under list; Rudge I.O.M., Lea-Francis, B.A.T., Verus, Sports Harley, Diamond, New Hudson. Call and inspect.—7, Exhibition Rd., South Kensington. [4336

ASTONISHING List of new 1920 motor cycles in stock at bargain prices. No reasonable offers refused.—Lamb's, 387, Euston Rd., London, N.W.; 50, High Rd., Wood Green, N.; and 151, High St., Walthamstow. [4728

FRANK WHITWORTH, Ltd., 139, New St., Birmingham.—Little used Douglas combination, £120; Ixion 2-stroke, £32; Campion-Villiers, 2-speed, £45; Enfield 2-speed 2-stroke, leg shields, electric lighting, new A.B.C., N.U.T., Lea-Francis, Ivy, Cedos; also

COVENTRY Premier Super Runabout. [X1881

BARGAINS.—Please peruse our advertisements in small columns. We are disposing of our large stock of shop-soiled models at greatly reduced prices. Do not wait. Come and buy at once. The offer may not occur again.—Mebes, 154-156, Gt. Portland St., W.1. 'Phone: 3426 Mayfair. [7194

MOTOR Cycles (New Models), sidecars, and bodies actually in stock: B.S.A., Allon, New Scale, Radco (3 models), Triumph, Douglas, Sun Vitesse (for which we are the sole agents for the City of London), and others at lowest manufacturers' prices; carriage paid.—Bancroftian Co., 64 and 78, Bishopsgate, London, E.C.2. [0356

F.O.C.H. the car, light car, and motor cycle specialists.—A good new and second-hand selection always on view; prices to suit everybody; fair cash price paid for your 'bus; exchanges a speciality. We supply Triumph, Zenith, B.S.A., A.J.S., etc., also the famous Kingsbury Junior, Bleriot Whippet, Grahame-White, G.N.—5, Heath St., Hampstead (nr. Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including Saturdays. [4671

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B.S.A. Auto-wheel, perfect running order; 9 gns.—J. Batchelor, 7, Abbey Place, Selby, Yorkshire. [4687

J.E.S. Motorcyclette, Dunlop Magnum tyres, as new, 1920 carburetter, perfect in every detail; £28; owner buying combination.—2, Milicent Villas, Havering Rd., Romford. [4704

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KINGSBURY Scooter, new condition.—Offers to Winstanley, Solvay Rd., Northwich. [4592

EGERTONS, Northgate, Ipswich, can deliver from stock A.B.C., Skootamotas, and Mobile Pups. [4863

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KINGSBURY Scooter, with saddle, carrier, toolbag, etc., run less than 100 miles, practically new condition; £25.—Abbeville, Parson St., Hendon. [4153

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ARGSON Hand and Motor Propelled Tricycles, for invalid and disabled.—Particulars, Argson Eng. Co., Ltd., 3, Kendalls Mews, George St., W.1. [2647

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HERCULES Hoods, best and cheapest on the market, made to fit any body.

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SANDUM Sidecars.—The most noted body-builders in the country.

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COACHBUILT Sidecar, suit 4h.p.; offers.—Shaw House, Melbourne, Derby. [4593

TORPEDO Sidecar, off Indian, good condition; £2.—4, Passmore St., Sloane Sq., S.W.1. [4621

SIDECAR, good as new; £16.—Write L. Donaldson, Royal Hotel, Mansfield-Woodhouse, Notts. [4114

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TAMPLIN 1921 2-seaters always in stock, immediate delivery. We specialise in fittings for these cars. Free tuition.—Tamplin and Sons, 20, Heath Rd., Twickenham. 'Phone: 96 Richmond. [4710

T.B. 1921 Models, 10h.p. Blackburne, air-cooled, £260, water-cooled £275; ready for delivery January.—Sole agents Sussex, County Garage, Gloucester Place, Brighton. Agents invited. [3231

MORGAN 1920 New Grand Prix Model, 10h.p. water-cooled M.A.G. engine, special streamline body, built to special order at Morgan works, complete with hood, screen, lamps, horn; £235.—Below.

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£100 down and 12 payments £10 monthly secures nearly new Chevrolet 4-seater, dynamo self-starter.—Palmer's Garage, Tooting.

£75 down and 12 monthly payments £7/10 secures splendid R.M.C. underslung 2-seater.—Palmer's Garage, Tooting.

£50 down and 12 payments £5 monthly secures excellent Dennis landaulet.—Palmer's Garage, Tooting.

£250 secures Martini sporting 2-seater, very smart car.—Palmer's Garage, Tooting. [4432

TURKEYS Given Away! All purchasers of cars this week and until Dec. 31st will be presented free with a fine large turkey and Christmas hamper containing a ham, Christmas pudding, mince pies, cake, fruit, sweets, etc., total value £5 (limit 50 hampers at £5—£250).—Cox (below).

GIVEN Away also as above to anyone making an offer for any car, whether accepted or not, provided offer unconditional and accompanied by cheque £10 deposit (returnable if offer not accepted). Remember all dates guaranteed accurate.—Cox (below).

CHRISTMAS Bargains, guaranteed by my systematic reduction scheme, still going strong. Another £250 reductions this week, totalling over £5,000 to date! 15h.p. 4-cyl. chassis, unknown make, live axle, gate, Zenith, Bosch, absurd bargain, £20! 24h.p. 1910 Leon Bollee chassis, enclosed valves, live axle, 4-speed, gate, reduced from £185, now £60! 14-16h.p. Belsize 4-5-seater, live axle, gate, Bosch, Binks, pulls splendidly, £80! 12h.p. Alldays van, Ford type body, smart, £95; 12h.p. Sizaire-Naudin sporting streamline 2-seater, discs, fast, smart, £100; Williamson combination, £130; 8-10h.p. Blumfield Crescent streamline light car, 2-seater, 3-speed gear box, smart, £140; Ford van, exceptionally good one, £160; 8-10 h.p. Warne 2-seater, dynamo lighting, discs, live axle, gate, £170; 12h.p. 4-cyl. Humber streamline 4-seater, 1919 body, gate, £170; smart little 8-10h.p. 1913 Globe coupe light car, Claudel, gate, £180; Unic, 15-cwt. van, sump lubrication, monobloc, detachables, £190; nice little electric landaulet, £195; 11.4h.p. 1915 Whiting-Grant light car, monobloc, bull-nosed radiator, £220; 1920 Bleriot-Whippet cycle car, 8-10h.p., detachable wheels, £220; 10h.p. Delage sporting 2-seater, bulbous back, dynamo lighting, 4-cyl. monobloc, smart, £230.—Cox (below).

TURKEYS, etc., included with all these!—12-14h.p. Fiat 4-seater, monobloc, gate, smart, £225; 10h.p. Le Gui 2-seater, 4-cyl. monobloc, 4-speed, gate, £225; 16h.p. Bell landaulet, enclosed valves, gate, sump, £230; 10h.p. Delage sporting 2-seater, dynamo lighting, bulbous back, 4-cyl. monobloc, smart, £230; 12-15h.p. Gladiator torpedo, £235; 1920 G.N. 2-seater, dynamo lighting, detachable wheels exceptionally nice, £240; 10h.p. 4-cyl. coupe, Chapuis-Dornier monobloc engine, gate, bull-nosed brass radiator, £245; 12-14h.p. Unic torpedo, £250; 1-ton 1916¾ Clydesdale lorry, £250; 20h.p. Rapid torpedo, £275; smart 15.9h.p. 1912 Darracq, sleeve valve, roomy torpedo, worm drive, 4-speed, gate, Zenith (£385 originally), £280; 18h.p. 6-cyl. Horbick streamline tourer, £290; 12-15h.p. Opel landaulet, monobloc, gate, cord, Zenith, £290; 15.9h.p. Knight Daimler, 4-seater, worm drive, detachable wheels, smart, bargain, £320; 13.9h.p. 1914 B.S.A. 2-seater, worm drive sleeve valve, detachable wheels £320; 15-20h.p. Chevrolet 3-seater, English coachwork, dickey, dynamo, starter, smart, £320; 12-15h.p. Crossley 3-seater, detachable wheels, monobloc, £320; 12h.p. 1913 Valveless Darracq, torpedo, detachable wheels, smart, £320; 12h.p. Brennabor streamline 4-seater, 4-cyl. monobloc, enclosed valves, steel disc wheels, detachables, particularly smart, £325; smart 12-15h.p. 1913¾ Sizaire-Naudin streamline 5-seater, monobloc, detachable wheels, £305; 15.9h.p. Arrol-Johnston 3-seater, dickey, enclosed valves, detachable wheels, smart, £345; particularly posh 11.9h.p. 1913¾ Humber streamline 4-seater, enclosed valves, detachable wheels, £350.—Cox (below).

NOTICE.—For list of all cars from £350 to £1,250 see "The Motor" or "The Autocar," or send P.C. for full printed list. All types stocked, including latest type touring cars, landaulets, super-landaulets, saloons, lorries, and vans (1, 2, 3, and 4 tons), 20-30-seater chars-a-bancs, 'buses, all on view on the premises; 60 cars actually in stock. Why not call? Exchanges entertained.—Cox (below).

DOUGLAS S. COX, the motor car buyers' Father Christmas, 6a, Lansdowne Hill, West Norwood, S.E. Hours 9 to 6, Saturday 5. No business Sundays. Closed Christmas Saturday and Monday (open Tuesday). Established 1902. [4834

CARS FOR SALE.

FOR Sale, good 1919 Ford touring, with 1914 body; £190; will accept combination part payment.—Whetstone, Littleport, Cambs. [4606

7-9h.p. Swift, staggered seats, 1914, splendid condition, £170; exchange good combination, or arrange easy payments.—Bunting's Motors, Wealdstone. [4729

1920 Richardson Car, 8h.p. J.A.P. engine, hardly used, excellent condition, spare tyre, tools, etc., electric lighting; £185, no offers.—Apply, H. Laviers and Co., Drapers, 38 to 42, Commercial St., Maesteg, Glamorgan. [4690

8½h.p. Rover 2-seater, recently overhauled, thorough good running order, new piston and new tyres; trial offered; £75 for quick sale; genuine bargain.—Apply, by letter, English, Colehill, Wimborne, Dorset. [1208

COMMERCIAL VEHICLES.

LORRY Bodies for Ford Tonners in Stock, extra strong make, enclosed cab; £65.—The Willowbrook Co., Leicester. [0373

£100 Down and 12 monthly payments of £25 secures a magnificent 3-ton lorry.—Details, Palmer's Garage, Tooting. [4440

£85 down and 12 monthly payments of £15 secures splendid 1-ton truck, twin solids, will carry 30-cwt.—Details, Palmer's Garage, Tooting. [4436

EMPRESS 15-20h.p., about 1916, standing idle 3 years, suitable for traveller's 'bus, roomy mahogany coachbuilt box body, converted to carry goods or 10 passengers, thoroughly overhauled, repainted royal blue; £275.—Apply, Austin, 1, Cortayne Rd., New King's Rd., Fulham. [4872

ENGINES.

EIGHT 8-10h.p. Douglas Lighting Sets, waer-cooled, with radiator, 120 v. dynamo, 20 amps., all on one base. These are complete with switchboards, which includes 1 voltmeter, 2 amp. meters, and 6 switches.—Below.

FOUR 8-10h.p. Douglas Engines only, with radiator and magneto and carburetter; £30 each.—Below.

SIX 4-cyl. Standard Lighting Sets, 10h.p. engine, with radiator, 120 v. dynamo, 30 amp., switchboard and switches. These are exactly as used on the workshop lorries. Price £75 each, with magneto and carburetter.—Below.

EIGHT 10h.p. 4-cyl. Austin Lighting Sets. Particulars same as Standard. £75 each, with magneto and carburetter.—Below.

5-6h.p. Clyno Engines, less magneto and carburetter; £15 each.—Below.

I ALSO Have a very large quantity of cable, switches, switchboards, electric lamps, electric lighting shades, etc.—Below.

FORTY Switchboards, in cases with sliding glass doors, containing one voltmeter, 2 amp. meters, and 5 switches; £4 each.

PLEASE Write or apply for any of the above to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4655

HEPPELTHWAITE'S for 3h.p. 2-strokes, brand new, £7/10, worth £15; also 3h.p. N.S.U., £5/10; gear to suit, £5/10; twin Peugeot, 5-6h.p., £6/10.—19, Wilcox Rd., South Lambeth, London, S.W.8. [4678

J.A.P. Engines in Stock.—Special o.h.v. engines built, complete stock of spares for all type J.A.P. engines; Bosch magneto, 50° twin, £6/10; A1 J.A.P. engines from £15.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town, N.W. [3930

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C.A.V. Twin, new, £3/10, new, with leads complete; C.A.V. single, new, £3/10.—145, Fulham Palace Rd., S.W.6. [4871

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"	Avon Combination	44/-	91/-
"	Dunlop Heavy	39/6	53/6
"	Beldam Extra Heavy	39/6	64/-
"	Bates No. 1 Special	39/6	67/-
"	S. Moulton Extra Heavy	37/6	59/-
"	Hutchinson T.T.	37/6	59/-
"	Clincher De Luxe Ex. Hy.	37/6	62/6
"	Englebert Wired-on R.S.	35/-	64/-
"	Beldam Heavy	34/-	58/-
"	Englebert Wired-on Rib	30/-	60/-
26×2⅜	Dunlop Heavy	41/6	56/9
"	Palmer Cord Heavy	39/6	66/-
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"	Kempshall Anti-skid	37/6	75/-
"	Wood-Milne Extra Heavy	37/-	63/9
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ONE E.I.C. Single-cyl. Magneto, practically new, suit B.S.A. or Triumph, etc.; best offer for quick sale.—Apply, Jeffery, Crossways, Alveston, Glos. [4830

THOMSON-BENNETT Magnetos, new, 180°, anti, £3/15; Berlug ditto, £3 15; Dixie, 180°, clock, £3.—Banister and Botten, 341, Upper St., N.1. [4701

1-CYL. C.A.V., 75/-; 1-cyl. Thomson-Bennett, 75/-; 2-cyl. C.A.V., 180°, 80/-; all practically new and sent on approval; clock or anti.—23, Elnathan Mews, Maida Vale, W.9. [3555

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JEBRON, registered 291,298, greatly superior to platinum, unequalled for blades, screws, etc., cures misfiring, 7/- each rivet; Jebron screws, fit Bosch magnetos, 15/6 pair; old screws, Jebronised, 7/- each.

JEBRON Contacts, used by Messrs. Collier Bros., Colver, Martin, making world's records.—Jebron, 38, Herbert Rd., Woolwich, London, S.E.18. [0002

MAGNETO Repairs.—Send your magneto to Palmer's Garage, Tooting. Reply paid, quotation telegraphed on receipt. Quick, efficient repair guaranteed in from 2 to 6 days—usually within 24 hours.—Palmer's Garage, Tooting. [4438

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MAGNETOS, Magnetos.—We hold a stock of V twin magnetos of all degrees, and recommend the new B.T.H. 42° to Indian riders; Bosch magnetos, all degrees and rotations; B.T.H. singles in stock; exchanges. The only official Indian electrical service station B.T.H., Thomson-Bennett, and Peel Conner repairs service.—Euston Ignition Co., 329, Euston Rd., N.W.1. 'Phone: Museum 5034. T.A.: Magdymo, Eusroad, London. [3786

THE Magneto Repairing and Winding Co. (Established 1912), contractors to H.M. Government, and officially appointed by the R.A.C.—Magneto repairs of every description. All repairs at lowest possible prices, and strictly guaranteed. We can mostly return them within 24 hours. We have several new and second-hand single and 2-cyl. magnetos in stock, all guaranteed.—The Magneto Repairing and Winding Co., 78, Hampstead Rd., Euston Rd., London, N.W.1. 'Phone: Museum 1158. T.A.: Kumagnelec, Eusroad, London. [1539

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TYRES.

BRAND New Clincher Tyres, 26×2¼ 33/6, 26×2½ 39/6.—Wandsworth Motor Exchange, Ebner St., Wandsworth. [6171

TYRES. Great sale.—Don't buy any until you have seen our list. It is a revelation.—Bancroftian Co., 64 and 78, Bishopsgate, E.C. [0054

ECONOMIC Tyre Co.—Genuine bargains in new clearance and Government surplus stock; all goods sent carriage paid on 7 days' approval against remittance.

ECONOMIC.—24×2¼ (fit 2in. rims) heavy rubber non-skid, 41/-, listed 54/6; 26×2¼ Dunlop heavy, 37/6, listed £2/16/9.

ECONOMIC.—26×2⅜ Dunlop heavy, 39/6, listed £2/19/9; Palmer cord heavy, 39/6, listed £3/19/4; Avon tricar, 37/6, listed £3/0/6.

ECONOMIC.—28×2½ (American) Kempshall Non-skid, brand new 52/6, listed £4/11/3; 28×3 Kempshall non-skid, clearance, 45/-, listed £5/12/2.

ECONOMIC.—650×65 Clincher de Luxe W.D., 57/3, listed £4; 700×80 Dunlop grooved, 75/-, listed £4/19/6.

ECONOMIC.—Fully guaranteed, Dunlop rubber-stud, 24×2 27/9, 26×2 29/9, 26×2¼ 31/6.

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28×3 Dunlop Extra Heavy, 4-ply, 50/-, Palmer cord heavy 50/-, Palmer cord 45/-, Wood-Milne extra strong 39/6, Moseley ribbed 35/-, Kempshall anti-skid 35/-.—Below.

700×80, for voiturette rims, will fit 650×65; Dunlop grooved 75/-, Wood-Milne Gruvrib 70/-, Spencer-Moulton 70/-, Beldam Bulldog 70/-, Avon Sunstone 70/-.—Below.

26×3×2½ Dunlop Heavy 45/-, ditto tubes 8/6.—Below.

650×65 Palmer Cord Heavy 57/6, Palmer cord 50/-, Dunlop heavy 50/-. As follows for voiturette rims: Michelin steel-studded 70/-, Dunlop steel-studded 75/-, Wood-Milne square 45/-.—Below.

26×2½ Dunlop Heavy Rubber-studded 45/-, Bates heavy pattern ribbed 39/6, Avon Sunstone 41/6, Dunlop combination rubber and steel-studded 57/6, Rom ditto 55/-, Wood-Milne 55/-.—Below.

26×2⅜ Dunlop Heavy 39/-, Wood-Milne extra strong 39/-, Moseley ribbed 34/-, Dunlop combination 55/-.—Below.

26×2¼ Dunlop Heavy 39/6, Dunlop combination 55/-, Rom ditto 55/-, Beldam ditto 55/-, Bates special heavy 37/6, Macintosh chain pattern 35/-.—Below.

THE Above Tyres are Government surplus, not in any way perished or soiled. All orders 7 days' approval against remittance. If not satisfactory money refunded. Country orders dispatched passenger train same day as order received.—Below.

H. EMANUEL, Tyre Factor, 27, Belgrade Rd., N.16. Stores: 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0235

BULL'S.—Large stock of motor cycle and voiturette covers and tubes at clearance prices.—Bull's Rubber Co., Ltd., 3, Upper St. Martin's Lane, London, W.C.2. Tel.: Gerrard 1347. [0243

26×2½ Mackintosh and Spencer-Moulton Tyres. These are brand new, and not perished; to clear, 30/- each; special quotations for quantities; carriage extra.—J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4654

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R. D. VARTY for Tyres.—New unused Dunlop heavy studded 26×2¼, 37/6; 26×2⅜, 37/6; two only 28×3 extra heavy, 47/6 each; also others at clearance prices, all sizes from 24×2, only a few left, don't delay.—R. D. Varty, Thundersley, Essex. [3713

BELDAM Retreads of a motor tyre give thousands of extra miles at a fraction of cost of new tyre. Send old cover (any size) and we will quote cost of retread or repairs; price list free.—The Beldam Tyre Co. (1920), Ltd., Brentford, Middlesex. [0310

KEMPSHALL Non-skid, also Hutchinson T.T., 28×2½, brand new, at a remarkable figure; 35/- each; special prices for quantities over 6; carriage free; greatest bargains in tyres.—J. Smith and Co., 52-54, Hampstead Rd., N.W.1. [0259

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26×2½ New Beaded Covers, 30/-; new best quality tubes, 24×2¼ 6/-, 26×2 6/6, 26×2¼ 7/-, 26×2½ 7/9, 26×2½×2¼ 8/6, 26×3 9/6, 700×80 10/6, 750×75 12/6; new rubber belts, 6ft. 2in.×1in., 10/6; 15in. inflators, 2/6; sent approval, carriage paid, receipt remittance.—Palmer's Garage, Tooting, S.W. [4435

MOTOR Cycle Tubes.—Best red quality, with small patch vulcanised by makers: 24×2, 5/3; 24×2¼, 5/6; 26×2, 5/9; 26×2¼, 6/-; 26×2⅜, 6/3; 26×2½, 6/6; 26×2½×2¼, 6/9; 26×3, 7/-; 28×2, 7/3; 28×3, 7/6; 29×3½, 7/9; 650×65, 8/-. All leading makes and sizes in stock.—H. Emanuel, Tyre Factor, 27, Belgrade Rd., N.16. Stores, 37a, Balls Pond Rd. 'Phone: Dalston 3161. [0346

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NEW Belting, Dunlop, Pedley, and Silvertown, sizes ⅞in. at 1/9 per foot, 1in. at 2/- per foot, 1⅛in. at 2/6 per foot; special quotations for quantities.—Apply, J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4653

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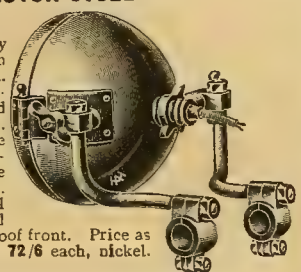

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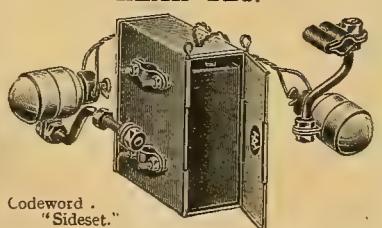

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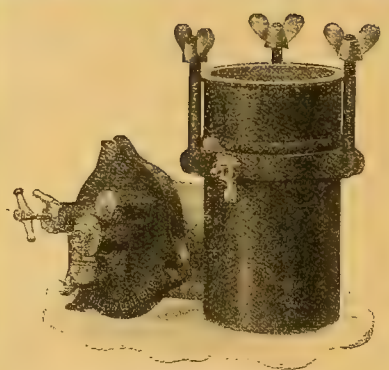

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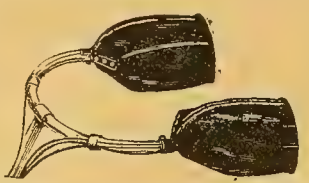

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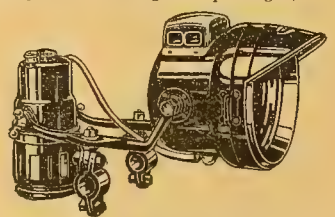

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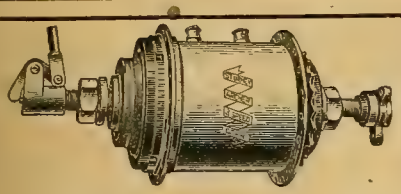

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Hub or Countershaft Gears repaired immediately, and in urgent cases we can repair while you wait.

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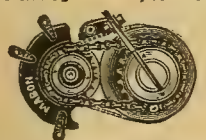

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P. and H. and Miller's Brackets (to take lamp and generator), handle-bar fitting, best heavyweight type, brand new; our price 4/3; postage and packing, 9d.—Marble Arch Motor Exchange, 135, Edgware Rd., W.2. [4220

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THE following are all brand new B.S.A. parts, guaranteed, and makers' colous: Brand new B.S.A. engines, £16; gear boxes, £12 complete; frames, £7; front forks, complete with all fittings, £4; lamps, all fittings, including Best and Lloyd lubricator, £4; rear wheel, complete with chain sprocket, 50/-; front wheel, 25/-; handle-bars, complete with grips, etc., and front brake, 40/-; footboards, 15/- pair; footrest rubber and holders, 8/- pair; cush drive, complete, 30/-; valves complete, in case, 5/-; magneto sprockets, 3/-; carburetter, complete, 50/-; Renolds drivinge hain, 88 links, 20/-; silencers with extension, 25/-; front rim brake, complete, 25/-; rear carriers, 35/-; front mudguards, 22/6; rear, 18/-; chain case for all chain drive, 55/-; rear brake, complete, 25/-; throttle control wire and casing, complete with nipple, all ready to replace old one, 5/- pair; kick start spring, 10d.; brake return springs, 8d.; front hubs, 10/-; rear stands, 14/-; front stands, 12/-; and numerous other B.S.A. parts, all new and guaranteed.—Below.

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CLYNO Driving Chains, best heavy Renolds, ¾×5-16, 5ft., 15/- each (what a chance), and they're brand new; Morgan size ¾×7-16in. best heavy Coventry and Renolds, 4/6 foot; every other size in stock at wholesale price (in some cases less), all brand new and guaranteed. -Below.

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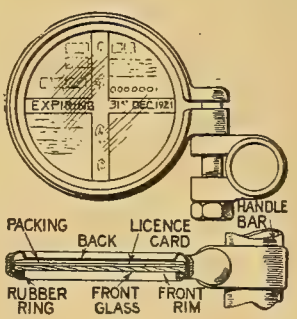

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TRIUMPH and Douglas Spares.—We specialise in all parts and repairs for these machines.

WE are prepared to quote special prices for renovations for repairs during the winter season, and a representative will be sent without any obligation in the London Area on receipt of postcard.

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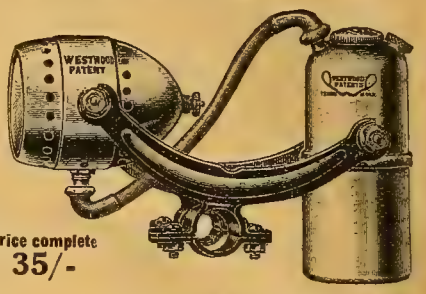

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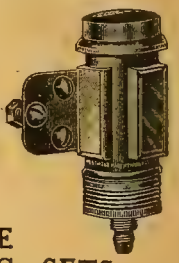

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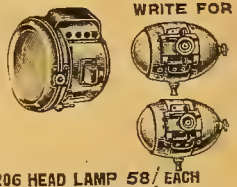

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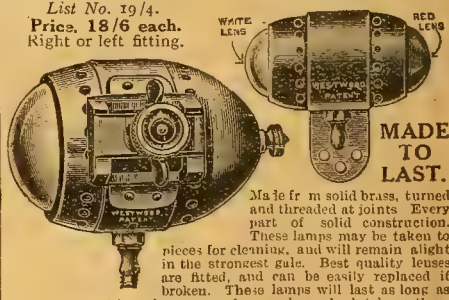
Right or left fitting.



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One-inch Touring Bars, black 15 0
26×2½×2¼ Palmer Sidecar Covers .. £1 15 0
Dixie Mag. for Douglas, second-hand £2 15 0
Coachbuilt Sidecar Bodies £6 15 0

Carriage extra.

CAPAC CARBURETTERS

constitute a remarkable combination of slow running, abnormal power, together with extreme simplicity. Price **£4 6s.**, including packing and carriage. Your present carburetter taken in exchange.

MISCELLANEOUS.

AMAC Carburetters, suitable for 2¾h.p. and 4h.p. Douglas, 67/-, complete; handle-bar controls, 15/6; float chambers, 25/-; float chamber caps, 5/-.—Robinsons.

BELTS.—Dunlop, ¾in. 2/9 ft., ⅞in. 3/2 ft., 1in. 3/11 ft.; John Bull, ¾in. 2/9 ft., ⅞in. 3/4 ft., 1in. 4/- ft.; Pedley, ¾in. 2/9 ft., ⅞in. 3/2 ft., 1in. 3/11 ft. —Robinsons.

CHAINS.—Renolds, 56 links, ⅝×⅜, 27/-; 54 links, ⅝×¼, 24/-; 88 links, ⅜×¼, 39/7; 68 links, ½×3-16, 16/6; Douglas, 19/9; spring cranked and inner links, 1/3; Morgan chains, 10/9 per foot.—Robinsons.

CRANKSHAFTS.—2¾h.p. Douglas, 1911, 2 gns.; 1915-20, 55/-; 4h.p. Douglas, 84/-; Villiers halves, 18/- each.—Robinsons.

CYLINDERS and Connecting Rods.—2¾h.p. J.A.P., £5/19/6; 4, 6, and 8h.p., £6/10; 3½h.p. Enfield, 70/-; Humberette, £6; Humber, £5/15; Sunbeam, £6/10; Rudge, £4/10; Rover, £5/7/6; 2¾h.p. and 4h.p. J.A.P. connecting rods, 30.-; 6h.p. and 8h.p., 79/6 pair.—Robinsons.

DOUGLAS Handbooks for 2¾h.p. and 4h.p.; your own repairs; 1/9 each, post free.—Robinsons.

DISCS, in polished aluminium, suitable for any make of machines, easily fitted, very sporty, 60/- and 70/-; Ace, 90/-.—Robinsons.

DOUGLAS Chain Guards, for 2¾h.p. 7/-, 4h.p. 12/8. —Robinsons.

FEELERS showing exact adjustment for tappet clearance, plug points, and contact breaker; 2/6. —Robinsons.

FOOTBOARDS.—Douglas 2¾h.p., complete with all fittings, 32/6; 4h.p., 30/-; aluminium, for Baby and 4h.p. Triumph, 34/6. We will send on approval.—Robinsons.

FRAMES.—2¾h.p. Douglas, £15; 4h.p. Douglas, £18/18; Triumph front portion, £8/14; rear top stays £2, rear bottom stays £4.—Robinsons.

GEAR BOXES.—Albion 2-speed free-engine, complete, 150/-; Albion 2-speed, with clutch and kick starter, £12; Roc 2-speed gear, complete with controls, 150/-; Douglas 2-speed pulley and chain wheel, 200/-. The trade supplied.—Robinsons.

KNEE-GRIPS, real leather padded, 10/6; leather and canvas padded, 7/6; John Bull, fit any tank, 6/9; all leather, best quality, 14/6.—Robinsons.

MUDGUARDS.—Douglas 2¾h.p. T.T., front and rear, 11/-; touring, front 15/-, rear 25/-; Douglas 4h.p., front 26/6, rear 30/8; sidecar mudshields, standard fitting, extra strong stays, 17/6.—Robinsons.

OVERALLS.—Suits, very heavy, dark fawn, double breasted, very warm, waist-foot leggings, 67/6; lightweight, 50/-; cheaper quality, 37/6. Black waterproof suits, 65/-; leggings with seats, 40/-; waist-foots, 30/-; single legs, 19/6. Brooks leggings, short brown, 28/-; long brown, 45/6; black, short, 32/-. Any suit sent on approval.—Robinsons.

DOUGLAS 4h.p. Spares.—Frame, complete, £18/18; carrier, 48/-; back stand, 15/6; forks, £9; steering columns, 18/6; fork springs, 4/6; chain guards, 13/-; cylinders, 60/-; pistons complete, £1/5; gudgeon pins, 2/6; rings, 1/9; connecting rods, 39/-; small end bushes, 3/6; big end, 6/-; crankshaft, 84/-; flywheel, 60/-; sprocket, 7/10; valves, 6/6; springs, 1/3; collars, 9d.; cotters, 2d.; valve caps, 7/-; guides, 4/6; asbestos washers (exhaust) 9d., (valve caps) 5d.; chains, 27/-; spare links, 1/3; rear brake, 25/-; front brake complete, 52/6; head clips, 11/6; Dunlop belts, £1/3/9; clutch draw bolts, 6/-; induction pipes, 36/-; K.S. quadrants, 18/6; springs, 1/-; number plates, 2/6; tool bags, 25/-; tank complete, £6; intermediate wheels, 12/-; magneto wheels, 10/6; camshaft wheels, 10/6; crankshaft pinion, 10/6; tappet, 9/-; guides, 8/-; silencers complete, 84/-.—Robinsons.

HUBS.—2¾h.p. Douglas, £1/5; 6h.p. Enfield, rear, complete, £3/18/6, front, £1/6; 3h.p. Enfield rear, £3/16, front £1/5; Triumph 1919 rear hub 31/10; A.J.S., £4/4; B.S.A., 30/-.—Robinsons.

RENOLDS Chains.—101 links, ⅝×⅜, 47/8; ditto 56 links, 27/-; ⅝×¼, 54 links, 24/-; ditto, 88 links, 39/7; Morgan chains, 10/9 foot; rivet extractors all sizes, in stock, 7/3 and 10/9; spring cranked and inner spare links, 1/3.—Robinsons.

RUID Forks.—Complete for 3½h.p. and 4h.p. machines, 5½in. head, 1¼in., 15/6, column. £6 5; heavy double spring type, £7.—Robinsons.

TOOLBAGS.—Armoured toolbags, keys, and all fittings suitable for Douglas 2¾h.p., 12/6; 4h.p., 17/6; Triumph, 16/3; Sunbeam, 10/-; Rudge, 13/6; Enfield, 9/-; James, 12/6; P. and M., 26/-; B.S.A., 13/6; Zenith, 30/-; tool rolls, leather 6/6; Douglas tool kits, 2 and 2¾h.p., 55/-; Douglas tool rolls, 7/-; Douglas pattern tool kits, 27/6; standard tool kits, 17/6 and 22/6.—Robinsons.

(This advertisement continued in third column.)

HERBERT ROBINSON
GREEN STREET, CAMBRIDGE, LTD.

Telephone, 995 Cambridge.
Telegrams, Bicycles, Cambridge.

1921 MODELS OF DOUGLAS MOTORS

IN STOCK.
NO WAITING. IMMEDIATE DESPATCH.

1921 2¾ h.p. **DOUGLAS,** 2-speed gear, improved model **£85**
1921 2¾ h.p. **DOUGLAS,** 3-speed, clutch, and kick-starter **£105**
1921 4 h.p. **DOUGLAS,** solo **£130**
1921 4 h.p. **DOUGLAS** Combination **£170**
Illustrated catalogues post free.

Exchanges and Special Terms of
PAYMENT ARRANGED.

Write for full particulars of above, and special pamphlet dealing with the

2¾ h.p. and 3½ h.p Sports
DOUGLAS

DOUGLAS SPARE PART LIST.
Just published. Complete. Illustrated. Spare Part price list of the 2¾ h.p. and 4 h.p. Douglas. Every part illustrated. **3d.** each, post free.

LICENCE HOLDERS.
Every mechanically-propelled vehicle used on the road must fit one on and after January 21st, 1921. Round pattern, suitable for Cars, Lorries, and Motor Bicycles, complete with fittings:
Smiths' All-black, **7/6**; nickel **8/6**
Rotherham's, nickel **5/6**
We will send one to any address on seven days' approval.

THIS WEEK'S BARGAINS.
Bulb Horns, slightly soiled **7/6**
Tool Kits, genuine Douglas **25/-**
Large Standard Kits **19/6**
Small Standard Kits **9/6**
All the above are greatly reduced, and can be had on approval.

EXHAUST PIPES.
Douglas, 2¾ h.p., plain, **12/6**; plated, **21/-** pair
Triumph, for any year, plain, **17/6**; plated, **21/-** each. [Illustrations post free.]

DOUGLAS CHAIN CASES.
For 1913-19 2¾ h.p. Douglas ..... each **7/6**
For 1920 2¾ h.p., clutch and non-clutch, each **3/6**
Send for illustrations.

RACING HELMETS.
Tan Leather, warm lining, **10/6** and **13/6**
Nut Leather, wool-lined, **16/3** and **19/6.**
R.A.F. Pattern, **26/3**; fur-lined, **45/-.**

UNDERSHIELDS.
Suitable for Douglas 2¾ h.p. and 4 h.p. Protects engine from mud and dirt. Fit on footboards **15/6**

DOUGLAS, TRIUMPH, J.A.P., VILLIERS' and STURMEY-ARCHER
SPARES.
All in stock. See side columns, or send for complete list, post free.

ROBINSONS
GREEN ST CAMBRIDGE

MISCELLANEOUS.

PISTONS.—2½h.p. Premier 30/-, 3½h.p. Premier 35/-; J.A.P., 4h.p., 6h.p., and 8h.p., 35/-; 2¾h.p. 30/-; Triumph. 3½hp. and 4h.p., 30/-; Douglas 2¾hp. 18/-, 4h.p. 26/-, 3½h.p. 25/-; New Hudson Indian, Sunbeam, and B.S.A. pattern, 30/-; Rudge 39/9; 8h.p. Humberette, 35/-; Rover, 35/-; all complete with rings and gudgeon pins; Rover, 1913, 35/-. —Robinsons.

PISTON Rings.—High tensile cast iron, Douglas, Triumph, J.A.P., Indian, Sunbeam, Rover, A.J.S., Baby Triumph, P. and M., Humber, Premier, Enfield, B.S.A., all sizes in stock, no waiting, 1/9 each.—Robinsons.

VALVES.—Rover, A.J.S., B.S.A., Enfield, 2½h.p., 2¾h.p., 4h.p. 6h.p., and 8h.p.; J.A.P. 4h.p. and 2¾ h.p. Humber, New Hudson, Douglas, Premier, James, Williamson, Ariel, Harley-Davidson, Indian, 5/6 each.—Robinsons.

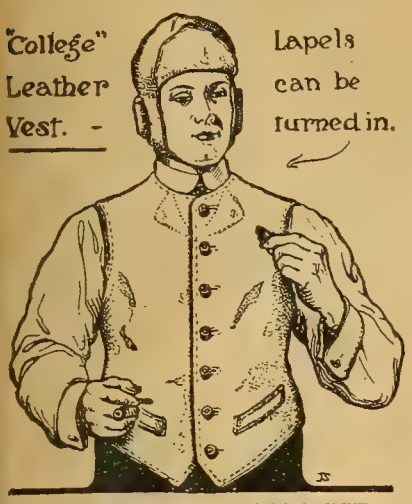
J.A.P. 2¾h.p. Engine Spares, all parts in stock, no waiting.—Cylinders, 35/-; valve, 4/4, valve guide, 2/-; valve springs, 4d.; valve collar, 4d.; valve cap exhaust, 2/-; valve cap inlet, 2/-; valve cap washer, 2d.; exhaust pipe union nut, 1/6; inlet pipe, 1/6; compression tap, 3/-; compression tap washer, 2d.; flywheel, gear side, 12/6; flywheel, pulley side, 12/6; gear spindle, L.H. thread end, 4/-; gear spindle taper end, 4/-; gear spindle taper nut, L.H. thread, 4d.; pulley spindle, J.A.P. standard, 4/-; pulley spindle, Calthorpe type, 4/-; pulley spindle, New Imperial type, 4/-; pulley spindle key, 3d.; flywheel nut, check screw, large 2d., small 2d.; pulley spindle nut, standard, 4d.; New Imperial type, 4d.; flywheel end, 4d.; pistons, 13/-; gudgeon pin, 3/-; gudgeon pin and plug, 4d.; piston rings, 1/8; connecting rods, 10/-; gudgeon pin bush, 2/-; crank pin, 4/-; nut, 4d.; bush, 3/-; crank case, pulley side, standard, 22/6; lay boss, 22/6; crank case gear side, 32/6; gear cover and chain case, 30/-; chain case cover, 5/6; vacuum valve, 2/6; vacuum valve disc, 1d.; cylinder studs, 2d.; oil drain plug, 6d.; oil union body, 6d.; nut, 4d.; valve seating, 6d.; valve disc, 1d.; gear cover studs, 3d.; tappet guide, 2/6; exhaust lifter lever, 3/-; spring, 3d.; rod complete, 3/-; guide, 1/3; spacing sleeve, 8d.; adjuster and nut, 8d.; adjuster support, 8d.; collar, 6d.; brass yoke, 8d.; brass cable nipple, 2d.; tappet body, 1/3; lock nut, 4d.; tappet head, 1/-; crank case fixing bolts, 6d.; nuts for same, 2d.; cylinder fixing nuts, 2d.; crank case relief tube, 6d.; cam wheel bush, 1/3; ditto cover end, 1/3; chain cover screws, 2d.; cam lever pivot pin, 1/9; exhaust, 3/9; inlet, 3/9; cam wheel, 7/-; nut, 3d.; gear pinion, screwed fit, 3/-; gear pinion, taper fit, 3/-; lock nut to suit, 6d.; magneto driving sprocket engine end, 2/6; magneto end, 2/6; magneto driving chain, 2/6; gear spindle bush, 3/-; pulley spindle bush, standard, 3/-; ditto, lay, 3/-; adjustable pulley, fixed half, 5/3; loose half, 5/3; lock nut, 2/6.—Herbert Robinsons, Ltd., Green St., Cambridge.

VILLIERS Spares.—Cylinders, 52/6; exhaust pipes, 10/-; silencers, 18/-; crank case halves, complete with bushes, £2 each (state which half required); crank pin and nuts, 9/6; connecting rods, 12/-; pulley and screws 6/8; driving centre, 9/-; locking nut and washer, 1/6; extractor, 4/6; pistons, 15/8; gudgeon pins, 3/3; crank case bushes, 5/3; shafts, 18/-; set of rollers, 4/6; piston rings, 2/6; flywheel, 27/6; flywheel caps, 2/-; sprockets, 5/3; oiling bolt with elbow union, 5/-; chain covers, 16/-; magneto chains, 5/-; release valves and springs, 4/6; complete illustrated price list, post free. The trade supplied.—Robinsons.

STURMEY-ARCHER Countershaft Gear Spares.—Gear box covers, £5; Dix controls, £2/10; axles, 16/-; main gear wheels, £1/3/6; sliding pinions, 12/; low gear axle pinions, 7/-; kick start pinions, 4/-; ball bearings, 9/6; layshafts, 23/-; layshaft sliding pinions, 10/-; cranks, 17/-; fibre rings, 5/-; clutch sprockets, £2/2; ball cups, 7/-; kick start springs, 1/3; pulleys, 22/6; send for our complete list of Sturmey-Archer countershaft gear spares.—Robinsons.

TRIUMPH Spares. Compression taps, 2/3; rear stands, 34/-; front guard stays, 5/- pair; rear carriers, 40/-; valve caps, inlet and exhaust, 4/8; valve cotters, 2d.; pistons complete, 25/-; connecting rods complete, 28/10; connecting rod rollers, 2/2; cam wheels, 25/-; rocker arms, inlet and exhaust, 11/- and 10/4; tappets complete with guides, 29/8; union nuts, 3/3; rear brake pads, 3/9; rear brake spring, 5d.; kick start springs, 1/-; foot brake complete, 37/6; fork buttresses, 12/6; valve springs, 8/9; gudgeon pins, 3/9; bushes, large, 4/9, small 2/9; piston rings, 1/9; valves, inlet and exhaust, 6/6; valve springs, 9d.; filler caps, 2/6; footrests, rubber, fitted to frame, 5/6 each; footrests complete, 39/-; flywheel, sprocket side, with mainshaft, £2/18; flywheel, gear side, with gearshaft, £2/17; crank case bearings, 11/6; tank complete, £5; magneto control complete, 14/-; aluminium footboards, junior or countershaft, 34/6; front portion of frame, £7/5; top back stays, 35/-; bottom back stays, 67/-; front fork girders, 34/6; front stand, 23/-; hub complete, front, 23/2, rear, 26/6; front spindles complete, 12/-, rear 13/4; front wheel complete, less tyre, 49/2; rear wheel ditto, 77/-; adjustable pulleys, 22/6.—Herbert Robinson, Ltd., Green St., Cambridge. Tel.: 995. T.A.: Bicycles. [4733

"College" Leather Vest. - Lapels can be turned in.



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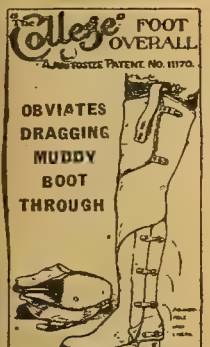
Plum and Buff Colours.

Single Breast. No Sleeves

With leather back and front.
Fleece lined **35/-**

Ditto but with fleece back and lining **30/-**

Cheaper than many cloth vests.



"COLLEGE" PATENT FOOT OVERALLS.

It is the ONLY overall which covers the foot and can be completely and instantly removed without pulling the foot through. Made from strong, serviceable material; cutting sent on request.

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In daily use by thousands of riders. We have numerous testimonials from satisfied users. You know you want such a thing, then send for list NOW.

POCKET SLIPPERS.

In grey or brown suede leather, fleece lined and with bag as illustrated. Each pair neatly packed in cardboard box and sent post paid for **6/6.**
Mention whether ladies or gents, and size of boot.

Write for List to Sole Manufacturers:

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Castle St., NORTHAMPTON

MISCELLANEOUS.

150 SCREWS, nuts, washers, set screws; 3/-; 144 bright steel bolts, 2/6; 72 bright hexagon nuts, 2/6.—See below.

72 BEST Spring Washers, 3-16 to ¼in., 1/9; 36 castle nuts, ¼in. to ½in., 1/9.—See below.

144 COPPERED Bifurcated Rivets, 8d.; 12 8in. hack saw blades, 1/6; any of the above carriage paid.—Wood, Tithebarn St., Preston. [X3926

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PISTON Rings.—High tensile cast iron; all patterns in stock, 1/9 each.—Below.

PISTONS, complete, for all engines, standard or oversize keenest prices, immediate delivery.—Reid Watt and Co., 14a, Snow Hill, Birmingham. [1388

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RELIANCE House has the reputation for dependable writing machines at reasonable prices.—2, Gray's Inn, Rd., W.C. 'Phone: Holborn 2388. [1326

"TYPEWRITERS and How to Use Them," 2/6, illustrated manual, all about typing and typewriters.—Reliance House, 2, Gray's Inn Rd., W.C. [1327

TYPEWRITERS that Give no Trouble.—Reliance Company's machines are dependable; get lists.—Reliance House, 2, Gray's Inn Rd., Holborn, W.C. [1322

SPEEDOMETER Specialists.—We can supply from stock the following makes of speedometer: Watford, Stewart, Jones, Cowey, etc.—Below.

REPAIRS in all Departments. Parts supplied. Gear boxes for Stewarts in stock, also repaired. All work and goods guaranteed. Send on your enquiry; prompt attention; goods per return.—Pioneer Accessories and Speedometer Supply and Repairing Co., 228, Gray's Inn Rd., London, W.C.1. (Trade supplied). [4000

144 STEEL Screws, nuts, bolts, all turned, many castle nuts, 3-16 to 9-16, absolutely perfect; 5/6.—Hannam, Bramall Lane, Sheffield. [4605

SPEEDOMETER, Jones's trip, complete with cable, clip, and sprocket, wheels, sound and accurate; what offers?—Box 1,138, c/o *The Motor Cycle*. [7647

MOTOR Cycling Helmet, leather, beaver lined (new), 14/6; new complete P. and H. lamp set, 27/6; Remy dynamo, £6.—97, Angell Rd., Brixton. [4718

CARBIDE, best guaranteed quality, Grade 1, 40/- cwt.; drums free; all meshes; prompt delivery.—Elloc Cycle Works, Gedney Drove End, Wisbech. [2527

CARBIDE, finest quality, giving 100% pure gas yield, cwt. 44/-, half cwt. 24/-, 28 lb. 13/6, including drums.—Young, Importer, Misterton, Somerset. [5693

2¾h.p. Douglas Engine, Bosch, Amac, 2-speed gear, 24/ tank, rear brake, boards, silencer, frame; £20, or offer.—Bunning, Grange, Walsoken, Wisbech. [X4082

DISSEMBLING 1914 Matchless 8h.p., Armstrong, less power unit; offers parts; wicker sidecar, £5; Cowey, £3.—Fairhurst, 53, Thames St., Sunbury. [4648

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NEW Watford Trip Speedometer, done 78 miles, £3/10; Klaxon horn, as new, £1; B. and B. carburetter, for lightweight, brand new, 50/-.—H. Wright, Arlesey, Beds. [4837

LUCAS Dynamo (Government), Aero, 12 v. 8 amp., 12 v 12 amp., cut-out, electric control, for cars or motor cycles; stamp.—C.J., 165, Church Rd., Mitcham. [4869

HEAT your Garage with Cheepeet Patent Stove, burns sawdust 10 hours without attention.—Maud and Raistrick, Baikwel Works, Laisterdyke, Bradford. [7618

3-SPEED Sturmey-Archer Rear Wheel, clutch, and belt pulley, £9; Rudge Multi rear wheel, 30/-; 4h.p. Douglas front wheel, £1.—Sales, Oakleigh Villas, New Rd., Ascot. [4637

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N.S.U. Low-tension Magneto and Coil, huge spark, 55/-; N.S.U. tank, 15/-; N.S.U. carburetter, 17/6; Triumph 4½in. pulley, new, 17/6.—Stewart, Old Meadows, West Drayton. [4627

MOTOR Rug, 20 gns., genuine Opossum, large mounted on double cloth, quite new, sold car; accept £5; approval willingly.—Wells, 110, Gillespie Rd., Finsbury Park, London, N. [4585

DYNAMO Car Lighting, £4/17/6; switchboard, £1/7/6; electric motor, new, ½h.p., £6/10; contact breaker, Bosch DU4, anti, 30/-.—Broome, Bungalow, St. George, Abergele, N. Wales. [4681

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NEW BELTS.

6ft. 6in. × ¾in. complete with fastener **13/6**
⅞in. any length per foot **2/-**
1in., 8ft. and 8ft. 6in. per foot **3/3**

SPECIAL BARGAINS

Brand New Covers
1st Grade Only.

From Government Stores, etc.

24×2	Avon Druid	31/-
24×2¼	Englebert	27/-
24×2¼	Avon Druid	36/-
26×2	Clincher Ribbed	29/-

FOR 2¼ RIM.

26×2¼	Heavy rubber non-skid	27/6
,,	Avon Sunstone	39/6
,,	Wood Milne Combination	79/-
,,	Goodrich safety tread	56/6
26×2⅜	Dunlop heavy rubber stud	42/6
,,	Palmer cord heavy	39/6
,,	Bates' special heavy	44/-
,,	Wood-Milne extra heavy	37/6
,,	Avon tricar	34/6
,,	Hutchinson passenger	36/-
26×2½×2¼	Hutchinson rubber studded	52/-
,,	Englebert super	55/-
,,	Englebert touring	47/6
,,	Goodrich safety tread	61/-

FOR 2½ RIM.

26×2½	Heavy non-skid	37/6
,,	Wood-Milne combination	55/-
26×2½	Clincher de luxe heavy	50/-
26×3×2½	Dunlop heavy	45/-
,,	Englebert passenger	47/-
,,	Rom combination	57/6
,,	Pedley heavy 3-rib	67/-

FOR AMERICAN RIMS.

28×2½	Kempshall anti-skid	35/6
,,	Kempshall non-skid	42/6
28×3	Kempshall	35/-
,,	Dunlop extra heavy	48/6
,,	Goodrich safety tread	59/6
,,	Palmer cord	55/-
,,	Clincher de luxe extra heavy	55/-
,,	Wood-Milne extra heavy	55/-

FOR 650 x 65 RIMS.

700×80	Dunlop grooved	80/-
,,	Spencer-Moulton	70/-
,,	Avon Sunstone	70/-
650×65	Dunlop grooved	57/6
,,	Avon square	59/-
,,	Avon 3-rib	59/6
,,	Clincher de luxe ex. heavy	59/-

NEW CLEARANCE TUBES.

26×3×2½	Pedley heavy	10/6
26×2¼	endless	6/6
26×2⅜	endless	6/9
26×2¼×2¼	endless	7/6
26×2½×2¼	butted	10/-
26×2¼	endless	6/6
28×3	endless	8/6
28×3	Hutchinson	13/9
28×3	Avon	13/4

Sent carriage paid on 7 days' approval against remittance.

PIKE TYRE and RUBBER Co., Ltd.
The TYRE HOUSE,
83, Theobald's Road,
HOLBORN, W.C.1
'Phone: Museum 1543.

Select and test YOUR 1921 MACHINE at OUR RISK FOR ONE MONTH.

WE have so much confidence in our experience, judgment, and the machines we sell, that we announce a

SPECIAL JANUARY OFFER

to all motor cyclists, actual and prospective, who can select a new or second-hand machine from our stock of BEST makes, either in person or by post, and have it on test and in daily use for one month from the date of delivery. If the machine is then not entirely to the satisfaction of the purchaser it can be returned to us and exchanged for another make of not less value—No deduction will be made for the one month's deterioration, we will carry that loss. The value of the machine returned will be credited in full.

Start the NEW YEAR Well—

Start it successfully, exercise care and discrimination in your buying, be careful to ensure that you are investing your money in a machine with a good name and reputation—a machine that will sell well at any time you may wish to dispose of it. Do not sink your capital in a second-rate machine that rapidly deteriorates and has no value in the second-hand market.

You cannot be too careful, and will be well advised to allow us to help you. We offer you our experience and advice, knowing full well that, if you will avail yourself of it, you will invest your money to the best advantage. It is our business and our pleasure to assist you quite independent of sales.

We hold no brief for any particular makes of machines, but sell only the BEST, because only the best can give genuine satisfaction to our clients and ourselves. If you cannot make a personal call

WRITE TO US TO-DAY

and ask our advice—the pleasure of giving will be ours, the pleasure of receiving will be yours—and if business results, the pleasure of doing business will be mutual.

YOU TAKE NO RISK from such an offer. Do not miss it!

J. W. TOLLADY,
General Manager.

Layton Garages

London Road, Bicester.

'Phone: 35, *Bicester.*
Telegrams: "*Integrity,*" *Bicester.*

MISCELLANEOUS.

OFFICE Furniture.—When buying, call at Reliance House, 2, Gray's Inn Rd., Holborn; or 97d, Queen Victoria St. Largest stock in London of genuine second-hand pre-war made furniture. [1328

NEW Binks, Senspray, and Capac carburetters to suit any machines; liberal exchanges quoted. 1920 nearly new carburetters at special prices.—Collier's Motories, Horton St., Halifax. [4662

LADIES' Suede Leather Hats, 10 colours, latest fashions; 9/6, worth 30/-; send 2d. addressed envelop for illustrations and full set patterns.—Swift Co., 3, Parade, Northampton. [2628

REGULATION Licence Holders, car or cycle, nickel, polished brass, or oxydised copper finish; 6/6 post free; trade supplied.—Maud and Raistwick, Baikwel Works, Laisterdyke, Bradford. [4516

ALUMINIUM Number Plates, with embossed figures which shine like silver, and defy competition for neatness; prompt delivery; 15/6, cash with order.—Ward Motors, Ltd., 32, Hustler St., Bradford. [4727

HARLEYS. Harleys.—If you want speed without getting covered with mud, equip your machine with Barker's mud shields: set, £2/2. — Barker's Motors, 194, Balham High Rd, S.W.12. [1843

TRANSFER Lining, complete set for pedal bicycles in gold, red, or green, also in double colours; prices on application.—The British Transfer Printing Co., Ltd., Transfer Specialists, Coventry. [0114

MAUDES'.—New registration card holders, number plate fitting, 3/2; sidecar body fitting, 3/-; handlebar, 5/-, 6/9, and 7/9; post free. Lucky buyer gets free motor cycle to fit.—Maudes' (below).

MAUDES'.—Plugs: Clearance line of reconditioned Lodge Aero, K.L.G., and Sphinx plugs, 1/9; post free.—Below.

MAUDES'.—Discs, polished aluminium, 77/- set, sidecar wheel 42/-; genuine Ace discs, specially recommended, 90/- set, both wheels; sidecar, 45/-; leg shields, polished aluminium, 32/- pair; steel, 17/6.—Below.

MAUDES'.—Bradbury 2-speed gears, Rudge and Triumph, new, £10/5; Rover, £11/15.—Below.

MAUDES'.—Horns: Klaxon, 36/-; Cowey, 55/-; H.B. bulb horns, 27/6; rear lamps, Motex, 5/-; T.W.R., 8/6.—Below.

MAUDES'.—Speedometers: Cowey, 120/-; Smith's, 105/-; Watford, 104/6; immediate delivery; Easting wind screens, 90/-; sidecar luggage grids, 27/6.—Below.

MAUDES'.—Spanners: Dum-bell, 3/-; Patchquick outfits, 3/3; knee grips, leather, 10/6 and 11/6; A.K., 12/6.—Below.

MAUDES'.—Chains: ¾×7-16ths for Morgans, 9/- foot; ⅝×¼in., 7/-; ½×¼in., 6/-.—Below.

MAUDES'.—Peto Radford accumulators, 4-volt, 12-amp. hour, shop-soiled; only 12/6.—Below.

MAUDES'—Hutchinson type wader boots, 20/- pair; Tan-Sad pillion seats, 43/9; shop-soiled saddles, 22/6.—Below.

MAUDES'.—Tyres: Special line Wood-Milne clearance covers, 28×3in., 27/6; approval.—Below.

MAUDES.—Phelon-Moore parts, new but soiled: Brake drums, 9/-; rear mudguards, 11/-; front mudguards, 15/-; front stands, 7/-; rear, 11/6, service green. See centre page advertisement for particulars of free motor cycle. Trade supplied.—Maudes', 100, Gt. Portland St., W.1., and Paris St., Exeter. [4751

TRANSFERS.—Head, tank, and line transfers for motors. Complete sets for pedal cycles, single colours 1/6, double colours 2/-; 2d. stamp brings list. —Axon, Station Buildings, Altrincham. [X2423

UNBREAKABLE Chrome Nickel Valves, guaranteed one year, any pattern, 7/- each, 12/- pair; step-cut piston rings, 5/- pair, post free, per return. —Capacity Tool Co., Broseley, Shropshire. [2465

SCOTT Spares.—Complete list on request. Send 1/- for 12 gauze packings, best quality. You'll want them next time you decarbonise.—Ward Motors, Ltd., Scott Specialists, 32, Hustler St., Bradford. [3547

PISTONS, aluminium or cast iron.—B.S.A., Bradbury, New Hudson, Precision, Harley, Scott, Rudge, Sunbeam, Singer, Enfield, J.A.P., Premier, Triumph.—W. Cole, 53, Sarehole Rd., Sparkhill, Birmingham. [X2462

NUTS, bolts, washers, for all motorists, all sizes. Sample bag of 50, 2/6; 100, 4/3; 200, 7/6; 300 11/-; 500, 15/-; 1,000, 30/-; carriage paid.—Special Nut and Bolt Co., 63, Well St., Hackney, E.9. [6456

RELIANCE Company's Business is the supply of dependable writing machines; 360 always ready, to suit all requirements; moderate prices.—Reliance House, 2, Gray's Inn Rd., W.C. 'Phone: Holborn 2388. [1321

J.A.P. Specialists. Still the largest stock in London of all type J.A.P. parts; quantity of W.D. parts at greatly reduced prices; quotations by return. B.P. Garage, 40, Murray Mews, Murray St., Camden Town, N.W. [3929

BEST Extra Heavy Engine Oil, 5/- per gallon; guaranteed finest procurable; carriage paid to any address; barrels free.—Walter Matthews, 114, Suffolk St., Birmingham. Tel.: Midland 1858. 'Grams: Walmatt. [3828

Ballard's Motors

Proprietors—Erling L. Newberry Cobbett & Cedric Crosthwaite.

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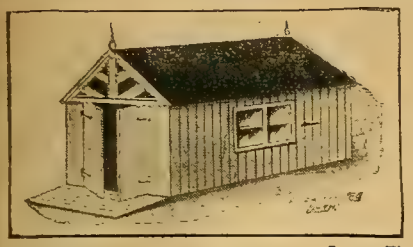
Tenant's Fixtures



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Sizes 5, 6, 7, 8, 9, 10, 11.

17/6 PAIR.

1/- extra Carriage.

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BOOTH FOOT-WARMER

(Patent)

COOLS THE ENGINE, WARMS THE SIDECAR.

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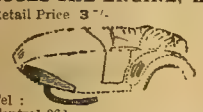

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C. H. BOOTH, 170, Hockley St., BIRMINGHAM.

Tel: Central 861.

MISCELLANEOUS.

LICENCE Holders, order now circular pattern, guaranteed waterproof, fit front mudguard or number-plate, please state which; 5/6.—Actual makers, The Motor Cycle Depot, 257, Cavendish Rd., Balham, S.W.12. [3985

WE Can Bring your machines up-to-date and make it into a countershaft model by fitting a new back, with Sturmey-Archer gear box; any machine converted.—A. Pilkington and Co., 390, Lichfield Rd., Birmingham. [2912

ELECTRIC Light Bulbs for Motor Cycles and Cars, one watt and half watt types stocked, any voltage —W. T. Clarke and Co., Ltd., Electrical Engineers, Silver St., New Oxford St., W.C.1. 'Phone: Museum 1019. [9601

CORRECTION.—Owing to a printer's error, the Triumph silencers advertised in Dec. 2nd issue by Messrs. Hubert Turner and Co., 4-5, Crawford Passage, Farringdon Rd., E.C., were incorrectly priced at 3/6 instead of 32/6. [4858

3¾h.p. Precision Half Crank Case, timing side, 1911, 35/-; B.S.A. carburetter, 1919, like new, £2; Amac carburetter, single lever, 1920, for 3½h.p., 50/-; Clyno 2-stroke piston, new, 15/-.—A. E. Hartill, Snow Hill, Wolverhampton. [4638

RUDGE Long Exhaust Pipes, weldless steel tubing, complete, all attachments, 37/- carriage paid; nickel plated, 15/- extra; fit in 5 minutes.—C.W. Motor Co., 209, Broadway, West Hendon, N.W. 'Phone: Kingsbury 162. [2913

NEW Year Resolutions.—Buy your Clyno spares from the cheapest house in the trade; pre-war prices; magneto platforms 2/6 each; all other parts as cheap; sidecar chassis and wheel, £6.—Clyno Accessories, 341, Upper St., London, N.1. [4806

STAMPS, best tempered steel, indispensable for workshops, cleared cheap. Letters, 1-16in. 8/-, ⅛in. 12/-, 3-16in. 16/-, ¼in. 20/- per set. Numerals, 1-16in. 4/-, ⅛in. 5/-, 3-16in. 6/- per set.—County Motor Co., High St., Gosforth, Newcastle. [4840

GENUINE Douglas Spare Parts of every description in stock, at Douglas catalogue prices; trade supplied. We are the largest stockists of Douglas spares in the South of England.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1. [0276

2¾h.p. Douglas Spares.—Gear boxes, £4/10; frames, £5; forks complete, £3/5; front wheels, 17/6; rears, £2; connecting rods, 17/6; crankshafts, £2; front brakes complete, 19/6; carriers, 15/-; belts, 7/6; saddles, 25/-; lamp sets, £1; any parts supplied.—Below.

TRIUMPH Frames, £3; front mudguards, 17/6; rears, 10/6; carriers, 17/6; stands, 15/-; control levers, 10/6; handle-bars, 17/6.—Below.

TOOLBAGS, Douglas and Triumph, 4/6 each; new helmets, fur-lined, 17/6.—Below.

LAMPS and Generators, £1 set; P. and H. and F.R.S.; good sound belts and fastener, 7/6; Brooks B170 saddles, 35/-; new Miller generators, 12/6; K.L.G. plugs, 2/- each; carriage and postage on all goods extra.—The Douglas Specialists, Sulina Garage, Sulina Rd., Brixton Hill, S.W.2. 'Phone: Streatham 40 and 2563. [3772

DISCS, polished aluminium, for any make of machine, £1 per wheel; light steel, enamelled any colour, 18/- per wheel. The above are complete with neat fitting valve covers, nickel plated fittings, provision made for belt rims; trade supplied.—Service Manufacturing Co., 67, Dalberg Rd., Brixton, S.W. [4839

SPEEDOMETERS.—Stewart gear boxes in stock, 22/6 complete; flexible shafts, 20/-; trade supplied. Repairs to all makes of speedometers; Stewart repairs a speciality; new and second-hand sets supplied.—The London Speedometer Co., Kramer Mews, Earl's Court, S.W. [9284

DRUMMOND Lathes, all models, 3½in. and 4in., separate foot motors, stands and treadles, countershafts. Now in stock. Immediate delivery. Engineers' fine tools, micrometers, verniers, etc. Price list.—Barns and Co., Ltd., 54, and 63, Stapleton Rd., Bristol. 'Phone: 1535. [9621

CHATER-LEA Front Wheel, 26×2¼, rear mudguard, £1; Triumph magneto sprocket, 7/6; spring, complete for 1911 Triumph forks, 15/-; rear valanced mudguard, 5/-; wanted, 1918 4¼h.p. James front wheel, 26¾, front and rear mudguards, carrier.—Box 1,160, c/o *The Motor Cycle.* [4810

TRIUMPH Parts.—Every part, any year, in stock; new or second-hand, guaranteed serviceable. Enclose stamp for reply. Why not second-hand goods in place of new while prices are so high? Half the price; satisfaction guaranteed.—Forfield Motors, 11, Forfield Place, Leamington Spa. [X4092

LEG Shields for any make of machine, polished aluminium, 22/6; light steel, stove enamelled black or finished in any colour, 17/6. The above are wire-edged, swaged, and complete with frame fittings. Packing and carriage free. Trade supplied.—Mersey Disc Co., 34, Sutton St., Warrington. [2898

DOUGLAS Front Forks (less fittings), perfect condition, 30/-; Douglas rear carrier, £1; Douglas exhaust and inlet valves, 2¾h.p. and 4h.p., new, complete with spring and cotter, 4/6 each, plus carriage; various other Douglas spares cheap; prices and description on application.—Dowell, Byfleet, Surrey. [4698

THE 1921 MORGAN RUNABOUT.

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We have specialised in the Morgan Runabout for over 8 years and the benefit of our experience is at your disposal.

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ALL SPARES IN STOCK.

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CASH OFFERS INVITED.

New 1920 3½ h.p. 3-speed ARIEL.
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New 1920 3½ h.p. I.O.M. RUDGE.
New 1920 4 h.p. DOUGLAS comb.
New 1920 2¾ h.p. WOOLER 6-speed.

Dozens of others:—TRIUMPHS all chain, TRIUMPH chain-cum-belt, TRIUMPH renovated, SUNBEAMS, NEW IMPERIAL comb., etc., etc.

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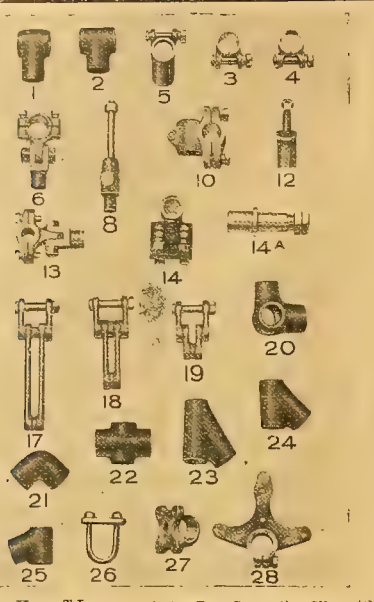

1—1⅛ × 1⅛in. Heavy T Lugs
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7—1⅛in. Halved Clip, with yoke end
8—Seat Connection yoke and bolt
9—1⅛ × 1⅛in. Double Clip, with bolts
10—1⅛ × 1⅛in. Double Halved Clip
11—1⅛ × 1⅛in. Double Halved Clip
12—Bearer Plate End, with nut
13—Rear Connection Clip, with yoke ⅝in. round
14—Front Connection Clip. 1⅛ × ⅝in.
14a—Spindle for same
15—Front Connection Clip. 1⅛ × ⅝in.
16—Front Connection Clip 1⅛ × ⅝in.
17—6in. Spring Shackles
18—4in. Spring Shackles
19—2in. Spring Shackles
20—4-way Lug, 1⅛in. all ways
21—1⅛in. Elbow
22—1⅛in. Cross Lug
23—1⅛in. Angle Lug 32°
24—1⅛in. Angle Lug 45°
25—1⅛in. Angle Lug 60°
26—U Clip, with plate and nuts
27—1⅛in. Spring Clip
28—Mudguard Stay Clip, 1⅛in.

Prices to the Trade on Application.

A large variety of Special Lugs of every description in Stock.

Dunhills Limited

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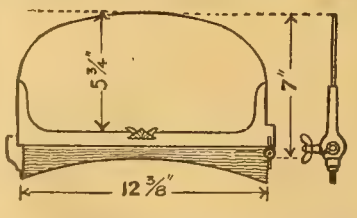

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AVRO WORKS, NEWTON HEATH, MANCHESTER

MISCELLANEOUS.

2¾-h.p. Douglas Wheels; front 15/-, back 17/6; P. and M. tanks, 100, 15/- each; Triumph chain cases, 12/6 each; Clyno centre portion frame, £4/10; ditto 6h.p. Clyno, £4/10; Clyno mag., twin, £4/10; E.I.C. single mag., £3/10.—Speechley, 1, Gunnersbury Lane, Acton, W.3.—'Phone: Chiswick 1902. [4645

TRIUMPH Pattern W.D. wide sporting handle-bars, 27/- (new); Sturmey-Archer 3-speed, J.S. hub out of 1914 Triumph, complete with all controls, as new; 12 gns; valve caps, new, for 1906-14 Triumph, inlet or exhaust, 5/8 each; carrier for old pattern Triumph, 10/-.—Ward, 11, Radford Rd., Leamington Spa. [X4091

ST. MARTIN'S, the premier house for accessories; everything for the motorist at lowest prices; new and second-hand goods of every description; bargains too numerous to mention.—Write, 'phone, or call, St. Martin's Motor Works, Ltd., 11 and 12, Upper St. Martin's Lane, W.C.2. 'Phone: Regent 5070-1. [0042

INDIAN.—The Dennis Accessories Stores, 89, Brixton Rd., London ('Phone: Brixton 3129), can supply all 7-9h.p. parts from stock, all new, including frames, mudguards, wheels, silencers, exhaust pipes, tanks, controls, brakes, linings for clutches and brakes, tools, gears, clutches, kick starter. They also specialise in Indian repairs. [9605

STOCK-TAKING.—New large plated head lamp sets, 42/-; belts, best makes, 33⅓% off.; Harley speedometer, 115/-; Cowey, 105/-; new tyres, bargain prices; 1920 Automatic Amac, 39/6; Cox Atmos, 65/-; Cameo, 52/-; Easting, 78/-; write requirements—R. B. Clark and Co., 7, Exhibition Rd., S.W.7. 'Phone: Kensington 4096. [4866

ENFIELD Parts, quite new and faultless, for 6h.p. 2-speed gear, 1916, onward, 36 tooth chain wheel with brake drum, their reference No. 102, 19/-, spindle only, reference No. R106, 18/-; expanding band only, reference No. R110, 9/-; high gear centre drum, reference No. 115, 15/-; spring roller, reference No. 124, 2/9.—Dene Motor Cycle Co., Haymarket, Newcastle-on-Tyne. [X5983

TRIUMPH and other parts, second-hand and new; large assortment for most years; also Triumph 1909 cylinder and piston, new, £4/18; pulley, 18/9, new; 20in. free engine belt rim, new, 15/-; 1919 rear brake lever and pad, 11/6; these are genuine parts; Brooks toolbag, new, 13/6; drip feed lubricator, new, 18/6.—Wright, Avon House, Whitnash, near Leamington. [X4117

DISCS.—We are makers of discs for any type of motor cycle, polished aluminium 25/- and 30/- per wheel, enamelled steel 20/- per wheel, Rudge Multi discs 5/- per wheel extra; discs for Douglas, Triumph, Indian, Harley-Davidson, and Rudge Multi motor cycles always in stock; prompt deliveries.—Hill and Co., Discs Specialists, 1 and 3, Walmersley Rd., Bury, Lancs. [0351

CLYNO Spares. Clyno Spares. Clyno Spares.—I have the largest stock in England, and can supply every part for Clyno machines. Try me for prices. These parts are all new. Front domed mudguards with stand clip, £1; rear, 15/-; frames (centre portion), £4/10; Brampton forks, £6; tanks (second-hand), £2/10; cylinders, £2/10; and every other part you require for Clyno engines and gear boxes.—Below.

SIDECAR Cushions (new) for Clynos, 8/- each; Clyno tool boxes with tools, worth £8, my price £3.—Below.

LARGE Quantity of Clyno Tool Rolls with tools, 12/6 each.—Below.

200 FITTERS' Toolbags, fitted with tools as used by the fitters in the Slough workshops; 30/- each.—Below.

A LARGE Quantity of Douglas and Triumph Spanners, cheap.—Below.

200 Sets Enfield front and rear mudguards, new: front £1, rear 15/-.—Below.

ONE Brolt Dynamo for car lighting; £10.—Below.

2,000 4h.p. Clutch Withdrawal cones, nuts, and washers; 1/6 per set.—Below.

2,000 Amac Air and Throttle Slides for carburetters, also large quantity of Amac spares.—Below.

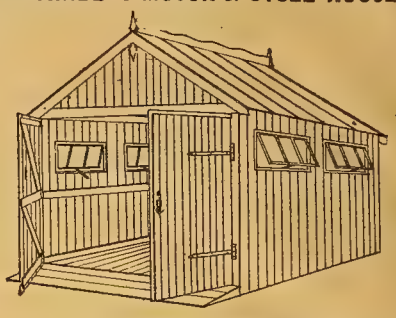
3,000ft. Outer Cable, new, in 50ft. lengths, at 4d. per foot; also 3,000ft. high-tension wire for magnetos at 2½d. per foot.—Below.

30 1914 Douglas Back Stands, new, 8/- each; Triumph fork blades, 15/- each.—Below.

2,000 Lamps and generators (Miller and P. and H.), new, 30/- set; special quotations for quantities; bargains; 100 second-hand head lamps, large and small, bargains, 12/6 each (lamp only); a few Lucas back lamps and generators left, new, 10/6 per set. Please enclose stamp when writing.—Please apply or call to J. J. Dooley, 33, Killyon Rd., Clapham, S.W.8. [4656

WHEELS, Wheels, Wheels.—Motor cycle wheels built to order, all sizes in stock. Motor cycle frames repaired, altered, and brought up-to-date. Sidecar chassis repairs, discs fitted 26in. wheels, steel front 20/-, back 22/-, enamelled black, others to order. Contracts wanted for frame and wheel building, customers' own materials. Motor cycles overhauled, re-enamelled, plated, 2¼h.p. £8/5, 4h.p. £10. Wanted, belt rims, all sizes, cheap for cash. Stamp enquiries.—Pendleton, 28, Lonsdale Sq., Liverpool Rd., London, N.1. [4716

THORNBERS MOTOR or CYCLE HOUSE



Length.	Width.	Height to Ridge.	Price. £ s. d.	Floor Extra. £ s. d.
6ft.	5ft.	6½ft.	8 17 6	2 6 6
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10ft.	8ft.	8ft.	21 10 0	5 5 0
15ft.	11ft.	9½ft.	34 0 0	12 0 0
20ft.	12ft.	9½ft.	46 0 0	18 0 0
30ft.	15ft.	11ft.	77 15 0	27 0 0

All carriage paid to nearest Goods Station in sections.

Strongly built motor sheds are our speciality. The above house is built from selected tongued and grooved matchboards over strong inside framework, in sections to bolt together. Roof covered with best felt. Floors made from inch T. and G. matchboards on heavy battens and constructed to carry two to three tons easily. All houses sent out with bolts and nuts and glass, and ready for easy erection on arrival. Dispatch in 7 to 10 days.

THORNBER BROS., New House Appliance Works,
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STONE-HOUSE

Look for that name and trade mark on brakes, footrests, and such sundries. It signifies best, All-British excellence.

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INDIAN GEARS
CUT TO PATTERN.

GEARS CUT

for **MOTORS, MAGNETOS, CAMERAS, PROJECTORS,** or anything that requires a gear. Please write first before sending samples. No kick starters or chain-sprockets undertaken. Timing gears a great speciality.

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"ASLATT" TYRE STOPPING.

The £ s. d. saver of tyre bills. Permanently repairs cuts and gashes in motor, motor cycle, and cycle tyres. Saves vulcanising. Also repairs any rubber article. Once used always used.

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